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Gulf War

Air Power Survey

Volume V

A Statistical Compendium

and

Chronology

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Foreword

From 16 January through 28 February 1991, the United States and its allies conducted one of the most operationally successful wars in history, a conflict in which air operations played a preeminent role. The Gulf War Air Power Survey was commissioned on 22 August 1991 to review all aspects of air warfare in the Persian Gulf for use by the United States Air Force, but it was not to confine itself to discussion of that institution. The Survey has produced reports on planning, the conduct of operations, the effects of the air campaign, command and control, logistics, air base support, space, weapons and tactics, as well as a chronology and a compendium of statistics on the war. It has prepared as well a summary report and some shorter papers and assembled an archive composed of paper, microfilm, and electronic records, all of which have been deposited at the Air Force Historical Research Agency at Maxwell Air Force Base, Alabama. The Survey was just that, an attempt to provide a comprehensive and documented account of the war. It is not a definitive history: that will await the passage of time and the opening of sources (Iraqi records, for example) that were not available to Survey researchers. Nor is it a summary of lessons learned: other organizations, including many within the Air Force, have already done that. Rather, the Survey provides an analytical and evidentiary point of departure for future studies of the air campaign. It concentrates on an analysis of the operational level of war in the belief that this level of warfare is at once one of the most difficult to characterize and one of the most important to understand.

The Survey was directed by Dr. Eliot Cohen of Johns Hopkins University's School of Advanced International Studies and was staffed by a mixture of civilian and military analysts, including retired officers from the Army, Navy, and Marine Corps. It was divided into task forces, most of which were run by civilians working temporarily for the Air Force. The work produced by the Survey was examined by a distinguished review committee that included scholars, retired general officers from the Air Force, Navy, and Army, as well as former and current senior government officials. Throughout, the Survey strived to conduct its research in a spirit of impartiality and scholarly rigor. Its members had as their

standard the observation of Mr. Franklin D'Olier, chairman of the United States Strategic Bombing Survey during and after the second World War: "We wanted to burn into everybody's souls that fact that the survey's responsibility . . . was to ascertain facts and to seek truth, eliminating completely any preconceived theories or dogmas."

The Survey attempted to create a body of data common to all of the reports. Because one group of researchers compiled this core material while other task forces were researching and drafting other, more narrowly focused studies, it is possible that discrepancies exist among the reports with regard to points of detail. More importantly, authors were given discretion, within the bounds of evidence and plausibility, to interpret events as they saw them. In some cases, task forces came to differing conclusions about particular aspects of this war. Such divergences of view were expected and even desired: the Survey was intended to serve as a point of departure for those who read its reports, and not their analytical terminus.

This volume consists of two reports. The first, *A Statistical Compendium*, concentrates on airpower-related aspects of the conflict and is not intended to portray other facets of Operations Desert Shield and Desert Storm except as they concern aerial operations. The organization of statistics is roughly chronological, moving from prewar force postures and the deployment of Desert Shield through the air campaign of Desert Storm, tabulating aircraft victories and losses as well as the human cost of the war. Briefly, the report intends to serve as a logical starting point for the issue: "What happened during the war?"

The second report, *Chronology*, outlines many of the principal events of clear, direct, and tangible relevance to the planning of the Gulf War. It begins immediately prior to the Iraqi invasion and ends immediately following the ceasefire.

Acknowledgments

The Survey's members owe a great debt of gratitude to Secretary of the Air Force Donald B. Rice, who conceived of the project, provided it with resources, and set for it the highest standards of independence and objectivity. Many organizations and individuals gave generously of their resources and time to support this effort. Various branches and commands of the Air Force were particularly helpful in providing material for and, in some cases, personnel to conduct the study. The United States Navy, Marine Corps, and Army aided with this study in different ways, including the sharing of data pertaining to the air war. A number of the United States' Coalition partners also made available individuals and records that were vital to the Survey's work. Many participants in the war, including senior political officials and officers from all of the Services were willing to speak with the Survey and share their recollections of Desert Shield and Desert Storm. Private students of the Gulf War also made available their knowledge of the crisis and conflict. Wherever possible and appropriate such assistance has been acknowledged in the text.

The Survey's independence was its reason for being. Each report is the product of the authors who wrote it and does not necessarily represent the views of the Review Committee, the Air Force, or the Department of Defense.

Security Review

The Gulf War Air Power Survey reports were submitted to the Department of Defense for policy and security review. In accordance with this review, certain information has been removed from the original text. These areas have been annotated as [DELETED].

Gulf War Air Power Survey

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A Statistical Compendium

Best Available Copy

Part I

A Statistical Compendium

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Report Acknowledgements

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Introduction

This report draws upon the wealth of information collected about the Gulf War to present a compilation of statistical data that traces the course of the crisis, marks the progress of the war, and illustrates some of their most salient features. It is neither all inclusive nor infallible. When one considers that historians are still analyzing the events of World War II, and even World War I, the scant twenty-four months since the end of the Gulf War is far too brief an interval to aim for either of those goals.

This report offers only those statistics that the Gulf War Air Power Survey considers to be most important in describing and analyzing air power in the Gulf War. It is not intended to portray other facets of Operations Desert Shield and Desert Storm except as they concern aerial operations. While constrained by time and availability of data, the authors selected data based on a few broad criteria. First, they included data from the various operational reporting mechanisms in the commands, such as situation reports (SITREPs) or individual mission reports (MISREPs) because they contained information directly concerned with the conduct of air operations as those commands perceived it at the time. Second, this report contains data that depict the tempo of mobilization, buildup, and operations to illustrate the depth and breadth of the underlying support effort as well as the scope of the Desert Storm air campaign. Finally, this report presents data that concentrate on the operational employment of air power and focus on information needed by those who plan future operations or shape future air force structure. As a result, space considerations mandated that much useful information could not be included in this report, and readers should consult the other reports for more detailed information.

The authors had to choose at times between competing sources of information. In this war, as in most, even original records produced by participants at the time of the action were often erroneous. This should not be surprising, given the conditions of uncertainty and time pressure under which most wartime records are produced. Nonetheless, GWAPS is confident that no more comprehensive or reliable set of statistics on the air war has yet been produced.

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The organization of the statistics is roughly chronological, moving from prewar force posture and deployment of Desert Shield through planning the air campaign, combat, and human cost of the war. It is organized into twelve chapters. The first presents a detailed discussion of the paper archives and the electronic databases that GWAPS constructed and that served as the foundation for much of the analyses. The next several chapters depict the overall correlation of forces and the U.S. deployment and buildup during Desert Shield. One chapter presents data relating to planning the air campaign, while the remaining half-a-dozen present data on the conduct of Desert Storm. Each chapter is introduced by a narrative, and each separate set of data within that chapter is preceded by a brief description of the data, the sources used to derive it, and key aspects or incongruities of the data. There has been no attempt in this compilation to interpret or analyze the data for the individual researcher or reader, beyond calling their attention to especially noteworthy statistics. For analysis of the information provided herein the reader must consult the other reports that comprise the Gulf War Air Power Survey.

1

A Note on Sources

The Gulf War Air Power Survey had access to an unprecedented volume of information on Gulf War air operations. This extensive documentation proved to be a blessing and a curse. While students and analysts of the Gulf War can tap an especially broad spectrum of information collected at a far greater level of detail than any previous war, they can do so only by wading through and synthesizing enormous amounts of data, both paper and electronic. Moreover, this profusion of data naturally requires a greater effort to reconcile errors, inconsistencies, and ambiguities in the data. Despite the overall abundance of data there are still significant holes in the records, some of them in critical areas, such as the detailed results of battlefield or tactical-level air operations against Iraqi ground forces in the Kuwait Theater of Operations (KTO). Certainly the ongoing research and data collection process will fill in many of these gaps, but some may never be closed entirely.

The quality of information in any archive or database depends on the quality of the original source. Each day of the crisis and conflict saw countless events occur; those that were considered important by participants were summarized into reports. The Gulf War Air Power Survey depended on these reports for a large portion of the statistical data contained in this survey, either in their pure form or synthesized into new reports prepared by GWAPS, such as our strike and sortie counts. It is important to remember, however, that while these reports contain information that the participants and on-scene decisionmakers considered important, the data itself may or may not be totally validated by postwar analysis.

The information GWAPS collected was accessible in one of two radically different media, paper and electronic. What follows is a necessarily brief description of our paper archives and electronic databases. In some cases, the distinction between what we have termed paper and electronic data is admittedly arbitrary, and has been based primarily on how we used the data. For example, the CENTAF sortie counts maintained by

Major Roy Lee (described later in this introduction) were originally written longhand, and GWAPS has this collection of paper records. Since our primary use of them, however, has been in the creation of our electronic database, we have categorized Major Lee's work as part of the electronic database. Many of our records, in fact, such as interview transcripts or the record of Instant Thunder plan development, are obviously paper records, but others bridge the gap into electronic media. Microfilmed copies of situation reports (SITREPs) originally existed on paper, of course, but we used the data to help create some of our electronic databases. Data that exists only on paper or microfilm is essentially autonomous; once placed into an electronic format, however, access can be greatly simplified. If the data is quantitative it can be combined with relative ease with other quantitative data to perform comparative analysis or to generate statistics; if it is narrative, it can be electronically searched to find the similarities and commonalities with many other collections of narrative data. There are drawbacks to converting paper records into electronic data, however. Frequently the original format of the data is significantly altered, which can make it "unreadable," and the non-quantitative aspects of the data that explain it or clarify uncertainties can be lost entirely. If our main use of the data was to put it into an electronic format that we could then use for analytical purposes, we consider it to be part of our electronic database.

The Paper Archives

The Air Force began collecting, via the Air Force history program, historical data on the war from the earliest moments of the August 1990 crisis. Historians in every Air Force unit, especially from the wing level and above, chronicled that unit's activities and insured that vital documents were kept for later research and reference. Within the first week of the Air Staff's Checkmate planning effort, the Center for Air Force History had detailed an experienced historian to Checkmate. The document collection so compiled over the course of his several months there, which we have labeled as the "Checkmate Historian's Files" and the "Checkmate Office Files," comprises one of our largest and most important sources of data. These files include briefings and messages; bomb damage assessment material; attack plans; SITREPs and Air Tasking Orders (ATOs); intelligence data; and much, much more. An equally important set of paper archives are the "Black Hole Files," which contain records generated by the Special Planning Group (the "Black Hole") at CENTAF in Riyadh. These records provide a unique insight into the work

of the Air Campaign planners. A third major set of paper records are the files of the USAF Operations Center/Contingency Support Staff, which tracked the HQ USAF response to the crisis and activities in support of air operations in the Gulf. These records contain a sizeable set of SITREPs from different commands and organizations and provide a unique source of information on joint actions and operations.

U.S. Air Force historians microfilmed virtually every piece of paper they could lay their hands on before paper records were destroyed or otherwise disposed. Miles of microfilm, however, are not conducive to easy research, and it is even more difficult to combine microfilm data with an electronic database. Despite this, large portions of our information such as various SITREPs came from the microfilm archive. GWAPS has copies of approximately 100 rolls of microfilm that the AF Historical Research Agency (AFHRA) shot at CENTAF in Riyadh, plus approximately 600 other rolls shot at Air Combat Command (ACC) or at the Historical Research Agency. Much of this has been entered into the AFHRA's Inferential Retrieval Indexing System (IRIS), so that researchers may conduct electronic keyword searches for a specific reel of microfilm, or even for frames that contain the data they need to examine.

GWAPS has collected a large and wide-ranging collection of paper records on the Gulf War in general and the air campaign in particular. The range of subjects covered by these paper records includes virtually every aspect of the Gulf War, from planning data and briefings to target folders and pre- and post-strike photos. They include interviews and oral history materials, SITREPs from several different Services and levels of command, and unit historical records. These records have been organized in what GWAPS has termed the "New Acquisitions File" (NAF), updated almost on a weekly basis to incorporate new accessions into the paper archive. As of this writing the acquisitions file comprises more than 500 entries, many of which are themselves multi-document collections of papers, reports, etc, such as the sixteen United Nations reports that span the period from July 1991 to September 1992, or the thirteen volumes of the Center for Naval Analysis's (CNA's) "Desert Storm Reconstruction Report," or interviews between GWAPS staff and key participants in the war. The focus of these materials ranges from the detailed, such as a prewar study on targeting Iraqi possible Scud storage sites, to the broad look provided by the Army's Center for Military History report on Army operations during the war. The unit materials, in particular, provided several sets of unique data that were not available anywhere else but were

crucial to the compilation of GWAPS "Composite" and "Missions" Databases (described later). A few of these are summarized below:

The 388th Tactical Fighter Wing (TFW)/69th Tactical Fighter Squadron (TFS) (F-16s) target list contains a partial list of aimpoints extracted from mission reports. It was useful for crosschecking their mission reports, enabled us to fill in missing data, and provided a good source of data on operations from one of the twelve F-16 squadrons in the Gulf.

The 4th TFW (F-15E) target list contains a list of aimpoint data used for clarifying the unit mission reports and other sources. Since this was the only F-15E unit in the theater, it is a key data source for their operations. Although not as detailed as most of their mission reports, it provided a valuable crosscheck where reports were incomplete, confusing, or actually missing.

The Headquarters Strategic Air Command (HQ SAC) Battle Damage Assessment (BDA) database provides a compilation of imagery interpretation reports on B-52 missions. Although the database lacks some missions and is therefore incomplete, it can track B-52 missions by the target, the weapons employed, or date of the mission, and provides some data on mission effectiveness.

Other paper records that comprise key elements of GWAPS' paper archive include the records on Joint Task Force Proven Force; operations of the new E-8 Joint Surveillance Target Attack Radar Systems (JSTARS); the Master Attack Plans (MAPs) developed in the Black Hole: and the Air Tasking Order (ATO) change log maintained by the Tactical Air Control Center (TACC).

Data on the operations of Joint Task Force Proven Force came from several sources that were not always in total agreement. Table 196 illustrates and summarizes these conflicting sources. We collected all the sortie counts on Proven Force operations and tried to match similar categories. We were unable, however, to obtain an exact match because different offices and organizations counted and categorized sorties in different ways. Three sources counted sorties, while two counted air-to-ground strikes. Some F-16s that flew primarily as SEAD sorties equipped with HARMs also dropped bombs or flew fighter escort, further complicating the sortie counts. Even the time when operations took place differed from source to source, some using the ATO cycle date, others Zulu (Gre-

enwich Meridian) Time, or local time. HQ EUCOM provided information from their bomb damage assessment (BDA) program, the 7440th Composite Wing prepared "Bomb Damage Assessments, 18 January-27 February 1991" for the wing history, and Proven Force-prepared SITREPs and daily briefings for Headquarters U.S. Air Force Europe (HQ USAFE). This data had to be compared and evaluated to compile the statistics included in this report. More details on this can be found in Chapter 11 on Proven Force Operations. All Proven Force sortie and strike counts are also included in the data in Chapters 7 and 8.

Joint Surveillance, Targeting, and Reconnaissance System (JSTARS): data was obtained from the hard copy logs maintained for each mission. The JSTARS System Management Office at Headquarters Tactical Air Command (HQ TAC) used contractor assistance to enter the data into the correct format. This data requires further evaluation and analysis to fully correlate the targets located and tasked by JSTARS and what percentage of those targets were actually acquired by aircraft and attacked as a result of JSTARS operations.

The Master Attack Plans (MAP) provide strike planning data used to develop the ATOs. These are the key source documents that establish what the air campaign planners wanted to hit each day. Although these were originally prepared as paper documents and are in fact included in several of the paper collections described earlier, we have used some of their data in constructing the electronic database as well. There were normally several sequential versions of the MAP for any day. These were generally annotated with changes that provide a unique glimpse of the air campaign from the perspective of the Black Hole.

The TACC ATO Change Log provided a list of changes the TACC desired to make to unit taskings. This data enabled us to expand our database from just planning and tasking data to include additional information on execution, what actually happened on the mission.

Electronic Databases

One might expect that in this "electronic war," much if not most of the information would have been reported, collected, stored, and thus easily available in electronic format via computers. This was not the case. Unfortunately, a bewildering array of electronic recording media were used, from digital floppy discs to analog video tape; and under the

pressure of combat, participants often recorded data without consideration for the next work shift, let alone a postwar researcher. The plethora of both common and proprietary hardware running through many of the information systems would require millions of dollars to duplicate. Although we were able to convert approximately three gigabits (this is roughly equal to 1.2 million pages of text, roughly comparable to 120 sets of the Encyclopedia Britannica) of diverse data to a small number of compatible types, we often lost the physical format of the data that allowed the originators to easily read the information. The data conversions often resulted in long strings of electronic text that did not properly align to anything, thus losing both context and meaning. It required extensive manual conversion and verification of this data in order to make it usable, but GWAPS succeeded in creating the largest single collection of electronic data on aerial operations of the Gulf War. The Survey constructed several electronic databases so that researchers and analysts can easily extract the data to meet their needs. For example, we structured the databases so that a researcher could query them to display the use of precision guided munitions (PGMs) during the war, broken out by type of aircraft, type of PGM, by hour of the day, and into what kill box in the theater the strike was conducted. Electronic files were generally easiest to integrate into the database. These came from a variety of sources, the most significant of which were the Computer Assisted Force Management System and the archived messages retained by the CENTAF Intelligence van (see below). What follows is a brief description of some of the major sources in the electronic database. Although some of these may exist on paper, if our primary use of them was in the creation of our electronic databases we have thus categorized them as electronic.

Electronic Databases Acquired by GWAPS

The Automated Intelligence Installation File (AIF) is the only standard joint reference system that lists installations and assets in a particular country. The AIF with its Basic Encyclopedia (BE) numbering system for fixed installations, provides a tremendous amount of data necessary for targeting and other analyses. It is the single most authoritative source for U.S. targeting efforts. AIF information is strictly defined so that users can have a consistent interpretation of capabilities, uses, and functions of a fixed installation. The file does not, however, prioritize installations or draw distinctions as to which installation should be targeted first in a conflict, nor is it a "targets" list, because it also includes data on installations that should NOT be targeted. Although it covers the entire world,

certain countries and elements in the database are not as well covered or fully analyzed as others. Not all the data elements for Kuwait and Iraq were complete at the outset of the crisis in August 1990, but it was and remains the best source of installation data. GWAPS was able to draw on both prewar and postwar AIF extracts for analysis. The AIF is best understood as a dynamic collection of data, constantly being updated and available to users via a worldwide computer net. It therefore exists in paper and electronic format, and the user may determine which version to use. CENTAF had access to only a paper version that was itself only a subset of the overall AIF. A related set of data also maintained at the Defense Intelligence Agency (DIA) are the Order of Battle (OB) databases, which track and count equipment and personnel. Orders of battle, like the AIF, are updated monthly and published upon request.

The Computer Assisted Force Management System (CAFMS) data which was generated by the CENTAF Tactical Air Control Center (TACC) transmitted planning and targeting instructions to wing-level operations centers. It tracked ongoing flying operations and included both tasking and execution data. This information, together with Unit Remarks and Special Instructions (SPINS), constituted the complete ATO used to control daily flying operations. This is the best source of information on the manner of tasking air operations, although a large number of tasked operations were either changed or never carried out, for various reasons. If one looks at only the specific targets tasked each day, for example, approximately half of all taskings were either changed or not flown as tasked. This could range from an F-117 sortie being switched from a leadership bunker to a nuclear, biological or chemical facility, or an F-16 striking artillery positions in one killbox instead of another; all reflecting the dynamics of air operations in the Gulf War. Because of this gap between sorties planned and flown, the two sets of data must be used with care in determining results or tabulating executed operations; one of the larger efforts we have undertaken was to reconcile this data and corroborate it with other sources to form the Missions Database.

CENTAF Sortie counts compiled by Maj. Roy Lee. The Unit Sorties Database initiated by Major Roy Lee, 507th Tactical Air Command & Control Squadron/DOO in March 1991 includes scheduled, added, and flown sorties for USAF, Army, Marine Corps, Special Operations, and the other Allied air forces (Britain, France, Canada, Italy, Saudi Arabia, Kuwait, Qatar, and United Arab Emirates) from 17 January through 28 February 1991. Although the original lists did not include Navy data, we

have collected this data from other sources and inserted it into our Composite Sorties database. Major Lee was designated the Air Operations data collector for General Horner in the TACC. Each day, Major Lee would collect data with which to brief General Horner on the results of the previous day's (from 0300Z to 0259Z the next day) ATO cycle. For example, the results briefed to General Horner on 28 January 91 covered the cycle from 0300Z 27 Jan 91 through 0259Z 28 Jan 91 and were counted as sorties flown on the 27th. The initial cut for ATO data came from the CAFMS summaries routed through the various wing command posts; some had results already included. Major Lee would then contact the various Service and country representatives to get numbers of sorties flown, aircraft types, and resolve discrepancies. He also reviewed and refined the mission designations originally assigned in the ATO. This same information was used to build the Unit Sorties Database; during a subsequent iteration Major Lee corrected some of the data and updated information on sortie cancellations.

The 48th TFW (F-111Fs) developed an electronic database that provides operational data to include aircraft, target, and mission results. The primary weakness of this database is that target identification is frequently imprecise, often using merely a place name such as "Latifiya" instead of detailed information about what installation at the location was being targeted: Command, Control and Communications (C3) site, Nuclear, Biological, and Chemical (NBC) bunker, etc. We have researched this matter and provided correct target identification. The unit database only cited the term "tank plinking" for some missions, however, so we added the Tank Killer Reports (TANKREPs) prepared for tank plinking missions, to provide distinct target information for their anti-armor operations. This is a key source for data on the operations of the F-111Fs.

The 37th TFW database is the best source for F-117 operations, providing solid, quantifiable data. The accuracy rate for these records is probably in excess of 98%. As with many other records, however, they used non-standardized descriptions of their aimpoints, necessitating more information for exact locations. There are several ways of identifying the desired mean point of impact (DMPI) for a bomb: narrative description ("destroy the tower on the east side of the ITT building",) geographic coordinates ("290753N 0484232E" or "2907.86N 04842.51E," which describe the same point on the earth), or grid position on a Basic Target Graph (BTG) (A1, or uppermost left corner of the BTG). Possible sources of confusion include incomplete narratives or unclear identification from

the grid coordinates. This required crosschecking data with other sources to insure GWAPS had accurately entered the data into the larger, synthesized database. GWAPS refined this database with one acquired from the Defense Nuclear Agency's (DNA) draft study that uses the GWAPS Missions Database and mission imagery from the war, such as the weapon sensor videos, to construct munitions effectiveness assessments. This DNA work assisted in the construction of the various databases developed by GWAPS.

The Center for Naval Analysis (CNA) provided for most of the data on carrier-based operations. Each mission planning section maintained a set of logs which tracked the sorties flown by that carrier's air wing. These included strike missions that were tasked on the daily ATO as well as other sorties such as fleet defense, some refueling, combat air patrol, etc. GWAPS reformatted this data and input it into the Missions and the Composite Databases; it includes data on Tomahawk Land Attack Missile operations as well as the thousands of fixed-wing combat sorties flown from the six carriers in the Gulf. One of the key difficulties with this data is that it lacks mission numbers, so that individual missions cannot be tracked. The CNA data does not, by itself, provide a means of crosschecking ATO taskings against actual mission results.

CENTAF Intelligence messages. Nearly all messages addressed to CENTAF/IN were archived on their Limited Enemy Situation/Correlation (LENSCE) Van message processor, which was designed to be a first-generation automated intelligence fusion center. It saved more than 30,000 messages, including 8,200 Mission Reports (MISREPs) and thousands of Tank Killer Reports, Close Air Support Summaries (CASSUMs), and other messages related to air operations and intelligence. The MISREPS were the single most important source of information on Gulf War air operations; the messages archived by the LENSCE van were the largest and most diverse source of electronic text on the air war. These messages were partially sorted by the Mitre Corporation under the Tactical Air Command's Joint Automated Message Program (JAMPS) Program Office. Most of the information was then painstakingly extracted from the mission report text by copying data, leaving the original intact. This extensive and complicated process provided the best example of the need for standardizing formatting for mission reports. Also, the availability of these messages seems to have been a lucky coincidence. Although not fully used in its design as an intelligence fusion center, the LENSCE van was used as a message distribution center during the war and the data

was saved, even though it was never intended to be a means of archiving messages. Furthermore, all message centers after the war apparently reused their monthly backup tapes, thus overwriting whatever messages or data was previously on them. No provision existed for archiving message traffic; thus, this priceless data could have just as easily been irretrievably lost.

High-speed Anti-Radiation Missile (HARM) data. The 35th Fighter Wing (F-4G "Wild Weasels") maintained a database of their use of AGM-88 HARMs. Although it is not cross-referenced to Iraqi Electronic Order of Battle (EOB) Primary Identification Numbers (PINs) or BE numbers, it contains good data on HARM usage. Lt. Col. Richard D. Snook of the intelligence division at the AF Electronic Warfare Center (AFEWC/IN) conducted a postwar study of HARM usage in northern Iraq by Proven Force aircraft. It did not, however, include information on the use of HARMs by other Services. The CNA provided data on Navy use of HARMs; Marine Corps MISREPs served as the basic data source for Marine Corps use of HARMs.

Air Combat Assessment Summaries (ACAS): CENTAF/IN produced this message every twelve hours, compiling bomb damage assessments from other sources. It took nearly verbatim the incoming BDA messages from virtually all reporting sources.

Electronic Databases Created by GWAPS

The "Composite" Sorties Database was generated by GWAPS to improve compostion on the number and type of sorties flown during the Gulf War, since problems were discovered with certain types of aircraft in comparing Major Lee's data with other sources. Major Lee's sortie count excluded carrier-based air and TLAM operations, for example, so we used sortie and mission data prepared by the Center for Naval Analysis. Civil Reserve Air Fleet (CRAF) sorties and intertheater airlift sortie counts were provided by the U.S. Transportation Command Situation Reports (SITREPs). Quantification of Proven Force sortie data by individual aircraft and mission type was accomplished by combining the Proven Force daily briefing slides prepared for HQ USAFE, the Proven Force SITREPs, and the strike history from the 7440th Composite Wing. These sources, perhaps not surprisingly, did not always agree, especially for the first week of the war. Aircraft sortie numbers for special operations were taken from the Special Operations SITREPs. The intent of our Composite

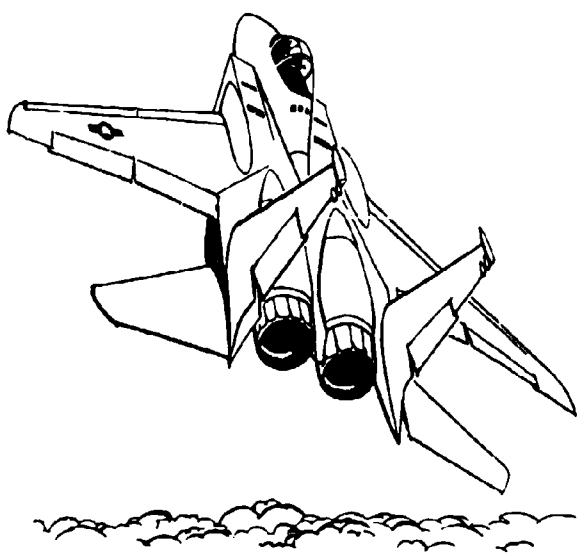
Sorties Database, synthesized from several sources, was to provide as complete and accurate tally as possible of sorties flown during the war. (As will be explained in greater detail in Chapters 7 and 8, there is a difference between a *sortie*, referring to the flight of an aircraft, and a *strike*, referring to ordnance delivered against a target.) Thousands of sorties were flown that delivered no ordnance but were crucial to the success of the air campaign, such as aerial refueling and reconnaissance, command and control, and electronic warfare sorties. The database provides detailed information on the types of sorties flown by mission area.

The "Missions" Database was generated by GWAPS to improve the compilation of data on air power, defined in terms of ordnance delivered against targets. Since a strike is different from a sortie, and the intent of this database is to organize and depict as completely and accurately as possible the aerial missions that employed firepower during the war, it includes information on aircraft, munitions, aimpoints, C3, defenses encountered, and mission results. This database was first published in a raw, working form through the Air Combat Command Directorate of Intelligence's IMPACT program in July 1992. It was originally developed to provide a strategic strike history of weapon impact, and it was hoped to provide an in-depth assessment of bomb damage and munitions effectiveness. The development of this database took much more time than originally anticipated, caused in part by an expanding interest in and demand for more information from this dinatabase. Another factor was the diversity of the sources used to construct this database, each of which contained varying degrees of detail, validity, and jargon/terminology; each of which had to be checked and cross-checked repeatedly. Knowledge of information flow to the various sources during the war was crucial to this process. Differences in the reporting and collecting procedures used by the different sources often explained discrepancies between data.

For example, most sources reported data in the format appropriate to their prewar audience, but this did not harmonize with the scenario in the Gulf. The A-10 is a case in point. Prewar concepts for the A-10 envisioned a fast-moving mobile action in which A-10s provided close air support (CAS) to hard-pressed ground forces. The need for and opportunity to compile detailed MISREPs would have been minimal: large-scale aggregations that provided overall results of several missions. Such reporting held in Desert Storm, in which CAS Summaries (CASSUMS) were aggregated into a single message that provided data such as "Missions 5001A,

5103B, 5011A, 5155C and 5201A [each comprising as many as four aircraft] attacked the following targets:" and listed totals of tanks, artillery, trucks, attacked and the ordnance expended. This information was adequate for the prewar concept, but in the set-piece attritional battle waged by the coalition air forces against Iraqi ground forces in the KTO, more information was necessary so that the strength of each Iraqi unit could be more accurately gauged. Another element of this problem was the limited ability of the CAS aircraft to gather detailed bomb damage assessment beyond pilot reports, since they were seldom delivering precision-guided munitions that provided a recording of their mission.

The Target Installation Reference Database was compiled by GWAPS to compare the various target lists generated during the air campaign planning process. It also has the AIF at three different times: precrisis, prewar, and postwar. This permits researchers and analysts to compare between installation and target lists, and between the several target lists themselves, to see how the installation and target lists expanded as greater intelligence-gathering capability was brought to bear on Iraq, This also permits readers to observe different air strategies expressed through their targeting philosophies.



2

Force Postures

The following sets of tables depict two general collections of data. The first reflects the posture and positioning of U.S. and Iraqi forces at the outset of the crisis at the end of July 1990, while the second reflects coalition and Iraqi orders of battle at the outset of the conflict in January 1991.

Data on prewar U.S. force posture was extracted from the Services' various reports and summaries periodically prepared and updated for their internal use and for JCS status monitoring. Data on the friendly orders of battle on the eve of conflict are taken from U.S. Central Command (CENTCOM) situation reports (SITREPs). All Iraqi data was taken from Order of Battle reports prepared by the Defense Intelligence Agency (DIA). The intent of this chapter is to present a snapshot of the U.S., Allied, and Iraqi forces at the beginning of the crisis in August 1990 and at the start of hostilities in January 1991. It thus presents the approximate correlation of military forces in the theater as well as a rough gauge of what proportion of overall U.S. military strength was engaged in the conflict.

U.S. Posture Before the Gulf War

The following table presents the U.S. force posture at the start of the crisis, broken out by Service and major units or assets.

The table was derived from several sources:

(1) John M. Collins and Dianne E. Rennack, "U.S./Soviet Military Balance: Statistical Trends, 1980-1989 (as of January 1, 1991)," Congressional Research Service, 1990

(2) Defense Manpower Data Center, "Desert Shield/Storm Demographics, Revised File (March 1992)," Monterey, CA.

(3) Asst. Sec. of the Air Force, Financial Management and Comptroller of the Air Force, United States Air Force Statistical Digest, Fiscal Year 1992/1993 Estimate, Washington, D.C.

The first source was used for the respective numbers of units or assets, the second source was used for the personnel data, and the third source was used for the U.S. Air Force (USAF) aircraft inventories.

The U.S. Air Force (USAF) inventory of selected aircraft is presented in Table 2.

Note that the data for the reserve component has been split into a component consisting of regular Reserve and National Guard units, and a component consisting of Individual Ready Reserve (IRR), Individual Mobilization Augmentee (IMA), and other category personnel.

The Navy mine assets consist of Ocean Minesweepers, Mine Countermeasures, and Coastal Minesweepers.

Coalition and Allied Forces

Throughout this report the term "allied forces" refers to the non-US members of the coalition, while "coalition" is all-inclusive and encompasses U.S. forces as well. The Allies include the Arab forces of Saudi Arabia, Bahrain, Egypt, Kuwait, Oman, Qatar, Syria, and United Arab Emirates.

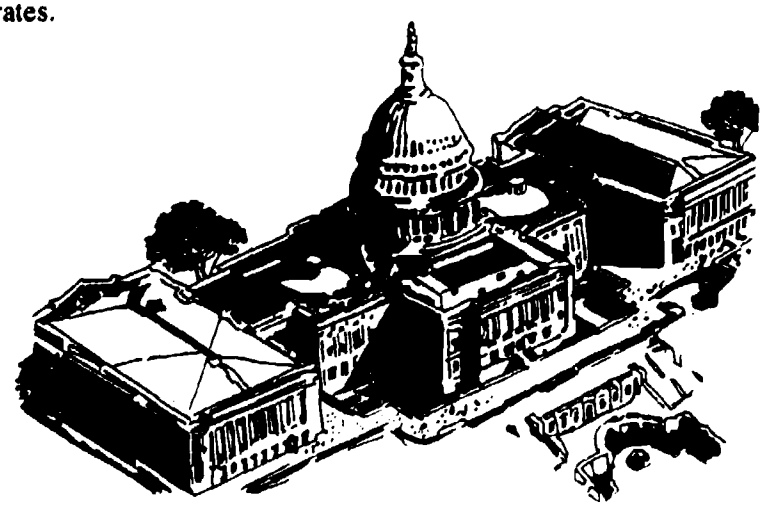


Table 1
U.S. Force Posture Before the Gulf War

Service	Total
Army	
Divisions	18
Tanks	14,359
Armored Personnel Carriers	22,900
Tank Destroyers	2,991
Self-Propelled Artillery	3,469
Towed Artillery	2,474
Multiple Rocket Launchers	400
Surface-to-Surface Missiles	65
Air Defense Guns	880
Air Defense Missile Launchers	1,330
Helicopters	8,828
Personnel	
Active Duty	740,471
Reserve & Guard	682,836
IRR & Other Reserves	846,411
Total Personnel	2,269,718

Service	Total
Air Force	
Squadrons (Active and Reserve)	397
Strategic Bombers	366
Fighter/Attack/Intercept	2,798
Tankers	555
Reconnaissance	346
Cargo/Transport	824
Search & Rescue	36
Helicopters	212
Other	1,676
Regular Air Force A/C Total	6,813
AF Reserve A/C Totals	500
Air Nat. Guard A/C Totals	1,719
Air Force Totals	9,032
Personnel	
Active Duty	527,609
Reserve & Guard	158,474
IRR & Other Reserves	345,145
Total Personnel	1,031,228

Service	Total
Navy	
Carrier Battle Groups	14
Carriers	16
Battleships	2
Cruisers	40
Destroyers	68
Frigates	49
Aircraft for Fleet Defense	260
Aircraft for Attack	466
Attack Submarines	99
Mine Warfare	12
Personnel	
Active Duty	570,384
Reserve	133,501
IRR & Other Reserves	299,062
Total Personnel	1,002,947

Service	Total
Marine Corps	
Divisions	3
Tanks	716
Armored Personnel Carriers	2,081
Self-Propelled Artillery	251
Towed Artillery	794
Air Defense Missile Battalions	4
Aircraft	355
Helicopters	722
Personnel	
Active Duty	199,877
Reserve & Guard	42,575
IRR & Other Reserves	59,642
Total Personnel	302,094

Sources: John M. Collins and Diann E Rennack, "US/Soviet Military Balance: Statistical Trends, 1980-1989 (as of January 1, 1990) Congressional Research Service, 1990; Defense Manpower Data Cente., "Desert Shield/Storm Demographics, Revised File (March 1992)", Monterey, CA; Asst. Sec. of the Air Force, Financial Management and Comptroller of the Air Force, United States Air Force Statistical Digest, Fiscal Year 1992/1993 Estimate, Washington, D.C.

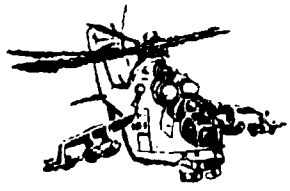
Table 2
Inventory of Selected U.S. Air Force Aircraft in FY 90

Type	Aircraft	AF	AFR	ANG
Attack	A-7	14		321
	A-10	393	97	82
	AC-130	10	10	
Bomber	B-1	96		
	B-52	230		
	FB-111	39		
Cargo	C-5	83	32	12
	C-9	23		
	C-12	73		13
	C-20	13		
	C-21	79		
	C-23	18		
	C-130	237	128	203
	C-135	12		
	C-141	254	8	8
Fighter	F-4	248	40	102
	F-15	765		125
	F-16	1,027	117	469
	F-111	286		
	F-117	48		
Helicopter	H-1	93	5	
	H-3	26	17	6
	H-53	50		
	H-60	43		7
Tanker	KC-10	59		
	KC-135	496	30	116
Recon	C-130	51	4	8
	C-135	73		
	E-3	34		
	RF-4	82		154
	EF-111	42		
Special Duty	OA-10	47		20
	OA-37	12		40
	OV-10	77		

Source: Asst. Sec. of the Air Force, Financial Management and Comptroller of the Air Force, United States Air Force Statistical Digest, Fiscal Year 1992/1993 Estimate, Washington, D.C.

Iraqi Order of Battle

The following tables depict the estimated Iraqi military strength during the critical months of the Gulf crisis August 1990, and January, February, and April 1991. The April estimates reflect the losses that were inflicted to Iraq by the Coalition.



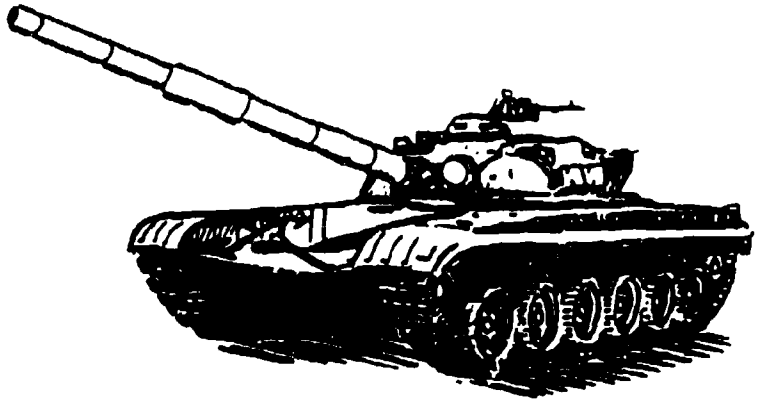
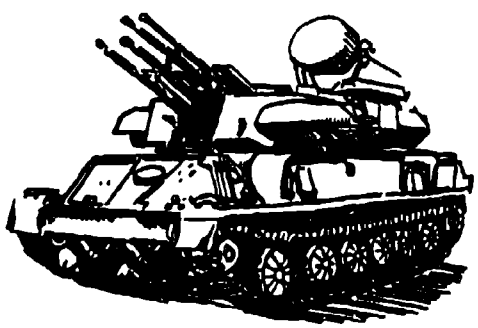


Table 3
Iraqi Order of Battle

Ground	1-Aug-90	1-Jan-91	1-Feb-91	1-Apr-91
Personnel	1,000,000	1,100,000	1,100,000	400,000
Divisions	63	66	66	30
(Infantry)				
(Mechanized Infantry)		[DELETED]		
(Armored)				
(Other)				
Maneuver Brigades	275	270	270	135
Tanks	5,700	7,000	7,000	2,300
Armored Vehicles	10,000	11,200	11,200	3,100
(Infantry Fighting Vechicles)				
(Armored Personnel Carriers)		[DELETED]		
(Recon)				
(Other)				
Artillery 100mm+	3,400	3,800	3,800	1,250
(Self-propelled)		[DELETED]		
(Towed)				
Multiple Rocket Launchers	300	340	340	60
SSM (Launchers)	80	110	105	60
Air				
Personnel	18,000	18,000	18,000	18,000
Fighter/fighter-bombers	718	728	699	362
Bombers	15	15	9	7
Combat-capable trainers	370	400	400	252
Recon	12	12	12	0
Transports	76	70	70	41
Helicopters (all types)	517	511	511	481
(Attack)		[DELETED]		
(Transport/Utility)				
Civil Aviation Transports	59	60	60	42

Table 3 (cont'd)
Iraqi Order of Battle

Ground	1-Aug-90	1-Jan-91	1-Feb-91	1-Apr-91
Air Defense				
Personnel	17,000	17,000	17,000	17,000
Air Defense Artillery	7,500	7,600	7,600	5,850
(Self-Propelled)				
(Towed)		[DELETED]		
SAM Batteries	120	120	200	85
Navy				
Navy Personnel	5,000	5,000	5,000	3,000
Frigates	0	0	0	1
Missile Boats	9	13	3	1
Other Patrol Craft	50	50	50	4
Coastal Defense Missiles	50	50	50	4



U.S. Air Order of Battle

"Order of Battle" is a military term that has nothing to do with commands to fighting units, but instead refers to the number, type, and composition of the forces available to a country or present at a battle. The order of battle presented here is actually a sequence of build-ups for U.S. air power.

After the decision to deploy U.S. forces, the question facing U.S. Central Command (CENTCOM) and Saudi planners involved the order in which forces should be deployed. For instance, to ensure the greatest amount of antiarmor capability in the theater Command-in-Chief, Central Command (CINCCENT) specifically requested the accelerated deployment of U.S. Air Force (USAF) A-10 units. In general, the following tables reflect the military priorities and the logic according to which the deployments were made.

When the second wave of air units was dispatched to the Gulf in November, 1990, provisional Air Divisions were formed to prevent too many units having to report directly to U.S. Air Force, Central Command (CENTAF). The U.S. Air Force (USAF) units that were part of that command were organized in four provisional air divisions: 14th , 15th, 1610th, and 17th.

The 14th Air Division commanded wings with the mission of destroying enemy air, missile, and ground forces, as well as enemy infrastructure targets. To accomplish this mission the 14th controlled U.S. Air Force (USAF) fighters, attack aircraft, as well as light and medium bombers. This division also provided electronic warfare, reconnaissance, and refueling support. The 15th Air Division commanded wings focused on defeating enemy ground based air defenses and increasing the effectiveness of friendly formations. The 1610th Air Division controlled theater airlift forces. The 17th commanded wings created from the following units of the Strategic Air Command's 15th Air Force: 4300th BMW(P), 500 STRATW(P), and the 8th Air Force supplied the 2nd BW(P), 801st BMW(P), 802nd ARW(P), 804th ARW(P), 806th BW(P), 803rd ARS(P), 807th ARS(P), 808th ARS(P), 809th ARS(P).

The 7440th Provisional Wing was something new in the organization of the U.S. Air Force. Previously, most of the flying wings in the Air Force were composed of just one type of aircraft, to maximize efficiency and minimize operations and maintenance costs. However, from the

operational point of view it appeared more effective to have a wing configured to meet a broad range of major mission needs. The 7440th, the air component of Proven Force, was designed to be a self-contained wing with its own strike, fighter, electronic warfare, reconnaissance, and refueling assets. In addition, it had its own base maintenance, planning and logistics.

The following table shows the composition of the Provisional Air Divisions and other independent units.

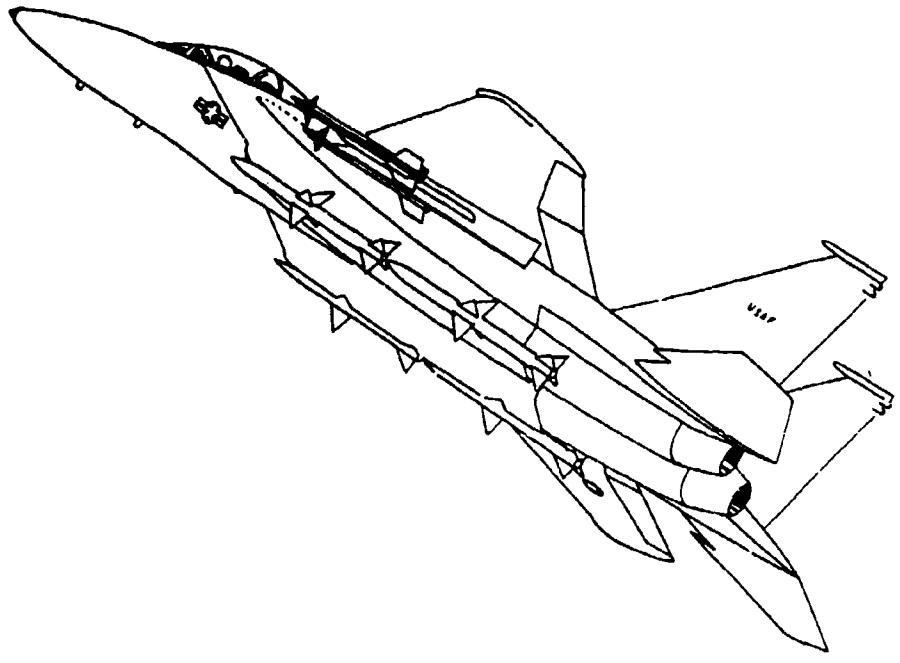


Table 4
Organization of U.S. Air Force Units in the Gulf War

Air Division	Unit	Subunits	Type of Aircraft	Number of Aircraft	Desert Shield Location
14 ADP (TAF)	1st TFW(P)	27 TFS	F-15C/D	24	Dhahuran
		71 TFS		24	Dhahuran
		682 ASOCS			Dhahuran
		726 TCS			Dhahuran
		1681 ALCS(P)			Dhahuran
	4th TFW(P)	336 TFS	C-12	6	Al Kharj
		335 TFS	F-15E	24	Al Kharj
		157 TFS	F-15E	24	Al Kharj
		138 TFS	F-16A	24	Al Kharj
		4401 MMS(P)	F/A-16A	18	Al Kharj
		1670 TAS(P)			Al Kharj
	33 TFW(P)	58 TFS	F15C/D	24	Tabuk
	37th TFW(P)	415 TFS		18	[DELETED]
		416 TFS		18	[DELETED]
		417 TFS	F-117	6	[DELETED]
	48th TFW(P)	492 TFS	F-111F	22	Taif
		493 TFS		22	Taif
		494 TFS		22	Taif
		42 ECS	EC-130(CC)	5	Taif
		390 ECS	EF-111		Taif
			[DELETED]		
	354th TFW(P)	353 TFS	A-10	24	King Fahd
		355 TFS	A-10	24	King Fahd
		74 TFS	A-10	24	King Fahd
		76 TFS	A-10	24	King Fahd
		23 TFS	OA-10	12	King Fahd
		511 TFS		24	King Fahd
		706 TFS		24	King Fahd
		1682 ALCS(P)			King Fahd
	363rd TFW	17 TFS	F-16C/D	24	Al Dhafra
		33 TFS		24	Al Dhafra
		10 TFS		24	Al Dhafra
		1705 AREFS(P)	KC-135R	7	Al Dhafra
	388th TFW(P)	69 TFS	F-16C/D	72	AL Minhad
		4 TFS			AL Minhad
		421 TFS			AL Minhad
		125 TFS			AL Minhad
		122 TFS			AL Minhad
		185 TFS?			
		182 TFS?			

Table 4 (cont'd)
Organization of U.S. Air Force Units in the Gulf War

Air Division	Unit	Subunits	Type of Aircraft	Number of Aircraft	Desert Shield Location
	401th TFW(P)	614 TFS	F-16C/D	24	Doha
15 ADP (TAF)	35th TFW(P)	561 TFS	F-4G	24	Shaikh Isa
		81 TFS	F-4G	24	Shaikh Isa
		192 TRS	RF-4C	6	Shaikh Isa
		12 TRS	RF-4C	6	Shaikh Isa
		106 TRG	RF-4C	6	Shaikh Isa
	JSTARS	4411 JSS	E-8	2	Riyadh
	552AWACW (P)		E-3B	11	Riyadh
	7 ACCS	ABCCC	EC-130		Riyadh
	41st ECS(P)	41 ECS (CC)	EC-130H	6	Bateen
1610 ALDP (MAC)	TAW(P)	314TAW	C-130E	16	Bateen
	TAW(P)	435TFW	C-130H	40	Al Ain
	1612th MAS(P)		C-21	8	Riyadh
			C-12	7	Riyadh
			RU-21	7	Riyadh
	1615th AVS(P)				Riyadh
	1670th TAG(P)	1670 TAS(P)	C-130H	16	Al Kharj
		1671 TAS(P) (763TAS)			
	ALCS(P)				Riyadh
	ALCS(P)				Dhahran
	1683rd ALCS(P)				Al Jubail
	1690th WXGP(P)				Riyadh
	1640th TAW(P)	1640 TAS(P) (317TAW)	C-130E	16	Masirah
		1707 AREFS(P)			Masirah
	1650th TAW(P)	1650 TAS(P) ANG	C-130	16	Sharjah
		1611 Aero Evac SQ(P)			Sharjah

Table 4 (cont'd)
Organization of U.S. Air Force Units in the Gulf War

Air Division	Unit	Subunits	Type of Aircraft	Number of Aircraft	Desert Shield Location
	TAW(P)	317 TAW	C-130E	34	Thumrait
		1661 TAS(P)	C-130E	16	Thumrait
		1662 TAS(P)			Thumrait
	1675 TAS(P)				King Fahd
	AFSOC	719 SOS	AC-130A	5	King Fahd
	AFSOC	16 SOS	AC-130H	3	King Fahd
	AFSOC	850 SOS	MC-130	4	King Fahd
	AFSOC	160 SOAR	MH-60	8	KKMC
	AFSOC	160 SOAR	MH-47	4	KKMC
	1700th STRATW(P)	1700 SRS(P)	RC-135V/W	7	Riyadh
		1704 SRS(P)	U-2/TR-1		Riyadh
		1700 ARS(P)	KC-135	10	Riyadh
17 ADP (SAC)	1701st STRATW(P)	1708 BMW(P)	B-52	16	[DELETED]
		807th ARS(P)	KC-135	10	[DELETED]
		1709 ARS(P)	KC-135E/A	62	[DELETED]
		1710 ARS(P)	KC-10	13	[DELETED]
		1711 ARS(P)			[DELETED]
	ARW(P)	1702 ARS(P)	KC-10	10	Seeb
		1702 ARS(P)	KC-135R	15	Seeb
		1707 ARS(P)	KC-135	10	Masirah
	ARW(P)	1703 AREFWP	KC-135A/Q	20	K. Khalid IAP
			KC-135R	26	K. Khalid IAP
			EC-135L	2	K. Khalid IAP
	ARW(P)	1706 ARS(P)	KC-135E	15	Cairo West
	ARW(P)	1712 ARS(P)	KC-135E	12	Abu Dhabi
	ARW(P)	1713 ARS(P)	KC-135E	12	Dubai Intl
	BMW(P)	4300 BMS(P)	B-52G	20	[DELETED]
		4300 ARS(P)	KC-10A	7	Diego Garcia
			KC-135R	5	Diego Garcia
	801st BW(P)	801 BS(P)	B-52G	22	Moron
		801 ARS(P)	KC-135	15	Moron

Table 4 (cont'd)
Organization of U.S. Air Force Units in the Gulf War

Air Division	Unit	Subunits	Type of Aircraft	Number of Aircraft	Desert Shield Location
7 AD (SAC) Out of AOR	802nd ARW(P)	802 ARS(P)	KC-135		Lajes Field, Azores
	803rd ARS(P)	803 ARS(P)	KC-135		Hellinikon AB, Greece
	804th ARW(P)	804 ARS(P)	KC-135		Incirlik,Turkey
	808th ARS(P)	808 ARS(P)	KC-135		Malpensa,Italy
	809th ARS(P)	809 ARS(P)	KC-135		Andravida, Greece
	805th ARS(P)	805 ARS(P), 805 CAMS(P)	KC-135		RAF Mildenhall, UK
	806th BW(P)	806 BW(P), 806 ARS(P)	B-52G	8	RAF Fairford, UK
			KC-135	Unknown	RAF Fairford, UK
Proven Force	7440th Composite Wing(P)	525 TFS	F-15C	24	Incirlik, Turkey
		612 TFS	F-16C	37	
		3 TFS	F-4E	6	
		20 TFW	F-111E	22	
		52 TFW	F-4G	12	
		38 TRS	RF-4C	6	
		552 AWCW	E-3B	3	
		42 ECS	EF-111A	6	
		43 ECS	EC-130H	3	
		37 TAS	C-130H	11	
		61 TAS	C-130E	8	
		7 SOS	MC/HC-130	7	

Sources: HQ TAC/XPM "USCENTAF Provisional Divisions" (U) 15 January 1991; OSD, Final Report to Congress, "Conduct of the Persian Gulf War," April 1992.

U.S. Air Order of Battle by Aircraft and Service

The following table presents the U.S. air order of battle by aircraft (fixed and rotary wing) and Service at monthly intervals. The date for any entry should be considered to mean " as of the date dd-mm-yy Zulu".

The data in the table was derived from Central Command situation reports (SITREPs) except where otherwise noted. U.S. Marine Corp data were derived from Headquarters Marine Corp (HQMC) Monthly Operational Summaries. The data for the U.S. Navy basically reflect the arrival or departure of a carrier into the theater. Table 5 does not include Proven Force aircraft.

Consistent reporting of rotary wing aircraft information in situation reports (SITREPs) under "Major Ground Weapons in Theater" started in September. The changes in Marine aircraft numbers should be attributed to ship movements in and out of the theater.

U.S. Commander-in-Chief, Central Command (USCINCCENT) situation report (SITREP) for 1-Feb-91 also reported that the Army had 64 UH-60V's, 27 EH-60's, and 115 UH-1V's. However, these types of Army helicopters have not been included in the routine situation report (SITREP) reports of major ground weapons in the theater. It is not clear from the situation reports (SITREPs) when and how many of the Army Special Operations Forces (SOF) helicopters were in the theater prior to 1 Feb 91.



Table 5
U.S. Air Order of Battle by Aircraft and Service

	Aircraft	Type	1-Sep 1990	1-Oct 1990	1-Nov 1990	1-Dec 1990	1-Jan 1991	1-Feb 1991
USAF	F-15C	Fighter	70	72	72	72	96	96
	F-4G	Wld Weasel	24	36	36	36	48	49
	F-16	Ftr/Attack	106	120	120	120	168	212
	A-10	Attack	72	96	96	96	120	144
	AC-130	Gunship	0	5	5	4	4	2
	F-117A	Bomber	18	18	18	18	36	42
	F-15E	Bomber	24	23	24	24	46	48
	F-111F	Bomber	18	32	32	52	64	64
	B-52	Bomber	20	20	20	20	20	36
	TR-1A	Recon	2	2	2	2	2	4
	U-2	Recon	2	2	3	3	3	5
	RF-4C	Recon	6	6	6	6	6	18
	RC-135	Recon	4	4	4	4	4	7
	JSTAR	Srvl & Ctrl	0	0	0	0	2	2
	E-3A	Srvl & Ctrl	6	6	6	6	7	11
	EF-111	Elec Cmbt	10	14	14	14	18	18
	EC-135	Elec Cmbt	0	0	0	0	0	2
	KC-10	Aerial Refuel	0	6	6	6	6	30
	KC-135Q	Aerial Refuel	79	93	114	115	164	194
	C-20	Tact Airlift	1	1	1	1	1	1
	C-21	Tact Airlift	4	8	8	8	8	8
	C-29	Tact Airlift	0	0	1	1	0	0
	C-130	Tact Airlift	70	95	96	96	96	149
	HC-130	Spec Ops	4	4	4	4	4	4
	EC-130E	ABCCC	6	6	6	6	6	6
	EC-130(VS)	Spec Ops	2	2	2	2	2	2
	EC-130(CC)	Elec Comb	5	5	5	5	5	5
	MC-130	Spec Ops	4	4	4	4	4	4
	MH-53	Spec Ops	6	8	8	8	8	13
	MH-60	Spec Ops	0	8	8	8	8	4
USN	F-14	Ftr/Intercept	56	76	76	76	76	109
	F/A-18	Ftr/Attack	58	58	58	88	88	89
	A-7E	Ftr/Attack	0	24	24	24	24	24
	A-6E	Bomber	35	48	48	62	62	96
	E-2C	Srvl & Ctrl	12	17	17	21	21	29
	EA-6B	Elec Cmbt	12	17	17	21	21	27
	KA-6D	Tanker	8	12	12	16	16	16
	C-2A	Airlift	0	0	0	2	2	2
	S-3A/B	Recon	23	31	31	31	31	43

Table 5 (cont'd)
U.S. Air Order of Battle by Aircraft and Service

	Aircraft	Type	1-Sep 1990	1-Oct 1990	1-Nov 1990	1-Dec 1990	1-Jan 1991	1-Feb 1991
*USMC	F/A-18	Fu/Attack	48	48	48	48	72	78
	AV-8B	Attack	40	60	60	60	81	84
	OV-10	Srvl & Ctrl	0	8	8	8	8	19
	EA-6	Elec Comb	12	12	12	12	12	12
	A-6	Bomber	9	10	10	10	20	20
	KC-130	Tanker	6	8	8	8	12	15
	AH-1W/T/J	Attack	34	45	47	43	43	75
	CH-46	Transport	15	60	60	48	72	120
	UH-1	Utility	18	28	26	24	36	50
	CH-53D	Transport	12	20	20	20	20	29
	CH-53E	Transport	8	35	35	29	33	48
USA	AH-64	Attack	46	109	144	144	189	245
	AH-1S	Attack	4	48	82	86	112	141
	UH-60	–	56	154	205	205	279	303
	UH-1H	–	4	35	127	127	169	197
	OH-58C	–	40	118	175	178	257	324
	OH-58D	–	21	41	56	59	79	97
	CH-47	–	–	49	83	84	99	127
	MH-47	–	–	–	–	–	–	4
	UH-60V	–	–	–	–	–	–	64
	EH-60	–	–	–	–	–	–	27
	UH-1V	–	–	–	–	–	–	115

Source: USCINCCENT SITREPs(S/NF).
*HQMC Monthly Operational Summary. Figures include aircraft afloat.

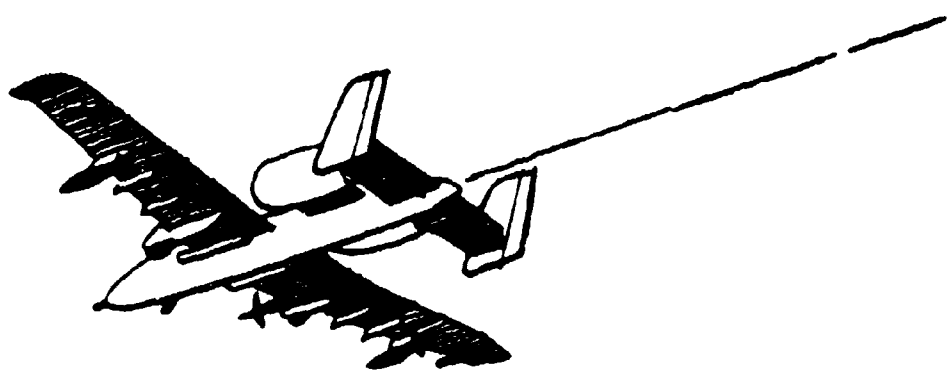


Table 6
U.S. Air Order of Battle by Location

Airfield	Aircraft	1-Sep-90	1-Oct-90	1-Nov-90	1-Dec-90	1-Jan-91	1-Feb-91
USAF							
Abu Dhabi	KC-135	–	–	–	–	–	10
Al Ain	C-130	15	31	32	32	32	40
Al Dhafra	F-16C	46	48	48	48	72	72
	KC-135R	5	7	7	7	7	7
	RF-4C	6	6	6	6	0	18
Al Kharj	C-130	–	–	–	–	8	16
	F-15C	–	–	–	–	24	24
	F-15E	–	–	–	–	48	48
	F-16A	–	–	–	–	22	24
	F/A-16A	–	–	–	–	–	18
Al Minhad	F-16C	36	48	48	48	48	74
Bateen	C-130	16	16	16	16	16	16
	C-29	–	–	1	1	–	–
	EC-130(CC)	5	–	5	5	5	6
	EC-130H	2	5	5	5	5	8
Cairo West	KC-135E	–	–	–	–	15	15
	KC-135R	–	2	3	3	3	–
Dhahran	F-15C	48	48	48	48	48	48
Diego Garcia	B-52G	20	20	20	20	20	19
	KC-10	–	2	2	2	2	7
	KC-135R	8	6	7	5	5	5
Doha	F-16C	24	24	24	24	24	25
Dubai	KC-135	–	–	–	–	–	10
[DELETED]	B-52	–	–	–	–	–	16
	KC-10	–	2	2	2	2	13
	KC-135	–	–	–	–	–	66
	KC-135A/Q	–	–	–	–	20	–
	KC-135E	18	18	20	20	25	–
	KC-135R	10	20	20	20	20	–
[DELETED]	F-117A	18	18	18	18	5	42
King Fahd	A-10	72	96	96	96		131
	AC-130	–	5	5	5		3
	C-130	–	–	–	–		16
	C-130	–	–	–	–		3
	EC-130(VS)	2	2	2	2		2
	HC-130	4	4	4	4	4	4
	MC-130	4	4	4	4	4	4
	MH-53	4	8	8	8	–	–
	MH-60	–	8	8	8	8	–
	OA-10	–	–	–	–	6	12
King Khalid	KC-135L	–	–	–	–	–	2
	KC-135	–	–	–	–	–	46
	KC-135A	–	–	5	27	20	–
	KC-135Q	–	–	3	8	7	–
	KC-135A/Q			20	40	20	–
	KC-135R	20	20	20	5	25	–

Table 6 (cont'd)
U.S. Air Order of Battle by Location

Airfield	Aircraft	1-Sep-90	1-Oct-90	1-Nov-90	1-Dec-90	1-Jan-91	1-Feb-91
Masirah	C-130	16	16	16	16	16	16
	F-15C	–	–	4	5	–	–
	KC-135R	–	–	2	2	10	10
Moron	B-52	–	–	–	–	–	10
Riyadh	C-20	1	1	1	1	1	–
	C-21	4	8	8	8	8	8
	E-3	6	6	6	6	7	11
	E-8	–	–	–	–	–	2
	EC-130E	3	–	6	6	4	7
	KC-135Q	10	10	10	10	10	10
	RC-135	4	4	4	4	4	7
Seeb	KC-10	–	2	2	2	2	10
	KC-135R	10	10	8	10	10	15
Shaikh Isa	F-4G	24	36	36	36	48	49
	RF-4C	–	–	–	–	6	18
Sharjah	C-130	3	16	16	16	16	16
	EC-130E	6	6	–	–	–	–
Tabuk	F-15C	22	24	24	24	24	24
Taif	EF-111	10	14	14	14	18	18
	F-111F	18	32	32	52	64	64
				[DELETED]			
Thumrait	C-130	16	16	16	16	16	24
	F-15E	24	24	24	24	26	48
Proven Force							
Hellenikon	RC-135	–	–	–	–	–	2
	KC-135	–	–	–	–	–	7
Incirlik	E-3A	–	–	–	–	–	3
	EC-130	–	–	–	–	–	3
	EF-111A	–	–	–	–	–	6
	F-111E	–	22	22	22	22	26
	F-15C	–	–	–	–	24	29
	F-16C	–	–	–	–	–	24
	F-16WW	–	–	–	–	–	12
	F-4G	–	–	–	–	–	13
	F-4E	–	–	–	–	–	4
	RF-4C	–	–	–	–	–	6
	C-130H	–	–	–	–	–	11
	C-130E	–	–	–	–	–	8
	EP-3	–	–	–	–	–	2
	KC-135A	–	–	–	–	–	15
Malpensa	KC-10	–	–	–	–	–	7
Zaragoza	KC-10	–	–	–	–	–	7
	KC-135	–	–	–	–	–	1

Table 6 (cont'd)
U.S. Air Order of Battle by Location

Airfield	Aircraft	1-Sep-90	1-Oct-90	1-Nov-90	1-Dec-90	1-Jan-91	1-Feb-91
Mont de Marsen	KC-135	–	–	–	–	–	9
Mildenhall	KC-135	–	–	–	–	–	9
Andravida	KC-135	–	–	–	–	–	1
Souda Bay	RC-135	–	–	–	–	–	2
	HC-130	–	–	–	–	–	4
	MC-130	–	–	–	–	–	3
	MH-53J	–	–	–	–	–	5
USN							
America	A-6E	–	–	–	–	–	12
	E-2C	–	–	–	–	–	5
	EA-6B	–	–	–	–	–	4
	F-14	–	–	–	–	–	20
	F/A-18	–	–	–	–	–	20
	KA-6D	–	–	–	–	–	4
	S-3B	–	–	–	–	–	8
	SH-3	–	–	–	–	–	6
Independence	A-6E	13	13	13	–	–	–
	C-2A	1	1	1	–	–	–
	E-2C	4	4	4	–	–	–
	EA-6B	4	4	4	–	–	–
	F-14	18	18	18	–	–	–
	F/A-18	18	18	18	–	–	–
	S-3B	7	7	7	–	–	–
	SH-3	6	6	6	–	–	–
Kennedy	A-7	–	24	24	24	24	24
	A-6E	–	13	13	13	13	13
	E-2C	–	4	4	4	4	4
	EA-6B	–	5	5	5	5	5
	F-14	–	20	20	20	20	20
	KA-6D	–	4	4	4	4	4
	S-3B	–	8	8	8	8	8
	SH-3	–	5	5	5	5	5
Midway	A-6E	–	–	–	–	–	14
	C-2A	–	–	–	–	–	1
	E-2C	–	–	–	–	–	4
	EA-6B	–	–	–	–	–	4
	F/A-18	–	–	–	–	–	30
	KA-6D	–	–	–	–	–	4
	SH-3	–	–	–	–	–	6
Ranger	A-6E	–	–	–	–	–	24
	C-2A	–	–	–	–	–	1
	E-2C	–	–	–	–	–	4
	EA-6B	–	–	–	–	–	4
	F-14	–	–	–	–	–	22
	S-3B	–	–	–	–	–	7
	SH-3	–	–	–	–	–	6

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Table 6 (cont'd)
U.S. Air Order of Battle by Location

Airfield	Aircraft	1-Sep-90	1-Oct-90	1-Nov-90	1-Dec-90	1-Jan-91	1-Feb-91
Roosevelt	A-6E	-	-	-	-	-	18
	C-2A	-	-	-	-	-	10
	EA-6B	-	-	-	-	-	5
	F-14	-	-	-	-	-	18
	F/A-18	-	-	-	-	-	20
	S-3B	-	-	-	-	-	4
	SH-3	-	-	-	-	-	6
Saratoga	A-6E	-	-	-	14	14	14
	E-2C	-	-	-	4	4	4
	EA-6B	-	-	-	4	4	4
	F-14	-	-	-	19	19	19
	F/A-18	-	-	-	18	18	18
	KA-6D	-	-	-	4	4	4
	S-3B	-	-	-	10	10	10
	SH-3	-	-	-	6	6	6
*USMC							
King Abdul Aziz	AV-8B	40	40	40	40	60	59
	OV-10A/D	0	8	8	8	8	19
Sheikh Isa	A-6E	9	10	10	10	20	20
	EA-6B	12	12	12	12	12	12
	F/A-18A/C	48	48	48	48	72	72
	F/A-18D	0	0	0	0	0	6
	KC-130	6	8	8	8	12	15
Al Jubail	AH-1T/W/J	34	39	40	28	28	39
	CH-46E	15	24	24	24	24	60
	CH-53D	12	20	20	20	20	29
	CH-53E	8	15	15	15	15	24
	UH-1N	18	18	18	18	18	30
Afloat	AH-1T/W/J	0	6	7	15	15	36
	AV-8B	0	20	20	20	21	25
	CH-46E	0	36	36	24	48	60
	CH-53E	0	20	20	14	18	24
	UH-1N	0	10	8	6	18	20
USA							
Unknown	AH-1S	4	48	82	84	112	141
	AH-64	46	108	144	146	189	245
	CH-47	-	49	84	84	99	127
	OH-58C	40	119	175	178	257	324
	OH-58D	21	43	56	59	79	97
	UH-1H	4	50	127	127	169	202
	UH-60	52	152	205	206	279	303

Source: "Desert Shield CSAF Briefings," GWAPS Folders #32-#35;
USCINCCENT SITREPs(S/NF); USCINCENTAF SITREPS(S/NF);
J.E. Schroeder, CMSGT, USAF, "History of Joint Task Force Proven Force(U),
27 Dec 90 -7 Jan 91, Vol I -- Narrative," HQ USAFE/HO, Ramstein AB, Germany.
*HQMC Montly Operations Summaries(S).

U.S. Naval Units in the Gulf War

The following table lists the various U.S. Navy ships in the Persian Gulf during the Gulf War. The Joint Task Force Middle East (JTFME) ships operated daily in the Persian Gulf before the invasion of Kuwait, and the U.S. routinely maintained a battle group (CVBG) in the Indian Ocean linked to the Joint Task Force Middle East.

The information in this table was derived from "The United States Navy in Desert Shield/Desert Storm", published by the Department of the Navy, Office of the Chief of Naval Operations, on 15 May 1991. The "X" symbols in the table indicate that a ship was on-station in the theater of operations on the date indicated. Note that if a ship deployed to the region even a day later than the dates indicated above, an "X" will not be present. For example, if a ship entered the region on November 2 and departed on December 31, only the "1 December" column will contain an "X". In certain instances, a ship was on-station for only a few days in the middle of a single month. When this occurred, an "(X)" was entered to indicate that the ship was present at some time during the month. Occasionally, the reference document for this table contained only the months a ship was operating in the theater. In these cases, it was assumed that the ship arrived in the middle of the month. For example, a September-October entry in the document would correspond to an "X" entered in only the "1 October" column.

For the three SSN class submarines, *Newport News*, *Philadelphia*, and *Pittsburgh*, no deployment dates were listed.

Ships of the Military Sealift Command are manned by civilian crews and carry the prefix "T" before their normal hull numbers.

When Iraq invaded Kuwait the eight Joint Task Force Middle East (JTFME) ships, the Independence battle group in the Indian Ocean and the Eisenhower battle group in the eastern Mediterranean Sea were the only sustainable naval forces in the theater; they became U.S. Navy, Central Command (NAVCENT).

Eventually, this naval force was enlarged and restructured. Initially, USS *Midway* (CV 41), USS *Ranger* (CV 61), and USS *Roosevelt* (CV 71) formed the Persian Gulf Battle Force with *Midway* serving as the command ship. The USS *Kennedy* (CV 67), USS *Saratoga* (CV 60), and USS *America* formed the Red Sea Battle Group with USS *Kennedy*

serving as the command ship. In February, USS *America* joined the Persian Gulf Battle Force to provide more strike assets for the anticipated ground offensive.

We did not include in the table destroyers, frigates, attack submarines, amphibious warfare ships, naval fleet auxiliary force ships, material support ships, and underway replenishment ships.

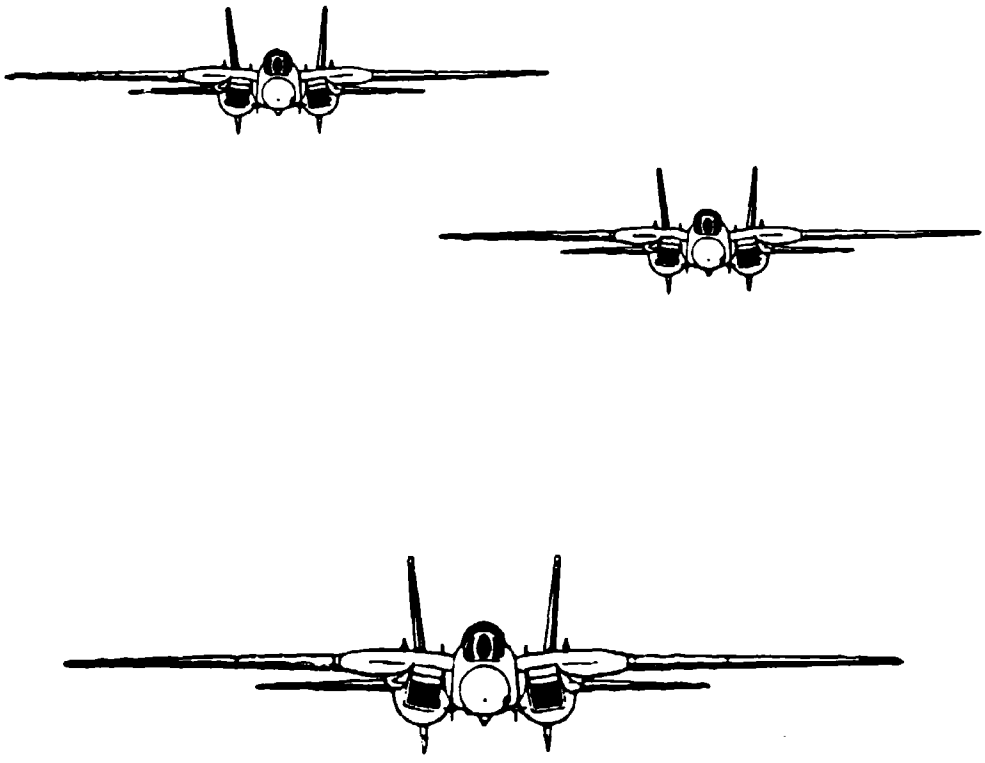


Table 7
U.S. Naval Units in the Gulf War

Class	U.S.S.	Designation	8-Aug 1990	1-Sep 1990	1-Oct 1990	1-Nov 1990	1-Dec 1990	1-Jan 1991	1-Feb 1991	1-Mar 1991	1-Apr 1991
Surface Combatants											
Aircraft Carriers	Midway	CV-41					X	X	X	X	
	Saratoga	CV-60		X		X	X		X	X	
	Kennedy	CV-67			X	X	X	X	X	X	
	Roosevelt	CVN-71							X	X	X
	America	CV-66							X	X	X
	Ranger	CV-61							X	X	X
	Eisenhower	CVN-69	X								
	Independence	CV-42	X	X	X	X					
Battleships	Wisconsin	BB-64		X	X	X	X	X	X	X	
	Missouri	BB-63					X	X	X	X	
Guided Missile Cruisers	Antietam	CG-54	X	X	X	X					
	Bunker Hill	CG-52				X	X	X	X	X	
	Philippine Sea	CG-58		X		X	X		X		
	Thomas Gates	CG-51			X	X	X	X	X	X	
	Mississippi	CGN-40			X	X	X	X	X	X	
	San Jacinto	CG-56			X	X	X	X	X	X	
	Leyte Gulf	CG-55							X	X	X
	Virginia	CGN-38							X	X	X
	Normandy	CG-60							X	X	X
	Princeton	CG-59							X	X	X
	Valley Forge	CG-50							X	X	X
	Mobile Bay	CG-53				X	X	X	X	X	
	South Carolina	CGN-37				X	X				
	Ticonderoga	CG-47	X								

Table 7 (cont'd)
U.S. Naval Units in the Gulf War

Class	U.S.S.	Designation	8-Aug 1990	1-Sep 1990	1-Oct 1990	1-Nov 1990	1-Dec 1990	1-Jan 1991	1-Feb 1991	1-Mar 1991	1-Apr 1991
Surface Combatants (Cont'd)											
Cruisers	England	CG-22	X	X	X	X					
	Biddle	CG-34		X		X	X		X	X	
	Turner	CG-20							X	X	X
	Horne	CG-30							X	X	X
	Jouett	CG-29	X	X	X	X					
	Worden	CG-18				X	X	X	X		
Guided Missile Destroyers	Sampson	DDG-10		X		X	X				
	Preble	DDG-46							X	X	
	William Pratt	DDG-44							X	X	X
	Tattnall	DDG-19	(X)								
	Goldsborough	DDG-20	X	X	X	X					
	Kidd	DDG-993							X	X	X
	Macdonough	DDG-39				X	X	X	X		
	Scott	DDG-995	X								
Guided Missile Frigates	Vandegrift	FFG-48		X							
	Reid	FFG-30		X							
	Curts	FFG-38					X	X	X	X	
	Roberts	FFG-58			X	X	X	X	X	X	
	Hawes	FFG-53							X	X	X
	Halyburton	FFG-40							X	X	X
	R.G. Bradley	FFG-49	X	X	X	X					
	Ford	FFG-54							X	X	
	J.L. Hall	FFG-32	X								
	Jarrett	FFG-33							X	X	X
	McInerney	FFG-8								X	X
	Nicholas	FFG-47				X	X	X	X		
	Taylor	FFG-50	X	X	X	X					

Table 7 (cont'd)
U.S. Naval Units in the Gulf War

Class	U.S.S.	Designation	8-Aug 1990	1-Sep 1990	1-Oct 1990	1-Nov 1990	1-Dec 1990	1-Jan 1991	1-Feb 1991	1-Mar 1991	1-Apr 1991
Amphibious Warfare											
Amphibious Command	Blue Ridge	LCC-19		X	X	X	X	X	X	X	X
Amphibious Assault	Guam	LPH-9			X	X	X	X	X	X	
	Iwo Jima	LPH-7			X	X	X	X	X	X	
	Nassau	LHA-4			X	X	X	X	X	X	
	New Orleans	LPH-11							X	X	X
	Okinawa	LPH-3			X	X			X	X	
	Tarawa	LHA-1							X	X	X
	Tripoli	LPH-10							X	X	X
Mine Warfare Ships											
Ocean Minesweepers	Adroit	MSO-509			X	X	X	X	X	X	X
	Impervious	MSO-449			X	X	X	X	X	X	X
	Leader	MSO-490			X	X	X	X	X	X	X
Mine Counter-measures	Avenger	MCM-1			X	X	X	X	X	X	X

Source: "The United States Navy in Desert Shield/Desert Storm", published by the Department of the Navy, Office of the Chief of Naval Operations, on 15 May 1991.

Table 8
Carrier Activity in the Gulf War

Carrier	15-Aug-90	1-Sep-90	1-Oct-90	1-Nov-90	1-Dec-90	1-Jan-91	1-Feb-91	15-Feb-91
Independence	Arab Sea	Arab Sea	Arab Gulf	Arab Sea	End-On-Station			
Eisenhower	Red Sea	End-On-Station						
Saratoga	Med Sea	Red Sea	Med Sea	Red Sea	Red Sea	Red Sea	Red Sea	Red Sea
Kennedy		Med Sea	Red Sea	Out of Red Sea	Red Sea	Red Sea	Red Sea	Red Sea
Midway				Arab Sea		Arab Gulf	Arab Gulf	Arab Gulf
Ranger							Arab Sea	Arab Sea
Roosevelt							Arab Gulf	Arab Gulf
America							Out of Red Sea	Arab Sea

Source: USCINCCENT SITREPs(S/NF)

Major Ground Weapons

The following table presents an order of battle for major ground weapons in the possession of the United States and United Kingdom forces in the theater at monthly intervals. Data for other coalition members was not included because the situation reports (SITREPs) did not report this data under Major Ground Weapons in theater.

The data in the table was extracted from the U.S. Commander-in-Chief, Central Command (USCINCCENT) situation reports (SITREPs). No data were reported before 22 August 1990.

The 1 September situation report on file appears to be a forwarded copy of the one for 31 August. In this SITREP, "155 HOW M198" is used for the Marine 155T howitzer and "155 HOW SP M109" or "155 HOW SP M109A3" is used for the Marine 155SP howitzer. Elsewhere the notation is consistent with that used for the Army.

Beginning with the 16 October SITREP, only weapon systems in combat-ready units were counted. Those being off loaded or assigned to units not yet ready for combat, which had apparently been included in some earlier counts, were no longer to be counted. The changeover caused an immediate count reduction of about 15% for several Army weapon systems. (Marine weapon system counts were unaffected.)

This has resulted in some numbers in the following table to appear low. The number of tanks in theater is a good example. As the Army replaced M1 tanks with the improved M1A1 model, the older M1s were placed in storage or replacement pools, not assigned to combat units. Thus the number of M1s shown in Table 9 declined during December and January, even though they were still in theater.

United Kingdom ground-based weapon systems were not tabulated in the situation reports (SITREPs) before late October 1990.

Note: "Marines Weapons" includes equipment ashore and afloat. Figures do not include the U.S. Army 1st BDE, 2nd ARMD DIV which arrived during January 1991 and was attached to the 2nd MARDIV. Army figures would add almost 120 M1A1 tanks, 280 armored vehicles and other equipment to these totals.

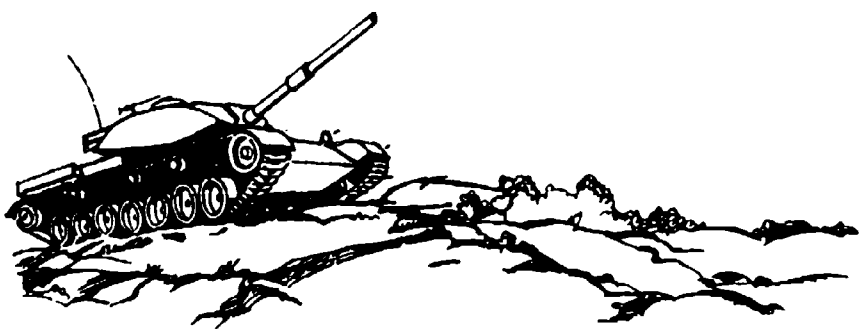
Table 9
Major U.S. and UK Combat Ready Ground Weapons in the Theater

	1-Sep-90	1-Oct-90	1-Nov-90	1-Dec-90	1-Jan-91
Army Weapons					
TOW (Anti Tank Weapon)	169	290	386	404	*
ITV	10	88	125	125	127
M551 (Armored Vehicle)	43	43	51	51	57
LAV (Armored Vehicle)	10	11	11	11	11
M60A3 (Tank)	-	9	9	9	9
M1 (Tank)	118	232	580	580	235
M1A1 (Tank)	-	-	123	123	594
M2 (IFV)	56	162	330	327	328
M3 (IFV)	16	57	286	272	394
M113A2 (APC)	68	367	762	762	762
105MM (Artillery)	54	110	110	110	108
155 T (Artillery)	-	66	66	72	72
155 SP (Artillery)	11	72	196	216	288
8 IN SP M110A2 (203 MM) (Artillery)			48	48	48
MLRS (Artillery)	13	37	63	63	90
ATACM (Missile)	-	9	9	18	18
HAWK (Missile)	-	-	-	21	45
VULCAN (Missile)	-	58	105	135	135
PATRIOT (Missile)	7	21	45	60	92
M-728 Combat Engineering Vehicle(CEV)	-	-	-	-	12
AVLB (Armor Vehicle Launch Bridge)	-	-	-	-	54
***Marines Weapons**					
TOW (Anti Tank Weapon)	57	306	280	272	470
LAV-AT (Armored Vehicle)	8	30	30	28	34
LAV (Armored Vehicle)	19	149	149	163	220
M60/M60A1/M60A3/M1A1 (Tank)	42	140	145	145	225
AAV (Assault Amphibious Vehicle)	92	301	300	320	492
105MM (Artillery)	-	4	4	-	4
155 Towed (Artillery)	28	90	90	86	132
155 Self Propelled (Artillery)	0	6	6	6	12
8 IN SP M110A2 (203 MM)(Artillery)	0	6	6	6	12
HAWK (Missile Launchers)	8	16	16	16	16
M-9 (ACE)(Armored Combat Earth Movers)	-	-	-	-	6
AVLB (Armor Vehicle Launch Bridge)	-	-	-	-	4

Table 9 (cont'd)
Major U.S. and UK Combat Ready Ground Weapons in the Theater

	1-Sep-90	1-Oct-90	1-Nov-90	1-Dec-90	1-Jan-91
United Kingdom Weapons					
(Missile)	-	-	0	24	24
(Armored Vehicle)	-	-	4	4	4
SCORPION (Tank)	-	-	8	18	18
CHALLENGER (Tank)	-	-	140	140	117
(Infantry Fighting Vehicle)	-	-	72	75	75
(Reconnaissance Vehicle)	-	-	18	18	18
155 SP (Artillery)	-	-	24	24	24

Sources: USCINCCENT SITREPs(S/NF).
*HQMC Monthly Operational Summary(S).



Allied Order of Battle

Key factors in the coalition victory were the infrastructure and forces provided by the Arab allies. From the outset of Desert Shield, they provided the foundation for the sustained buildup of out-of-theater coalition forces. During Desert Storm, the air forces of the Arab allies in the AOR (Saudi Arabia, Kuwait, Bahrain, Qatar, Oman, and United Arab Emirates) conducted a range of combat operations and were full participants in the air campaign.

Long before the opening of Desert Storm, the U.K.'s Royal Air Force (RAF) integrated their command structure in such a way that while they retained national command of their forces, tactical planning, tasking, and execution were accomplished through CENTAF's Tactical Air Control Center (TACC). The British would add capabilities that just did not exist in other coalition air forces. Particular emphasis was placed on buildup of the force of Tornado GR.1/1A strike/interdiction aircraft with their JP-223 runway denial munitions. When the war came, the RAF contribution was second only to that of the U.S. in variety and scale. Much like the USAF, the RAF formed various deployed forces into composite units.

In addition to the units assigned to the composite units, the RAF supplied a number of other units that fulfilled a variety of tasks, including airborne ranking, transport, or maritime reconnaissance. An unknown number of Royal Navy Lynx helicopters were assigned to ships. Also a number of RAF Volunteer Reserve (RAFVR) units served in the Gulf.

The French deployed the third largest air contingent into the Gulf. While their forces deployed early to the Persian Gulf, the French government did not decide to commit forces to the Desert Storm counteroffensive against Iraq until just prior to the attack. After the commitment, the French air units were fully integrated into coalition planning and execution.

In addition to the shooters, French C-135R airborne tankers supported both French and other coalition aircraft and Gabrial electronic warfare aircraft, and Puma electronic jamming helicopters provided electronic support. The French also deployed a squadron of C-160 transport aircraft to the region.

Canada first deployed ships with embarked helicopters to enforce the economic blockade of Iraq. The aircraft that arrived later were engaged primarily in maritime combat air patrol (CAP) missions and towards the end of January they shifted to flying escort missions for air strikes into Kuwait and Iraq.

In September, 1990, the Aeronautical Militare Italiana (AMI) sent eight of their new Tornado GR.1 bombers to the Persian Gulf. Later at the request of Turkey, Italy sent a detachment of RF-104G Starfighters to eastern Turkey.

The Dutch Air Force was not involved in any known combat action during the war. Three major units of the Royal Dutch Air Force took part in Desert Shield/Storm: 5th and 3rd Missile Groups, and the 334th Transport Squadron.

New Zealand sent its No.40 Squadron to the Gulf where they joined a RAF C-130 unit flying regular routes throughout the theater.

In addition to the various countries that sent relatively large contingents of air units, Argentina sent one Boeing 707-320 and two C-130 Hercules transports; Korea contributed three C-130 Hercules transports.

Tables 10 and 11, on allied air and ground order of battle, list the total forces for allied, arab countries and do not reflect forces in Saudi Arabia. Table 12, "Other Allied Contingents," does reflect forces in Saudi Arabia or surrounding waters. The French 6th Light Armored Division arrived in mid- January. A detailed list of their Order of Battle was not available.

Table 10
Allied Order of Battle

Allies	1-Aug-90	1-Oct-90	1-Nov-90	1-Dec-90
Personnel	105,100	105,100	105,100	105,100
Fighter/ftr-bombers	1,234	1,326	1,371	1,386
Combat-cap. trainers	546	514	514	514
Transports	260	257	257	257
Helicopters (all types)	806	802	801	849
(attack)	229	220	220	220
(transport/utility)	523	528	527	527
Civil aviation transports	280	256	256	256

Source: USCINCCENT SITREPs (S)

Table 11
Allied Ground Order of Battle

Allies	1-Aug-90	1-Oct-90	1-Nov-90	1-Dec-90
Armed Forces				
Total Strength	1,128,000	1,107,000	1,107,000	1,110,000
Ground Force Strength	842,500	828,500	828,500	831,500
Divisons	21	21	21	21
Maneuver Bdes	122	123	123	123
Tanks	8,600	8,500	8,500	8,600
Armored Vehicles (total	15,800	15,000	15,000	15,000
Artillery 100mm+	3,820	3,750	3,750	3,750
(self-propelled)	620	550	550	550
(towed)	3,200	3,200	3,200	3,200
Multiple rocket launche	790	800	800	800
SSM (launchers)	100	80	80	80

Source: USCINCCENT SITREPs (S)

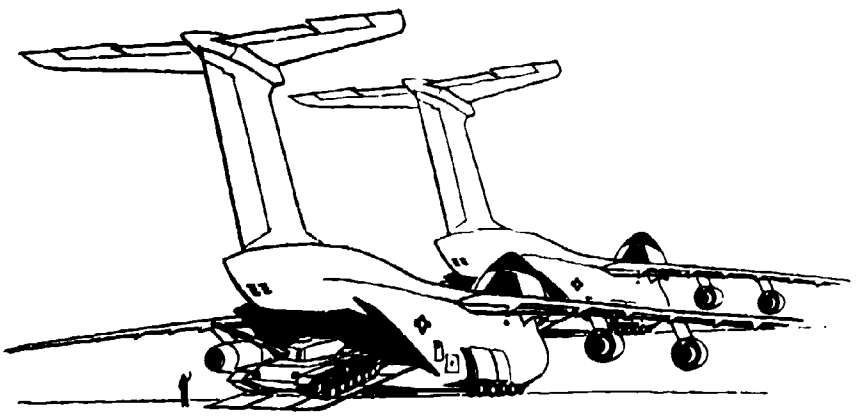
Table 12
Other Allied Contingents

Country	Ground	Naval	Air
Afghanistan	300 Mujahadin	-	-
Argentina	450 Troops	2 Frigates	2xC-130
Australia	-	1 Guided Missile Frigate	-
	-	1 Destroyer	-
	-	1 Supply Ship	-
Bahrain	3,500 Troops	-	-
Bangladesh	2,000 Troops	-	-
Belgium	-	2 Minesweepers	1 Sq. of fighters to Turkey
Canada	1,700 Troops	2 Destroyers	18xCF-18
Czechoslovakia	200-man Chem. Def.	-	-
	150-man Medical Team		
Denmark	-	1 Corvette	-
Germany	-	-	1 Sq. of fighters to Turkey
Greece	-	1 Frigate	-
Hungary	40-man Medical Team	-	-
Morocco	2,000 Troops	-	-
Netherlands	-	2 Frigates	1 Sq. of fighters to Turkey
Niger	480 Guards for Mecca	-	-
Norway	-	1 Cutter	-
		1 Supply Ship	
New Zealand	-	-	2xC-130
Pakistan	10,000 Troops	-	-
Poland	Medical Team	2 Ships	-
Portugal	-	1 Support ship	-
Republic of Korea	Medical Team	-	3xC-130
Senegal	500 Troops	-	-
Sierra Leone	27-man Medical team	-	-
Singapore	30-man Medical team	-	-
Spain	-	2 Corvettes	-
		1 Destroyer	
Sweden	40-man Medical team	-	-
Turkey	-	2 Frigates	-
Total	20,930 Troops	18 Combat Ships	4 Fighter Squadrons
	8 Medical Teams	5 Supply Ships	8 Transports Aircraft

Source: USCINCCENT SITREPs(S/NF)







3

Deployment

This chapter presents tables outlining the nature and extent of the U.S. deployment to the Gulf throughout Desert Shield and Desert Storm. Tables will include data depicting the units and personnel deployed (both active and reserve components), forces deployed, and the size and scope of the airlift effort. The sources for this data are noted on each table. For airlift data U.S. Transportation Command (USTRANSCOM) situation reports (SITREPs) and Military Airlift Command (MAC) reporting statistics were the primary sources, while personnel and aircraft data were drawn from Central Command situation reports. The intent of the chapter is to highlight key facets of the total deployment effort.

As with much of the information pertaining to the Gulf War, conflicting data were often provided by different sources that by their very nature should be credible. Personnel strength is a case in point. This chapter contains tables that include information on U.S. Air Force personnel deployed to the Gulf. Primary sources for this data were U.S. Air Force, Central Command (CENTAF) and the Defense Manpower Data Center (DMDC); both can be considered reliable, credible sources because of their access to official data and their missions, yet their numbers differ significantly. DMDC indicates that 60,830 USAF personnel, active and reserve, deployed to the Gulf. CENTAF, on the other hand, never cited a figure higher than 54,468 assigned personnel. There is an obvious discrepancy in the data, as well as uncertainties about the sources: who were included in the databases, what were the closeout dates for data, etc. Much of the difference between the two numbers can be accounted for by fact that not all USAF personnel in the theater were assigned to CENTAF. A large part of Special Operations Command, Central Command (SOCCENT), for example, was comprised of USAF personnel, and U.S. Air Force personnel also were assigned to CENTCOM. This example highlights the fact the data must be used judiciously, with due attention to the source of the data and the original purposes for which they had been compiled.

U.S. Commander-in-Chief, Central Command (USCINCCENT) Planned Force Requirements

The following table presents the numbers and kinds of aircraft and helicopters required by the U.S. Commander-in-Chief, Central Command (USCINCCENT) operations plan and those that were in the theater in Phase I and Phase II of the Gulf War.

The key elements of U.S. Commander-in-Chief, Central Command (USCINCCENT) plan were a consequence of a change in planning guidance in which Commander-in-Chief, Central Command (USCINCCENT) shifted its efforts away from supporting a second front of a global war in Europe, as envisioned in older operations plans, in favor of updating a new operations plan for a regional threat from Iraq against Saudi Arabia.

The table highlights the significant differences between planning figures and those that were eventually deployed. Of particular interest is the operations plan's omission of precision attack aircraft (F-15E, F-111F, and the F-117) despite the immediate need for, and heavy reliance on, such platforms at the onset of the war.

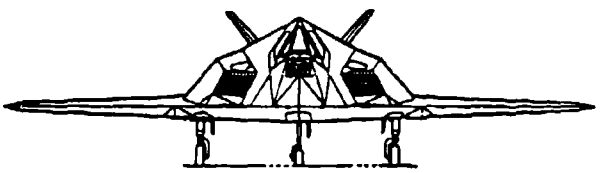


Table 13
U.S. Aircraft Planned

Aircraft	Planned	Phase I 1-Nov-90	Phase II 16- Jan-91
U.S. Air Force			
A-10	72	96	132
	on call 24	–	–
AC-130	9	5	4
B-52	14	20	21
C-21	10	8	8
C-130	114	95	132
E-3 AWACS	8	6	10
E-8	0	0	2
EC-130	14	13	14
EF-111	11	14	18
F-4G WW	24	36	48
F-15C	120	72	96
	on call 24	–	–
F-15E	–	24	48
F-16	144	120	210
	on call 48	–	–
F-111	18	–	–
	on call 18	–	–
F-111F	–	32	64
F-117A	0	18	36
HC-130	8	4	4
KC-10	0	6	22
KC-135	51	114	194
MC-130	5	4	4
OA-10	18	0	0
RF-4C	18	6	18
RC-135	4	4	6
U-2/TR-1	2	5	9
Total USAF Fixed-Wing Aircraft	**664**	**526**	**778**
	on call 114	–	–
Proven Force	–	–	52
HH-3	0		4
MH-53J	19	8	8
MH-60	9	8	8
Total USAF Helicopters	**28**	**16**	**20**
U.S. Navy	205	283	552
***U.S. Marine Corps**			
Fixed-Wing Aircraft	–	146	242
Helicopters	–	204	324
U.S. Army			
Helicopters	–	873	1,193
Total U.S. Fixed-Wing Aircraft	**897**	**955**	**1,624**
	on call 114		
Total U.S. Helicopters	**28**	**1,093**	**1,537**

Sources: Staff Study (S/NF), AFLC/XPOX;
CINCCENT SITREPs (S); Briefing Slides(S/NF/WN),
USAFE/OSC/CAT, "Desert Storm, Thursday, 17 Jan 91, D+01."
*HQMC Monthly Situation Summaries(S) and HQMC Brief to SECDEF(U).

U.S. Central Command (CENTCOM)
Personnel Strength at Weekly Intervals

The following table presents, at weekly intervals, the U.S. Central Command (CENTCOM) personnel strength in the theater for Headquarters CENTCOM, U.S. Army Forces, Central Command (ARCENT), U.S. Air Force, Central Command (CENTAF), U.S. Navy, Central Command (NAVCENT), U.S. Marine Corps, Central Command (MARCENT), Special Operations Command, Central Command (SOCCENT), Joint Chiefs of Staff Element (JCSE), and their combined totals.

The data in the table were extracted from Central Command situation reports (SITREPs). The table starts with 14 Aug 90 the beginning for regular reporting of personnel data.

While the situation reports consistently and daily reported the data during this period, still there were administrative errors that led to incorrect totals. Where necessary, the true totals were reconstructed and tabulated. The 2 Sep 90, 3 Oct 90, 7 Oct 90, 29 Nov 90, 10 Dec 90, 7 Jan 91, SITREPs contain errors on personnel totals. Corrections were also made to account for errors in the "as of" dates for 4-6 Feb 91. SITREPs dated 4 - 6 Feb 91 also reflected errors in their "as of" dates that were corrected. The personnel numbers for 3 - 6 Feb 91 were extracted from the next day's situation report.

Most of the U.S. Navy, Central Command personnel till mid-August belonged to the Naval Joint Task Force Middle East (JTFME), which in mid-August became part of U.S. Navy, Central Command (NAVCENT).

The sharp changes in the naval forces reflect the movement of various ships in and out of the theater and the accompanying addition or subtraction of serving crews. As the start of the air campaign approached, all Services reflected a major surge in personnel.

Table 14
Theater CENTCOM Personnel Strenght at Weekly Intervals

Date	CEN-TAF	AR-CENT	NAV-CENT	MAR-CENT	SOC-CENT	HQ US CENTCOM	JCSE	Total
14-Aug-90	6,798	5,097	17,354	165	479	140	0	30,033
21-Aug-90	12,356	11,329	19,524	13,377	645	383	0	57,614
28-Aug-90	17,752	24,999	19,940	18,776	797	542	0	82,806
5-Sep-90	26,281	38,215	21,247	22,040	1,748	495	195	110,221
12-Sep-90	29,900	47,319	46,047	25,965	2,064	597	221	153,113
19-Sep-90	31,142	57,033	40,563	40,315	2,901	713	224	172,891
26-Sep-90	31,607	65,374	34,163	40,526	3,017	746	220	175,653
3-Oct-90	32,331	79,520	35,808	40,880	2,938	647	215	192,339
10-Oct-90	32,061	87,606	36,403	41,231	2,917	680	212	201,110
17-Oct-90	31,459	100,429	34,001	41,923	2,920	687	211	211,630
24-Oct-90	31,580	108,968	40,205	41,968	2,919	690	207	226,537
31-Oct-90	31,456	115,630	36,467	41,783	2,911	725	182	229,154
7-Nov-90	30,928	123,875	34,900	41,486	2,900	734	185	235,008
14-Nov-90	30,981	128,617	32,775	39,037	2,883	741	181	235,215
21-Nov-90	31,028	131,274	32,679	38,913	2,950	756	177	237,787
28-Nov-90	31,194	133,248	33,190	39,085	2,940	768	174	240,599
5-Dec-90	32,252	140,228	38,449	39,271	2,923	835	174	254,132
12-Dec-90	33,851	152,440	32,833	41,346	2,929	855	191	264,445
19-Dec-90	35,062	167,218	32,978	48,239	2,943	874	188	287,502
26-Dec-90	36,787	193,281	32,932	54,019	2,994	896	187	321,096
2-Jan-91	39,927	204,286	33,161	60,348	2,951	897	184	341,754
9-Jan-91	43,723	224,646	40,868	70,383	3,053	943	186	383,802
16-Jan-91	48,679	247,637	67,851	85,447	3,279	1,030	205	454,128
23-Jan-91	50,810	260,474	77,345	89,034	3,399	1,000	209	482,271
30-Jan-91	52,175	278,732	79,111	89,730	3,841	1,080	228	504,897
6-Feb-91	53,269	275,060	80,648	90,385	4,295	1,107	297	505,061
13-Feb-91	54,468	289,624	81,344	91,050	4,692	1,118	305	522,601
20-Feb-91	54,376	298,574	82,918	92,117	5,123	1,131	307	534,546
27-Feb-91	54,364	304,648	83,278	92,538	5,103	1,138	307	541,376

Source: USCINCCENT SITREPs (S)

Notes

1. Because no data was available for 4-Sep-90, we skipped to 5-Sep-90.

U.S. Air Force, Central Command (CENTAF) Strike Aircraft Strength by Week

The following table presents the weekly CENTAF strength in strike aircraft; i.e., aircraft that deliver munitions on the enemy and that are generally categorized as "shooters."

The information contained in the table was extracted from Central Command situation reports and crosschecked with "USAF Deployment Status Reports" published by the AF/XO Operations Center at the Pentagon.

The A-10 column includes deployments of OA-10's. On 22 January, the U.S. Commander-in-Chief, Central Command (USCINCCENT) situation reports, however, added 12 A-10s to its total deployment list though there were no aircraft closures during the preceding 24 hours. It is assumed that the 12 deployed OA-10s were simply included in the reporting at this time; therefore for this table, the totals were modified to include the OA-10s from the time they had arrived in theater.

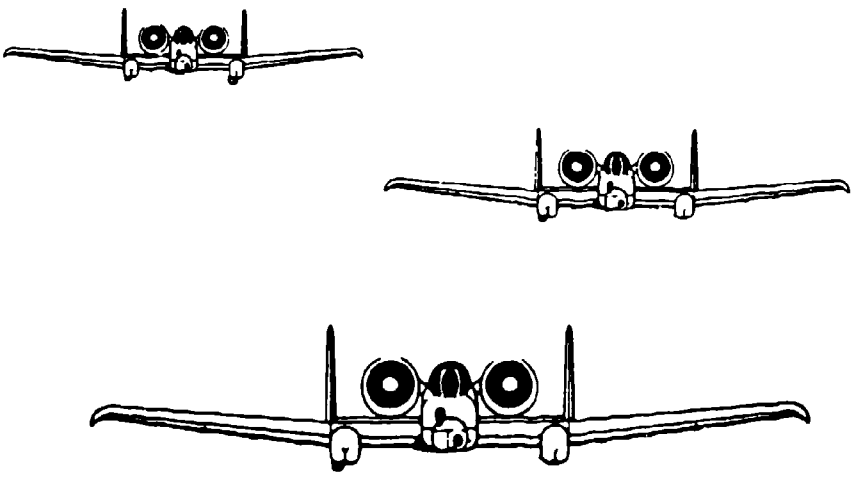


Table 15
CENTAF Strike Aircraft Strength by Week

Date	A-10	AC-130	B-52	F-4G	F-15	F-15E	F-16	F-111	F-117	Combat Aircraft Total
8-Aug-90	0	0	0	0	24	0	0	0	0	24
15-Aug-90	0	0	14	0	46	22	44	0	0	126
22-Aug-90	48	0	20	20	48	24	46	0	18	224
29-Aug-90	48	0	20	24	48	24	46	18	18	246
4-Sep-90	96	0	20	24	72	[illegible]	120	32	18	406
11-Sep-90	96	4	20	36	72		120	32	18	422
18-Sep-90	96	5	20	36	72	24	120	32	18	423
25-Sep-90	96	5	20	36	72	24	120	32	18	423
2-Oct-90	96	5	20	36	72	23	120	32	18	422
9-Oct-90	96	5	20	36	72	24	120	32	18	423
16-Oct-90	96	5	20	36	72	24	120	32	18	423
23-Oct-90	96	5	20	36	72	24	120	32	18	423
30-Oct-90	96	5	20	36	72	24	120	32	18	423
6-Nov-90	96	5	20	36	72	24	120	32	18	423
13-Nov-90	96	5	20	36	72	24	120	32	18	423
20-Nov-90	96	4	20	36	72	24	120	32	18	422
27-Nov-90	96	4	20	36	72	24	120	32	18	422
4-Dec-90	102	4	20	36	72	24	120	52	36	466
11-Dec-90	102	4	20	36	72	24	120	64	36	478
18-Dec-90	102	4	20	36	72	26	120	64	36	480
25-Dec-90	102	4	20	36	96	28	120	64	36	506
1-Jan-91	120	4	20	48	96	46	168	64	36	602
8-Jan-91	144	4	20	48	96	48	210	64	36	670
15-Jan-91	144	4	20	48	96	48	208	64	36	668
22-Jan-91	144	4	36	49	96	48	210	63	36	686
29-Jan-91	144	3	37	49	96	48	212	64	42	695
5-Feb-91	143	6	36	49	96	48	212	64	42	696
12-Feb-91	142	7	65	49	96	48	215	64	42	728
13-Feb-91	146	7	66	49	96	48	215	64	42	733
14-Feb-91	146	7	66	49	96	48	215	64	42	733
15-Feb-91	143	7	66	49	96	48	214	64	42	729
16-Feb-91	143	7	65	49	96	48	214	64	42	728
17-Feb-91	143	7	65	49	96	48	214	64	42	728
18-Feb-91	143	7	64	49	96	48	213	64	42	726
19-Feb-91	143	7	64	49	96	48	215	64	42	728
20-Feb-91	143	7	65	48	96	48	215	66	42	730
21-Feb-91	146	7	65	48	96	48	215	66	42	733
22-Feb-91	145	8	65	48	96	48	215	66	42	733
23-Feb-91	146	8	65	48	96	48	215	66	42	734
24-Feb-91	146	8	66	49	96	48	215	66	42	736
25-Feb-91	146	8	66	49	96	48	215	66	42	736
26-Feb-91	146	8	65	49	96	48	215	66	42	735
27-Feb-91	145	8	66	49	96	48	214	66	42	734
28-Feb-91	145	8	66	49	96	48	212	66	42	732

Source: USCINCCENT (S)

U.S. Air Force, Central Command (CENTAF) Combat Support Aircraft Strength by Week

The following table presents, at weekly intervals, the U.S. Air Force, Central Command (CENTAF) combat support aircraft strength during the Gulf War. Both fixed-wing and rotary-wing aircraft are included. This categorization attempts to distinguish between the "shooters" and those aircraft that performed various support functions.

The information in this table was extracted from the U.S. Commander-in-Chief, Central Command (USCINCCENT) situation reports and cross-checked with "USAF Deployment Status Reports" published by the AF/XO Operations Center at the Pentagon. Significant variations in reported deployments often occurred, and SITREPs were assumed to be the more authoritative source.

In the USCINCCENT situation reports, aircraft closure data was used through Desert Shield (Jan 16), and aircraft deployment totals were reported for Desert Storm (beginning Jan 17). This resulted in different totals for 16-17 January.

Beginning January 17, deployment totals for the C-130, E-3, EC-130, HC-130, KC-10, KC-135, MC-130, RF-4C, and JSTAR were extracted from the situation reports. Totals for the C-20, C-21, C-29, MH-53, MH-60, RC-135, TR-1, and U-2 were taken from the U.S. Air Force Deployment Status Reports.

The USAF Deployment Status Reports for the C-21 ended on 22 January at one aircraft. For this compilation, it was assummed that one aircraft remained through February. For the C-29, reporting began 6 February at two aircraft.

The EC-130E column presents the combined number of EC-130 Compass Call (CC) and EC-130 Volant Solo (VS) because there was no breakdown in the USCINCCENT situation reports. For the majority of cases in which 7 EC-130's were deployed, the breakdown was always 5 CC and 2 VS.

Table 16
CENTAF Combat Support Aircraft Strength at Weekly Intervals

Date	C-20	C-21	C-29	C-130	E-3	EC-130E	EF-111	HC-130	KC-10
8-Aug-90	–	–	–	–	5	–	0	–	–
15-Aug-90	–	–	–	32	5	–	0	–	6
22-Aug-90	–	–	–	51	5	–	0	2	–
29-Aug-90	1	4	–	66	5	–	10	4	–
5-Sep-90	1	4	–	70	6	6	10	4	–
12-Sep-90	1	4	–	96	6	6	13	4	–
19-Sep-90	1	4	–	96	6	6	14	4	–
26-Sep-90	1	4	–	96	6	6	14	4	6
3-Oct-90	1	8	–	95	6	6	14	4	6
10-Oct-90	1	8	–	95	6	6	14	4	6
17-Oct-90	1	8	1	95	6	6	14	4	6
24-Oct-90	1	8	1	95	6	6	14	4	6
31-Oct-90	1	8	1	95	6	6	14	4	6
7-Nov-90	1	8	1	96	6	6	14	4	6
14-Nov-90	1	8	1	96	6	6	14	4	6
21-Nov-90	1	8	1	96	6	6	14	4	6
28-Nov-90	1	8	1	96	6	6	14	4	6
5-Dec-90	1	8	–	96	6	6	14	4	6
12-Dec-90	1	8	–	96	6	4	14	4	6
19-Dec-90	1	8	–	96	4	4	14	4	6
26-Dec-90	1	8	–	96	7	4	18	4	6
2-Jan-91	1	8	–	96	7	4	18	4	6
9-Jan-91	1	8	–	128	9	6	18	4	7
16-Jan-91	1	8	–	128	10	6	18	4	24
23-Jan-91	1	8	–	132	11	6	18	4	30
30-Jan-91	1	8	–	149	11	7	18	4	30
6-Feb-91	1	8	2	151	11	8	18	4	28
13-Feb-91	1	8	2	151	11	8	20	4	28
20-Feb-91	1	8	2	150	11	8	20	4	29
27-Feb-91	1	8	2	150	11	8	20	4	29

Table 16 (cont'd)
CENTAF Combat Support Aircraft Strength at Weekly Intervals

Date	KC-135	MC-130	MH-53	MH-60	RC-135	RF-4C	TR-1	U-2	J-STARS	Total
8-Aug-90	2	-	-	-		-	-	-	-	7
15-Aug-90	53	-	-	-	3	-	-	-	-	99
22-Aug-90	70	-	4	-	3	-	-	2	-	137
29-Aug-90	79	4	4	-	4	6	2	2	-	191
5-Sep-90	79	4	8	-	4	6	2	2	-	206
12-Sep-90	89	4	8	8	4	6	2	2	-	253
19-Sep-90	91	4	8	8	4	6	2	2	-	256
26-Sep-90	91	4	8	8	4	6	2	2	-	262
3-Oct-90	94	4	8	8	4	6	2	2	-	268
10-Oct-90	94	4	8	8	4	5	2	2	-	267
17-Oct-90	102	4	8	8	4	6	2	3	-	278
24-Oct-90	111	4	8	8	4	6	2	3	-	287
31-Oct-90	114	4	8	8	4	6	2	3	-	290
7-Nov-90	116	4	8	8	4	6	2	3	-	293
14-Nov-90	116	4	8	8	4	6	2	3	-	293
21-Nov-90	115	4	8	8	4	6	2	3	-	292
28-Nov-90	115	4	8	8	4	6	2	3	-	292
5-Dec-90	116	4	8	8	4	6	2	3	-	292
12-Dec-90	126	4	8	8	4	6	2	3	-	300
19-Dec-90	127	4	8	8	4	6	2	3	-	299
26-Dec-90	127	4	8	8	4	6	2	3	-	306
2-Jan-91	164	4	8	8	4	6	2	3	-	343
9-Jan-91	179	4	8	8	5	6	4	3	-	398
16-Jan-91	202	4	8	8	7	18	4	5	2	457
23-Jan-91	199	4	13	8	7	18	4	5	2	470
30-Jan-91	196	4	13	4	7	18	4	5	2	481
6-Feb-91	196	4	13	4	7	18	4	6	2	485
13-Feb-91	193	4	15	4	9	18	4	6	2	488
20-Feb-91	191	4	17	4	9	18	4	6	2	488
27-Feb-91	192	4	17	4	9	18	6	6	2	491

Source: USCINCCENT SITREPs (S)

U.S. Air Force Unit Deployment

The following table lists U.S. A ›rce flying units in the order of arrival to the theater, their parent ıumber of aircraft, type of aircraft, home station, and deploym ıtion. The typical size of a deployed unit was equivalent of a s ɔn.

The information in this table was derived from the "USAF Deployment Schedule" and "USCENTAF Provisional Air Divisions (U)," HQ TAC/XPM, January 15, 1991.

In the "Deployment Location" column the four-letter symbols in parentheses indicate the airfield international identification. Unit designations should be interpreted as follows:

AREFS - Air Refueling Squadron;
TFS - Tactical Fighter Squadron;
AWACW - Airborne Warning and Command Wing;
SRW - Surveillance and Reconnaissance Wing;
TAS - Tactical Airlift Squadron;
BMS - Bombardment Squadron;
SOS - Special Operations Squadron;
RW - Reconnaissance Wing;
MAG - Marine Air Group;
TRG - Tactical Reconnaissance Group;
ECS - Electronic Combat Squadron;
SOG - Special Operations Group;
AWACS - Airborne Warning and Control System;
ACCS - Airborne Command and Control Squadron;
PTAS - Provisional Tactical Airlift Squadron;
TAG - Tactical Airlift Group;
TAIRCW - Tactical Air Control Wing;
ARW - Air Rescue Wing;
AD - Air Division.

Table 17
USAF Unit Deployment

Date	Unit	Parent Wing	Air-craft	Type Aircraft	Home Station	Deployment Location	Remarks
Pre	384, 407 AREFS	384 BMW, 42 BMW 19 AREFS, 319	3	KC-135R	Mc Connell/Loring	Diego Garcia (FJDG)	
Pre	99, 905 AREFS	BMW	2	KC-135R	Robins/Grand Forks	Al Dhafra Uae(OMAM)	
1-Aug-90	77 TFS	20 TFW	14	F-111E		Incirlik Turkey	Proven Force
8-Aug-90	71 TFS	1 TFW	24	F-15C	Langley	Dhahran Sa(OEDR)	
8-Aug-90	552 AWACW	552 AWACW	5	E-3	Tinker	Riyadh Sa(OERY)	
9-Aug-90	27 TFS	1 TFW	24	F-15C	Langley	Dhahran Sa (OEDR)	
10-Aug-90	336 TFS	4 TFW	24	F-15E	Seymour Johnson	Al Kharj Sa (OOTH)	
10-Aug-90	17 TFS	363 TFW	24	F-16C	Shaw	Al Dhafra Uae (OMAM)	
11-Aug-90		190 AREFG	16	KC-135E	Forbes	Jeddah Sa (OEJN)	Volunteers from thirteen units
11-Aug-90	55 SRW	55 SRW	4	RC-135	Hellenikon/Offutt	Riyadh Sa (OERY)	
11-Aug-90	33 TFS	363 TFW	24	F-16C	Shaw	Al Dhafra Uae (OMAM)	
11-Aug-90	40 TAS	317 TAW	16	C-130E	Pope	Masirah Om (OOMA)	
12-Aug-90	69 BMS	42 BMW	7	B-52	Loring	[DELETED]	
13-Aug-90	20 SOS	1 SOW	4	MH-53	Hurlburt	Al Jouf Sa	
13-Aug-90	306, 11 AREFS	340 AREFW	10	KC-135R	Altus	King Khalid Int'l Sa (OERK)	
13-Aug-90	69 BMS	42 BMW	7	B-52	Loring	[DELETED]	
13-Aug-90	41 TAS	317 TAW	16	C-130E	Pope	King Fahd Int'l Sa (OERK)	
13-Aug-90	305, 70 AREFS	305 AREFW	10	KC-135R	Grissom	King Khalid Int'l Sa (OERK)	
14-Aug-90	99 AREFS	19 AREFW	10	KC-135R	Robins	Jeddah Sa (OEJN)	
15-Aug-90	69, 328 BMS	42 BMW	6	B-52G	Loring	[DELETED]	
17-Aug-90	561 TFS	35 TFW	24	F-4G	George	Shaikh Isa (BAHRAIN)	
17-Aug-90	9 SRW	9 SRW	1	U-2	Beale	[DELETED]	
17-Aug-90	50 TAS	314 TAW	16	C-130E	Little Rock	Bateen Uae (OMAD)	
18-Aug-90	99, 905 AREFS	9 AREFW	2	KC-135R	Robins/Grand Forks	Al Dhafra Uae (OMAM)	
18-Aug-90	353 TFS	354 TFW	24	A-10	Myrtle Beach	King Fahd Int'l Sa	

Table 17 (cont'd)
USAF Unit Deployment

Date	Unit	Parent Wing	Air-craft	Type Aircraft	Home Station	Deployment Location	Remarks
20-Aug-90	356 TFS	354 TFW	24	A-10	Myrtle Beach	King Fahd Int'l Sa	
20-Aug-90	41 AREFS	416 BMW	1	KC-135R	Griffiss	Al Dhafra Uae (OMAM)	
20-Aug-90	9 SOS	1 SOW	4	HC-130	Eglin	Al Jouf Sa	
20-Aug-90	384 AREFS	384 BMW	3	KC-135R	Mc Connell	Diego Garcia (FJDG)	
21-Aug-90	415 TFS	37 TFW	18	F-117	Tonopah	[DELETED]	
21-Aug-90	349, 350 AREFS	9 AREFW	10	KC-135Q	Beale	Riyadh Sa (OERY)	
22-Aug-90	Unknown	Unknown	4	C-21	Barksdale	Riyadh Sa (OERY)	
23-Aug-90	8 SOS	1 SOW	4	MC-130	Hurlburt	Two King Fahd Int'l Sa; Two Thumrait Oman (OOTH)	
23-Aug-90	17 RW	17 RW	2	TR-1	Alconbury	[DELETED]	
23-Aug-90	608 MAG	_	1	C-20 ?	Ramstein	Riyadh Sa (OERY)	
25-Aug-90	492 TFS	48 TFW	18	F-111F	Lakenheath	Taif Sa (OETF)	
25-Aug-90	152 TRG	152 TRG	6	RF-4C	Reno	Shaikh Isa Ba	ANG Unit
26-Aug-90	41 ECS	28 AD	2	EC-130H	Davis Monthan	Bateen Uae (OMAD)	Compass Call
28-Aug-90	41 AREFS	416 BMW	6	KC-135R	Griffiss	Seeb Om (OOMS)	
28-Aug-90	301 AREFS	301 AREFW	1	KC-135R	Malmstrom	Seeb Om (OOMS)	
28-Aug-90	37 TAS	435 TAW	16	C-130E	Rhein Main	Al Ain Uae	
29-Aug-90	905 AREFS	319 BMW	3	KC-135R	Grand Forks	Seeb Om (OOMS)	
29-Aug-90	614 TFS	401 TFW	24	F-16C	Torrejon	Doha Qatar	
29-Aug-90	58 TFS	33 TFW	10	F-15C	Eglin	Tabuk Sa	
30-Aug-90	4 TFS	388 TFW	24	F-16C	Hill	Al Minhad Uae (OMDM)	
30-Aug-90	41 ECS	28 AD	3	EC-130H	Davis Monthan	Bateen Uae (OMAD)	Compass Call
31-Aug-90	193 SOG	193 SOG	2	EC-130	Harrisburg	Thumrait Oman (OOTH)	Volant Solo
31-Aug-90	74 TFS	388 TFW	24	A-10	England	King Fahd Int'l Sa	
31-Aug-90	58 TFS	33 TFW	12	F-15C	Eglin	Tabuk Sa	
31-Aug-90	552 AWACS	552 AWACW	1	E-3	Tinker	Riyadh Sa (OERY)	
31-Aug-90	55 TFS	20 TFW	8	F-111E	Unknown	*Incirlik Turkey*	Proven Force

Table 17 (cont'd)
USAF Unit Deployment

Date	Unit	Parent Wing	Air-craft	Type Aircraft	Home Station	Deployment Location	Remarks
1-Sep-90	7 ACCS	28 AD	_	EC-130E	Keesler	Riyadh Sa (OERY)	ABCCC
1-Sep-90	20 SOS	1 SOW	2	MH-53	Hurlburt	Al Jouf Sa	
1-Sep-90	421 TFS	388 TFW	24	F-16C	Hill	Al Minhad Uae (OMDM)	
2-Sep-90	58 TFS	33 TFW	2	F-15C	Eglin	Tabuk Sa	
2-Sep-90	493 TFS	48 TFW	18	F-111F	Lakenheath	Taif Sa (OETF)	
2-Sep-90	76 TFS	23 TFW	24	A-10	England	King Fahd Int'l Sa	
3-Sep-90	20 SOS	1 SOW	2	MH-53	Hurlburt	Al Jouf Sa	
5-Sep-90	52 TFW	52 TFW	12	F-4G	Spandahlem	Shaikh Isa Ba	
6-Sep-90	19 AREFW	19 AREFW	2	KC-135R	Robins	Jeddah Sa (OEJN)	
7-Sep-90	384 BMW	384 BMW	1	KC-135R	Mc Connell	Jeddah Sa (OEJN)	
7-Sep-90	416 BMW	416 BMW	3	KC-135R	Griffiss	Jeddah Sa (OEJN)	
7-Sep-90	42 BMW	42 BMW	4	KC-135R	Loring	Jeddah Sa (OEJN)	
8-Sep-90	16 SOS	1 SOW	4	AC-130	Hurlburt	King Fahd Int'l Sa	
11-Sep-90	55 SOS	1 SOW	8	MH-60	Eglin	Al Jouf Sa	
13-Sep-90	384 BMW	384 BMW	1	KC-135R	Diego Garcia	Al Dhafra Uae (OMAN)	
15-Sep-90	390 ECS	366 TFW	14	EF-111	Mt Home	Taif Sa (OETF)	
17-Sep-90	384 BMW	384 BMW	1	KC-135R	Diego Garcia	Al Dhafra Uae (OMAN)	
23-Sep-90	2 BMW	2 BMW	2	KC-10	Barksdale	Seeb Om (OOMS)	
23-Sep-90	22 AREFW	22 AREFW	2	KC-10	March	Diego Garcia (FJDG)	
24-Sep-90	68 AREFW	68 AREFW	2	KC-10	Seymour Johnson	Jeddah Sa (OEJN)	
27-Sep-90			4	C-21	Maxwell	Riyadh Sa (OERY)	
28-Sep-90	319 BMW	319 BMW	3	KC-135R	Grand Forks	Cairo West Egypt (HECW)	
7-Oct-90	9 SRW	9 SRW	1	U-2R	Osan Korea	[DELETED]	
9-Oct-90	130 TAG	130 TAG	16	C-130	Charleston WVA Selfridge Mi; Niagra	Al Ain Uae	ANG Unit
9-Oct-90	63 TAS AFRES	440 TAW	16	C-130	Falls NY	Sharjah Uae	AFRES Unit
14-Oct-90	380 BMW	380 BMW	3	KC-135Q	Plattsburg	King Khalid Int'l (OERK)	
14-Oct-90	380 BMW	380 BMW	5	KC-135A	Plattsburg	King Khalid Int'l (OERK)	
14-Oct-90	9 SRW	9 SRW	1	U-2	Beale	[DELETED]	
15-Oct-90	41 AREFS	416 BMW	2	KC-135R	Seeb Om	Masirah Om (OOMA)	

Table 17 (cont'd)
USAF Unit Deployment

Date	Unit	Parent Wing	Air-craft	Type Aircraft	Home Station	Deployment Location	Remarks
	380, 379, 410	380, 379, 410			Plattsburg, Wurtsmith,		
21-Oct-90	BMW	BMW	9	KC-135A	K.I. Sawyer	King Khalid Int'l Sa (OERK)	
	380, 379, 410	380, 379, 410			Plattsburg, Wurtsmith,		
28-Oct-90	BMW	BMW	3	KC-135A	K.I. Sawyer	King Khalid Int'l Sa (OERK)	
3-Nov-90	Unknown	Unknown	3	KC-135R	Seeb Om	Masirah Om (OOMA)	Moved to reduce presence at Seeb
Unknown	301 AREFS	301 AREFW	2	KC-135R	Malmstrom	Masirah Om (OOMA)	Rotational Replacements
29-Nov-90	494 TFS	48 TFW	20	F-111F	Lakenheath	Taif Sa (OETF)	
1-Dec-90	602 TAIRCW	602 TAIRCW	6	OA-10	Davis Monthan	King Fahd Sa (OEDF)	
4-Dec-90	37 TFW	37 TFW	18	F-117	Tonopah	[DELETED]	
6-Dec-90	Unknown	VQ-2		EP-3	Unknown	Incirlik Turkey	Proven Force
11-Dec-90	495 TFS	48 TFW	12	F-111F	Lakenheath	Taif Sa (OETF)	
15-Dec-90	301 AREFS	301 AREFW	2	KC-135R	Malmstrom	Masirah Om (OOMA)	Rotational Replacements
16-Dec-90	525 TFS	36 TFW	24	F-15C		Incirlik Turkey	Proven Force
20-Dec-90	552 AWACW	552 AWACW	1	E-3	Tinker	Riyadh Sa (OERY)	
20-Dec-90	36 TFW	36 TFW	24	F-15C	Bitburg	Alkharj Sa (OEKJ)	
23-Dec-90	52 TFW	52 TFW	12	F-4G	Spangdahlem	Shaikh Isa Ba (OBSH)	
27-Dec-90	10 TFW	10 TFW	18	A-10	Alconbury	King Fahd Sa (OEDF)	
29-Dec-90	335 TFS	4 TFW	23	F-15E	Seymour Johnson	Al Kharj Sa (OEKJ)	
30-Dec-90	126 AREFS	128 AREFG	10	KC-135E	Milwaukee	Cairo West Egypt (HECW)	ANG Unit
30-Dec-90	157 TFS	4 TFW	24	F-16	Mcentire	Al Kharj Sa (OEKJ)	ARC Unit
31-Dec-90	50 TFW	50 TFW	24	F-16	Hahn	(OMAM)	
31-Dec-90	116 AREFS	141 AREFW	5	KC-135E	Fairchild	Cairo West Egypt (HECW)	ANG Unit
31-Dec-90	301 AREFS	301 AREFW	1	KC-135R	Malmstrom	Masirah Om (OOMA)	Rotational Replacements
31-Dec-90	116 AREFS	141 AREFW	3	KC-135E	Fairchild	Jeddah Sa (OEJN)	ANG Unit
1-Jan-91	145 AREFS	160 AREFG	3	KC-135E	Rickenbacker	Jeddah Sa (OEJN)	ANG Unit
2-Jan-91	773 TAS	463 TAW	8	C-130	Dyess	Al Kharj Sa (OEKJ)	
2-Jan-91	552 AWACS	552 AWACW	1	E-3	Tinker	Riyadh Sa (OERY)	

Table 17 (cont'd)
USAF Unit Deployment

Date	Unit	Parent Wing	Air-craft	Type Aircraft	Home Station	Deployment Location	Remarks
3-Jan-91	108 AREFS	126 AREFW	10	KC-135E	Chicago	Jeddah Sa (OEJN)	ANG Unit
3-Jan-91	345 TAS	_	8	C-130	Yokota	Thumrait Om (OOTH)	
3-Jan-91	117 AREFS	190 AREFG	10	KC-135E	Forbes	Jeddah Sa (OEJN)	ANG Unit
3-Jan-91	138 TFS	4 TFW	18	F/A-16	Hancock	Al Kharj Sa (OEKJ)	ARC Unit
3-Jan-91	171 AREFW	171 AREFW	8	KC-135E	Pittsburgh	Jeddah Sa (OEJN)	ARC Unit
3-Jan-91	134 AREFG	134 AREFG	4	KC-135E	Mcghee Tyson	Jeddah Sa (OEJN)	ARC Unit
4-Jan-91	145 AREFS	160 AREFG	3	KC-135E	Rickenbacker	Jeddah Sa (OEJN)	
4-Jan-91	72 AREFS	434 AREFW	2	KC-135E	Grissom	Jeddah Sa (OEJN)	AFRES Unit
5-Jan-91	336 AREFS	452 AREFW	2	KC-135E	March	Jeddah Sa (OEJN)	AFRES Unit
5-Jan-91	72 AREFS	434 AREFW	4	KC-135E	Grissom	Jeddah Sa (OEJN)	AFRES Unit
6-Jan-91	180 TAS	139 TAG	8	C-130	St Joseph	Al Ain Uae	ANG Unit, 1632 TASP after close
6-Jan-91	336 AREFS	452 AREFW	4	KC-135E	March	Jeddah Sa (OEJN)	AFRES Unit
6-Jan-91	602 TACW	602 TACW	6	OA-10	Davis Monthan	King Fahd Sa (OEDF)	
6-Jan-91	706 TFS	917 TFW	18	A-10	New Orleans	King Fahd Sa (OEDF)	ARC Unit
7-Jan-91	327 TAS	459 MAW	8	C-130	Willow Grove	Thumrait Om (OOTH)	
8-Jan-91	347 TFW	347 TFW	24	F-16	Moody	Al Minhad Om (OMDM)	
10-Jan-91	552 AWACS	552 AWACW	2	E-3	Tinker	Riyadh Sa (OERY)	
10-Jan-91	55 SRW	55 SRW	2	RC-135	Offutt	Riyadh Sa (OERY)	
12-Jan-91	67 TRW	67 TRW	12	RF-4C	Bergstrom	Shaikh Isa Ba (OEDF)	
12-Jan-91	71 SOS	939 ARW	5	HH-3E	Davis Monthan	King Fahd Int'l Sa	
12-Jan-91	67 SOS	39 SOW	4	HC-130	Raf Woodbridge	Incirlik	Proven Force
12-Jan-91	7 SOS	39 SOW	2	MC-130	Rhein Main	Incirlik	Proven Force
12-Jan-91	7 SOS	39 SOW	1	C-130	Rhein Main	Incirlik	Proven Force
13-Jan-91	68 ARW	68 ARW	8	KC-10	Seymour Johnson	Jeddah Sa (OEJN)	
15-Jan-91	Unknown	9 SRW	2	TR-1	Beale	(DELETED)	ASEA II
15-Jan-91	22 ARW	22 ARW	3	KC-10	March	Jeddah Sa (OEJN)	
15-Jan-91	Unknown	2 BMW	8	KC-10	Barksdale	Seeb Om (OOMS)	
15-Jan-91	22 ARW	22 ARW	5	KC-10	March	Diego Garcia (FJDG)	

Table 17 (cont'd)
USAF Unit Deployment

Date	Unit	Parent Wing	Air-craft	Type Aircraft	Home Station	Deployment Location	Remarks
16-Jan-91	Unknown	2 BMW	6	B-52G	Barksdale	Moron Spain	Primary
16-Jan-91	21 SOS	39 SOW	5	MH-53	Raf Woodbridge	Incirlik	Proven Force
16-Jan-91	Unknown	55 SRW	1	RC-135	Offutt	Riyadh Sa (OERY)	
16-Jan-91	101 AFRFW	101 AFRFW	2	KC-135E	Bangor	Jeddah Sa (OEJN)	ARC Unit
16-Jan-91	101 AFRFW	101 AFRFW	2	KC-135E	Bangor	Jeddah Sa (OEJN)	ARC Unit
16-Jan-91	Unknown	Unknown	6	B-52G	Andersen Guam	[DELETED]	
16-Jan-91	Unknown	Unknown	6	B-52G	Unknown	Andersen Guam	In Place Spare
17-Jan-91	Unknown	55 SRW	1	RC-135	Offutt	Athens Greece	
17-Jan-91	Unknown	552 AWACW	2	E-3	Tinker	Incirlik	
17-Jan-91	Unknown	Unknown	6	B-52G	Diego Garcia	[DELETED]	[DELETED]
17-Jan-91	Unknown	9 SRW	2	U-2R	Beale		
17-Jan-91	Unknown	416 BMW	2	B-52G	Griffiss	Moron Spain	Spare
17-Jan-91	79 TFS	20 TFW	4	F-15E	Unknown	Incirlik Turkey	Proven Force
17-Jan-91	Unknown	43 ECS	3	EC-130	Unknown	Incirlik Turkey	Proven Force
17-Jan-91	Unknown	42 ECS	6	EF-111A	Unknown	Incirlik Turkey	Proven Force
17-Jan-91	Unknown	32 TFG	5	F-15C	Unknown	Incirlik Turkey	Proven Force
17-Jan-91	23 TFS	52 TFW	11	F-16	Unknown	Incirlik Turkey	Proven Force
17-Jan-91	23 TFS	52 TFW	13	F-4G	Unknown	Incirlik Turkey	Proven Force
18-Jan-91	612 TFS	401 TFW	24	F-16	Unknown	Incirlik Turkey	Proven Force
19-Jan-91	Unknown	379 BMW	10	B-52G	Wurtsmith	[DELETED]	[DELETED]
27-Jan-91	Unknown	9 SRW	1	U-2R	Palmdale		
29-Jan-91	166 TAG	166 TAG	8	C-130	Wilmington	Thumrait Om (OOTH)	
29-Jan-91	907 TAG	459 MAW	8	C-130	Rickenbacker	Thumrait Om (OOTH)	
4-Feb-91	Unknown	26 TRW	6	RF-4C	Unknown	Incirlik Turkey	Proven Force
21-Feb-91	Unknown	3 TFW(PACAF)	4	F-4E	Unknown	Incirlik Turkey	Proven Force

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Table 17 (cont'd)
USAF Unit Deployment

Date	Unit	Parent Wing	Air-craft	Type Aircraft	Home Station	Deployment Location	Remarks
Unknown	Unknown	801 PBW	21	B-52	Unknown	Moron Spain	Proven Force
Unknown	Unknown	806 PBW	8	B-52	Unknown	Fairford UK	Proven Force
Unknown	Unknown	804 ARW	15	KC-135	Unknown	Incirlik Turkey	Proven Force
Unknown	Unknown	552 AWACW	3	E-3A	Unknown	Incirlik Turkey	Proven Force
Unknown	37 TAS	Unknown	11	C-130H	Unknown	Incirlik Turkey	Proven Force
Unknown	61 TAS	Unknown	8	C-130E	Unknown	Incirlik Turkey	Proven Force
Unknown	Unknown	Unknown	7	KC-10	Unknown	Malpensa Italy	Proven Force
Unknown	Unknown	Unknown	7	KC-10	Unknown	Zaragoza Spain	Proven Force
Unknown	Unknown	Unknown	1	KC-135	Unknown	Zaragoza Spain	Proven Force
Unknown	Unknown	Unknown	9	KC-135	Unknown	Mont De Marsen	Proven Force
Unknown	Unknown	Unknown	9	KC-135	Unknown	Mildenhall UK	Proven Force
Unknown	Unknown	Unknown	1	KC-135	Unknown	Andravida Greece	Proven Force
Unknown	Unknown	Unknown	7	KC-135	Unknown	Helenikon Greece	Proven Force
Unknown	Unknown	Unknown	2	RC-135	Unknown	Souda Bay	Proven Force

Source: "USAF Deployment Schedule" and "USCENTAF Provisional Air Divisions(U)," HQ TAC/XPM, January 15, 1991.



Table 18
U.S. Army Deployment by Unit and Location

Closing Date	Units Closed	Location	Units Enroute	ETA	Location
9-Aug-90	Army Central Advance Echelon (ARCENT ADVON)	Riyadh	Deployment Ready Brigade , 82ND Division(XVIII Airborne Corps Assault Command Post (first echelon/lead elements of DRB), 82ND Airborne Division arrived DHAHRAN)	12-Aug-90	Dhahran
			Deployment Ready Brigade, 82ND Division	13-Aug-90	Dhahran
			1 Light PATRIOT Battery(-)	13-Aug-90	Dhahran
13-Aug-90	2ND Brigade (+), 82ND Airborne Division	Dhahran	Army Central Forward (ARCENT FWD)	14-Aug-90	Riyadh
			1ST Brigade (+), 82ND Division	17-Aug-90	Dhahran
			2ND Brigade, 24TH Mechanized Infantry Division	28-Aug-90	Ad Damman
14-Aug-90	Army Central Forward (ARCENT FWD)	Riyadh	101ST Aviation Brigade Task Force	23-Aug-90	Dhahran
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	18-Aug-90	Dhahran
			24TH Mechanized Division (-)	29-Aug-90	Ad Damman
17-Aug-90	1ST Brigade (+), 82ND Division	Dhahran	2-7 Air Defense Artillery Battalion (-) (PATRIOT)	23-Aug-90	Dhahran
			24TH Mechanized Division (-)	30-Aug-90	Ad Damman
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	20-Aug-90	Dhahran
			Air Sector Operations Command	22-Aug-90	Dhahran
			82ND Division(-)	22-Aug-90	Dhahran
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	25-Aug-90	Dhahran
			101ST Air Assault Division (-)	12-Sep-90	Ad Damman
			82ND Division (-)	24-Aug-90	Dhahran
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	30-Aug-90	Ad Damman
			24TH Mechanized Division (-)	3-Sep-90	Ad Damman

Table 18 (cont'd)
U.S. Army Deployment by Unit and Location

Closing Date	Units Closed	Location	Units Enroute	ETA	Location
			197TH Mechanized Infantry Brigade	8-Sep-90	Ad Damman
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	28-Aug-90	Dhahran
			82ND Division (-)	25-Aug-90	Dhahran
			101ST Aviation Brigade Task Force	26-Aug-90	Dhahran
			Air Sector Operations Command	27-Aug-90	Dhahran
			82ND Division (-)	26-Aug-90	Dhahran
			101ST Air Assault Division (-)	24-Sep-90	Ad Damman
			24TH Mechanized Division (-)	5-Sep-90	Ad Damman
			82ND Division (-)	29-Aug-90	Dhahran
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	30-Aug-90	Dhahran
29-Aug-90	82ND Division (-)	Dhahran	2-7 Air Defense Artillery Battalion (-) (PATRIOT)	3-Sep-90	Dhahran
			24TH Mechanized Division (-)	3-Sep-90	Ad Damman
			3RD Armored Cavalry Regiment	2-Oct-90	Dhahran
			101ST Aviation Brigade Task Force	2-Sep-90	Dhahran
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	15-Sep-90	Dhahran
			24TH Mechanized Division (-)	8-Sep-90	Ad Damman
			1ST Cavalry Division (-) (Armor)	28-Sep-90	Ad Damman
2-Sep-90	101ST Aviation Brigade Task Force	Dhahran	3RD Armored Cavalry Regiment	3-Oct-90	Ad Damman
			1ST Cavalry Division (-) (Armor)	3-Oct-90	Ad Damman
			2-7 Air Defense Artillery Battalion (-) (PATRIOT)	17-Sep-90	Dhahran
8-Sep-90		King Fahd	197TH Mechanized Infantry Brigade	18-Sep-90	Ad Damman
			12TH Aviation Brigade Task Force	27-Sep-90	Ad Damman
			24TH Mechanized Division (-)	5-Oct-90	Ad Damman
			101ST Air Assault Division (-)	5-Oct-90	Ad Damman
			24TH Mechanized Division (-)	26-Sep-90	Ad Damman
			101ST Air Assault Division (-)	30-Sep-90	Ad Damman

Table 18 (cont'd)
U.S. Army Deployment by Unit and Location

Closing Date	Units Closed	Location	Units Enroute	ETA	Location
			1ST Cavalry Division (-) (Armor)	14-Oct-90	Ad Damman
			24TH Mechanized Division (-)	23-Sep-90	Ad Damman
			101ST Air Assault Division (-)	4-Oct-90	Ad Damman
			3RD Armored Cavalry Regiment	17-Oct-90	Ad Damman
			1ST Cavalry Division (-) (Armor)	16-Oct-90	Ad Damman
20-Sep-90	197TH Mechanized Infantry Brigade	Ad Damman	75TH/212TH Field Artillery (III Corps Artillery)	10-Oct-90	Ad Damman
23-Sep-90	24TH Mechanized Division (-)	Ad Damman	75TH/212TH Field Artillery (III Corps Artillery)	16-Oct-90	Ad Damman
			12TH Aviation Brigade Task Force	1-Oct-90	Ad Damman
			11TH Air Defense Artillery Brigade (-) (PATRIOT)	18-Oct-90	Dhahran
2-Oct-90	12TH Aviation Brigade Task Force	Ad Damman	3RD Armored Cavalry Regiment	13-Oct-90	Al Jubayl
6-Oct-90	101ST Air Assault Division (-)	Ad Damman	1ST Cavalry Division (-) (Armor)	20-Oct-90	Ad Damman
			75TH/212TH Field Artillery (III Corps Artillery)	20-Oct-90	Ad Damman
			11TH Air Defense Artillery Brigade (-) (PATRIOT)	24-Oct-90	Dhahran
			1ST Cavalry Division (-) (Armor)	20-Oct-90	Ad Damman
14-Oct-90	3RD Armored Cavalry Regiment	Al Jubayl	11TH Air Defense Artillery Brigade (-) (PATRIOT)	4-Nov-90	Dhahran
22-Oct-90	75TH/212TH Field Artillery (III Corps Artillery)	Ad Damman			
22-Oct-90	1ST Cavalry Division (-) (Armor)	Ad Damman	11TH Air Defense Artillery Brigade (-) (PATRIOT)	1-Nov-90	Dhahran
			11TH Air Defense Artillery Brigade (-) (PATRIOT)	3-Nov-90	Dhahran
30-Oct-90	8TH Psychological Operations Battalion	Dhahran			
3-Nov-90	11TH Air Defense Artillery Brigade (-) (PATRIOT)	Dhahran			

Table 18 (cont'd)
U.S. Army Depioyment by Unit and Location

Closing Date	Units Closed	Location	Units Enroute	ETA	Location
16-Nov-90	NBC PLT	Dhahran	2ND Corps Support Command	15-Jan-91	Ad Damman
			2ND Armored Cavalry Regiment	23-Dec-90	Al Jubayl
			2ND Armored Cavalry Regiment	10-Jan-91	Al Jubayl
			2ND Armored Cavalry Regiment	18-Dec-90	Al Jubayl
			1ST Infantry Division (Mechanized) (-)	6-Jan-91	Al Jubayl
			VII Corps Headquarters	10-Jan-91	Ad Damman
			2ND Armored Cavalry Regiment	10-Jan-91	Al Jubayl
			VII Corps Artillery	27-Dec-90	Ad Damman
			1ST Armored Division	11-Jan-91	Ad Damman
			11TH Aviation Brigade	26-Dec-90	Ad Damman
			Brigade, 2ND Armored Division	13-Jan-91	Al Jubayl
			3RD Armored Division	15-Jan-91	Ad Damman
			Task Force 8-43 Air Defense Artillery (PATRIOT/HAWK)	24-Dec-90	Ad Damman
11-Dec-90		Tabuk	2ND Armored Cavalry Regiment	20-Dec-90	Al Jubayl
			1ST Infantry Division (Mechanized) (-)	16-Jan-91	Al Jubayl
			11TH Aviation Brigade	30-Dec-90	Ad Damman
21-Dec-90	2ND Armored Cavalry Regiment	Al Jubayl			
22-Dec-90	Task Force 8-43 Air Defense Artillery (PATRIOT/HAWK)	Ad Damman	11TH Aviation Brigade	15-Jan-91	Ad Damman
27-Dec-90	VII Corps Artillery	Ad Damman	1ST Infantry Division (Mechanized) (-)	22-Jan-91	Al Jubayl
			1ST Armored Division	15-Jan-91	Ad Damman
			Brigade, 2ND Armored Division	20-Jan-91	Al Jubayl
			3RD Armored Division	27-Jan-91	Ad Damman
8-Jan-91	11TH Aviation Brigade	Ad Damman	VII Corps Artillery (Last Brigade)	TBD	TBD
			2-43 Air Defense Artillery Battalion	TBD	KKMC
14-Jan-91	VII CORPS HQ	Ad Damman			
15-Jan-91	2ND Corps Support Command (COSCOM)	Ad Damman			

Table 18 (cont'd)
U.S. Army Deployment by Unit and Location

Closing Date	Units Closed	Location	Units Enroute	ETA	Location
18-Jan-91	Brigade, 2ND Armored Division	Al Jubayl	3RD Armored Division	3-Feb-91	Ad Damman
			VII Corps Artillery (Last Brigade)	13-Feb-91	Ad Damman
			2-43 Air Defense Artillery Battalion	1-Feb-91	KKMC
			1ST Infantry Division (Mechanized) (-)	26-Jan-91	Ad Damman
			1ST Armored Division	21-Jan-91	Al Jubayl
21-Jan-91	1ST Armored Division	Al Jubayl	VII Airborne Corps Artillery (Last Brigade)	16-Feb-91	Ad Damman
26-Jan-91	1ST Infantry Division (Mechanized) (-)	Ad Damman	XVIII Airborne Corps Artillery (Last Brigade)	20-Feb-91	Ad Damman
28-Jan-91	2-43 Air Defense Artillery Battalion	KKMC	1-7 Air Defense Artillery Battalion (-) (PATRIOT)	8-Feb-91	Tabuk
6-Feb-91	1-7 Air Defense Artillery Battalion (-) (PATRIOT)	Tabuk			
6-Feb-91	3RD Armored Division	Ad Damman			
17-Feb-91	VII Corps Artillery (Last Brigade)	Ad Damman			
21-Feb-91	XVIII Airborne Corps Artillery (Last Brigade)	Ad Damman			

Source: USCINCCENT SITREPs (S)

Table 19
Allied Force Deployment

Date	Country/Unit	Notes
	Egypt	
11-Sep-90		
11-Sep-90		
24-Sep-90		
28-Sep-90		
29-Sep-90		
30-Sep-90		
2-Oct-90		
5-Oct-90		
10-Oct-90		[DELETED]
17-Oct-90		
30-Oct-90		
30-Oct-90		
26-Nov-90		
2-Dec-90		
30-Dec-90		
5-Jan-91		

Table 19 (cont'd)
Allied Force Deployment

Date	Country/Unit	Notes
	France	
12-Sep-90		
16-Sep-90		
22-Sep-90		
27-Sep-90		
1-Oct-90		
6-Oct-90		
9-Oct-90		
18-Oct-90		[DELETED]
30-Oct-90		
1-Nov-90		
12-Nov-90		
14-Dec-90		
5-Jan-91		
5-Jan-91		
12-Jan-91		

Table 19 (cont'd)
Allied Force Deployment

Date	Country/Unit	Notes
	Syria	
30-Oct-90		
1-Nov-90		
22-Nov-90		
27-Nov-90		
2-Dec-90		[DELETED]
6-Dec-90		
10-Dec-90		
21-Dec-90		
31-Dec-90		

Table 19 (cont'd)
Allied Force Deployment

Date	Country/Unit	Notes
	United Kingdom	
15-Sep-90		
2-Oct-90		
7-Oct-90		
11-Oct-90		
12-Oct-90		
16-Oct-90		
21-Oct-90		
28-Oct-90		
31-Oct-90	[DELETED]	
9-Nov-90		
1-Jan-91		
4-Jan-91		
10-Jan-91		
14-Jan-91		
15-Jan-91		
27-Jan-91		
28-Jan-91		

Table 19 (cont'd)
Allied Force Deployment

Date	Country/Unit	Notes
	Other Forces	
20-Aug-90		
2-Sep-90		
2-Sep-90		
3-Sep-90		
7-Sep-90		
9-Sep-90		
12-Sep-90		
20-Sep-90		
3-Oct-90		
5-Nov-90	[DELETED]	
15-Dec-90		
16-Dec-90		
5-Jan-91		
15-Jan-91		
15-Jan-91		
16-Jan-91		
10-Feb-91		
13-Feb-91		

Source: CINCCENT SITREPs (S/NF)

Strategic Lift Summary
by Transportation Mode and Cargo Type

The following table, prepared by the Transportation Command's History Office from the Military Sealift Command Sealift Summary Report and U.S. Transportation Command (USTRANSCOM) situation reports, summarizes the monthly movement of cargo and passengers by airlift and sealift during the Gulf War. It is current as of March 10, 1991.

Two routes for strategic airlift were in operation: Desert Express and European Desert Express. In late October, with 200,000 U.S. military personnel in the theater, the Military Airlift Command at the direction of USTRANSCOM's indicated a special airlift operation named "Desert Express " to provide daily delivery air of spare parts considered absolutely crucial to the war effort. This was a new concept of airlift operations that involved regularly scheduled, dedicated aircraft for daily delivery. European Desert Express was a similar operation that originated in Europe rather than the continental United States. Aircraft departed Ramstein and picked up cargo at Rhein Main Air Base once daily, seven days a week.

The table depicts an impressive effort to ship personnel and cargo both from the continental United States and Europe to the Gulf area. Particularly notable is the airlift and sealift during the month of January when more than 130,000 passengers and 700,000 short tons of cargo were shipped. This effort obviously required significant mobilization of transportation means, planning, and management. Note also that significant amounts of petroleum, oil, and lubricants had to be shipped to the theater, despite it being a major worldwide source of oil.

To use the following table, please note:

1. Desert Express and European Express include both 9AU and 9BU cargo. "9AU" and "9BU" are project codes designating cargo highest priority over all other peacetime requirements. "9AU" was the code for Desert Shield and "9BU" was the corresponding code for Desert Storm.
2. Sealift unit cargo includes ammunition.
3. Airlift figures for August are as of 4 September 1990.
4. March figures are for 1-10 March 1991 only.

Table 20
Gulf War Strategic Lift Summary by Transportation Mode and Cargo Type
(as of 10 March 1991)

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	Total Dry Cargo	Total Passenger
Airlift											
Unit Cargo in Short Tons	46,946	49,738	33,781	9,663	52,045	80,903	52,009	9,831	334,916		
Sustainment in Short Tons	–	19,142	20,512	34,028	38,064	36,372	42,611	14,396	205,125	543,548	
Desert Express in Short Tons	–	–	2	235	399	580	637	213	2,066	(14.75%)	
European Express in Short Tons	–	–	–	–	375	488	442	136	1,441		
Passengers	67,263	60,476	51,154	20,553	105,413	132,095	45,562	18,204	500,720	——→	(99.45%)
Sealift											
Unit Cargo in Short Tons	253,023	252,013	326,930	206,416	356,025	721,281	297,888	27,210	2,440,786	3,142,295	
Tons Petrolium, Oil, Lubricants in Short Tons	–	–	78,059	58,073	113,651	198,006	183,779	69,941	701,509	(85.25%)	
	333,640	508,534	517,038	1,011,243	894,061	1,088,825	1,336,807	412,858	6,103,006		
Passengers	315	681	736	186	465	516	147	12	2,758	——→	(.55%)
									Air & Sea Totals:	3,685,843	503,478

Source: USTRANSCOM SITREPs (S);
USTRANSCOM "MSC Lift Summary Report," Feb 92 (U)

Intertheater Airlift

The following table details the inter-theater (strategic) airlift to the theater by carrier. The bulk of the military strategic airlift was carried by USAF C-5 and C-141 transports. The numbers in the table reflect airlift "missions" rather than "sorties," the term most often used in this report for aircraft operations. In airlift parlance, the term sortie is related to the aircraft and refers to a takeoff, flight, and landing; a C-141 making the trip Charleston--Lajes--Rhein Main--Cairo--Dhahran would have made four sorties. The term mission, however, is related to the final destination of the cargo, and how many missions are logged was determined by the cargo status. The C-141 that left Charleston with the cargo for Dhahran, and made several intermediate stops to refuel, pick up passengers, etc. still completed only one mission. Mission totals are used as the unit of measure in accordance with the airlift system's reporting conventions because the intent of this table is to reflect the movement of cargo to a final destination.

The data in the table were extracted from the USTRANSCOM situation reports for Desert Shield. As each report contains the data for the previous day, so the one dated "060400Z Jan 91" actually contains the data for operations conducted on 5 January.

In a number of cases, the totals to date were incorrectly computed. Whenever possible the true values have been reconstructed and tabulated.

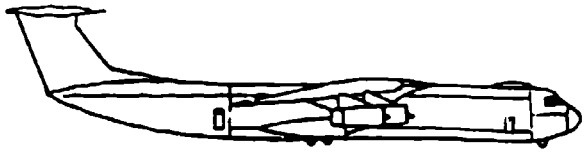
Airlift information was not available in the SITREP for October 27 because of software upgrades to the Military Airlift Command Global Decision Support System. The following day's situation report contains cumulative data that includes the activity for this day. From this cumulative data the entries for October 27 were calculated.

The "to date" totals in this chart do not necessarily agree with those in the SITREPs. The "first available" totals were assumed to be correct and then added the reported daily activity. The September 2 data was derived from the preceding and following entries.

Table 21
U.S. Cummulative Strategic Airlift Missions at Weekly Intervals

Date	C-5	C-141	C-9	KC-10	Civil	Total
31-Aug-90	415	1,041	_	17	195	**1,668**
7-Sep-90	544	1,263	_	28	271	**2,106**
14-Sep-90	679	1,527	_	48	357	**2,611**
21-Sep-90	776	1,784	_	72	429	**3,061**
28-Sep-90	861	1,965	_	93	494	**3,413**
5-Oct-90	948	2,101	_	111	560	**3,720**
12-Oct-90	1,040	2,278	_	121	630	**4,069**
19-Oct-90	1,137	2,458	_	132	700	**4,427**
27-Oct-90	1,234	2,599	_	144	755	**4,732**
3-Nov-90	1,331	2,705	_	154	796	**4,986**
10-Nov-90	1,407	2,843	_	164	834	**5,248**
17-Nov-90	1,540	2,996	_	174	892	**5,602**
25-Nov-90	1,646	3,142	_	183	961	**5,932**
2-Dec-90	1,790	3,386	_	195	1,046	**6,417**
9-Dec-90	1,943	3,688	_	216	1,164	**7,011**
16-Dec-90	2,123	4,040	_	244	1,312	**7,719**
24-Dec-90	2,327	4,435	_	281	1,458	**8,501**
31-Dec-90	2,481	4,794	_	310	1,606	**9,191**
7-Jan-91	2,603	5,115	24	333	1,764	**9,839**
14-Jan-91	2,769	5,485	40	340	1,939	**10,573**
21-Jan-91	2,966	5,895	75	340	2,099	**11,375**
2-Feb-91	3,187	6,290	90	340	2,286	**12,193**
12-Feb-91	3,342	6,693	99	340	2,473	**12,947**
19-Feb-91	3,467	7,037	99	340	2,667	**13,610**

Source: USCINCTRANS SITREPs (S)



Strategic Airlift Summary by Aircraft Type

The following table presents the monthly totals of airlift missions flown, cargo shipped, and passengers transported to the theater during the eight month period August 1990 - March 1991 by various airlift assets of the U.S. Transportation Command and the civilian sector. The C-9's relatively small contribution was not included in this table.[1]

This table was prepared by the Transportation Command's History Office using the MAC Military Airlift Integrated Reporting System database; it does not always agree with the information contained in the USCINCTRANSCOM situation reports. The flow of cargo originated mainly in the continental United States and moved via Desert Express. Some cargo was also airlifted from Europe via European Desert Express. The data in the table are tabulated as of March 10, 1991.

The table shows the relative role played by various strategic airlift aircraft as well as the contribution of civilian carriers. The commercial carriers contributed primarily in transporting personnel, but they also matched in cargo that of the C-141. The relatively larger number of sorties recorded by the C-141 is explained by the stops it made on the way to the theater, with each such leg in the trip counted as a sortie. Thus, the commercial planes made fewer stops, flying usually directly to the theater. The C-5 airlifted both cargo and personnel on a par with the C-141.

Note the use of the following abbreviations: aircraft (A/C); Desert Shield/Desert Storm (DS/DS); Desert Express (DE); and, European Desert Express. The symbol "_" means "not applicable." The source table gives 1,444 as the number of C-141 missions for December and it was adjusted it to 1,400 missions, which corrects five discrepancies that would have otherwise occurred in totals and subtotals. The March figures refer only to the period 1 - 10 March.

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[1]For an explanation of the difference between airlift missions and sorties see Intertheater Airlift, p 77.

Table 22
Strategic Airlift Summary by Aircraft Type
(as of 10 March 1991)

Aircraft Type	Category	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
C-141 DS/DS	Missions	996	983	691	727	1,400	1,674	1,533	318	8,322
	Short Tons	19,663	18,772	12,445	12,519	26,147	32,398	29,434	4,577	155,955
	Passengers	19,353	7,860	2,138	4,041	18,988	28,664	6,661	5,421	93,126
C-141 DE	Missions	-	-	2	30	31	33	29	10	135
	Short Tons	-	-	2	235	399	580	637	213	2,066
	Passengers	-	-	-	-	-	-	-	-	0
C-141 EE	Missions	-	-	-	-	24	31	28	9	92
	Short Tons	-	-	-	-	375	488	442	136	1,441
	Passengers	-	-	-	-	-	-	-	-	0
C-141 subTotal	Missions	996	983	693	757	1,455	1,738	1,590	337	8,549
	Short Tons	19,663	18,772	12,447	12,754	26,921	33,466	30,513	4,926	159,462
	Passengers	19,353	7,860	2,138	4,041	18,988	28,664	6,661	5,421	93,126
C-5	Missions	417	510	438	424	574	697	585	128	3,773
	Short Tons	23,437	31,698	25,895	21,945	34,335	43,108	34,035	7,571	222,024
	Passengers	20,956	13,259	7,753	3,138	13,541	16,443	8,133	1,162	84,385
KC-10	Missions	17	89	58	49	120	46	0	0	379
	Short Tons	407	3,491	1,816	1,586	3,520	1,309	0	0	12,129
	Passengers	102	112	102	141	519	135	0	0	1,111
Civilian	Missions	198	305	259	237	577	793	807	213	3,389
	Short Tons	8,948	14,001	10,727	9,362	27,425	33,502	33,603	7,657	145,225
	Passengers	32,559	37,274	39,779	13,111	85,126	69,874	29,699	13,583	321,005
Total	**Missions**	**1,628**	**1,887**	**1,448**	**1,467**	**2,726**	**3,274**	**2,982**	**678**	**16,090**
Total	**Short Tons**	**52,455**	**67,962**	**50,885**	**45,647**	**92,201**	**111,385**	**98,151**	**20,154**	**538,840**
Total	**Passengers**	**72,970**	**58,505**	**49,772**	**20,431**	**118,174**	**115,116**	**44,493**	**20,166**	**499,627**

Source: MAIRS Database (MACOS/DOCR) (S/NF/WN)

U.S. Airlift Shipment

The following table presents the shipment by air of passengers, resupply/sustainment cargo, and cargo by the U.S. Transportation Command each week and to date totals. All cargos are in short tons.

The data was derived from the USCINCTRANSCOM situation reports. Linearly extrapolated or interpolated values were used when SITREP data not available. That was the case for the following dates: 31 Aug 90, 22 Dec 90; 2 Feb 91; and, 9 Feb 91.

The date for any entry represents "on day dd-mm-yy Zulu" and the data for this date would be found in the situation report for the following day. For instance, the data for 5-Jan-91 would appear in the situation report (SITREP) dated "060400 Jan 91."

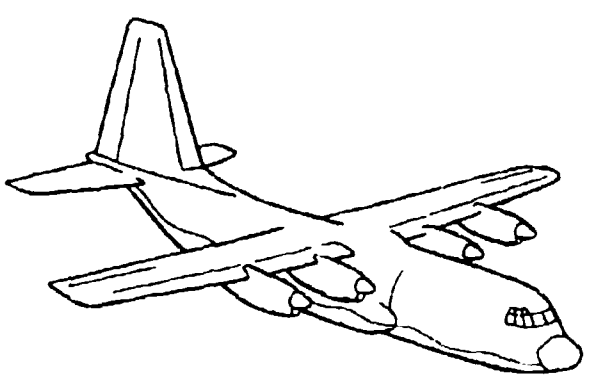


Table 23
U.S. Airlift Shipment

Date	Resupply/ Sustainment Cargo	Passengers	Cargo	Resupply/ Sustainment Cargo	Passengers to Date	Cargo to Date
24-Aug-90	-	21,554	11,428	-	34,207	29,475
31-Aug-90	-	17,206	12,443	-	55,761	40,903
7-Sep-90	3,688	10,635	23,165	6,188	72,967	53,346
14-Sep-90	3,373	29,119	24,210	9,876	83,602	76,511
21-Sep-90	3,966	12,009	13,453	13,249	112,721	100,721
28-Sep-90	6,029	12,967	11,541	17,215	124,730	114,174
5-Oct-90	5,177	14,454	14,669	23,244	137,697	125,715
12-Oct-90	3,961	14,699	18,310	28,421	152,151	140,384
19-Oct-90	4,788	7,500	4,942	32,382	166,850	158,694
26-Oct-90	3,805	5,880	8,402	37,170	174,350	163,636
2-Nov-90	5,437	7,056	9,418	40,975	180,230	172,038
9-Nov-90	8,558	6,834	11,030	46,412	187,286	181,456
16-Nov-90	10,225	4,417	12,104	54,970	194,120	192,486
24-Nov-90	10,052	2,568	12,563	65,195	198,537	204,590
1-Dec-90	8,141	14,390	22,562	75,247	201,105	217,153
8-Dec-90	8,539	19,149	17,773	83,388	215,495	239,715
15-Dec-90	8,671	25,952	24,820	91,927	234,644	257,488
22-Dec-90	9,355	34,680	16,899	100,598	260,596	282,308
29-Dec-90	6,306	47,137	26,647	109,953	295,276	299,207
5-Jan-91	6,254	35,379	22,841	116,259	342,413	325,854
12-Jan-91	6,454	26,275	24,064	122,513	377,792	348,695
19-Jan-91	10,771	22,509	28,832	128,967	404,067	372,759
26-Jan-91	6,726	15,064	26,886	139,738	426,576	401,591
2-Feb-91	15,883	14,726	27,091	146,464	441,640	428,477
9-Feb-91	9,796	13,110	25,576	162,347	456,366	455,568
16-Feb-91	10,440	11,060	22,810	172,143	469,476	481,144
23-Feb-91	-	-	-	182,583	480,536	503,954

Source: USCINCTRANS SITREPs (S)

Gulf War Airlift by Civilian Air Carriers
(as of 31 March 1991)

The following table presents the monthly contribution of various U.S. civilian air carriers to the airlift of cargo and passengers to the theater.

The data in the table were compiled by U.S. Transportation Command History Office from the Military Airlift Integrated Reporting System Database and published in February 1992. It is in some disagreement with the data presented in Table 27 for the months of January and March. The discrepancy in the number of missions for January can be explained by the confusion between "sortie" and "mission" and a later reevaluation of the actual flights made. The March discrepancies reflect inclusion of more days in March.

Note that the August cargo total (88,950) in the source table was clearly a large error. The correct computed total (8,950) has been used in the table. Also, the January cargo total in the source table (33,471) is incorrect. The actual total (33,501) is used in the table, which prevents an error of 30 in the cargo grand total.

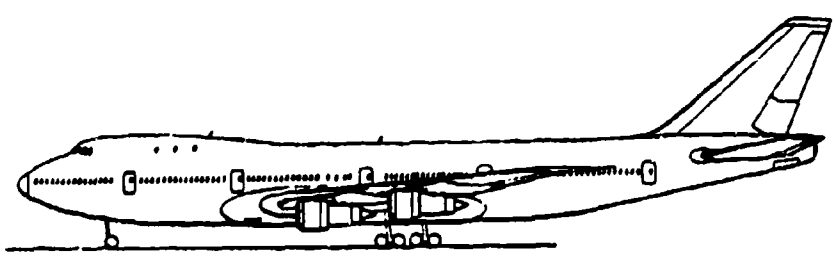


Table 24
Gulf War Airlift by Civilian Air Carriers
(as of 31 March 1991)

Type	Category	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Boeing 707	Missions	12	16	12	21	47	2	42	4	156
	Short Tons	342	454	351	436	891	716	823	76	4,089
	Passengers	0	0	0	0	0	0	2	0	2
Boeing 727	Missions	0	0	1	5	9	32	56	33	136
	Short Tons	0	0	6	63	35	340	388	285	1,117
	Passengers	0	0	51	233	316	2,377	2,751	2,034	7,762
Boeing 747	Missions	76	147	128	99	224	160	299	323	1,456
	Short Tons	4,831	9,910	7,200	7,269	15,995	21,337	21,226	20,768	108,535
	Passengers	20,966	25,486	25,106	9,475	47,118	44,498	18,939	70,607	262,195
Boeing 757	Missions	0	0	0	0	0	0	0	2	2
	Short Tons	0	0	0	0	0	0	0	47	47
	Passengers	0	0	0	0	0	0	0	285	285
Boeing 767	Missions	0	0	0	0	0	0	0	19	19
	Short Tons	0	0	0	0	0	0	0	598	598
	Passengers	0	0	0	0	0	0	0	3,700	3,700
L-100	Missions	0	0	0	0	0	0	19	1	20
	Short Tons	64	0	0	0	0	30	163	4	261
	Passengers	0	0	0	0	0	0	0	0	0
Lockheed	Missions	14	25	45	15	135	50	34	74	392
L-1011	Short Tons	399	801	1,373	472	5,940	2,477	1,248	2,229	14,939
	Passengers	2,347	4,597	8,995	2,292	28,029	13,353	5,675	14,444	79,732
Douglas	Missions	59	78	50	92	115	125	307	320	1,146
DC-8	Short Tons	1,730	1,986	1,134	1,951	2,592	6,013	7,773	6,117	29,296
	Passengers	428	1,145	627	1,059	613	1,421	990	2,360	8,643
Douglas	Missions	37	38	23	4	47	39	50	99	277
DC-10	Short Tons	1,584	1,830	663	146	1,975	2,588	1,982	1,519	12,287
	Passengers	8,818	6,082	5,000	116	9,050	8,225	1,342	4,498	43,131
Total	**Missions**	**198**	**304**	**259**	**236**	**577**	**408**	**807**	**815**	**3,604**
Total	**Short Tons**	**8,950**	**14,981**	**10,727**	**10,337**	**27,428**	**33,501**	**33,603**	**31,643**	**171,170**
Total	**Passengers**	**32,559**	**37,310**	**39,779**	**13,175**	**85,126**	**69,874**	**29,699**	**97,928**	**405,450**

Source: MAIRS Database (MACOS/IOC/TCC/NIF/WN)

Donated Airlift in the Gulf War
(as of 31 March 1991)

The following table enumerates airlift missions and cost contributes by various nations in the Gulf War. These nations donated airlift flights by compensating the carrier for the flown mission.

The data in the table was prepared by U.S. Transportation Command /History Office and Transportation Command Comptroller (TC/AC) and published in February 1992. It was derived from TC/AC Donated Foreign Lift Documents.

Note that the November "Missions" figure for Japan (13) and "Missions" total (20) include 5 missions performed by the Government of Japan transporting their own cargo into the theater.



Table 25
Donated Airlift in the Gulf War
(as of 31 March 1991)

Donating Country	Category	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
S. Korea	Missions &								
	Value	3	6	7	8	6	11	13	54
		1,350,000	2,700,000	3,150,000	3,600,000	2,700,000	4,950,000	6,750,000	25,200,000
Japan	Missions &								
	Value	3	13	13	12	15	20	48	124
		1,374,000	5,954,000	6,464,000	5,496,000	6,737,000	5,928,333	14,940,000	46,893,333
Kuwait	Missions &								
	Value	1	–	–	–	–	–	–	1
		260,646	–	–	–	–	–	–	260,646
Italy	Missions &								
	Value	–	–	–	–	–	12	9	21
		–	–	–	–	–	790,284	701,892	1,492,176
Total	**Missions &**								
	Value	**7**	**19**	**20**	**20**	**21**	**43**	**70**	**200**
		2,984,646	**8,654,000**	**9,614,000**	**9,096,000**	**9,437,000**	**11,668,617**	**22,391,892**	**73,846,155**

Source: USTRANSCOM TCAC Donated Foreign Lift Documents

Sealift Cargo Movement

The following table lists at weekly intervals the total cargo (in measurement tons) and the total number of personnel that were shipped by sea during the Gulf War. Note that a 'measurement ton' or 'freight ton' is a unit of carrying capacity of ships, usually equal to 40 cubic feet.

The data was extracted from the U.S. Transportation Command (Aug 90 to Sep 90) and U.S. Commander-in-Chief Transportation Command (Oct 90 to Feb 91) SITREPs for Desert Shield and Desert Storm. The date for any entry should be considered to mean "on day dd-mm-yy Zulu" and the data for this date would be found in the SITREP for the following day.

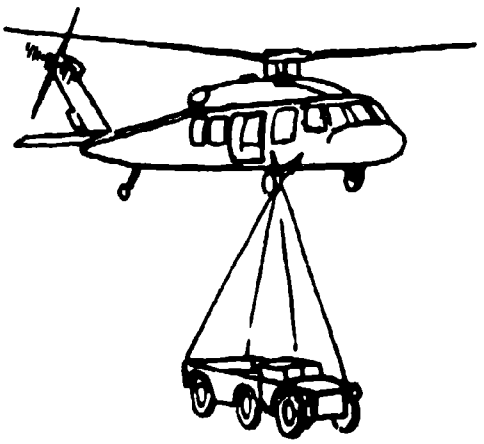


Table 26
Sealift Cargo Movement

Date	Personnel	Cargo
3-Sep-90	412	96,121
10-Sep-90	672	183,639
17-Sep-90	797	336,747
24-Sep-90	933	447,379
1-Oct-90	998	572,165
8-Oct-90	1,107	803,956
15-Oct-90	1,180	1,040,341
22-Oct-90	1,250	1,290,989
29-Oct-90	1,406	1,569,591
5-Nov-90	1,453	1,785,529
12-Nov-90	1,493	1,885,370
19-Nov-90	1,570	2,073,761
26-Nov-90	1,606	2,133,482
3-Dec-90	1,618	2,218,736
10-Dec-90	1,674	2,367,873
17-Dec-90	1,745	2,622,532
24-Dec-90	1,971	2,843,642
31-Dec-90	2,083	3,123,728
7-Jan-91	2,192	3,476,878
14-Jan-91	2,406	4,046,080
21-Jan-91	2,517	4,553,431
28-Jan-91	2,595	4,886,055
4-Feb-91	2,630	5,084,460
11-Feb-91	2,659	5,295,184
18-Feb-91	2,714	5,547,335

Sources: USTRANSCOM SITREPs (Aug-90 to Sep-90) (S/NF) and
USCINCTRANS SITREPs (Oct-90 to Feb-91) (S/NF)

Strategic Sealift of Unit Equipment by Shipping Source
(as of 10 March 1991)

The following table presents the monthly cargo shipped by sea using: Fast Sealift Support (FSS), Afloat Prepositioning Ships (APS), Maritime Prepositioning Ships (MPS), Ready Reserve Fleet (RRF), and commercial sea shipment assets.

The table was prepared by the U.S. Transportation Command History Office using the Military Sealift Command (MSC) Lift Summary Reports.

The table depicts the importance of the Ready Reserve Fleet and Allied shipping assets for the sealift. The month of January stands out as one in which the sea shipment more than doubled those of the other months.

Note that "STONS %" in the table indicates the percentage that the given shipping source's unit equipment tonnage represents of the total unit equipment tonnage. March figures are tabulated for 1-10 March only. U.S.-flag square footage figure for March was unavailable.

Several incorrectly rounded percentages in the original source have been corrected as well. Note that, because of rounding, percentage totals may not add to 100.00%.

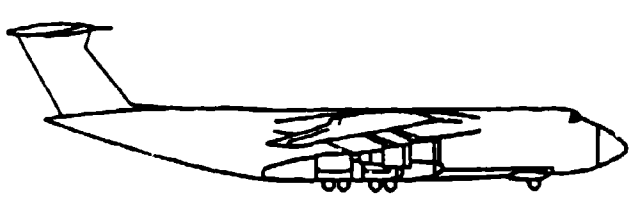


Table 27
Strategic Sealift of Unit Equipment by Shipping Source
(as of 10 March 1991)

Shipping Source		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Fast Sealift Ship (FSS)	Short Tons	56,009	35,315	67,511	37,110	45,954	61,410	18,632	–	321,941
	Short Tons %	(22.1%)	(14.0%)	(20.7%)	(18.0%)	(12.9%)	(8.5%)	(6.3%)	–	(13.2%)
	Sq Ft	591,121	407,163	938,663	715,485	888,324	711,335	308,561	–	4,560,652
	Voyages	5	3	6	5	6	5	2	–	32
Afloat Prepositioning Ship(APS)	Short Tons	101,687	11,491	–	25,270	–	33,313	35,084	–	206,845
	Short Tons %	(40.2%)	(4.6%)	–	(12.2%)	–	(4.6%)	(11.8%)	–	(8.5%)
	Sq Ft	889,885	82,270	–	212,565	–	289,129	161,625	–	1,635,474
	Voyages	8	3	–	3	–	3	3	–	20
Maritime Prepositioning Ship (MPS)	Short Tons	95,327	10,400	26,345	19,296	73,513	20,043	12,520	–	257,444
	Short Tons %	(37.7%)	(4.1%)	(8.1%)	(9.4%)	(20.7%)	(2.8%)	(4.2%)	–	(10.6%)
	Sq Ft	1,200,000	150,000	343,998	351,170	890,135	380,526	249,639	–	3,565,468
	Voyages	8	1	3	3	7	2	2	–	26
Ready Reserve Fleet (RRF)	Short Tons	–	123,046	103,649	76,138	112,959	195,074	72,963	7,219	691,048
	Short Tons %	–	(48.8%)	(31.7%)	(36.9%)	(31.7%)	(27.1%)	(24.5%)	(26.5%)	(28.3%)
	Sq Ft	–	1,576,225	1,651,454	949,008	1,373,051	2,309,576	1,069,051	53,217	8,981,582
	Voyages	–	18	20	12	22	35	14	2	123
U.S. Flag Ships	Short Tons	–	55,006	38,262	15,441	38,599	124,622	44,077	1,186	317,193
	Short Tons %	–	(21.8%)	(11.7%)	(7.5%)	(10.8%)	(17.3%)	(14.6%)	(4.4%)	(13.0%)
	Sq Ft	–	499,599	587,329	298,606	820,474	1,273,106	405,169	–	3,874,285
	Voyages	–	7	10	3	12	19	10	1	62
Allied Ships	Short Tons	–	16,755	91,163	33,161	85,000	285,819	114,612	18,805	646,315
	Short Tons %	–	(6.7%)	(27.9%)	(16.1%)	(23.9%)	(39.8%)	(38.2%)	(69.1%)	(26.5%)
	Sq Ft	–	269,956	1,776,868	527,495	1,595,313	4,209,090	1,437,264	257,187	10,073,974
	Voyages	–	5	32	10	29	86	31	4	197
Total	**Short Tons**	**253,023**	**252,013**	**326,930**	**206,416**	**356,025**	**721,281**	**297,888**	**27,210**	**2,440,786**
Total	**Short Tons %**	**(100%)**	**(100%)**	**(100%)**	**(100%)**	**(100%)**	**(100%)**	**(100%)**	**(100%)**	**(100%)**
Total	**Sq Ft**	**2,681,006**	**2,985,213**	**5,298,312**	**3,054,330**	**5,550,257**	**9,172,764**	**3,631,109**	**310,404**	**32,691,435**
Total	**Voyages**	**21**	**37**	**71**	**36**	**76**	**150**	**62**	**7**	**460**

Source: USTRANSCOM, MSC Lift Summary Report

Donated Sealift in the Gulf War
(as of 31 March 1991)

The following table enumerates sealift missions and cost of various nations in the Gulf War. These nations donated sealift transport by compensating the carrier for the mission.

The data in the table was prepared by U.S. Transportation Command /History Office and Transportation Command Comptroller (TC/AC) and published in February 1992. It was derived from TC/AC Donated Foreign Lift Documents.

Note that Denmark sea days for October, November, March, and total columns are marked in the source table as "Space Available on Ships."

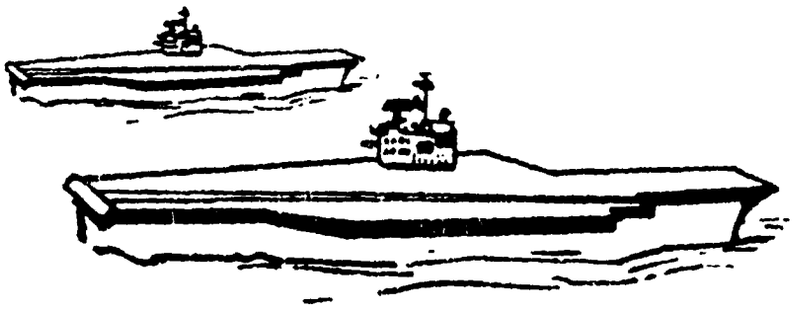


Table 28
Donated Sealift in the Gulf War
(as of 31 March 1991)

Nation	Category	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
S. Korea	Seq Days	17	31	30	60	62	77	93	**370**
	$ Value	809,090	809,090	809,090	1,659,090	1,659,090	2,425,757	2,425,757	**10,596,964**
Japan	Sea Days	--	61	90	92	93	84	--	**420**
	$ Value	1,745,000	6,010,555	5,816,667	6,010,555	6,010,555	5,428,889	3,877,779	**34,900,000**
Kuwait	Sea Days	32	62	60	62	155	172	178	**721**
	$ Value	865,200	1,500,400	1,452,000	1,500,400	4,755,400	5,236,000	5,319,600	**20,629,000**
Denmark	Sea Days	--			--	--	--		
	$ Value	--	788,400	213,800	--	--	--	4,942,931	**5,945,131**
Total	Sea Days	**49**	**154**	**180**	**214**	**310**	**333**	**271**	**1,511**
	$ Value	**3,419,290**	**9,108,445**	**8,291,557**	**9,170,045**	**12,425,045**	**13,090,646**	**16,566,067**	**72,071,095**

Source: USTRANSCOM TCAC Donated Foreign Lift Documents

Aeromedical Evacuation in the Gulf War

The following table lists on a monthly basis various types of patients evacuated tactically or strategically in Desert Shield/Desert Storm. They numbers include patients that were carried on commercial, active duty, reserve, strategic, and tactical aircraft as of March 10, 1992.

The U.S. Transportation Command (USTRANSCOM) situation reports the number of litter or ambulatory patients evacuated by air from their units. The evacuation was tactical when the destination was a medical facility in theater (C-130s were used) or strategic if the destination was Europe or the continental United States (C-141s were used) via points in Europe.

The data in the table were derived from summaries prepared by U.S. Transportation Command History Office from the their situation reports. Many of the reported totals in the USTRANSCOM reports were found to be in error or to contain significant discrepancies between their data and the History Office summeries. Consequently, the U.S. Transportation Command History Office amended the numbers in the U.S. Transportation Command situation reports.

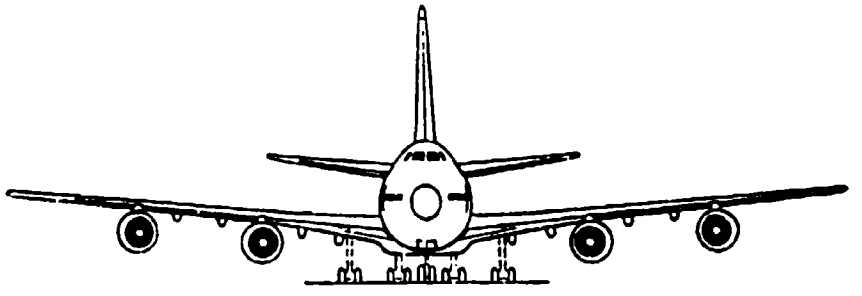


Table 29
Aeromedical Evacuation in the Gulf War
(Patients Transported as of 10 March 1991)

Date	Persian Gulf		Persian Gulf to Europe		Europe to CONUS	
	Litter	Ambulatory	Litter	Ambulatory	Litter	Ambulatory
Aug-90	–	–	–	–	–	–
Sep-90	92	247	181	346	89	291
Oct-90	99	310	214	400	77	262
Nov-90	86	303	277	395	170	485
Dec-90	129	377	304	503	154	484
Jan-91	270	550	414	818	483	1,180
Feb-91	324	410	725	890	446	846
Mar-91	600	227	567	507	336	476
Total	**1,600**	**2,424**	**2,682**	**3,859**	**1,755**	**4,024**

Source: USTRANSCOM History Office

Ceiling on Reserve Call-up

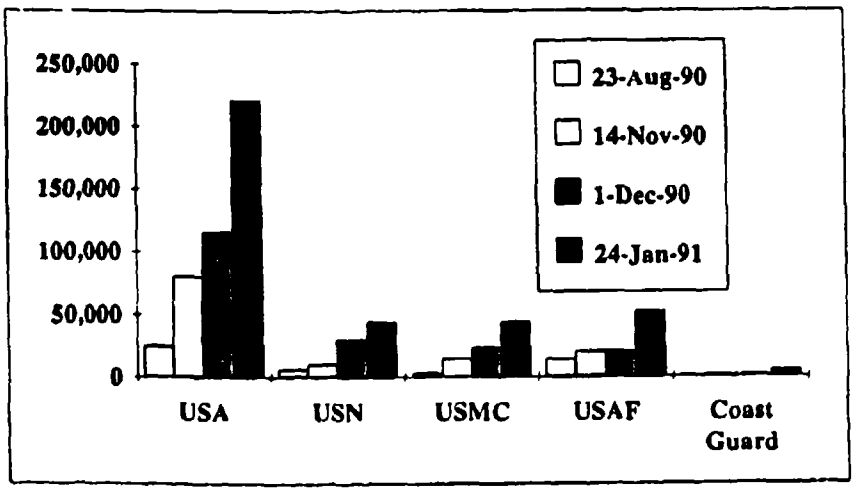
The following table presents the authorized ceilings on reserve callup. The importance of the reserve callup vehicle can be seen from their percent of maximum troop strength, reaching for some Services near 30 percent, and the fact that relatively few volunteered for active duty. U.S. Reserves who volunteered for active duty counted about 5,000 and were distributed among Army National Guard–3,336; Army Reserve–1,430; Naval Reserve–15; Marine Corps Reserve–3; Air National Guard–230; and Air Force Reserve–54 (Total of 5,068). This, however, is misleading. Federal law mandates that reservist who are involuntarily recalled are given reemployment rights. Those that volunteer, officially, are not so protected. In reality, reservist in large numbers "Volunteered" to their respective military manning agencies but were given "Involuntary" recalls.

The information in the table was derived from publications of the Congressional Research Service of the Library of Congress.



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Table 30
Authorized Ceiling on Reserve Call Up



Date	USA	USN	USMC	USAF	Coast Guard	Total
23-Aug-90	25,000	6,300	3,000	14,500	1,250	50,050
14-Nov-90	80,000	10,000	15,000	20,000	1,250	126,250
1-Dec-90	115,000	30,000	23,000	20,000	1,250	189,250
19-Jan-91	220,000	44,000	44,000	52,000	1,250	361,250
24-Jan-91	220,000	44,000	44,000	52,000	5,000	365,000
% of	29%	8%	15%	20%	-	20%

Source: Congressional Research Service, Library of Congress

Reserves

Section 673b of Title 10 (U.S. Code) authorizes the President to have 200,000 Selected Reserve Units and Individuals — a component of the Ready Reserve — ordered to active duty without Congressional consent for not more than 90 days in order to supplement active forces for any operational missions. An additional 90-day extension is also possible, in the event of a Presidential determination that such an extension is warranted. A declaration of a national emergency is not required, and the 200,000-person limit represents a bound on the number of Selected Reservists permitted to be "active" at any given time, not on the total number of Selected Reservists that can be called to active duty in the course of a crisis or war.

The President holds broader authority to call up reserve forces from Section 673 of Title 10, compared with the powers granted under Section 673b above. Section 673 allows 1,000,000 units and individuals of the Ready Reserve to be called to active duty without Congressional consent for not more than 2 years. A declaration of a national emergency is, however, required to invoke these broader powers.

The following tables display the phased call-up of reserve forces. On 23 August 1990 Section 673b was invoked, authorizing, at first, the call-up of no more than 48,800 reservists, not including Coast Guard elements. Subsequently, on 14 November and 1 December the ceiling was raised to 125,000 and 188,000 persons respectively — still within the authority granted by Section 673b. On 18 January 1991, President Bush invoked the broader powers of Section 673; a declaration of a national emergency had already been made in August 1990, in line with the implementation of UN-sponsored economic sanctions on Iraq. The following day, the Secretary of Defense increased the ceiling on reserve call-ups to 360,000 persons.

Table 31

U.S. Air Force Reserve Units in the Gulf War

Mobilized	Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
8-Aug-90	72 AES	Aeromedical Evacuation Squadron	McGuire AFB, NJ	169	MAC	AOR	18-Mar-91	222
24-Aug-90	732 MAS	Strategic Airlift	McGuire AFB, NJ	200	MAC	McGuire AFB	1-May-91	250
24-Aug-90	756 MAS	Strategic Airlift	Andrews AFB, MD	149	MAC	Andrews AFB	1-May-91	250
25-Aug-90	337 MAS	Strategic Airlift	Westover AFB, MA	183	MAC	Westover AFB	30-Jun-91	309
30-Aug-90	68 MAS	Strategic Airlift	Kelly AFB, TX	198	MAC	Kelly AFB	15-May-91	258
31-Aug-90	301 MAS	Strategic Airlift	Travis AFB, CA	208	MAC	Travis AFB	15-Jun-91	288
31-Aug-90	326 MAS	Strategic Airlift	Dover AFB, DE	213	MAC	Dover AFB	15-Jun-91	288
4-Sep-90	312 MAS	Strategic Airlift	Travis AFB, CA	212	MAC	Travis AFB	15-Jun-91	284
4-Sep-90	709 MAS	Strategic Airlift	Dover AFB, DE	213	MAC	Dover AFB	15-Jun-91	284
9-Sep-90	97 MAS	Strategic Airlift	McChord AFB, WA	228	MAC	McChord AFB	24-May-91	257
9-Sep-90	335 MAS	Strategic Airlift	McGuire AFB, NJ	190	MAC	McGuire AFB	24-May-91	257
9-Sep-90	701 MAS	Strategic Airlift	Charleston AFB, SC	218	MAC	Charleston AFB	24-May-91	257
10-Sep-90	708 MAS	Strategic Airlift	Travis AFB, CA	194	MAC	Travis AFB	24-May-91	256
20-Sep-90	446 PCAMS	Provisional CAMS	McChord AFB, WA	57	MAC	McChord AFB	24-May-91	246
21-Sep-90	315 PCAMS	Provisional CAMS	Charleston AFB, SC	228	MAC	Charleston AFB	14-May-91	235
21-Sep-90	349 MAW/MA	Provisional CAMS	Travis AFB, CA	2	MAC	Travis AFB	15-Jun-91	267
21-Sep-90	512 PCAMS	Provisional CAMS	Dover AFB, DE	297	MAC	Dover AFB	15-Jun-91	267
21-Sep-90	514 PCAMS	Provisional CAMS	McGuire AFB, NJ	328	MAC	McGuire AFB	15-Jun-91	267
25-Sep-90	32 AEG	Aeromedical Evacuation Group	Kelly AFB, TX	226	MAC	AOR/EUCOM	18-Mar-91	174
4-Oct-90	63 TAS	Tactical Airlift	Selfridge AGB, MI	77	MAC	AOR	16-Apr-91	194
4-Oct-90	328 TAS	Tactical Airlift	Niagara Falls IAP, NY	84	MAC	AOR	11-Apr-91	189
4-Oct-90	914 CAMS	Consolidated Aircraft Maintenance Sq	Niagara Falls IAP, NY	106	MAC	AOR	11-Apr-91	189
4-Oct-90	927 MS	Medical Squadron	Selfridge AGB, MI	60	MAC	AOR/UK/CONUS	18-Mar-91	165
4-Oct-90	23 APSS	Aeromedical Patient Staging Squadron	Griffiss AFB, NY	101	MAC	AOR	31-Mar-91	178

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
4-Oct-90 70 AES	Aeromedical Evacuation Squadron	Niagara Falls IAP, NY	61	MAC	AOR/EUCOM/CONUS	30-Jun-91	269
4-Oct-90 30 MAPS	Mobile Aerial Support Squadron	Niagara Falls IAP, NY	1	MAC		30-Jun-91	269
4-Oct-90 914 CSS	Combat Support Squadron	Niagara Falls IAP, NY	17	AFRES	AOR/CONUS	11-Apr-91	189
4-Oct-90 927 CSS	Combat Support Squadron	Selfridge AGB, MI	6	MAC	AOR	16-Apr-91	194
2-Nov-90 37 AEG	Aeromedical Evacuation Group	MacDill AFB, FL	289	MAC	AOR/EUCOM	30-Jun-91	240
18-Nov-90 46 APS	Aerial Port Squadron	Dover AFB, DE	128	MAC	Dover AFB/AOR	15-Apr-91	148
26-Nov-90 72 APS	Aerial Port Squadron	Tinker AFB, OK	114	MAC	CONUS	30-Jun-91	216
27-Nov-90 76 MAPS	Mobile Aerial Support Squadron	Youngstown MAP, OH	122	MAC	Ramstein AFB	12-Jun-91	197
27-Nov-90 36 APS	Aerial Port Squadron	McChord AFB, WA	128	MAC	AOR/EUCOM	25-May-91	179
27-Nov-90 38 APS	Aerial Port Squadron	Charleston AFB, SC	131	MAC	AOR	8-May-91	162
1-Dec-90 92 APS	Aerial Port Squadron	Wyoming Valley, PA	126	MAC	Dover AFB/AOR	15-Apr-91	135
3-Dec-90 439 AMS	Avionics Maintenance Squadron	Westover AFB, MA	107	MAC	Westover AFB	30-Jun-91	209
3-Dec-90 439 FMS	Field Maintenance Squadron	Westover AFB, MA	281	MAC	Westover AFB	30-Jun-91	209
3-Dec-90 439 OMS	Organizational Maintenance Squadron	Westover AFB, MA	193	MAC	Westover AFB	30-Jun-91	209
3-Dec-90 439 CLI	USAF Clinic	Westover AFB, MA	59	MAC	Westover AFB	15-Jun-91	194
3-Dec-90 439 CES	Civil Engineering Squadron	Westover AFB, MA	106	MAC		30-Jun-91	209
3-Dec-90 42 APS	Aerial Port Squadron	Westover AFB, MA	68	MAC	Westover AFB	30-Jun-91	209
3-Dec-90 439 SPS	Security Police Squadron	Westover AFB, MA	73	AFRES	Westover AFB	30-Jun-91	209
3-Dec-90 439 CSG	Combat Support Group	Westover AFB, MA	143	AFRES	Westover AFB	30-Jun-91	209

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
4-Dec-90 439 MAW	Numbered Air Force	Westover AFB, MA	135	MAC	Westover AFB	30-Jun-91	208
6-Dec-90 301 CES	Civil Engineering Squadron	Carswell AFB, TX	30	TAC	Carswell AFB	16-May-91	161
6-Dec-90 419 CES	Civil Engineering Squadron	Hill AFB, UT	40	TAC	CONUS	14-Jun-91	190
6-Dec-90 909 CES	Civil Engineering Squadron	Langley AFB, VA	20	TAC	Langley AFB	20-Apr-91	135
6-Dec-90 944 CES	Civil Engineering Squadron	Luke AFB, AZ	24	TAC	Luke AFB	30-Jun-91	206
7-Dec-90 917 CES	Civil Engineering Squadron	Barksdale AFB, LA	51	TAC	Barksdale AFB	18-May-91	162
8-Dec-90 315 CES	Civil Engineering Squadron	Charleston AFB, SC	41	MAC	Charleston AFB	15-May-91	158
8-Dec-90 349 CES	Civil Engineering Squadron	Travis AFB, CA	42	MAC	CONUS	10-Jun-91	184
8-Dec-90 512 CES	Civil Engineering Squadron	Dover AFB, DE	24	MAC	Dover AFB	30-Apr-91	143
8-Dec-90 915 CES	Civil Engineering Squadron	Pope AFB, NC	91	MAC	Pope AFB	30-Jun-91	204
8-Dec-90 932 CES	Civil Engineering Squadron	Scott AFB, IL	87	MAC	CONUS	31-May-91	174
8-Dec-90 933 CES	Civil Engineering Squadron	Griffiss AFB, NY	6	SAC	CONUS	30-Jun-91	204
9-Dec-90 922 CES	Civil Engineering Squadron	Offutt AFB, NE	24	SAC	CONUS	16-Aug-91	250
9-Dec-90 940 CES	Civil Engineering Squadron	Mather AFB, CA	38	SAC	CONUS	11-Jun-91	184
10-Dec-90 452 CES	Civil Engineering Squadron	March AFB, CA	42	SAC	CONUS	8-Mar-91	88

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	*Unit Type*	*Home Station*	Personnel	Gaining Command	Deployment Location	Demobilization	Days
10-Dec-90 916 CES	Civil Engineering Squadron	Seymour-Johnson AFB, NC	38	SAC	CONUS	30-Jun-91	202
14-Dec-90 913 MS	Medical Squadron	Willow Grove ARF, PA	58	MAC	AOR	28-Apr-91	135
14-Dec-90 42 APSS	Aeromedical Patient Staging Squadron	Norton AFB, CA	113	MAC	AOR	8-Mar-91	84
16-Dec-90 35 APS	Aerial Port Squadron	McGuire AFB, NJ	138	MAC	McGuire AFB/AOR	20-Apr-91	125
17-Dec-90 434 CAMS	Consolidated Aircraft Maintenance Sq	Grissom AFB, OH	143	SAC	AOR	15-May-91	149
20-Dec-90 72 AREFS	Aerial Refueling	Grissom AFB, IN	61	SAC	AOR/Worldwide	15-May-91	146
20-Dec-90 77 AREFS	Aerial Refueling	Seymour-Johnson AFB, NC	124	SAC	AOR	30-Jun-91	192
20-Dec-90 916 CAMS	Consolidated Aircraft Maintenance Squadron (Associate)	Seymour-Johnson AFB, NC	260	SAC	AOR/Worldwide	15-May-91	146
21-Dec-90 71 SOS	Special Operations/Helicopter	Davis Monthan AFB, AZ	124	AFSOC	AOR	22-Mar-91	91
21-Dec-90 34 APSS	Aeromedical Patient Staging Squadron	Roslyn AGS, NY	120	MAC	AOR	18-Mar-91	87
26-Dec-90 301 SPF	Security Police Flight	Carswell AFB, TX	44	TAC	AOR	18-Mar-91	82
26-Dec-90 924 SPF	Security Police Flight	Bergstrom AFB, TX	43	TAC	AOR	29-Mar-91	93
27-Dec-90 327 TAS	Tactical Airlift	Willow Grove ARF, PA	98	MAC	AOR	28-Apr-91	122
27-Dec-90 913 CAMS	Consolidated Aircraft Maintenance Squadron	Willow Grove ARF, PA	122	MAC	AOR/USAFE	28-Apr-91	122
27-Dec-90 28 MAPS	Mobile Aerial Support Squadron	O'Hare ARFF, IL	1	MAC		30-Jun-91	185
29-Dec-90 926 TFG	Tactical Fighter/Maintenance	NAS New Orleans, LA	443	TAC	AOR	15-Jun-91	168
31-Dec-90 406 CLSS	Combat Logistics Support Squadron	McClellan AFB, CA	24	AFLC		6-May-91	126

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
2-Jan-91 31 AES	Aeromedical Evacuation Squadron	Charleston AFB, SC	196	MAC	AOR	30-Jun-91	179
2-Jan-91 33 AES	Aeromedical Evacuation Squadron	GTR Pittsburgh IAP, PA	117	MAC	AOR	30-Jun-91	179
2-Jan-91 40 AES	Aeromedical Evacuation Squadron	McChord AFB, WA	199	MAC	AOR	8-Mar-91	65
2-Jan-91 45 AES	Aeromedical Evacuation Squadron	Selfridge AGB, MI	55	MAC	AOR	18-Mar-91	75
2-Jan-91 65 AES	Aeromedical Evacuation Squadron	Travis AFB, CA	213	MAC	AOR	11-Mar-91	68
2-Jan-91 402 CLSS	Combat Logistics Support Squadron	Robins AFB, GA	31	AFLC		31-Mar-91	88
6-Jan-91 33 APSS	Aeromedical Patient Staging Squadron	McGuire AFB, NJ	123	MAC	EUCOM	18-Mar-91	71
7-Jan-91 69 AES	Aeromedical Evacuation Squadron	McGuire AFB, NJ	181	MAC	AOR	18-Mar-91	70
8-Jan-91 52 APSS	Aeromedical Patient Staging Squadron	Scott AFB, IL	115	MAC	AOR/EUCOM/CONUS	18-Mar-91	69
9-Jan-91 35 APSS	Aeromedical Patient Staging Squadron	Wright-Patterson AFB, OH	120	MAC	AOR	1-May-91	112
9-Jan-91 36 APSS	Aeromedical Patient Staging Squadron	O'Hare ARFF, IL	123	MAC	AOR/EUCOM/CONUS	22-Mar-91	72
11-Jan-91 13 USAFCH	Contingency Hospital	Scott AFB, IL	145	MAC	AOR/EUCOM/CONUS	18-Mar-91	56
11-Jan-91 13 USAFCH,2	Contingency Hospital	Langley AFB, VA	87	MAC	AOR/Scott AFB	8-Mar-91	56
14-Jan-91 20 MSES	Medical Service Squadron	Carswell AFB, TX	122	SAC	CONUS	2-Apr-91	78
14-Jan-91 28 MSES	Medical Service Squadron	Offutt AFB, NE	100	SAC	CONUS	11-Apr-91	87

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
14-Jan-91 414 MSES	Medical Service Squadron	March AFB, CA	124	SAC	CONUS	1-Apr-91	77
14-Jan-91 94 CSG	Combat Support Group	Dobbins AFB, GA	3	AFRES	Westover AFB	30-Jun-91	167
14-Jan-91 440 CSG	Combat Support Group	Gen Mitchell IAP, WI	1	AFRES	Westover AFB	30-Jun-91	167
14-Jan-91 934 CSS	Combat Support Squadron	Minn-St Paul IAP, MN	2	AFRES	Westover AFB	30-Jun-91	167
15-Jan-91 41 APSS	Aeromedical Patient Staging Squadron	Luke AFB, AZ	80	MAC	EUCOM	30-Jun-91	166
15-Jan-91 44 APSS	Aeromedical Patient Staging Squadron	Travis AFB, CA	121	MAC	AOR	11-Mar-91	55
15-Jan-91 60 AES	Aeromedical Evacuation Squadron	Andrews AFB, MD	134	MAC	AOR/EUCOM	18-Mar-91	62
16-Jan-91 336 AREFS	Aerial Refueling	March AFB, CA	56	SAC	AOR	15-Apr-91	89
16-Jan-91 452 AREFW	Aerial Refueling	March AFB, CA	7	SAC	AOR	20-Dec-91	338
16-Jan-91 301 MS	Medical Squadron	Carswell AFB, TX	47	TAC	CONUS	22-Mar-91	65
16-Jan-91 419 MS	Medical Squadron	Hill AFB, UT	65	TAC	Langley AFB	24-Jul-91	189
16-Jan-91 482 MS	Medical Squadron	Homestead AFB, FL	54	TAC	CONUS	30-Jun-91	165
16-Jan-91 507 MS	Medical Squadron	Tinker AFB, OK	52	TAC	CONUS	30-Jun-91	165
16-Jan-91 908 MS	Medical Squadron	Maxwell AFB, AL	61	MAC	AOR	16-Jun-91	151
16-Jan-91 917 MS	Medical Squadron	Barksdale AFB, LA	65	TAC	CONUS	30-Nov-91	318
16-Jan-91 924 MS	Medical Squadron	Bergstrom AFB, TX	69	TAC	CONUS	26-Mar-91	69
16-Jan-91 944 MS	Medical Squadron	Luke AFB, AZ	50	TAC	CONUS	30-Jun-91	165
16-Jan-91 908 CSS	Combat Support Squadron	Maxwell AFB, AL	1	MAC	Westover AFB	22-Jun-91	157
16-Jan-91 911 CSS	Combat Support Squadron	GTR Pittsburgh IAP, PA	5	AFRES	Westover AFB	16-Jun-91	151
16-Jan-91 913 CSS	Combat Support Squadron	Willow Grove ARF, PA	1	AFRES	Westover AFB	30-Jun-91	165

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
17-Jan-91 35 AES	Aeromedical Evacuation Squadron	Maxwell AFB, AL	69	MAC	UK/EUCOM	16-Jun-91	150
17-Jan-91 47 AES	Aeromedical Evacuation Squadron	Minn-St Paul IAP, MN	42	MAC	EUCOM	30-Jun-91	164
18-Jan-91 711 SOS	Special Operations/Gunship	Duke Field, FL	119	AFSOC	AOR	24-Apr-91	96
18-Jan-91 910 CSS	Combat Support Squadron	Youngstown MAP, OH	4	AFRES	Westover AFB	30-Jun-91	163
19-Jan-91 445 CES	Civil Engineering Squadron	Norton AFB, CA	30	MAC	CONUS	15-May-91	116
20-Jan-91 12 USAFCH	Contingency Hospital	Travis AFB, CA	151	MAC	CONUS/AOR	11-Mar-91	50
21-Jan-91 356 TAS	Tactical Airlift	Rickenbacker AGB, OH	100	MAC	AOR	15-Jun-91	145
21-Jan-91 907 CAMS	Consolidated Aircraft Maintenance Squadron	Rickenbacker AGB, OH	150	MAC	AOR	15-Jun-91	145
21-Jan-91 22 APSS	Aeromedical Patient Staging Squadron	Andrews AFB, MD	119	MAC	CONUS	18-Mar-91	56
21-Jan-91 68 AES	Aeromedical Evacuation Squadron	Norton AFB, CA	207	MAC	EUCOM/AOR	14-Mar-91	52
21-Jan-91 40 MAPS	Mobile Aerial Support Squadron	Rickenbacker AGB, OH	2	MAC	AOR	15-Jun-91	145
21-Jan-91 907 CSS	Combat Support Squadron	Rickenbacker AGB, OH	4	MAC	AOR	15-Jun-91	145
22-Jan-91 914 CES	Civil Engineering Squadron	Niagara Falls IAP, NY	25	MAC	Dover AFB	30-Jun-91	159
24-Jan-91 300 MAS	Strategic Airlift	Charleston AFB, SC	215	MAC	Charleston AFB	15-Jun-91	142
24-Jan-91 74 AES	Aeromedical Evacuation Squadron	Westover AFB, MA	115	MAC	AOR/EUCOM	14-Mar-91	49
24-Jan-91 932 CLI	USAF Clinic (Associate)	Scott AFB, IL	28	MAC	CONUS	30-Jun-91	157

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
24-Jan-91 81 APS	Aerial Port Squadron	Charleston AFB, SC	139	MAC	Charleston AFB/AOR	15-Jun-91	142
24-Jan-91 315 SPF	Security Police Flight	Charleston AFB, SC	44	MAC	Charleston AFB	13-May-91	109
24-Jan-91 349 SPF	Security Police Flight	Travis AFB, CA	44	MAC	Travis AFB	24-May-91	120
24-Jan-91 445 SPF	Security Police Flight	Norton AFB, CA	44	MAC	Norton AFB	11-Apr-91	77
24-Jan-91 446 SPF	Security Police Flight	McChord AFB, WA	40	MAC	McChord AFB	8-Mar-91	43
24-Jan-91 512 SPF	Security Police Flight	Dover AFB, DE	42	MAC	Dover AFB	8-Mar-91	43
24-Jan-91 514 SPF	Security Police Flight	McGuire AFB, NJ	44	MAC	McGuire AFB	9-Mar-91	44
24-Jan-91 622 SPF	Security Police Flight	Westover AFB, MA	36	MAC	Westover AFB	9-Mar-91	44
25-Jan-91 94 MS	Medical Squadron	Dobbins AFB, GA	84	MAC	CONUS	15-Apr-91	80
25-Jan-91 302 MS	Medical Squadron	Peterson AFB, CO	60	MAC	UK/CONUS	31-May-91	126
25-Jan-91 403 MS	Medical Squadron	Keesler AFB, MS	67	MAC	CONUS	22-Mar-91	56
25-Jan-91 440 MS	Medical Squadron	Gen Mitchell IAP, WI	62	MAC	CONUS	30-Jun-91	156
25-Jan-91 910 MS	Medical Squadron	Youngstown MAP, OH	58	MAC	CONUS	30-Jun-91	156
25-Jan-91 911 MS	Medical Squadron	GTR Pittsburgh IAP, PA	62	MAC	CONUS	30-Jun-91	156
25-Jan-91 914 MS	Medical Squadron	Niagara Falls IAP, NY	51	MAC	McGuire AFB	30-Jun-91	156
25-Jan-91 928 MS	Medical Squadron	O'Hare ARFF, IL	55	MAC	CONUS/EUCOM	16-Jul-91	172
25-Jan-91 934 MS	Medical Squadron	Minn-St Paul IAP, MN	52	MAC	CONUS	30-Jun-91	156
25-Jan-91 939 MS	Medical Squadron	Portland IAP, OR	55	MAC	CONUS/EUCOM/AOR	18-Mar-91	52
25-Jan-91 21 APSS	Aeromedical Patient Staging Squadron	Patrick AFB, FL	135	MAC	EUCOM/AOR	24-Mar-91	58
25-Jan-91 39 APSS	Aeromedical Patient Staging Squadron	McChord AFB, WA	109	MAC	UK	14-Mar-91	48
25-Jan-91 34 AEF	Aeromedical Evacuation Squadron	Kelly AFB, TX	73	MAC	CONUS/EUCOM	18-Mar-91	52
25-Jan-91 36 AES	Aeromedical Evacuation Squadron	Richards-Gebaur AFB, MO	48	MAC	UK/EUCOM	30-Jun-91	156
25-Jan-91 64 AES	Aeromedical Evacuation Squadron	Dobbins AFB, GA	68	MAC	EUCOM	30-Jun-91	156

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized	Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
25-Jan-91	907 TAC CLI	Tactical Clinic	Rickenbacker AGB, OH	53	MAC	CONUS/EUCOM	8-Mar-91	42
25-Jan-91	349 CLI	USAF Clinic (Associate)	Travis AFB, CA	114	MAC	CONUS	26-Mar-91	60
25-Jan-91	445 CLI	USAF Clinic (Associate)	Norton AFB, CA	83	MAC	CONUS	8-Mar-91	42
25-Jan-91	446 CLI	USAF Clinic (Associate)	McChord AFB, WA	79	MAC	CONUS	8-Mar-91	42
25-Jan-91	512 CLI	USAF Clinic (Associate)	Dover AFB, DE	58	MAC	CONUS/AOR	15-Mar-91	49
25-Jan-91	12 USAFCH,4	Contingency Hospital	Fairchild AFB, WA	65	MAC	UK	19-Mar-91	53
25-Jan-91	10 CES	Civil Engineering Flight	Bergstrom AFB, TX	6	TAC	Bergstrom AFB	6-May-91	101
25-Jan-91	928 CSS	Combat Support Squadron	O'Hare ARFF, IL	8	AFRES	Westover AFB	30-Jun-91	156
25-Jan-91	914 CS	Communications Squadron	Niagara Falls IAP, NY	4	TAC		13-May-91	108
26-Jan-91	11 USAFCH	Contingency Hospital	Lackland AFB, TX	367	ATC	Lackland AFB	1-Aug-91	187
27-Jan-91	731 TAS	Tactical Airlift	Peterson AFB, CO	151	MAC	EUCOM/CONUS	5-Jun-91	129
27-Jan-91	302 CAMS	Consolidated Aircraft Maintenance Sq	Peterson AFB, CO	295	MAC	UK/CONUS	5-Jun-91	129
27-Jan-91	442 CES	Civil Engineering Squadron	Richards-Gebaur AFB, MO	24	TAC	CONUS	31-May-91	124
27-Jan-91	482 CES	Civil Engineering Squadron	Homestead AFB, FL	68	TAC	CONUS/AOR	30-Jun-91	154
27-Jan-91	507 CES	Civil Engineering Squadron	Tinker AFB, OK	17	TAC	CONUS	12-Jun-91	136
27-Jan-91	906 CES	Civil Engineering Squadron	Wright-Patterson AFB, OH	18	AFLC	CONUS	7-Apr-91	70
27-Jan-91	924 CES	Civil Engineering Squadron	Bergstrom AFB, TX	46	TAC	CONUS	3-Apr-91	66
27-Jan-91	930 CES	Civil Engineering Squadron	Grissom AFB, IN	38	TAC	CONUS	30-Jun-91	154
28-Jan-91	49 APS	Aerial Port Squadron	McGuire AFB, NJ	129	MAC	CONUS/AOR	10-May-91	102

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
29-Jan-91 514 CES	Civil Engineering Squadron	McGuire AFB, NJ	60	MAC	CONUS	10-Jun-91	132
30-Jan-91 923 CES	Civil Engineering Squadron	Davis Monthan AFB, AZ	12	TAC	CONUS	7-Jun-91	128
31-Jan-91 8085 SPF	Security Police Flight	Kelly AFB, TX	28	ESC	CONUS	22-Mar-91	50
1-Feb-91 442 MS	Medical Squadron	Richards-Gebaur AFB, MO	54	MAC	CONUS	30-Jun-91	149
1-Feb-91 940 CLI	USAF Clinic	Mather AFB, CA	38	SAC	CONUS	29-Mar-91	56
1-Feb-91 37 MAPS	Mobile Aerial Support Squadron	March AFB, CA	2	MAC	CONUS/AOR	1-Jun-91	120
1-Feb-91 39 MAPS	Mobile Aerial Support Squadron	Peterson AFB, CO	38	MAC	AOR	19-May-91	107
1-Feb-91 33 APS	Aerial Port Squadron	Andrews AFB, MD	1	MAC	AOR	15-Jun-91	134
4-Feb-91 71 APS	Aerial Port Squadron	Langley AFB, VA	126	MAC	Dover AFB/AOR	15-Apr-91	70
6-Feb-91 67 APS	Aerial Port Squadron	Hill AFB, UT	2	MAC	CONUS/AOR	29-May-91	112
6-Feb-91 68 APS	Aerial Port Squadron	Hill AFB, UT	4	MAC	AOR	29-May-91	112
6-Feb-91 83 APS	Aerial Port Squadron	Portland IAP, OR	3	MAC	AOR	29-May-91	112
6-Feb-91 86 APS	Aerial Port Squadron	McChord AFB, WA	1	MAC	AOR	1-Jun-91	115
7-Feb-91 4 AF	Numbered Air Force	McClellan AFB, CA	4	MAC	CONUS	30-Jun-91	143
8-Feb-91 906 MS	Medical Squadron	Wright-Patterson AFB, OH	59	TAC	CONUS	30-Jun-91	142
9-Feb-91 940 SPF	Security Police Flight	Mather AFB, CA	44	SAC	CONUS/AOR	10-Jul-91	151
11-Feb-91 446 CES	Civil Engineering Squadron	McChord AFB, WA	15	MAC	McChord AFB	31-May-91	109
11-Feb-91 452 SPF	Security Police Flight	March AFB, CA	43	SAC	CONUS/AOR	3-May-91	81
11-Feb-91 924 CSS	Combat Support Squadron	Bergstrom AFB, TX	11	TAC	Bergstrom AFB	9-May-91	87
11-Feb-91 944 CSS	Combat Support Squadron	Luke AFB, AZ	12	TAC	CONUS	6-May-91	84

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
12-Feb-91 919 MS	Medical Squadron	Duke Field, FL	1	AFSOC	CONUS/AOR	24-Apr-91	71
12-Feb-91 315 ALCF	Airlift Control Flight	Charleston AFB, SC	2	MAC	AOR	15-Jun-91	123
12-Feb-91 919 SPS	Security Police Flight	Duke Field, FL	8	AFSOC	AOR	24-Apr-91	71
13-Feb-91 452 CLI	USAF Clinic	March AFB, CA	41	SAC	CONUS	29-Mar-91	44
13-Feb-91 459 CLI	USAF Clinic	Andrews AFB, MD	79	MAC	CONUS	18-Mar-91	33
13-Feb-91 916 CLI	USAF Clinic	Seymour-Johnson AFB, NC	42	SAC	Offutt AFB	15-Aug-91	183
13-Feb-91 514 CLI	USAF Clinic (Associate)	McGuire AFB, NJ	77	MAC	CONUS	18-Mar-91	33
13-Feb-91 939 ARW	Intelligence	Portland IAP, OR	2	MAC	AOR	5-Jun-91	112
14-Feb-91 512 CSG	Combat Support Group	Dover AFB, DE	2	MAC		8-Apr-91	53
14-Feb-91 482 CSS	Combat Support Squadron	Homestead AFB, FL	20	TAC	CONUS	30-Jun-91	136
15-Feb-91 434 SPF	Security Police Flight	Grissom AFB, IN	44	SAC	CONUS	12-Apr-91	56
15-Feb-91 349 CSG	Combat Support Group	Travis AFB, CA	4	MAC	CONUS	31-May-91	105
15-Feb-91 445 CSG	Combat Support Group	Norton AFB, CA	2	MAC	CONUS	8-Mar-91	21
15-Feb-91 446 CSG	Combat Support Group	McChord AFB, WA	2	MAC	CONUS	8-Mar-91	21
15-Feb-91 932 AAG	Combat Support Group	Scott AFB, IL	4	MAC		29-Apr-91	73
19-Feb-91 702 MAS	Strategic Airlift	McGuire AFB, NJ	208	MAC	McGuire AFB	15-Jun-91	116
19-Feb-91 730 MAS	Strategic Airlift	Norton AFB, CA	193	MAC	Norton AFB	15-Jun-91	116
21-Feb-91 301 CSS	Combat Support Squadron	Carswell AFB, TX	8	TAC	CONUS	5-Apr-91	43
22-Feb-91 419 CSS	Combat Support Squadron	Hill AFB, UT	2	TAC	CONUS	15-Jun-91	113
22-Feb-91 906 CSS/DP	Combat Support Squadron	Wright-Patterson AFB, OH	1	TAC		15-Apr-91	52
24-Feb-91 729 MAS	Strategic Airlift	Norton AFB, CA	191	MAC	Norton AFB	15-Jun-91	111
25-Feb-91 73 AAS	Strategic Airlift	Scott AFB, IL	37	MAC	CONUS	9-Mar-91	12

Table 31 (cont'd)
U.S. Air Force Reserve Units in the Gulf War

Mobilized	Unit	Unit Type	Home Station	Personnel	Gaining Command	Deployment Location	Demobilization	Days
25-Feb-91	932 CAMS	Consolidated Aircraft Maintenance Squadron (Associate)	Scott AFB, IL	118	MAC	Scott AFB	9-Mar-91	12
25-Feb-91	67 AES	Aeromedical Evacuation Squadron	Rickenbacker AGB, OH	89	MAC	Rickenbacker ANGB	8-Mar-91	11
25-Feb-91	73 AES	Aeromedical Evacuation Squadron	Scott AFB, IL	94	MAC	CONUS	9-Mar-91	12
28-Feb-91	14 AF	Numbered Air Force	Dobbins AFB, GA	2	MAC	CONUS	31-Jul-91	153
11-Mar-91	94 ALCF	Airlift Control Flight	Dobbins AFB, GA	7	MAC	AOR	24-Jun-91	105
11-Mar-91	349 ALCF	Airlift Control Flight	Travis AFB, CA	8	MAC	CONUS	15-Jun-91	96
11-Mar-91	433 ALCE	Airlift Control Flight	Kelly AFB, TX	3	MAC	AOR/Far East/CONUS	15-Jun-91	96
11-Mar-91	439 ALCE	Airlift Control Flight	Westover AFB, MA	9	MAC	AOR	30-Jun-91	111
11-Mar-91	445 ALCF	Airlift Control Flight	Norton AFB, CA	8	MAC	CONUS/AOR	5-Jun-91	86
11-Mar-91	446 ALCF	Airlift Control Flight	McChord AFB, WA	4	MAC	AOR	15-Jun-91	96
11-Mar-91	512 ALCF	Airlift Control Flight	Dover AFB, DE	3	MAC	AOR	1-Jul-91	112
11-Mar-91	514 ALCF	Airlift Control Flight	McGuire AFB, NJ	8	MAC	CONUS	15-Jun-91	96
15-Mar-91	440 ALCF	Airlift Control Flight	Gen Mitchell IAP, WI	3	MAC	CONUS	30-Jun-91	107

Source: AF/REO

Table 32
Air National Guard Units in the Gulf War

Date	Federalized Unit	Unit Type	City	State	Total Personnel	Deployment Location
24-Aug-90	183rd Military Airlift Sqd	Airlift	Jackson	MS	148	Al Kharj
24-Aug-90	137th Military Airlift Sqd	Airlift	Stewart	NY	146	Home Station
24-Aug-90	136th Mobile Aerial Port Sqd	Aerial Port	Dallas	TX	93	Home Station
5-Oct-90	136th Tactical Airlift Wing	Airlift	Dallas	TX	218	Home Station
5-Oct-90	130th Tactical Airlift Grp	Airlift	Charlestoo	WV	231	Home Station
24-Nov-90	164th Mobile Aerial Port Sqd	Aerial Port	Memphis	TN	89	AOR
30-Nov-90	140th Security Police Flight	Sec Police	Denver	CO	44	Khamis Mushayt
30-Nov-90	135th Mobile Aerial Port Flight	Aerial Port	Baltimore	MD	56	Dover AFB/Home
30-Nov-90	127th Security Police Flight	Sec Police	Selfridge ANGB	MI	44	Cairo West
30-Nov-90	174th Services Flight	Services	Syracuse	NY	18	Al Kharj
30-Nov-90	282nd Combat Comm Sqd	CB Comm	Coventry	RI	15	Riyahd
3-Dec-90	290th Joint Chief Staff Sqd	CB Comm	Tampa	FL	20	AOR/Home
3-Dec-90	224th Joint Chief Staff Sqd	CB Comm	Brunswick	GA	21	AOR/Home
3-Dec-90	263rd Combat Comm Sqd	CB Comm	Badin	NC	12	Al Jubayl
3-Dec-90	150th Security Police Flight	Sec Police	Albuquerque	NM	45	Home Station
3-Dec-90	152nd Tactical Recon Grp	Recon	Reno	NV	136	Home Station
4-Dec-90	131st Security Police Flight	Sec Police	St Louis	MO	51	Home Station
4-Dec-90	186th Security Police Flight	Sec Police	Meridian	MS	44	Home Station
6-Dec-90	161st Civil Eng Sqd	Fire Ftr	Phoenix	AZ	12	Dyess AFB
6-Dec-90	144th Civil Eng Sqd	Fire Ftr	Fresno	CA	12	George AFB
6-Dec-90	125th Civil Eng Sqd	Fire Ftr	Jacksonville	FL	12	Eglin AFB
6-Dec-90	132nd Civil Eng Sqd	Fire Ftr	Des Moines	IA	12	Whiteman AFB
6-Dec-90	185th Civil Eng Sqd	Fire Ftr	Souix City	IA	12	Moody AFB
6-Dec-90	102nd Civil Eng Sqd	Fire Ftr	Otis ANGB	MA	13	Whiteman AFB
6-Dec-90	135th Civil Eng Sqd	Fire Ftr	Baltimore	MD	12	Hurlburt AFB
6-Dec-90	110th Civil Eng Sqd	Fire Ftr	Battle Creek	MI	12	Wurtsmith AFB
6-Dec-90	148th Civil Eng Sqd	Fire Ftr	Duluth	MN	12	Loring AFB
6-Dec-90	120th Civil Eng Sqd	Fire Ftr	Great Falls	MT	12	Holloman AFB
6-Dec-90	119th Civil Eng Sqd	Engineers	Fargo	ND	50	CONUS
6-Dec-90	107th Civil Eng Sqd	Fire Ftr	Niagara Falls	NY	12	Myrtle Beach AFB
6-Dec-90	109th Civil Eng Sqd	Fire Ftr	Schenectady	NY	15	Myrtle Beach AFB
6-Dec-90	178th Civil Eng Sqd	Fire Ftr	Springfield	OH	12	Moody AFB

Table 32 (cont'd)
Air National Guard Units in the Gulf War

Date	Federalized Unit	Unit Type	City	State	Total Personnel	Deployment Location
6-Dec-90	180th Civil Eng Sqd	Fire Ftr	Toledo	OH	12	Nellis AFB
6-Dec-90	137th Civil Eng Sqd	Fire Ftr	Oklahoma City	OK	12	Little Rock AFB
6-Dec-90	138th Civil Eng Sqd	Fire Ftr	Tulsa	OK	12	Shaw AFB
6-Dec-90	142nd Civil Eng Sqd	Fire Ftr	Portland	OR	12	George AFB
6-Dec-90	114th Civil Eng Sqd Fire Ftr	Fire Ftr	Sioux Falls	SD	12	Tonopah AFB
6-Dec-90	147th Civil Eng Sqd	Fire Ftr	Houston	TX	12	Holloman AFB
7-Dec-90	162nd Civil Eng Sqd	Fire Ftr	Tucson	AZ	12	Shaw AFB
7-Dec-90	184th Tactical Clinic	Clinic	Wichita	KS	27	Tinker/Home
7-Dec-90	151st Civil Eng Sqd	Fire Ftr	Salt Lake City	UT	12	Castle AFB
8-Dec-90	191st Civil Eng Sqd	Fire Ftr	Selfridge ANGB	MI	12	Cannon AFB
8-Dec-90	177th Civil Eng Sqd	Fire Ftr	Atlantic City	NJ	12	Eglin AFB
8-Dec-90	164th Civil Eng Sqd	Fire Ftr	Memphis	TN	12	Little Rock AFB
8-Dec-90	158th Civil Eng Sqd	Fire Ftr	Burlington	VT	12	Plattsburg AFB
8-Dec-90	167th Civil Eng Sqd	Fire Ftr	Martinsburg	WV	12	Hurlburt AFB
14-Dec-90	240th Combat Comm Sqd	CB Comm	McEntire ANGB	SC	105	Al Kharj
15-Dec-90	121st Security Police Flight	Sec Police	Columbus	OH	56	Home Station
15-Dec-90	112th Security Police Flight	Sec Police	Pittsburgh	PA	45	Cairo West
15-Dec-90	169th Services Flight	Services	McEntire ANGB	SC	27	Home Station
20-Dec-90	161st Air Refueling Grp	Refuelers	Phoenix	AZ	107	Home Station
20-Dec-90	126th Air Refueling Wing Grp	Refuelers	Chicago	IL	255	Home Station
20-Dec-90	190th Air Refueling Grp	Refuelers	Topeka	KS	269	Home Station
20-Dec-90	101st Air Refueling Wing	Refuelers	Bangor	ME	97	Home Station
20-Dec-90	157th Air Refueling Grp	Refuelers	Portsmouth	NH	99	Home Station
20-Dec-90	170th Air Refueling Grp	Refuelers	Bordentown	NJ	77	Home Station
20-Dec-90	160th Air Refueling Grp	Refuelers	Columbus	OH	274	Home Station
20-Dec-90	171st Air Refueling Wing	Refuelers	Pittsburgh	PA	202	Home Station
20-Dec-90	134th Air Refueling Grp	Refuelers	Knoxville	TN	130	Home Station
20-Dec-90	151st Air Refueling Grp	Refuelers	Salt Lake City	UT	101	Home Station
20-Dec-90	141st Air Refueling Wing	Refuelers	Spokane	WA	227	Home Station
20-Dec-90	128th Air Refueling Grp	Refuelers	Milwaukee	WI	282	Home Station
26-Dec-90	146th Aeromed Evac Flight	Aeromed	Channel Island	CA	115	Al Kharj
26-Dec-90	142nd Aeromed Evac Flight	Aeromed	New Castle	DE	53	Al Kharj

Table 32 (cont'd)
Air National Guard Units in the Gulf War

Date	Federalized Unit	Unit Type	City	State	Total Personnel	Deployment Location
26-Dec-90	109th Aeromed Evac Flight	Aeromed	Minneapolis	MN	59	Riyadh/Rheinmain AB
26-Dec-90	183rd Aeromed Evac Flight	Aeromed	Jackson	MS	61	A Kharj
26-Dec-90	156th Aeromed Evac Flight	Aeromed	Charlotte	NC	68	Al Kharj
26-Dec-90	139th Aeromed Evac Flight	Aeromed	Schenectady	NY	96	Riyahd
26-Dec-90	137th Aeromed Evac Flight	Aeromed	Oklahoma City	OK	86	Riyadh/Rheinmain AB
26-Dec-90	118th Aeromed Evac Flight	Aeromed	Nashville	TN	99	Riyadh/Rheinmain AB
26-Dec-90	167th Aeromed Evac Flight	Aeromed	Martinsburg	WV	95	Al Kharj
26-Dec-90	187th Aeromed Evac Flight	Aeromed	Cheyenne	WY	74	Home/Turkey
27-Dec-90	139th Tactical Airlift Grp	Airlift	St Joseph	MO	233	Al Kharj
29-Dec-90	174th Tactical Fighter Wing	Fighter	Syracuse	NY	449	Al Kharj
29-Dec-90	169th Tactical Fighter Grp	Fighter	McEntire ANGB	SC	581	Al Kharj
2-Jan-91	122nd Security Police Flight	Sec Police	Ft Wayne	IN	44	King Fahd
16-Jan-91	188th Tactical Clinic	Clinic	Fort Smith	AR	46	Myrtle Beach AFB
16-Jan-91	140th Tactical Clinic	Clinic	Denver	CO	47	Holloman AFB/Home
16-Jan-91	116th Tactical Clinic	Clinic	Marietta	GA	30	Luke AFB/Home
16-Jan-91	182nd Tactical Clinic	Clinic	Peoria	IL	41	MacDill AFB/Home
16-Jan-91	181st Tactical Clinic	Clinic	Terre Haute	IN	39	Lackland AFB/Home
16-Jan-91	178th Tactical Clinic	Clinic	Springfield	OH	28	Cannon AFB/Home
	166th Tactical Air Grp	Airlift	Wilmington	DE	261	Al Kharj
	166th Tactical Clinic	Clinic	Wilmington	DE	36	Andrews AFB/Home
22-Jan-91	166th Tactical Airlift	Transport	New Castle	DE		
22-Jan-91	135th Tactical Airlift	Transport	Baltimore	MD	4	Andrews AFB
25-Jan-91	189th Tactical Hospital	Clinic	Little Rock	AR	24	Travis AFB/Home
25-Jan-91	129th Tactical Hospital	Transport	Moffet Field	CA	28	Andrews AFB/Home
25-Jan-91	146th Tactical Hospital	Clinic	Channel Island	CA	30	Travis AFB/Home
25-Jan-91	166th Tactical Clinic	Clinic	New Castle	DE		
25-Jan-91	123rd Tactical Hospital	Clinic	Louisville	KY	40	Andrews AFB/Home
25-Jan-91	135th Tactical Clinic	Clinic	Baltimore	MD	9	Home Station
25-Jan-91	139th Tactical Clinic	Clinic	St Joseph	MO	38	Travis AFB/Home
25-Jan-91	172nd Tactical Clinic	Clinic	Jackson	MS	10	Home Station
25-Jan-91	145th Tactical Clinic	Clinic	Charlotte	NC	44	Andrews AFB/Home
25-Jan-91	179th Medical Sqd	Clinic	Mansfield	OH	50	Andrews AFB/Home

Table 32 (cont'd)
Air National Guard Units in the Gulf War

Date	Federalized Unit	Unit Type	City	State	Total Personnel	Deployment Location
25-Jan-91	137th Tactical Hospital	Clinic	Oklahoma City	OK	29	Travis AFB/Home
25-Jan-91	118th Tactical Hospital	Clinic	Nashville	TN	34	Andrews AFB/Home
25-Jan-91	164th Tactical Clinic	Clinic	Memphis	TN	31	Andrews AFB/Home
25-Jan-91	136th Tactical Hospital	Clinic	Dallas	TX	27	Travis AFB/Home
25-Jan-91	130th Tactical Clinic	Clinic	Charleston	WV	36	Andrews AFB/Home
25-Jan-91	153rd Tactical Clinic	Clinic	Cheyenne	WY	30	Travis AFB/Home
28-Jan-91	125th Services Sqd	Services	Jacksonville	FL	9	Homestead AFB
28-Jan-91	117th Services Sqd	Services	Birmingham	AL	9	Home Station
28-Jan-91	162nd Services Sqd	Services	Tucson	AZ	18	Davis Monthan AFB
28-Jan-91	161st Services Sqd	Services	Phoenix	AZ	9	Ellsworth AFB
28-Jan-91	144th Services Sqd	Services	Fresno	CA	9	Luke AFB
28-Jan-91	240th Services Flight	Services	Buckley ANGB	CO		
	140th Services Flight	Services	Buckley ANGB	CO	3	Tyndall AFB
28-Jan-91	132nd Services Sqd	Services	Des Moines	IA	6	Luke AFB
28-Jan-91	182nd Services Sqd	Services	Peoria	IL	9	Luke AFB
28-Jan-91	183rd Services Sqd	Services	Springfield	IL	9	Cannon AFB
28-Jan-91	126th Services Sqd	Services	Chicago	IL	10	Wurtsmith AFB
28-Jan-91	126th Services Sqd	Services	Chicago	IL	10	Grissom AFB
28-Jan-91	159th Services Sqd	Services	New Orleans	LA	9	England AFB
28-Jan-91	102nd Services Sqd	Services	Cape Cod	MA	9	Homestead AFB
28-Jan-91	101st Services Sqd	Services	Bangor	ME	9	Loring AFB
28-Jan-91	110th Services Sqd	Services	Battle Creek	MI	9	Homestead AFB
28-Jan-91	191st Services Sqd	Services	Mount Clemens	MI	9	Tyndall AFB
28-Jan-91	120th Services Sqd	Services	Great Falls	MT	9	Mountain Home AFB
28-Jan-91	119th Services Sqd	Services	Fargo	ND	18	MacDill AFB
28-Jan-91	177th Services Sqd	Services	Atlantic City	NJ	9	Langley AFB
28-Jan-91	150th Services Sqd	Services	Kirtland AFB	NM	9	Holloman AFB
28-Jan-91	107th Services Sqd	Services	Niagara Falls	NY	9	MacDill AFB
28-Jan-91	121st Services Sqd	Services	Columbus	OH	9	MacDill AFB
28-Jan-91	178th Services Sqd	Services	Springfield	OH	9	Holloman AFB
28-Jan-91	138th Services Sqd	Services	Tulsa	OK	9	Cannon AFB
28-Jan-91	142nd Services Sqd	Services	Portland	OR	9	Mountain Home AFB

Table 32 (cont'd)
Air National Guard Units in the Gulf War

Date	Federalized Unit	Unit Type	City	State	Total Personnel	Deployment Location
28-Jan-91	112th Services Sqd	Services	Pittsburgh	PA	9	Langley AFB
28-Jan-91	134th Services Sqd	Services	Knoxville	TN	7	Plattsburg AFB
	134th Services Sqd	Services		TN	8	Carswell AFB
	134th Services Sqd	Services		TN	4	Eaker AFB
28-Jan-91	147th Services Sqd	Services	Ellington	TX	9	Tyndall AFB
28-Jan-91	151st Services Sqd	Services	Salt Lake City	UT	18	Whiteman AFB
28-Jan-91	192nd Services Sqd	Services	Richmond	VA	9	Langley AFB
28-Jan-91	158th Services Sqd	Services	Burlington	VT	9	Holloman AFB
28-Jan-91	141st Services Sqd	Services	Fairchild AFB	WA	10	Home Station
28-Jan-91	128th Services Sqd	Services	Milwaukee	WI	9	Ellsworth AFB
	128th Services Sqd	Services		WI	9	McConnell AFB
1-Feb-91	162nd Combat Comm GP	CB Comm	North Highlands	CA	5	Tabuk
1-Feb-91	234th Combat Comm Sqd	CB Comm	HayWood	CA	15	Tabuk
1-Feb-91	149th Combat Comm Sqd	CB Comm	North Highlands	CA	22	Tabuk
7-Feb-91	187th Security Police Flight	Sec Police	Montgomery	AL	17	Home Station
7-Feb-91	103rd Security Police Flight	Sec Police	Bradley ANGB	CT	17	Home Station
7-Feb-91	102nd Security Police Flight	Sec Police	Otis ANGB	MA	13	Home Station
7-Feb-91	175th Security Police Flight	Sec Police	Baltimore	MD	17	Home Station
7-Feb-91	156th Security Police Flight	Sec Police	Puerto Rico		17	Home Station
7-Feb-91	114th Security Police Flight	Sec Police	Sioux Falls	SD	17	Home Station
7-Feb-91	149th Security Police Flight	Sec Police	San Antonio	TX	17	Home Station
11-Feb-91	113th Tactical Clinic	Clinic	Wahington	DC		
11-Feb-91	120th Tactical Clinic	Clinic	Great Falls	MT	26	Grand Forks AFB/ Home
11-Feb-91	149th Tactical Clinic	Clinic	San Antonio	TX	49	Home Station
13-Feb-91	176th Security Police Flight	Sec Police	Anchorage	AK	13	Home Station
13-Feb-91	124th Services Flight	Services	Boise	ID	18	Nellis AFB
22-Feb-91	193rd Special Operations Grp	Spec Ops	Harrisburg	PA	265	Home Station
23-Feb-91	143rd Tactical Airlift Grp	Airlift	North Kingston	RI	266	EUCOM/Mildenhall AB

Source: National Guard Bureau, Media Relations Division (NGB-PAI);
ANGRC/DPMR-PRC Operation Desert Shield/Storm (ODS) After Actions Summary

Table 33
Air National Guard Participation In Desert Storm

	Volunteers			Involuntary			Total Participation			OCONUS Deployment	
Date	Officers	Enlisted	Total	Officers	Enlisted	Total	Officers	Enlisted	Total	Total	Percent
31-Aug-90	450	2,550	**3,000**	54	248	**302**	504	2,798	**3,302**	**1,150**	34.83%
30-Sep-90	425	2,075	**2,500**	147	671	**818**	572	2,746	**3,318**	**1,370**	41.29%
31-Oct-90	327	1,598	**1,925**	191	866	**1,057**	518	2,464	**2,982**	**1,110**	37.22%
30-Nov-90	401	1,958	**2,359**	248	1,131	**1,379**	649	3,089	**3,738**	**1,590**	42.54%
31-Dec-90	246	1,175	**1,421**	1,063	4,308	**5,371**	1,309	5,483	**6,792**	**2,363**	34.79%
31-Jan-91	228	1,229	**1,457**	1,588	6,270	**7,858**	1,816	7,499	**9,315**	**5,455**	58.56%
28-Feb-91	183	962	**1,145**	1,930	9,195	**11,125**	2,113	10,157	**12,270**	**6,152**	50.14%
31-Mar-91	153	794	**947**	1,895	8,868	**10,763**	2,048	9,662	**11,710**	**3,790**	32.37%
30-Apr-91	115	623	**738**	1,336	6,537	**7,873**	1,451	7,160	**8,611**	**1,714**	19.90%
31-May-91	73	437	**510**	729	4,074	**4,803**	802	4,511	**5,313**	**803**	15.11%
30-Jun-91	50	296	**346**	518	2,734	**3,252**	568	3,030	**3,598**	**156**	4.34%

Source: Air National Guard Readiness Center/ Personnel Response Cell (ANGRC/DPMAR-PRC) After Action Summary (1/3/92)

Table 34
Air National Guard Personnel Mobilized - by State

State	Assigned Strength 31-Dec-90	Total Mobilized 31-Mar-91	Percent Mobilized	CONUS	OCONUS
Alabama	3,138	92	2.9%	83	9
Alaska	1,381	13	0.9%	13	0
Arizona	2,960	273	9.2%	263	10
Arkansas	2,209	199	9.0%	149	50
California	5,685	437	7.7%	203	234
Colorado	1,620	101	6.2%	54	47
Connecticut	1,284	17	1.3%	17	0
Delaware	986	350	35.5%	36	314
Florida	1,597	73	4.6%	47	26
Georgia	3,535	132	3.7%	110	22
Idaho	1,324	38	2.9%	38	0
Illinois	3,620	487	13.5%	486	1
Indiana	2,535	100	3.9%	56	44
Iowa	2,138	126	5.9%	125	1
Kansas	2,500	398	15.9%	398	0
Kentucky	1,132	87	7.7%	74	13
Louisiana	1,619	13	0.8%	13	0
Maine	1,489	172	11.6%	172	0
Maryland	3,532	153	4.3%	152	1
Massachusetts	2,772	74	2.7%	73	1
Michigan	3,023	232	7.7%	184	48
Minnesota	2,483	129	5.2%	64	65
Mississippi	2,911	370	12.7%	160	210
Missouri	2,924	343	11.7%	104	239
Montana	1,080	64	5.9%	64	0
Nevada	1,129	155	13.7%	155	0
New Hampshire	1,018	162	15.9%	162	0
New Jersey	2,792	229	8.2%	229	0
New Mexico	1,084	60	5.5%	58	2
New York	6,024	857	14.2%	243	614
North Carolina	1,543	155	10.0%	74	81
North Dakota	1,164	107	9.2%	107	0
Ohio	5,678	648	11.4%	644	4
Oklahoma	2,444	210	8.6%	124	86
Oregon	1,977	80	4.0%	80	0
Pennsylvania	4,666	607	13.0%	562	45
Puerto Rico	1,285	30	2.3%	30	0
Rhode Island	1,498	299	20.0%	18	281

Table 34 (cont'd)
Air National Guard Personnel Mobilized - by State

State	Assigned Strength 31-Dec-90	Total Mobilized 31-Mar-91	Percent Mobilized	CONUS	OCONUS
South Carolina	1,400	758	54.1%	72	686
South Dakota	964	32	3.3%	32	0
Tennessee	3,922	542	13.8%	349	193
Texas	3,866	512	13.2%	510	2
Utah	1,580	191	12.1%	184	7
Vermont	1,009	53	5.3%	53	0
Virginia	1,414	25	1.8%	25	0
Washington	2,522	311	12.3%	307	4
Wisconsin	2,142	375	17.5%	343	32
West Virginia	2,121	485	22.9%	390	95
Wyoming	945	119	12.6%	69	50
Totals	**113,664**	**11,475**	**10.1%**	**7,958**	**3,517**

Source: Air National Guard Readiness Center Personnel Response Cell (ANGR/DPMAR-PRC) After Action Summary

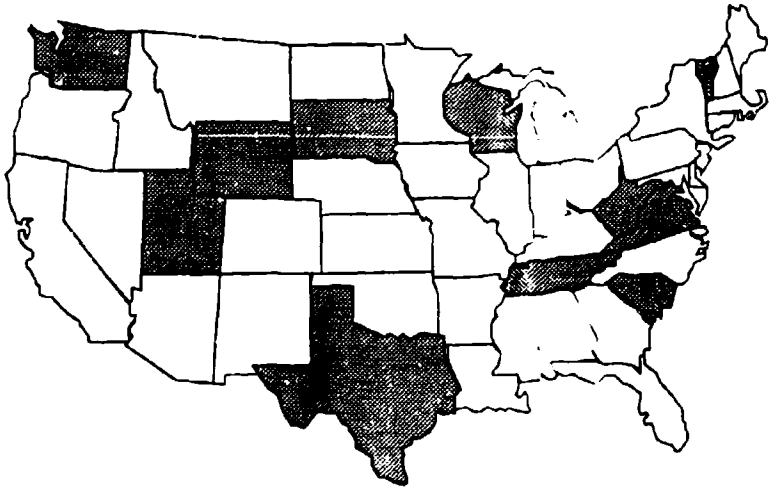


Table 35
Naval Reserve Call-Up Summary

Date	Total Activated	Activated (673b/673)	Deployed CONUS	Volunteers	IMA	IRR
23-Aug-90	183	0	0	183	0	0
27-Aug-90	1,443	1,179	0	264	0	0
9-Sep-90	3,324	3,066	98	258	1	0
16-Sep-90	3,644	3,473	346	171	1	0
23-Sep-90	3,810	3,736	660	74	1	0
30-Sep-90	4,105	4,031	660	74	1	0
7-Oct-90	4,097	4,063	860	34	1	0
14-Oct-90	4,370	4,342	982	28	1	0
21-Oct-90	4,681	4,488	1,000	193	1	0
28-Oct-90	4,892	4,495	1,300	397	1	0
4-Nov-90	4,945	4,530	1,300	415	1	0
13-Nov-90	5,056	4,613	1,375	443	1	0
18-Nov-90	4,800	4,617	2,114	183	1	0
25-Nov-90	5,884	5,417	2,086	467	1	0
2-Dec-90	7,333	6,850	2,095	484	1	0
9-Dec-90	7,464	6,980	2,487	484	1	0
16-Dec-90	7,720	7,198	2,778	522	1	0
23-Dec-90	7,961	7,439	2,829	522	1	0
30-Dec-90	9,303	8,781	3,267	522	1	0
1-Jan-91	11,446	10,887	4,491	559	1	0
13-Jan-91	11,949	11,390	4,963	559	24	0
20-Jan-91	15,333	14,774	6,926	559	24	0
27-Jan-91	15,895	15,237	8,055	659	57	0
3-Feb-91	16,355	15,687	8,434	658	114	0
10-Feb-91	16,964	16,247	8,686	717	146	15
17-Feb-91	17,807	17,090	9,181	717	140	15
24-Feb-91	18,754	17,995	6,284	759	159	15
3-Mar-91	20,670	19,911	6,318	759	243	15
10-Mar-91	20,722	19,963	6,363	759	253	15
17-Mar-91	20,482	19,723	6,360	759	260	15

Source: Department of the Navy, *The United States Navy in "Desert Shield" "Desert Storm,"* May, 1991.

Table 36

Selected Naval Reservists Activated for Desert Shield and Desert Storm

Field	Number
Medical	10,452
Logistics Support	2,682
Seabees	2,475
Ship Augment	1,838
Cargo Handling	961
Military Sealift Command	469
Intelligence	387
Mobile Inshore Undersea Warfare	354
Naval Control of Shipping	89
Minesweepers	88
Combat Search and Rescue	28
Others	1,286
Total	**21,109**

Source: Department of the Navy, *The United States Navy in "Desert Shield" "Desert Storm,"* May, 1991.

Table 37
U.S. Army Reserve Activation

Category	Number Activated
Troop Unit Members	63,371
Individual Ready Reservists (IRR)	13,170
Volunteers	5,536
Individual Mobilization Augmentees (IMA)	1,558
Retirees	1,355
Total Army Reservists Activated	**84,990**

Source: Maj Kinggins, DAAR-FMF, September 1991

Table 38
U.S. Marine Corps Reserve Activation

Category	Number Activated*
Selected Marine Corps Reservists/ Individual Mobilization Augmentees (IMA)	24,300
Individual Ready Reservists (IRR)	6,200
Retirees	600
Total USMC Reservists Activated	**31,100**

*Figures rounded off.

Source: Marine Corps Research Center, Research Paper #92-0015, Titled "Marine Corps Reserve Forces in Southwest Asia."

Gulf War Transportation Component Reserve Augmentation
(as of 10 March 1991)

The following table shows the monthly call-up of reserves and number of volunteers for the US Transportation Command (USTRANSCOM), Military Airlift Command (MAC), Military Traffic Management Command (MTMC), and Military Sealift Command (MSC) during the Gulf War.

The table was prepared by Transportation Command, Manpower and Personnel and Transportation Command History Office using "Reserve Manning Documents – USTRANSCOM, MAC, MSC, MTMC." The following abbreviations were made: Air National Guard (ANG), U.S. Air Force Reserve (USAFR), U.S. Army Reserve (USAR), U.S. Navy Reserve (USNR).

All call-up figures except for Military Sealift Command were accompanied by a footnote in the source table saying that Individual Mobilization Augmentees (IMAs) were included. The January Air Force Reserve (AFRES) call-up for Military Airlift Command includes 232 AFRES-gained personnel assigned to MAC. January volunteer figures for Military Airlift Command (MAC) were not broken out by Air National Guard and U.S. Air Force Reserve. March figures are tabulated for 1-10 March only.

The source table contains the following note for February and March: "Army TTAD personnel, previously reported as Volunteers, are now counted under Call-up due to transfer of status from 10 USC 672 to 10 USC 673."

Table 39
Gulf War Transportation Component Reserve Augmentation
(as of 10 March 1991)

			Aug-90	Sep-90	Oct-90	Nov-90	Dec-90	Jan-91	Feb-91	Mar-91
USTRANSCOM	Call-Up	USAR	–	–	–	–	1	2	6	6
		USNR	–	26	26	26	32	33	33	33
	Subtotal		**0**	**26**	**26**	**26**	**33**	**35**	**39**	**39**
	Volunteer	USAFR	1	1	–	–	–	–	–	–
		USAR	–	2	5	5	4	4	–	–
		USNR	11	10	4	8	5	4	4	4
	Subtotal		**12**	**13**	**9**	**13**	**9**	**8**	**4**	**4**
MAC	Call-Up	ANG	–	373	820	824	1,649	2,157	3,473	3,571
		USAFR	–	3,419	3,669	3,982	6,526	13,485	15,330	16,147
	Subtotal		**1,001**	**3,792**	**4,489**	**4,806**	**8,175**	**15,642**	**18,803**	**19,718**
	Volunteer	ANG	1,598	1,429	892	689	500	–	538	621
		USAFR	5,426	2,732	2,236	1,843	731	–	775	944
	Subtotal		**7,024**	**4,161**	**3,128**	**2,532**	**1,231**	**1,563**	**1,313**	**1,565**
MTMC	Call-Up	USAR	–	605	533	605	670	790	797	912
		USNR		7	7	7	7	7	8	8
	Subtotal		**604**	**612**	**540**	**612**	**677**	**797**	**805**	**920**
	Volunteer		255	64	41	32	78	28	22	3
MSC	Call-Up		51	208	236	246	373	385	409	427
	Volunteer		87	90	56	9	2	1	2	5
Grand Total	**Call-Up**		**1,656**	**4,638**	**5,291**	**5,690**	**9,258**	**16,859**	**20,056**	**21,104**
	Volunteer		**7,378**	**4,328**	**3,234**	**2,586**	**1,320**	**1,600**	**1,341**	**1,577**

Source: TCJ1 and TCHO, Reserve Manning Documents -USTRANSCOM, MAC, MSC, MTMC

Desert Shield/Desert Storm U.S. Air Force Demographics

The following table provides grand totals of U.S. Air Force combat and support personnel deployed during Desert Shield/Desert Storm. This information was compiled by the Defense Manpower Data Center (DMDC).

The "Strength" profiles shown are U.S. Air Force profiles for December 1990. The "Call-up" category shows the distribution of combat and support personnel called-up during Desert Shield and Desert Storm. The "Deployed" category shows the distribution of combat and support personnel deployed during Desert Shield and Desert Storm. Note that if an individual was deployed to the area of responsibility (AOR), returned to continental United States, and subsequently redeployed to the AOR, that individual was only counted once for the number of personnel deployed.

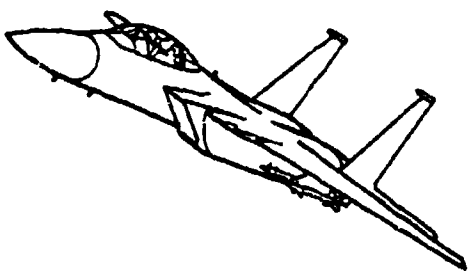


Table 40
Desert Shield/Desert Storm U.S. Air Force Demographics

*Strength	Combat	Support	Total
Active Duty	11,235	515,588	**526,823**
Reserve	1,575	71,264	**72,839**
Guard	1,920	83,715	**85,635**
IRR	1,076	68,110	**69,186**
Other Reserves	2,687	273,272	**275,959**
Total	**18,493**	**1,011,949**	**1,030,442**
Call Up			
Reserve	1,099	26,246	**27,345**
Guard	220	12,379	**12,599**
Selected Reserves	1,319	38,625	**39,944**
IRR	16	338	**354**
Other Reserves	182	7,933	**8,115**
Total	**1,517**	**46,896**	**48,413**
Deployed			
Active Duty	2,460	48,111	**50,571**
Reserve	64	3,456	**3,520**
Guard	96	3,678	**3,774**
IRR	4	184	**188**
Other Reserves	39	2,738	**2,777**
Total	**2,663**	**58,167**	**60,830**

*Strength is given as of Dec 90.

Source: Defense Manpower Data Center

4

Command, Control, Communications, Intelligence and Space Support

Command, Control, Communications & Intelligence (C3I)

It is extremely difficult to statistically portray the impact of satellites, new communications devices, and information transmission technologies on the conduct of air operations in the Gulf War. Devices such as secure STU-III phones, fax machines, and communication satellites, are only three examples of important command, control, communications and intelligence (C3I) technologies widely employed during the war. The tables in this chapter document the increase in satellite usage from the start of Desert Shield to the end of Desert Storm, including the variety of aircraft and other systems that depended on satellite support for communications and navigation. Civilian as well as military satellites were used during the Gulf War. Much of the data on space systems came from U.S. Space Command (USSPACECOM) and from Interavia, a commercial source of information on satellite systems and capabilities.

A major difficulty in trying to present data on the use of space during the Gulf War involves its level of classification. This is especially true regarding the relationship between space and intelligence, and researchers with the necessary clearances who desire information on this topic should refer to the compartmented portion of the GWAPS reports.

Statistically depicting the contributions new communications systems in Desert Storm is difficult, but the Survey includes tables that present data on the types of communications systems deployed to the theater and the sheer volume of message and telephone traffic. Data on the air traffic control situation depicts the scope of this activity.

Space Order of Battle

The following tables depict the U.S. space assets that were available to support coalition air operations during the Gulf War.

U.S. Space Command component commands operated the military communication satellites, Global Positioning System (GPS) satellites, Defense Meteorological Satellite Program (DMSP) satellites, and the Defense Support Program (DSP) satellites for the detection of missile launches. Coalition air forces were also able to draw on the services of other U.S. civil satellite systems as well as European satellites.

The data in the tables were drawn from various sources: USSPACECOM Operations Desert Shield and Desert Storm Assessment, Air Weather Service Support to Operations Desert Shield/Desert Storm Report #2, the Navy ultra-high frequency (UHF) Satellite Communication System Description FSC-200-83, and Interavia Space Directory.

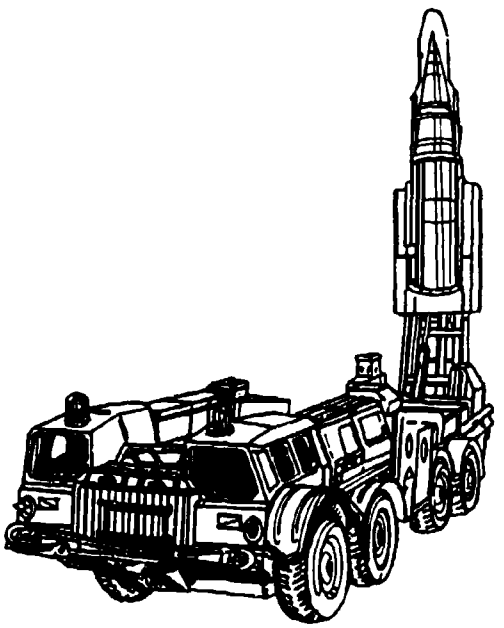
Defense Satellite Communication System (DSCS), the military-wide band super high frequency (SHF) satellite communication system, was the principal multichannel satellite transmission means for U.S. Central Command forces for both strategic and tactical operations. When the massive deployment of U.S. forces to the Gulf area was in progress, the growing communications needs necessitated the addition of a third DSCS satellite in December 1990. This reserve DSCS II was repositioned from its Pacific orbit, augmenting the primary Indian Ocean DSCS II and the East Atlantic DSCS III satellite.

Meteorological satellites were the only reliable source of weather information over denied territory in Iraq. The launch of a Defense Meteorological Satellite Program (DMSP) satellite was accelerated to December 1990 to augment two other DMSPs and two National Oceanographic and Atmospheric Administration (NOAA) Television and Infrared Observation Satellites (TIROS) in orbit.

Multi-spectral imagery satellites such as the U.S. land satellite (LANDSAT) and the French Satellite Probatoire d'Observation de la Terre (SPOT) were used to create up-to-date maps of the area of responsibility (AOR), plan amphibious and airborne operations, and track the movement of Iraqi forces.

The Navigational Satellite Timing and Ranging (NAVSTAR) Global Positioning System (GPS) proved to be an assured method of navigating in the featureless desert. In particular, GPS was important for the mid-course guidance of the Stand-off Land Attack Missile (SLAM) and Conventional Air Launched Cruise Missiles (CALCMs), navigational accuracy of F-16s and B-52s, improvement of emitter source location by RC-135s, and rescue operations. In addition, ground forces and helicopter units relied on GPS navigation to coordinate troop movements, execute rendezvous, locate and mark mines, and position artillery equipment.

Scud launch detection was conducted by three Defense Support Program (DSP) satellites. Launched in December of 1990, the third DSP satellite was positioned to improve Scud launch detection and reporting accuracy.



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Table 41
Space Order of Battle

Function	Satellite System	2-Aug-90	16-Jan-91	Military	Civilan
Communications	FLTSATCOM	2	2	X	
	LEASAT	2	2	X	
	GAPFILLER	1	1	X	
	DSCS II	2	2	X	
	DSCS III	4	4	X	
	Skynet	2	2	X	
	NATO-3	1	1	X	
	INTELSAT	4	4		X
	INMARSAT	1	1		X
	LES-9	1	1		X
	DARPA MACSAT	1	1	X	
Meteorology	DMSP	2	3	X	
	NOAA TIROS	2	2		X
	METEOSAT	1	1		X
Multi Spectral	LANDSAT	2	2		X
Imagery	SPOT	2	2		X
Navigation	GPS	13	16	X	
	TRANSIT	7	7	X	
Early Warning	DSP	2	3	X	
Surveillance	Classified	Classified	Classified	X	

Source: GWAPS Interview with JCS/J6Z, LTC Yurchek, 7 July,1992 (S/NF/WN/NC); United States Space Command Operations Desert Shield and Desert Storm Assessment(S/NF), January 1992

Meteorological Satellite Support During the Gulf War

The following table lists the various meteorological satellites that were available during the Gulf War and the various receivers that the air and ground forces used to receive and process the meteorological data in the theater. Naval forces used ship-borne SMQ 10/11 and SMQ-6 receivers to receive weather data directly from the satellites.

The information in this table was obtained from the USSPACECOM Operations Desert Shield and Desert Storm Assessment and the Analysis of Air Weather Service Support to Operations Desert Shield and Desert Storm.

Note that in the table, NOAA indicates the National Oceanographic and Atmospheric Administration; DMSP indicates the satellites in the Defense Meteorological Support Program; METEOSAT is a meteorological satellite launched by the European Space Agency (ESA); and RDIT is the abbreviation for a Rapid Deployment Imagery Terminal. The Wraase receiver is a commercially available receiver for NOAA and METEOSAT information.

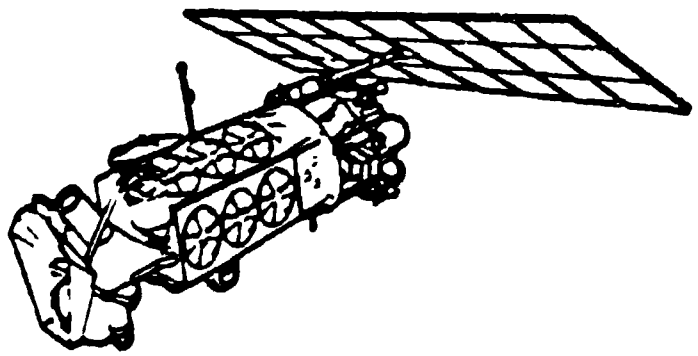


Table 42
Meteorological Satellite Support During the Gulf War

Satellite Systems

Satellite	Country/Use	Orbit	Coverage (Local Times)
DMSP	U.S./Military	Polar	Overhead 0610 and 1810
DMSP	U.S./Military	Polar	Overhead 0735 and 1935
DMSP	U.S./Military	Polar	Overhead 0930 and 2130
TIROS(NOAA)	U.S./Civil	Polar	Overhead 0723 and 1923
TIROS(NOAA)	U.S./Civil	Polar	Overhead 0206 and 1406
METEOSAT	Europe/Civil	Geostationary at 0 Degrees	Returns image every 30 min

Source: USSPACECOM Operations Desert Shield and Desert Storm Assessment (S/NF), January 1992.

Receiver Systems

Receiver	User/Number	Access to Satellites	Activation Date
DMSP Mark IV	USAF/1 USMC/5	DMSP, NOAA METEOSAT	USAF: 2-Sep-90 USMC: 20-Aug-90
Wraase	USA/15	NOAA,	7-Aug-90
RDIT (Harris Corp)	SOCCENT/1	DMSP	Feb-91
RDIT (Sea Space Corp)	ARCENT/1	DMSP, NOAA	8-Mar-91
Prototype from TENCAP	ARCENT/1	DMSP, NOAA, METEOSAT	15-Dec-90

Source: Hq Air Weather Service, An Analysis of Air Weather Service Support to Operations Desert Shield and Desert Storm, December 1991 (S)

Navigational Satellite Support for the Gulf War

The following tables list the Desert Storm aircraft which used Global Positioning System (GPS) navigation and the distribution of GPS receivers among U.S. Gulf War forces.

In the Air Force, GPS signals updated the Inertial Navigation System (INS) in the following aircraft: F-16 C/D; RC-135; MH-53J; B-52G; and JSTARS. KC-135; C-130; MH-60; and, H-3 aircraft used portable GPS receivers to augment on board navigation systems. In addition, the Conventional Air Launched Cruise Missile (CALCM) used GPS navigation for inflight guidance.

In the Army, GPS served Apache helicopters; M60 tanks; Light Armored Vehicles; and served forward air controllers. GPS was used in the Navy in the Stand-Off Land Attack Missile (SLAM) guidance and initialization of Tomahawk missile coordinates.

The Marines use GPS in their UH-1 and CH-46 helicopters; M60 tanks; Light Armored Vehicles; and forward air controllers. Among the allies, GPS was used in the French Puma helicopters and the Australian Navy.

European and Saudi forces had about 24 receivers prior to the war, but deployed 2,000-2,500 during the course of the conflict.

Three GPS satellites were launched after the start of Desert Shield (on 2 Aug 90, 2 Oct 90, and 26 Nov 90), bringing the total constellation to 16 satellites. These launches served to increase GPS navigation service in the Kuwait Theater of Operations (KTO) from 8-9 hours per day to approximately 24 hours of two-dimensional coverage and 18 hours three-dimensional coverage.

Table 43
Navigational Satellite Support for the Gulf War

Aircraft Supporting the Gulf War with GPS Installed

Air Force	Army	Navy
F-16C/D	RU-21H	P-3E
MH-53		RP-3
RC-135		HH-60H
B-52G		MH-53E
E-8		HH-65A

Aircraft Equipped with Portable Receivers

Air Force	Army	Navy	Marines
H-3	UH-1 H/V	H-3	AH-1
C-130	AH-1F	P-3	CH-46
MH-60	UH-60 A/L		UH-1
	UH-60		CH-53
	EH-60A		
	AH-64A		
	OH-58A/C/D		
	CH-47D		

GPS Receiver Deployment as of March 1991

	Air Force	Army	Navy	Marines
Military	190	557	85	10
Commercial	150	3710	130	500

Source: USPACECOM Operations Desert Shield and Desert Storm Assessment (S/NF), January 1992

CENTAF Gulf War Radio/Telephone Communications Profile

The Tactical Air Control Center (TACC) was the communication hub for the operational planning and execution staff of the JFACC. The communications network that made this command and control possible consisted of 26 large satellite earth terminals and 49 tropospheric radio sets, providing 24 links through the desert. There were three message-switching centers in the USCENTAF network supporting 59 communications centers that processed more than one and a half million messages. Nineteen automatic and 17 manual telephone switches provided more than 30 million telephone calls on the tactical system.

In the Gulf War, 350,000 square miles of airspace had to be managed. In this space were more than 122 refueling tracks, 50 air transit routes, 92 combat air patrol orbits, and 660 restricted operating zones that had to be plotted, deconflicted, and published in the airspace control order. Other airspace coordination factors included:

312	missile engagement zones
78	strike corridors
60	Patriot missile zones
38	corridors
40	minimum risk routes
60	restricted fire areas
60	no-fire areas

In Desert Shield, units deployed with their ground terminals were able immediately to access communication satellites and establish connectivity within the theater and United States. At peak, more than 1,000 UHF terminals, 150 SHF terminals, and 32 commercial terminals were deployed. This equipment was enough to handle 189 million bits per second of information, or approximately 39,000 simultaneous, two-way conversations.

Data was obtained from the Air Force Tactical Communication in War, the Desert Shield/Desert Storm Communication Story, Col. Randy Witt (ed), Headquarters U.S. Central Command Air Forces, Riyadh, Saudi Arabia, March 1991, pp 1-12.

The following table provides some broad categories and numbers supplied by U.S. CENTAF on the communications hardware and traffic during the Gulf War. However, there were many communications devices supplied by various commands and units making it impossible to compile a reasonably exhaustive list. Moreover, the table does not include host countries' support for communication.

Table 44
CENTAF Gulf War
Radio/Telephone Communications Profile

Hardware	Number
Communicators	2,300
Telephone Switches	36
Ground Mobile Force Terminals	26
Tropospheric Radio Links	39
Secure Telephones (STU-III)	350
Frequencies	7,665
Radios	923
Ground-to-Air Transmitter/Receiver (GATR) Sites	3
Computer Assisted Force Management System (CAFMS) Terminals	55

Processed Messages	Number
Incoming Messages	1,293,775
Outgoing Messages	132,012
Telephone Calls	29,542,121

Source: Col. Randy Witt (ed), Air Force Tactical Communication In War, The Desert Shield/Desert Storm Communication Story. Headquarters U.S. Central Command Air Fores, Riyadh, Saudi Arabia, March 1991, pp 1-12.

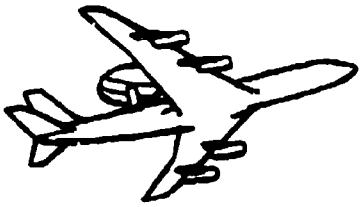
Air Traffic Control

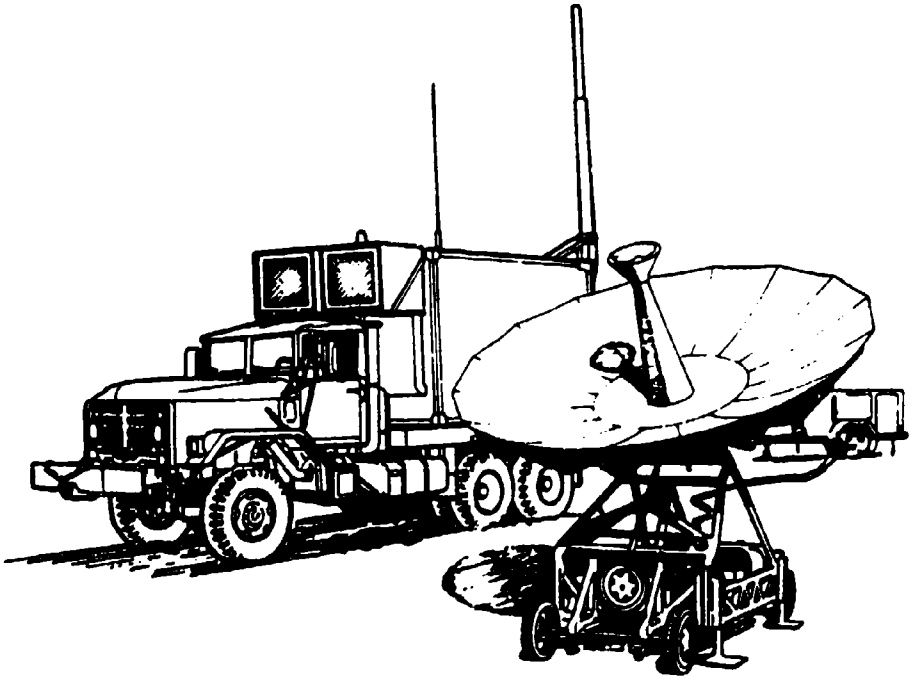
Listed below are some examples of difficulties involved in controlling 2,000 sorties a day over the battlefield, plus hundreds more behind the frontlines.

Table 45
Air Traffic Control

Air Space (in sq miles)	350,000
Refueling Tracks	122
Air Transit Routes	50
Combat Air Patrol Orbits	92
Restricted Operating Zones	660
Missile Engagement Zones	312
Strike Corridors	78
Patriot Missile Zones	60
Corridors	38
Minimum Risk Routes	40
Restricted Fire Areas	60
No-Fire Areas	60

Source: Col. Randy Witt (ed), Air Force Tactical Communication In War, The Desert Shield/Desert Storm Communication Story. Headquarters U.S. Central Command Air Fores, Riyadh, Saudi Arabia, March 1991, pp 1-12.





5

Desert Shield Flight Operations

This chapter presents, in the tables that follow, a statistical profile of the complex scheme of flying activities that the coalition maintained during the five months before the outbreak of hostilities. These tables include data on both U.S. and Allied flying operations, and a detailed look at the increasing scope of training operations that were conducted to shape the force packages employed during the first night and throughout Desert Storm. Tables present data on the sorties flown by different air components during Desert Shield, and on the sorties flown under various mission headings such as combat air patrol or electronic warfare.

The primary source for this data were the daily U.S. Commander-in-Chief, Central Command (USCINCCENT) situation reports. We have corrected obvious typographical or numerical errors, and although we have not attempted to search other sources to discover errors in the SITREPs we have corrected them when found. In the tables on training and exercises, for example, there were cases where the daily situation reports either lacked data or provided only partial data. To fill in gaps, we used information from the microfilmed Sortie Recaps, which were an early version of Major Roy Lee's U.S. Air Force, Central Command (CENTAF) sortie counts (see the Note on Sources for a discussion of this data).

U.S. Flying Operations

The relatively large numbers of daily sorties depict the three basic air missions in the area of responsibility: deployment, the protection of the buildup, and training.

The tactical support missions such as combat air patrol (CAP), reconnaissance, and surveillance were flown to protect the buildup and in some cases to test enemy responses. These missions provided the required security envelope for the massive airlift.

The productivity of the airlifters depended on the availability of tankers and escorts. Modification in the 1970s added air refueling capability to transport aircraft, which had substantial effect on readiness, rapid deployment, and the sustainment of forces in the theater. In the first few weeks of the deployment, as many as sixteen percent of the airlift missions were aerial refueled for non-stop flights. Sometimes the C-5s and C-141s were aerial refueled by tankers just before landing or shortly after takeoff to help reduce refueling congestion at the "aerial port" of departure in the theater.

The intratheater transportation requirements that existed from the beginning of Operation Desert Shield were also extraordinary. The combination of an austere highway system beyond the main routes and a requirement for massive amounts of inland cargo line haul presented one of the operation's major logistical challenges, compounded by several factors. The first was the decision to delay the flow of combat service support into theater until after combat forces arrived. The adverse conditions in the extensive geographic area of responsibility was a second factor, the change in mission in November was a third.

Finally, the employment of NATO coalition air forces in the conditions of the Arabian peninsula, Mesopotamia and Asia Minor, required tactical and operational adjustments to compensate for radically different terrain and weather conditions. Consequently, many sorties were devoted to training in execution of large packages, massed takeoffs, combined packages, and interoperability with coalition air forces.

Sorties Flown in Desert Shield by Component Command

The following tables present the sorties flown by U.S. Air Force, Central Command (CENTAF), U.S. Marine Corps, Central Command (MARCENT), U.S. Navy, Central Command (NAVCENT), and Allies at weekly intervals. It is important to note that the "Sorties" number is for that day only. Each entry is just a snap shot for that specific day. The "To-Date" column, on the other hand, represents the aggregate total from the start of Desert Shield through that date. Information on U.S. Army Forces, Central Command (ARCENT) flying activities was unavailable, in part because Army rotary wing flying operations are tabulated and reported by flying hours rather than sortie totals.

The data in this table were derived from the U.S. Commander-in-Chief, Central Command (USCINCCENT) situation reports during Desert Shield. The date for any entry should be considered to mean "on day dd-mm-yy Zulu" and the data for this date would be found in the report for the following day. For instance, the sortie data for 5-Jan-91 would appear in the SITREP dated "062215 Jan 91."

Except on 7 Sep 90 the flight information was consistently reported on a daily basis and played an important role in the daily briefings throughout the war. The "To-Date" values were computed relative to the starting date of 30 Aug 90. We estimate that before 30 Aug 90 several thousands of sorties were flown, however, we did not have the exact number of these sorties.

In the situation reports, the flight activities for each day were categorized by the number of sorties that were flown in Central Command by U.S. Air Force, U.S. Marine Corps, U.S. Navy, tanker refueling, and intratheater airlift. However, in reality the CENTAF sorties should include those flown by combat aircraft and the last two categories. The three types of sorties were part and parcel of the full range of CENTAF flight activities. Our categorization reflects this situation.



Table 46
Sorties Flown in Desert Shield by Component Command

Date	CENTAF Tactical Support	CENTAF Tanker	CENTAF Intratheater Airlift	CENTAF Total	CENTAF To-Date	MARCENT Sorties	MARCENT To-Date	NAVCENT Sorties	NAVCENT To-Date	ALLIES Sorties	ALLIES To-Date	Grand Total Sorties	Grand Total To-Date
30-Aug-90	137	25	103	265	265	122	122	65	65	65	65	517	517
6-Sep-90	220	30	160	410	2,987	120	725	22	778	87	661	639	5,151
13-Sep-90	370	42	215	627	7,013	67	1,361	114	1,537	54	1,283	862	11,194
20-Sep-90	343	46	218	607	10,972	82	2,003	100	2,867	111	1,924	900	17,766
27-Sep-90	245	49	199	493	15,064	104	2,645	95	3,755	90	2,563	782	24,027
4-Oct-90	393	40	214	647	18,841	119	3,281	85	4,512	78	3,147	929	29,781
11-Oct-90	319	40	212	571	22,617	80	3,818	9	5,166	120	3,847	780	35,448
18-Oct-90	403	65	125	593	26,632	118	4,401	65	6,006	127	4,810	903	41,849
25-Oct-90	429	92	148	669	30,530	107	4,950	102	6,834	240	6,019	1,118	48,333
1-Nov-90	323	46	193	559	34,541	85	5,447	64	7,550	228	7,894	936	55,432
8-Nov-90	367	45	129	541	38,254	100	5,967	72	8,327	261	9,793	974	62,341
15-Nov-90	653	95	130	878	42,013	146	6,498	90	9,027	302	11,747	1,416	69,285
22-Nov-90	48	53	66	167	46,099	51	7,218	151	9,721	195	13,858	564	76,896
29-Nov-90	289	73	166	528	49,429	90	7,635	141	10,277	224	15,666	983	83,007
6-Dec-90	183	83	222	488	53,119	102	8,085	198	11,224	238	17,755	1,026	90,183
13-Dec-90	266	60	227	553	56,641	90	8,585	97	11,960	224	19,730	964	96,916
20-Dec-90	277	65	223	565	60,726	124	9,122	191	12,701	250	21,786	1,130	104,335
27-Dec-90	316	64	229	609	64,310	137	9,794	129	13,390	243	23,535	1,118	111,029
3-Jan-91	425	67	197	689	68,332	123	10,490	54	13,903	230	25,548	1,096	118,273
10-Jan-91	305	28	222	555	73,713	99	11,281	82	14,694	248	27,755	984	127,443
14-Jan-91	210	75	239	524	76,271	74	11,625	145	15,310	286	28,823	1,029	132,029

Source: USCINCCENT SITREPs (S)

Combat Air Patrol (CAP) in Desert Shield

The following table presents the CAP sorties that were flown by the U.S. Air Force), U.S. Marine Corps, and U.S. Navy during Desert Shield. It is important to note that while the "Scheduled" and "Flown" numbers are limited for that day, the "Grand Total" row represents the Desert Shield aggregate total. Thus some tables may appear to be off. In Table 47, for example, the Air Force columns (3,486 and 3,580 respectively) reflect the entire period of Desert Shield and not merely a sum of the column entries.

The data in the table were derived from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from SITREPs, Sortie Recap (recapitulated) Data were utilized. When discrepancies were found, the SITREPs took precedence.

The date for any entry should be considered to mean "on day dd-mm-yy Zulu" and the data for this date would be found in the SITREP for the following day. For instance, the sortie data for 5 Jan 91 would appear in the SITREP dated "062215 Jan 91."

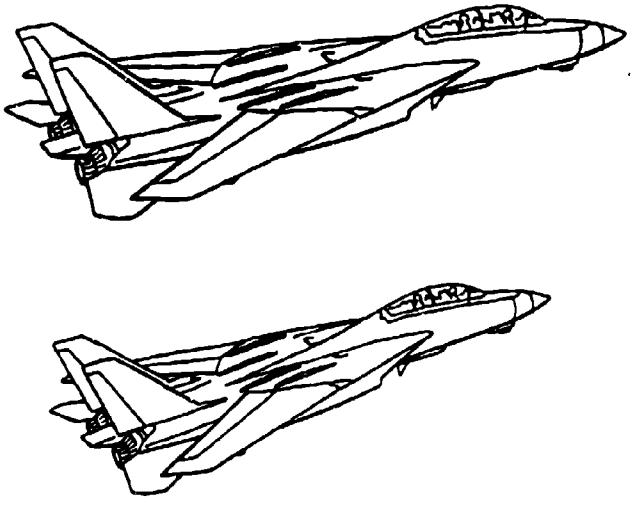


Table 47
Combat Air Patrol (CAP) in Desert Shield

Representative	USAF		USMC		USN		Mission Total	
Date	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown
7-Aug-90	0	0	0	0	0	0	0	0
14-Aug-90	6	6	0	0	0	0	6	6
21-Aug-90	18	18	0	0	8	8	26	26
28-Aug-90	20	20	14	18	4	4	38	42
4-Sep-90	20	20	40	38	4	4	64	62
11-Sep-90	24	26	50	45	4	4	78	75
18-Sep-90	20	20	48	46	4	4	72	70
25-Sep-90	16	16	48	42	4	4	68	62
2-Oct-90	16	16	36	36	0	0	52	52
9-Oct-90	24	24	30	26	4	4	58	54
16-Oct-90	20	20	30	30	4	4	54	54
23-Oct-90	24	26	24	24	6	6	54	56
30-Oct-90	20	24	26	26	4	4	50	54
6-Nov-90	14	14	28	28	4	4	46	46
13-Nov-90	22	22	28	28	4	4	54	54
20-Nov-90	22	24	34	28	2	2	58	54
27-Nov-90	18	18	24	24	6	6	48	48
4-Dec-90	14	14	24	24	30	30	68	68
11-Dec-90	14	14	24	24	6	6	44	44
18-Dec-90	18	20	24	24	6	6	48	50
25-Dec-90	50	50	24	24	14	14	88	88
1-Jan-91	38	44	24	24	10	10	72	78
8-Jan-91	26	28	24	24	24	24	74	76
15-Jan-91	72	71	24	44	38	38	134	153
Grand Total	**3,486**	**3,580**	**4,553**	**4,461**	**1,269**	**1,269**	**9,308**	**9,310**

Source: USCINCCENT SITREPs (S)

Reconnaissance Sorties in Desert Shield

The following tables present the reconnaissance sorties that were flown by the U.S. Air Force and U.S. Navy during Desert Shield. It is important to note that while the "Scheduled" and "Flown" numbers are listed for that day, the "Grand Total" row represents the aggregate total for Desert Shield. Thus some tables may appear to be off. In Table 48, for example, the Air Force columns (628 and 620 respectively) reflect the entire period of Desert Shield and not merely a sum of the column entries.

The data in the table were derived from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from SITREPs, Sortie Recap (recapitulated) Data were utilized. When data discrepancies were found, the SITREPs took precedence.

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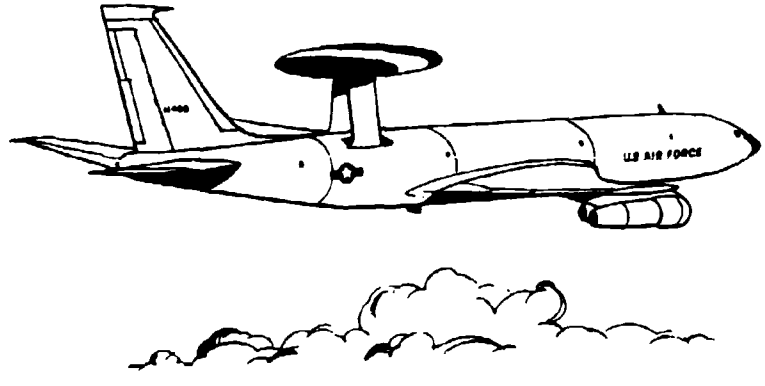


Table 48
Strategic Reconnaissance Sorties (U-2, TR-1, RC-135)

Representative	USAF		USN		Mission Total	
Date	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown
13-Aug-90	2	2	0	0	2	2
20-Aug-90	3	2	0	0	3	2
27-Aug-90	4	4	0	0	4	4
3-Sep-90	4	4	0	0	4	4
10-Sep-90	4	4	0	0	4	4
17-Sep-90	4	4	0	0	4	4
24-Sep-90	4	3	0	0	4	3
1-Oct-90	4	4	0	0	4	4
8-Oct-90	4	4	0	0	4	4
15-Oct-90	4	4	0	0	4	4
22-Oct-90	4	3	1	1	5	4
29-Oct-90	5	5	1	1	6	6
5-Nov-90	5	5	1	1	6	6
12-Nov-90	3	3	1	1	4	4
19-Nov-90	5	5	2	2	7	7
26-Nov-90	2	2	1	1	3	3
3-Dec-90	5	5	1	1	6	6
10-Dec-90	2	2	1	0	3	2
17-Dec-90	4	3	1	1	5	4
24-Dec-90	5	4	1	1	6	5
31-Dec-90	5	4	0	0	5	4
7-Jan-91	3	4	0	0	3	4
14-Jan-91	5	4	0	0	5	4
15-Jan-91	5	7	0	0	5	7
Grand Total	**628**	**620**	**74**	**68**	**702**	**688**

Source: USCINCCENT SITREPs (S)

Table 49
Tactical Reconnaissance Sorties

Representative	USAF		USN		Mission Total	
Date	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown
7-Aug-90	0	0	0	0	0	0
14-Aug-90	0	0	0	0	0	0
21-Aug-90	0	0	0	0	0	0
28-Aug-90	0	0	0	0	0	0
4-Sep-90	6	6	0	0	6	6
11-Sep-90	6	6	0	0	6	6
18-Sep-90	6	6	0	0	6	6
25-Sep-90	6	6	0	0	6	6
2-Oct-90	6	6	0	0	6	6
9-Oct-90	6	3	0	0	6	3
16-Oct-90	6	6	0	0	6	6
23-Oct-90	7	7	0	0	7	7
30-Oct-90	8	8	0	0	8	8
6-Nov-90	8	8	0	0	8	8
13-Nov-90	8	8	0	0	8	8
20-Nov-90	8	8	0	0	8	8
27-Nov-90	7	7	0	0	7	7
4-Dec-90	4	4	0	0	4	4
11-Dec-90	4	6	0	0	4	6
18-Dec-90	3	3	0	0	3	3
25-Dec-90	6	4	2	2	8	6
1-Jan-91	6	6	2	2	8	8
8-Jan-91	6	6	1	1	7	7
15-Jan-91	14	13	1	1	15	14
Grand Total	**738**	**684**	**36**	**34**	**774**	**718**

Source: USCINCCENT SITREPs (S)

Support Sorties

The following table provides daily sortie numbers for such support missions as air refueling and airlift that were flown by the U.S. Air Force, U.S. Navy, and U.S. Marine Corps during Desert Shield. It is important to note that while the "Scheduled" and "Flown" numbers are listed for that day, the "Grand Total" row represents the aggregate for Desert Shield. Thus some tables may appear to be off. In Table 50, for example, the Air Force columns (8,383 and 7,935 respectively) reflect the entire period of Desert Shield and not merely a sum of the column entries.

Data in this table were derived from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from SITREPs, Sortie Recap (recapitulated) Data were utilized. When discrepancies were found, SITREPs took precedence.

The date for any entry should be considered to mean "on day d-m-y Zulu" and the data for this date would be found in the SITREP for the following day. For instance, the sortie data for 5 Jan 91 would appear in the SITREP dated "062215 Jan 91."

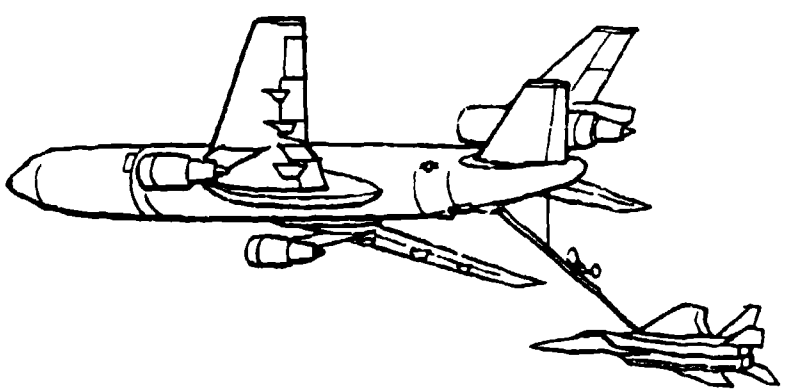


Table 50
Support Sorties

Representative	Air Refueling								Airlift	
	USAF		USMC		USN		Mission Total		USAF	
Date	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown
7-Aug-90	0	0	0	0	0	0	0	0	0	0
14-Aug-90	16	16	0	0	0	0	16	16	96	59
21-Aug-90	23	26	0	0	0	0	23	26	92	116
28-Aug-90	45	29	12	12	4	4	61	45	114	121
4-Sep-90	42	38	4	10	9	7	55	55	163	134
11-Sep-90	46	41	4	20	4	4	54	65	171	186
18-Sep-90	58	47	4	6	12	14	74	67	173	171
25-Sep-90	42	40	5	12	4	5	51	57	204	216
2-Oct-90	47	42	0	0	2	3	49	45	215	218
9-Oct-90	44	42	2	2	0	0	46	44	188	190
16-Oct-90	52	53	4	4	8	9	64	66	186	189
23-Oct-90	52	50	4	4	9	9	65	63	156	145
30-Oct-90	57	59	3	2	13	13	73	74	152	151
6-Nov-90	44	42	4	5	12	12	60	59	150	153
13-Nov-90	51	52	1	1	11	11	63	64	119	129
20-Nov-90	61	64	5	3	15	14	81	81	130	136
27-Nov-90	53	53	4	4	4	4	61	61	167	151
4-Dec-90	68	61	3	4	15	15	86	80	187	184
11-Dec-90	62	60	4	3	8	7	74	70	217	228
18-Dec-90	69	66	4	4	9	9	82	79	202	214
25-Dec-90	47	41	7	7	4	4	58	52	206	214
1-Jan-91	55	58	3	3	7	7	65	68	199	204
8-Jan-91	98	99	3	3	12	13	113	115	218	210
15-Jan-91	84	76	3	3	15	15	102	94	289	283
16-Jan-91	50	42	3	2	21	21	74	65	266	272
Grand Total	**8,383**	**7,935**	**562**	**715**	**1,081**	**1,068**	**10,026**	**9,718**	**27,930**	**27,982**

Source: USCINCCENT SITREPs (S)

Electronic Combat

The following table presents the electronic combat activity during Desert Shield at weekly intervals. The U.S. used F-4Gs, EF-111As, EA-6Bs, and EC-130s as the primary aerial weapon systems for electronic combat.

The data in this table were derived from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from Sitreps, Sortie Recap (recapitulated) Data were utilized. When discrepancies were found, SITREPs took precedence.

The date for any entry should be considered to mean "on day dd-mm-yy Zulu" and the data for this date would be found in the SITREP for the following day. For instance, the sortie data for 5 Jan 91 would appear in the SITREP dated "062215 Jan 91."

F-4G Wild Weasel aircraft suppress enemy air defenses (SEAD) through disruption or destruction using standoff anti-radiation missiles or free-fall ordnance.

EF-111A Ravens support friendly forces with high powered, directional, electronic jamming directed against early warning, ground controlled intercept (GCI), acquisition and height finder radars and enemy Identification Friend or Foe (IFF).

EA-6Bs are naval electronic warfare aircraft. They can perform electronic jamming and also launch high speed antiradiation missiles.

The EC-130 sorties included Volant Solo (VS), Compass Call (CC), and airborne command, control and communications (ABCCC). The EC-130 sortie data was included in the table because there was no distinction in the RECAP data between the Electronic Warfare Missions (VS, CC) and the Command and Control Mission ABCCC.

EC-130 Compass Call jams enemy Command, Control, and Communications, data links and IFF to disrupt and degrade enemy integrated air defense systems. Volant Solo conducts psychological operations, broadcasting in a frequency spectrum which include standard AM/FM radios, television, short wave, and military command, control, and communications (C3) bands. Volant Solo's secondary missions are communications jammming in the military spectrum and intelligence gathering. USMC C-

130s were equipped with a removable electronic warfare suite that enabled them to perform electronic warfare missions. Navy EP-3Es and EA-3Bs also conducted electronic warfare operations.

During Desert Shield these aircraft participated in numerous exercises, yet they also executed missions intended to protect the buildup of coalition power.

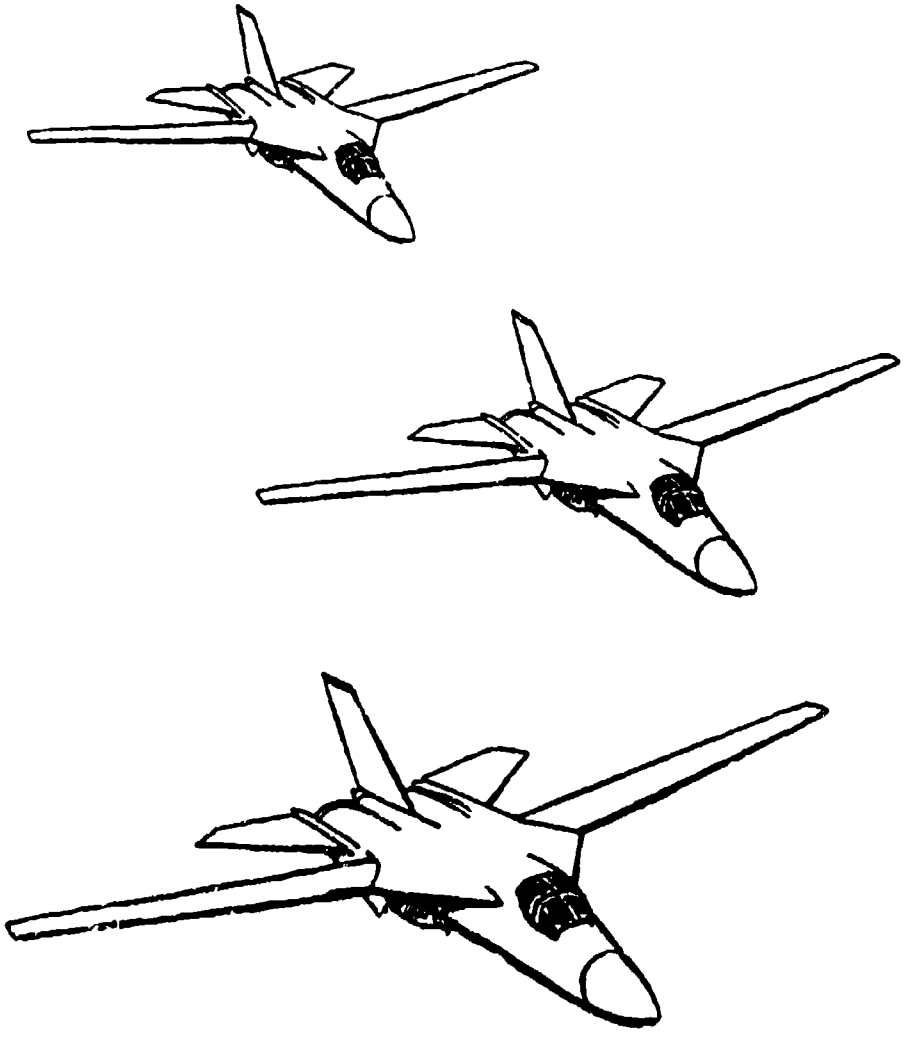


Table 51
Electronic Combat F-4G, EF-111, EA-6, EC-130

Representative	USAF		USMC		USN		Mission Totals	
Date	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown
7-Aug-90	0	0	0	0	0	0	0	0
14-Aug-90	0	0	0	0	0	0	0	0
21-Aug-90	6	4	0	0	25	25	43	41
28-Aug-90	15	15	2	2	23	23	47	47
4-Sep-90	24	24	6	4	26	22	65	57
11-Sep-90	31	30	8	6	13	13	56	53
18-Sep-90	32	31	8	6	33	36	89	88
25-Sep-90	32	32	10	8	34	26	84	74
2-Oct-90	35	33	10	8	14	14	66	62
9-Oct-90	36	31	10	8	11	11	61	54
16-Oct-90	34	37	6	6	23	23	71	74
23-Oct-90	38	36	8	8	14	15	67	67
30-Oct-90	38	37	3	4	18	18	69	69
6-Nov-90	38	29	0	1	19	18	70	60
13-Nov-90	38	36	0	0	16	15	65	61
20-Nov-90	43	48	10	7	13	13	75	77
27-Nov-90	38	39	5	5	4	3	51	50
4-Dec-90	40	41	0	0	22	20	79	76
11-Dec-90	34	34	0	0	7	6	48	46
18-Dec-90	39	37	0	0	5	4	49	45
25-Dec-90	28	28	7	7	0	0	35	35
1-Jan-91	46	41	0	0	4	4	54	49
8-Jan-91	50	51	0	0	22	23	84	87
15-Jan-91	29	28	5	3	24	23	67	63
Grand Total	**4,555**	**4,339**	**962**	**880**	**2,175**	**2,155**	**8,822**	**8,478**

Source: Sortie Recap Data (S)

Airborne Command and Control

The following table lists the number of airborne command and control sorties flown by the U.S. Air Force, U.S. Navy, Royal Air Force and Royal Saudi Air Force in Desert Shield. It is important to note that while the "Scheduled" and "Flown" numbers are listed for that day, the "Grand Total" row represents the Desert Shield aggregate total. Thus some tables may appear to be off. In Table 52, for example, the Air Force columns (377 and 385 respectively) reflect the entire period of Desert Shield and not merely a sum of the column entries.

The data in this table were derived from the U.S. Commander-in-Chief, Central Command SITREPs. When data were unavailable from SITREPs, Sortie Recap (Recapitulation) Data was utilized. When discrepancies were found, SITREPs took precedence. The higher number of Navy sorties (1,132 versus 385 Air Force, for example) resulted from the shorter sortie duration of carrier-based platforms, and from the nature of carrier flight operations.

The date for any entry should be considered to mean "on day dd-mm-yy Zulu" and the data for this date would be found in the SITREP for the following day. For instance, the sortie data for 5 Jan 91 would appear in the SITREP dated "062215 Jan 91."

Airborne Warning and Control System (AWACS) or airborne command, control and communications (ABCCC) provide the airborne command and control function for the counterair mission as well as the overall air/land battle, allowing the mission elements to receive the most up-to-date information for mission planning and execution. AWACS enables deep-look radar coverage of enemy territory, reduces the effects of terrain masking, and provides low-altitude coverage well beyond ground system capabilities. Additionally, this system provides surveillance, aircraft track identification, threat detection and warning, weapons control of friendly aircraft, air refueling and rendezvous assistance and navigational assistance.

Table 52
Command and Control (AWACS, ABCCC)

Representative Date	USAF Scheduled	USAF Flown	USN Scheduled	USN Flown	ALLIES Scheduled	Mission Totals Flown	Mission Totals Scheduled	Mission Totals Flown
7-Aug-90	0	0	0	0	1	1	1	1
14-Aug-90	2	1	0	0	3	3	5	4
21-Aug-90	2	2	5	5	2	2	9	9
28-Aug-90	2	3	8	8	2	2	12	13
4-Sep-90	2	2	10	10	3	3	15	15
11-Sep-90	2	2	3	3	3	3	8	8
18-Sep-90	3	3	13	14	3	3	19	20
25-Sep-90	2	2	9	8	3	3	14	13
2-Oct-90	3	3	7	6	3	3	13	12
9-Oct-90	2	2	3	3	3	3	8	8
16-Oct-90	2	2	9	9	3	3	14	14
23-Oct-90	2	2	10	10	3	3	15	15
30-Oct-90	2	2	6	6	3	3	11	11
6-Nov-90	1	1	12	8	4	4	17	13
13-Nov-90	1	1	8	6	4	6	13	13
20-Nov-90	2	2	8	8	4	4	14	14
27-Nov-90	2	2	3	3	3	3	8	8
4-Dec-90	1	1	16	16	4	4	21	21
11-Dec-90	2	2	6	6	4	4	12	12
18-Dec-90	4	4	4	4	4	4	12	12
25-Dec-90	3	3	6	6	4	4	13	13
1-Jan-91	4	4	4	4	3	3	11	11
8-Jan-91	4	4	18	18	3	3	25	25
15-Jan-91	5	5	18	18	3	3	26	26
16-Jan-91	3	1	21	21	4	2	28	24
					0	0		
Grand Total	377	385	1,142	1,132	519	514	2,038	2,031

Source: USCINCCENT SITREPs (S)

Daily Flying Hours and Average Mission Length by Base and Type of Aircraft

(based on summary of previous 24-hour period)

The following table prese : daily flying hours for various aircraft during a two-week period ' rt Shield. It illustrates the scope and intensity of Desert Shield e ations.

The data in this table were extracted from the employment sorties and hours flown section of the Commander, U.S. Air Force, Central Command (COMUSCENTAF) situation reports for the period 2 September through 19 September 1990. This was the only period in which flying hours were broken down by aircraft type and base location. This data illustrates the type of flying operations conducted during Desert Shield.

The three total columns at the end of the report are based only on the data displayed in this table. Because of some partially reported dat. (e.g., for F/A-18s based at Shaikh Isa), all totals do not span the same number of days. In cases where the missions flown and flight hours columns did not have the same number of missing data (e.g., for F-16s based at Al Minhad), the row totals omit any days in which either missions flown or flight hours were unreported; this practice permits the average length of mission to be calculated based on the largest possible sample size. Note that:

1. The column headings in the table should be interpreted in the following way: Missions Flown (MF); Flight Hours (FH); Average Hours Per Mission (AHPM); Timed Missions Flown (TMF).

2. Dates given in the table above are SITREP dates, each covering a 24-hour time period, from 0300 on the previous day through 0300 on the date of the SITREP.

3. SITREPs were not available for 16 September and 18 September 1990.

4. In this table, an empty cell in the missions flown or flight hours column indicates that the SITREP did not have data. The notation "_" in the missions flown or flight hours column indicates that the SITREP had no row for the given aircraft type in the day

indicated, or contained either a dash or the words "NO REPORT" in the corresponding cell location. The notation "_" in the hours-per-mission column indicates that no average length of mission could be computed.

5. The totals at the foot of each day's columns are taken from the situation reports (SITREPs).

6. Footnote for 19 F-15C missions from Dhahran on 11 September SITREP: "13 TRAINING SORTIES OPS CANCELLED."

7. Footnote for 12 F-16 missions from Doha on 11 September SITREP: "16 SORTIES WEATHER CANCELLED."

8. The following abbreviations were made: Volant Solo (VS), Compass Call (CC), Tactical Fighter Wing (TFW), airborne command-control-communications (ABCCC).

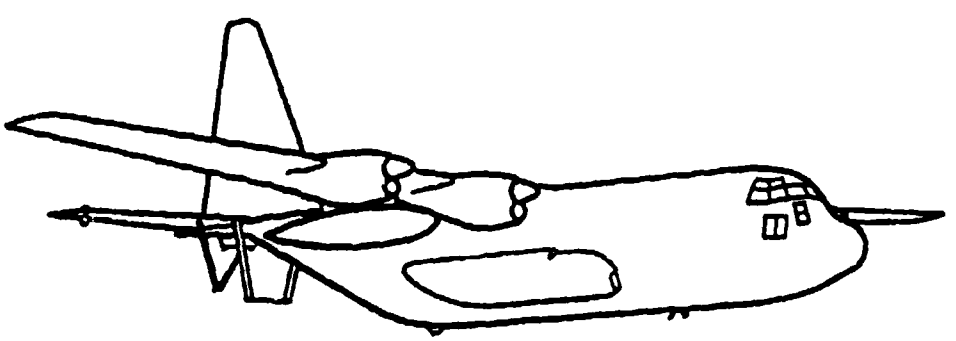


Table 53
Daily Flying Hours and Average Mission Length by Base and Type of Aircraft
(based on summary of previous 24-hour period)

		2-Sep-90			3-Sep-90			4-Sep-90		
Base	Aircraft Type	MF	FH	AHPM	MF	FH	AHPM	MF	FH	AHPM
Al Dhafra	F-16	39	66.1	1.69	37	67.5	1.82	39	73.7	1.89
	RF-4	6	14.1	2.35	7	16.0	2.29	6	14.1	2.35
Al Minhad	F-16	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Batcen	EC-130 (CC)	1	11.3	11.30	2	21.9	10.95	1	2.7	2.70
Dhahran	F-15C	20	36.5	1.83	20	75.3	3.77	30	73.7	2.46
[DELETED]	B-52	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Doha	F-16	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
[DELETED]	F-117	10	21.2	2.12	10	17.4	1.74	10	17.7	1.77
King Abdul Aziz	AV-8	24	-	-	32	-	-	23	-	-
King Fahd AP	A-10 (23 TFW)	0	0.0	0.0	0	0.0	0.0	-	-	-
	A-10 (354 TFW)	15	21.1	1.41	16	23.2	1.45	-	-	-
	A-10 (total for base)	15	21.1	1.41	16	23.2	1.45	24	35.5	1.48
	AC-130	-	-	-	-	-	-	-	-	-
	EC-130 (VS)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Riyadh	C-21	12	-	-	12	-	-	-	-	-
	E-3	1	-	-	2	-	-	2	-	-
	RC-135	2	-	-	2	-	-	2	-	-
Shaikh Isa	A-6	10	-	-	10	-	-	2	-	-
	EA-6	8	-	-	2	-	-	4	-	-
	F-4G (35 TFW)	-	-	-	-	-	-	-	-	-
	F-4G (52 TFW)	-	-	-	-	-	-	-	-	-
	F-4G (total for base)	12	13.9	1.16	12	21.5	1.79	12	17.6	1.47
	F/A-18	52	-	-	46	-	-	38	-	-
	KC-130	-	-	-	-	-	-	-	-	-
Sharjah	EC-130 (ABCCC)	0	0.0	0.0	0	0.0	0.0	1	7.0	7.00
Tabuk	F-15C	0	0.0	0.0	4	5.6	1.40	12	18.0	1.50
Taif	EF-111	0	0.0	0.0	7	24.5	3.50	5	12.9	2.58
	F-111	0	0.0	0.0	2	3.6	1.80	10	15.4	1.54
					[DELETED]					
Thumrait	F-15E	16	33.4	2.09	16	32.2	2.01	16	31.9	1.99
All	KC-135	32	-	-	41	-	-	30	-	-
All	C-130	129	-	-	203	-	-	143	-	-
	Total	373	-	-	473	-	-	406	-	-

Table 53 (cont'd)
Daily Flying Hours and Average Mission Length by Base and Type of Aircraft
(based on summary of previous 24-hour period)

		5-Sep-90			6-Sep-90			7-Sep-90		
Base	Aircraft Type	MF	FH	AHPM	MF	FH	AHPM	MF	FH	AHPM
Al Dhafra	F-16	36	62.9	1.75	34	52.1	1.53	21	41.2	1.96
	RF-4	6	11.2	1.87	6	13.2	2.20	4	6.0	1.50
Al Minhad	F-16	31	-	-	-	-	-	44	64.5	1.47
Bateen	EC-130 (CC)	1	9.6	9.60	1	9.2	9.20	3	13.7	4.57
Dhahran	F-15C	30	72.3	2.41	30	78.4	2.61	30	69.1	2.30
[DELETED]	B-52	0	0.0	0.0	3	-	-	0	0.0	0.0
Doha	F-16	16	-	-	-	-	-	0	0.0	0.0
[DELETED]	F-117	10	19.3	1.93	10	15.9	1.59	10	23.5	2.35
King Abdul Aziz	AV-8	28	-	-	-	-	-	-	-	-
King Fahd AP	A-10 (23 TFW)	8	11.4	1.43	20	26.8	1.34	20	27.9	1.40
	A-10 (354 TFW)	20	32.0	1.60	24	31.6	1.32	24	35.1	1.46
	A-10 (total for base)	28	43.4	1.55	44	58.4	1.33	44	63.0	1.43
	AC-130	-	-	-	-	-	-	-	-	-
	EC-130 (VS)	3	10.0	3.33	2	5.2	2.60	0	0.0	0.0
Riyadh	C-21	15	-	-	17	-	-	18	-	-
	E-3	2	-	-	3	-	-	2	-	-
	RC-135	2	-	-	2	-	-	2	-	-
Shaikh Isa	A-6	10	-	-	-	-	-	-	-	-
	EA-6	5	-	-	-	-	-	-	-	-
	F-4G (35 TFW)	-	-	-	-	-	-	12	20.5	1.71
	F-4G (52 TFW)	-	-	-	-	-	-	0	0.0	0.0
	F-4G (total for base)	12	16.8	1.40	12	19.8	1.65	12	20.5	1.71
	F/A-18	50	-	-	-	-	-	-	-	-
	KC-130	-	-	-	-	-	-	-	-	-
Sharjah	EC-130 (ABCCC)	3	13.1	4.37	-	-	-	-	-	-
Tabuk	F-15C	12	31.0	2.58	12	17.1	1.43	12	17.5	1.46
Taif	EF-111	5	16.4	3.28	5	20.2	4.04	6	12.5	2.08
	F-111	10	15.8	1.58	14	22.5	1.61	15	23.4	1.56
					[DELETED]					
Thumrait	F-15E	17	30.1	1.77	17	35.8	2.11	16	24.6	1.54
All	KC-135	38	-	-	33	-	-	30	-	-
All	C-130	134	-	-	153	-	-	160	-	-
	Total	490	-	-	-	-	-	-	-	-

Table 53 (cont'd)
Daily Flying Hours and Average Mission Length by Base and Type of Aircraft
(based on summary of previous 24-hour period)

		8-Sep-90			9-Sep-90			10-Sep-90		
Base	Aircraft Type	MF	FH	AHPM	MF	FH	AHPM	MF	FH	AHPM
Al Dhafra	F-16	0	0.0	0.0	35	69.9	2.00	43	73.0	1.70
	RF-4	0	0.0	0.0	6	12.4	2.07	6	12.6	2.10
Al Minhad	F-16	0	0.0	0.0	51	70.6	1.38	47	59.8	1.27
Bateen	EC-130 (CC)	1	9.0	9.00	2	16.9	8.45	2	12.0	6.00
Dhahran	F-15C	34	79.4	2.34	22	80.3	3.65	17	50.5	2.97
[DELETED]	B-52	0	0.0	0.0	0	0.0	-	0	0.0	0.0
Doha	F-16	0	0.0	0.0	16	-	-	16	-	-
[DELETED]	F-117	10	18.7	1.87	10	25.1	2.51	0	0.0	0.0
King Abdul Aziz	AV-8	-	-	-	22	-	-	24	-	-
King Fahd AP	A-10 (23 TFW)	20	27.1	1.36	20	30.2	1.51	0	0.0	0.0
	A-10 (354 TFW)	24	35.2	1.47	24	36.1	1.50	0	0.0	0.0
	A-10 (total for base)	44	62.3	1.42	44	66.3	1.51	0	0.0	0.0
	AC-130	-	-	-	0	0.0	-	0	0.0	0.0
	EC-130 (VS)	1	4.9	4.90	1	4.2	4.20	1	4.9	4.90
Riyadh	C-21	17	-	-	12	-	-	12	-	-
	E-3	2	-	-	2	-	-	2	-	-
	RC-135	2	-	-	2	-	-	2	-	-
Shaikh Isa	A-6	-	-	-	9	-	-	7	-	-
	EA-6	-	-	-	10	-	-	6	-	-
	F-4G (35 TFW)	10	16.7	1.67	11	19.4	1.76	12	20.4	1.70
	F-4G (52 TFW)	0	0.0	0.0	5	8.6	1.72	6	9.6	1.60
	F-4G (total for base)	10	16.7	1.67	16	28.0	1.75	18	30.0	1.67
	F/A-18	-	-	-	59	-	-	52	-	-
	KC-130	-	-	-	-	-	-	-	-	-
Sharjah	EC-130 (ABCCC)	1	5.6	5.60	0	0.0	-	0	0.0	0.0
Tabuk	F-15C	14	17.9	1.28	12	29.0	2.42	12	13.1	1.09
Taif	EF-111	3	5.9	1.97	2	7.7	3.85	8	27.6	3.45
	F-111	10	16.6	1.66	4	8.4	2.10	16	24.5	1.53
					[DELETED]					
Thumrait	F-15E	0	0.0	0.0	15	41.3	2.75	14	31.5	2.25
All	KC-135	34	-	-	46	-	-	36	-	-
All	C-130	166	-	-	162	-	-	151	-	-
	Total	-	-	-	559	-	-	499	-	-

Table 53 (cont'd)
Daily Flying Hours and Average Mission Length by Base and Type of Aircraft
(based on summary of previous 24-hour period)

		11-Sep-90			12-Sep-90			13-Sep-90		
Base	**Aircraft Type**	**MF**	**FH**	**AHPM**	**MF**	**FH**	**AHPM**	**MF**	**FH**	**AHPM**
Al Dhafra	F-16	37	85.6	2.31	38	70.3	1.85	38	78.4	2.06
	RF-4	8	14.3	1.79	6	10.2	1.70	6	13.0	2.17
Al Minhad	F-16	44	63.6	1.45	40	54.4	1.36	39	60.4	1.55
Bateen	EC-130 (CC)	1	6.7	6.70	2	13.6	6.80	2	9.8	4.90
Dhahran	F-15C	19	70.1	3.69	34	74.7	2.20	31	85.8	2.77
[DELETED]	B-52	3	-	-	0	0.0	0.0	2	-	-
Doha	F-16	12	-	-	16	32.3	2.02	16	20.2	1.26
[DELETED]	F-117	8	17.2	2.15	8	15.4	1.93	8	21.7	2.71
King Abdul Aziz	AV-8	40	-	-	27	-	-	26	-	-
King Fahd AP	A-10 (23 TFW)	24	35.7	1.49	24	36.5	1.52	24	33.4	1.39
	A-10 (354 TFW)	28	40.9	1.46	24	35.3	1.47	24	36.6	1.53
	A-10 (total for base)	52	76.6	1.47	48	71.8	1.50	48	70.0	1.46
	AC-130	2	-	-	2	-	-	2	-	-
	EC-130 (VS)	1	5.0	5.00	1	5.0	5.00	1	4.6	4.60
Riyadh	C-21	20	-	-	17	-	-	13	-	-
	E-3	2	-	-	2	-	-	2	-	-
	RC-135	2	-	-	2	-	-	2	-	-
Shaikh Isa	A-6	10	-	-	6	-	-	10	-	-
	EA-6	8	-	-	6	-	-	5	-	-
	F-4G (35 TFW)	12	23.3	1.94	11	19.0	1.73	8	14.4	1.80
	F-4G (52 TFW)	8	9.7	1.21	6	9.9	1.65	6	11.1	1.85
	F-4G (total for base)	20	33.0	1.65	17	28.9	1.70	14	25.5	1.82
	F/A-18	48	-	-	45	-	-	54	-	-
	KC-130	-	-	-			-	0	-	-
Sharjah	EC-130 (ABCCC)	1	6.9	6.90	2	10.2	5.10	1	6.3	6.30
Tabuk	F-15C	12	29.8	2.48	12	50.6	4.22	12	26.7	2.23
Taif	EF-111	8	27.8	3.48	8	-	-	8	25.1	3.14
	F-111	16	23.3	1.46	15	26.0	1.73	16	20.3	1.27
					[DELETED]					
Thumrait	F-15E	15	30.5	2.03	15	30.0	2.00	16	43.6	2.73
All	KC-135	48	-	-	41	-	-	48	-	-
All	C-130	196	-	-	186	-	-	202	-	-
	Total	637	-	-	603	-	-	623	-	-

Table 53 (cont'd)
Daily Flying Hours and Average Mission Length by Base and Type of Aircraft
(based on summary of previous 24-hour period)

		14-Sep-90			15-Sep-90			17-Sep-90		
Base	Aircraft Type	MF	FH	AHPM	MF	FH	AHPM	MF	FH	AHPM
Al Dhafra	F-16	19	42.3	2.23	0	0.0	0.0	41	95.9	2.34
	RF-4	8	10.5	1.31	0	0.0	0.0	6	12.4	2.07
Al Minhad	F-16	44	73.9	1.68	0	0.0	0.0	44	74.7	1.70
Bateen	EC-130 (CC)	3	11.1	3.70	3	7.2	2.40	4	18.8	4.70
Dhahran	F-15C	26	65.4	2.52	21	46.9	2.23	20	72.5	3.63
[DELETED]	B-52	0	0.0	-	0	0.0	0.0	0	0.0	0.0
Doha	F-16	16	-	-	0	0.0	0.0	15	27.7	1.85
[DELETED]	F-117	8	13.2	1.65	8	19.0	2.38	8	17.2	2.15
King Abdul Aziz	AV-8	14	-	-	32	-	-	10	-	-
King Fahd AP	A-10 (23 TFW)	24	32.5	1.35	24	34.4	1.43	24	34.5	1.44
	A-10 (354 TFW)	24	36.3	1.51	24	36.7	1.53	24	35.2	1.47
	A-10 (total for base)	48	68.8	1.43	48	71.1	1.48	48	69.7	1.45
	AC-130	0	0.0	0.0	2	5.7	2.85	2	8.6	4.30
	EC-130 (VS)	1	4.5	4.50	1	4.9	4.90	1	7.2	7.20
Riyadh	C-21	16	-	-	18	-	-	12	-	-
	E-3	2	-	-	2	-	-	2	-	-
	RC-135	2	-	-	2	-	-	2	-	-
Shaikh Isa	A-6	1	-	-	8	-	-	6	-	-
	EA-6	4	-	-	7	-	-	7	-	-
	F-4G (35 TFW)	26	39.0	1.50	8	14.1	1.76	16	31.5	1.97
	F-4G (52 TFW)	12	18.2	1.52	6	12.2	2.03	6	10.6	1.77
	F-4G (total for base)	38	57.2	1.51	14	26.3	1.88	22	42.1	1.91
	F/A-18	48	-	-	56	-	-	52	-	-
	KC-130	16	-	-	14	-	-	12	-	-
Sharjah	EC-130 (ABCCC)	2	9.5	4.75	2	13.5	6.75	1	8.6	8.60
Tabuk	F-15C	12	18.4	1.53	12	54.0	4.50	14	34.3	2.45
Taif	EF-111	8	29.0	3.63	8	21.7	2.71	8	26.5	3.31
	F-111	16	20.2	1.26	16	18.3	1.14	16	19.9	1.24
					[DELETED]					
Thumrait	F-15E	16	70.0	4.38	0	0.0	0.0	17	31.7	1.86
All	KC-135	42	-	-	40	-	-	48	-	-
All	C-130	215	-	-	155	-	-	205	-	-
	Total	660	-	-	470	-	-	633	-	-

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Table 53 (cont'd)
Daily Flying Hours and Average Mission Length by Base and Type of Aircraft
(based on summary of previous 24-hour period)

		19-Sep-90			Totals		
Base	Aircraft Type	MF	FH	AHPM	TMF	FH	AHPM
Al Dhafra	F-16	44	80.7	1.83	501	959.6	1.92
	RF-4	6	13.6	2.27	87	173.6	2.00
Al Minhad	F-16	47	71.1	1.51	400	593.0	1.48
Batsen	EC-130 (CC)	4	15.3	3.83	33	188.8	5.72
Dhahran	F-15C	24	65.9	2.75	408	1096.8	2.69
[DELETED]	B-52	0	0.0	0.0	-	-	-
Doha	F-16	28	57.2	2.04	75	137.4	1.83
[DELETED]	F-117	8	23.8	2.98	136	286.3	2.11
King Abdul Aziz	AV-8	26	-	-	-	-	-
King Fahd AP	A-10 (23 TFW)	28	41.1	1.47	260	371.5	1.43
	A-10 (354 TFW)	28	40.0	1.43	323	475.3	1.47
	A-10 (total for base)	56	81.1	1.45	607	882.3	1.45
	AC-130	2	4.6	2.30	6	18.9	3.15
	EC-130 (VS)	1	3.6	3.60	15	64.0	4.27
Riyadh	C-21	15	-	-	-	-	-
	E-3	3	-	-	-	-	-
	RC-135	2	-	-	-	-	-
Shaikh Isa	A-6	6	-	-	-	-	-
	EA-6	6	-	-	-	-	-
	F-4G (35 TFW)	11	17.6	1.60	137	235.9	1.72
	F-4G (52 TFW)	8	13.0	1.63	63	102.9	1.63
	F-4G (total for base)	19	30.6	1.61	260	428.4	1.65
	F/A-18	46	-	-	-	-	-
	KC-130	6	-	-	-	-	-
Sharjah	EC-130 (ABCCC)	2	6.3	3.15	16	87.0	5.44
Tabuk	F-15C	12	32.5	2.71	176	395.5	2.25
Taif	EF-111	5	14.1	2.82	86	271.9	3.16
	F-111	12	16.2	1.35	188	274.4	1.46
		[DELETED]					
Thumrait	F-15E	16	25.8	1.61	222	492.4	2.22
All	KC-135	47	-	-	-	-	-
All	C-130	171	-	-	-	-	-
	Total	623	-	-	3093	6187.8	1.99

Source: COMUSCENTAF SITREPs (S)

Air Force Training Exercises in Desert Shield

The five-month period before hostilities in the Gulf War allowed the U.S. and other coalition air forces time to conduct extensive operational training which enabled them to: familiarize themselves with the desert-flying environment and the challenge of strange fields, bare base operating conditions, and long sortie durations; develop procedures for airspace management and institute common safety practices; work out aerial refueling requirements and procedures; practice force package operations; refine tactics; and hone weapons delivery and other aerial skills. Without this extensive operational training, the allied air forces would likely have been far less prepared to conduct the air war.

The following tables depict the rate of training by type, Service, and composition. The tables for the CENTAF day or night training exercises are almost certainly not all-inclusive, but they give a good sense of the character and extent of training exercises.

The data in these tables were drawn from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from SITREPs, Sortie Recap (Recapitulated) Data was utilized. When discrepancies were found, SITREPs took precedence.

The date for any entry should be considered to mean "on day dd-mm-yy Zulu" and the data for this date would be found in the SITREP for the following day. For instance, the sortie data for 5 Jan 91 would appear in the SITREP dated "062215 Jan 91."

Air-to-Air Training Exercises

The following table presents the number of air-to-air training sorties executed by the U.S. Air Force, U.S. Marine Corps, and U.S. Navy in Desert Shield. It is important to note that while the "Scheduled" and "Flown" numbers arelisted for that day, the "Grand Total" row represents the aggregate total for Desert Shield. Thus some tables may appear to be off. In Table 54, for example, the USAF columns (2,950 and 2,720 respectively) reflect the entire period of Desert Shield and do not sum up column entries. The "Mission Totals" column gives the respective total number of sorties for U.S. fixed-wing aircraft (excluding the U.S. aircraft).

The data in this table were derived from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from SITREPs, Sortie Recap (Recapitulated) Data was utilized. When discrepancies were found, SITREPs took precedence. However, in all but four cases, the Sortie Recap Data agreed with the SITREP data. Sortie Recap Data is extracted from Roll No.23679, Historical Reference Division of the United States Air Force Historical Research Center, Maxwell AFB, Alabama.

The objectives of the air-to-air training exercises were designed to:

- Refine /refresh air-to-air fighting capability
- Improve E-3 weapons director proficiency
- Improve weapon director and fighter aircrew interface/war fighting capability
- Practice high value airborne assets (HVAA) protection
- Provide F-1 dissimilar training

It appears that in some cases the Marines intentionally over scheduled to enhance flexibility. This practice started in Desert Shield and continued in Desert Storm. For instance, Genenal Moore, who commanded the 1st Marine Expeditionary Force (I MEF) aviation combat element during Desert Shield and Desert Storm said: "[The ATO] What I did to make it work for us--and I think the Navy did the same thing--was write an ATO that would give me enough flexibility to do the job. So I might write an enormous amount of sorties, and every seven minutes I'd have airplanes up doing things--and I might cancel an awful lot of those." (In "Marine Air: There When Needed," *Proceedings*, November 1991, p 63).

Table 54
Air-to-Air Training Sorties

Representative	USAF		USMC		USN		Mission Totals	
Date	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown
10-Aug-90	15	7	0	0	0	0	15	7
17-Aug-90	16	16	0	0	0	0	16	16
24-Aug-90	10	10	20	19	0	0	30	29
31-Aug-90	8	10	8	4	30	29	46	43
7-Sep-90	26	28	24	28	34	33	84	89
14-Sep-90	16	13	16	8	14	14	46	35
21-Sep-90	24	24	28	19	43	41	95	84
28-Sep-90	8	10	18	2	42	41	68	53
5-Oct-90	12	16	28	24	26	27	66	67
12-Oct-90	12	8	30	24	48	52	90	84
19-Oct-90	4	4	32	24	33	31	69	59
26-Oct-90	0	0	1	1	18	19	19	20
2-Nov-90	4	4	29	28	43	42	76	74
9-Nov-90	3	9	30	24	52	52	85	85
16-Nov-90	22	22	40	38	9	9	71	69
23-Nov-90	6	5	0	13	0	0	6	18
30-Nov-90	0	0	22	13	10	10	32	23
7-Dec-90	20	20	15	15	20	18	55	53
14-Dec-90	12	12	14	27	30	30	56	69
21-Dec-90	8	8	29	28	28	26	65	62
28-Dec-90	12	14	44	38	20	20	76	72
4-Jan-91	30	30	96	96	10	9	136	135
11-Jan-91	12	2	24	26	40	33	76	61
Grand Total	**2,950**	**2,720**	**2,553**	**2,110**	**3,631**	**3,578**	**9,134**	**8,408**

Source: USCINCCENT SITREPs (S)

Air-to-Ground Training Exercises

The following table lists the number of air-to-ground training sorties that were executed by the U.S. Air Force, U.S. Marine Corps, and U.S. Navy in Desert Shield. It is important to note that while the "Scheduled" and "Flown" numbers are tabulated for that day, the "Grand Total" row represents the Desert Shield aggregate total . Thus some tables may appear to be off. In Table 55, for example, the columns (27,266 and 26,178 respectively) reflect the entire period of Desert Shield and do not merely sum up column entries. The "Mission Totals" column gives the respective total number of sorties for U.S. fixed-wing aircraft.

The data in this table were derived from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from SITREPs, Sortie Recap (Recapitulated) Data was utilized. When discrepancies were found, SITREPs took precedence. However, in all but 4 cases the Sortie RECAP Data agreed with the SITREP data. Sortie Recap Data is extracted from Roll No.23679, Historical Reference Division of the United States Air Force Historical Research Center, Maxwell AFB, Alabama. For 1-Nov-90, Sortie Recap Data was used because the SITREP information appeared to be inconsistent with the sorties pattern.

The objectives of the air-to-ground training were to:

- Exercise all elements of Tactical Air Control System (TACS) that support close air support (CAS) and air interdiction (AI) missions
- Develop and exercise command and control (C2) procedures and concept of operations of tactical air (TACAIR) Force elements in support of land forces
- Confirm that the communications net was able to support the concept of operations
- Familiarize pilots and terminal controllers with local terrain, landmarks, and visibility
- Provide fighters and other elements of Tactical Air Control System with an opportunity to tailor their tactics to this theater.

- Demonstrate to allied land forces that fighters could be brought over their positions safely.

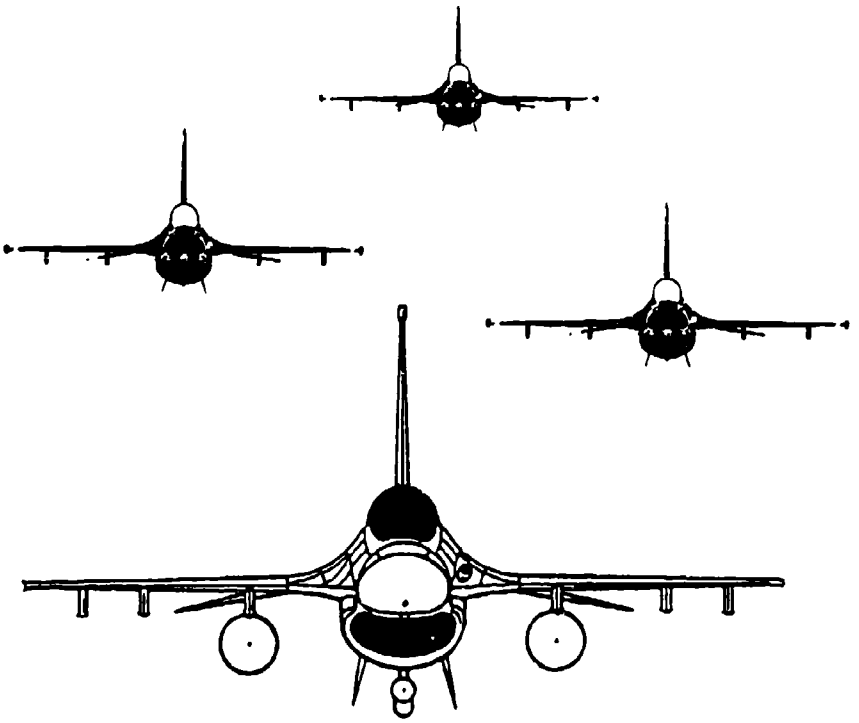


Table 55
Air-to-Ground Training Sorties

Representative	USAF		USMC		USN		Mission Totals	
Date	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown	Scheduled	Flown
14-Aug-90	28	24	0	0	0	0	28	24
21-Aug-90	31	25	0	0	67	67	98	92
28-Aug-90	56	56	22	14	36	35	114	105
4-Sep-90	156	148	40	25	67	64	263	237
11-Sep-90	192	182	44	33	26	26	262	241
18-Sep-90	218	213	40	35	111	135	369	383
25-Sep-90	217	214	40	33	68	70	325	317
2-Oct-90	226	225	52	34	42	41	320	300
9-Oct-90	234	226	44	24	31	33	309	283
16-Oct-90	220	219	46	40	54	59	320	318
23-Oct-90	229	228	36	38	75	76	340	342
30-Oct-90	246	239	27	29	72	71	345	339
6-Nov-90	236	230	28	21	70	70	334	321
13-Nov-90	226	217	32	32	63	56	321	305
20-Nov-90	238	239	86	33	61	61	385	333
27-Nov-90	230	224	40	8	21	20	291	252
4-Dec-90	252	252	38	37	92	88	382	377
11-Dec-90	264	263	45	37	41	37	350	337
18-Dec-90	273	269	20	16	34	27	327	312
25-Dec-90	56	55	9	9	4	4	69	68
1-Jan-91	75	75	38	34	29	26	142	135
8-Jan-91	346	560	75	66	86	85	507	711
15-Jan-91	130	122	12	10	65	64	207	196
Grand Total	**27,266**	**26,178**	**5,188**	**4,238**	**7,451**	**7,389**	**39,905**	**37,805**

Source: USCINCCENT SITREPs (S)

CENTAF Training Exercises in Desert Shield

The following tables list and describe various training exercises executed during Desert Shield. In general, the primary objectives of the training/flying operations were:

- to maintain a deterrent and defensive posture;
- to practice mission profiles that would be used during combat operations; and,
- to enhance the readiness to execute D-day operations.

The individual units had overall responsibility for their training programs. Headquarters U.S. Air Force, Central Command (CENTAF)/ Royal Saudi Air Force (RSAF) directed/developed training and exercises served to enhance unit programs. In particular, CENTAF training/exercises provided excellent opportunities for multinational/joint training and the exercising of specific theater concepts of operations that were in a constant process of evolution.

Desert Shield operations and training produced more than 160 air tasking orders (ATOs), with an average of about 750 daily sorties. Training at this level continued till the 9th of January 1991. Starting on the 10th of January 1991, the U.S. Air Force, Central Command (CENTAF) units began a gradual aircraft loadout and increased the alert posture; this culminating with 60-70 percent of the air-to-ground units and all the air-to-air units loaded out by the 13th of January 1991. Though reduced, some training continued to D-day. For last units to arrive, close air support (CAS) and Night Cannon training continued to D-day. In part, this was intended to deceive Iraq with respect to the coalition's true plans.

The following is a list of CENTAF-directed/sponsored training exercises and their objectives:

1. **Initial Hack** (24-26 October 1990):

- Exercise increased operations tempo
- Expose participants to conditions that are similar to actual planned scenarios.

2. **Imminent Thunder** (15-20 November 1990):

- Enhance joint/combined training
- Promote interoperability of friendly forces
- Execute simulated D-day air tasking order (ATO)
- Exercise two full air tasking order (ATO) cycles
- Serve as joint search and rescue (SAR)/combat search and rescue (CSAR) coordinator
- Support amphibious operations as required.

3. **Desert Force** (5-7 December 1990):

- Exercise actual package operations
- Conduct two carrier simultaneous operations
- Conduct integrated training
- Exercise coordinated command and control (C2) through Airborne Warning and Control System (AWACS) and integrated airborne, seaborne, and ground control data links
- Exercise airspace management plans and combat search and rescue (CSAR)
- Exercise tanker and receiver flows to planned orbits and tracks.

4. **Air-to-Air** (17-19 December 1990 in the East and 22-23 December 1990 in the West):

- Refine/refresh air-to-air fighting capability
- Improve E-3 weapons director proficiency
- Improve weapon director and fighter aircrew interface/war fighting capability

- Practice high value airborne assets (HVAA) protection

- F-1 dissimilar training.

5. **Fish Barrel** (7-9 January 1991):

- Evaluate the command and control (C2) procedures of the new tactical aircraft (TACAIR) concept of operations in support of land forces

- Evaluate the flow of tactical aircraft (TACAIR) in the two scenarios: land forces not engaged; and, land forces engaged

- Determine the ability of the communications net to support the two scenarios: land forces not engaged; and, land forces engaged

- Exercise the missions and command and control (C2) procedures in attacking armor close and deep, day and night

- Practice close air support (CAS) sortie distribution in a multicorps scenario

- Practice limited in-flight threat warning to close air support (CAS)/air interdiction (AI) aircraft of opposing air (OPAIR) though operating with air superiority.

6. **Joint Search and Rescue** (SAR)/**Combat Search and Rescue** (CSAR) (11 January 1991):

- Exercise join/combine assets in both search and rescue (SAR)/ combat search and rescue (CSAR) role

- Exercise command, control, and communications (C3) for the Joint Rescue Coordination Center (JRCC)/Rescue Coordination Centers (RCCs).

7. **Tanker/Airspace Control** (6th and 13th January 1991):

- Surge tankers at initial D-day requirements

- Exercise Airborne Warning and Control System (AWACS) in tanker control at initial D-day levels

- Test air traffic control procedures under saturated airspace conditions

In addition to the preceding major exercises the following recurring training and exercises took place:

8. **Air Defense (ADX)** (Weekly during November and December 1990):

- Exercise command, control, and communication of the air defense system

- Exercise handover procedures of Defense Communications Agency (DCA) combat air controls (CAPs) from one control agency to another

- Exercise handover procedures of target assignment by Surveillance Control Center (SCC) from airborne weapons control to air-defense artillery (ADA) weapons control

- Practice detection, identification, and reaction to penetrators.

9. **Package Training** (Weekly during the period September 1990 - January 1991):

- Promote interoperability of friendly forces

- Conduct integrated training with allies

- Exercise package operations.

10. **Close Air Support (CAS)/Air Interdiction (AI) Training** (Weekly during the period September 1990 - January 1991):

- Exercise all elements of Tactical Air Control System (TACS) that support close air support (CAS) and air interdiction (AI) missions

- Develop and exercise command and control (C2) procedure concept of operations of Tactical Air (TACAIR) Force elements in support of land forces

- Confirm that the communications net is able to support the concept of operations

- Familiarize pilots and terminal controllers with local terrain, landmarks, and visibility

- Provide fighters and other elements of Tactical Air Control System (TACS) with an opportunity to tailor their tactics to this theater

- Demonstrate to allied land forces on a very gradual and controlled basis that fighters could be brought over their positions safely.

11. **Night Cannon** (Weekly/Nightly during the period December 1990 - January 1991):

- Identify "armor" targets

- Determine optimal tactics for each on board system's capabilities

- Develop command and control (C2) methods for updating target location

- Utilize on board systems for battle damage assessment (BDA)

- Use Airborne Warning and Control System (AWACS) and procedural arrangements for airspace deconfliction.

12. **Border Air Intercept** (Daily during the period 17 December 1990 - 9 January 1991):

- Demonstrate air-to-air combat readiness/capability

- Reduce predictability

- Increase fighter/Airborne Warning and Control System (AWACS) air-to-air proficiency.

Note that,

a. The table of night exercises includes only those training exercises that were explicitly identified in the situation reports as night exercises. All the other exercises were assumed to be daylight exercises.

b. Whenever available the specific package composition was given. When specific numbers are not given, the aircraft represent only the type of aircraft in the package.

c. OPAIR means the opposing air component in the exercise.

d. DACT means dissimilar Aircraft Tactics.

e. OED 43 was a firing range.

f. Aircraft without country identification are U.S. planes.

g. The AC-130s were included in this table because they were under U.S. Air Force, Central Command (CENTAF) control.

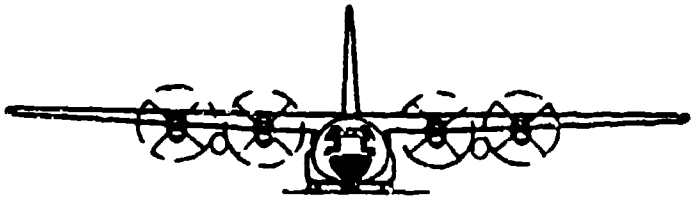


Table 56
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
12-Sep-90	4xF-15C; 4xF-15E; 2xEF-111; 4xF-4G	Execution of large package coordination.		X									
	F-4G; Saudi F-15; and Tornado	Coordination with allies air assets.		X									
13-Sep-90	ASOC; A-10s; ABCCC	Work the tactical air control system.											X
16-Sep-90	36xF-16	Large package interdiction						X					
	6xF-15E; 2xEF-111	Large package interdiction.						X					
	8xB-52	Low-level night	X									X	
18-Sep-90	A-10s	Familiarization with ground forces positions in the Eastern Province.											X
	U.S. F-4G; Saudi F-15 and Tornado	Coordination with allies air assets.		X									
	AC-130	Live fire exercise.				X							
20-Sep-90	8xF-16; 4xF-4G; 4 Tornado (RSAF); OPAIR: 4xF-15C (RSAF)	Combined package training.		X									
	12xF-111F; 4xF-15C; OPAIR: 8xF-15C; 4xF-15C(RSAF)	Night combined package training.	X	X									
22-Sep-90	14xA-10	CAS training					X						
	F111-Fs; F-4G; Jaguars (UK); OPAIR: F-15(RSAF)	Combined large(14 a/c) strike package.		X					X				
	F/A-18; A-6; EA-6B; Tornado(UK); VC-10(UK)	Combined strike package of 35 a/c against Jubail naval facility and Hawk missile batteries.		X					X				
	F-14; F-15(U.S.)	Dissimilar air combat tactics (DACT).									X		
	AC-130	Live fire exercise.				X							
	F-16; RF-4C	Surface attack tactics.							X				
25-Sep-90	EF-111; F-4G; EC-130E	Electronic combat integration of joint assets on UHF, HF and voice protect network(VPN).		X									

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
26-Sep-90	4 Jaguars(UK); 4xF-4G; Escort: 4xF-15(RSAF)	Combined package training.		X									
	6xA-10; 12xF-16; 8xAV-8; ABCCC	MARCENT and CENTAF joint CAS procedure exercise.		X			X						
	B-52G; F-4G	Coordination with suppression assets.		X									
28-Sep-90	AC-130	Live fire exercise.				X							
29-Sep-90	32xF-16; 4xF-15	Coordination and interoperability.		X									
	8xF-16; 4 Jaguar (RAF); 4xF-4G; OPAIR: F-15 (RSAF)	Coordination and interoperability.		X									
	7xF117; 4xEF-111	Coordination and interoperability.		X									
30-Sep-90	AC-130	Live fire exercise.				X							
	40xF-16; 12xF-4G	Joint package flying.		X									
2-Oct-90	8xF-16; 4xF-4G; 2 Tornado (RSAF); OPAIR: 4xF-15	Combined package		X									
	12xF-16; 4xF-4G; 8 Jaguar(RAF)	Combined package		X									
	4 Jaguar (RAF); 6xF-16; 4xF-4G; OPAIR: 4xF-15	Combined package		X									
	2xEF-111; 4xF-111; 4xF-4G; 4 Tornado (RSAF)	Combined package		X									
	A-10; F-16; ABCCC	CAS					X						
3-Oct-90	AC-130	Live fire exercises				X							
	3xB-52G; 4xF-4G	Night and suppression sorties	X										X
4-Oct-90	AC-130	Live fire exercise.				X							
	8xF-16; 4xF-4G; 2xEF-111; 4xF-15 (RSAF)	D-Day type tasking coordination exercise.		X									
	12xF-18	D-Day type tasking coordination exercise.		X									
	34xA-10; 2xAC-130;1xMC-130 ; 5xOV-10; 10xF-18; 14xAV-8B	CAS					X						

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
5-Oct-90	AC-130	Live fire exercises				X							
6-Oct-90	AC-130	Live fire exercises				X							
	10xF-16;4xF-4G; OPAIR: 4xF-15	Combined package		X									
	14xF-16; 4xF-4G; 2xEF-111; 2xF/A-18; 4xF-15(RSAF); OPAIR:												
	3 Tornado (RAF)	Combined package		X									
	6xF-16; 4xF-4G; OPAIR: 4xF-15	Combined package		X									
	3xB-52; F-4G	Night training	X										X
7-Oct-90	AC-130	Live fire exercises				X							
	40xF16; 4xF-15C; F-4G	Combined strike package		X					X				
	6xF-16; 4 Tornado (RAF); 4xF-4G	Combined strike package		X					X				
	16xF-16; 6 Tornado (RSAF); 4xF-	Combined strike package		X					X				
8-Oct-90	AC-130	Live fire exercises				X							
9-Oct-90	AC-130	Live fire exercises				X							
	37xABCCC; 20xA-10; 16xF-16	Large scale CAS exercise					X						
10-Oct-90	AC-130	Live fire exercises				X							
	8xF-16; 4xF-15; 4xF-4G; 4xEF-111; OPAIR:4xCF-18	Strike package							X				
	6 Tornado(RSAF); 4F-16; 4xF-4G; OPAIR: 6 Tornado (RSAF); 4xF-15 (RSAF)	Strike package		X					X				
	4xB-52	Night low-level sorties	X									X	
11-Oct-90	4xF-16; 12xF-4G; 4xEF-111; OPAIR: F-1(UAE)	Strike package		X					X				
	36xF-16; 4xF-4G	Strike package							X				
12-Oct-90	AC-130	Live fire exercise				X							
13-Oct-90	AC-130	Live fire exercise				X							
	8xF-16; 6xF-4G	Strike package							X				
	4xAWACS	Connectivity											X
14-Oct-90	AC-130	Live fire exercise				X							
17-Oct-90	8xF-16	Drop live MK-82 on OMD				X							

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	N/A	Thee combined strike packages (U.S., RSAF, RAF, CAF)		X					X				
	8xB-52	Night low-level	X									X	
18-Oct-90	N/A; OPAIR: Mirage(UAE)	Large strike packages		X					X				
22-Oct-90	F-4G; F-16;RF-4; F-15; Jag(UK); Tornado(RSAF); OPAIR: F-18(Can); Tornado(RAF)	Three combined strike packages		X					X				
	N/A	Large scale CAS					X						
	4xB-52	Night low-level	X									X	
23-Oct-90	N/A	Large scale CAS					X						
	F-16	Live MK82 on OMD (UAE)				X							
24-Oct-90		Initial Hack: 36 hour flying exercise that includes pre- and post- strike refueling, airfield attacks, airfield defense, CAS, etc. Exercise tasks command and control functions and flying units to generate and fly simulated D-day ATO taskings.		X	X		X	X	X				
	4xB-52	Low-level night	X									X	
25-Oct-90	32xF-16; 2xMirage 2000 (FR); 2xEA-6B	Initial Hack: Large combined package against airfields.		X	X		X	X	X				
	8xTornado(IT); 2xRF-4; 8xF-16	Large combined package against airfields.		X	X		X	X	X				
	6xTornado(RSAF); 2xF-117; 8xTornado(RAF); 4xF-15E; 2xB-52G; 2xF-4G; 2xEF-111; 1xEC-	Large combined night package against airfields	X	X	X		X	X	X				
26-Oct-90	N/A	4 combined strike packages attacking OED-70, Fahd, and Eskar ranges.		X					X				
	A-10; AC-130; ABCCC	Night CAS	X				X						
27-Oct-90	AC-130	Live fire at night in OED 43	X			X							

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
29-Oct-90	2xB-52	Day flight											X
	A-10; F-16; EC-130; C-130; F-5 (RSAF)	Combined CAS exercise		X			X						
	N/A	3 large combined packages involving U.S.,UK,Canada, and Saudi Arabian aircraft.		X									
	U.S. and Kuwaiti	2 CAS exercises		X			X						
	2xB-52	Low level night	X									X	
30-Oct-90	4xTornado(RSAF)	Desert Triangle: High speed approach to within 15 mi of Iraqi border then fly parallel to border.		X						X			
31-Oct-90	42 U.S. & Kuwaiti a/c	CAS		X			X						
	U.S.,UK,RSAF,Canada a/c	4 large combined packages		X									
	8xF-16	Live MK82 on OMD 2				X							
	4xF-16	High speed approach to within 15 mi of Kuwaiti border then fly parallel to border.								X			
2-Nov-90	8xF-14; 2xEA-6B; 2xS-3; 2xE-2	Desert Triangle: High speed approach to within 30 NM of Iraqi border then fly parallel to border.								X			
	A-10; AC-130; ABCCC	Night CAS	X				X						
3-Nov-90	8xF-14;1xEA-6B;1xS-3; 1xE-2	Desert Triangle: High speed approach to within 20 NM of Iraqi border then fly parallel to border.								X			
	4xF-111; 4xF-4G; 2xF-3 (UK); 2xF-15 (RSAF) alert	Night air defense	X	X						X			
4-Nov-90	8xF-16; 2xF-4G; 1xE-2	High speed approach to within 10 NM of Iraqi border then fly parallel to border.								X			
5-Nov-90	20 a/c	OPAIR		X									

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	ABCCC & 20 a/c	CAS					X						
	6xB-52	Timing(6 min apart)											X
6-Nov-90	8xF-16;	Desert Triangle: High speed approach to within 10 NM of Iraqi border then fly parallel to border.								X			
8-Nov-90	36xF-16; 4xF-4G; 2xRF-4; 2xMirage 2000(UAE); 81 a/c	Mass launch from Al Dhafra CAS		X			X						
12-Nov-90	U.S.,Saudi,UK,French a/c	3 combined strike packages		X					X				
	108 U.S.,Saudi,Kuwaiti a/c	Large scale combined CAS		X			X						
13-Nov-90	12xF-16; 4xF-15; 4xF-4G; OPAIR: F-1(French & Qatar)	Sandy Beach: Strike package against an airspace defended by French and Qatari a/c.		X					X				
	120 a/c	Large scale CAS					X						
14-Nov-90	8xF-14; 2XE-2; 2xS-3; 2xEA-6B	Desert Triangle: High speed approach to within 10 NM of Iraqi border then fly parallel to border.								X			
	6AV-8; 2xF/A-18; 2xF-4G	Simulation of an attack on a Saudi airfield10 NM south of the Kuwaiti border.							X	X			
15-Nov-90	N/A 700 a/c	Imminent Thunder: Flying planned to closely simulate actual D-day ATO tasking.9 combined strike packages and 1 CAS. 4 packages simulated airfields strikes.		X			X	X	X				
	F-117	Night airfield strikes	X						X				
16-Nov-90		Imminent Thunder: 12 combined strike packages and 1 CAS. simulate D+1 ATO tasking.		X			X	X	X				

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
17-Nov-90		Imminent Thunder: 5 combined strike packages and 1 CAS, simulate D+2 ATO tasking.		X			X	X	X				
	F-117	Night attack on airfields	X						X				
18-Nov-90		Imminent Thunder: 2 CAS. One CAS involved more than 210 sorties.		X			X	X	X				
19-Nov-90		CAS		X			X	X	X				
20-Nov-90	F-14	Desert Triangle: High s[illegible] approach to within 10 N[illegible] Iraqi border then fly parall[illegible] border.								X			
		CAS		X			X	X	X				
21-Nov-90	Saudi,Canadian,UK,French,U.S.	Imminent Thunder: 4 combined strike packages.		X			X	X	X				
	U.S.,Saudi,Kuwaiti	CAS		X			X						
25-Nov-90	4xF-14; 2xA-6; 2xF/A-18; 2xE-2C; 1xEA-6B; 1xEA-3	Desert Triangle: High speed approach to within 10 NM of Iraqi border then fly parallel to border.								X			
	N/A	a/c		X			X						
26-Nov-90	N/A	a/c		X			X						
28-Nov-90	N/A	a/c		X			X						
	N/A	5 joint/combined packages consisting of 12-32 a/c		X									
29-Nov-90	N/A	4 joint/combined strike packages consisting of 16-54 aircraft		X					X				
	8xF-14; 2xE-2;1xEA-6B; 1xEA-3;1xS-3	Desert Triangle: High speed approach to within 10 NM of Iraqi border then fly parallel to border.								X			
1-Dec-90	4xF-4G;4xF-111;4xF-16	Faker package in ADX		X						X			

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
2-Dec-90	4xF-14; 2xA-6; 2xF-18; 2xE-2; 1xEA-6B;1xEA-3	Desert Triangle: High speed approach to within 10 NM of Iraqi border then fly parallel to border.								X			
4-Dec-90	N/A	158 a/c CAS					X						
5-Dec-90	N/A	156 a/c CAS					X						
	N/A	packages against simulated packages		X					X				
6-Dec-90	N/A	Desert Force: 159 a/c in 4 packages against simulated packages.		X					X				
	N/A	114 a/c CAS					X						
7-Dec-90	N/A	Desert Force: 74 a/c in 2 strike packages against simulated packages.		X					X				
8-Dec-90	N/A	110 a/c CAS					X						
9-Dec-90	N/A	30 a/c CAS					X						
10-Dec-90	1xF-16	Drop simulated leaflets from 4500ft and 15000ft to refine release parameters and measure dispersal .											X
	N/A	3 combined packages attack on simulated targets.		X									
	1xEC-130	frequencies											X
11-Dec-90	N/A	2 combined packages attack on simulated targets.		X									
	N/A	101 a/c CAS					X						
12-Dec-90	N/A	129 a/c CAS					X						
	10xF-16; 8xA-10	Practice for CALFEX											X
	N/A	4 joint packages involving 141 a/c attack or simulated targets.		X									
13-Dec-90	N/A	128 a/c CAS					X						

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	8xF-16;8xA-10	Delivery of live ordnance in preparation for CALFEX				X							
	N/A	Attack on simulated targets											X
14-Dec-90	N/A	128 a/c CAS					X						
15-Dec-90	N/A	109 a/c CAS					X						
	8xF-16	Drop 2 live MK-84				X							
16-Dec-90	N/A	26 a/c CAS					X						
17-Dec-90	N/A	140 a/c CAS					X						
	8xA-10;8xF-16	Drop live ordnance as part of CENTAF/24ID CALFEX				X							
	2xB-52	EC against three Patriot sites											X
18-Dec-90	N/A	145 a/c CAS					X						
	2xAC-130	Live fire				X							
	2xF-16	Drop MK-84											X
	70 fighters;1xAWACS	DACT training		X							X		
19-Dec-90	N/A	145 a/c CAS					X						
	65 fighter;1xAWACS	DACT training, practicing AVAA retrograde		X							X		
	16 U.S. fighters; 6 allied fighters	Sandy Beach: Strike package against an airspace defended by French and Qatari a/c .							X				
20-Dec-90	N/A	163 a/c CAS					X						
21-Dec-90	N/A	180 a/c CAS					X						
	32 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	AC-130	Live fire				X							
22-Dec-90	N/A	156 a/c CAS					X						

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	20 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	20 U.S. and UK fighters; AWACS	ADX		X						X			
23-Dec-90	N/A	40 a/c CAS					X						
	16 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	8xF-15;8xF-1(Kuwait)	Air-to-air		X						X	X		
24-Dec-90	N/A	80 a/c CAS					X						
	24 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
25-Dec-90	N/A	71 a/c CAS					X						
	40 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
26-Dec-90	N/A	175 a/c CAS					X						
	24 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
27-Dec-90	N/A	175 a/c CAS					X						
	28 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
28-Dec-90	N/A	188 a/c CAS					X						

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	24 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
29-Dec-90	N/A	140 a/c CAS					X						
	32 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	36x F-111	Mass launch											X
30-Dec-90	N/A	152 a/c CAS					X						
	32 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	32 sorties	Night Camel	X										X
	F-16;	Drop live and inert bombs (MK-82)				X							
	A-10	Drop live and inert bombs (MK-825), fire Maverick				X							
31-Dec-90	N/A	71 a/c CAS					X						
	30 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	22 sorties	Night Camel	X										X
	F-16;F-15E	Drop live MK-82				X							
	14 U.S. &RSAF a/c;OPAIR:F-1	Combined strike package		X					X				
	8 U.S. &RSAF a/c;OPAIR:F-1	Combined strike package		X					X				
	N/A	82 a/c CAS					X						

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
1-Jan-91	36 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	F-16	Drop live MK-82				X							
2-Jan-91	N/A	177 a/c CAS					X						
	24 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	F-16	Drop live MK-82				X							
3-Jan-91	36 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	N/A	183 a/c CAS					X						
4-Jan-91	N/A	144 a/c CAS					X						
	44 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	F-15E;F-16;A-10	Live ammo				X							
5-Jan-91	N/A	181 a/c CAS					X						
	32 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	8xA-10	Live MK-82 ammo				X							
	Midway, Royal Air Force of Oman	Beacon Flash: DACT,low level navigation, surface attack, air refueling.		X	X				X		X	X	

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	6 Fakers; AWACS; Airborne CAP; Ground alert CAP; AD C2	Air Defense (ADX)		X						X			
6-Jan-91	N/A	74 a/c CAS					X						
	30 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	8xA-10	Live MK-82 ammo				X							
	Midway, Royal Air Force of Oman	Beacon Flash: DACT,low level navigation, surface attack, air refueling.		X	X				X		X	X	
	8xF-16	Live MK-82 ammo				X							
7-Jan-91	226 sorties;U.S.,Saudi,UK,Kuw	Fish Barrel: CAS/Air interdiction, night/day ops to test air-to-ground TACAIR procedures for Desert Shield	X	X			X	X	X				
	40 sorties	Night Cannon	X										X
	18-30 a/c; U.S., Saudi, UK	4 strike packages		X					X				
	30 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	6xB-52	Strike training							X				
	Midway ,Royal Air Force of Oman	Beacon Flash: DACT, low level navigation, surface attack, air refueling.		X	X				X		X	X	
8-Jan-91	237 sorties; U.S., Saudi, UK, Kuwaiti	Fish Barrel: CAS/Air interdiction, night/day ops to test air-to-ground TACAIR procedures for Desert Shield .	X	X			X	X	X				
	48 sorties	Night Cannon	X										X

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	177 a/c ; U.S., Saudi, UK, Canada, Italy	7 mirror image strike packages		X					X				
	2 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	Midway ,Royal Air Force of Oman	Beacon Flash: DACT, low level navigation, surface attack, air refueling.		X	X				X		X	X	
9-Jan-91	211sorties; U.S.,Saudi, UK, Kuwait	Fish Barrel: CAS/Air interdiction, night/day ops to test air-to-ground TACAIR procedures for Desert Shield .	X	X			X	X	X				
	20 sorties; F-15E; F-111; F-16	Night Cannon	X										X
	14 sorties	Border Look: Involves about 32 sorties conducting intercepts at a distance of more than 10 NM from border.								X			
	Midway, Royal Air Force of Oman	Beacon Flash: DACT, low level navigation, surface attack, air refueling.		X	X				X		X	X	
	F-16 (newly arrived)	Theater and night LANTIRN	X										X
10-Jan-91	24 sorties; F-15E; F-111; F-16	Night Cannon	X										X
	>200 sorties	CAS					X						
	20xF/A-18;1xEA-6B	Mirror strike package							X				
11-Jan-91	20 sorties; F-15E; F-111; F-16	Night Cannon	X										X
	>250 sorties	CAS					X						
	28 sorties; F-15E; F-111; F-16	Night Cannon	X										X
	262 sorties	CAS					X						
13-Jan-91	12 sorties;F-16	Night Cannon: CAS	X				X						
14-Jan-91	42 sorties;F-16	Night Cannon	X										X
	40 sorties	CAS					X						

Table 56 (cont'd)
CENTAF Training Exercises in Desert Shield

Date	Exercise Participants	Exercise Purpose	Night	Combined or Joint CFT	Combined or Joint AAR	Live Fire/ Ammo	CAS	AI	OCA	AD	DACT	Low Level	Other
	F-16 (newly arrived)	Theater and night LANTIRN	X										X
15-Jan-91	30 sorties	Night Cannon	X										X
	12 sorties	CAS					X						
	12xA-10	Drop 2XMX-82											X
	F-16 (newly arrived)	Theater and night LANTIRN	X										X
		Total	33	86	9	33	72	16	50	37	9	11	28

Source: USCINCCENT SITREPs (S).Some additional material from USCENTAF memo (S) for record dated 20 March 1991, signed by Lt Col Robert S. Coombs with attachment summarizing Desert Shield exercises and training.

Special Operations Training

The following table describes the nature of the daily Special Operations Forces (SOF) training in Desert Shield and its distribution by types of training exercises. In addition to self-training, the Special Operations Forces also dedicated much effort to training the Arab forces and some Allied elements.

The data in the table was drawn from the USCINCENT situation reports. Note that when the number of aircraft is not indicated, several aircraft took part in the exercise but their exact number was not reported.

The data reveals that by far the bulk of training was dedicated to aerial refueling, night specific exercises, low-level flight, and navigation training. Relatively few exercises dealt with search and rescue or with emergency procedures; these are not considered to be normal SOF missions.



Table 57
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
9-Oct-90	MH-60	Desert training, water hoist, live fire			X	X				X						
	MH-53	FAV training, infil/exfil and aerial refueling					X								X	
	MC-130	Low level and aerial refueling, reception committee lighting (RCL), and nvg landings						X	X						X	
	1x MH-60	SAR in support of JRCC									X					
	MH-47	Local desert training			X											
	HC-130	Airfield orientation														
10-Oct-90	MH-60	Night tactical exfil		X			X									
	MH-53	Night gunnery and NSWTG fast rope training		X		X										
	MH-47	Day/Night sling training	X	X												
11-Oct-90	MH-60	Infil, exfil, water hoist, gunnery				X	X			X						
	MH-53	AR, gunnery				X									X	
	HC-130	AR, low-level ops						X							X	
	MC-130	AR, low-level ops, nvg landing, rapid offloads						X	X						X	
12-Oct-90	MH-60	Over water operations								X						
	MH-53	CSAR, AR, gunnery				X					X				X	
	MC-130	Inflight refueling, pilot proficiency, low level ops, helo AR, nvg landing						X	X			X			X	
	HC-130	Pilot proficiency, over water navigation							X	X		X				
13-Oct-90	MH-53	Infil/exfil of pararescue personnel for a med-ex, gunnery/AR				X	X				X				X	
	HC-130	Helo AR, low level ops, pilot proficiency						X				X			X	
	MH-60	Night TAC, AR, gunnery		X		X									X	
	1x MC-130	Inflight refueling, low level ops, nvg						X	X						X	
14-Oct-90	MH-60	Water ops with NSWTG								X						
	MH-53	Live fire				X										

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
15-Oct-90	MH-47	Aerial range recon with French and Saudi, live fire				X							X			
16-Oct-90	MH-53	AR, gunnery, FARP, infil and exfil of CCT and PJS				X	X							X	X	
	MH-60	Day tactical and night water training with NSWTG	X	X						X						
	HC-130	Airfield survey and simulated water drops								X						
	MC-130	Inflight refueling, low level, nvg, helo AR, FARP, exfil of CCT and PJS					X	X	X					X	X	
	MH-60	Day, night, nvg and gunnery	X	X		X			X							
	MH-47															
17-Oct-90	MH-53	Pilot proficiency, FARP, infil/exfil					X					X		X		
	MH-60	Water infil with NSWTG, water ops, live fire, low level and pilot proficiency training				X	X	X		X		X				
	MC-130	FARP, exfil training with CCT					X							X		
	MH-47	Nvg low level						X	X							
18-Oct-90	HC-130	Day low level, aircrew proficiency, water ops	X					X		X		X				
	1x MH-53	Aerial gunnery				X										
	MH-47	Aircrew qualification														
	MH-60	Evaluation checks, nvg, tac							X							
19-Oct-90	MH-60	Soft Duck support for NSWTG and infil/exfil					X									
	MH-53	Infil/exfil with Special Tactics Squadron.		X			X	X								
	HC-130	Helo AR and water ops								X					X	
	MC-130	Low level, helo AR, inflight refueling, pilot						X				X			X	
	MH-47	Static FAV load trg and route survey														
	MH-60	Nvg, low level trg , and route survey						X	X							

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	MH-60	SAREX									X					
	MH-53															
	HC-130															
20-Oct-90	2xH-60	SAREX									X					
	1xMH-53															
	2x HC-130															
	MH-53	AR, low level, infil/exfil with 5th SFG					X	X							X	
	MH-60	Gunnery, AR, low level, pilot proficiency				X		X				X			X	
	HC-130	Low level, AR						X							X	
21-Oct-90	MH-60	Night gunnery		X		X										
22-Oct-90	2x MH-47	Nvg							X							
23-Oct-90	MH-60	Day and night CSAR in support of NSWTG	X	X							X					
	MH-53	Air refueling, pilot proficiency										X			X	
	MC-130	Low level, helo AR, inflight fefuel and nvg						X	X						X	
	HC-130	Night low level, helo AR and land tng		X				X							X	
	2x MH-47	Nvg							X							
24-Oct-90	MH-60	Night CSAR in support of NSWTG		X							X					
	MH-53	Gunnery, formation, AR				X									X	
	MC-130	Low level ops, helo AR, rapid off load of CCT, pilot proficiency						X				X			X	
	1x HC-130	Low level familiarization						X								
	2x MH-60	Day/night flights	X	X												
25-Oct-90	MH-60	Day water ops, night AR, and night formation	X	X						X					X	
	MH-53	Day tactical ops, night AR, and supported	X	X							X					
	1x MC-130	Low level ops and AR tng						X							X	
	1x HC-130	Night helo AR		X											X	

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Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Greenery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	1x MH-47	Rappelling and fast rope tng														
	2x MH-60	Cross country nvg							X							
26-Oct-90	MH-60	Day/Night flight, trng infil of 5SFG, night tactical, night formation, and pilot proficiency	X	X			X					X				
	HC-130	Day navigation, low level ops, and night ops	X	X				X	X							
	MC-130	low level ops, AR, helo AR and a site survey						X							X	
	1x MH-47	NSWTG tng														
	MH-60	CSAR and NSWTG tng									X					
27-Oct-90	MH-60	Local day tng	X													
	MC-130	Bundle drop in support of 5th SFG(A) element														
	MH-53	SAREX									X					
	MH-60															
	HC-130															
	MC-130															
28-Oct-90	MH-53	AR, resupply and trng exfil of 5th SFG(A) element					X								X	
	HC-130	Inflight refueling, helo AR, night low level		X				X							X	
30-Oct-90	MH-60	Day tactical tng, support NSWTG	X													
	MH-53	Night tactical, night AR		X											X	
	1x MC-130	Navigation							X							
	MC-130	Helo AR, low level ops, inflight refueling, bundle drop						X							X	
	MH-60	Cross country navigation, pilot proficiency, NSWTG							X			X				
	1x MH-47	Support of NSWTG tng														
31-Oct-90	MH-60	Day tactical tng, support NSWTG	X													
	MH-53	AR, day/night tactical	X	X											X	

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	HC-130	Formation, night low level ops, night AR		X				X							X	
	MC-130	Helo AR, low level ops, inflight refueling, bundle drop						X							X	
	MH-60	Cross country navigation, pilot proficiency, NSWTG							X			X				
	1x MH-47	Support of NSWTG trng														
1-Nov-90	MH-60	Supported NSWTG trng, day tactical trng, AR, live fire	X			X									X	
	MH-53	Supported CCT trng, night tactical ops, night infil, night AR		X			X								X	
	MH-60	Supported NSWTG trng, local recon, FARP, pilot proficiency										X	X	X		
	1x MH-47	Supported NSWTG trng														
2-Nov-90	MH-53	Exfil 5th SFG(A) element, day and night	X	X		X	X								X	
	MH-60	Supported NSWTG water hoist trng, night AR		X						X					X	
	MC-130	Helo AR, avg landings, FARP							X					X	X	
	HC-130	Helo AR													X	
	MH-47	Support NSWTG water infil					X			X						
	1x MH-60	Supported NSWTG VBSS trng														
	MH-60	Tactical trng and local recon											X			
	1x MH-47	Sling trng														
3-Nov-90	MH-60	Supported night NSWTG water hoist trng, day tactical	X	X						X						
	MH-53	Day/night tactical, AR, supported 5th SFG(A) exfil and resupply	X	X			X								X	
	HC-130	Helo AR and bundle drop						X							X	
	MC-130	Helo AR, IFR, and bundle drop													X	
	1x MH-60	Local recon											X			

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
4-Nov-90	MH-60	Supported NSWTG VBSS tng,infil of marine element, day tactical and emergency	X				X									X
	HC-130	AR night low level		X				X							X	
5-Nov-90	1x MH-60	FARP tng												X		
	MH-47	FARP & sling												X		
6-Nov-90	MH-60	Supported NSWTG VBSS/infil tng, CSAREX					X				X					
	MH-53	Low level, AR, CSAREX						X			X				X	
	MC-130	Helo AR, IFR, CSAREX									X				X	
	MH-47	FARP & sling load												X		
7-Nov-90	MH-60	Supported NSWTG VBSS tng, navigation, live fire, local pilot proficiency				X			X			X				
	MH-53	FARP, night tactical		X										X		
	HC-130	Low level, supported helo refueling						X							X	
	MC-130	Helo AR, IFR, nvg, pilot proficiency							X			X			X	
	MH-60	Supported NSWTG VBSS tng														
	MH-47	Supported NSWTG VBSS tng,FARP												X		
8-Nov-90	MH-60	Supported NSWTG VBSS tng, navigation, gunnery				X			X							
	MH-53	Supported para rescue, night tactics, AR, gunnery		X		X					X				X	
	HC-130	Supported NSWTG VBSS tng, AR													X	
	MC-130	Supported NSWTG VBSS tng, AR													X	
	1x MC-130	NVG low level, helo AR, exfil of CCT					X	X	X						X	
	MH-60	Supported NSWTG VBSS tng														
9-Nov-90	MH-60	Night tactical, AR, supported NSWTG VBSS		X											X	
	MH-53	Night tactical, AR, infil/exfil of 5th SFG(A) element		X			X								X	

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	MH-130	Night low level, helo AR, VBSS		X				X							X	
	MC-130	Low level, helo AR, nvg						X	X						X	
	MH-60	Supported NSWTG VBSS trng														
10-Nov-90	MH-60	Pararescue, day/night tactical, night water hoist	X	X						X	X					
	MH-53	Day/night tactical, AR, exfil of NSWTG element	X	X			X								X	
	MH-130	Low level, IFR, helo AR, nvg						X	X						X	
	1x HC-130	Helo AR, pilot proficiency										X			X	
11-Nov-90	MH-60	Day tactical, water hoist, nvg low level, gunnery	X			X		X	X	X						
	MH-53	Day/night trng	X	X												
	4x MH-60	Long range nvg							X							
	HC-130	Low level bundle drop, pilot proficiency						X				X				
12-Nov-90	MH-53	Day/night orientation landing on hospital ship	X	X												
13-Nov-90	MH-60	Day/night orientation landing on hospital ship, nvg, gunnery	X	X		X			X							
	MH-53	Night tactics, IFR		X												
	HC-130	Low level nvg, nvg landing						X	X							
	1x MC-130	Low level, IFR, nvg						X	X							
14-Nov-90	MH-60	Emergency procedures, gunnery, day AR, nvg, day/night water ops	X	X		X			X	X					X	X
	MH-53	Night tactical, AR		X											X	
	MH-130	Night low level, helo AR, VBSS		X				X							X	
	MC-130	Low level nvg, pilot proficiency, helo AR and bundle drop						X	X			X			X	
	MH-60	Nvg							X							

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	HC-130	Helo AR, pilot proficiency, water ops, nvg landing							X	X		X			X	
	1x MH-60	Orientation landing on hospital ship									X					
	1x MH-47															
15-Nov-90	1x MH-60	CSAR in support of NSWTG									X					
	HC-130	Nvg							X							
16-Nov-90	1x MH-53	Survivor infil					X									
	1x MH-47	Infil of 5th SFG(A) team					X									
17-Nov-90	6x MH-60	35 different scenarios,19 actual recoveries of														
	2x MC-130	survivor role players from ground and water														
	5x MH-53	sites														
	4x MH-60	(AR)														
	2x MH-47															
	3x HC-130										X					
20-Nov-90	MH-60	Supported NSWTG water ops, gunnery, nvg water ops				X			X	X						
	MH-53	Day/night tactics	X	X												
	HC-130	Low level ops, pilot proficiency and nav trng						X				X				
	MC-130	low level ops, IFR, helo AR						X							X	
21-Nov-90	MH-60 (AF)	Supported NSWTG water ops, tactics, AR								X					X	
	MH-53	Night tactics, AR, gunnery		X		X									X	
	MC-130	Low level ops, RCL, helo AR						X							X	
	HC-130	Low level ops, pilot proficiency, helo AR						X				X			X	
	MH-60	Nvg							X							
24-Nov-90	MH-60 (AF)	Supported NSWTG CSAR, AR, gunnery, water ops, emergency procedures				X				X	X				X	X

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	MH-53	Day tactics, AR, checkrides	X												X	
	MC-130	Low level ops, IFR, nav trng, helo AR						X							X	
	HC-130	low level ops, helo AR						X							X	
25-Nov-90	MH-60 (AF)	Supported NSWTG water ops, gunnery, water ops, transition, emergency procedures				X				X						X
	MH-53	Day/night tactics, checkrides	X	X												
	HC-130	Low level nvg, pilot proficiency						X	X			X				
26-Nov-90	MH-60 (AF)	Day tactics gunnery, night water ops, IFR	X	X		X				X						
	MH-53	Day tactics, AR, checkrides	X												X	
	MC-130	FARP, nvg trng, pilot proficiency							X			X		X		
	HC-130	Low level nvg, IFR						X	X							
	MH-60	Recon, day tactics, nvg	X						X				X			
	MH-47	Sling ops														
28-Nov-90	MH-60 (AF)	Night tactics, gunnery, night water hoist		X		X				X						
	MH-53	Day/night tactics, IFR	X	X												
	MC-130	Low level nvg trng, nvg landing						X	X							
	HC-130	Low level nvg, IFR, RCL landing						X	X							
	MH-60	Recon, gunnery, nvg				X			X				X			
29-Nov-90	MH-60 (AF)	Night tactics, gunnery, night water hoist		X		X				X						
	MH-53	AR, night tactics, night water hoist, gunnery		X		X				X					X	
	MC-130	Pilot proficiency, helo AR, bundle drop										X			X	
	HC-130	Low level nvg, helo AR						X	X						X	
	MH-60	Gunnery				X										
30-Nov-90	MH-60 (AF)	Night tactics, gunnery, AR		X		X									X	
	MH-53	AR, day/night tactics	X	X											X	
	MC-130	Low level nvg, helo AR, IFR						X	X						X	
	HC-130	Night low level nvg, helo AR		X				X	X						X	

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	MH-60	Gunnery				X										
1-Dec-90	MH-60 (AF)	Night tactics, IFR, night water hoist, gunnery		X		X				X						
	MH-53	Day/night tactics	X	X												
	MC-130	Low level nvg, helo AR, IFR						X	X						X	
	HC-130	Night low level nvg, helo AR		X				X	X						X	
2-Dec-90	MH-60 (AF)	Day/night tactics, IFR, night water hoist	X	X						X						
	MH-53	Day/night tactics, IFR	X	X												
	MC-130	IFR, day/night helo AR	X	X											X	
3-Dec-90	1x MH-47	Forward looking infra-red (FLIR)														
4-Dec-90	MH-60 (AF)	Night tactics/AR, night low level/AR, pilot		X				X				X			X	
	MH-53	Day tactics, water ops, night AR	X	X						X					X	
	HC-130	Night low level nvg, IFR, pilot proficiency		X				X	X			X				
	1x MH-47	Forward looking infra-red (FLIR)														
5-Dec-90	MH-60 (AF)	Night tactics/AR, night low level/AR, pilot proficiency		X				X				X			X	
	MH-53	Day tactics/AR, night water hoist	X	X						X					X	
	HC-130	Day low level nvg, night AR	X	X				X	X						X	
	1x MH-47	Forward looking infra-red (FLIR)														
	1x MH-60	Day/night gunnery	X	X		X										
	1x MC-130	Low level ops, nvg						X	X							
6-Dec-90	MH-60 (AF)	Night water hoist, gunnery		X		X				X						
	MH-53	Night water ops, day tactics, FAM flight	X	X						X						
	MC-130	Low level ops, nvg, IFR						X	X							
	HC-130	Night low level ops, helo AR		X				X							X	
	1x MH-60	Day/night gunnery	X	X		X										
	1x MH-47	Forward looking infra-red (FLIR)														

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
7-Dec-90	MH-60 (AF)	Night tactics/AR, gunnery		X		X									X	
	MH-53	Day water ops, night AR	X	X						X					X	
	HC-130	Night low level ops, IFR, nvg		X				X	X							
	MH-60	Night tac/nvg		X					X							
	MH-47	Sling load														
8-Dec-90	MH-60 (AF)	Night tactics, AR,support VBSS		X											X	
	MH-53	Support infil/exfil for 5th SFG(A), water ops pararescue personnel, night AR		X			X			X	X				X	
	MC-130	Helo AR, container release system(CRS), high speed low level air drop (HSLLADS)						X							X	
	HC-130	Night low level AR, supported VBSS		X				X							X	
10-Dec-90	MH-47	Support infil tng 5th SFG(A)					X									
	1x F-16	Drop simulated leaflets from 4500 ft and 15000 ft to refine release parameters and														
	1x EC-130	Compass Call jam Blue frequencies														
11-Dec-90	MH-60 (AF)	Night tactics/AR, night tactics/water hoist		X						X					X	
	MH-53	Night tactics/AR, day AR/gunnery	X	X		X									X	
	HC-130	Night/day low level ops/AR	X	X				X							X	
	1x MC-130	Night low level/IFR/nvg , supported 5th		X			X	X	X							
	MH-60	Support NSWTG with fast rope tng Night tac/nvg		X					X							
	MH-47	Formation tng														
12-Dec-90	MH-60 (AF)	Supported site surveys, instrument/AR tng													X	
	MH-53	Night tactics/gunnery		X		X										
	HC-130	Night AR/nvg		X					X						X	
	MH-60	Minigun tng, supported NSWTG fast rope														
	MH-47	Forward looking infra-red (FLIR), formation														

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
13-Dec-90	MH-60 (AF)	Tactics/water ops, night tactics/water hoist/gunnery		X		X				X						
	MH-53	Supported NSWTG infil/exfil					X									
	HC-130	Day low level/AR, night nvg	X	X				X	X						X	
	MH-60	Night water hoist/gunnery		X		X				X						
	MH-47	Forward looking infra-red (FLIR), formation													X	
14-Dec-90	MH-60 (AF)	Day tactics/AR, instrument/gunnery	X			X										
	MH-53	Check rides, night tactics/gunnery		X		X				X		X			X	
	HC-130	Helo/AR, water ops, pilot proficiency					X	X	X							
	MC-130	CCT exfil, day/night low level, nvg	X	X			X						X			
	MH-60	Recon, support 5th(A) infil					X									
	MH-47	Forward looking infra-red (FLIR), infil														
15-Dec-90	MH-60 (AF)	Night water hoist/gunnery,day tactics	X	X		X				X					X	
	MH-53	Infil,night tactics/AR, water ops		X			X			X						
	HC-130	Day low level, water ops, bundle drop, low altitude random approach (LARA), helo night/AR	X	X				X		X					X	
	MH-60	Deck landing qualifications					X									
	MH-47	Forward looking infra-red (FLIR), infil/exfil														
16-Dec-90	MH-60 (AF)	Night water hoist/gunnery, day tactics water ops	X	X		X				X						
	MH-53	Infil					X									
	HC-130	Bundle drop														
	MH-60	Deck landing qualifications					X									
	MH-47	Infil/exfil														
17-Dec 90	MH-60	Cross country nvg, infil/exfil					X		X							
18-Dec-90	MH-60 (AF)	A/C commander upgrade, nvg/night water	X	X		X			X	X						

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
	MH-53	Support NSWTG soft Duck, Desert Alliance			X											
	HC-130	Day low level ops, IFR, nvg, pilot proficiency	X					X	X			X				
	MH-60	Cross country nvg							X							
	MH-47	Infil/exfil, FLIR					X									
19-Dec-90	MH-60 (AF)	Night tactics/AR, night tactics/gunnery		X		X									X	
	MH-53	Support infil/exfil, Desert Alliance			X		X									
	MC-130	IRF, high speed low level air drop (HSLLADS)						X								
	HC-130	Nvg							X							
	MH-60	SAR, infil					X				X					
20-Dec-90	MH-60 (AF)	Day tactics/ night water hoist/gunnery	X	X		X				X						
	1x MH-53	Support Desert Alliance			X											
	MC-130	Night low level ops, nvg, IFR, air drop, Desert Alliance		X	X			X	X							
	HC-130	Helo AR, nvg							X						X	
	MH-47	Infil/exfil					X									
21-Dec-90	MH-60 (AF)	Night water hoist/gunnery, pilot proficiency		X		X				X		X				
	1x MH-53	Support Desert Alliance			X											
	MC-130	Night low level ops, nvg, Desert Alliance		X	X			X	X							
	MH-60	Desert Alliance			X											
	MH-47	Infil/exfil					X									
22-Dec-90	MH-60 (AF)	Night tactics, nvg, supported NSWTG night water hoist		X					X	X						
	MH-53	Night gunnery		X		X										
	MC-130	Night low level ops, nvg, IFR, rapid exfil for Desert Alliance		X	X		X	X	X							
	MH-47	NWSTG CSAR									X					

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
23-Dec-90	MH-53	NSWTG Soft Duck														
	2x MC-130	Desert Alliance			X											
	1x HC-130															
	MH-47	CSAR									X					
28-Dec-90	MH-60 (AF)	Night AR/gunnery, day water hoist/raft/stokes	X	X		X				X					X	
	MH-53	Day/night orientation flights	X	X												
	MC-130	Night low level ops, nvg, IFR, air drops		X				X	X							
	HC-130	Night low level ops, helo night AR		X				X							X	
	MH-60	CSAR									X					
29-Dec-90	MH-60 (AF)	Pilot proficiency, helo AR, live fire				X						X			X	
	MH-53	Night AR		X											X	
	1x MC-130	Night low level ops, nvg, IFR, helo AR		X				X	X						X	
	1x HC-130	Night low level ops, night AR		X				X							X	
	MH-60	CSAR									X					
30-Dec-90	MH-53	Live fire ops, day/night orientation	X	X		X										
	HC-130	Nvg							X							
	MH-60	Site survey, live fire				X										
31-Dec-90	MH-60	Internal SAR									X					
1-Jan-91	1x HC-130	Low level ops, pilot proficiency						X				X				
3-Jan-91	MH-60 (AF)	Nvg, gunnery				X			X							
4-Jan-91	MH-60 (AF)	Night AR ops, night gunnery		X		X									X	
5-Jan-91	MH-60 (AF)	Night water hoist/gunnery		X		X				X						
	MH-60	SAR									X					
	MH-47															

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
6-Jan-91	MH-60 (AF)	Night gunnery, AR		X		X									X	
	HC-130	Night low level, support helo AR		X				X							X	
	MH-60	CSAR									X					
	MH-47															
7-Jan-91	1x MH-53	Night water ops, night AR		X						X					X	
8-Jan-91	MH-60 (AF)	Instrument trng, night AR, night gunnery		X		X									X	
	MH-53	Day tac low level trng	X					X								
	MC-130	Night low level air drop, helo AR		X				X							X	
	HC-130	Night low level ops, helo AR		X				X							X	
	1x MH-60	CSAR, FLIR									X					
9-Jan-91	MH-60 (AF)	Night AR, night transition/gunnery/water		X		X				X					X	
	MH-53	Night AR, night transition/gunnery		X		X									X	
	1x MC-130	Night low level ops, IFR, nvg		X				X	X							
	HC-130	Night low level ops, helo night AR/pilot proficiency		X				X				X			X	
	MH-47	Local trng														
10-Jan-91	MH-60 (AF)	Cross country nvg, night transition, live fire ops		X		X			X							
	MH-53	Night AR, pilot proficiency		X								X			X	
	MC-130	IFR, nvg, helo night AR		X					X						X	
	HC-130	Self contained NAB system (SCNS)														
	1x MH-60	FLIR														
11-Jan-91	MH-60 (AF)	Night AR, water hoist		X						X					X	
	MH-53	Night AR		X											X	
	1x MC-130	Night low level ops, nvg, helo AR		X				X	X						X	
	HC-130	Pilot proficiency										X				
	MH-47	Local trng														

Table 57 (cont'd)
Special Operations Training Missions in Desert Shield

Date	Package	Purpose of Exercise	Day Trng	Night Trng	Desert Trng	Gunnery/ Live Fire	Infil/ Exfil	Low Level	NVG	Water Related	Rescue	Pilot Profcy	Recon	FARP	Refuel	Emerg Proc
12-Jan-91	MH-60 (AF)	Night AR, water ops, cross country nvg		X					X	X					X	
	MH-53	Night AR/gunnery		X		X									X	
	1x MC-130	Night low level ops, nvg, helo AR, IFR		X				X	X						X	
	HC-130	Low level ops, helo AR						X							X	

Source: USCINCCENT SITREPs (S)

Allied Air Operations

The following tables present the scheduled and flown number of allied sorties. These aggregate numbers include for the Royal Air Force, Royal Saudi Air Force, Royal Canadian Air Force, French Air Force, and Italian Air Force. It is important to note that while the "Scheduled" and "Flown" numbers are tabulated for that day, the "Grand Total" row represents the aggregate total for Desert Shield. Thus some tables may appear to be off. In Table 59, for example, grand total columns (7,087 and 7,192 respectively) reflect the entire period of Desert Shield and do not merely sum up column entries.

The data in these tables was derived from the U.S. Commander-in-Chief, Central Command situation reports. When data were unavailable from SITREPs, Sortie Recap (Recapitulation) Data was utilized. When discrepancies were found, the SITREPs entries took precedence.

The date for any entry should be considered to mean "on day dd-mm-yy Zulu" and the data for this date would be found in the SITREP for the following day. For instance, the sortie data for 5 Jan 91 would appear in the SITREP dated "062215 Jan 91."



Table 58
Allied Sorties by Mission

Representative	CAP		Air-To-Ground		Air-To-Air		AWACS		Air Refueling	
Date	Sched	Flown	Sched	Flown	Sched	Flown	Sched	Flown	Sched	Flown
7-Aug-90	16	16	0	0	0	0	1	1	0	0
14-Aug-90	60	59	0	0	4	0	3	3	0	0
21-Aug-90	8	8	12	12	4	4	2	2	2	2
28-Aug-90	18	18	23	14	4	7	2	2	6	4
4-Sep-90	16	16	32	28	4	2	3	3	8	8
11-Sep-90	20	20	39	37	9	6	3	3	7	7
18-Sep-90	28	28	36	35	4	4	3	3	11	11
25-Sep-90	24	24	38	32	4	8	3	3	8	8
2-Oct-90	20	20	47	36	13	12	3	3	9	9
9-Oct-90	24	24	22	20	28	28	3	3	8	8
16-Oct-90	36	36	66	65	17	17	3	3	11	11
23-Oct-90	34	30	60	57	21	22	3	3	12	12
30-Oct-90	26	26	138	143	74	55	3	3	11	8
6-Nov-90	28	28	121	109	75	62	4	4	12	10
13-Nov-90	28	28	122	114	82	59	4	6	12	11
20-Nov-90	42	42	149	139	71	64	4	4	11	11
27-Nov-90	24	22	147	139	88	68	3	3	12	11
4-Dec-90	30	30	164	153	75	79	4	4	21	21
11-Dec-90	28	28	142	130	84	75	4	4	13	16
18-Dec-90	28	28	146	119	92	89	4	4	22	20
25-Dec-90	28	28	71	69	39	39	4	4	14	17
1-Jan-91	36	34	115	106	80	67	3	3	20	19
8-Jan-91	28	28	182	183	83	72	3	3	21	24
15-Jan-91	58	56	123	105	42	31	3	3	20	20
Grand Total	**4,542**	**4,532**	**12,045**	**11,045**	**6,250**	**5,522**	**515**	**512**	**1,721**	**1,719**

Table 58 (cont'd)
Allied Sorties by Mission

Representative	Tactical Recce		Airlift		Strategic Recce		Total	
Date	Sched	Flown	Sched	Flown	Sched	Flown	Sched	Flown
7-Aug-90	4	4	40	40	0	0	61	61
14-Aug-90	4	4	47	47	0	0	118	113
21-Aug-90	0	0	37	37	0	0	65	65
28-Aug-90	2	2	26	26	0	0	81	73
4-Sep-90	2	2	42	42	0	0	107	101
11-Sep-90	0	0	26	26	0	0	104	99
18-Sep-90	2	2	35	35	0	0	119	118
25-Sep-90	0	0	25	25	0	0	102	100
2-Oct-90	0	0	0	0	0	0	92	80
9-Oct-90	2	2	20	20	0	0	107	105
16-Oct-90	2	2	22	22	0	0	157	156
23-Oct-90	4	4	22	22	2	2	158	152
30-Oct-90	8	8	66	66	0	0	326	309
6-Nov-90	2	2	70	70	1	1	313	286
13-Nov-90	7	5	52	52	1	1	308	276
20-Nov-90	10	6	54	52	1	1	342	319
27-Nov-90	9	8	75	76	0	0	358	327
4-Dec-90	8	8	73	81	1	1	376	377
11-Dec-90	9	7	56	53	1	1	337	314
18-Dec-90	8	8	76	86	2	2	378	356
25-Dec-90	7	6	56	57	0	0	219	220
1-Jan-91	8	8	85	83	0	0	347	320
8-Jan-91	7	7	60	61	1	1	385	379
15-Jan-91	5	5	114	110	2	2	367	332
Grand Total	**711**	**653**	**6,996**	**7,093**	**102**	**100**	**32,069**	**30,423**

Source: USCINCCENT SITREPs (S)

Iraqi Air Activity During Desert Shield

This table presents a daily tabulation and description of Iraqi air activity during the months preceding the initiation of hostilities. The column "Sorties Detected" presents the numerical tally of Iraqi flights detected, when that number was available in the U.S. Commander-in-Chief, Central Command SITREPs. Note that after September there are only a few instances when this information was not available. The third column, "Activity Level as Indicated in SITREP," is a description of that activity. Note that on most days during Desert Shield the Iraqi Air Force flew in excess of 100 sorties.

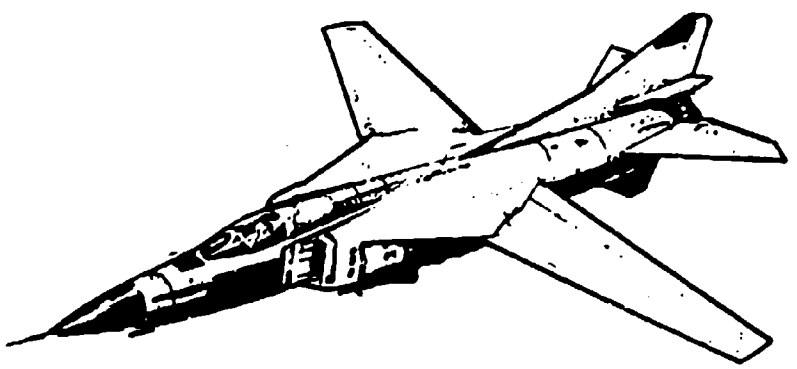


Table 59
Desert Shield: Iraqi Air Activity

Date	Sorties Detected	Activity Level as Indicated in SITREP
9-Aug-90	-	Activity noted
10-Aug-90	-	Increase in activity noted
11-Aug-90	-	Activity noted
12-Aug-90	-	Activity noted
13-Aug-90	-	Activity noted
14-Aug-90	47	Between 0100-1400Z
15-Aug-90	19	Midday hours
16-Aug-90	-	Activity continues at normal levels
17-Aug-90	-	Activity continues at normal levels
18-Aug-90	-	Activity continues at normal levels
19-Aug-90	-	Activity continues at normal levels. Higher than normal activity in the vicinity of Baghdad.
20-Aug-90	-	Activity continues at normal levels. Higher than normal activity in the vicinity of Baghdad.
21-Aug-90	-	Increase in activity noted
22-Aug-90	-	Activity noted
23-Aug-90	-	Activity noted
24-Aug-90	-	Activity noted
25-Aug-90	25 +	Higher than normal activity
26-Aug-90	70 +	Higher than normal activity
27-Aug-90	-	Activity continues at normal levels
28-Aug-90	-	Activity continues at normal levels
29-Aug-90	171	Highest activity to-date
30-Aug-90	197	Highest activity to-date
31-Aug-90	173	Change to- normal
1-Sep-90	-	Decrease in activity noted
2-Sep-90	68	Activity noted
3-Sep-90	37	Transport + Other
4-Sep-90	-	Activity noted
5-Sep-90	79	Lower than normal activity
6-Sep-90	-	Lower than normal activity
7-Sep-90	-	Activity noted
8-Sep-90	-	Lower than normal activity
9-Sep-90	-	Lower than normal activity
10-Sep-90	90	Activity continues at normal levels
11-Sep-90	82	Activity continues at normal levels
12-Sep-90	-	Activity continues at normal levels
13-Sep-90	80	Activity continues at normal levels

Table 59 (cont'd)
Desert Shield: Iraqi Air Activity

Date	Sorties Detected	Activity Level as Indicated in SITREP
14-Sep-90	-	Activity continues at normal levels
15-Sep-90	-	Activity continues at normal levels
16-Sep-90	-	Activity continues at normal levels
17-Sep-90	-	Activity continues at normal levels
18-Sep-90	-	Activity continues at normal levels
19-Sep-90	-	Higher than normal activity
20-Sep-90	-	Higher than normal activity
21-Sep-90	-	Higher than normal activity
22-Sep-90	-	Higher than normal activity
23-Sep-90	-	Higher than normal activity
24-Sep-90	-	Activity continues at normal levels
25-Sep-90	-	Higher than normal activity
26-Sep-90	-	Higher than normal activity
27-Sep-90	-	Higher than normal activity
28-Sep-90	-	Higher than normal activity
29-Sep-90	115	Higher than normal activity
30-Sep-90	123	Higher than normal activity
1-Oct-90	92	Lower than normal activity
2-Oct-90	105	Activity continues at normal levels
3-Oct-90	127	Higher than normal activity
4-Oct-90	120	Higher than normal activity
5-Oct-90	117	Higher than normal activity
6-Oct-90	127	Higher than normal activity
7-Oct-90	112	Activity continues at normal levels
8-Oct-90	107	Activity continues at normal levels
9-Oct-90	-	Activity continues at normal levels
10-Oct-90	140	Higher than normal activity
11-Oct-90	148	Higher than normal activity
12-Oct-90	52	Lower than normal activity
13-Oct-90	130	Activity continues at normal levels
14-Oct-90	123	Activity continues at normal levels
15-Oct-90	114	Lower than normal activity
16-Oct-90	173	Higher than normal activity
17-Oct-90	112	Lower than normal activity
18-Oct-90	153	Higher than normal activity
19-Oct-90	93	Lower than normal activity
20-Oct-90	93	Lower than normal activity
21-Oct-90	75	Lower than normal activity

Table 59 (cont'd)
Desert Shield: Iraqi Air Activity

Date	Sorties Detected	Activity Level as Indicated in SITREP
22-Oct-90	112	Lower than normal activity
23-Oct-90	106	Lower than normal activity
24-Oct-90	90	Lower than normal activity
25-Oct-90	150	Higher than normal activity
26-Oct-90	176	Higher than normal activity
27-Oct-90	67	Lower than normal activity
28-Oct-90	130	Activity continues at normal levels
29-Oct-90	94	Lower than normal activity
30-Oct-90	163	Higher than normal activity
31-Oct-90	158	Higher than normal activity
1-Nov-90	-	Activity noted
2-Nov-90	98	Lower than normal activity. Activity continues at normal levels for Islamic Holy Day.
3-Nov-90	138	Higher than normal activity
4-Nov-90	133	Activity continues at normal levels
5-Nov-90	129	Activity continues at normal levels
6-Nov-90	186	Higher than normal activity
7-Nov-90	170	Higher than normal activity
8-Nov-90	109	Lower than normal activity
9-Nov-90	96	Lower than normal activity
10-Nov-90	76	Lower than normal activity
11-Nov-90	94	Lower than normal activity
12-Nov-90	130	Activity continues at normal levels
13-Nov-90	160	Higher than normal activity
14-Nov-90	170	Higher than normal activity
15-Nov-90	40	Lower than normal activity
16-Nov-90	128	Activity continues at normal levels
17-Nov-90	-	Activity noted
18-Nov-90	172	Higher than normal activity
19-Nov-90	135	Activity continues at normal levels
20-Nov-90	129	Activity continues at normal levels
21-Nov-90	147	Higher than normal activity
22-Nov-90	117	Activity continues at normal level. Decrease in activity noted.
23-Nov-90	90	Lower than normal activity
24-Nov-90	152	Higher than normal activity
25-Nov-90	117	Activity continues at normal level. Decrease in activity noted.

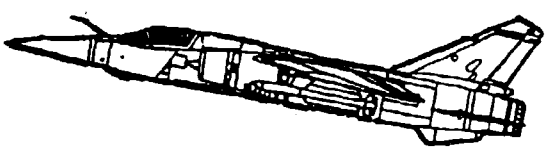
Table 59 (cont'd)
Desert Shield: Iraqi Air Activity

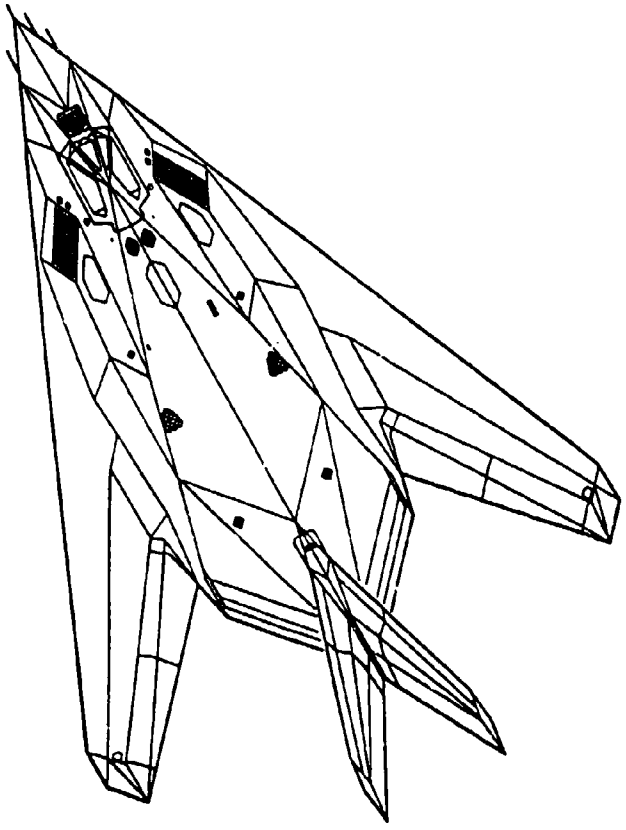
Date	Sorties Detected	Activity Level as Indicated in SITREP
26-Nov-90	105	Lower than normal activity
27-Nov-90	45	Lower than normal activity
28-Nov-90	117	Activity continues at normal levels
29-Nov-90	129	Higher than normal activity
30-Nov-90	122	Activity continues at normal levels. Higher than normal activity for Islamic holy day.
1-Dec-90	161	Higher than normal activity
2-Dec-90	209	Higher than normal activity
3-Dec-90	137	Activity continues at normal levels
4-Dec-90	-	Activity continues at normal levels
5-Dec-90	100	Lower than normal activity
6-Dec-90	-	Activity noted
7-Dec-90	134	Higher than normal activity for Islamic holy day.
8-Dec-90	-	Activity noted
9-Dec-90	186	Higher than normal activity
10-Dec-90	-	Activity noted
11-Dec-90	-	Activity noted
12-Dec-90	213	Higher than normal activity
13-Dec-90	188	Higher than normal activity
14-Dec-90	98	Lower than normal activity
15-Dec-90	174	Higher than normal activity
16-Dec-90	-	Higher than normal activity; 3rd highest for December.
17-Dec-90	154	Activity continues at normal levels
18-Dec-90	208	Higher than normal activity
19-Dec-90	191	Higher than normal activity
20-Dec-90	210	Higher than nonnal activity
21-Dec-90	174	Higher than normal activity
22-Dec-90	138	Activity continues at normal levels
23-Dec-90	-	Activity noted
24-Dec-90	98	Decrease in activity noted
25-Dec-90	176	Higher than normal activity
26-Dec-90	156	Activity continues at normal levels
27-Dec-90	191	Higher than normal activity
28-Dec-90	115	Lower than normal activity
29-Dec-90	231	Higher than normal activity . Highest since invasion of
30-Dec-90	219	Higher than normal activity
31-Dec-90	129	Activity continues at normal levels
1-Jan-91	36	Lower than normal activity

Table 59 (cont'd)
Desert Shield: Iraqi Air Activity

Date	Sorties Detected	Activity Level as Indicated in SITREP
2-Jan-91	37	Lower than normal activity
3-Jan-91	93	Lower than normal activity
4-Jan-91	-	Decrease in activity noted because of bad weather.
5-Jan-91	60	Decrease in activity noted because of bad weather.
6-Jan-91	88	Lower than normal activity because of bad weather.
7-Jan-91	59	Decrease in activity noted because of bad weather.
8-Jan-91	53	Decrease in activity noted because of bad weather.
9-Jan-91	81	Lower than normal activity because of bad weather.
10-Jan-91	130	Increase in activity noted
11-Jan-91	-	Activity noted
12-Jan-91	221	Increase in activity noted. Higher than normal activity (Good KTO weather)
13-Jan-91	142	Decrease in activity noted because of bad weather.
14-Jan-91	-	Activity noted
15-Jan-91	64	Activity noted (Only Transport Flights noted)

Source: CINCCENT SITREPs (S)





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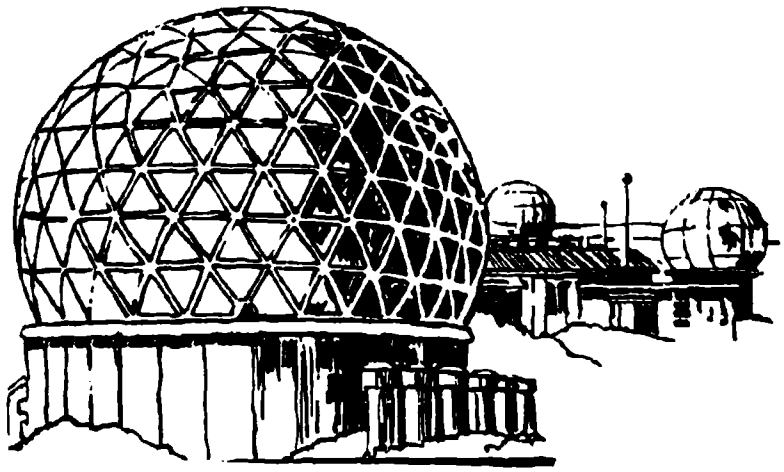
Planning the Air Campaign

The best way to approach statistically how the air campaign was planned is to examine the target base from which the targets were selected, then examine the actual list of targets. In the case of the Gulf War there are several such target lists. The baseline for all of them is the Automated Intelligence Installation File (AIF), which is the single most authoritative source for U.S. targeting efforts. The AIF with its Basic Encyclopedia (BE) numbering system for fixed installations includes a tremendous amount of data used in targeting and other analysis but does not prioritize installations or distinguish which installations should be targeted. It is a menu of installations from which air campaign planners select targets as well as identify those installations that should be excluded from targeting. As more intelligence-gathering capabilities were focused on Iraq (and occupied Kuwait) during the crisis and conflict, the number of installations included in the File grew, although later, and closer, analysis of the data reconciled some multiple listings and updated the data on oid, sometimes defunct, installations.

Several different ways have been selected to assemble this data, which reflects different facets of the planning effort. One table presents the aggregate numbers of installations in each of twelve different targeting categories and their several multiple subcategories, which provides a snapshot in each category. The following target lists are presented: U.S. Central Command (CENTCOM)'s 27 June 1990 list; U.S. Air Force, Central Command (CENTAF)'s list for exercise Internal Look 90, which was the basis for CENTAF's prewar strategic planning; the Air Staff's Instant Thunder list; CENTCOM's 16 August 1990 list; CENTCOM's 2 September 1990 Offensive Operations Order; and four "Black Hole" Master Target Lists (MTL), dated 8 December 1990, 15 January 1990, 12 February 1991, and 1 March 1991. The Black Hole lists were used to prepare the daily Master Attack Plan. It is important to note that many of these lists were prepared simultaneously yet in relative isolation from eacn other. The two CENTCOM 1990 lists, for example, were successive, but they were unrelated to the CENTAF Internal Look 90 list or the Instant Thunder list,

which were in turn independent efforts unrelated to each other. The four MTLs were, of course, successive because the same planning body prepared them.

These tables present aggregate numbers from the AIF and the target lists, not the lists themselves. The intent was to enable researchers and analysts to determine from these and later tables the relative force and weight of effort applied to different target categories. The actual list of installations itself has more than 5,000 entries and is available for research in the GWAPS archives via the Target Installation Database.



Iraq and Kuwait Infrastructure by AIF Category Type

The Infrastructure data in Table 60 were extracted from DIA's Automated Intelligence Installation File (AIF) for the dates indicated. Both Kuwait (KU) and Iraq were counted. The installations are grouped by common target groupings used in the development of operation plans. The total number of installations increased by thirty-four percent from precrisis to the initiation of hostilities as coalition intelligence gathering assets were increasingly concentrated on the area. It decreased from January 1991 to June 1991 by six percent, as DIA was able to cross-check the list for duplications. This decrease is not necessarily due to the destruction of those installations. The installation lists and the orders of battle are managed by DIA, although their production involves other intelligence organizations. This Delegated Production Program divides the responsibility by country and functional AIF category. Sometimes different Basic Encyclopedia (BE) numbers were assigned by different organizations to the same installation (or functions within an installation). The totals are found at the bottom of the chart. The Misc./other category includes such installations as embassies, schools, hospitals, water utilities and many others, reflecting the fact the AIF is an installation file and not a target list. Table 61 presents the aggregate category numbers of the list in chronological order by publication date.



Table 60
Iraq-Kuwait Infrastructure

	IZ Jul-90	IZ Jan-91	IZ Jun-91	KU Jan-91	KU Jun-91	Total Jan-91	Total Jun-91
Offensive Counter Air (OCA)							
Airfields	122	121	123	7	7	128	130
* Air bases							
* Reserve Fields							
* Helicopter Bases							
Non Communications Electronic Installations	450	502	489	61	2	563	491
* Radar Installations							
* Radars collocated with SAM sites							
* ATC/ Navigational aids							
* Meteorologic radars							
Air Logistics, general	13	14	14	0	0	14	14
* Air Depots							
Air Ammo Depots	0	0	0	0	0	0	0
* Maint and repair bases							
* Aircraft and Components Production and Assembly	0						
Nuclear, Biological, Chemical (NBC)							
Atomic Energy Feed and Moderator Materials Production	0						
Chemical and Biological Production and Storage	8	31	14	0	0	31	14
Atomic Energy-Associated Facilities Production and Storage							
Basic and Applied Nuclear Research and Development, general	3	3	3	0	0	3	3
Command, Control and Communications (CCC)							
Telecommunications	201	604	582	38	38	642	620
Offensive Air Command Control Headquarters and Schools*	19	20	19	1	1	21	20
Air Defense Headquarters	24	152	127	2	0	154	127
Electronic Warfare	26	37	36	11	10	48	46
Space Systems	2	3	3	1	1	4	4
Missile Headquarters, Surface to Surface	0	0	0	0	0	0	0
National, Combined and Joint Commands	1	6	6	10	2	16	8
Ground Force Headquarters	47	104	102	13	11	117	113
Naval Headquarters and Staff Activities	3	3	2	1	1	4	3
Electricity						0	0
Electric Power Generating, Transmission, and Control Facilities	230	242	237	231	210	473	447
Government Control							
Government Control Centers	15	52	50	1	1	53	51
Government Bodies, General	13	17	17	5	5	22	22
Government Ministries and Administrative Bodies, Nonmilitary, General	2	4	4		0	4	4
Government Detention Facilities, General	3	4	4	1	1	5	5
Unidentified Control Facility	0	4	4		0	4	4
Trade, Commerce and Government, General	0				0	0	0
Civil Defense Facilities/in Military use)	1	2	2		0	2	2
Naval							
Minable Areas	3	3	3	8	8	11	11
Maritime Port Facilities	8	8	8	14	14	22	22
Cruise Missile Support Facilities, Defensive	0					0	0

	IZ Jul-90	IZ Jan-91	IZ Jun-91	KU Jan-91	KU Jun-91	Total Jan-91	Total Jun-91
Shipborne Missile Support Facilities	0	2	2			2	2
Cruise Surface to Surface Missile Launch Positions	0	5	5			5	5
Naval Bases and Installations	35	35	6	10	10	45	16
Naval Supply Depots	0			1	1	1	1
Petroleum, Oil and Lubricants (POL)							
POL and Related Products Production, Pipeline and Storage Facilities	211	218	215	61	61	279	276
Lines of Communication (LOC)							
Highway Transportation	360	424	422	155	155	579	577
Railroad Transportation	154	155	155			155	155
Inland Water Transportation	18	17	17			17	
Ground Order of Battle (GOB)							
Military Troop Installations	242	320	309	69	63	389	
Ground Force Material and Storage Depots	87	107	106	17	15	124	
Fortifications and Defense Systems	9	5	4	2	2	7	6
Scuds							
Guided Missile and Space System Production and Assembly	7	7	6			7	6
Fixed Missile Facility, General	5	8	6			8	6
Fixed, Surface to Surface Missile Sites	8	74	65	6	5	80	70
Offensive Missile Support Facilities	2	6	4	1	1	7	5
Medium Range Surface to Surface Launch Control Facilities	0					0	0
Fixed Positions for Mobile Missile Launchers	0	20	20			20	20
Tactical Missile Troops Field Position	0				1	0	1
Surface to Air Missile (SAM)							0
Missile Support Facilities, Defensive, General	0	1				1	0
Surface to Air Missile Sites/Complexes	125	112	113	17	17	129	130
Tactical Surface to Air Missile Sites/Installations	73	154	137	21	20	175	157
SAM Support Facilities	16	18	16		1	18	17
Military Industrial Base							
Basic Processing	32	56	55	9	8	65	63
Basic Equipment Production	5	8		0		8	
End Products(Chiefly Civilian)	10	15		0		15	
Technical Research, Development and Testing, Nonnuclear	8	9	9	0		9	9
Covered Storage Facilities, General	2	4	4	0		4	4
Material (Chiefly Military)	34	34	29	4	4	38	33
Industrial Production Centers	1	0		0		0	
Defense Logistics Agencies	0	0		0		0	
Misc/Other	664	793	755	181	221	974	976
Totals	3,302	4,543	4,309	959	897	5,502	5,206

Source: Automated Intelligence Installations Files (S/NF/WN/NC)

Target Installations by AIF Category

Target lists are important because they drive force employment as well as production of intelligence for aircrews and missileers. Production of target materials in sufficient quantities and detail for all possible users is a complex and time-consuming process that imposes severe demands on scarce resources. Also, the production cannot be quickly expanded in quantity, only focused on subject. This is the reason that only operations plans' (OPlan) target lists normally have target materials produced for them. DIA is the manager for production of target planning materials under the "Tactical Target Materials Program". The Tactical Target Materials Catalog is a compilation of only the formal, regulated target material production and does not include the thousands of target images, "Select Prints" etc, generated by tactical, theater and national level intelligence producers.

This table is a summation of target lists from primary sources, plus the Automated Intelligence Installation File (AIF) for reference. It only counts targeted installations listed in the AIF. Some targets on strategic target lists were never listed in the AIF because they were not a fixed installation, (i.e., the Republican Guards or breaching areas) or were a specific aimpoint on a fixed installation (e.g., the CANDID-ADNAN aircraft on Saddam International Airport). It lists the target installations by categories, which are described in Defense Intelligence Agency Manual 65-3-1, "Standard Coding Systems Functional Classification Handbook." (Confidential). The lists are presented in chronological order.

Ground Order of Battle (GOB) installations in this list exclude deployed troops and equipment that strike counts in Chapter 8 include. This is a normal practice in OPlan target list production.

The table of target growth in Chapter Two of the Effectiveness Volume is similar in concept to this chart but with important differences. This table is limited to installations, and the other table is limited to targets actually planned for the application of air power.

The following target references are used in Table 61:

AIF	Automated Intelligence Installations File
CENTAF	Central Command Air Forces
INST THDR	Instant Thunder
INTRL LOOK	Internal Look
JTF	Joint Task Force
MTL	Master Target List
TTM	Tactical Target Material Catalog

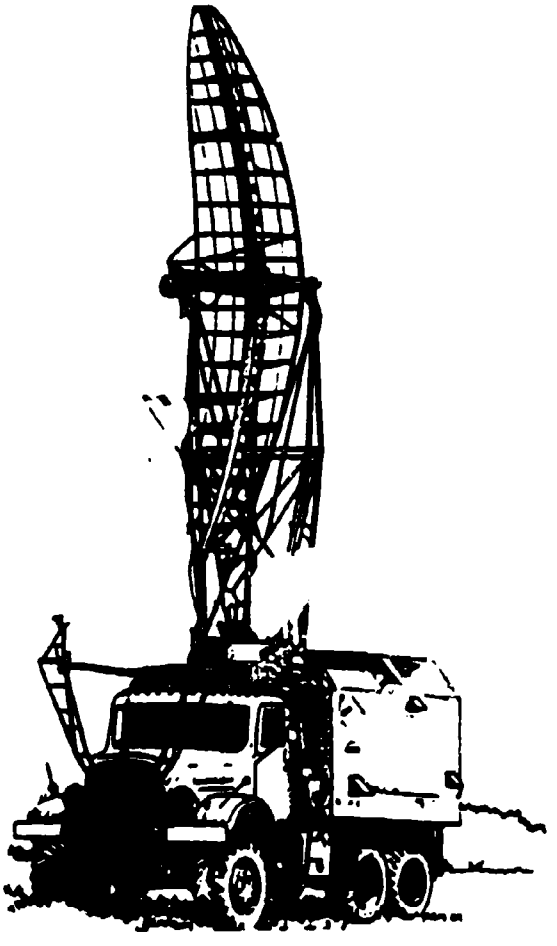


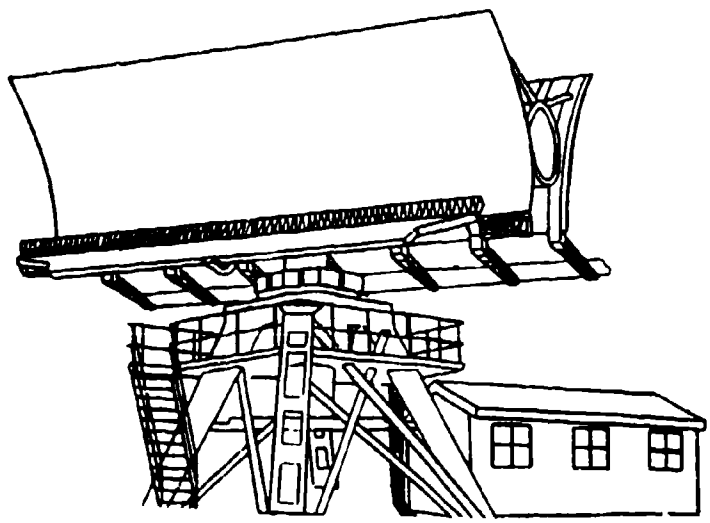
Table 61
Target Installations by AIF Categories

Reference		OCA	NBC	C3	Elect	Govt Cntrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Other	Total
AIF	1 Jun 90	626	11	376	285	40	78	272	687	415	24	243	91	848	3,996
Intrl Look	15 Jun 90	8	10	45	15	10	4	6	11	10	10	0	10	0	139
JTF	27 Jun 90	47	9	18	0	0	3	10	19	17	1	4	3	1	132
CENTAF	8 Aug 90	3	7	17	0	0	4	3	2	5	1	1	1	1	45
Inst Thdr	15 Aug 90	11	6	30	10	1	2	6	3	6	2	0	4	3	84
CENTAF	16 Aug 90	12	8	40	14	6	5	6	5	8	3	0	4	1	112
COMUSCENTAF	2 Sep 90	24	10	52	15	9	0	10	12	12	12	0	11	1	168
MTL	2 Nov 90	27	11	54	17	11	4	11	28	12	13	0	10	1	199
MTL	8 Dec 90	31	13	60	17	14	4	13	32	12	13	0	13	1	223
MTL	15 Jan 91	60	20	91	18	28	10	16	42	44	45	28	17	1	420
AIF	26 Jan 91	705	34	1,006	473	90	86	279	751	519	123	324	131	981	5,502
MTL	28 Jan 91	67	14	108	22	29	7	21	43	27	31	29	16	3	417
MTL	12 Feb 91	50	14	97	20	30	0	22	34	16	27	6	19	4	339
MTL	1 Mar 91	92	26	180	26	34	10	31	87	59	48	35	25	5	658
TTM	15 Mar 91	177	19	258	59	30	26	52	148	137	63	123	28	11	1,131
AIF	1 Jul 91	679	17	941	447	88	57	276	751	498	108	303	124	914	5,203

Source: Target Installation Reference Database (S/NF/WN/NC)

Tactical Target Material Production

Tactical Target Material (TTM) production is based on theater Operation Plans (OPlan). They are produced for a variety of uses but primarily for target development at the force level and target acquisition at the unit level. The main product of this process is the Basic Target Graphic (BTG) that includes at least two pictures of the installation with annotations, grids, and text describing it. It replaced the Automated Tactical Target Graphic (ATTG) produced prior to 1989. Other target material production includes the Contingency Support Graphic (CSG), Operational Support Package (OSP), etc. The following table shows the historical production of BTGs on Iraq and the concentration of production during Desert Shield, providing only BTG/ATTG production. In the 18 years and 8 months preceding Desert Shield (that we had records on) there were 390 BTG/ATTGs produced. In the 6 months of Desert Shield/Desert Storm there were 698. These numbers include reaccomplishment of BTG/ATTGs on certain installations.



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Table 62
Tactical Target Material Production

Year	Month	Number
1972		0
1973		6
1974		5
1975		1
1976		6
1977		2
1978		19
1979		67
1980		25
1981		47
1982		17
1983		48
1984		16
1985		2
1986		39
1987		21
1988		23
1989		38
1990	Jan	0
1990	Feb	2
1990	Mar	3
1990	Apr	1
1990	May	0
1990	Jun	0
1990	Jul	0
1990	Aug	2
	Subtotal	**390**
1990	Sep	130
1990	Oct	132
1990	Nov	88
1990	Dec	153
1991	Jan	128
1991	Feb	67
	Subtotal	**698**
	Total	**1,478**

Source: DIA's Tactical
Target Material Catalog (S/NF/WN/NC)

Target Type by AIF Category

The following table takes the primary target tasking from the Air Tasking Order and tabulates by AIF functional category. Although it can be compared to the Strike Counts by AIF Categories in Chapter 8, the reader must be careful in comparing tasked (ATO), and actual (Missions Database) numbers. Weather, operational concerns, other lucrative time-sensitive targets, and many other reasons can change specifics.

This table was created by extracting the primary target from the Air Tasking Order and correcting misspellings, format problems and often interpreting incorrect information. These same problems were corrected during the war via the direct communications between the Tactical Air Control Center in Riyadh and the unit mission planning cells. F-4Gs were not included because they were always tasked as suppression of enemy air defense (SEAD). Proven Force F-16s and F-111Es were not included since their targeting data was not included in the Computer Assisted Force Management System (CAFMS) and the Unit Remarks data, which built the ATO. The missions that were marked as cancelled in CAFMS are not included in these counts.

Aircraft are grouped by type. All F-16s, whether A or C models, U.S. or Bahrain, were counted as F-16s. All air-to-ground models of Tornados were counted as GR-1. The "other" category of aircraft include A-7s, F-5s, Mirage 2000, AC-130s, etc.



Table 63
ATO Targets by AIF Categories

Aircraft Type	OCA	NBC	C3	Elect	Goverannt Control	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other	Total
A-10	202	0	134	0	0	0	0	0	5,998	10	40	0	6,384	204	6,588
A-6	160	22	96	42	0	264	42	140	2,101	64	160	8	3,099	308	3,407
AV-8	4	0	0	0	0	0	0	0	3,393	0	0	0	3,397	0	3,397
B-52	63	19	11	34	0	0	36	31	1,296	45	9	91	1,635	0	1,635
F-111F	885	73	48	6	6	0	0	120	1,052	88	0	62	2,340	0	2,340
F-117	188	199	402	5	97	0	16	65	170	47	50	18	1,257	13	1,270
F-15	174	0	72	6	0	0	6	74	890	806	4	0	2,032	170	2,202
F-16	420	149	166	8	52	0	48	76	7,411	386	2,610	100	11,426	99	11,525
FA-18	249	14	232	24	0	79	19	235	5,941	92	630	18	7,533	1,024	8,557
GR-1	924	18	116	32	0	0	244	166	848	16	144	16	2,524	127	2,651
TLAM	8	4	12	3	14	0	0	0	9	4	0	0	54	0	54
Subtotal	3,277	498	1,289	160	169	343	411	907	29,109	1,558	3,647	313	41,681	1,945	43,626
Other	471	10	89	15	0	144	20	38	4,451	41	1,514	4	6,797	723	7,520
Total	3,748	508	1,378	175	169	487	431	945	33,560	1,599	5,161	317	48,478	2,668	51,146

Source: CENTAF Air Tasking Order (S)

7

Desert Storm U.S. and Allied Sorties

The following tables track the number of sorties flown by U.S. and Allied air forces during Operation Desert Storm. They are presented in several different formats to enable researchers and analysts to rearrange and examine the data from different perspectives to meet their analytical needs. The data have been drawn primarily from the Composite Sorties Database, compiled by Major Lewis "Dough" Hill and described earlier in Chapter 1, "Note on Sources."

One problem that arises in examining the operations of the several air forces that flew in the Gulf War is one of differences in definitions and terminology. The Marine Corps, for example, uses a mission category called "direct air support" (DAS), while NATO forces have a mission category called "battlefield air interdiction" (BAI); both are virtually identical, for practical purposes, in terms of their intent and conduct, as are Air Force and Marine Corps "close air support" (CAS). On the other hand, the Marines also have a mission called "close-in fire support" (CIFS) which does not have an Air Force counterpart, since it is performed solely by attack helicopters. The Marine Corps considers CAS, CIFS and DAS as subsets of a larger category, "offensive air support" or "direct air support," while the Air Force considers CAS, interdiction, and strategic air operations as the three missions within the role of force application. Although Air Force and Marine practitioners understand the doctrinal and procedural nuances between these, the average reader may not even be aware of the distinction; a ground troop who is the beneficiary of one or the other would probably be unable to tell the difference. This is also true of the difference between "interdiction" and "battlefield air interdiction," which have been aggregated into an overall total for air interdiction (AI). The difference between the two terms reflects their relative distance from the "battlelines" on the surface; interdiction operations can range hundreds of miles into enemy territory, while battlefield air interdiction (which the Air Force treats as a type of interdiction, not a separate and distinct mission category) occurs closer to friendly forces. The initial phase of Operation Desert Storm was frequently termed a strategic air campaign, yet none of the sorties identified in the following tables are

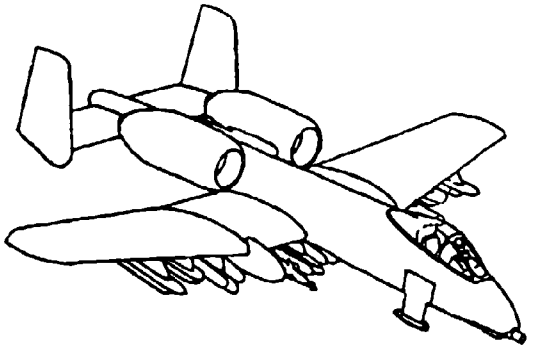
categorized as "strategic." This was driven by the reporting system CENTAF used during the war, which did not have a mission identifier for "strategic sorties." Thus, they were lumped with the interdiction category. In order to remain true to the sources and databases from which these tables were drawn, no attempt was made to reconstruct a table of "strategic sorties" in this volume, although later tables which depict strikes by target category furnish data from which to derive such information. Unless otherwise noted, the U.S. Air Force terminology has been used (e.g CAS or BAI), but each table contains sufficient explanatory material to enable the reader to identify data contained in each table.

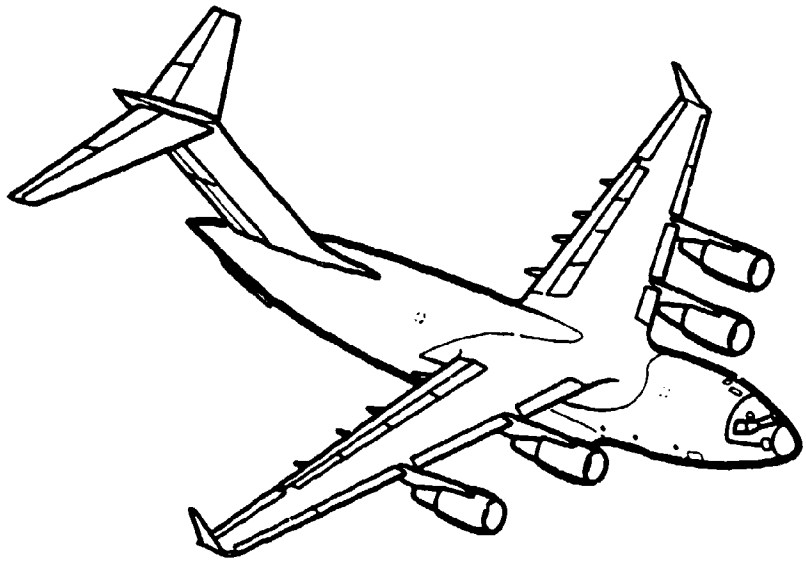
A second such issue is the difference between "sortie," "strike," and "mission." A mission is mounted by a finite number of aircraft, usually two to four, against a target; thus a "mission report" or MISREP includes the overall data from the aircraft that carried out the mission. A "sortie" refers to an individual aircraft flight from takeoff to landing, while a "strike" refers to a weapon or weapons employed by one aircraft against an individual target. The fact that a mission, sortie, or strike occurred does not mean that the target was destroyed or the objective achieved; that determination must rest with subsequent analysis. Since most aircraft carried more than one weapon, they sometimes carried out more than one "strike" on an individual "sortie." For example: two F-111s carrying four bombs each (total of eight) could launch an attack against an Iraqi airfield and strike four hardened aircraft shelters, two command and control bunkers, and two fuel storage tanks. This would constitute "one mission," "two sorties," and "eight strikes." This chapter is concerned only with sorties.

The intent of this section is to show how each component of the overall coalition air force contributed to the Gulf War Air Campaign. Tables present the effort by day, by component (U.S. Service or coalition country), by mission area (e. g. interdiction, close air support, etc), and type of aircraft. Tables will also present data on a portion of those coalition sorties which were either cancelled or aborted their missions. When taken in toto, this collection of data will depict how each member of the coalition air campaign fit into the air effort. A notable gap in the data is the contribution of rotary wing air power, such as the AH-64 Apache attack helicopter. This results from the different way that fixed- and rotary-wing operations were tabulated. The Air Force, for example, tracked A-10 operations by individual sortie, as explained earlier, while Army helicopter operations were tracked by flying hour. Army helicopter

statistics, therefore, while depicting the total number of flying hours achieved during Desert Storm, do not track the number of sorties or missions which these platforms completed. Since the data is so dissimilar it does not lend itself to analysis and GWAPS decided to not include it.

This collection of figures is extracted from the previously mentioned Composite Sorties Database, which was generated for a better slice at the number and type of sorties flown during the war. Inconsistencies were discovered with certain types of aircraft in the sortie count compiled by Major Roy Lee (see the Note on Sources for additional information) in comparision to other sources. Thus for the carrier-based aircraft and the Navy's tactical land attack missiles (TLAMs), this report uses the sorties and mission types prepared by the Center for Naval Analysis, but rolled up into equivalent USAF mission designations. Civil Reserve Air Fleet (CRAF) sorties and intertheater airlift sortie counts were provided by the U.S. Transportation Command (USTRANSCOM) situation reports. The Special Operations Forces Command SITREPs provided sortie data for special operations aircraft. Proven Force sortie data was difficult to quantify by individual aircraft type and mission area, but was accomplished by combining the Proven Force daily briefing slides prepared for Headquarters U.S. Air Force Europe, the Proven Force SITREPs, and the strike history from the 7440th Composite Wing.





Total Sorties by U.S. Service/Allied Country by Mission Type

The following table shows the number of sorties flown by mission type during Desert Storm for U.S. Air Force (USAF), (including Proven Force), U.S. Army (USA), U.S. Navy (USN), U.S. Marine Corps (USMC), U.S. Special Operations Command (USSOCCENT), U.S. Civil Reserve Air Fleet (CRAF), Saudi Arabia, Bahrain, Canada, France, Italy, Kuwait, Qatar, United Arab Emirates (UAE), and the United Kingdom (UK). This data was compiled from the Composite sorties Database for 16 Jan 91 - 28 Feb 91.

The data depicts the relative efforts of the U.S. Services and Allied countries for each mission type with the USAF flying the most sorties overall during Desert Storm.

It should be noted that the figures presented throughout this chapter, while usually close, do not always agree with those currently used by the 3rd Marine Aircraft Wing. Of the difference of more than 1,000 sorties between USMC and GWAPS totals, approximately 100 are attributed to OV-10 sorties, 200 F/A-18 sorties, and 700 KC-130 sorties. These differences, while not always statistically significant, do highlight potential reporting and accounting difficulties. The KC-130 differences are do to accounting procedures. The marines reported to CENTAF a sortie for each KC-130 mission tasked. In reality they would replace the orbiting KC-130 with a fresh one when it had offloaded all the fuel for its air to air refueling mission. Thus they sometimes would fly more than one sortie to complete the ATO tasking .

Table 64
Total Sorties by U.S. Service/Allied Country by Mission Type

Mission Type	USAF	USN	USMC	SOCCENT	USA	CRAF	Saudi Arabia
Interdiction	23,756	5,060	4,015	32	0	0	1,133
BAI	536	0	249	0	0	0	523
Total AI	**24,292**	**5,060**	**4,264**	**32**	**0**	**0**	**1,656**
CAS	1,438	21	2,937	31	0	0	0
FAC	682	0	1,019	0	0	0	0
Total CAS	**2,120**	**21**	**3,956**	**31**	**0**	**0**	**0**
DCA	4,097	24	0	0	0	0	2,391
CAP	461	4,221	0	0	0	0	0
Total CAP	**4,558**	**4,245**	**0**	**0**	**0**	**0**	**2,391**
OCA	2,490	44	184	0	0	0	153
SEAD	3,045	1,263	18	0	0	0	0
Escort	887	629	555	0	0	0	124
Total OCA	**6,422**	**1,936**	**757**	**0**	**0**	**0**	**277**
Admin Lift	0	0	0	1	0	0	0
Airlift	11,620	0	9	2	0	800	1,788
Airland	16	0	0	0	0	0	41
Courier	7	0	0	0	0	0	0
Air Evac	3,741	0	0	2	0	0	0
Helo Support	0	0	0	14	0	0	0
Tactical Airlift	1,244	0	0	0	201	0	0
Total Airlift	**16,628**	**0**	**9**	**19**	**201**	**800**	**1,829**
Recce	869	1,196	3	2	0	0	118
SLAR	0	0	0	0	147	0	0
Observation	442	241	0	0	0	0	0
Total Recce	**1,311**	**1,431**	**3**	**2**	**147**	**0**	**118**
Refueling	11,024	0	453	56	0	0	485
Tanker	0	2,782	8	0	0	0	0
Total Refueling	**11,024**	**2,782**	**461**	**56**	**0**	**0**	**485**
Psych Ops	26	0	0	82	0	0	0
Rescue	96	3	1	238	0	0	0
SOF	12	0	0	488	0	0	0
Total SOF	**134**	**3**	**1**	**808**	**0**	**0**	**0**
VIP Support	197	0	0	0	0	0	0
Support	6	41	714	64	0	0	9
Total Support	**203**	**41**	**714**	**64**	**0**	**0**	**9**
ECM	0	5	0	0	6	0	0
ESM	190	260	17	0	547	0	0
EW	1,388	0	326	84	15	0	0
Total EW	**1,578**	**265**	**343**	**84**	**568**	**0**	**0**
ABCCC	201	1,143	157	0	0	0	0
ABN Early Warning	379	0	0	0	0	0	85
C3	24	0	0	0	0	0	0
Total C3	**604**	**1,143**	**157**	**0**	**0**	**0**	**85**
Training	173	262	14	76	0	0	2
Utility	1	0	0	0	0	0	0
Total Training	**174**	**262**	**14**	**76**	**0**	**0**	**2**
Surface CAP	0	198	0	0	0	0	0
Total Surface CAP	**0**	**198**	**0**	**0**	**0**	**0**	**0**
Other	165	916	4	68	0	0	0
Special	193	0	0	22	0	0	0
Total Other	**358**	**916**	**4**	**90**	**0**	**0**	**0**
Grand Total	**69,406**	**18,303**	**10,683**	**1,262**	**916**	**800**	**6,852**

UK	France	Canada	Kuwait	Bahrain	Italy	UAE	Qatar	Total
1,256	491	48	568	122	135	58	43	36,717
0	40	0	212	0	0	0	0	1,560
1,256	531	48	780	122	135	58	43	38,277
0	0	0	0	0	0	0	0	4,427
0	0	0	0	0	0	0	0	1,701
0	0	0	0	0	0	0	0	6,128
696	340	693	0	152	0	0	0	8,393
0	0	0	0	0	0	0	0	4,682
696	340	693	0	152	0	0	0	13,075
890	58	0	0	0	0	0	0	3,819
0	0	0	0	0	0	0	0	4,326
0	172	144	0	14	0	0	0	2,525
890	230	144	0	14	0	0	0	10,670
0	0	0	0	0	0	0	0	1
1,279	835	277	0	0	13	19	0	16,642
70	18	0	0	0	0	24	0	169
0	0	0	0	0	0	0	0	7
0	0	0	0	0	0	0	0	3,743
0	2	0	0	4	0	0	0	20
35	0	0	0	0	0	2	0	1,482
1,384	855	277	0	4	13	45	0	22,064
156	62	0	0	0	0	6	0	2,406
0	0	0	0	0	0	0	0	147
0	0	0	0	0	0	0	0	683
156	62	0	0	0	0	6	0	3,236
711	223	64	0	0	89	0	0	13,105
0	0	0	0	0	0	0	0	2,790
711	223	64	0	0	89	0	0	15,895
0	0	0	0	0	0	0	0	108
0	1	0	0	0	0	0	0	340
0	0	0	0	1	0	0	0	500
0	1	0	0	1	0	0	0	948
0	0	0	0	0	0	0	0	197
40	0	0	0	0	0	0	0	874
40	0	0	0	0	0	0	0	1,071
0	0	0	0	0	0	0	0	11
80	0	0	0	0	0	0	0	1,094
0	0	0	0	0	0	0	0	1,813
80	0	0	0	0	0	0	0	2,918
0	0	0	0	0	0	0	0	1,501
0	0	0	0	0	0	0	0	464
0	0	0	0	0	0	0	0	24
0	0	0	0	0	0	0	0	1,989
0	4	64	0	0	0	0	0	685
90	0	0	0	0	0	0	0	1
90	4	64	0	0	0	0	0	686
40	0	0	0	0	0	0	0	238
40	0	0	0	0	0	0	0	238
7	8	12	0	0	0	0	0	1,180
67	4	0	0	0	0	0	0	286
74	12	12	0	0	0	0	0	1,466
5,417	2,258	1,302	780	293	237	109	43	118,661

Source: Composite Sorties Database

U.S. Services/Allied Countries: Total Sorties by Day, by Mission Type

The following table shows the number of coalition sorties flown per day by mission area from 16 Jan 91 to 28 Feb 91. This data includes sorties flown by U.S. Air Force (USAF) (including Proven Force), U.S. Army (USA), U.S. Navy (USN), U.S. Marine Corp (USMC), U.S. Special Operations Command (USSOCCENT), U.S. Civil Reserve Air Fleet (CRAF), Saudi Arabia, Bahrain, Canada, France, Italy, Kuwait, Qatar, United Arab Emirates (UAE), and the United Kingdom (UK). These figures were compiled from the Composite Sorties Database.

The data depict the tempo of operations during Desert Storm. During this period, an average of 2,697 sorties were flown per day, peaking at 3,280 sorties flown on 24 Feb 91.

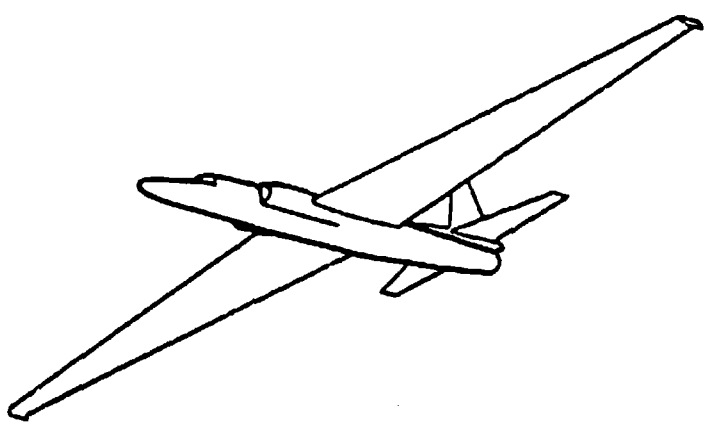


Table 65
U.S. Service/Allied Countries:
Total Sorties by Day by Mission Type

Mission Type	16-Jan-91	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91
Interdiction	0	647	583	429	410
BAI	0	3	24	136	36
Total AI	**0**	**650**	**607**	**565**	**446**
CAS	0	67	56	43	10
FAC	0	32	18	25	8
Total CAS	**0**	**99**	**74**	**68**	**18**
DCA	0	377	266	271	200
CAP	0	59	158	65	131
Total DCA	**0**	**436**	**424**	**336**	**331**
OCA	0	446	327	124	107
SEAD	0	182	119	127	89
Escort	0	24	45	137	76
Total OCA	**0**	**652**	**491**	**388**	**272**
Admin Lift	0	0	0	0	0
Airlift	0	122	565	488	618
Airland	0	0	0	0	0
Courier	0	0	0	0	0
Air Evac	0	0	0	0	0
Helo Support	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	**0**	**122**	**565**	**488**	**618**
Recce	0	42	23	16	19
SLAR	0	0	3	4	1
Observation	0	0	0	0	18
Total Recce	**0**	**42**	**26**	**20**	**38**
Refueling	0	347	337	292	293
Tanker	0	85	101	71	71
Total Refueling	**0**	**432**	**438**	**363**	**364**
Psych Ops	0	0	0	0	0
Rescue	0	19	12	8	7
SOF	11	0	6	0	18
Total SOF	**11**	**19**	**18**	**8**	**25**
VIP Support	0	0	3	12	0
Support	0	62	18	21	10
Total Support	**0**	**62**	**21**	**33**	**10**
ECM	0	0	0	0	0
ESM	0	27	31	19	30
EW	0	56	61	47	37
Total EW	**0**	**83**	**92**	**66**	**67**
ABCCC	0	41	39	39	30
ABN Early Warning	0	15	10	12	12
C3	0	0	0	0	0
Total C3	**0**	**56**	**49**	**51**	**42**
Training	2	55	57	0	11
Utility	0	0	0	0	0
Total Training	**2**	**55**	**57**	**0**	**11**
Surface CAP	0	22	12	20	14
Total Surface CAP	**0**	**22**	**12**	**20**	**14**
Other	0	27	20	11	18
Special	0	2	5	10	5
Total Other	**0**	**29**	**25**	**21**	**23**
Grand Total	**13**	**2,759**	**2,899**	**2,427**	**2,279**

Table 65 (cont'd)
U.S. Service/Allied Countries: Total Sorties by Day by Mission Type

Mission Type	21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
Interdiction	375	464	537	807	709	854
BAI	106	106	170	35	36	55
Total AI	**481**	**570**	**707**	**842**	**745**	**909**
CAS	3	57	32	4	0	5
FAC	9	22	19	38	31	41
Total CAS	**12**	**79**	**51**	**42**	**31**	**46**
DCA	188	189	195	193	192	208
CAP	95	89	111	136	127	96
Total DCA	**283**	**278**	**306**	**329**	**319**	**304**
OCA	116	91	221	153	81	65
SEAD	84	101	103	101	106	90
Escort	95	111	100	133	116	80
Total OCA	**295**	**303**	**424**	**387**	**303**	**235**
Admin Lift	0	0	0	0	0	0
Airlift	583	671	250	656	503	227
Airland	0	0	0	0	0	0
Courier	0	0	0	0	0	0
Air Evac	0	0	383	0	0	386
Helo Support	0	2	2	0	4	0
Tactical Airlift	0	0	0	4	4	9
Total Airlift	**583**	**673**	**635**	**660**	**511**	**622**
Recce	28	28	39	51	50	61
SLAR	3	2	2	6	4	3
Observation	0	0	7	7	8	2
Total Recce	**31**	**30**	**48**	**64**	**62**	**66**
Refueling	323	316	340	316	327	332
Tanker	64	72	67	81	81	74
Total Refueling	**387**	**388**	**407**	**397**	**408**	**406**
Psych Ops	3	1	1	0	3	3
Rescue	7	9	9	12	10	11
SOF	10	12	16	11	14	13
Total SOF	**20**	**22**	**26**	**23**	**27**	**27**
VIP Support	0	7	4	0	9	10
Support	6	25	25	39	24	49
Total Support	**6**	**32**	**29**	**39**	**33**	**65**
ECM	1	0	0	0	1	0
ESM	21	26	20	31	27	27
EW	37	37	45	45	39	37
Total EW	**59**	**63**	**65**	**76**	**67**	**64**
ABCCC	33	36	29	37	34	32
ABN Early Warning	12	11	11	11	12	11
C3	0	0	0	0	0	0
Total C3	**45**	**47**	**40**	**48**	**46**	**43**
Training	0	10	2	13	2	4
Utility	0	0	0	0	0	0
Total Training	**0**	**10**	**2**	**13**	**2**	**4**
Surface CAP	32	22	22	17	18	5
Total Surface CAP	**32**	**22**	**22**	**17**	**18**	**5**
Other	27	17	10	21	52	23
Special	5	5	5	7	4	7
Total Other	**32**	**22**	**15**	**28**	**56**	**30**
Grand Total	**2,266**	**2,539**	**2,777**	**2,965**	**2,628**	**2,826**

27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91
633	888	900	975	938	932	933	997
45	66	48	24	48	41	39	24
678	954	948	999	986	973	972	1,021
0	4	38	27	17	2	0	0
12	20	31	44	36	36	39	37
12	24	69	71	53	38	39	37
221	249	206	240	188	164	211	187
117	142	98	96	177	138	117	110
338	391	304	336	365	302	328	297
95	98	59	115	99	155	110	60
107	116	75	86	91	98	93	86
91	117	46	39	40	64	52	62
293	331	180	240	230	317	255	208
0	0	0	0	0	0	0	0
491	589	736	129	504	405	115	721
0	0	0	0	0	0	0	0
0	7	0	0	0	0	0	0
0	0	0	204	0	0	221	0
0	0	0	1	0	1	0	0
6	4	5	5	5	6	6	4
497	600	741	339	509	412	342	725
66	61	61	51	66	72	66	59
3	4	4	7	4	2	2	2
10	7	8	10	11	4	7	5
79	72	73	68	81	78	75	66
321	337	291	324	318	313	306	319
88	98	74	77	87	87	66	52
409	435	365	401	405	400	372	371
3	3	2	3	7	3	6	3
11	2	0	2	11	9	8	3
14	9	9	8	12	12	9	5
28	14	11	13	30	24	23	11
19	1	0	23	8	10	2	10
38	37	32	28	26	34	24	38
57	38	32	51	34	44	26	48
0	0	0	0	0	1	1	1
24	25	29	33	24	34	25	30
38	38	33	35	34	39	42	35
62	63	62	68	58	74	68	66
35	41	26	33	30	35	33	33
11	9	11	11	12	11	12	11
0	0	0	0	1	0	1	0
46	50	37	44	43	46	46	44
3	5	29	7	15	34	6	16
0	0	0	0	1	0	0	0
3	5	29	7	16	34	6	16
6	4	6	7	0	4	4	6
6	4	6	7	0	4	4	6
21	25	31	39	29	28	20	29
7	6	6	6	5	6	7	5
28	31	37	45	34	34	27	34
2,536	3,012	2,894	2,689	2,844	2,780	2,583	2,950

Table 65 (cont'd)
U.S. Service/Allied Countries: Total Sorties by Day by Mission Type

Mission Type	4-Feb-91	5-Feb-91	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91
Interdiction	1,052	1,142	918	1,092	1,162	1,139
BAI	24	23	20	24	24	24
Total AI	**1,076**	**1,165**	**938**	**1,116**	**1,186**	**1,163**
CAS	0	1	0	0	2	0
FAC	40	42	40	40	46	45
Total CAS	**40**	**43**	**40**	**40**	**48**	**45**
DCA	190	198	194	194	202	200
CAP	104	100	84	100	104	106
Total DCA	**294**	**298**	**278**	**294**	**306**	**306**
OCA	67	52	35	48	12	4
SEAD	102	123	98	112	101	106
Escort	57	83	51	70	64	49
Total OCA	**226**	**258**	**184**	**230**	**177**	**159**
Admin Lift	0	0	0	0	0	0
Airlift	536	568	237	463	481	519
Airland	0	0	0	0	40	0
Courier	0	0	0	0	0	0
Air Evac	0	0	339	0	0	0
Helo Support	1	0	0	0	0	0
Tactical Airlift	7	3	0	6	6	6
Total Airlift	**544**	**571**	**576**	**469**	**527**	**525**
Recce	73	58	62	63	70	55
SLAR	2	3	0	0	3	3
Observation	2	18	14	16	17	31
Total Recce	**77**	**79**	**76**	**79**	**90**	**89**
Refueling	295	308	288	312	313	295
Tanker	57	51	49	60	62	66
Total Refueling	**352**	**359**	**337**	**372**	**375**	**361**
Psych Ops	2	2	3	4	2	3
Rescue	6	17	0	6	11	6
SOF	6	7	6	10	8	13
Total SOF	**14**	**26**	**9**	**20**	**21**	**22**
VIP Support	13	0	0	1	0	4
Support	38	33	13	24	21	3
Total Support	**51**	**33**	**13**	**25**	**21**	**7**
ECM	0	0	0	0	0	0
ESM	27	26	12	16	20	19
EW	46	45	31	38	42	46
Total EW	**73**	**71**	**43**	**54**	**62**	**65**
ABCCC	32	33	31	33	35	26
ABN Early Warning	12	11	10	10	10	10
C3	0	1	0	1	1	1
Total C3	**44**	**45**	**41**	**44**	**46**	**37**
Training	19	8	3	5	6	37
Utility	0	0	0	0	0	0
Total Training	**19**	**8**	**3**	**5**	**6**	**37**
Surface CAP	4	2	0	0	2	5
Total Surface CAP	**4**	**2**	**0**	**0**	**2**	**5**
Other	14	30	18	26	36	24
Special	8	5	6	6	7	10
Total Other	**22**	**35**	**24**	**32**	**43**	**34**
Grand Total	**2,836**	**2,993**	**2,562**	**2,780**	**2,910**	**2,855**

10-Feb-91	11-Feb-91	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91
1,241	1,016	951	978	950	1,003	918	626
24	12	24	35	35	0	0	0
1,265	**1,028**	**975**	**1,013**	**985**	**1,003**	**918**	**626**
0	130	150	132	160	164	128	58
44	45	56	53	48	46	43	24
44	**175**	**206**	**185**	**208**	**210**	**171**	**82**
190	166	184	177	166	163	164	179
99	114	90	97	95	98	92	94
289	**280**	**274**	**274**	**261**	**261**	**256**	**273**
12	52	35	49	44	68	74	38
118	96	96	101	102	100	85	99
69	60	57	56	50	45	48	46
199	**208**	**188**	**206**	**196**	**213**	**207**	**183**
0	1	0	0	0	0	0	0
372	386	528	223	497	183	526	494
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	318	0	312	0	0
0	0	0	0	0	0	0	0
7	42	7	7	7	6	6	5
379	**429**	**535**	**548**	**504**	**501**	**532**	**499**
50	62	73	61	55	66	60	67
3	4	4	3	2	5	4	5
22	7	5	26	22	22	24	25
75	**73**	**82**	**90**	**79**	**93**	**88**	**97**
303	289	282	303	289	292	281	277
61	69	48	47	53	65	34	50
364	**358**	**330**	**350**	**342**	**357**	**315**	**327**
3	2	2	1	1	5	4	7
10	13	9	15	5	10	14	1
15	17	15	12	12	13	13	13
28	**32**	**26**	**28**	**18**	**28**	**31**	**21**
0	0	0	4	0	1	0	2
3	7	2	15	6	7	7	12
3	**7**	**2**	**19**	**6**	**8**	**7**	**14**
0	0	1	0	1	1	0	1
24	19	15	23	21	30	24	26
46	37	51	43	32	36	36	43
70	**56**	**67**	**66**	**54**	**67**	**60**	**70**
30	35	39	29	28	29	28	28
11	10	10	10	11	9	9	11
1	1	1	1	1	1	1	1
42	**46**	**50**	**40**	**40**	**39**	**38**	**40**
32	50	72	8	29	3	7	19
0	0	0	0	0	0	0	0
32	**50**	**72**	**8**	**29**	**3**	**7**	**19**
0	0	0	0	1	0	0	0
0	**0**	**0**	**0**	**1**	**0**	**0**	**0**
16	34	22	39	27	51	18	39
9	8	7	8	7	9	5	8
25	**42**	**29**	**47**	**34**	**60**	**23**	**47**
2,815	**2,784**	**2,836**	**2,874**	**2,757**	**2,843**	**2,653**	**2,298**

Table 65 (cont'd)
U.S. Service/Allied Countries: Total Sorties by Day by Mission Type

Mission Type	18-Feb-91	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91
Interdiction	1,069	1,059	849	1,011	975	996
BAI	0	0	19	27	20	40
Total AI	**1,069**	**1,059**	**868**	**1,038**	**995**	**1,036**
CAS	146	196	83	142	290	402
FAC	44	46	35	64	83	90
Total CAS	**190**	**242**	**118**	**206**	**373**	**492**
DCA	162	160	152	161	164	219
CAP	121	112	123	126	114	66
Total DCA	**283**	**272**	**275**	**287**	**278**	**285**
OCA	64	63	70	55	58	65
SEAD	112	121	103	105	110	99
Escort	62	39	49	41	36	12
Total OCA	**238**	**223**	**222**	**201**	**204**	**176**
Admin Lift	0	0	0	0	0	0
Airlift	237	649	127	158	199	201
Airland	0	0	63	8	4	12
Courier	0	0	0	0	0	0
Air Evac	402	0	255	0	363	2
Helo Support	0	0	0	0	0	0
Tactical Airlift	7	7	7	296	9	302
Total Airlift	**646**	**656**	**452**	**462**	**575**	**517**
Recce	77	71	62	73	59	64
SLAR	2	5	5	5	4	5
Observation	28	31	25	29	31	31
Total Recce	**107**	**107**	**92**	**107**	**94**	**100**
Refueling	322	298	288	324	284	333
Tanker	56	56	43	53	52	50
Total Refueling	**378**	**354**	**331**	**377**	**336**	**383**
Psych Ops	2	2	2	3	2	2
Rescue	4	7	6	7	2	5
SOF	7	15	12	16	11	29
Total SOF	**13**	**24**	**20**	**26**	**15**	**36**
VIP Support	9	22	5	0	0	0
Support	25	0	2	0	23	25
Total Support	**34**	**22**	**7**	**0**	**23**	**25**
ECM	0	1	0	1	0	0
ESM	30	31	38	33	30	33
EW	39	46	44	45	54	60
Total EW	**69**	**78**	**82**	**79**	**84**	**93**
ABCCC	32	33	34	38	38	45
ABN Early Warning	11	12	10	11	11	11
C3	1	1	1	0	1	0
Total C3	**44**	**46**	**45**	**49**	**50**	**56**
Training	6	7	13	7	3	14
Utility	0	0	0	0	0	0
Total Training	**6**	**7**	**13**	**7**	**3**	**14**
Surface CAP	0	0	0	0	0	0
Total Surface CAP	**0**	**0**	**0**	**0**	**0**	**0**
Other	37	21	15	38	47	34
Special	7	12	6	8	12	7
Total Other	**44**	**33**	**21**	**46**	**59**	**41**
Grand Total	**3,121**	**3,123**	**2,546**	**2,885**	**3,089**	**3,254**

24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
892	801	953	820	93	36,717
25	12	59	47	0	1,560
917	813	1,012	867	93	38,277
458	518	523	361	18	4,427
63	59	58	41	8	1,701
521	577	581	402	26	6,128
230	168	210	209	46	8,393
115	123	125	131	87	4,682
345	291	335	340	133	13,075
80	106	76	70	0	3,819
87	104	80	95	17	4,326
15	14	13	8	3	2,525
182	224	169	173	20	10,670
0	0	0	0	0	1
237	123	84	121	120	16,642
8	4	30	0	0	169
0	0	0	0	0	7
0	298	0	260	0	3,743
2	3	1	1	2	20
303	8	262	8	100	1,482
550	436	377	390	222	22,064
59	57	63	55	32	2,406
9	3	3	8	1	147
39	39	22	39	14	683
107	99	88	102	47	3,236
347	310	343	336	41	13,105
59	75	74	66	38	2,790
406	385	417	402	79	15,895
2	2	6	2	1	108
3	2	6	15	10	340
21	7	9	7	17	500
26	11	21	24	28	948
1	4	6	0	1	197
24	14	26	8	0	874
25	18	32	8	1	1,071
0	0	0	0	0	11
34	20	22	29	9	1,094
56	56	58	43	5	1,813
90	76	80	72	14	2,918
48	54	59	41	27	1,501
12	12	12	13	0	464
1	1	1	2	1	24
61	67	72	56	28	1,989
20	16	22	1	7	685
0	0	0	0	0	1
20	16	22	1	7	686
0	0	3	0	0	238
0	0	3	0	0	238
22	36	30	33	25	1,180
8	7	5	8	0	286
30	43	35	41	25	1,466
3,280	3,056	3,244	2,878	723	118,661

Source: Composite Sorties Database

Daily Breakout of Sorties by U.S. Service/Allied Country by Mission Type

The following series of tables provides a daily breakout by mission type of the number of sorties flown for the U.S. Air Force (USAF) (including Proven Force), U.S. Army (USA), U.S. Navy (USN), U.S. Marine Corp (USMC), U.S. Special Operations Command (USSOCCENT), U.S. Civil Reserve Air Fleet (CRAF), Saudi Arabia, Bahrain, Canada, France, Italy, Kuwait, Qatar, United Arab Emirates (UAE), and the United Kingdom (UK). The figures were compiled from the Composite Sorties Database for 16 Jan 91 - 28 Feb 91.

Notes:

1. Start dates vary for each of the U.S. Services/Allied countries depicted. The first date shown for a given Service/country is the first date for which sorties were reported for that Service/country.

2. The U.S. Army sortie counts include only fixed-wing assets. Helicopter flights were tracked by hours flown, and not by sorties.

3. Mission types tracked for each U.S. Service/Allied country also vary. We do not depict mission types in which no activity occurred. Thus, if the grand total of sorties flown for a mission type during the period 16 Jan 91 - 28 Feb 91 was zero, that row was removed from the table.

Table 66
USAF: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91
Interdiction	378	409	307	276	308
BAI	3	4	92	0	98
Total AI	381	413	399	276	406
CAS	46	52	28	8	0
FAC	24	8	18	2	8
Total CAS	70	60	46	10	8
DCA	140	124	150	109	108
CAP	0	0	0	0	0
Total DCA	140	124	150	109	108
OCA	359	241	72	73	85
SEAD	85	79	86	70	55
Escort	4	8	60	32	52
Total OCA	448	328	218	175	192
Airlift	99	489	379	493	480
Airland	0	0	0	0	0
Courier	0	0	0	0	0
Air Evac	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	99	489	379	493	480
Recce	8	11	13	7	16
Observation	0	0	0	0	0
Total Recce	8	11	13	7	16
Refueling	298	302	268	257	277
Total Refueling	298	302	268	257	277
Psych Ops	0	0	0	0	2
Rescue	6	4	4	0	2
SOF	0	0	0	0	0
Total SOF	6	4	4	0	4
VIP Support	0	3	12	0	0
Support	6	0	0	0	0
Total Support	6	3	12	0	0
ESM	1	5	5	6	5
EW	37	47	38	31	29
Total EW	38	52	43	37	34
ABCCC	4	5	6	6	5
ABN Early Warning	12	9	10	10	10
C3	0	0	0	0	0
Total C3	16	14	16	16	15
Training	0	1	0	3	0
Utility	0	0	0	0	0
Total Training	0	1	0	3	0
Other	3	0	0	1	17
Special	2	3	4	3	3
Total Other	5	3	4	4	20
Grand Total	1,515	1,804	1,552	1,387	1,560

Table 66 (cont'd)
USAF: Sorties by Mission Type by Day

Mission Type	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91	27-Jan-91
Interdiction	295	383	498	502	585	443
BAI	106	158	0	18	12	15
Total AI	**401**	**541**	**498**	**520**	**597**	**458**
CAS	28	22	0	0	0	0
FAC	16	13	20	12	18	5
Total CAS	**44**	**35**	**20**	**12**	**18**	**5**
DCA	88	94	95	100	104	131
CAP	0	0	0	0	4	4
Total DCA	**88**	**94**	**95**	**100**	**108**	**135**
OCA	60	125	145	81	65	95
SEAD	67	81	75	73	72	75
Escort	72	59	82	62	44	36
Total OCA	**199**	**265**	**302**	**216**	**181**	**206**
Airlift	534	106	528	399	91	371
Airland	0	0	0	0	0	0
Courier	0	0	0	0	0	0
Air Evac	0	383	0	0	386	0
Tactical Airlift	0	0	0	0	4	0
Total Airlift	**534**	**489**	**528**	**399**	**481**	**371**
Recce	15	13	14	16	20	20
Observation	0	0	0	0	0	0
Total Recce	**15**	**13**	**14**	**16**	**20**	**20**
Refueling	270	282	275	286	271	283
Total Refueling	**270**	**282**	**275**	**286**	**271**	**283**
Psych Ops	0	0	0	0	0	0
Rescue	4	0	0	4	6	4
SOF	0	0	0	0	0	0
Total SOF	**4**	**0**	**0**	**4**	**6**	**4**
VIP Support	7	4	0	9	16	19
Support	0	0	0	0	0	0
Total Support	**7**	**4**	**0**	**9**	**16**	**19**
ESM	5	5	6	6	5	5
EW	34	35	34	32	32	34
Total EW	**39**	**40**	**40**	**38**	**37**	**39**
ABCCC	5	5	5	4	5	5
ABN Early Warning	9	9	9	10	9	9
C3	0	0	0	0	0	0
Total C3	**14**	**14**	**14**	**14**	**14**	**14**
Training	8	0	9	1	0	0
Utility	0	0	0	0	0	0
Total Training	**8**	**0**	**9**	**1**	**0**	**0**
Other	2	1	5	5	3	2
Special	3	3	5	2	5	5
Total Other	**5**	**4**	**10**	**7**	**8**	**7**
Grand Total	**1,628**	**1,781**	**1,805**	**1,622**	**1,757**	**1,561**

28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91
582	640	627	577	575	608	616	666
24	0	0	0	0	0	0	0
606	640	627	577	575	608	616	666
0	0	0	0	(	0	0	0
13	8	16	16	1	12	13	17
13	8	16	16	16	12	13	17
146	110	130	88	68	97	76	88
0	0	0	68	38	42	24	0
146	110	130	156	106	139	100	88
84	51	107	89	116	102	47	59
74	60	67	67	84	82	71	81
42	14	10	6	14	12	20	12
200	125	184	162	214	196	138	152
459	576	0	374	321	0	593	436
0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
0	0	204	0	0	221	0	0
0	0	0	0	2	0	0	0
466	576	204	374	323	221	593	436
18	17	20	19	19	17	23	28
0	0	0	0	0	0	0	0
18	17	20	19	19	17	23	28
270	243	277	267	254	253	266	245
270	243	277	267	254	253	266	245
0	0	0	4	0	4	0	0
0	0	0	6	4	2	0	2
0	0	0	0	0	0	0	0
0	0	0	10	4	6	0	2
1	0	23	8	10	2	10	13
0	0	0	0	0	0	0	0
1	0	23	8	10	2	10	13
5	5	5	5	4	4	4	5
34	29	31	30	35	37	28	38
39	34	36	35	39	41	32	43
5	5	5	4	4	4	4	4
7	9	9	9	9	10	9	10
0	0	0	1	0	1	0	0
12	14	14	14	13	15	13	14
0	0	0	7	6	3	2	3
0	0	0	1	0	0	0	0
0	0	0	8	6	3	2	3
1	10	1	10	4	2	3	2
4	5	5	4	4	5	3	6
5	15	6	14	8	7	6	8
1,776	1,782	1,537	1,660	1,587	1,520	1,812	1,715

Table 66 (cont'd)
USAF: Sorties by Mission Type by Day

Mission Type	5-Feb-91	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91
Interdiction	710	654	656	739	715	738
BAI	0	0	0	0	0	0
Total AI	**710**	**654**	**656**	**739**	**715**	**738**
CAS	0	0	0	0	0	0
FAC	19	15	16	20	19	18
Total CAS	**19**	**15**	**16**	**20**	**19**	**18**
DCA	96	80	88	94	90	92
CAP	0	8	16	20	16	16
Total DCA	**96**	**88**	**104**	**114**	**106**	**108**
OCA	31	26	48	12	4	4
SEAD	84	65	77	71	77	87
Escort	22	20	24	18	8	16
Total OCA	**137**	**111**	**149**	**101**	**89**	**107**
Airlift	448	90	346	394	373	277
Airland	0	0	0	0	0	0
Courier	0	0	0	0	0	0
Air Evac	0	339	0	0	0	0
Tactical Airlift	0	0	0	0	0	0
Total Airlift	**448**	**429**	**346**	**394**	**373**	**277**
Recce	25	25	25	23	25	19
Observation	12	12	12	12	24	18
Total Recce	**37**	**37**	**37**	**35**	**49**	**37**
Refueling	249	242	252	266	254	252
Total Refueling	**249**	**242**	**252**	**266**	**254**	**252**
Psych Ops	0	0	2	0	0	2
Rescue	8	0	0	0	2	1
SOF	0	0	0	0	0	0
Total SOF	**8**	**0**	**2**	**0**	**2**	**3**
VIP Support	0	0	1	0	4	0
Support	0	0	0	0	0	0
Total Support	**0**	**0**	**1**	**0**	**4**	**0**
ESM	4	4	4	5	4	4
EW	38	27	29	36	34	34
Total EW	**42**	**31**	**33**	**41**	**38**	**38**
ABCCC	4	4	5	5	4	4
ABN Early Warning	9	8	8	8	8	9
C3	1	0	1	1	1	1
Total C3	**14**	**12**	**14**	**14**	**13**	**14**
Training	0	0	1	4	26	28
Utility	0	0	0	0	0	0
Total Training	**0**	**0**	**1**	**4**	**26**	**28**
Other	3	2	7	5	4	3
Special	4	4	5	5	7	6
Total Other	**7**	**6**	**12**	**10**	**11**	**9**
Grand Total	**1,767**	**1,625**	**1,623**	**1,738**	**1,699**	**1,630**

11-Feb-91	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91	18-Feb-91
659	706	689	677	685	649	477	697
0	0	0	0	0	0	0	0
659	**706**	**689**	**677**	**685**	**649**	**477**	**697**
0	0	0	0	0	0	0	0
19	19	20	20	20	16	4	20
19	**19**	**20**	**20**	**20**	**16**	**4**	**20**
66	72	68	70	70	64	87	84
16	16	16	16	16	17	16	16
82	**88**	**84**	**86**	**86**	**81**	**103**	**100**
32	24	21	0	12	28	16	20
63	71	63	68	66	61	76	74
8	14	16	14	10	12	14	8
103	**109**	**100**	**82**	**88**	**101**	**106**	**102**
305	392	77	377	53	380	378	89
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	318	0	312	0	0	402
0	0	0	0	0	0	0	0
305	**392**	**395**	**377**	**365**	**380**	**378**	**491**
25	25	23	23	24	29	23	25
0	0	24	18	22	22	22	24
25	**25**	**47**	**41**	**46**	**51**	**45**	**49**
242	241	249	236	239	231	238	265
242	**241**	**249**	**236**	**239**	**231**	**238**	**265**
0	0	0	0	4	2	4	0
4	0	4	0	4	6	0	0
0	4	0	0	0	0	0	0
4	**4**	**4**	**0**	**8**	**8**	**4**	**0**
0	0	4	0	1	0	2	9
0	0	0	0	0	0	0	0
0	**0**	**4**	**0**	**1**	**0**	**2**	**9**
4	4	4	4	4	4	5	4
29	34	33	26	25	27	35	29
33	**38**	**37**	**30**	**29**	**31**	**40**	**33**
5	4	4	4	4	4	4	4
8	8	8	9	7	7	9	9
1	1	1	1	1	1	1	1
14	**13**	**13**	**14**	**12**	**12**	**14**	**14**
8	17	0	17	0	2	2	2
0	0	0	0	0	0	0	0
8	**17**	**0**	**17**	**0**	**2**	**2**	**2**
5	7	5	1	3	1	6	7
5	5	5	5	6	3	3	6
10	**12**	**10**	**6**	**9**	**4**	**9**	**13**
1,504	**1,664**	**1,652**	**1,586**	**1,588**	**1,566**	**1,422**	**1,795**

Table 66 (cont'd)
USAF: Sorties by Mission Type by Day

Mission Type	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91	24-Feb-91
Interdiction	697	570	680	676	601	514
BAI	0	0	0	0	0	3
Total AI	**697**	**570**	**680**	**676**	**601**	**517**
CAS	0	0	2	24	124	190
FAC	19	16	18	21	20	22
Total CAS	**19**	**16**	**20**	**45**	**144**	**212**
DCA	82	74	70	78	126	130
CAP	16	20	20	20	0	0
Total DCA	**98**	**94**	**90**	**98**	**126**	**130**
OCA	16	22	4	4	12	26
SEAD	82	76	81	74	76	68
Escort	6	8	6	10	4	6
Total OCA	**104**	**106**	**91**	**88**	**92**	**100**
Airlift	498	70	58	82	62	65
Airland	0	0	4	0	8	4
Courier	0	0	0	0	0	0
Air Evac	0	255	0	363	0	0
Tactical Airlift	0	0	287	1	297	298
Total Airlift	**498**	**325**	**349**	**446**	**367**	**367**
Recce	25	21	25	23	25	19
Observation	24	16	22	24	24	30
Total Recce	**49**	**37**	**47**	**47**	**49**	**49**
Refueling	249	236	266	237	283	293
Total Refueling	**249**	**236**	**266**	**237**	**283**	**293**
Psych Ops	0	0	0	0	0	0
Rescue	2	2	2	0	0	0
SOF	0	0	2	0	2	0
Total SOF	**2**	**2**	**4**	**0**	**2**	**0**
VIP Support	22	5	0	0	0	1
Support	0	0	0	0	0	0
Total Support	**22**	**5**	**0**	**0**	**0**	**1**
ESM	4	4	4	4	4	5
EW	33	33	30	36	39	35
Total EW	**37**	**37**	**34**	**40**	**43**	**40**
ABCCC	5	5	4	4	7	7
ABN Early Warning	10	8	9	9	9	10
C3	1	1	0	1	0	1
Total C3	**16**	**14**	**13**	**14**	**16**	**18**
Training	2	6	7	2	2	0
Utility	0	0	0	0	0	0
Total Training	**2**	**6**	**7**	**2**	**2**	**0**
Other	3	1	9	3	4	2
Special	6	4	6	6	6	6
Total Other	**9**	**5**	**15**	**9**	**10**	**8**
Grand Total	**1,802**	**1,453**	**1,616**	**1,702**	**1,735**	**1,735**

25-Feb-91	26-Fe'	27-Feb-91	28-Feb-91	Total
380		403	20	23,756
0		0	0	536
380		403	20	24,292
313		263	18	1,438
22		21	4	682
335	339	284	22	2,120
88	128	124	30	4,097
0	0	0	0	461
88	128	124	30	4,558
36	32	4	0	2,490
73	47	61	0	3,045
2	0	0	0	887
111	79	65	0	6,422
0	0	0	78	11,620
0	0	0	0	16
0	0	0	0	7
298	0	260	0	3,741
2	259	2	92	1,[illegible]14
300	259	262	170	16,628
31	23	20	4	869
30	12	30	8	442
61	35	50	12	1,311
254	298	281	27	11,024
254	298	281	27	11,024
0	4	0	0	26
2	2	4	2	96
0	4	0	0	12
2	10	4	2	134
4	6	0	1	197
0	0	0	0	6
4	6	0	1	203
4	5	5	2	190
33	33	34	1	1,388
37	38	39	3	1,578
8	7	5	0	201
10	10	11	0	379
1	1	2	1	24
19	18	18	1	604
0	4	0	0	173
0	0	0	0	1
0	4	0	0	174
2	2	5	3	165
6	4	6	0	193
8	6	11	3	358
1,599	1,712	1,541	291	69,406

Source: Composite Sorties Database

Table 67
USA: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91
Tactical Airlift	0	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**	**0**
SLAR	0	3	4	1	3
Total Recce	**0**	**3**	**4**	**1**	**3**
ECM	0	0	0	0	0
ESM	8	17	11	12	9
EW	0	0	0	0	0
Total EW	**8**	**17**	**11**	**12**	**9**
Grand Total	**8**	**20**	**15**	**13**	**12**

Mission Type	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91	1-Feb-91
Tactical Airlift	4	5	5	5	4
Total Airlift	**4**	**5**	**5**	**5**	**4**
SLAR	4	4	7	4	2
Total Recce	**4**	**4**	**7**	**4**	**2**
ECM	0	0	0	0	0
ESM	13	10	17	9	16
EW	0	0	0	0	0
Total EW	**13**	**10**	**17**	**9**	**16**
Grand Total	**21**	**19**	**29**	**18**	**22**

Mission Type	8-Feb-91	9-Feb-91	10-Feb-91	11-Feb-91	12-Feb-91
Tactical Airlift	6	6	7	7	7
Total Airlift	**6**	**6**	**7**	**7**	**7**
SLAR	3	3	3	4	4
Total Recce	**3**	**3**	**3**	**4**	**4**
ECM	0	0	0	0	1
ESM	11	8	14	10	5
EW	0	0	0	0	0
Total EW	**11**	**8**	**14**	**10**	**6**
Grand Total	**20**	**17**	**24**	**21**	**17**

Mission Type	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91
Tactical Airlift	7	7	9	8	5
Total Airlift	**7**	**7**	**9**	**8**	**5**
SLAR	5	5	5	4	5
Total Recce	**5**	**5**	**5**	**4**	**5**
ECM	1	0	1	0	0
ESM	20	27	20	19	16
EW	0	0	0	0	3
Total EW	**21**	**27**	**21**	**19**	**19**
Grand Total	**33**	**39**	**35**	**31**	**29**

22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91	27-Jan-91
0	0	4	4	5	6
0	0	4	4	5	6
2	2	6	4	3	3
2	2	6	4	3	3
0	0	0	0	0	0
12	5	15	14	13	12
0	0	0	0	0	0
12	5	15	14	13	12
14	7	25	22	21	21

2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91	6-Feb-91	7-Feb-91
6	4	5	3	0	6
6	4	5	3	0	6
2	2	2	3	0	0
2	2	2	3	0	0
0	0	0	0	0	0
14	14	14	13	0	4
0	0	0	0	0	0
14	14	14	13	0	4
22	20	21	19	0	10

13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91	18-Feb-91
7	7	6	6	5	7
7	7	6	6	5	7
3	2	5	4	5	2
3	2	5	4	5	2
0	1	1	0	1	0
10	12	18	15	15	17
0	0	0	0	0	0
10	13	19	15	16	17
20	22	30	25	26	26

24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
5	6	3	6	8	201
5	6	3	6	8	201
9	3	3	8	1	147
9	3	3	8	1	147
0	0	0	0	0	6
18	11	11	17	1	547
2	2	6	2	0	15
20	13	17	19	1	568
34	22	23	33	10	916

Source: Composite Sorties Database

Table 68
USN: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91
Interdiction	189	116	82	54
Total AI	**189**	**116**	**82**	**54**
CAS	0	0	0	0
Total CAS	**0**	**0**	**0**	**0**
DCA	3	0	0	0
CAP	59	158	65	131
Total DCA	**62**	**158**	**65**	**131**
OCA	0	0	0	0
SEAD	97	40	41	19
Escort	8	21	61	22
Total OCA	**105**	**61**	**102**	**41**
Recce	33	8	3	10
Observation	0	0	0	18
Total Recce	**33**	**8**	**3**	**28**
Tanker	85	101	71	71
Total Refueling	**85**	**101**	**71**	**71**
Rescue	3	0	0	0
Total SOF	**3**	**0**	**0**	**0**
Support	1	2	2	1
Total Support	**1**	**2**	**2**	**1**
ECM	0	0	0	0
ESM	18	6	1	10
Total EW	**18**	**6**	**1**	**10**
ABCCC	36	31	29	22
Total C3	**36**	**31**	**29**	**22**
Training	55	51	0	1
Total Training	**55**	**51**	**0**	**1**
Surface CAP	22	12	20	14
Total Surface CAP	**22**	**12**	**20**	**14**
Other	23	18	11	15
Total Other	**23**	**18**	**11**	**15**
Grand Total	**632**	**564**	**386**	**388**

21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91	27-Jan-91
41	61	49	88	67	48	48
41	**61**	**49**	**88**	**67**	**48**	**48**
0	1	0	0	0	0	0
0	**1**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
95	89	111	136	127	92	113
95	**89**	**111**	**136**	**127**	**92**	**113**
0	0	0	0	0	0	0
29	34	22	26	33	18	18
24	33	19	15	18	8	29
53	**67**	**41**	**41**	**51**	**26**	**47**
10	13	23	35	30	34	40
0	0	7	7	8	2	10
10	**13**	**30**	**42**	**38**	**36**	**50**
64	72	67	81	81	74	88
64	**72**	**67**	**81**	**81**	**74**	**88**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
0	1	1	1	1	1	1
0	**1**	**1**	**1**	**1**	**1**	**1**
1	0	0	0	1	0	0
5	7	6	8	5	6	4
6	**7**	**6**	**8**	**6**	**6**	**4**
26	30	24	31	30	27	30
26	**30**	**24**	**31**	**30**	**27**	**30**
0	2	0	4	0	0	0
0	**2**	**0**	**4**	**0**	**0**	**0**
32	22	18	13	14	3	2
32	**22**	**18**	**13**	**14**	**3**	**2**
10	15	9	14	47	19	19
10	**15**	**9**	**14**	**47**	**19**	**19**
337	**380**	**356**	**459**	**462**	**332**	**402**

Table 68 (cont'd)
USN: Sorties by Mission Type by Day

Mission Type	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91
Interdiction	65	68	112	122
Total AI	**65**	**68**	**112**	**122**
CAS	0	0	5	13
Total CAS	**0**	**0**	**5**	**13**
DCA	3	0	0	0
CAP	142	98	96	109
Total DCA	**145**	**98**	**96**	**109**
OCA	0	0	0	2
SEAD	40	13	19	24
Escort	29	6	3	6
Total OCA	**69**	**19**	**22**	**32**
Recce	34	37	22	38
Observation	7	8	10	11
Total Recce	**41**	**45**	**32**	**49**
Tanker	98	74	77	83
Total Refueling	**98**	**74**	**77**	**83**
Rescue	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**
Support	1	0	1	1
Total Support	**1**	**0**	**1**	**1**
ECM	0	0	0	0
ESM	5	12	9	7
Total EW	**5**	**12**	**9**	**7**
ABCCC	35	21	27	26
Total C3	**35**	**21**	**27**	**26**
Training	3	20	2	0
Total Training	**3**	**20**	**2**	**0**
Surface CAP	0	2	7	0
Total Surface CAP	**0**	**2**	**7**	**0**
Other	24	20	38	19
Total Other	**24**	**20**	**38**	**19**
Grand Total	**486**	**379**	**428**	**461**

1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91	6-Feb-91	7-Feb-91
140	65	79	115	144	82	104
140	**65**	**79**	**115**	**144**	**82**	**104**
2	0	0	0	0	0	0
2	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
100	75	86	104	100	76	84
100	**75**	**86**	**104**	**100**	**76**	**84**
8	8	13	0	13	0	0
14	11	15	21	39	33	35
9	6	7	10	15	11	18
31	**25**	**35**	**31**	**67**	**44**	**53**
42	42	30	38	27	31	32
4	7	5	2	6	2	4
46	**49**	**35**	**40**	**33**	**33**	**36**
83	66	52	57	51	49	60
83	**66**	**52**	**57**	**51**	**49**	**60**
0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**
2	1	1	3	2	1	1
2	**1**	**1**	**3**	**2**	**1**	**1**
1	1	1	0	0	0	0
11	5	8	5	6	6	5
12	**6**	**9**	**5**	**6**	**6**	**5**
30	25	25	24	25	23	24
30	**25**	**25**	**24**	**25**	**23**	**24**
10	0	5	0	1	0	0
10	**0**	**5**	**0**	**1**	**0**	**0**
0	0	4	0	2	0	0
0	**0**	**4**	**0**	**2**	**0**	**0**
24	17	25	12	27	16	19
24	**17**	**25**	**12**	**27**	**16**	**19**
480	**329**	**356**	**391**	**458**	**330**	**386**

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Table 68 (cont'd)
USN: Sorties by Mission Type by Day

Mission Type	8-Feb-91	9-Feb-91	10-Feb-91	11-Feb-91
Interdiction	91	99	127	145
Total AI	**91**	**99**	**127**	**145**
CAS	0	0	0	0
Total CAS	**0**	**0**	**0**	**0**
DCA	0	0	0	0
CAP	84	90	83	98
Total DCA	**84**	**90**	**83**	**98**
OCA	0	0	0	0
SEAD	30	29	31	33
Escort	13	12	19	20
Total OCA	**43**	**41**	**50**	**53**
Recce	40	25	23	25
Observation	5	7	4	7
Total Recce	**45**	**32**	**27**	**32**
Tanker	62	66	61	69
Total Refueling	**62**	**66**	**61**	**69**
Rescue	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**
Support	1	1	1	1
Total Support	**1**	**1**	**1**	**1**
ECM	0	0	0	0
ESM	2	4	3	3
Total EW	**2**	**4**	**3**	**3**
ABCCC	24	20	23	27
Total C3	**24**	**20**	**23**	**27**
Training	0	0	0	40
Total Training	**0**	**0**	**0**	**40**
Surface CAP	2	5	0	0
Total Surface CAP	**2**	**5**	**0**	**0**
Other	19	16	9	26
Total Other	**19**	**16**	**9**	**26**
Grand Total	**373**	**374**	**384**	**494**

12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91
95	123	126	143	85	85
95	**123**	**126**	**143**	**85**	**85**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	4	4	0	10
74	81	79	82	75	78
74	**81**	**83**	**86**	**75**	**88**
0	0	0	0	0	0
25	38	34	34	24	23
17	14	9	13	16	15
42	**52**	**43**	**47**	**40**	**38**
37	24	19	26	20	36
5	2	4	0	2	3
42	**26**	**23**	**26**	**22**	**39**
48	47	53	65	34	50
48	**47**	**53**	**65**	**34**	**50**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
1	1	3	0	1	1
1	**1**	**3**	**0**	**1**	**1**
0	0	0	0	0	0
3	7	3	6	2	4
3	**7**	**3**	**6**	**2**	**4**
30	23	23	22	23	23
30	**23**	**23**	**22**	**23**	**23**
50	2	3	1	0	0
50	**2**	**3**	**1**	**0**	**0**
0	0	1	0	0	0
0	**0**	**1**	**0**	**0**	**0**
10	24	17	46	15	26
10	**24**	**17**	**46**	**15**	**26**
395	**386**	**378**	**442**	**297**	**354**

Table 68 (cont'd)
USN: Sorties by Mission Type by Day

Mission Type	18-Feb-91	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91
Interdiction	163	181	154	169	126
Total AI	**163**	**181**	**154**	**169**	**126**
CAS	0	0	0	0	0
Total CAS	**0**	**0**	**0**	**0**	**0**
DCA	0	0	0	0	0
CAP	105	96	103	106	94
Total DCA	**105**	**96**	**103**	**106**	**94**
OCA	0	0	0	0	0
SEAD	38	39	27	24	36
Escort	20	18	10	13	18
Total OCA	**58**	**57**	**37**	**37**	**54**
Recce	37	32	25	33	28
Observation	4	7	9	7	7
Total Recce	**41**	**39**	**34**	**40**	**35**
Tanker	56	56	43	53	52
Total Refueling	**56**	**56**	**43**	**53**	**52**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Support	1	0	2	0	1
Total Support	**1**	**0**	**2**	**0**	**1**
ECM	0	0	0	0	0
ESM	7	5	5	7	5
Total EW	**7**	**5**	**5**	**7**	**5**
ABCCC	26	26	25	29	27
Total C3	**26**	**26**	**25**	**29**	**27**
Training	1	0	1	0	0
Total Training	**1**	**0**	**1**	**0**	**0**
Surface CAP	0	0	0	0	0
Total Surface CAP	**0**	**0**	**0**	**0**	**0**
Other	24	11	9	24	40
Total Other	**24**	**11**	**9**	**24**	**40**
Grand Total	**482**	**471**	**413**	**465**	**434**

23-Feb-91	24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
176	169	244	278	270	72	5,060
176	**169**	**244**	**278**	**270**	**72**	**5,060**
0	0	0	0	0	0	21
0	**0**	**0**	**0**	**0**	**0**	**21**
0	0	0	0	0	0	24
66	115	123	125	131	87	4,221
66	**115**	**123**	**125**	**131**	**87**	**4,245**
0	0	0	0	0	0	44
23	19	31	33	34	17	1,263
4	5	4	4	4	3	629
27	**24**	**35**	**37**	**38**	**20**	**1,936**
23	22	18	31	26	28	1,190
7	9	9	10	9	6	241
30	**31**	**27**	**41**	**35**	**34**	**1,431**
50	59	75	74	66	38	2,782
50	**59**	**75**	**74**	**66**	**38**	**2,782**
0	0	0	0	0	0	3
0	**0**	**0**	**0**	**0**	**0**	**3**
0	0	0	0	0	0	41
0	**0**	**0**	**0**	**0**	**0**	**41**
0	0	0	0	0	0	5
11	9	3	5	5	6	260
11	**9**	**3**	**5**	**5**	**6**	**265**
24	26	29	35	32	25	1,143
24	**26**	**29**	**35**	**32**	**25**	**1,143**
0	0	0	2	1	7	262
0	**0**	**0**	**2**	**1**	**7**	**262**
0	0	0	3	0	0	198
0	**0**	**0**	**3**	**0**	**0**	**198**
29	19	33	28	28	22	916
29	**19**	**33**	**28**	**28**	**22**	**916**
413	**452**	**569**	**628**	**606**	**311**	**18,303**

Source: Composite Sorties Database

Table 69
USMC: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91
Interdiction	46	24	14
BAI	0	0	0
Total AI	**46**	**24**	**14**
CAS	20	4	14
FAC	8	10	7
Total CAS	**28**	**14**	**21**
OCA	14	50	44
SEAD	0	0	0
Escort	12	16	8
Total OCA	**26**	**66**	**52**
Airlift	0	0	0
Total Airlift	**0**	**0**	**0**
Recce	0	0	0
Total Recce	**0**	**0**	**0**
Refueling	2	9	2
Tanker	0	0	0
Total Refueling	**2**	**9**	**2**
Rescue	0	0	0
Total SOF	**0**	**0**	**0**
Support	45	14	12
Total Support	**45**	**14**	**12**
ESM	0	1	0
EW	19	11	8
Total EW	**19**	**12**	**8**
ABCCC	1	3	4
Total C3	**1**	**3**	**4**
Training	0	3	0
Total Training	**0**	**3**	**0**
Other	1	0	0
Total Other	**1**	**0**	**0**
Grand Total	**168**	**145**	**113**

20-Jan-91	21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91
61	21	72	67	180	73
0	0	0	0	0	0
61	**21**	**72**	**67**	**180**	**73**
2	3	27	8	2	0
6	1	6	6	18	19
8	**4**	**33**	**14**	**20**	**19**
6	0	0	70	0	0
0	0	0	0	0	0
18	3	6	20	16	12
24	**3**	**6**	**90**	**16**	**12**
1	2	0	0	0	0
1	**2**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
1	12	13	23	15	11
0	0	0	0	0	0
1	**12**	**13**	**23**	**15**	**11**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
2	4	22	24	38	22
2	**4**	**22**	**24**	**38**	**22**
0	0	0	2	1	0
4	5	2	8	7	5
4	**5**	**2**	**10**	**8**	**5**
2	2	1	0	1	0
2	**2**	**1**	**0**	**1**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	0	0	1	0
0	**0**	**0**	**0**	**1**	**0**
103	**53**	**149**	**228**	**279**	**142**

Table 69 (cont'd)
USMC: Sorties by Mission Type by Day

Mission Type	26-Jan-91	27-Jan-91	28-Jan-91	29-Jan-91
Interdiction	152	81	141	114
BAI	0	6	0	0
Total AI	**152**	**87**	**141**	**114**
CAS	5	0	4	38
FAC	23	7	7	23
Total CAS	**28**	**7**	**11**	**61**
OCA	0	0	0	0
SEAD	0	14	2	2
Escort	24	16	22	8
Total OCA	**24**	**30**	**24**	**10**
Airlift	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**
Recce	0	2	0	0
Total Recce	**0**	**2**	**0**	**0**
Refueling	20	11	18	5
Tanker	0	0	0	0
Total Refueling	**20**	**11**	**18**	**5**
Rescue	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**
Support	45	36	35	28
Total Support	**45**	**36**	**35**	**28**
ESM	1	1	0	0
EW	3	2	2	2
Total EW	**4**	**3**	**2**	**2**
ABCCC	0	0	1	0
Total C3	**0**	**0**	**1**	**0**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Other	1	0	0	1
Total Other	**1**	**0**	**0**	**1**
Grand Total	**274**	**176**	**232**	**221**

30-Jan-91	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91
157	157	164	174	194	174
0	0	0	0	0	0
157	**157**	**164**	**174**	**194**	**174**
20	4	0	0	0	0
28	20	20	27	24	23
48	**24**	**20**	**27**	**24**	**23**
0	0	0	0	0	0
0	0	0	0	0	0
22	16	25	19	23	21
22	**16**	**25**	**19**	**23**	**21**
1	5	0	0	0	0
1	**5**	**0**	**0**	**0**	**0**
0	0	1	0	0	0
0	**0**	**1**	**0**	**0**	**0**
11	12	18	16	17	12
0	4	4	0	0	0
11	**16**	**22**	**16**	**17**	**12**
0	0	0	0	1	0
0	**0**	**0**	**0**	**1**	**0**
26	19	23	22	32	25
26	**19**	**23**	**22**	**32**	**25**
0	1	1	0	1	1
2	2	2	3	5	7
2	**3**	**3**	**3**	**6**	**8**
1	0	1	4	4	4
1	**0**	**1**	**4**	**4**	**4**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
268	**240**	**259**	**265**	**301**	**267**

Table 69 (cont'd)
USMC: Sorties by Mission Type by Day

Mission Type	5-Feb-91	6-Feb-91	7-Feb-91
Interdiction	142	62	181
BAI	0	0	0
Total AI	**142**	**62**	**181**
CAS	0	0	0
FAC	23	25	24
Total CAS	**23**	**25**	**24**
OCA	0	0	0
SEAD	0	0	0
Escort	24	14	20
Total OCA	**24**	**14**	**20**
Airlift	0	0	0
Total Airlift	**0**	**0**	**0**
Recce	0	0	0
Total Recce	**0**	**0**	**0**
Refueling	17	11	20
Tanker	0	0	0
Total Refueling	**17**	**11**	**20**
Rescue	0	0	0
Total SOF	**0**	**0**	**0**
Support	22	10	19
Total Support	**22**	**10**	**19**
ESM	1	1	1
EW	4	2	7
Total EW	**5**	**3**	**8**
ABCCC	4	4	4
Total C3	**4**	**4**	**4**
Training	0	0	0
Total Training	**0**	**0**	**0**
Other	0	0	0
Total Other	**0**	**0**	**0**
Grand Total	**237**	**129**	**276**

8-Feb-91	9-Feb-91	10-Feb-91	11-Feb-91	12-Feb-91	13-Feb-91
192	193	234	78	18	62
0	0	0	0	0	0
192	**193**	**234**	**78**	**18**	**62**
2	0	0	130	150	132
26	26	26	26	37	33
28	**26**	**26**	**156**	**187**	**165**
0	0	0	0	0	0
0	0	0	0	0	0
19	22	22	18	18	12
19	**22**	**22**	**18**	**18**	**12**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
12	9	7	8	5	9
0	0	0	0	0	0
12	**9**	**7**	**8**	**5**	**9**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
16	2	2	5	1	8
16	**2**	**2**	**5**	**1**	**8**
0	1	1	0	1	0
4	10	10	6	15	8
4	**11**	**11**	**6**	**16**	**8**
6	2	3	3	5	2
6	**2**	**3**	**3**	**5**	**2**
1	0	0	0	0	0
1	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
278	**265**	**305**	**274**	**250**	**266**

Table 69 (cont'd)
USMC: Sorties by Mission Type by Day

Mission Type	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91
Interdiction	64	53	87	33
BAI	0	0	0	0
Total AI	**64**	**53**	**87**	**33**
CAS	160	164	128	58
FAC	28	26	27	20
Total CAS	**188**	**190**	**155**	**78**
OCA	0	0	0	0
SEAD	0	0	0	0
Escort	12	12	12	7
Total OCA	**12**	**12**	**12**	**7**
Airlift	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**
Recce	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**
Refueling	9	9	9	6
Tanker	0	0	0	0
Total Refueling	**9**	**9**	**9**	**6**
Rescue	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**
Support	3	5	4	10
Total Support	**3**	**5**	**4**	**10**
ESM	0	0	1	0
EW	5	10	7	6
Total EW	**5**	**10**	**8**	**6**
ABCCC	1	3	1	1
Total C3	**1**	**3**	**1**	**1**
Training	0	0	0	10
Total Training	**0**	**0**	**0**	**10**
Other	0	0	0	0
Total Other	**0**	**0**	**0**	**0**
Grand Total	**282**	**282**	**276**	**151**

18-Feb-91	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91
67	50	27	47	26	76
0	0	19	27	20	40
67	**50**	**46**	**74**	**46**	**116**
144	196	83	140	264	275
24	27	19	46	62	70
168	**223**	**102**	**186**	**326**	**345**
0	0	0	0	0	0
0	0	0	0	0	0
12	11	13	0	0	0
12	**11**	**13**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
9	9	9	10	9	9
0	0	0	0	0	0
9	**9**	**9**	**10**	**9**	**9**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
20	0	0	0	20	25
20	**0**	**0**	**0**	**20**	**25**
0	0	0	0	0	0
8	11	9	13	16	16
8	**11**	**9**	**13**	**16**	**16**
2	2	4	5	7	14
2	**2**	**4**	**5**	**7**	**14**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
286	**306**	**183**	**288**	**424**	**525**

Table 69 (cont'd)
USMC: Sorties by Mission Type by Day

Mission Type	24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
Interdiction	69	81	94	12	1	4,015
BAI	22	12	56	47	0	249
Total AI	**91**	**93**	**150**	**59**	**1**	**4,264**
CAS	265	202	199	94	0	2,937
FAC	41	37	39	20	4	1,019
Total CAS	**306**	**239**	**238**	**114**	**4**	**3,956**
OCA	0	0	0	0	0	184
SEAD	0	0	0	0	0	18
Escort	0	0	0	0	0	555
Total OCA	**0**	**0**	**0**	**0**	**0**	**757**
Airlift	0	0	0	0	0	9
Total Airlift	**0**	**0**	**0**	**0**	**0**	**9**
Recce	0	0	0	0	0	3
Total Recce	**0**	**0**	**0**	**0**	**0**	**3**
Refueling	9	9	9	6	6	453
Tanker	0	0	0	0	0	8
Total Refueling	**9**	**9**	**9**	**6**	**6**	**461**
Rescue	0	0	0	0	0	1
Total SOF	**0**	**0**	**0**	**0**	**0**	**1**
Support	24	14	26	4	0	714
Total Support	**24**	**14**	**26**	**4**	**0**	**714**
ESM	0	0	0	0	0	17
EW	17	19	17	5	2	326
Total EW	**17**	**19**	**17**	**5**	**2**	**343**
ABCCC	15	17	17	4	2	157
Total C3	**15**	**17**	**17**	**4**	**2**	**157**
Training	0	0	0	0	0	14
Total Training	**0**	**0**	**0**	**0**	**0**	**14**
Other	0	0	0	0	0	4
Total Other	**0**	**0**	**0**	**0**	**0**	**4**
Grand Total	**462**	**391**	**457**	**192**	**15**	**10,683**

Source: Composite Sorties Database

Table 70
USSOCCENT: Sorties by Mission Type by Day

Mission Type	16-Jan-91	17-Jan-91	18-Jan-91	19-Jan-91
Interdiction	0	0	3	2
Total AI	**0**	**0**	**3**	**2**
CAS	0	1	0	1
Total CAS	**0**	**1**	**0**	**1**
Admin Lift	0	0	0	0
Airlift	0	0	0	0
Air Evac	0	0	0	0
Helo Airlift	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**
Recce	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**
Refueling	0	1	0	1
Total Refueling	**0**	**1**	**0**	**1**
Psych Ops	0	0	0	0
Rescue	0	10	8	4
SOF	11	0	6	0
Total SOF	**11**	**10**	**14**	**4**
Support	0	4	2	1
Total Support	**0**	**4**	**2**	**1**
EW	0	0	3	1
Total EW	**0**	**0**	**3**	**1**
Training	2	0	2	0
Total Training	**2**	**0**	**2**	**0**
Other	0	0	2	0
Special	0	0	0	4
Total Other	**0**	**0**	**2**	**4**
Grand Total	**13**	**16**	**26**	**14**

Table 70 (cont'd)
USSOCCENT: Sorties by Mission Type by Day

Mission Type	20-Jan-91	21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91
Interdiction	2	2	0	0	0
Total AI	**2**	**2**	**0**	**0**	**0**
CAS	0	0	1	2	2
Total CAS	**0**	**0**	**1**	**2**	**2**
Admin Lift	0	0	0	0	0
Airlift	0	0	0	0	0
Air Evac	0	0	0	0	0
Helo Airlift	0	0	2	2	0
Total Airlift	**0**	**0**	**2**	**2**	**0**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Refueling	1	1	2	1	2
Total Refueling	**1**	**1**	**2**	**1**	**2**
Psych Ops	0	1	1	1	0
Rescue	7	5	5	9	12
SOF	18	10	12	16	11
Total SOF	**25**	**16**	**18**	**26**	**23**
Support	0	2	0	0	0
Total Support	**0**	**2**	**0**	**0**	**0**
EW	2	3	1	2	4
Total EW	**2**	**3**	**1**	**2**	**4**
Training	7	0	0	0	0
Total Training	**7**	**0**	**0**	**0**	**0**
Other	2	0	0	0	1
Special	0	0	0	0	0
Total Other	**2**	**0**	**0**	**0**	**1**
Grand Total	**39**	**24**	**24**	**33**	**32**

25-Jan-91	26-Jan-91	27-Jan-91	28-Jan-91	29-Jan-91
2	2	1	1	1
2	**2**	**1**	**1**	**1**
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	2	0
0	**0**	**0**	**2**	**0**
2	3	2	1	2
2	**3**	**2**	**1**	**2**
3	3	3	3	2
5	5	7	2	0
14	13	14	9	9
22	**21**	**24**	**14**	**11**
1	0	1	1	2
1	**0**	**1**	**1**	**2**
2	2	2	2	2
2	**2**	**2**	**2**	**2**
1	2	3	0	1
1	**2**	**3**	**0**	**1**
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**
30	**30**	**33**	**21**	**19**

Table 70 (cont'd)
USSOCCENT: Sorties by Mission Type by Day

Mission Type	30-Jan-91	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91
Interdiction	1	1	2	1	1
Total AI	**1**	**1**	**2**	**1**	**1**
CAS	2	0	0	0	0
Total CAS	**2**	**0**	**0**	**0**	**0**
Admin Lift	0	0	0	0	0
Airlift	0	0	0	0	0
Air Evac	0	0	0	0	0
Helo Airlift	1	0	0	0	0
Total Airlift	**1**	**0**	**0**	**0**	**0**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Refueling	1	2	4	1	0
Total Refueling	**1**	**2**	**4**	**1**	**0**
Psych Ops	3	3	3	2	3
Rescue	2	5	5	6	2
SOF	8	12	12	9	5
Total SOF	**13**	**20**	**20**	**17**	**10**
Support	1	2	5	1	3
Total Support	**1**	**2**	**5**	**1**	**3**
EW	2	2	2	2	2
Total EW	**2**	**2**	**2**	**2**	**2**
Training	0	0	1	0	5
Total Training	**0**	**0**	**1**	**0**	**5**
Other	0	0	0	1	1
Special	0	0	0	0	0
Total Other	**0**	**0**	**0**	**1**	**1**
Grand Total	**21**	**27**	**34**	**23**	**22**

4-Feb-91	5-Feb-91	6-Feb-91	7-Feb-91	8-Feb-91
1	1	3	1	1
1	1	3	1	1
0	1	0	0	0
0	1	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	0
1	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2
1	1	0	0	2
2	2	3	2	2
4	9	0	6	11
6	7	6	10	8
12	18	9	18	21
10	7	2	4	4
10	7	2	4	4
1	3	2	2	2
1	3	2	2	2
12	4	3	2	1
12	4	3	2	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
38	35	19	27	31

Table 70 (cont'd)
USSOCCENT: Sorties by Mission Type by Day

Mission Type	9-Feb-91	10-Feb-91	11-Feb-91	12-Feb-91	13-Feb-91
Interdiction	1	0	0	0	0
Total AI	1	0	0	0	0
CAS	0	0	0	0	0
Total CAS	0	0	0	0	0
Admin Lift	0	0	1	0	0
Airlift	0	0	0	0	0
Air Evac	0	0	0	0	0
Helo Airlift	0	0	0	0	0
Total Airlift	0	0	1	0	0
Recce	0	0	0	0	0
Total Recce	0	0	0	0	0
Refueling	1	2	1	0	1
Total Refueling	1	2	1	0	1
Psych Ops	3	3	2	2	1
Rescue	4	6	9	8	11
SOF	13	15	17	11	12
Total SOF	20	24	28	21	24
Support	0	0	0	0	2
Total Support	0	0	0	0	2
EW	2	2	2	2	2
Total EW	2	2	2	2	2
Training	1	1	1	0	0
Total Training	1	1	1	0	0
Other	4	4	2	4	9
Special	0	0	1	0	2
Total Other	4	4	3	4	11
Grand Total	29	33	36	27	40

14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91	18-Feb-91
0	2	0	0	0
0	**2**	**0**	**0**	**0**
0	0	0	0	2
0	**0**	**0**	**0**	**2**
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	0	0
0	**0**	**0**	**0**	**0**
1	2	2	1	0
1	**2**	**2**	**1**	**0**
1	1	2	3	2
5	6	8	1	4
12	13	13	13	7
18	**20**	**23**	**17**	**13**
0	0	0	1	2
0	**0**	**0**	**1**	**2**
1	1	2	2	2
1	**1**	**2**	**2**	**2**
3	2	1	7	2
3	**2**	**1**	**7**	**2**
5		2	7	2
1		0	3	0
6		**2**	**10**	**2**
29		**30**	**38**	**23**

Table 70 (cont'd)
USSOCCENT: Sorties by Mission Type by Day

Mission Type	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91
Interdiction	0	0	0	0	0
Total AI	**0**	**0**	**0**	**0**	**0**
CAS	0	0	0	2	3
Total CAS	**0**	**0**	**0**	**2**	**3**
Admin Lift	0	0	0	0	0
Airlift	2	0	0	0	0
Air Evac	0	0	0	0	2
Helo Airlift	0	0	0	0	0
Total Airlift	**2**	**0**	**0**	**0**	**2**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Refueling	1	0	3	0	2
Total Refueling	**1**	**0**	**3**	**0**	**2**
Psych Ops	2	2	3	2	2
Rescue	5	4	5	2	5
SOF	15	12	14	11	27
Total SOF	**22**	**18**	**22**	**15**	**34**
Support	0	0	0	2	0
Total Support	**0**	**0**	**0**	**2**	**0**
EW	2	2	2	2	2
Total EW	**2**	**2**	**2**	**2**	**2**
Training	5	6	0	1	0
Total Training	**5**	**6**	**0**	**1**	**0**
Other	3	5	5	4	1
Special	5	1	0	4	0
Total Other	**8**	**6**	**5**	**8**	**1**
Grand Total	**40**	**32**	**32**	**30**	**44**

24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
0	0	0	0	0	32
0	0	0	0	0	32
3	3	4	4	0	31
3	3	4	4	0	31
0	0	0	0	0	1
0	0	0	0	0	2
0	0	0	0	0	2
1	3	1	1	2	14
1	3	1	1	2	19
0	0	0	0	0	2
0	0	0	0	0	2
2	0	1	4	1	56
2	0	1	4	1	56
2	2	2	2	1	82
3	0	4	11	8	238
21	7	5	7	17	488
26	9	11	20	26	808
0	0	0	4	0	64
0	0	0	4	0	64
2	2	2	2	2	84
2	2	2	2	2	84
0	0	0	0	0	76
0	0	0	0	0	76
1	1	0	0	0	68
0	0	0	0	0	22
1	1	0	0	0	90
35	18	19	35	31	1,262

Source: Composite Sorties Database

Table 71
U.S. Civil Reserve Air Fleet (CRAF): Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91
Airlift	21	19	21	23	16
Total Airlift	**21**	**19**	**21**	**23**	**16**
Grand Total	**21**	**19**	**21**	**23**	**16**

Mission Type	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
Airlift	30	23	32	0	22
Total Airlift	**30**	**23**	**32**	**0**	**22**
Grand Total	**30**	**23**	**32**	**0**	**22**

Mission Type	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91
Airlift	0	27	28	0	30
Total Airlift	**0**	**27**	**28**	**0**	**30**
Grand Total	**0**	**27**	**28**	**0**	**30**

Mission Type	1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91
Airlift	0	0	25	0	0
Total Airlift	**0**	**0**	**25**	**0**	**0**
Grand Total	**0**	**0**	**25**	**0**	**0**

Mission Type	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91
Airlift	25	28	29	28	0
Total Airlift	**25**	**28**	**29**	**28**	**0**
Grand Total	**25**	**28**	**29**	**28**	**0**

Mission Type	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91
Airlift	29	24	26	24	27
Total Airlift	**29**	**24**	**26**	**24**	**27**
Grand Total	**29**	**24**	**26**	**24**	**27**

Mission Type	17-Feb-91	18-Feb-91	19-Feb-91	20-Feb-91	21-Feb-91
Airlift	29	34	26	28	25
Total Airlift	**29**	**34**	**26**	**28**	**25**
Grand Total	**29**	**34**	**26**	**28**	**25**

Mission Type	22-Feb-91	23-Feb-91	24-Feb-91	25-Feb-91	26-Feb-91
Airlift	23	28	25	0	0
Total Airlift	**23**	**28**	**25**	**0**	**0**
Grand Total	**23**	**28**	**25**	**0**	**0**

Mission Type	27-Feb-91	28-Feb-91	TOTAL
Airlift	0	25	800
Total Airlift	**0**	**25**	**800**
Grand Total	**0**	**25**	**800**

Source: Composite Sorties Database

Table 72
Saudi Arabia: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91
Interdiction	6	16	6	5
BAI	0	0	12	8
Total AI	**6**	**16**	**18**	**13**
DCA	138	72	62	48
Total DCA	**138**	**72**	**62**	**48**
OCA	14	4	0	4
Escort	0	0	8	4
Total OCA	**14**	**4**	**8**	**8**
Airlift	0	0	33	37
Airland	0	0	0	0
Total Airlift	**0**	**0**	**33**	**37**
Recce	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**
Refueling	20	15	8	10
Total Refueling	**20**	**15**	**8**	**10**
Support	0	0	0	0
Total Support	**0**	**0**	**0**	**0**
ABN Early Warning	3	1	2	2
Total C3	**3**	**1**	**2**	**2**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Grand Total	**181**	**108**	**131**	**118**

Table 72 (cont'd)
Saudi Arabia: Sorties by Mission Type by Day

Mission Type	21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91
Interdiction	3	10	8	8
BAI	0	0	0	16
Total AI	**3**	**10**	**8**	**24**
DCA	46	45	46	54
Total DCA	**46**	**45**	**46**	**54**
OCA	4	0	4	0
Escort	8	0	2	12
Total OCA	**12**	**0**	**6**	**12**
Airlift	40	49	58	32
Airland	0	0	0	0
Total Airlift	**40**	**49**	**58**	**32**
Recce	2	0	2	2
Total Recce	**2**	**0**	**2**	**2**
Refueling	17	14	11	6
Total Refueling	**17**	**14**	**11**	**6**
Support	0	0	0	0
Total Support	**0**	**0**	**0**	**0**
ABN Early Warning	2	2	2	2
Total C3	**2**	**2**	**2**	**2**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Grand Total	**122**	**120**	**133**	**132**

25-Jan-91	26-Jan-91	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91
13	16	14	13	14	15
12	24	12	22	29	24
25	**40**	**26**	**35**	**43**	**39**
56	64	60	62	54	62
56	**64**	**60**	**62**	**54**	**62**
0	0	0	14	8	8
12	0	2	8	6	0
12	**0**	**2**	**22**	**14**	**8**
37	43	55	40	58	53
0	0	0	0	0	0
37	**43**	**55**	**40**	**58**	**53**
2	2	2	2	2	4
2	**2**	**2**	**2**	**2**	**4**
9	10	8	15	15	12
9	**10**	**8**	**15**	**15**	**12**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
2	2	2	2	2	2
2	**2**	**2**	**2**	**2**	**2**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
143	**161**	**155**	**178**	**188**	**180**

Table 72 (cont'd)
Saudi Arabia: Sorties by Mission Type by Day

Mission Type	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91
Interdiction	16	0	14	25
BAI	24	23	24	24
Total AI	**40**	**23**	**38**	**49**
DCA	62	58	60	61
Total DCA	**62**	**58**	**60**	**61**
OCA	8	23	0	0
Escort	5	8	0	4
Total OCA	**13**	**31**	**0**	**4**
Airlift	38	32	49	37
Airland	0	0	0	0
Total Airlift	**38**	**32**	**49**	**37**
Recce	6	6	4	4
Total Recce	**6**	**6**	**4**	**4**
Refueling	13	15	12	10
Total Refueling	**13**	**15**	**12**	**10**
Support	0	0	0	0
Total Support	**0**	**0**	**0**	**0**
ABN Early Warning	3	2	2	2
Total C3	**3**	**2**	**2**	**2**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Grand Total	**175**	**167**	**165**	**167**

4-Feb-91	5-Feb-91	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91
29	31	38	26	23	23
24	23	20	24	24	24
53	**54**	**58**	**50**	**47**	**47**
62	62	62	64	66	62
62	**62**	**62**	**64**	**66**	**62**
8	8	0	0	0	0
4	6	4	4	4	3
12	**14**	**4**	**4**	**4**	**3**
52	70	64	26	31	61
0	0	0	0	0	0
52	**70**	**64**	**26**	**31**	**61**
2	4	4	2	2	2
2	**4**	**4**	**2**	**2**	**2**
10	11	13	11	11	11
10	**11**	**13**	**11**	**11**	**11**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
2	2	2	2	2	2
2	**2**	**2**	**2**	**2**	**2**
0	0	0	0	0	2
0	**0**	**0**	**0**	**0**	**2**
193	**217**	**207**	**159**	**163**	**190**

Table 72 (cont'd)
Saudi Arabia: Sorties by Mission Type by Day

Mission Type	10-Feb-91	11-Feb-91	12-Feb-91	13-Feb-91
Interdiction	36	23	36	24
BAI	24	12	24	35
Total AI	**60**	**35**	**60**	**59**
DCA	60	60	60	59
Total DCA	**60**	**60**	**60**	**59**
OCA	0	8	0	8
Escort	0	0	0	2
Total OCA	**0**	**8**	**0**	**10**
Airlift	35	55	55	66
Airland	0	0	0	0
Total Airlift	**35**	**55**	**55**	**66**
Recce	2	4	2	6
Total Recce	**2**	**4**	**2**	**6**
Refueling	12	12	11	13
Total Refueling	**12**	**12**	**11**	**13**
Support	0	1	0	2
Total Support	**0**	**1**	**0**	**2**
ABN Early Warning	2	2	2	2
Total C3	**2**	**2**	**2**	**2**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Grand Total	**171**	**177**	**190**	**217**

14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91	18-Feb-91	19-Feb-91
19	51	29	11	52	51
35	0	0	0	0	0
54	**51**	**29**	**11**	**52**	**51**
50	49	48	48	46	46
50	**49**	**48**	**48**	**46**	**46**
6	8	8	0	8	0
0	0	0	2	10	0
6	**8**	**8**	**2**	**18**	**0**
48	32	49	35	37	48
0	0	0	0	0	0
48	**32**	**49**	**35**	**37**	**48**
4	4	4	2	4	4
4	**4**	**4**	**2**	**4**	**4**
12	12	13	11	14	10
12	**12**	**13**	**11**	**14**	**10**
0	2	2	0	2	0
0	**2**	**2**	**0**	**2**	**0**
2	2	2	2	2	2
2	**2**	**2**	**2**	**2**	**2**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
176	**160**	**155**	**111**	**175**	**161**

Table 72 (cont'd)
Saudi Arabia: Sorties by Mission Type by Day

Mission Type	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91
Interdiction	62	49	65	68
BAI	0	0	0	0
Total AI	**62**	**49**	**65**	**68**
DCA	48	47	48	39
Total DCA	**48**	**47**	**48**	**39**
OCA	0	0	0	0
Escort	2	0	0	0
Total OCA	**2**	**0**	**0**	**0**
Airlift	0	22	16	41
Airland	41	0	0	0
Total Airlift	**41**	**22**	**16**	**41**
Recce	6	4	4	4
Total Recce	**6**	**4**	**4**	**4**
Refueling	10	9	9	10
Total Refueling	**10**	**9**	**9**	**10**
Support	0	0	0	0
Total Support	**0**	**0**	**0**	**0**
ABN Early Warning	2	2	2	2
Total C3	**2**	**2**	**2**	**2**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Grand Total	**171**	**133**	**144**	**164**

24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
68	30	35	52	0	963
0	0	0	0	0	440
68	**30**	**35**	**52**	**0**	**1,403**
48	48	46	47	6	2,050
48	**48**	**46**	**47**	**6**	**2,050**
0	0	0	0	0	129
2	0	2	0	0	102
2	**0**	**2**	**0**	**0**	**231**
70	58	66	60	0	1,496
0	0	0	0	0	41
70	**58**	**66**	**60**	**0**	**1,537**
4	2	2	0	0	102
4	**2**	**2**	**0**	**0**	**102**
10	9	7	13	1	424
10	**9**	**7**	**13**	**1**	**424**
0	0	0	0	0	7
0	**0**	**0**	**0**	**0**	**7**
2	2	2	2	0	73
2	**2**	**2**	**2**	**0**	**73**
0	0	0	0	0	2
0	**0**	**0**	**0**	**0**	**2**
204	**149**	**160**	**174**	**7**	**5,829**

Source: Composite Sorties Database

356-715 O—98——11 QL 3

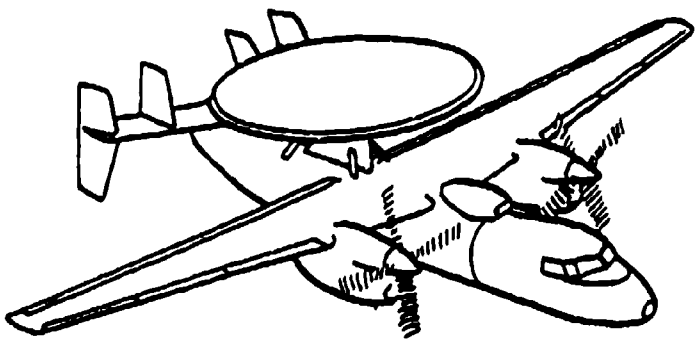


Table 73
Bahrain: Sorties by Mission Type by Day

Mission Type	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91	22-Jan-91
Interdiction	0	0	0	0	0
Total AI	**0**	**0**	**0**	**0**	**0**
DCA	6	0	1	2	2
Total DCA	**6**	**0**	**1**	**2**	**2**
Escort	0	0	0	0	0
Total OCA	**0**	**0**	**0**	**0**	**0**
Helo Support	0	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**	**0**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Grand Total	**6**	**0**	**1**	**2**	**2**

Mission Type	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91	27-Jan-91
Interdiction	0	0	0	4	4
Total AI	**0**	**0**	**0**	**4**	**4**
DCA	5	4	2	4	4
Total DCA	**5**	**4**	**2**	**4**	**4**
Escort	0	0	0	0	0
Total OCA	**0**	**0**	**0**	**0**	**0**
Helo Support	0	0	4	0	0
Total Airlift	**0**	**0**	**4**	**0**	**0**
Rescue	0	0	1	0	0
Total SOF	**0**	**0**	**1**	**0**	**0**
Grand Total	**5**	**4**	**7**	**8**	**8**

Mission Type	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91	1-Feb-91
Interdiction	4	4	4	4	4
Total AI	**4**	**4**	**4**	**4**	**4**
DCA	4	4	4	4	4
Total DCA	**4**	**4**	**4**	**4**	**4**
Escort	0	0	0	0	0
Total OCA	**0**	**0**	**0**	**0**	**0**
Helo Support	0	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**	**0**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Grand Total	**8**	**8**	**8**	**8**	**8**

Table 73 (cont'd)
Bahrain: Sorties by Mission Type by Day

Mission Type	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91
Interdiction	4	4	4	4
Total AI	**4**	**4**	**4**	**4**
DCA	6	6	4	4
Total DCA	**6**	**6**	**4**	**4**
Escort	0	0	0	0
Total OCA	**0**	**0**	**0**	**0**
Helo Support	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**
Rescue	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**
Grand Total	**10**	**10**	**8**	**8**

Mission Type	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91
Interdiction	4	4	4	4
Total AI	**4**	**4**	**4**	**4**
DCA	4	4	4	4
Total DCA	**4**	**4**	**4**	**4**
Escort	2	2	2	2
Total OCA	**2**	**2**	**2**	**2**
Helo Support	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**
Rescue	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**
Grand Total	**10**	**10**	**10**	**10**

Mission Type	22-Feb-91	23-Feb-91	24-Feb-91	25-Feb-91
Interdiction	4	4	0	4
Total AI	**4**	**4**	**0**	**4**
DCA	4	4	4	4
Total DCA	**4**	**4**	**4**	**4**
Escort	0	0	0	0
Total OCA	**0**	**0**	**0**	**0**
Helo Support	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**
Rescue	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**
Grand Total	**8**	**8**	**4**	**8**

6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91	11-Feb-91
4	2	4	4	4	4
4	2	4	4	4	4
4	4	4	6	4	4
4	4	4	6	4	4
0	0	0	0	2	2
0	0	0	0	2	2
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
8	6	8	10	10	10

16-Feb-91	17-Feb-91	18-Feb-91	19-Feb-91	20-Feb-91	21-Feb-91
4	4	4	4	4	4
4	4	4	4	4	4
4	4	4	4	0	4
4	4	4	4	0	4
2	0	0	0	0	0
2	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
10	8	8	8	4	8

26-Feb-91	27-Feb-91	28-Feb-91	Total
0	4	0	122
0	4	0	122
4	0	0	152
4	0	0	152
0	0	0	14
0	0	0	14
0	0	0	4
0	0	0	4
0	0	0	1
0	0	0	1
4	4	0	293

Source: Composite Sorties Database

Table 74
Canada: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91
Interdiction	0	0	0	0
Total AI	**0**	**0**	**0**	**0**
DCA	36	28	31	14
Total DCA	**36**	**28**	**31**	**14**
Escort	0	0	0	0
Total OCA	**0**	**0**	**0**	**0**
Airlift	1	0	0	2
Total Airlift	**1**	**0**	**0**	**2**
Refueling	3	3	3	2
Total Refueling	**3**	**3**	**3**	**2**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Other	0	0	0	0
Total Other	**0**	**0**	**0**	**0**
Grand Total	**40**	**31**	**34**	**18**

Mission Type	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91
Interdiction	0	0	0	0
Total AI	**0**	**0**	**0**	**0**
DCA	12	12	14	18
Total DCA	**12**	**12**	**14**	**18**
Escort	8	8	8	0
Total OCA	**8**	**8**	**8**	**0**
Airlift	4	3	15	9
Total Airlift	**4**	**3**	**15**	**9**
Refueling	2	2	3	2
Total Refueling	**2**	**2**	**3**	**2**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Other	0	0	0	0
Total Other	**0**	**0**	**0**	**0**
Grand Total	**26**	**25**	**40**	**29**

Mission Type	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91
Interdiction	0	0	0	0
Total AI	**0**	**0**	**0**	**0**
DCA	26	12	12	16
Total DCA	**26**	**12**	**12**	**16**
Escort	0	4	4	4
Total OCA	**0**	**4**	**4**	**4**
Airlift	5	7	4	5
Total Airlift	**5**	**7**	**4**	**5**
Refueling	0	0	2	3
Total Refueling	**0**	**0**	**2**	**3**
Training	0	0	0	0
Total Training	**0**	**0**	**0**	**0**
Other	0	0	12	0
Total Other	**0**	**0**	**12**	**0**
Grand Total	**31**	**23**	**34**	**28**

21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
0	0	0	0	0	0
0	0	0	0	0	0
6	28	28	20	14	24
6	28	28	20	14	24
8	0	0	4	8	0
8	0	0	4	8	0
0	6	5	9	9	15
0	6	5	9	9	15
1	3	3	2	3	3
1	3	3	2	3	3
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
15	37	36	35	34	42

31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91
0	0	0	0	0	0
0	0	0	0	0	0
20	10	24	24	12	12
20	10	24	24	12	12
0	0	8	8	8	8
0	0	8	8	8	8
7	4	10	4	3	1
7	4	10	4	3	1
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
27	14	42	36	23	21

10-Feb-91	11-Feb-91	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91
0	0	0	0	0	0
0	0	0	0	0	0
12	12	24	24	12	12
12	12	24	24	12	12
4	4	0	0	8	0
4	4	0	0	8	0
8	6	4	2	6	11
8	6	4	2	6	11
3	3	1	0	0	0
3	3	1	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
27	25	29	26	26	23

Table 74 (cont'd)
Canada: Sorties by Mission Type by Day

Mission Type	16-Feb-91	17-Feb-91	18-Feb-91	19-Feb-91	20-Feb-91
Interdiction	0	0	0	0	0
Total AI	0	0	0	0	0
DCA	24	8	8	8	8
Total DCA	24	8	8	8	8
Escort	0	4	4	4	12
Total OCA	0	4	4	4	12
Airlift	14	12	11	5	1
Total Airlift	14	12	11	5	1
Refueling	0	0	0	0	1
Total Refueling	0	0	0	0	1
Training	0	0	0	0	0
Total Training	0	0	0	0	0
Other	0	0	0	0	0
Total Other	0	0	0	0	0
Grand Total	38	24	23	17	22

Mission Type	21-Feb-91	22-Feb-91	23-Feb-91	24-Feb-91	25-Feb-91
Interdiction	0	0	0	8	8
Total AI	0	0	0	8	8
DCA	8	8	20	18	10
Total DCA	8	8	20	18	10
Escort	16	0	0	0	0
Total OCA	16	0	0	0	0
Airlift	3	11	12	11	12
Total Airlift	3	11	12	11	12
Refueling	2	0	1	3	3
Total Refueling	2	0	1	3	3
Training	0	0	12	20	16
Total Training	0	0	12	20	16
Other	0	0	0	0	0
Total Other	0	0	0	0	0
Grand Total	29	19	45	60	49

Mission Type	26-Feb-91	27-Feb-91	28-Feb-91	Total
Interdiction	12	20	0	48
Total AI	12	20	0	48
DCA	10	12	2	693
Total DCA	10	12	2	693
Escort	0	0	0	144
Total OCA	0	0	0	144
Airlift	2	12	6	277
Total Airlift	2	12	6	277
Refueling	3	3	1	64
Total Refueling	3	3	1	64
Training	16	0	0	64
Total Training	16	0	0	64
Other	0	0	0	12
Total Other	0	0	0	12
Grand Total	43	47	9	1,302

Source: Composite Sorties Database

Table 75
France: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91
Interdiction	0	0	0	0	0
BAI	0	12	12	16	0
Total AI	**0**	**12**	**12**	**16**	**0**
DCA	6	4	4	4	6
Total DCA	**6**	**4**	**4**	**4**	**6**
OCA	12	0	0	0	0
Escort	0	0	0	0	0
Total OCA	**12**	**0**	**0**	**0**	**0**
Airlift	1	21	26	30	20
Airland	0	0	0	0	0
Helo Support	0	0	0	0	0
Total Airlift	**1**	**21**	**26**	**30**	**20**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Refueling	4	2	2	2	2
Total Refueling	**4**	**2**	**2**	**2**	**2**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Training	0	0	0	0	0
Total Training	**0**	**0**	**0**	**0**	**0**
Other	0	0	0	0	0
Special	0	0	0	0	0
Total Other	**0**	**0**	**0**	**0**	**0**
Grand Total	**23**	**39**	**44**	**52**	**28**

Mission Type	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
Interdiction	6	8	15	16	15
BAI	0	0	0	0	0
Total AI	**6**	**8**	**15**	**16**	**15**
DCA	8	6	8	8	0
Total DCA	**8**	**6**	**8**	**8**	**0**
OCA	0	0	0	0	0
Escort	0	0	4	4	4
Total OCA	**0**	**0**	**4**	**4**	**4**
Airlift	22	13	16	23	18
Airland	0	0	0	0	0
Helo Support	0	0	0	0	0
Total Airlift	**22**	**18**	**16**	**23**	**18**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Refueling	2	5	6	6	4
Total Refueling	**2**	**5**	**6**	**6**	**4**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Training	0	0	0	0	2
Total Training	**0**	**0**	**0**	**0**	**2**
Other	0	0	0	0	0
Special	0	0	0	0	0
Total Other	**0**	**0**	**0**	**0**	**0**
Grand Total	**38**	**37**	**49**	**57**	**43**

Table 75 (cont'd)
France: Sorties by Mission Type by Day

Mission Type	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91
Interdiction	0	16	16	18	20
BAI	0	0	0	0	0
Total AI	**0**	**16**	**16**	**18**	**20**
DCA	0	8	8	8	0
Total DCA	**0**	**8**	**8**	**8**	**0**
OCA	0	0	0	0	0
Escort	0	8	4	4	7
Total OCA	**0**	**8**	**4**	**4**	**7**
Airlift	23	18	15	19	14
Airland	0	0	0	0	0
Helo Support	0	0	0	0	0
Total Airlift	**23**	**18**	**15**	**19**	**14**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Refueling	0	6	6	6	5
Total Refueling	**0**	**6**	**6**	**6**	**5**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Training	0	0	2	0	0
Total Training	**0**	**0**	**2**	**0**	**0**
Other	0	0	0	0	0
Special	0	0	0	0	0
Total Other	**0**	**0**	**0**	**0**	**0**
Grand Total	**23**	**56**	**51**	**55**	**46**

Mission Type	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91
Interdiction	16	16	14	16	14
BAI	0	0	0	0	0
Total AI	**16**	**16**	**14**	**16**	**14**
DCA	8	14	14	14	8
Total DCA	**8**	**14**	**14**	**14**	**8**
OCA	0	0	0	0	0
Escort	2	0	6	0	6
Total OCA	**2**	**0**	**6**	**0**	**6**
Airlift	21	22	23	21	21
Airland	0	0	0	0	0
Helo Support	0	0	0	0	0
Total Airlift	**21**	**22**	**23**	**21**	**21**
Recce	2	0	1	0	2
Total Recce	**2**	**0**	**1**	**0**	**2**
Refueling	4	2	6	2	6
Total Refueling	**4**	**2**	**6**	**2**	**6**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Training	0	0	0	0	0
Total Training	**0**	**0**	**0**	**0**	**0**
Other	0	0	0	0	0
Special	0	0	0	1	1
Total Other	**0**	**0**	**0**	**1**	**1**
Grand Total	**53**	**54**	**64**	**54**	**58**

1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91
16	20	16	16	16
0	0	0	0	0
16	**20**	**16**	**16**	**16**
8	8	6	8	8
8	**8**	**6**	**8**	**8**
0	0	0	0	0
8	7	0	2	8
8	**7**	**0**	**2**	**8**
19	25	23	18	14
0	0	0	0	0
1	0	0	0	0
20	**25**	**23**	**18**	**14**
0	0	0	2	0
0	**0**	**0**	**2**	**0**
6	6	5	7	6
6	**6**	**5**	**7**	**6**
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**
58	**66**	**50**	**53**	**52**

11-Feb-91	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91
8	16	14	16	14
0	0	0	0	0
8	**16**	**14**	**16**	**14**
8	8	8	12	12
8	**8**	**8**	**12**	**12**
6	0	0	0	0
8	6	10	5	8
14	**6**	**10**	**5**	**8**
20	24	28	17	26
0	0	0	0	0
0	0	0	0	0
20	**24**	**28**	**17**	**26**
2	4	4	4	4
2	**4**	**4**	**4**	**4**
6	4	8	6	5
6	**4**	**8**	**6**	**5**
0	1	0	0	0
0	**1**	**0**	**0**	**0**
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	0	0
1	1	0	0	0
1	**1**	**0**	**0**	**0**
59	**64**	**72**	**60**	**69**

Table 75 (cont'd)
France: Sorties by Mission Type by Day

Mission Type	16-Feb-91	17-Feb-91	18-Feb-91	19-Feb-91	20-Feb-91
Interdiction	12	0	16	16	8
BAI	0	0	0	0	0
Total AI	**12**	**0**	**16**	**16**	**8**
DCA	12	6	6	6	8
Total DCA	**12**	**6**	**6**	**6**	**8**
OCA	0	0	0	0	0
Escort	6	4	8	0	4
Total OCA	**6**	**4**	**8**	**0**	**4**
Airlift	22	21	26	19	0
Airland	0	0	0	0	18
Helo Support	0	0	0	0	0
Total Airlift	**22**	**21**	**26**	**19**	**18**
Recce	4	2	4	4	4
Total Recce	**4**	**2**	**4**	**4**	**4**
Refueling	5	5	6	6	9
Total Refueling	**5**	**5**	**6**	**6**	**9**
Rescue	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
Training	0	0	0	0	0
Total Training	**0**	**0**	**0**	**0**	**0**
Other	0	0	4	4	0
Special	0	0	0	0	0
Total Other	**0**	**0**	**4**	**4**	**0**
Grand Total	**61**	**38**	**70**	**55**	**51**

Mission Type	26-Feb-91	27-Feb-91	28-Feb-91	Total
Interdiction	0	0	0	491
BAI	0	0	0	40
Total AI	**0**	**0**	**0**	**531**
DCA	6	10	4	340
Total DCA	**6**	**10**	**4**	**340**
OCA	12	12	0	58
Escort	7	4	0	172
Total OCA	**19**	**16**	**0**	**230**
Airlift	15	11	11	835
Airland	0	0	0	18
Helo Support	0	0	0	2
Total Airlift	**15**	**11**	**11**	**855**
Recce	0	3	0	62
Total Recce	**0**	**3**	**0**	**62**
Refueling	6	6	2	223
Total Refueling	**6**	**6**	**2**	**223**
Rescue	0	0	0	1
Total SOF	**0**	**0**	**0**	**1**
Training	0	0	0	4
Total Training	**0**	**0**	**0**	**4**
Other	0	0	0	8
Special	0	0	0	4
Total Other	**0**	**0**	**0**	**12**
Grand Total	**46**	**46**	**17**	**2,258**

Source: Composite Sorties Database

21-Feb-91	22-Feb-91	23-Feb-91	24-Feb-91	25-Feb-91
16	24	21	20	0
0	0	0	0	0
16	**24**	**21**	**20**	**0**
16	12	14	14	4
16	**12**	**14**	**14**	**4**
0	0	0	0	16
6	8	4	2	8
6	**8**	**4**	**2**	**24**
25	28	20	13	18
0	0	0	0	0
0	0	0	1	0
25	**28**	**20**	**14**	**18**
4	2	4	4	2
4	**2**	**4**	**4**	**2**
8	8	10	6	9
8	**8**	**10**	**6**	**9**
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	0	0
0	**0**	**0**	**0**	**0**
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**
75	**82**	**73**	**60**	**57**

Table 76
Italy: Sorties by Mission Type by Day

Mission Type	18-Jan-91	20-Jan-91	21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91
Interdiction	8	4	0	6	6	0
Total AI	8	4	0	6	6	0
Airlift	0	0	0	0	0	0
Total Airlift	0	0	0	0	0	0
Refueling	0	0	0	2	3	0
Total Refueling	0	0	0	2	3	0
Grand Total	8	4	0	8	9	0

Mission Type	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91
Interdiction	4	4	0	4	4	4
Total AI	4	4	0	4	4	4
Airlift	0	0	2	1	0	0
Total Airlift	0	0	2	1	0	0
Refueling	3	3	0	3	3	3
Total Refueling	3	3	0	3	3	3
Grand Total	7	7	2	8	7	7

Mission Type	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91
Interdiction	4	4	4	4	4	0
Total AI	4	4	4	4	4	0
Airlift	0	0	0	0	0	2
Total Airlift	0	0	0	0	0	2
Refueling	3	3	3	3	3	0
Total Refueling	3	3	3	3	3	0
Grand Total	7	7	7	7	7	2

Mission Type	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
Interdiction	4	4	4	0	135
Total AI	4	4	4	0	135
Airlift	0	0	0	0	13
Total Airlift	0	0	0	0	13
Refueling	3	3	3	0	89
Total Refueling	3	3	3	0	89
Grand Total	7	7	7	0	237

Source: Composite Sorties Database

25-Jan-91	26-Jan-91	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91
0	0	4	4	4	3
0	0	4	4	4	3
0	2	0	0	0	0
0	2	0	0	0	0
0	0	3	3	3	3
0	0	3	3	3	3
0	2	7	7	7	6

6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91	11-Feb-91
4	4	4	0	4	4
4	4	4	0	4	4
0	0	0	0	2	0
0	0	0	0	2	0
3	3	3	0	3	3
3	3	3	0	3	3
7	7	7	0	9	7

18-Feb-91	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	24-Feb-91
4	4	4	4	4	4
4	4	4	4	4	4
2	0	0	0	0	2
2	0	0	0	0	2
3	3	3	3	3	3
3	3	3	3	3	3
9	7	7	7	7	9

Table 77
Kuwait: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91
Interdiction	24	0	0	0	0
BAI	0	8	20	12	8
Total AI	24	8	20	12	8
Grand Total	24	8	20	12	8
Mission Type	**22-Jan-91**	**23-Jan-91**	**24-Jan-91**	**25-Jan-91**	**26-Jan-91**
Interdiction	0	0	0	0	0
BAI	0	12	19	6	19
Total AI	0	12	19	6	19
Grand Total	0	12	19	6	19
Mission Type	**27-Jan-91**	**28-Jan-91**	**29-Jan-91**	**30-Jan-91**	**31-Jan-91**
Interdiction	0	0	0	0	0
BAI	12	20	19	0	24
Total AI	12	20	19	0	24
Grand Total	12	20	19	0	24
Mission Type	**1-Feb-91**	**2-Feb-91**	**3-Feb-91**	**5-Feb-91**	**6-Feb-91**
Interdiction	0	0	0	19	15
BAI	18	15	0	0	0
Total AI	18	15	0	19	15
Grand Total	18	15	0	19	15
Mission Type	**7-Feb-91**	**8-Feb-91**	**9-Feb-91**	**10-Feb-91**	**11-Feb-91**
Interdiction	25	23	25	28	28
BAI	0	0	0	0	0
Total AI	25	23	25	28	28
Grand Total	25	23	25	28	28
Mission Type	**12-Feb-91**	**13-Feb-91**	**14-Feb-91**	**15-Feb-91**	**16-Feb-91**
Interdiction	27	26	24	28	28
BAI	0	0	0	0	0
Total AI	27	26	24	28	28
Grand Total	27	26	24	28	28
Mission Type	**17-Feb-91**	**18-Feb-91**	**19-Feb-91**	**20-Feb-91**	**21-Feb-91**
Interdiction	16	28	30	0	18
BAI	0	0	0	0	0
Total AI	16	28	30	0	18
Grand Total	16	28	30	0	18
Mission Type	**22-Feb-91**	**23-Feb-91**	**24-Feb-91**	**25-Feb-91**	**26-Feb-91**
Interdiction	30	30	20	22	25
BAI	0	0	0	0	0
Total AI	30	30	20	22	25
Grand Total	30	30	20	22	25
Mission Type	**27-Feb-91**	**28-Feb-91**	**Total**		
Interdiction	29	0	568		
BAI	0	0	212		
Total AI	29	0	780		
Grand Total	29	0	780		

Source: Composite Sorties Database

Table 78
Qatar: Sorties by Mission Type by Day

Mission Type	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
Interdiction	0	4	0	0	0
Total AI	0	4	0	0	0
Grand Total	0	4	0	0	0

Mission Type	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91
Interdiction	0	0	0	0	0
Total AI	0	0	0	0	0
Grand Total	0	0	0	0	0

Mission Type	1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91
Interdiction	0	0	4	0	4
Total AI	0	0	4	0	4
Grand Total	0	0	4	0	4

Mission Type	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91
Interdiction	0	5	0	4	0
Total AI	0	5	0	4	0
Grand Total	0	5	0	4	0

Mission Type	11-Feb-91	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91
Interdiction	0	0	4	0	4
Total AI	0	0	4	0	4
Grand Total	0	0	4	0	4

Mission Type	16-Feb-91	17-Feb-91	18-Feb-91	19-Feb-91	20-Feb-91
Interdiction	0	0	0	6	0
Total AI	0	0	0	6	0
Grand Total	0	0	0	6	0

Mission Type	21-Feb-91	22-Feb-91	23-Feb-91	24-Feb-91	25-Feb-91
Interdiction	4	0	0	0	4
Total AI	4	0	0	0	4
Grand Total	4	0	0	0	4

Mission Type	26-Feb-91	27-Feb-91	28-Feb-91	Total
Interdiction	0	0	0	43
Total AI	0	0	0	43
Grand Total	0	0	0	43

Source: Composite Sorties Database

Table 79
UAE: Sorties by Mission Type by Day

Mission Type	30-Jan-91	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91
Interdiction	0	0	0	0	0
Total AI	**0**	**0**	**0**	**0**	**0**
Airlift	2	2	2	2	2
Airland	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	**2**	**2**	**2**	**2**	**2**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Grand Total	**2**	**2**	**2**	**2**	**2**

Mission Type	9-Feb-91	10-Feb-91	11-Feb-91	12-Feb-91	13-Feb-91
Interdiction	0	0	0	0	0
Total AI	**0**	**0**	**0**	**0**	**0**
Airlift	0	0	0	0	0
Airland	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	**0**	**0**	**0**	**0**	**0**
Recce	0	0	0	0	0
Total Recce	**0**	**0**	**0**	**0**	**0**
Grand Total	**0**	**0**	**0**	**0**	**0**

Mission Type	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91
Interdiction	4	4	4	4	4
Total AI	**4**	**4**	**4**	**4**	**4**
Airlift	1	0	0	0	0
Airland	0	4	4	4	4
Tactical Airlift	0	0	0	0	0
Total Airlift	**1**	**4**	**4**	**4**	**4**
Recce	0	0	0	0	2
Total Recce	**0**	**0**	**0**	**0**	**2**
Grand Total	**5**	**8**	**8**	**8**	**10**

4-Feb-91	5-Feb-91	6-Feb-91	7-Feb-91	8-Feb-91
0	0	0	0	0
0	0	0	0	0
0	1	1	0	0
0	0	0	0	0
2	0	0	0	0
2	1	1	0	0
0	0	0	0	0
0	0	0	0	0
2	1	1	0	0

14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91	18-Feb-91
0	0	4	0	4
0	0	4	0	4
0	0	1	1	1
0	0	0	0	0
0	0	0	0	0
0	0	1	1	1
0	0	0	0	0
0	0	0	0	0
0	0	5	1	5

24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
4	8	8	10	0	58
4	8	8	10	0	58
0	0	1	2	0	19
4	4	0	0	0	24
0	0	0	0	0	2
4	4	1	2	0	45
2	2	0	0	0	6
2	2	0	0	0	6
10	14	9	12	0	109

Source: Composite Sorties Database

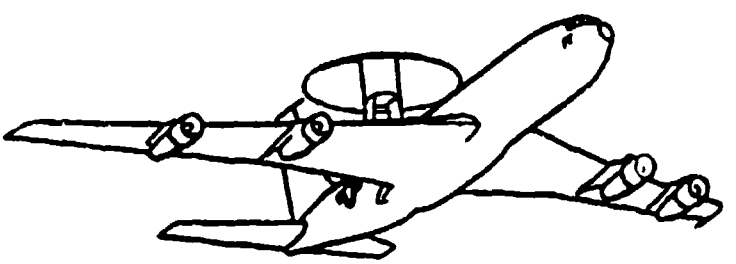




Table 80
UK: Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91
Interdiction	4	7	18	8	0
Total AI	4	7	18	8	0
DCA	54	32	24	24	20
Total DCA	54	32	24	24	20
OCA	47	32	8	24	27
Total OCA	47	32	8	24	27
Airlift	0	36	29	32	25
Airland	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	0	36	29	32	25
Recce	1	4	0	2	0
Total Recce	1	4	0	2	0
Refueling	19	6	8	20	13
Total Refueling	19	6	8	20	13
Support	6	0	6	7	0
Total Support	6	0	6	7	0
ESM	0	2	2	2	2
Total EW	0	2	2	2	2
Training	0	0	0	0	0
Total Training	0	0	0	0	0
Surface CAP	0	0	0	0	0
Total Surface CAP	0	0	0	0	0
Other	0	0	0	0	0
Special	0	2	2	2	2
Total Other	0	2	2	2	2
Grand Total	131	121	97	121	89

Table 80 (cont'd)
UK: Sorties by Mission Type by Day

Mission Type	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
Interdiction	14	12	18	36	32
Total AI	14	12	18	36	32
DCA	18	16	12	12	12
Total DCA	18	16	12	12	12
OCA	31	22	8	0	0
Total OCA	31	22	8	0	0
Airlift	30	40	39	35	36
Airland	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	30	40	39	35	36
Recce	0	1	0	2	5
Total Recce	0	1	0	2	5
Refueling	10	12	10	10	21
Total Refueling	10	12	10	10	21
Support	2	0	0	0	3
Total Support	2	0	0	0	3
ESM	2	2	1	2	2
Total EW	2	2	1	2	2
Training	0	2	0	0	0
Total Training	0	2	0	0	0
Surface CAP	0	4	4	4	2
Total Surface CAP	0	4	4	4	2
Other	0	0	0	0	0
Special	2	2	2	2	2
Total Other	2	2	2	2	2
Grand Total	**109**	**113**	**94**	**103**	**115**

27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91	1-Feb-91
38	62	39	38	37	27
38	**62**	**39**	**38**	**37**	**27**
14	14	16	18	14	16
14	**14**	**16**	**18**	**14**	**16**
0	0	0	0	0	8
0	**0**	**0**	**0**	**0**	**8**
38	42	44	45	34	27
0	0	0	0	0	0
0	0	0	0	0	0
38	**42**	**44**	**45**	**34**	**27**
2	5	5	5	3	4
2	**5**	**5**	**5**	**3**	**4**
12	22	14	12	16	13
12	**22**	**14**	**12**	**16**	**13**
0	0	2	0	4	4
0	**0**	**2**	**0**	**4**	**4**
2	2	2	2	2	2
2	**2**	**2**	**2**	**2**	**2**
0	2	6	5	8	17
0	**2**	**6**	**5**	**8**	**17**
4	4	4	0	0	4
4	**4**	**4**	**0**	**0**	**4**
0	0	0	0	0	0
2	2	1	1	1	2
2	**2**	**1**	**1**	**1**	**2**
112	**155**	**133**	**126**	**119**	**124**

Table 80 (cont'd)
UK: Sorties by Mission Type by Day

Mission Type	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91	6-Feb-90
Interdiction	47	54	43	67	40
Total AI	**47**	**54**	**43**	**67**	**40**
DCA	16	14	16	16	14
Total DCA	**16**	**14**	**16**	**16**	**14**
OCA	0	0	0	0	9
Total OCA	**0**	**0**	**0**	**0**	**9**
Airlift	27	36	27	34	31
Airland	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	**27**	**36**	**27**	**34**	**31**
Recce	3	2	3	2	0
Total Recce	**3**	**2**	**3**	**2**	**0**
Refueling	18	18	17	21	15
Total Refueling	**18**	**18**	**17**	**21**	**15**
Support	0	2	0	2	0
Total Support	**0**	**2**	**0**	**2**	**0**
ESM	2	3	2	2	1
Total EW	**2**	**3**	**2**	**2**	**1**
Training	3	4	4	3	0
Total Training	**3**	**4**	**4**	**3**	**0**
Surface CAP	4	2	4	0	0
Total Surface CAP	**4**	**2**	**4**	**0**	**0**
Other	0	0	0	0	0
Special	2	2	2	1	2
Total Other	**2**	**2**	**2**	**1**	**2**
Grand Total	**122**	**137**	**118**	**148**	**112**

7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91	11-Feb-91	12-Feb-91
72	71	59	56	67	45
72	**71**	**59**	**56**	**67**	**45**
12	12	12	14	16	16
12	**12**	**12**	**14**	**16**	**16**
0	0	0	8	6	11
0	**0**	**0**	**8**	**6**	**11**
34	0	31	29	0	24
0	40	0	0	0	0
0	0	0	0	35	0
34	**40**	**31**	**29**	**35**	**24**
4	4	3	4	6	5
4	**4**	**3**	**4**	**6**	**5**
24	11	15	18	14	17
24	**11**	**15**	**18**	**14**	**17**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
2	2	2	2	2	2
2	**2**	**2**	**2**	**2**	**2**
2	0	8	3	1	5
2	**0**	**8**	**3**	**1**	**5**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	0	0	1	1
1	2	2	2	1	1
1	**2**	**2**	**2**	**2**	**2**
151	**142**	**132**	**136**	**149**	**127**

Table 80 (cont'd)
UK: Sorties by Mission Type by Day

Mission Type	13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91
Interdiction	28	16	15	16	0
Total AI	**28**	**16**	**15**	**16**	**0**
DCA	14	14	12	12	16
Total DCA	**14**	**14**	**12**	**12**	**16**
OCA	20	38	48	38	22
Total OCA	**20**	**38**	**48**	**38**	**22**
Airlift	26	23	37	33	16
Airland	0	0	0	0	0
Tactical Airlift	0	0	0	0	0
Total Airlift	**26**	**23**	**37**	**33**	**16**
Recce	4	5	8	3	4
Total Recce	**4**	**5**	**8**	**3**	**4**
Refueling	20	22	22	18	16
Total Refueling	**20**	**22**	**22**	**18**	**16**
Support	2	0	0	0	0
Total Support	**2**	**0**	**0**	**0**	**0**
ESM	2	2	2	2	2
Total EW	**2**	**2**	**2**	**2**	**2**
Training	6	6	0	4	0
Total Training	**6**	**6**	**0**	**4**	**0**
Surface CAP	0	0	0	0	0
Total Surface CAP	**0**	**0**	**0**	**0**	**0**
Other	1	4	0	0	0
Special	1	1	2	2	2
Total Other	**2**	**5**	**2**	**2**	**2**
Grand Total	**124**	**131**	**146**	**128**	**78**

18-Feb-91	19-Feb-91	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91
34	16	16	16	16	16
34	**16**	**16**	**16**	**16**	**16**
14	14	14	16	14	16
14	**14**	**14**	**16**	**14**	**16**
36	47	48	51	54	53
36	**47**	**48**	**51**	**54**	**53**
37	50	28	25	39	38
0	0	0	0	0	0
0	0	0	0	0	0
37	**50**	**28**	**25**	**39**	**38**
7	6	6	7	2	5
7	**6**	**6**	**7**	**2**	**6**
25	20	20	23	18	18
25	**20**	**20**	**23**	**18**	**18**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
2	2	2	2	2	2
2	**2**	**2**	**2**	**2**	**2**
1	0	0	0	0	0
1	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0
1	1	1	2	2	1
1	**1**	**1**	**2**	**2**	**1**
157	**156**	**135**	**142**	**147**	**150**

Table 80 (cont'd)
UK: Sorties by Mission Type by Day

Mission Type	24-Feb-91	25-Feb-91	26-Feb-91	27-Feb-91	28-Feb-91	Total
Interdiction	16	16	8	16	0	1,256
Total AI	**16**	**16**	**8**	**16**	**0**	**1,256**
DCA	16	14	16	16	4	696
Total DCA	**16**	**14**	**16**	**16**	**4**	**696**
OCA	54	54	32	54	0	890
Total OCA	**54**	**54**	**32**	**54**	**0**	**890**
Airlift	51	35	0	26	0	1,279
Airland	0	0	30	0	0	70
Tactical Airlift	0	0	0	0	0	35
Total Airlift	**51**	**35**	**30**	**36**	**0**	**1,384**
Recce	8	2	7	6	0	156
Total Recce	**8**	**2**	**7**	**6**	**0**	**156**
Refueling	21	23	16	20	3	711
Total Refueling	**21**	**23**	**16**	**20**	**3**	**711**
Support	0	0	0	0	0	40
Total Support	**0**	**0**	**0**	**0**	**0**	**40**
ESM	2	2	1	2	0	80
Total EW	**2**	**2**	**1**	**2**	**0**	**80**
Training	0	0	0	0	0	90
Total Training	**0**	**0**	**0**	**0**	**0**	**90**
Surface CAP	0	0	0	0	0	40
Total Surface CAP	**0**	**0**	**0**	**0**	**0**	**40**
Other	0	0	0	0	0	7
Special	2	1	1	2	0	67
Total Other	**2**	**1**	**1**	**2**	**0**	**74**
Grand Total	**170**	**147**	**111**	**152**	**7**	**5,417**

Source: Composite Sorties Database

Total Sorties by U.S. Service/Allied Country and Aircraft Type

The following table shows the number of sorties flown by aircraft type for the U.S. Air Force (USAF, including Proven Force), U.S. Army (USA), U.S. Navy (USN), U.S. Marine Corp (USMC), U.S. Special Operations Command (USSOCCENT), U.S. Civil Reserve Air Fleet (CRAF), Saudi Arabia, Bahrain, Canada, France, Italy, Kuwait, Qatar, United Arab Emirates (UAE), and the United Kingdom (UK). Data were compiled from the Composite Sorties Database for 16 Jan 91 - 28 Feb 91.

The data depicts the relative efforts of various aircraft types. C-130s were the most active aircraft overall flying a combined total of 16,852 sorties by the U.S. Air Force, USSOCCENT, Saudi Arabia, Canada, France, UAE, and UK. F-16s flew the most sorties of any fighter aircraft with a combined total of 13,253 sorties from the U.S. Air Force and Bahrain.

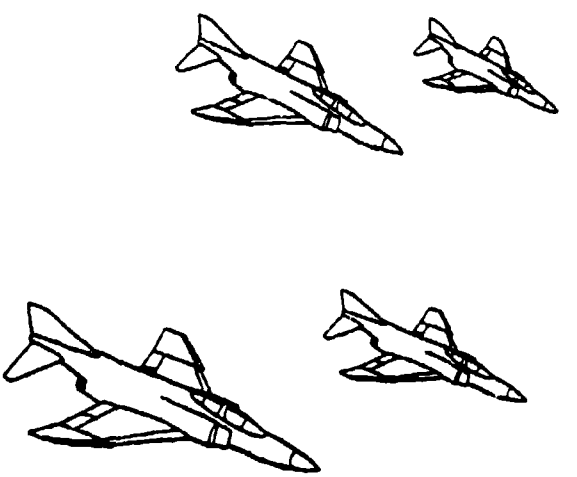


Table 81
Total Sorties by U.S. Service/Allied Country and Aircraft Type

Service	Aircraft Type	Flown
USAF	A-10	8,084
USAF	B-52	1,741
USAF	C-12	8
USAF	C-130	13,971
USAF	C-141	1,766
USAF	C-21	256
USAF	C-29	20
USAF	C-5	740
USAF	C-9	64
USAF	E-3	379
USAF	E-8	42
USAF	EC-130	450
USAF	EC-135	24
USAF	EF-111	1,105
USAF	F-111E	458
USAF	F-111F	2,423
USAF	F-117	1,299
USAF	F-15C	5,685
USAF	F-15E	2,172
USAF	F-16	13,087
USAF	F-4E	4
USAF	F-4G	2,683
USAF	KC-10	1,465
USAF	KC-135	9,559
USAF	OA-10	660
USAF	EP-3	4
USAF	RC-135	197
USAF	RF-4	719
USAF	RF-4C	103
USAF	TR-1	89
USAF	U-2	149
Total		**69,406**
USMC	A-6	795
USMC	AV-8	3,359
USMC	C-12	9
USMC	EA-6B	504
USMC	F/A-18	4,936
USMC	KC-130	598
USMC	OV-10	482
Total		**10,683**

Service	Aircraft Type	Flown
USSOCCENT	AC-130	104
USSOCCENT	AH-6	3
USSOCCENT	C-130	13
USSOCCENT	CH-47	14
USSOCCENT	EC-130	155
USSOCCENT	HC-130	107
USSOCCENT	HH-3	63
USSOCCENT	HH-3E	112
USSOCCENT	HH-60	9
USSOCCENT	MC-130	84
USSOCCENT	MH-3	19
USSOCCENT	MH-47	2
USSOCCENT	MH-53	282
USSOCCENT	MH-6	1
USSOCCENT	MH-60	284
USSOCCENT	UH-60	10
Total		**1,262**
USN	A-6	4,824
USN	A-7	737
USN	E-2C	1,183
USN	EA-6B	1,126
USN	F-14	4,005
USN	FA-18	4,449
USN	P-3	23
USN	S-3B	1,674
USN	TLAM	282
Total		**18,303**
USA	C-12	183
USA	C-23	3
USA	OV-1D	161
USA	RC-12	216
USA	RU-21	242
USA	RV-1D	111
Total		**916**
CRAF	CRAF	800
Total		**800**

Table 81 (cont'd)
Total Sorties by U.S. Service/Allied Country and Aircraft Type

Service	Aircraft Type	Flown	Service	Aircraft Type	Flown
Saudi Arabia	Tornado/ADV	451	Canada	B-707	163
Saudi Arabia	BAE-125	110	Canada	C-130	124
Saudi Arabia	C-130	1,606	Canada	CC-144	54
Saudi Arabia	E-3	303	Canada	CF-18	961
Saudi Arabia	F-15C	2,088	Total		1,302
Saudi Arabia	F-5	1,129			
Saudi Arabia	H-212	113			
Saudi Arabia	Tornado/IDS	667			
Saudi Arabia	KC-130	267	Kuwait	A-4	651
Saudi Arabia	RF-5	118	Kuwait	F-1	129
Total		6,852	Total		780
France	C-130	271	Bahrain	F-16	166
France	C-150	582	Bahrain	F-5	122
France	F1-CR	92	Bahrain	H-212	5
France	Gabriel	4	Total		293
France	Jaguar	571			
France	KC-135	223			
France	M-20	2			
France	M2000	512	Italy	G-222	13
France	SA-330	1	Italy	Tornado	224
Total		2,258	Total		237
UK	BN2T	35			
UK	BNIS	517	UAE	C-130	35
UK	Buccaneer	226	AE	C-212	10
UK	C-130	832	JAE	M2000	64
UK	F-3	705	Total		109
UK	Tornado/GR-1	1,644			
UK	Jaguar	600			
UK	Nimrod	147			
UK	Tristar	75			
UK	VC-10	359	Qatar	Alpha	2
UK	VCTR	277	Qatar	F-1	11
Total		5,417	Total		

Source: Comp[illegible]ine Sorties.

Daily Breakout of Sorties by U.S. Service/Allied Country and Aircraft Type by Mission Type

The following series of tables provides a daily breakout of sorties flown by aircraft type by mission type for the U.S. Air Force (USAF) (including Proven Force), U.S. Army (USA), U.S. Navy (USN), U.S. Marine Corp (USMC), U.S. Special Operations Command (USSOCCENT), U.S. Civil Reserve Air Fleet (CRAF), Saudi Arabia, Bahrain, Canada, France, Italy, Kuwait, Qatar, United Arab Emirates (UAE), and the United Kingdom (UK). Data were compiled from the Composite Sorties Database for 16 Jan 91 - 28 Feb 91.

The data depicts the contributions of each aircraft type in a given mission area. The tables are grouped by functional areas: fighter/attack, bomber, tanker, transport (tactical and strategic), surveillance/reconnaissance, command and control (C2), electronic warfare, special operations (SOF), utility, and other.

Notes:

1. Start dates and days shown vary for each of the U.S. Services/Allied countries depicted. The first date shown for a given Service/country is the first date for which sorties were reported for that Service/country. Days for which zero sorties were flown were deleted from the tables.

Table 82
A-4: Kuwait Sorties by Mission Type

Date	AI
17-Jan-91	24
18-Jan-91	8
19-Jan-91	20
20-Jan-91	12
21-Jan-91	8
23-Jan-91	12
24-Jan-91	19
25-Jan-91	6
26-Jan-91	19
27-Jan-91	12
28-Jan-91	20
29-Jan-91	19
31-Jan-91	24
1-Feb-91	18
2-Feb-91	15
5-Feb-91	19
6-Feb-91	15
7-Feb-91	19
8-Feb-91	19
9-Feb-91	19
10-Feb-91	20
11-Feb-91	20
12-Feb-91	19
13-Feb-91	20
14-Feb-91	20
15-Feb-91	20
16-Feb-91	20
17-Feb-91	12
18-Feb-91	20
19-Feb-91	20
21-Feb-91	12
22-Feb-91	20
23-Feb-91	20
24-Feb-91	20
25-Feb-91	22
26-Feb-91	20
27-Feb-91	19
Total	**651**

Source: Composite Sorties Database

858-716 O—98——12 QL 3

Table 83
A-6: USN and USMC Sorties by Mission Type

USN

Date	AI	CAS	DCA	OCA	Recce	Refuel	Support	Training	SCAP	Other	Total
17-Jan-91	44	0	0	10	21	51	0	0	19	4	149
18-Jan-91	29	0	0	5	0	55	0	18	9	4	120
19-Jan-91	16	0	0	1	0	50	0	0	16	3	86
20-Jan-91	19	0	0	2	22	43	0	0	7	1	94
21-Jan-91	26	0	0	4	4	41	0	0	29	1	105
22-Jan-91	26	1	0	4	0	45	0	0	19	1	96
23-Jan-91	16	0	0	2	18	47	0	0	16	2	101
24-Jan-91	28	0	0	1	22	58	0	1	13	5	128
25-Jan-91	19	0	0	3	22	51	0	0	8	6	109
26-Jan-91	21	0	0	3	18	49	0	0	3	4	98
27-Jan-91	25	0	0	0	27	60	0	0	2	5	119
28-Jan-91	36	0	0	1	26	63	0	1	0	4	131
29-Jan-91	26	0	0	0	34	49	0	0	2	6	117
30-Jan-91	39	5	0	0	21	51	0	0	5	13	134
31-Jan-91	33	13	0	4	31	51	0	0	0	4	136
1-Feb-91	51	0	0	2	24	52	1	0	0	6	136
2-Feb-91	20	0	0	2	29	38	0	0	0	5	94
3-Feb-91	26	0	0	2	16	36	0	0	2	4	86
4-Feb-91	36	0	4	0	15	43	0	0	0	0	98
5-Feb-91	52	0	0	15	17	27	1	0	0	7	119
6-Feb-91	30	0	0	0	18	35	0	0	0	6	89
7-Feb-91	44	0	0	0	19	40	0	0	0	7	110
8-Feb-91	41	0	0	0	23	35	0	0	1	6	106
9-Feb-91	42	0	0	0	15	40	0	0	2	5	104
10-Feb-91	48	0	0	4	13	39	0	0	0	3	107
11-Feb-91	54	0	0	0	16	44	0	4	0	5	123
12-Feb-91	41	0	0	2	22	24	0	0	0	1	90
13-Feb-91	40	0	0	0	14	34	0	0	0	6	94
14-Feb-91	43	0	0	2	10	34	0	0	0	4	93
15-Feb-91	58	0	0	0	10	42	0	0	0	8	118
16-Feb-91	45	0	0	0	11	9	0	0	0	5	70
17-Feb-91	40	0	0	0	12	21	0	0	0	6	79
18-Feb-91	71	0	0	0	12	27	0	0	0	4	114
19-Feb-91	73	0	0	2	10	28	0	0	0	5	118
20-Feb-91	68	0	0	0	7	23	0	0	0	2	100
21-Feb-91	73	0	0	0	10	30	0	0	0	4	117
22-Feb-91	60	0	0	0	15	32	0	0	0	5	112
23-Feb-91	60	0	0	0	6	41	0	0	0	4	111
24-Feb-91	56	0	0	0	5	41	0	0	0	3	105
25-Feb-91	109	0	0	0	1	48	0	0	0	5	163
26-Feb-91	137	0	0	0	2	45	0	0	0	5	189
27-Feb-91	118	0	0	0	4	43	0	0	0	6	171
28-Feb-91	49	0	0	0	13	22	0	0	0	1	85
Total	1,988	19	4	71	635	1,737	2	24	153	191	4,824

Table 83 (cont'd)
A-6: USN and USMC Sorties by Mission Type

USMC

Date	AI	CAS	OCA	Support	Training	Other	Total	*Grand Total
17-Jan-91	14	0	4	0	0	0	18	167
18-Jan-91	0	0	0	0	1	0	1	121
19-Jan-91	0	2	0	0	0	0	2	88
20-Jan-91	14	2	0	0	0	0	16	110
21-Jan-91	2	3	0	1	0	0	6	111
22-Jan-91	16	5	0	0	0	0	21	117
23-Jan-91	23	0	0	0	0	0	23	124
24-Jan-91	13	0	0	0	0	1	14	142
25-Jan-91	15	0	0	0	0	0	15	124
26-Jan-91	12	0	0	0	0	0	12	110
27-Jan-91	18	0	0	0	0	0	18	137
28-Jan-91	17	0	0	0	0	0	17	148
29-Jan-91	16	6	0	0	0	0	22	139
30-Jan-91	11	2	0	0	0	0	13	147
31-Jan-91	19	0	0	0	0	0	19	155
1-Feb-91	20	0	0	0	0	0	20	156
2-Feb-91	24	0	0	0	0	0	24	118
3-Feb-91	32	0	0	0	0	0	32	118
4-Feb-91	16	0	0	0	0	0	16	114
5-Feb-91	20	0	0	0	0	0	20	139
6-Feb-91	18	0	0	0	0	0	18	107
7-Feb-91	16	0	0	1	0	0	17	127
8-Feb-91	18	0	0	0	1	0	19	125
9-Feb-91	17	0	0	0	0	0	17	121
10-Feb-91	20	0	0	0	0	0	20	127
11-Feb-91	18	0	0	0	0	0	18	141
12-Feb-91	18	6	0	0	0	0	24	114
13-Feb-91	18	0	0	0	0	0	18	112
14-Feb-91	16	0	0	0	0	0	16	109
15-Feb-91	17	0	0	0	0	0	17	135
16-Feb-91	17	0	0	0	0	0	17	87
17-Feb-91	17	0	0	0	0	0	17	96
18-Feb-91	17	0	0	0	0	0	17	131
19-Feb-91	16	0	0	0	0	0	16	134
20-Feb-91	17	0	0	0	0	0	17	117
21-Feb-91	29	0	0	0	0	0	29	146
22-Feb-91	24	8	0	0	0	0	32	144
23-Feb-91	35	0	0	0	0	0	35	146
24-Feb-91	33	5	0	0	0	0	38	143
25-Feb-91	35	0	0	0	0	0	35	198
26-Feb-91	26	0	0	0	0	0	26	215
27-Feb-91	2	0	0	0	0	0	2	173
28-Feb-91	1	0	0	0	0	0	1	86
Total	747	39	4	2	2	1	795	5,619

* Grand Total is the number of A-6 sorties flown by USN and USMC on a given day.

Source: Composite Sorties Database

Table 84
A-7: USN Sorties by Mission Type

Date	AI	OCA	Recce	Other	Total
17-Jan-91	2	29	0	0	31
18-Jan-91	8	7	0	0	15
19-Jan-91	9	9	0	0	18
20-Jan-91	12	0	0	0	12
22-Jan-91	0	4	0	2	6
23-Jan-91	13	2	0	0	15
24-Jan-91	15	0	0	0	15
25-Jan-91	14	2	2	2	20
26-Jan-91	14	3	1	0	18
28-Jan-91	0	0	0	2	2
29-Jan-91	17	0	0	2	19
30-Jan-91	27	0	0	0	27
31-Jan-91	27	0	0	1	28
1-Feb-91	27	0	0	0	27
3-Feb-91	0	0	0	1	1
4-Feb-91	24	0	0	1	25
5-Feb-91	23	0	0	1	24
6-Feb-91	13	8	0	0	21
7-Feb-91	15	2	0	0	17
9-Feb-91	0	0	0	1	1
10-Feb-91	16	4	0	1	21
11-Feb-91	22	5	0	0	27
12-Feb-91	23	3	0	1	27
13-Feb-91	22	6	0	3	31
14-Feb-91	22	5	0	0	27
15-Feb-91	26	2	0	2	30
17-Feb-91	0	0	0	6	6
18-Feb-91	23	5	0	1	29
19-Feb-91	28	0	0	0	28
20-Feb-91	28	0	0	0	28
21-Feb-91	28	0	0	2	30
22-Feb-91	17	0	0	1	18
23-Feb-91	28	0	0	0	28
25-Feb-91	0	0	0	4	4
26-Feb-91	16	1	0	0	17
27-Feb-91	29	1	0	0	30
28-Feb-91	12	0	0	2	14
Total	**600**	**98**	**3**	**36**	**737**

Source: Composite Sorties Database

Table 85
A-10: USAF Sorties by Mission Type

Date	AI	CAS	OCA	SOF	Training	Other	Total
17-Jan-91	124	46	118	6	0	0	294
18-Jan-91	78	52	44	4	0	0	178
19-Jan-91	88	28	16	4	0	0	136
20-Jan-91	0	8	23	0	0	0	31
21-Jan-91	98	0	28	2	0	0	128
22-Jan-91	122	28	0	4	0	0	154
23-Jan-91	192	22	0	0	0	0	214
24-Jan-91	218	0	6	0	0	4	228
25-Jan-91	164	0	4	4	0	0	172
26-Jan-91	230	0	4	6	0	0	240
27-Jan-91	104	0	8	4	0	0	116
28-Jan-91	238	0	8	0	0	0	246
29-Jan-91	236	0	16	0	0	5	257
30-Jan-91	244	12	28	0	0	0	284
31-Jan-91	174	0	42	6	0	2	224
1-Feb-91	175	0	48	4	0	0	227
2-Feb-91	156	0	42	2	0	0	200
3-Feb-91	142	0	8	0	2	0	152
4-Feb-91	191	0	0	2	2	0	195
5-Feb-91	200	13	0	8	0	1	222
6-Feb-91	176	0	0	0	0	0	176
7-Feb-91	166	0	0	0	0	0	166
8-Feb-91	196	0	0	0	4	0	200
9-Feb-91	166	0	4	2	26	0	198
10-Feb-91	212	0	0	4	28	0	244
11-Feb-91	152	0	0	4	8	1	165
12-Feb-91	172	0	0	0	9	1	182
13-Feb-91	200	0	0	4	0	0	204
14-Feb-91	172	0	0	0	16	0	188
15-Feb-91	198	0	0	4	0	0	202
16-Feb-91	168	0	0	6	0	0	174
17-Feb-91	66	0	0	0	0	3	69
18-Feb-91	194	0	8	0	0	3	205
19-Feb-91	182	1	0	2	0	0	185
20-Feb-91	170	0	0	2	0	1	173
21-Feb-91	166	2	0	2	4	0	174
22-Feb-91	155	20	0	0	0	1	176
23-Feb-91	98	110	0	0	0	2	210
24-Feb-91	70	146	0	0	0	2	218
25-Feb-91	52	160	0	2	0	0	214
26-Feb-91	28	192	0	2	2	0	224
27-Feb-91	20	187	0	4	0	0	211
28-Feb-91	12	14	0	2	0	0	28
Total	**6,365**	**1,041**	**455**	**96**	**101**	**26**	**8,084**

Source: Composite Sorties Database

Table 86
AV-8: USMC Sorties by Mission Type

Date	AI	CAS	OCA	Training	Total
17-Jan-91	0	20	0	0	20
18-Jan-91	0	4	50	0	54
19-Jan-91	4	12	4	0	20
20-Jan-91	23	0	0	0	23
21-Jan-91	12	0	0	0	12
22-Jan-91	24	6	0	0	30
23-Jan-91	42	4	0	0	46
24-Jan-91	82	0	0	0	82
25-Jan-91	28	0	0	0	28
26-Jan-91	80	3	0	0	83
27-Jan-91	20	0	8	0	28
28-Jan-91	26	4	12	0	42
29-Jan-91	48	24	0	0	72
30-Jan-91	60	18	0	0	78
31-Jan-91	94	0	0	0	94
1-Feb-91	76	0	0	0	76
2-Feb-91	72	0	0	0	72
3-Feb-91	76	0	0	0	76
4-Feb-91	72	0	0	0	72
5-Feb-91	72	0	0	0	72
6-Feb-91	16	0	0	0	16
7-Feb-91	91	0	0	0	91
8-Feb-91	94	0	0	0	94
9-Feb-91	96	0	0	0	96
10-Feb-91	96	0	0	0	96
11-Feb-91	6	96	0	0	102
12-Feb-91	0	66	0	0	66
13-Feb-91	0	98	0	0	98
14-Feb-91	0	94	0	0	94
15-Feb-91	0	96	0	0	96
16-Feb-91	2	92	0	0	94
17-Feb-91	0	38	0	10	48
18-Feb-91	2	92	0	0	94
19-Feb-91	2	106	0	0	108
20-Feb-91	21	50	0	0	71
21-Feb-91	29	64	0	0	93
22-Feb-91	22	114	0	0	136
23-Feb-91	80	131	0	0	211
24-Feb-91	58	116	0	0	174
25-Feb-91	58	94	0	0	152
26-Feb-91	116	70	0	0	186
27-Feb-91	47	16	0	0	63
28-Feb-91	0	0	0	0	0
Total	**1,747**	**1,528**	**74**	**10**	**3,359**

Source: Composite Database

Table 87
Buccaneer: UK Sorties by Mission Type

Date	AI	OCA	Training	Total
28-Jan-91	0	0	2	2
29-Jan-91	0	0	6	6
30-Jan-91	0	0	3	3
31-Jan-91	0	0	4	4
1-Feb-91	0	0	8	8
2-Feb-91	2	0	2	4
4-Feb-91	0	0	4	4
5-Feb-91	2	0	2	4
6-Feb-91	0	0	0	0
7-Feb-91	6	0	0	6
8-Feb-91	8	0	0	8
9-Feb-91	4	0	0	4
10-Feb-91	4	0	0	4
11-Feb-91	8	0	1	9
12-Feb-91	6	0	0	6
13-Feb-91	4	4	0	8
14-Feb-91	0	10	0	10
15-Feb-91	0	12	0	12
16-Feb-91	0	10	0	10
17-Feb-91	0	2	0	2
18-Feb-91	0	12	0	12
19-Feb-91	0	12	0	12
20-Feb-91	0	10	0	10
21-Feb-91	0	12	0	12
22-Feb-91	0	12	0	12
23-Feb-91	0	12	0	12
24-Feb-91	0	12	0	12
25-Feb-91	0	12	0	12
26-Feb-91	0	6	0	6
27-Feb-91	0	12	0	12
28-Feb-91	0	0	0	0
Total	**44**	**150**	**32**	**226**

Source: Composite Sorties Database

Table 88
CF-18: Canada Sorties by Mission Type

Date	AI	DCA	OCA	Training	Other	Total
17-Jan-91	0	36	0	0	0	36
18-Jan-91	0	28	0	0	0	28
19-Jan-91	0	31	0	0	0	31
20-Jan-91	0	14	0	0	0	14
21-Jan-91	0	6	8	0	0	14
22-Jan-91	0	28	0	0	0	28
23-Jan-91	0	28	0	0	0	28
24-Jan-91	0	20	4	0	0	24
25-Jan-91	0	14	8	0	0	22
26-Jan-91	0	24	0	0	0	24
27-Jan-91	0	12	8	0	0	20
28-Jan-91	0	12	8	0	0	20
29-Jan-91	0	14	8	0	0	22
30-Jan-91	0	18	0	0	0	18
31-Jan-91	0	20	0	0	0	20
1-Feb-91	0	10	0	0	0	10
2-Feb-91	0	24	8	0	0	32
3-Feb-91	0	24	8	0	0	32
4-Feb-91	0	12	8	0	0	20
5-Feb-91	0	12	8	0	0	20
6-Feb-91	0	26	0	0	0	26
7-Feb-91	0	12	4	0	0	16
8-Feb-91	0	12	4	0	12	28
9-Feb-91	0	16	4	0	0	20
10-Feb-91	0	12	4	0	0	16
11-Feb-91	0	12	4	0	0	16
12-Feb-91	0	24	0	0	0	24
13-Feb-91	0	24	0	0	0	24
14-Feb-91	0	12	8	0	0	20
15-Feb-91	0	12	0	0	0	12
16-Feb-91	0	24	0	0	0	24
17-Feb-91	0	8	4	0	0	12
18-Feb-91	0	8	4	0	0	12
19-Feb-91	0	8	4	0	0	12
20-Feb-91	0	8	12	0	0	20
21-Feb-91	0	8	16	0	0	24
22-Feb-91	0	8	0	0	0	8
23-Feb-91	0	20	0	12	0	32
24-Feb-91	8	18	0	20	0	46
25-Feb-91	8	10	0	16	0	34
26-Feb-91	12	10	0	16	0	38
27-Feb-91	20	12	0	0	0	32
28-Feb-91	0	2	0	0	0	2
Total	**48**	**693**	**144**	**64**	**12**	**961**

Source: Composite Sorties Database

Table 89
F/A-18: USN and USMC Sorties by Mission Type

USN

Date	AI	CAS	DCA	OCA	Recce	Refuel	Training	SCAP	Other	Total
17-Jan-91	21	0	62	42	0	0	33	0	10	168
18-Jan-91	21	0	71	13	0	0	31	3	2	141
19-Jan-91	25	0	8	26	0	0	0	0	0	59
20-Jan-91	15	0	72	7	0	0	0	5	4	103
21-Jan-91	15	0	41	12	2	0	0	0	2	72
22-Jan-91	27	0	23	8	0	0	1	1	1	61
23-Jan-91	20	0	58	8	0	0	0	2	2	90
24-Jan-91	39	0	57	11	3	0	0	0	3	113
25-Jan-91	23	0	45	9	2	0	0	1	18	98
26-Jan-91	6	0	31	4	6	0	0	0	0	47
27-Jan-91	23	0	49	8	9	0	0	0	2	91
28-Jan-91	27	0	74	24	7	0	2	0	1	135
29-Jan-91	22	0	42	2	5	0	12	0	2	85
30-Jan-91	46	0	28	3	3	0	2	2	7	91
31-Jan-91	43	0	45	6	3	0	0	0	1	98
1-Feb-91	56	2	40	0	11	0	2	0	5	116
2-Feb-91	45	0	18	2	4	0	0	0	5	74
3-Feb-91	53	0	39	6	6	0	2	2	12	120
4-Feb-91	55	0	40	0	7	0	0	0	1	103
5-Feb-91	69	0	37	6	3	0	1	2	3	121
6-Feb-91	39	0	24	4	4	0	0	0	0	71
7-Feb-91	45	0	34	6	4	0	0	0	2	91
8-Feb-91	50	0	34	8	6	0	0	1	2	101
9-Feb-91	57	0	34	9	1	0	0	0	2	103
10-Feb-91	63	0	32	0	1	0	0	0	0	96
11-Feb-91	69	0	38	2	0	0	17	0	4	130
12-Feb-91	31	0	17	0	0	0	27	0	1	76
13-Feb-91	61	0	36	11	5	0	2	0	1	116
14-Feb-91	61	0	27	2	0	0	0	1	0	91
15-Feb-91	59	0	20	0	6	0	0	0	13	98
16-Feb-91	40	0	22	4	7	0	0	0	4	77
17-Feb-91	45	0	18	7	15	0	0	0	3	88
18-Feb-91	69	0	15	2	14	0	1	0	1	102
19-Feb-91	80	0	12	7	8	0	0	0	0	107
20-Feb-91	58	0	4	6	8	0	0	0	0	76
21-Feb-91	68	0	12	4	7	0	0	0	1	92
22-Feb-91	49	0	22	9	4	0	0	0	12	96
23-Feb-91	88	0	14	0	9	1	0	0	7	119
24-Feb-91	113	0	21	2	11	0	0	0	3	150
25-Feb-91	135	0	29	5	7	1	0	0	5	182
26-Feb-91	125	0	29	1	17	0	0	0	3	175
27-Feb-91	123	0	25	3	11	0	0	0	3	165
28-Feb-91	11	0	37	2	7	0	0	0	4	61
Total	2,190	2	1,436	291	223	2	133	20	152	4,449

Table 89 (cont'd)
F/A-18: USN and USMC Sorties by Mission Type

USMC

Date	AI	CAS	OCA	Recce	Support	Training	Total	*Grand Total
17-Jan-91	32	0	22	0	45	0	99	267
18-Jan-91	24	0	16	0	14	2	56	197
19-Jan-91	10	4	48	0	12	0	74	133
20-Jan-91	24	2	24	0	0	0	50	153
21-Jan-91	7	1	3	0	2	0	13	85
22-Jan-91	32	18	6	0	13	0	69	130
23-Jan-91	2	6	90	0	15	0	113	203
24-Jan-91	85	14	16	0	28	0	143	256
25-Jan-91	30	14	12	0	14	0	70	168
26-Jan-91	60	18	24	0	29	0	131	178
27-Jan-91	49	2	22	2	18	0	93	184
28-Jan-91	98	0	12	0	19	0	129	264
29-Jan-91	50	24	10	0	18	0	102	187
30-Jan-91	86	7	22	0	16	0	131	222
31-Jan-91	44	11	16	0	12	0	83	181
1-Feb-91	68	6	25	1	14	0	114	230
2-Feb-91	78	11	17	0	14	0	120	194
3-Feb-91	86	11	23	0	20	0	140	260
4-Feb-91	86	10	21	0	18	0	135	238
5-Feb-91	50	11	24	0	12	0	97	218
6-Feb-91	28	13	14	0	6	0	61	132
7-Feb-91	74	15	20	0	12	0	121	212
8-Feb-91	80	16	19	0	6	0	121	222
9-Feb-91	80	14	22	0	0	0	116	219
10-Feb-91	118	14	22	0	0	0	154	250
11-Feb-91	54	48	18	0	2	0	122	252
12-Feb-91	0	102	18	0	0	0	120	196
13-Feb-91	44	54	12	0	8	0	118	234
14-Feb-91	48	83	12	0	0	0	143	234
15-Feb-91	36	82	12	0	4	0	134	232
16-Feb-91	68	50	12	0	0	0	130	207
17-Feb-91	16	29	7	0	8	0	60	148
18-Feb-91	48	66	12	0	16	0	142	244
19-Feb-91	32	104	11	0	0	0	147	254
20-Feb-91	8	46	13	0	0	0	67	143
21-Feb-91	16	112	0	0	0	0	128	220
22-Feb-91	0	192	0	0	20	0	212	308
23-Feb-91	0	204	0	0	24	0	228	347
24-Feb-91	0	175	0	0	24	0	199	349
25-Feb-91	0	135	0	0	14	0	149	331
26-Feb-91	8	158	0	0	26	0	192	367
27-Feb-91	10	92	0	0	4	0	106	271
28-Feb-91	0	4	0	0	0	0	4	65
Total	**1,769**	**1,978**	**677**	**3**	**507**	**2**	**4,936**	**9,385**

* Grand Total is the total number of F/A-18 sorties flown by USN and USMC on a given day.

Source: Composite Sorties Database

Table 90
F-1: Kuwait and Qatar Sorties by Mission Type

	Kuwait	Qatar	
Date	**AI**	**AI**	**Total**
23-Jan-91	0	4	4
3-Feb-91	0	4	4
5-Feb-91	0	4	4
7-Feb-91	6	5	11
8-Feb-91	4	0	4
9-Feb-91	6	4	10
10-Feb-91	8	0	8
11-Feb-91	8	0	8
12-Feb-91	8	0	8
13-Feb-91	6	4	10
14-Feb-91	4	0	4
15-Feb-91	8	4	12
16-Feb-91	8	0	8
17-Feb-91	4	0	4
18-Feb-91	8	0	8
19-Feb-91	10	4	14
21-Feb-91	6	4	10
22-Feb-91	10	0	10
23-Feb-91	10	0	10
25-Feb-91	0	4	4
26-Feb-91	5	0	5
27-Feb-91	10	0	10
Total	**129**	**41**	**170**

Source: Composite Sorties Database

Table 91
F1-CR: France Sorties by Mission Type

Date	AI	OCA	Recce	Training	Total
26-Jan-91	2	0	0	2	4
28-Jan-91	2	0	0	0	2
29-Jan-91	4	0	0	2	6
30-Jan-91	2	0	0	0	2
31-Jan-91	2	0	0	0	2
1-Feb-91	2	0	0	0	2
2-Feb-91	2	0	0	0	2
3-Feb-91	2	0	0	0	2
4-Feb-91	2	0	2	0	4
5-Feb-91	2	0	0	0	2
6-Feb-91	0	0	2	0	2
7-Feb-91	2	0	0	0	2
8-Feb-91	0	0	1	0	1
9-Feb-91	2	0	0	0	2
10-Feb-91	2	0	2	0	4
11-Feb-91	2	0	2	0	4
12-Feb-91	0	0	4	0	4
13-Feb-91	0	0	4	0	4
14-Feb-91	0	0	4	0	4
15-Feb-91	0	0	4	0	4
16-Feb-91	0	0	4	0	4
17-Feb-91	0	0	1	0	1
18-Feb-91	0	0	2	0	2
19-Feb-91	0	0	2	0	2
20-Feb-91	0	0	2	0	2
21-Feb-91	0	0	3	0	3
22-Feb-91	4	0	1	0	5
23-Feb-91	0	0	4	0	4
24-Feb-91	2	0	0	0	2
25-Feb-91	0	4	0	0	4
26-Feb-91	0	4	0	0	4
Total	**36**	**8**	**44**	**4**	**92**

Source: Composite Sorties Database

Table 92
F-111E: USAF Sorties by Mission Type

Date	AI	OCA	Total
17-Jan-91	0	12	12
18-Jan-91	8	4	12
19-Jan-91	12	0	12
20-Jan-91	8	0	8
21-Jan-91	0	9	9
23-Jan-91	0	12	12
24-Jan-91	0	12	12
25-Jan-91	12	0	12
26-Jan-91	4	8	12
27-Jan-91	0	12	12
28-Jan-91	12	0	12
29-Jan-91	4	8	12
30-Jan-91	12	0	12
31-Jan-91	0	11	11
1-Feb-91	8	4	12
2-Feb-91	12	0	12
3-Feb-91	12	0	12
4-Feb-91	12	0	12
5-Feb-91	12	0	12
6-Feb-91	12	0	12
7-Feb-91	0	12	12
8-Feb-91	12	0	12
9-Feb-91	12	0	12
10-Feb-91	12	0	12
11-Feb-91	12	0	12
12-Feb-91	8	4	12
13-Feb-91	8	4	12
14-Feb-91	12	0	12
15-Feb-91	4	8	12
17-Feb-91	12	0	12
18-Feb-91	4	8	12
19-Feb-91	11	0	11
20-Feb-91	12	0	12
21-Feb-91	8	0	8
22-Feb-91	12	0	12
23-Feb-91	12	0	12
24-Feb-91	6	6	12
26-Feb-91	12	0	12
27-Feb-91	15	0	15
Total	**324**	**134**	**458**

Source: Composite Sorties Database

Table 93
F-111F: USAF Sorties by Mission Type

Date	AI	OCA	Training	Other	Total
17-Jan-91	59	23	0	0	82
18-Jan-91	45	16	0	0	61
19-Jan-91	33	4	0	0	37
20-Jan-91	0	18	0	1	19
21-Jan-91	45	0	0	1	46
22-Jan-91	22	20	0	0	42
23-Jan-91	0	55	0	1	56
24-Jan-91	0	59	0	0	59
25-Jan-91	0	47	0	0	47
26-Jan-91	8	37	0	0	45
27-Jan-91	0	59	0	1	60
28-Jan-91	22	40	0	0	62
29-Jan-91	34	27	0	0	61
30-Jan-91	9	49	0	1	59
31-Jan-91	41	20	0	0	61
1-Feb-91	19	37	0	1	57
2-Feb-91	16	40	0	0	56
3-Feb-91	28	20	0	0	48
4-Feb-91	31	28	0	0	59
5-Feb-91	39	21	0	0	60
6-Feb-91	38	26	0	0	64
7-Feb-91	19	36	0	0	55
8-Feb-91	49	8	0	0	57
9-Feb-91	53	0	0	0	53
10-Feb-91	49	4	0	0	53
11-Feb-91	40	12	0	0	52
12-Feb-91	66	4	0	0	70
13-Feb-91	63	6	0	0	69
14-Feb-91	67	0	1	0	68
15-Feb-91	61	4	0	1	66
16-Feb-91	51	0	0	0	51
17-Feb-91	61	0	0	1	62
18-Feb-91	62	0	0	0	62
19-Feb-91	62	0	0	0	62
20-Feb-91	59	0	1	0	60
21-Feb-91	60	0	0	0	60
22-Feb-91	71	0	0	0	71
23-Feb-91	62	0	1	0	63
24-Feb-91	69	0	0	0	69
25-Feb-91	64	0	0	0	64
26-Feb-91	59	0	0	0	59
27-Feb-91	55	0	0	1	56
Total	1,691	720	3	9	2,423

Source: Composite Sorties Database

Table 94
F-117: USAF Sorties by Mission Type

Date	AI	Other	Total
17-Jan-91	40	0	40
18-Jan-91	35	0	35
19-Jan-91	22	0	22
20-Jan-91	25	0	25
21-Jan-91	28	0	28
22-Jan-91	24	0	24
23-Jan-91	27	0	27
24-Jan-91	34	0	34
25-Jan-91	23	0	23
26-Jan-91	33	0	33
27-Jan-91	34	0	34
28-Jan-91	34	0	34
29-Jan-91	26	0	26
30-Jan-91	31	0	31
31-Jan-91	28	0	28
1-Feb-91	29	1	30
2-Feb-91	14	0	14
3-Feb-91	28	0	28
4-Feb-91	33	0	33
5-Feb-91	33	1	34
6-Feb-91	34	0	34
7-Feb-91	33	0	33
8-Feb-91	34	0	34
9-Feb-91	34	0	34
10-Feb-91	34	0	34
11-Feb-91	35	0	35
12-Feb-91	33	0	33
13-Feb-91	34	0	34
14-Feb-91	34	0	34
15-Feb-91	34	0	34
16-Feb-91	28	0	28
17-Feb-91	34	0	34
18-Feb-91	34	0	34
19-Feb-91	26	0	26
20-Feb-91	24	0	24
21-Feb-91	34	0	34
22-Feb-91	34	0	34
23-Feb-91	37	0	37
24-Feb-91	34	0	34
25-Feb-91	2	0	2
26-Feb-91	60	0	60
27-Feb-91	30	0	30
Total	1,297	2	1,299

Source: Composite Sorties Database

Table 95
F-14: USN Sorties by Mission Type

Date	DCA	OCA	Recce	EW	Training	Other	Total
17-Jan-91	0	0	0	0	21	3	24
18-Jan-91	87	17	3	0	0	3	110
19-Jan-91	57	46	1	0	0	2	106
20-Jan-91	59	20	2	0	0	5	86
21-Jan-91	54	21	1	1	0	0	77
22-Jan-91	66	33	8	0	0	5	112
23-Jan-91	53	15	10	0	0	0	78
24-Jan-91	79	11	7	0	3	5	105
25-Jan-91	82	18	6	0	0	12	118
26-Jan-91	61	6	6	0	0	5	78
27-Jan-91	64	27	8	0	0	2	101
28-Jan-91	71	22	6	0	0	4	103
29-Jan-91	56	6	4	0	8	6	80
30-Jan-91	68	3	4	0	0	9	84
31-Jan-91	64	6	12	0	0	5	87
1-Feb-91	60	16	7	0	8	2	93
2-Feb-91	57	10	10	0	0	1	78
3-Feb-91	47	16	5	0	2	2	72
4-Feb-91	59	14	9	0	0	2	84
5-Feb-91	63	23	4	0	0	8	98
6-Feb-91	52	13	7	0	0	3	75
7-Feb-91	50	17	7	0	0	4	78
8-Feb-91	50	13	10	0	0	7	80
9-Feb-91	56	12	9	0	0	4	81
10-Feb-91	51	19	8	0	0	2	80
11-Feb-91	60	20	9	0	17	14	120
12-Feb-91	57	17	10	0	21	5	110
13-Feb-91	45	14	2	0	0	6	67
14-Feb-91	56	10	7	0	2	8	83
15-Feb-91	66	15	8	0	1	10	100
16-Feb-91	53	16	2	0	0	4	75
17-Feb-91	70	12	5	0	0	3	90
18-Feb-91	88	20	9	0	0	12	129
19-Feb-91	84	17	12	0	0	3	116
20-Feb-91	99	8	8	0	0	5	120
21-Feb-91	94	12	14	0	0	4	124
22-Feb-91	72	18	6	0	0	10	106
23-Feb-91	52	4	7	0	0	8	71
24-Feb-91	94	5	5	0	0	0	104
25-Feb-91	94	4	9	0	0	3	110
26-Feb-91	96	4	8	0	0	8	116
27-Feb-91	106	4	8	0	0	5	123
28-Feb-91	50	3	7	0	6	7	73
Total	**2,802**	**607**	**290**	**1**	**89**	**216**	**4,005**

Source: Composite Sorties Database

Table 96
F-15C: USAF and Saudi Arabia Sorties by Mission Type

	USAF					Saudi Arabia				
Date	DCA	OCA	Training	Other	Total	AI	DCA	OCA	Total	*Grand Total
17-Jan-91	140	68	0	0	208	0	114	0	114	322
18-Jan-91	124	70	0	0	194	0	56	4	60	254
19-Jan-91	150	64	0	0	214	0	50	8	58	272
20-Jan-91	109	64	0	0	173	0	34	8	42	215
21-Jan-91	108	80	0	0	188	0	36	12	48	236
22-Jan-91	88	72	4	0	164	0	37	0	37	201
23-Jan-91	94	67	0	0	161	0	36	6	42	203
24-Jan-91	95	82	0	0	177	0	44	12	56	233
25-Jan-91	100	62	0	0	162	0	40	12	52	214
26-Jan-91	108	44	0	0	152	0	54	0	54	206
27-Jan-91	135	36	0	0	171	0	52	2	54	225
28-Jan-91	146	42	0	0	188	0	50	8	58	246
29-Jan-91	110	14	0	0	124	0	46	6	52	176
30-Jan-91	130	10	0	0	140	0	50	0	50	190
31-Jan-91	156	6	0	0	162	0	50	5	55	217
1-Feb-91	106	14	0	0	120	0	46	8	54	174
2-Feb-91	139	12	0	0	151	0	52	0	52	203
3-Feb-91	100	18	0	0	118	0	51	4	55	173
4-Feb-91	88	12	1	0	101	0	52	4	56	157
5-Feb-91	96	20	0	0	116	4	52	6	62	178
6-Feb-91	88	20	0	0	108	4	52	4	60	168
7-Feb-91	104	24	0	0	128	0	54	4	58	186
8-Feb-91	114	18	0	0	132	0	56	4	60	192
9-Feb-91	106	8	0	2	116	0	52	3	55	171
10-Feb-91	108	16	0	0	124	0	51	0	51	175
11-Feb-91	82	8	0	0	90	0	50	0	50	140
12-Feb-91	88	14	0	0	102	0	50	0	50	152
13-Feb-91	84	16	0	0	100	0	48	2	50	150
14-Feb-91	86	14	0	0	100	0	38	0	38	138
15-Feb-91	86	10	0	0	96	0	37	0	37	133
16-Feb-91	81	12	0	0	93	0	38	0	38	131
17-Feb-91	103	14	0	0	117	0	38	2	40	157
18-Feb-91	100	8	0	0	108	0	36	10	46	154
19-Feb-91	98	6	0	0	104	0	38	0	38	142
20-Feb-91	94	8	4	0	106	0	40	2	42	148
21-Feb-91	90	6	0	0	96	0	37	0	37	133
22-Feb-91	98	10	2	1	111	0	38	0	38	149
23-Feb-91	126	4	0	1	131	0	29	0	29	160
24-Feb-91	130	8	0	0	138	0	38	2	40	178
25-Feb-91	88	28	0	0	116	0	38	0	38	154
26-Feb-91	128	0	0	1	129	0	36	2	38	167
27-Feb-91	124	0	0	2	126	0	38	0	38	164
28-Feb-91	30	0	0	0	30	0	6	0	6	36
Total	**4,558**	**1,109**	**11**	**7**	**5,685**	**8**	**1,940**	**140**	**2,088**	**7,773**

* Grand Total is the total number of F-15C sorties flown by USAF and Saudi Arabia on a given day.

Source: Composite Sorties Database

Table 97
F-15E: USAF Sorties by Mission Type

Date	AI	OCA	Training	Other	Total
17-Jan-91	26	46	0	0	72
18-Jan-91	22	22	0	0	44
19-Jan-91	26	4	0	0	30
20-Jan-91	47	0	0	0	47
21-Jan-91	39	0	0	0	39
22-Jan-91	40	0	0	0	40
23-Jan-91	16	20	0	0	36
24-Jan-91	17	32	0	0	49
25-Jan-91	38	4	0	1	43
26-Jan-91	52	0	0	0	52
27-Jan-91	59	0	0	0	59
28-Jan-91	50	0	0	0	50
29-Jan-91	50	0	0	0	50
30-Jan-91	50	0	0	0	50
31-Jan-91	48	0	7	0	55
1-Feb-91	42	0	6	0	48
2-Feb-91	63	0	0	0	63
3-Feb-91	58	0	0	0	58
4-Feb-91	50	0	0	1	51
5-Feb-91	52	0	0	0	52
6-Feb-91	50	0	0	0	50
7-Feb-91	50	0	1	1	52
8-Feb-91	50	0	0	1	51
9-Feb-91	48	0	0	0	48
10-Feb-91	50	0	0	0	50
11-Feb-91	48	8	0	1	57
12-Feb-91	44	0	8	0	52
13-Feb-91	51	0	0	0	51
14-Feb-91	52	0	0	0	52
15-Feb-91	52	0	0	0	52
16-Feb-91	54	0	2	0	56
17-Feb-91	40	0	0	0	40
18-Feb-91	52	0	2	0	54
19-Feb-91	52	0	0	0	52
20-Feb-91	52	0	0	0	52
21-Feb-91	52	0	2	0	54
22-Feb-91	52	0	0	0	52
23-Feb-91	51	0	0	0	51
24-Feb-91	60	0	0	0	60
25-Feb-91	56	0	0	0	56
26-Feb-91	80	0	2	0	82
27-Feb-91	56	0	0	0	56
28-Feb-91	4	0	0	0	4
Total	2,001	136	30	5	2,172

Source: Composite Sorties Database

Table 98
F-16: USAF and Bahrain Sorties by Mission Type

	USAF								Bahrain			
Date	AI	CAS	OCA	Recce	SOF	Training	Other	Total	DCA	OCA	Total	*Grand Total
17-Jan-91	116	0	87	0	0	0	0	203	0	0	0	203
18-Jan-91	198	0	96	0	0	1	0	295	6	0	6	301
19-Jan-91	186	0	57	0	0	0	0	243	0	0	0	243
20-Jan-91	169	0	9	0	0	3	0	181	1	0	1	182
21-Jan-91	159	0	32	0	2	0	16	209	2	0	2	211
22-Jan-91	157	0	46	0	0	4	2	209	2	0	2	211
23-Jan-91	279	0	30	0	0	0	0	309	5	0	5	314
24-Jan-91	208	0	34	0	0	9	0	251	4	0	4	255
25-Jan-91	249	0	26	0	0	1	4	280	2	0	2	282
26-Jan-91	237	0	20	0	0	0	3	260	4	0	4	264
27-Jan-91	225	0	24	0	0	0	1	250	4	0	4	254
28-Jan-91	214	0	44	0	0	0	1	259	4	0	4	263
29-Jan-91	248	0	4	0	0	0	5	257	4	0	4	261
30-Jan-91	239	0	30	0	0	0	0	269	4	0	4	273
31-Jan-91	245	0	22	0	4	1	8	280	4	0	4	284
1-Feb-91	254	0	39	0	0	0	2	295	4	0	4	299
2-Feb-91	308	0	27	0	4	0	2	341	6	0	6	347
3-Feb-91	306	0	27	0	0	0	3	336	6	0	6	342
4-Feb-91	309	0	42	0	0	0	0	351	4	0	4	355
5-Feb-91	331	0	23	12	0	0	1	367	4	0	4	371
6-Feb-91	312	0	4	12	0	0	2	330	4	0	4	334
7-Feb-91	347	0	5	12	2	0	5	371	4	0	4	375
8-Feb-91	354	0	15	12	0	0	3	384	4	0	4	388
9-Feb-91	352	0	10	24	0	0	0	386	6	0	6	392
10-Feb-91	331	0	12	18	0	0	3	364	4	2	6	370
11-Feb-91	325	0	10	0	0	0	3	338	4	2	6	344

Table 98
F-16: USAF and Bahrain Sorties by Mission Type

	USAF								Bahrain			
Date	AI	CAS	OCA	Recce	SOF	Training	Other	Total	DCA	OCA	Total	*Grand Total
12-Feb-91	339	0	25	0	4	0	4	372	4	2	6	378
13-Feb-91	297	0	10	24	0	0	5	336	4	2	6	342
14-Feb-91	294	0	7	18	0	0	0	319	4	2	6	325
15-Feb-91	286	0	4	22	4	0	1	317	4	2	6	323
16-Feb-91	305	0	35	22	2	0	1	365	4	2	6	371
17-Feb-91	214	0	31	22	4	2	2	275	4	0	4	279
18-Feb-91	302	0	12	24	0	0	2	340	4	0	4	344
19-Feb-91	322	0	30	24	0	0	3	379	4	0	4	383
20-Feb-91	214	0	35	16	0	0	0	265	0	0	0	265
21-Feb-91	319	0	16	22	2	0	8	367	4	0	4	371
22-Feb-91	301	4	13	24	0	0	1	343	4	0	4	347
23-Feb-91	296	14	23	24	2	0	1	360	4	0	4	364
24-Feb-91	231	44	26	30	0	0	0	331	4	0	4	335
25-Feb-91	159	153	18	30	0	0	2	362	4	0	4	366
26-Feb-91	214	128	42	12	8	0	1	405	4	0	4	409
27-Feb-91	198	76	8	30	0	0	2	314	0	0	0	314
28-Feb-91	4	4	0	8	0	0	3	19	0	0	0	19
Total	10,953	423	1,110	442	38	21	100	13,687	152	14	166	13,253

*Grand Total is the total number of F-16 sorties flown by USAF and Bahrain on a given day

Source: Composite Sorties Database

Table 99
F-4G: USAF Sorties by Mission Type

Date	OCA	Training	Other	Total
17-Jan-91	79	0	0	79
18-Jan-91	73	0	0	73
19-Jan-91	73	0	0	73
20-Jan-91	61	0	0	61
21-Jan-91	43	0	0	43
22-Jan-91	57	0	0	57
23-Jan-91	67	0	0	67
24-Jan-91	64	0	0	64
25-Jan-91	65	0	0	65
26-Jan-91	64	0	0	64
27-Jan-91	67	0	0	67
28-Jan-91	66	0	0	66
29-Jan-91	56	0	0	56
30-Jan-91	61	0	0	61
31-Jan-91	61	0	0	61
1-Feb-91	72	0	0	72
2-Feb-91	71	0	0	71
3-Feb-91	65	0	0	65
4-Feb-91	70	0	0	70
5-Feb-91	73	0	0	73
6-Feb-91	61	0	0	61
7-Feb-91	72	0	1	73
8-Feb-91	60	0	0	60
9-Feb-91	67	0	0	67
10-Feb-91	75	0	0	75
11-Feb-91	61	0	0	61
12-Feb-91	62	0	0	62
13-Feb-91	57	0	0	57
14-Feb-91	61	0	1	62
15-Feb-91	62	0	0	62
16-Feb-91	54	0	0	54
17-Feb-91	61	0	0	61
18-Feb-91	66	0	0	66
19-Feb-91	68	2	0	70
20-Feb-91	63	1	0	64
21-Feb-91	69	1	0	70
22-Feb-91	65	0	0	65
23-Feb-91	65	1	0	66
24-Feb-91	60	0	0	60
25-Feb-91	65	0	0	65
26-Feb-91	37	0	0	37
27-Feb-91	57	0	0	57
Total	**2,676**	**5**	**2**	**2,683**

Source: Composite Sorties Database

Table 100
F-5: Saudi Arabia and Bahrain Sorties by Mission Type

	Saudi Arabia				Bahrain	*Grand
Date	AI	OCA	Support	Total	AI	Total
19-Jan-91	12	0	0	12	0	12
24-Jan-91	16	0	0	16	0	16
25-Jan-91	12	0	0	12	0	12
26-Jan-91	24	0	0	24	4	28
27-Jan-91	12	0	0	12	4	16
28-Jan-91	22	14	0	36	4	40
29-Jan-91	29	8	0	37	4	41
30-Jan-91	24	8	0	32	4	36
31-Jan-91	24	8	0	32	4	36
1-Feb-91	23	8	0	31	4	35
2-Feb-91	24	0	0	24	4	28
3-Feb-91	32	0	0	32	4	36
4-Feb-91	24	8	0	32	4	36
5-Feb-91	23	8	0	31	4	35
6-Feb-91	36	0	0	36	4	40
7-Feb-91	32	0	0	32	2	34
8-Feb-91	30	0	0	30	4	34
9-Feb-91	32	0	0	32	4	36
10-Feb-91	40	0	0	40	4	44
11-Feb-91	28	0	1	29	4	33
12-Feb-91	40	0	0	40	4	44
13-Feb-91	49	0	2	51	4	55
14-Feb-91	42	0	0	42	4	46
15-Feb-91	40	0	2	42	4	46
16-Feb-91	18	0	2	20	4	24
17-Feb-91	8	0	0	8	4	12
18-Feb-91	42	0	2	44	4	48
19-Feb-91	32	0	0	32	4	36
20-Feb-91	42	0	0	42	4	46
21-Feb-91	32	0	0	32	4	36
22-Feb-91	46	0	0	46	4	50
23-Feb-91	48	0	0	48	4	52
24-Feb-91	48	0	0	48	0	48
25-Feb-91	12	0	0	12	4	16
26-Feb-91	24	0	0	24	0	24
27-Feb-91	36	0	0	36	4	40
Total	1,058	62	9	1,129	122	1,251

* Grand Total is the total number of F-5 sorties flown by Saudi Arabia and Bahrin on a given day.

Source: Composite Sorties Database

Table 101
Jaguar: UK and France Sorties by Mission Type

	UK					France					
Date	AI	Recce	Training	SCAP	Total	AI	OCA	Recce	Other	Total	*Grand Total
17-Jan-91	4	0	0	0	4	0	12	0	0	12	16
18-Jan-91	7	0	0	0	7	12	0	0	0	12	19
19-Jan-91	18	0	0	0	18	12	0	0	0	12	30
20-Jan-91	8	0	0	0	8	16	0	0	[illegible]	16	24
22-Jan-91	14	0	0	0	14	6	0	0	[illegible]	6	20
23-Jan-91	12	0	0	4	16	8	0	0	0	8	24
24-Jan-91	12	0	0	4	16	15	0	0	0	15	31
25-Jan-91	12	0	0	4	16	16	0	0	0	16	32
26-Jan-91	9	0	0	2	11	13	0	0	0	13	24
27-Jan-91	8	0	0	4	12	0	0	0	0	0	12
28-Jan-91	12	0	0	4	16	14	0	0	0	14	30
29-Jan-91	13	0	0	4	17	12	0	0	0	12	29
30-Jan-91	12	0	0	0	12	16	0	0	0	16	28
31-Jan-91	13	0	0	0	13	18	0	0	0	18	31
1-Feb-91	11	0	3	4	18	14	0	0	0	14	32
2-Feb-91	13	0	1	4	18	18	0	0	0	18	36
3-Feb-91	8	0	0	2	10	14	0	0	0	14	24
4-Feb-91	12	0	0	4	16	14	0	0	0	14	30
5-Feb-91	17	0	0	0	17	14	0	0	0	14	31
6-Feb-91	8	0	0	0	8	16	0	0	0	16	24
7-Feb-91	17	0	0	0	17	14	0	0	0	14	31
8-Feb-91	17	0	0	0	17	14	0	0	0	14	31
9-Feb-91	17	0	0	0	17	14	0	0	0	14	31
10-Feb-91	10	0	0	0	10	12	0	0	0	12	22
11-Feb-91	15	2	0	0	17	6	6	0	0	12	29
12-Feb-91	16	2	0	0	18	16	0	0	0	16	34
13-Feb-91	16	0	0	0	16	14	0	0	0	14	30
14-Feb-91	16	2	0	0	18	16	0	0	0	16	34
15-Feb-91	15	2	0	0	17	14	0	0	0	14	31
16-Feb-91	16	0	0	0	16	12	0	0	0	12	28
17-Feb-91	0	0	0	0	0	0	0	1	0	1	1
18-Feb-91	16	2	0	0	18	16	0	2	4	22	40
19-Feb-91	16	2	0	0	18	16	0	2	4	22	40
20-Feb-91	16	2	0	0	18	8	0	2	0	10	28
21-Feb-91	16	2	0	0	18	16	0	1	0	17	35
22-Feb-91	16	0	0	0	16	20	0	1	0	21	37
23-Feb-91	16	2	0	0	18	21	0	0	0	21	39
24-Feb-91	16	2	0	0	18	18	0	4	0	22	40
25-Feb-91	16	2	0	0	18	0	12	2	0	14	32
26-Feb-91	8	2	0	0	10	0	8	0	0	8	18
27-Feb-91	16	2	0	0	18	0	12	3	0	15	33
Total	530	26	4	40	600	498	80	18	8	871	1,171

* Grand Total is the total number of Jaguar sorties flown by UK and France on a given day.

Source: Composite Sorties

Table 102
M2000: France and UAE Sorties by Mission Type

	France			UAE			
Date	DCA	OCA	Total	AI	Recce	Total	*Grand Total
17-Jan-91	6	0	6	0	0	0	6
18-Jan-91	4	0	4	0	0	0	4
19-Jan-91	4	0	4	0	0	0	4
20-Jan-91	4	0	4	0	0	0	4
21-Jan-91	6	0	6	0	0	0	6
22-Jan-91	8	0	8	0	0	0	8
23-Jan-91	6	0	6	0	0	0	6
24-Jan-91	8	4	12	0	0	0	12
25-Jan-91	8	4	12	0	0	0	12
26-Jan-91	0	4	4	0	0	0	4
27-Jan-91	0	0	0	0	0	0	0
28-Jan-91	8	8	16	0	0	0	16
29-Jan-91	8	4	12	0	0	0	12
30-Jan-91	8	4	12	0	0	0	12
31-Jan-91	0	7	7	0	0	0	7
1-Feb-91	8	8	16	0	0	0	16
2-Feb-91	8	7	15	0	0	0	15
3-Feb-91	6	0	6	0	0	0	6
4-Feb-91	8	2	10	0	0	0	10
5-Feb-91	8	8	16	0	0	0	16
6-Feb-91	8	2	10	0	0	0	10
7-Feb-91	14	0	14	0	0	0	14
8-Feb-91	14	6	20	0	0	0	20
9-Feb-91	14	0	14	0	0	0	14
10-Feb-91	8	6	14	0	0	0	14
11-Feb-91	8	8	16	0	0	0	16
12-Feb-91	8	6	14	0	0	0	14
13-Feb-91	8	10	18	0	0	0	18
14-Feb-91	12	5	17	0	0	0	17
15-Feb-91	12	8	20	0	0	0	20
16-Feb-91	12	6	18	4	0	4	22
17-Feb-91	6	4	10	0	0	0	10
18-Feb-91	6	8	14	4	0	4	18
19-Feb-91	6	0	6	4	0	4	10
20-Feb-91	8	4	12	4	0	4	16
21-Feb-91	16	6	22	4	0	4	26
22-Feb-91	12	8	20	4	0	4	24
23-Feb-91	14	4	18	4	2	6	24
24-Feb-91	14	2	16	4	2	6	22
25-Feb-91	4	8	12	8	2	10	22
26-Feb-91	6	7	13	8	0	8	21
27-Feb-91	10	4	14	10	0	10	24
28-Feb-91	4	0	4	0	0	0	4
Total	340	172	512	88	6	64	576

* Grand Total is the total number of M2000 sorties flown by France and UAE on a given day.

Source: Composite Sorties Database

Table 103
Tornado/ADV: Saudi Arabia
Sorties by Mission Type

Date	DCA
17-Jan-91	24
18-Jan-91	16
19-Jan-91	12
20-Jan-91	14
21-Jan-91	10
22-Jan-91	8
23-Jan-91	10
24-Jan-91	10
25-Jan-91	16
26-Jan-91	10
27-Jan-91	8
28-Jan-91	12
29-Jan-91	8
30-Jan-91	12
31-Jan-91	12
1-Feb-91	12
2-Feb-91	8
3-Feb-91	10
4-Feb-91	10
5-Feb-91	10
6-Feb-91	10
7-Feb-91	10
8-Feb-91	10
9-Feb-91	10
10-Feb-91	9
11-Feb-91	10
12-Feb-91	10
13-Feb-91	11
14-Feb-91	12
15-Feb-91	12
16-Feb-91	10
17-Feb-91	10
18-Feb-91	10
19-Feb-91	8
20-Feb-91	8
21-Feb-91	10
22-Feb-91	10
23-Feb-91	10
24-Feb-91	10
25-Feb-91	10
26-Feb-91	10
27-Feb-91	9
Total	451

Source: Composite Sorties Database

Table 104
Tornado/IDS: Saudi Arabia
Sorties by Mission Type

Date	AI	OCA	Training	Total
17-Jan-91	6	14	0	20
18-Jan-91	16	0	0	16
19-Jan-91	6	0	0	6
20-Jan-91	13	0	0	13
21-Jan-91	3	0	0	3
22-Jan-91	10	0	0	10
23-Jan-91	8	0	0	8
24-Jan-91	8	0	0	8
25-Jan-91	13	0	0	13
26-Jan-91	16	0	0	16
27-Jan-91	14	0	0	14
28-Jan-91	13	0	0	13
29-Jan-91	14	0	0	14
30-Jan-91	15	0	0	15
31-Jan-91	16	0	0	16
1-Feb-91	0	15	0	15
2-Feb-91	14	0	0	14
3-Feb-91	17	0	0	17
4-Feb-91	29	0	0	29
5-Feb-91	27	0	0	27
6-Feb-91	18	0	0	18
7-Feb-91	18	0	0	18
8-Feb-91	17	0	0	17
9-Feb-91	15	0	2	17
10-Feb-91	20	0	0	20
11-Feb-91	7	8	0	15
12-Feb-91	20	0	0	20
13-Feb-91	10	8	0	18
14-Feb-91	12	6	0	18
15-Feb-91	11	8	0	19
16-Feb-91	11	8	0	19
17-Feb-91	3	0	0	3
18-Feb-91	10	8	0	18
19-Feb-91	19	0	0	19
20-Feb-91	20	0	0	20
21-Feb-91	17	0	0	17
22-Feb-91	19	0	0	19
23-Feb-91	20	0	0	20
24-Feb-91	20	0	0	20
25-Feb-91	18	0	0	18
26-Feb-91	11	0	0	11
27-Feb-91	16	0	0	16
Total	590	75	2	667

Source: Composite Sorties Database

Table 105
Tornado: Italy Sorties by Mission Type

Date	AI	Refuel	Total
18-Jan-91	8	0	8
20-Jan-91	4	0	4
22-Jan-91	6	2	8
23-Jan-91	6	3	9
27-Jan-91	4	3	7
28-Jan-91	4	3	7
29-Jan-91	4	3	7
30-Jan-91	3	3	6
31-Jan-91	4	3	7
1-Feb-91	4	3	7
3-Feb-91	4	3	7
4-Feb-91	4	3	7
5-Feb-91	4	3	7
6-Feb-91	4	3	7
7-Feb-91	4	3	7
8-Feb-91	4	3	7
10-Feb-91	4	3	7
11-Feb-91	4	3	7
12-Feb-91	4	3	7
13-Feb-91	4	3	7
14-Feb-91	4	3	7
15-Feb-91	4	3	7
16-Feb-91	4	3	7
18-Feb-91	4	3	7
19-Feb-91	4	3	7
20-Feb-91	4	3	7
21-Feb-91	4	3	7
22-Feb-91	4	3	7
24-Feb-91	4	3	7
25-Feb-91	4	3	7
26-Feb-91	4	3	7
27-Feb-91	4	3	7
Total	135	89	224

Source: Composite Sorties

Table 106
Tornado/F-3: UK Sorties by Mission Type

Date	DCA	Training	Other	Total
17-Jan-91	54	0	0	54
18-Jan-91	32	0	0	32
19-Jan-91	24	0	0	24
20-Jan-91	24	0	0	24
21-Jan-91	20	0	0	20
22-Jan-91	18	0	0	18
23-Jan-91	16	0	0	16
24-Jan-91	12	0	0	12
25-Jan-91	12	0	0	12
26-Jan-91	12	0	0	12
27-Jan-91	14	0	0	14
28-Jan-91	14	0	0	14
29-Jan-91	16	0	0	16
30-Jan-91	18	0	0	18
31-Jan-91	14	0	0	14
1-Feb-91	16	0	0	16
2-Feb-91	16	0	0	16
3-Feb-91	14	0	0	14
4-Feb-91	16	0	0	16
5-Feb-91	16	0	0	16
6-Feb-91	14	0	0	14
7-Feb-91	12	0	0	12
8-Feb-91	12	0	0	12
9-Feb-91	12	0	0	12
10-Feb-91	14	0	0	14
11-Feb-91	16	0	1	17
12-Feb-91	16	1	1	18
13-Feb-91	14	2	0	16
14-Feb-91	14	0	4	18
15-Feb-91	12	0	0	12
16-Feb-91	12	0	0	12
17-Feb-91	16	0	0	16
18-Feb-91	14	0	0	14
19-Feb-91	14	0	0	14
20-Feb-91	14	0	0	14
21-Feb-91	16	0	0	16
22-Feb-91	14	0	0	14
23-Feb-91	16	0	0	16
24-Feb-91	16	0	0	16
25-Feb-91	14	0	0	14
26-Feb-91	16	0	0	16
27-Feb-91	16	0	0	16
28-Feb-91	4	0	0	4
Total	696	3	6	705

Source: Composite Sorties

Table 107
Tornado GR-1: UK Sorties by Mission Type

Date	AI	OCA	Recce	Support	Tr		Other	Total
17-Jan-91	0	47	1	6			0	54
18-Jan-91	0	32	4	0			0	36
19-Jan-91	0	8	0	6			0	14
20-Jan-91	0	24	2	7		0	0	33
21-Jan-91	0	27	0	0		0	0	27
22-Jan-91	0	31	0	2		0	0	33
23-Jan-91	0	22	1	0		2	0	25
24-Jan-91	6	8	0	0		0	0	14
25-Jan-91	24	0	2	0		0	0	26
26-Jan-91	23	0	5	3		0	0	31
27-Jan-91	30	0	2	0		0	0	32
28-Jan-91	50	0	5	0		0	0	55
29-Jan-91	26	0	5	2		0	0	33
30-Jan-91	26	0	5	0		2	0	33
31-Jan-91	24	0	3	4		4	0	35
1-Feb-91	16	8	4	4		6	0	38
2-Feb-91	32	0	3	0		0	0	35
3-Feb-91	46	0	2	2		4	0	54
4-Feb-91	31	0	3	0		0	0	34
5-Feb-91	48	0	2	2		1	0	53
6-Feb-91	32	9	0	0		0	0	41
7-Feb-91	49	0	4	0		2	0	55
8-Feb-91	46	0	4	0		0	0	50
9-Feb-91	38	0	3	0		8	0	49
10-Feb-91	42	8	4	0		3	0	57
11-Feb-91	44	6	4	0		0	0	54
12-Feb-91	23	11	3	0		4	0	41
13-Feb-91	8	16	4	2		4	1	35
14-Feb-91	0	28	3	0		6	0	37
15-Feb-91	0	36	6	0		0	0	42
16-Feb-91	0	28	3	0		4	0	35
17-Feb-91	0	20	4	0		0	0	24
18-Feb-91	18	24	5	0		1	0	48
19-Feb-91	0	35	4	0		0	0	39
20-Feb-91	0	38	4	0		0	0	42
21-Feb-91	0	39	5	0		0	0	44
22-Feb-91	0	42	2	0		0	0	44
23-Feb-91	0	41	4	0		0	0	45
24-Feb-91	0	42	6	0		0	0	48
25-Feb-91	0	42	0	0		0	0	42
26-Feb-91	0	26	5	0		0	0	31
27-Feb-91	0	42	4	0		0	0	46
Total	**682**	**740**	**130**	**40**		**81**	**1**	**1,644**

Source: Composite Sorties Database

Table 108
B-52: USAF Sorties by Mission Type

Date	AI	OCA	Other	Total
17-Jan-91	16	15	0	31
18-Jan-91	27	3	0	30
19-Jan-91	32	0	0	32
20-Jan-91	27	0	0	27
21-Jan-91	37	0	0	37
22-Jan-91	36	4	0	40
23-Jan-91	27	14	0	41
24-Jan-91	21	13	1	35
25-Jan-91	34	8	0	42
26-Jan-91	33	4	0	37
27-Jan-91	36	0	0	36
28-Jan-91	36	0	0	36
29-Jan-91	42	0	0	42
30-Jan-91	42	6	0	48
31-Jan-91	41	0	0	41
1-Feb-91	48	0	0	48
2-Feb-91	39	4	0	43
3-Feb-91	42	0	0	42
4-Feb-91	40	0	1	41
5-Feb-91	42	0	0	42
6-Feb-91	32	0	0	32
7-Feb-91	41	0	0	41
8-Feb-91	44	0	0	44
9-Feb-91	50	0	0	50
10-Feb-91	50	0	0	50
11-Feb-91	47	4	0	51
12-Feb-91	44	0	0	44
13-Feb-91	36	7	0	43
14-Feb-91	46	0	0	46
15-Feb-91	50	0	0	50
16-Feb-91	43	0	0	43
17-Feb-91	50	0	0	50
18-Feb-91	49	0	1	50
19-Feb-91	42	0	0	42
20-Feb-91	39	0	0	39
21-Feb-91	41	0	0	41
22-Feb-91	51	0	0	51
23-Feb-91	43	0	0	43
24-Feb-91	47	0	0	47
25-Feb-91	47	0	0	47
26-Feb-91	37	0	0	37
27-Feb-91	29	0	0	29
28-Feb-91	0	0	0	0
Total	1,656	82	3	1,741

Source: Composite Sorties Database

Table 109
KC-130: USMC and Saudi Arabia by Mission Type

	USMC							Saudi Arabia	*Grand
Date	Airlift	Refuel	Support	EW	C3	Other	Total	Refuel	Total
17-Jan-91	0	2	0	0	1	1	4	11	15
18-Jan-91	0	9	0	1	3	0	13	12	25
19-Jan-91	0	2	0	0	4	0	6	4	10
20-Jan-91	0	1	0	0	2	0	3	5	8
21-Jan-91	1	12	0	1	2	0	16	12	28
22-Jan-91	0	13	0	0	1	0	14	9	23
23-Jan-91	0	23	1	2	0	0	26	4	30
24-Jan-91	0	15	1	1	1	0	18	0	18
25-Jan-91	0	11	2	0	0	0	13	4	17
26-Jan-91	0	20	0	1	0	1	22	5	27
27-Jan-91	0	11	1	1	0	0	13	3	16
28-Jan-91	0	18	2	0	1	0	21	8	29
29-Jan-91	0	5	1	0	0	1	7	10	17
30-Jan-91	1	11	1	0	1	0	14	7	21
31-Jan-91	5	16	0	1	0	0	22	7	29
1-Feb-91	0	22	0	1	0	0	23	9	32
2-Feb-91	0	16	0	0	4	0	20	6	26
3-Feb-91	0	17	1	1	4	0	23	4	27
4-Feb-91	0	12	0	1	4	0	17	5	22
5-Feb-91	0	17	1	1	4	0	23	6	29
6-Feb-91	0	11	0	1	4	0	16	8	24
7-Feb-91	0	20	0	1	3	0	24	6	30
8-Feb-91	0	12	0	0	3	0	15	6	21
9-Feb-91	0	9	0	0	2	0	11	5	16
10-Feb-91	0	7	0	0	3	0	10	7	17
11-Feb-91	0	8	0	0	3	0	11	7	18
12-Feb-91	0	5	0	0	4	0	9	7	16
13-Feb-91	0	9	0	0	2	0	11	8	19
14-Feb-91	0	9	0	0	1	0	10	7	17
15-Feb-91	0	9	0	0	3	0	12	7	19
16-Feb-91	0	9	0	0	1	0	10	8	18
17-Feb-91	0	6	0	0	1	0	7	7	14
18-Feb-91	0	9	1	0	2	0	12	10	22
19-Feb-91	0	9	0	0	2	0	11	5	16
20-Feb-91	0	9	0	0	2	0	11	5	16
21-Feb-91	0	10	0	0	3	0	13	4	17
22-Feb-91	0	9	0	0	3	0	12	4	16
23-Feb-91	0	9	0	0	3	0	12	6	18
24-Feb-91	0	9	0	0	2	0	11	5	16
25-Feb-91	0	9	0	0	3	0	12	4	16
26-Feb-91	0	9	0	0	3	0	12	2	14
27-Feb-91	0	6	0	0	1	0	7	8	15
28-Feb-91	0	6	0	0	1	0	7	0	7
Total	7	461	13	14	87	3	584	267	851

* Grand Total is the total number of KC-130 sorties flown by USMC and Saudi Arabia on a given day.

Source: Composite Sorties

Table 110
KC-135: USAF and France Sorties by Mission Type

Date	USAF Refuel	France Refuel	Total
17-Jan-91	252	4	256
18-Jan-91	256	2	258
19-Jan-91	237	2	239
20-Jan-91	221	2	223
21-Jan-91	242	2	244
22-Jan-91	236	2	238
23-Jan-91	249	5	254
24-Jan-91	245	6	251
25-Jan-91	254	6	260
26-Jan-91	233	4	237
27-Jan-91	250	0	250
28-Jan-91	233	6	239
29-Jan-91	210	6	216
30-Jan-91	239	6	245
31-Jan-91	228	5	233
1-Feb-91	226	6	232
2-Feb-91	216	6	222
3-Feb-91	231	5	236
4-Feb-91	218	7	225
5-Feb-91	213	6	219
6-Feb-91	210	4	214
7-Feb-91	215	2	217
8-Feb-91	231	6	237
9-Feb-91	221	2	223
10-Feb-91	220	6	226
11-Feb-91	212	6	218
12-Feb-91	210	4	214
13-Feb-91	219	8	227
14-Feb-91	206	6	212
15-Feb-91	211	5	216
16-Feb-91	198	5	203
17-Feb-91	204	5	209
18-Feb-91	232	6	238
19-Feb-91	217	6	223
20-Feb-91	203	9	212
21-Feb-91	233	8	241
22-Feb-91	200	8	208
23-Feb-91	242	10	252
24-Feb-91	253	6	259
25-Feb-91	215	9	224
26-Feb-91	256	6	262
27-Feb-91	239	6	245
28-Feb-91	23	2	25
Total	9,559	223	9,782

Source: Composite Sorties Database

Table 111
KC-10: USAF Sorties by Mission Type

Date	Refuel
17-Jan-91	46
18-Jan-91	46
19-Jan-91	31
20-Jan-91	36
21-Jan-91	35
22-Jan-91	34
23-Jan-91	33
24-Jan-91	30
25-Jan-91	32
26-Jan-91	38
27-Jan-91	33
28-Jan-91	37
29-Jan-91	33
30-Jan-91	38
31-Jan-91	39
1-Feb-91	28
2-Feb-91	37
3-Feb-91	35
4-Feb-91	27
5-Feb-91	36
6-Feb-91	32
7-Feb-91	37
8-Feb-91	35
9-Feb-91	33
10-Feb-91	32
11-Feb-91	30
12-Feb-91	31
13-Feb-91	30
14-Feb-91	30
15-Feb-91	28
16-Feb-91	33
17-Feb-91	34
18-Feb-91	33
19-Feb-91	32
20-Feb-91	33
21-Feb-91	33
22-Feb-91	37
23-Feb-91	41
24-Feb-91	40
25-Feb-91	39
26-Feb-91	42
27-Feb-91	42
28-Feb-91	4
Total	1,466

Source: Composite Sorties Database

Table 112
Victor: UK Sorties by Mission Type

Date	Refuel
17-Jan-91	9
20-Jan-91	11
21-Jan-91	4
22-Jan-91	2
23-Jan-91	5
24-Jan-91	7
25-Jan-91	4
26-Jan-91	10
27-Jan-91	4
28-Jan-91	13
29-Jan-91	5
30-Jan-91	4
31-Jan-91	4
1-Feb-91	6
2-Feb-91	7
3-Feb-91	7
4-Feb-91	4
5-Feb-91	7
6-Feb-91	7
7-Feb-91	7
9-Feb-91	5
10-Feb-91	7
11-Feb-91	4
12-Feb-91	6
13-Feb-91	8
14-Feb-91	9
15-Feb-91	11
16-Feb-91	7
17-Feb-91	4
18-Feb-91	9
19-Feb-91	7
20-Feb-91	11
21-Feb-91	11
22-Feb-91	6
23-Feb-91	10
24-Feb-91	8
25-Feb-91	10
26-Feb-91	6
27-Feb-91	10
28-Feb-91	1
Total	277

Source: Composite Sorties Database

Table 113
S-3B: Sorties by Mission Type

Date	OCA	Recce	Refuel	Support	EW	SCAP	Other	Total
17-Jan-91	0	12	34	1	0	3	6	56
18-Jan-91	0	5	46	2	0	0	4	57
19-Jan-91	0	2	21	2	0	4	4	34
20-Jan-91	0	4	28	1	1	2	3	39
21-Jan-91	0	3	23	0	1	3	6	36
22-Jan-91	0	5	27	1	6	2	4	45
23-Jan-91	0	2	20	1	2	0	4	29
24-Jan-91	0	9	23	1	3	0	0	37
25-Jan-91	2	6	30	1	2	0	4	45
26-Jan-91	0	5	25	1	1	0	6	38
27-Jan-91	0	5	28	1	0	0	7	41
28-Jan-91	0	2	35	1	1	0	8	47
29-Jan-91	0	2	25	0	1	0	4	32
30-Jan-91	0	3	26	1	0	0	8	38
31-Jan-91	0	3	32	1	2	0	4	42
1-Feb-91	0	4	31	1	2	0	7	45
2-Feb-91	0	6	28	1	1	0	4	40
3-Feb-91	0	7	16	0	3	0	3	29
4-Feb-91	0	8	14	3	1	0	6	33
5-Feb-91	1	9	24	1	2	0	5	42
6-Feb-91	0	4	14	1	3	0	5	27
7-Feb-91	0	6	20	1	4	0	1	32
8-Feb-91	0	6	27	1	1	0	3	38
9-Feb-91	0	7	26	1	2	3	2	42
10-Feb-91	0	5	22	1	2	0	1	31
11-Feb-91	0	6	25	1	3	0	1	36
12-Feb-91	0	8	24	1	3	0	0	36
13-Feb-91	0	3	13	1	7	0	5	29
14-Feb-91	0	6	19	3	3	0	3	34
15-Feb-91	0	2	23	0	6	0	10	41
16-Feb-91	0	2	25	1	2	0	1	31
17-Feb-91	0	5	29	1	4	0	7	46
18-Feb-91	0	6	29	1	7	0	4	49
19-Feb-91	0	9	28	0	5	0	3	45
20-Feb-91	0	11	20	2	5	0	2	40
21-Feb-91	0	9	23	0	2	0	8	42
22-Feb-91	0	10	20	1	1	0	9	41
23-Feb-91	0	8	8	0	1	0	7	24
24-Feb-91	0	10	18	0	2	0	10	40
25-Feb-91	0	9	26	0	2	0	6	43
26-Feb-91	0	12	29	0	3	3	3	50
27-Feb-91	0	10	23	0	3	0	6	42
28-Feb-91	0	7	16	0	1	0	6	30
Total	3	263	1,043	38	101	20	200	1,674

Source: Composite Sorties Database

Table 114
C-12: USAF, USA, and USMC Sorties by Mission Type

Date	USAF Airlift	USA Airlift	USMC Airlift	USMC Support	USMC Total	*Grand Total
20-Jan-91	0	0	1	0	1	1
21-Jan-91	0	0	1	0	1	1
22-Jan-91	0	0	0	1	1	1
23-Jan-91	0	0	0	0	0	0
24-Jan-91	0	4	0	0	0	4
25-Jan-91	0	4	0	0	0	4
26-Jan-91	0	5	0	0	0	5
27-Jan-91	0	6	0	1	1	7
28-Jan-91	0	4	0	0	0	4
29-Jan-91	0	5	0	0	0	5
30-Jan-91	0	5	0	0	0	5
31-Jan-91	0	5	0	0	0	5
1-Feb-91	0	4	0	0	0	4
2-Feb-91	0	5	0	2	2	7
3-Feb-91	0	4	0	0	0	4
4-Feb-91	0	5	0	0	0	5
5-Feb-91	0	3	0	0	0	3
6-Feb-91	0	0	0	0	0	0
7-Feb-91	0	6	0	0	0	6
8-Feb-91	0	6	0	0	0	6
9-Feb-91	0	6	0	1	1	7
10-Feb-91	0	6	0	0	0	6
11-Feb-91	0	5	0	1	1	6
12-Feb-91	0	6	0	0	0	6
13-Feb-91	0	7	0	0	0	7
14-Feb-91	0	6	0	0	0	6
15-Feb-91	0	6	0	0	0	6
16-Feb-91	0	5	0	0	0	5
17-Feb-91	0	5	0	0	0	5
18-Feb-91	0	6	0	0	0	6
19-Feb-91	0	7	0	0	0	7
20-Feb-91	0	6	0	0	0	6
21-Feb-91	4	7	0	0	0	11
22-Feb-91	0	6	0	0	0	6
23-Feb-91	0	5	0	1	1	6
24-Feb-91	4	4	0	0	0	8
25-Feb-91	0	5	0	0	0	5
26-Feb-91	0	3	0	0	0	3
27-Feb-91	0	5	0	0	0	5
28-Feb-91	0	6	0	0	0	6
Total	8	183	2	7	9	200

* Grand Total is the total number of C-12 sorties flown by USAF, USA, and USMC on a given day.

Source: Composite Sorties Database

886-716 O—92——18 QL: 3

Table 115
C-130: USAF, USSOCCENT, Canada, Saudi Arabia, UK, France, UAE Sorties by Mission Type

	USAF	USSOCCENT			
Date	Airlift	Airlift	SOF	Support	Total
17-Jan-91	18	0	0	4	4
18-Jan-91	395	0	0	1	1
19-Jan-91	267	0	0	0	0
20-Jan-91	399	0	1	0	1
21-Jan-91	377	0	1	1	2
22-Jan-91	429	0	0	0	0
23-Jan-91	383	0	0	0	0
24-Jan-91	410	0	0	0	0
25-Jan-91	399	0	0	0	0
26-Jan-91	386	0	0	0	0
27-Jan-91	371	0	0	0	0
28-Jan-91	392	0	0	0	0
29-Jan-91	480	0	0	0	0
30-Jan-91	204	0	0	1	1
31-Jan-91	288	0	0	1	1
1-Feb-91	321	0	0	1	1
2-Feb-91	221	0	0	0	0
3-Feb-91	489	0	0	1	1
4-Feb-91	432	0	0	0	0
5-Feb-91	448	0	0	0	0
6-Feb-91	339	0	0	0	0
7-Feb-91	268	0	0	0	0
8-Feb-91	300	0	0	0	0
9-Feb-91	301	0	0	0	0
10-Feb-91	277	0	0	0	0
11-Feb-91	305	1	0	0	1
12-Feb-91	315	0	0	0	0
13-Feb-91	318	0	0	0	0
14-Feb-91	298	0	0	0	0
15-Feb-91	312	0	0	0	0
16-Feb-91	302	0	0	0	0
17-Feb-91	312	0	0	0	0
18-Feb-91	402	0	0	0	0
19-Feb-91	410	0	0	0	0
20-Feb-91	255	0	0	0	0
21-Feb-91	286	0	0	0	0
22-Feb-91	363	0	0	0	0
23-Feb-91	297	0	0	0	0
24-Feb-91	296	0	0	0	0
25-Feb-91	298	0	0	0	0
26-Feb-91	257	0	0	0	0
27-Feb-91	260	0	0	0	0
28-Feb-91	91	0	0	0	0
Total	13,971	1	2	10	13

* Grand Total is the total number of C-130 sorties flown by the USAF, US SOF, Canada, Saudi Arabia, UK, France, and UAE on a given day.

Canada Airlift	Saudi Arabia Airlift	UK Airlift	France Airlift	UAE Airlift	*Grand Total
1	0	0	1	0	24
	0	36	0	0	432
0	0	29	0	0	296
2	0	32	0	0	434
0	0	25	0	0	404
6	49	30	0	0	514
3	58	40	18	0	502
7	32	39	0	0	488
4	37	35	0	0	475
0	0	36	0	0	422
4	55	38	0	0	468
3	40	42	0	0	477
11	58	44	0	0	593
7	53	45	0	0	310
2	38	34	0	0	363
4	32	27	0	0	385
6	49	27	0	0	303
4	37	36	0	0	567
0	52	27	0	2	513
1	0	34	0	1	484
0	64	0	21	1	425
6	26	0	0	0	300
2	31	40	23	0	396
2	61	0	0	0	364
1	35	29	21	0	363
2	55	0	20	0	383
0	55	0	0	0	370
2	66	0	0	0	386
4	48	0	0	0	350
11	32	0	0	0	355
10	49	0	0	1	362
9	35	0	0	1	357
0	37	0	0	1	440
0	48	0	19	1	478
1	41	0	18	4	319
3	22	0	25	4	340
0	16	39	28	4	450
4	41	38	20	4	404
0	70	0	13	4	383
0	58	0	18	4	378
0	66	30	15	1	369
0	60	0	11	2	333
2	0	0	0	0	93
124	1,606	832	271	35	16,852

Source: Composite Sorties Database

Table 116
C-160: France Sorties by Mission Type

Date	Airlift
18-Jan-91	21
19-Jan-91	26
20-Jan-91	30
21-Jan-91	20
22-Jan-91	22
24-Jan-91	16
25-Jan-91	23
26-Jan-91	18
27-Jan-91	23
28-Jan-91	18
29-Jan-91	15
30-Jan-91	19
31-Jan-91	14
1-Feb-91	20
2-Feb-91	25
3-Feb-91	23
4-Feb-91	18
5-Feb-91	14
7-Feb-91	22
9-Feb-91	21
12-Feb-91	24
13-Feb-91	28
14-Feb-91	17
15-Feb-91	26
16-Feb-91	22
17-Feb-91	21
18-Feb-91	26
24-Feb-91	1
28-Feb-91	9
Total	**582**

Source: Composite Sorties Database

Table 117
C-21: USAF Sorties by Mission Type

Date	Airlift	Support	Total
18-Jan-91	5	3	8
19-Jan-91	0	12	12
22-Jan-91	9	7	16
23-Jan-91	5	4	9
24-Jan-91	23	0	23
25-Jan-91	0	9	9
26-Jan-91	4	16	20
27-Jan-91	0	19	19
28-Jan-91	7	1	8
29-Jan-91	4	0	4
30-Jan-91	0	23	23
31-Jan-91	0	8	8
1-Feb-91	2	10	12
2-Feb-91	0	2	2
3-Feb-91	0	10	10
4-Feb-91	0	13	13
7-Feb-91	0	1	1
9-Feb-91	0	4	4
13-Feb-91	0	4	4
15-Feb-91	0	1	1
17-Feb-91	0	2	2
18-Feb-91	0	9	9
19-Feb-91	0	22	22
20-Feb-91	0	5	5
24-Feb-91	0	1	1
25-Feb-91	0	4	4
26-Feb-91	0	6	6
28-Feb-91	0	1	1
Total	**59**	**197**	**256**

Source: Composite Sorties Database

Table 118
BAE-125: Saudi Arabia Sorties by Mission Type

Date	Airlift
19-Jan-91	33
20-Jan-91	37
21-Jan-91	40
Total	**110**

Source: Composite Sorties Database

Table 119
G-222: Italy Sorties by Mission Type

Date	Airlift
26-Jan-91	2
2-Feb-91	2
3-Feb-91	1
10-Feb-91	2
17-Feb-91	2
18-Feb-91	2
24-Feb-91	2
Total	**13**

Source: Composite Sorties Database

Table 120
B-707: Canada Sorties by Mission Type

Date	Airlift	Refuel	Total
17-Jan-91	0	3	3
18-Jan-91	0	3	3
19-Jan-91	0	3	3
20-Jan-91	0	2	2
21-Jan-91	0	1	1
22-Jan-91	0	3	3
23-Jan-91	2	3	5
24-Jan-91	2	2	4
25-Jan-91	1	3	4
26-Jan-91	15	3	18
27-Jan-91	0	2	2
28-Jan-91	0	2	2
29-Jan-91	2	3	5
30-Jan-91	2	2	4
31-Jan-91	0	0	0
2-Feb-91	2	0	2
6-Feb-91	5	0	5
7-Feb-91	1	0	1
8-Feb-91	0	2	2
9-Feb-91	0	3	3
10-Feb-91	2	3	5
11-Feb-91	0	3	3
12-Feb-91	0	1	1
13-Feb-91	0	0	0
18-Feb-91	11	0	11
19-Feb-91	2	0	2
20-Feb-91	0	1	1
21-Feb-91	0	2	2
22-Feb-91	11	0	11
23-Feb-91	4	1	5
24-Feb-91	11	3	14
25-Feb-91	12	3	15
26-Feb-91	2	3	5
27-Feb-91	12	3	15
28-Feb-91	0	1	1
Total	99	64	163

Source: Composite Sorties Database

Table 121
U.S. Civil Reserve Air Fleet: Sorties by Mission Type

Date	Airlift
17-Jan-91	21
18-Jan-91	19
19-Jan-91	21
20-Jan-91	23
21-Jan-91	16
22-Jan-91	30
23-Jan-91	23
24-Jan-91	32
26-Jan-91	22
28-Jan-91	27
29-Jan-91	28
31-Jan-91	30
3-Feb-91	25
6-Feb-91	25
7-Feb-91	28
8-Feb-91	29
9-Feb-91	28
12-Feb-91	29
13-Feb-91	24
14-Feb-91	26
15-Feb-91	24
16-Feb-91	27
17-Feb-91	29
18-Feb-91	34
19-Feb-91	26
20-Feb-91	28
21-Feb-91	25
22-Feb-91	23
23-Feb-91	28
24-Feb-91	25
28-Feb-91	25
Total	800

Source: Composite Sorties Database

Table 122
C-141: USAF Sorties by Mission Type

Date	Airlift
17-Jan-91	60
18-Jan-91	54
19-Jan-91	70
20-Jan-91	55
21-Jan-91	58
22-Jan-91	62
23-Jan-91	62
24-Jan-91	64
26-Jan-91	48
28-Jan-91	45
29-Jan-91	61
31-Jan-91	58
3-Feb-91	58
4-Feb-91	1
6-Feb-91	64
7-Feb-91	52
8-Feb-91	71
9-Feb-91	56
12-Feb-91	58
13-Feb-91	50
14-Feb-91	56
15-Feb-91	40
16-Feb-91	60
17-Feb-91	50
18-Feb-91	71
19-Feb-91	70
20-Feb-91	51
21-Feb-91	46
22-Feb-91	66
23-Feb-91	48
24-Feb-91	44
28-Feb-91	57
Total	1,766

Source: Composite Sorties Database

Table 123
C-5: USAF Sorties by Mission Type

Date	Airlift
17-Jan-91	18
18-Jan-91	27
19-Jan-91	30
20-Jan-91	37
21-Jan-91	40
22-Jan-91	29
23-Jan-91	35
24-Jan-91	31
26-Jan-91	41
28-Jan-91	20
29-Jan-91	29
31-Jan-91	28
3-Feb-91	37
6-Feb-91	26
7-Feb-91	26
8-Feb-91	21
9-Feb-91	15
12-Feb-91	19
13-Feb-91	27
14-Feb-91	23
15-Feb-91	13
16-Feb-91	18
17-Feb-91	16
18-Feb-91	18
19-Feb-91	18
20-Feb-91	19
21-Feb-91	12
22-Feb-91	16
23-Feb-91	17
24-Feb-91	17
28-Feb-91	17
Total	**740**

Source: Composite Sorties Database

Table 124
C-9: USAF Sorties by Mission Type

Date	Airlift
17-Jan-91	3
18-Jan-91	8
19-Jan-91	12
20-Jan-91	2
21-Jan-91	5
22-Jan-91	5
23-Jan-91	4
26-Jan-91	2
28-Jan-91	2
29-Jan-91	2
3-Feb-91	5
8-Feb-91	2
9-Feb-91	1
23-Feb-91	3
24-Feb-91	4
28-Feb-91	4
Total	**64**

Source: Composite Sorties Database

Table 125
Tristar: UK Sorties by Mission Types

Date	Refuel
19-Jan-91	1
20-Jan-91	2
21-Jan-91	1
22-Jan-91	1
23-Jan-91	2
24-Jan-91	2
25-Jan-91	2
26-Jan-91	2
27-Jan-91	2
28-Jan-91	2
29-Jan-91	1
30-Jan-91	2
31-Jan-91	2
1-Feb-91	2
2-Feb-91	2
3-Feb-91	2
4-Feb-91	2
5-Feb-91	2
6-Feb-91	2
7-Feb-91	2
8-Feb-91	1
9-Feb-91	2
10-Feb-91	2
11-Feb-91	2
12-Feb-91	2
13-Feb-91	2
14-Feb-91	2
15-Feb-91	2
16-Feb-91	2
17-Feb-91	2
18-Feb-91	2
19-Feb-91	2
20-Feb-91	2
21-Feb-91	2
22-Feb-91	2
23-Feb-91	1
24-Feb-91	2
25-Feb-91	2
26-Feb-91	2
27-Feb-91	2
28-Feb-91	1
Total	**75**

Source: Composite Sorties Database

Table 126
VC-10: UK Sorties by Mission Types

Date	Refuel
17-Jan-91	10
18-Jan-91	6
19-Jan-91	7
20-Jan-91	7
21-Jan-91	8
22-Jan-91	7
23-Jan-91	5
24-Jan-91	1
25-Jan-91	4
26-Jan-91	9
27-Jan-91	6
28-Jan-91	7
29-Jan-91	8
30-Jan-91	6
31-Jan-91	10
1-Feb-91	5
2-Feb-91	9
3-Feb-91	9
4-Feb-91	11
5-Feb-91	12
6-Feb-91	6
7-Feb-91	15
8-Feb-91	10
9-Feb-91	8
10-Feb-91	9
11-Feb-91	8
12-Feb-91	9
13-Feb-91	10
14-Feb-91	11
15-Feb-91	9
16-Feb-91	9
17-Feb-91	10
18-Feb-91	14
19-Feb-91	11
20-Feb-91	7
21-Feb-91	10
22-Feb-91	10
23-Feb-91	7
24-Feb-91	11
25-Feb-91	11
26-Feb-91	8
27-Feb-91	8
28-Feb-91	1
Total	**359**

Source: Composite Sorties Database

Table 127
EC-135: USAF Sorties by Mission Type

Date	C3
31-Jan-91	1
2-Feb-91	1
5-Feb-91	1
7-Feb-91	1
8-Feb-91	1
9-Feb-91	1
10-Feb-91	1
11-Feb-91	1
12-Feb-91	1
13-Feb-91	1
14-Feb-91	1
15-Feb-91	1
16-Feb-91	1
17-Feb-91	1
18-Feb-91	1
19-Feb-91	1
20-Feb-91	1
22-Feb-91	1
24-Feb-91	1
25-Feb-91	1
26-Feb-91	1
27-Feb-91	2
28-Feb-91	1
Total	24

Source: Composite Sorties Database

Table 128
Nimrod: UK Sorties by Mission Type

Date	EW	Other	Total
18-Jan-91	2	2	4
19-Jan-91	2	2	4
20-Jan-91	2	2	4
21-Jan-91	2	2	4
22-Jan-91	2	2	4
23-Jan-91	2	2	4
24-Jan-91	1	2	3
25-Jan-91	2	2	4
26-Jan-91	2	2	4
27-Jan-91	2	2	4
28-Jan-91	2	2	4
29-Jan-91	2	1	3
30-Jan-91	2	1	3
31-Jan-91	2	1	3
1-Feb-91	2	2	4
2-Feb-91	2	2	4
3-Feb-91	3	2	5
4-Feb-91	2	2	4
5-Feb-91	2	1	3
6-Feb-91	1	2	3
7-Feb-91	2	1	3
8-Feb-91	2	2	4
9-Feb-91	2	2	4
10-Feb-91	2	2	4
11-Feb-91	2	1	3
12-Feb-91	2	1	3
13-Feb-91	2	1	3
14-Feb-91	2	1	3
15-Feb-91	2	2	4
16-Feb-91	2	2	4
17-Feb-91	2	2	4
18-Feb-91	2	1	3
19-Feb-91	2	1	3
20-Feb-91	2	1	3
21-Feb-91	2	2	4
22-Feb-91	2	2	4
23-Feb-91	2	1	3
24-Feb-91	2	2	4
25-Feb-91	2	1	3
26-Feb-91	1	1	2
27-Feb-91	2	2	4
Total	80	67	147

Source: Composite Sorties Database

Table 129
OA-10: USAF Sorties by Mission Type

Date	AI	*CAS	Training	Total
17-Jan-91	0	24	0	24
18-Jan-91	0	8	0	8
19-Jan-91	0	18	0	18
20-Jan-91	0	2	0	2
21-Jan-91	0	8	0	8
22-Jan-91	0	16	0	16
23-Jan-91	0	13	0	13
24-Jan-91	0	20	0	20
25-Jan-91	0	12	0	12
26-Jan-91	0	18	0	18
27-Jan-91	0	5	0	5
28-Jan-91	0	13	0	13
29-Jan-91	0	8	0	8
30-Jan-91	0	4	0	4
31-Jan-91	0	16	0	16
1-Feb-91	0	16	0	16
2-Feb-91	0	12	3	15
3-Feb-91	0	13	0	13
4-Feb-91	0	17	0	17
5-Feb-91	1	6	0	7
6-Feb-91	0	15	0	15
7-Feb-91	0	16	0	16
8 Feb-91	0	20	0	20
9-Feb-91	0	19	0	19
10-Feb-91	0	18	0	18
11-Feb-91	0	19	0	19
12-Feb-91	0	19	0	19
13-Feb-91	0	20	0	20
14-Feb-91	0	20	0	20
15-Feb-91	0	20	0	20
16-Feb-91	0	16	0	16
17-Feb-91	0	4	0	4
18-Feb-91	0	20	0	20
19-Feb-91	0	18	0	18
20-Feb-91	0	16	0	16
21-Feb-91	0	18	0	18
22-Feb-91	0	21	0	21
23-Feb-91	0	20	0	20
24-Feb-91	0	22	0	22
25-Feb-91	0	22	0	22
26-Feb-91	0	19	0	19
27-Feb-91	0	21	0	21
28-Feb-91	0	4	0	4
Total	1	656	3	660

* These missions were logged as Forward Air Controller (FAC) missions but were rolled into an overall CAS category. category.

Source: Composite Sorties Database

Table 130
OV-10: USMC Sorties by Mission Type

Date	*CAS	SOF	C3	Total
17-Jan-91	8	0	0	8
18-Jan-91	10	0	0	10
19-Jan-91	3	0	0	3
20-Jan-91	4	0	0	4
21-Jan-91	0	0	0	0
22-Jan-91	4	0	0	4
23-Jan-91	4	0	0	4
24-Jan-91	6	0	0	6
25-Jan-91	5	0	0	5
26-Jan-91	7	0	0	7
27-Jan-91	5	0	0	5
28-Jan-91	7	0	0	7
29-Jan-91	7	0	0	7
30-Jan-91	21	0	0	21
31-Jan-91	13	0	0	13
1-Feb-91	14	0	1	15
2-Feb-91	16	0	0	16
3-Feb-91	13	1	0	14
4-Feb-91	13	0	0	13
5-Feb-91	12	0	0	12
6-Feb-91	12	0	0	12
7-Feb-91	9	0	1	10
8-Feb-91	12	0	3	15
9-Feb-91	12	0	0	12
10-Feb-91	12	0	0	12
11-Feb-91	12	0	0	12
12-Feb-91	13	0	1	14
13-Feb-91	13	0	0	13
14-Feb-91	11	0	0	11
15-Feb-91	12	0	0	12
16-Feb-91	13	0	0	13
17-Feb-91	11	0	0	11
18-Feb-91	10	0	0	10
19-Feb-91	13	0	0	13
20-Feb-91	6	0	2	8
21-Feb-91	10	0	2	12
22-Feb-91	12	0	4	16
23-Feb-91	10	0	11	21
24-Feb-91	10	0	13	23
25-Feb-91	10	0	14	24
26-Feb-91	10	0	14	24
27-Feb-91	6	0	3	9
28-Feb-91	0	0	1	1
Total	**411**	**1**	**70**	**482**

* These missions were logged as Forward Air Controller (FAC) missions but were rolled into an overall CAS category. category.

Source: Composite Sorties Database

Table 131
OV-1D: USA Sorties by Mission Type

Date	Airlift	Recce	EW	Total
18-Jan-91	0	3	0	3
19-Jan-91	0	4	0	4
20-Jan-91	0	1	1	2
21-Jan-91	0	3	1	4
22-Jan-91	0	2	0	2
23-Jan-91	0	2	0	2
24-Jan-91	0	5	0	5
25-Jan-91	0	4	0	4
26-Jan-91	0	3	0	3
27-Jan-91	0	3	0	3
28-Jan-91	0	4	0	4
29-Jan-91	0	4	0	4
30-Jan-91	0	7	0	7
31-Jan-91	0	4	0	4
1-Feb-91	0	2	4	6
2-Feb-91	0	2	0	2
3-Feb-91	0	2	0	2
4-Feb-91	0	2	0	2
5-Feb-91	0	3	0	3
8-Feb-91	0	3	0	3
9-Feb-91	0	3	0	3
10-Feb-91	1	3	0	4
11-Feb-91	1	4	0	5
12-Feb-91	0	4	0	4
13-Feb-91	0	3	0	3
14-Feb-91	0	2	0	2
15-Feb-91	0	5	0	5
16-Feb-91	0	4	0	4
17-Feb-91	0	5	0	5
18-Feb-91	1	2	0	3
19-Feb-91	0	5	0	5
20-Feb-91	0	5	0	5
21-Feb-91	1	5	0	6
22-Feb-91	1	4	0	5
23-Feb-91	0	5	1	6
24-Feb-91	0	9	1	10
25-Feb-91	1	3	0	4
26-Feb-91	0	3	1	4
27-Feb-91	0	8	0	8
28-Feb-91	0	1	0	1
Total	**6**	**146**	**9**	**161**

Source: Composite Sorties Database

Table 132
P-3: USN Sorties by Mission Type

Date	EW	SCAP	Total
25-Jan-91	4	5	9
28-Jan-91	4	0	4
29-Jan-91	5	0	5
30-Jan-91	5	0	5
Total	**18**	**5**	**23**

Source: Composite Sorties Database

Table 133
RC-135: USAF Sorties by Mission Type

Date	Recce	EW	Total
17-Jan-91	0	0	6
18-Jan-91	1	4	5
19-Jan-91	1	4	5
20-Jan-91	1	5	6
21-Jan-91	2	4	6
22-Jan-91	0	4	4
23-Jan-91	0	4	4
24-Jan-91	2	5	7
25-Jan-91	1	5	6
26-Jan-91	1	4	5
27-Jan-91	2	4	6
28-Jan-91	1	4	5
29-Jan-91	0	4	4
30-Jan-91	2	4	6
31-Jan-91	1	4	5
1-Feb-91	1	3	4
2-Feb-91	1	3	4
3-Feb-91	1	3	4
4-Feb-91	2	4	6
5-Feb-91	2	3	5
6-Feb-91	1	3	4
7-Feb-91	1	3	4
8-Feb-91	1	4	5
9-Feb-91	1	3	4
10-Feb-91	1	3	4
11-Feb-91	1	3	4
12-Feb-91	1	3	4
13-Feb-91	1	3	4
14-Feb-91	1	3	4
15-Feb-91	1	3	4
16-Feb-91	1	3	4
17-Feb-91	1	3	4
18-Feb-91	1	3	4
19-Feb-91	1	3	4
20-Feb-91	1	3	4
21-Feb-91	1	3	4
22-Feb-91	1	3	4
23-Feb-91	1	3	4
24-Feb-91	1	4	5
25-Feb-91	1	4	5
26-Feb-91	1	4	5
27-Feb-91	0	4	4
28-Feb-91	0	2	2
Total	**43**	**148**	**197**

Source: Composite Sorties Database

Table 134
RF-4: USAF Sorties by Mission Type

Date	Recce	Date	Recce
17-Jan-91	8	8-Feb-91	22
18-Jan-91	10	9-Feb-91	24
19-Jan-91	12	10-Feb-91	18
20-Jan-91	6	11-Feb-91	24
21-Jan-91	14	12-Feb-91	24
22-Jan-91	15	13-Feb-91	22
23-Jan-91	13	14-Feb-91	22
24-Jan-91	12	15-Feb-91	23
25-Jan-91	14	16-Feb-91	28
26-Jan-91	18	17-Feb-91	22
27-Jan-91	18	18-Feb-91	24
28-Jan-91	16	19-Feb-91	24
29-Jan-91	16	20-Feb-91	20
30-Jan-91	18	21-Feb-91	24
31-Jan-91	18	22-Feb-91	22
1-Feb-91	18	23-Feb-91	24
2-Feb-91	16	24-Feb-91	18
3-Feb-91	22	25-Feb-91	30
4-Feb-91	26	26-Feb-91	22
5-Feb-91	23	27-Feb-91	20
6-Feb-91	24	28-Feb-91	4
7-Feb-91	24	**Total**	**305**

Source: Composite Sorties Database

Table 135
RF-5: Saudi Arabia Sorties by Mission Type

Date	Recce	Date	Recce
21-Jan-91	2	9-Feb-91	2
23-Jan-91	2	10-Feb-91	2
24-Jan-91	2	11-Feb-91	4
25-Jan-91	2	12-Feb-91	2
26-Jan-91	2	13-Feb-91	6
27-Jan-91	2	14-Feb-91	4
28-Jan-91	2	15-Feb-91	4
29-Jan-91	2	16-Feb-91	4
30-Jan-91	4	17-Feb-91	2
31-Jan-91	6	18-Feb-91	4
1-Feb-91	6	19-Feb-91	4
2-Feb-91	4	20-Feb-91	6
3-Feb-91	4	21-Feb-91	4
4-Feb-91	2	22-Feb-91	4
5-Feb-91	4	23-Feb-91	4
6-Feb-91	4	24-Feb-91	4
7-Feb-91	2	25-Feb-91	2
8-Feb-91	2	26-Feb-91	2
		Total	**118**

Source: Composite Sorties Database

Table 136
RU-21: USA Sorties by Mission Type

Date	EW
17-Jan-91	6
18-Jan-91	11
19-Jan-91	5
20-Jan-91	10
21-Jan-91	8
22-Jan-91	10
23-Jan-91	4
24-Jan-91	6
25-Jan-91	7
26-Jan-91	7
27-Jan-91	5
28-Jan-91	8
29-Jan-91	7
30-Jan-91	10
31-Jan-91	2
1-Feb-91	7
2-Feb-91	7
3-Feb-91	6
4-Feb-91	7
5-Feb-91	7
6-Feb-91	0
7-Feb-91	4
8-Feb-91	4
9-Feb-91	2
10-Feb-91	4
11-Feb-91	2
12-Feb-91	2
13-Feb-91	2
14-Feb-91	2
15-Feb-91	4
16-Feb-91	4
17-Feb-91	6
18-Feb-91	6
19-Feb-91	6
20-Feb-91	10
21-Feb-91	8
22-Feb-91	8
23-Feb-91	6
24-Feb-91	6
25-Feb-91	6
26-Feb-91	6
27-Feb-91	4
28-Feb-91	0
Total	**242**

Source: Composite Sorties Database

Table 137
RV-1D: USA Sorties by Mission Type

Date	EW
17-Jan-91	1
18-Jan-91	1
19-Jan-91	2
20-Jan-91	1
22-Jan-91	2
23-Jan-91	1
24-Jan-91	4
25-Jan-91	2
26-Jan-91	2
27-Jan-91	3
28-Jan-91	4
29-Jan-91	3
30-Jan-91	3
31-Jan-91	3
1-Feb-91	1
2-Feb-91	3
3-Feb-91	2
4-Feb-91	3
5-Feb-91	4
8-Feb-91	1
9-Feb-91	2
10-Feb-91	3
11-Feb-91	3
12-Feb-91	2
13-Feb-91	1
14-Feb-91	3
15-Feb-91	6
16-Feb-91	3
17-Feb-91	3
18-Feb-91	4
19-Feb-91	4
20-Feb-91	6
21-Feb-91	2
22-Feb-91	4
23-Feb-91	4
24-Feb-91	6
25-Feb-91	2
26-Feb-91	3
27-Feb-91	4
Total	**111**

Source: Composite Sorties Database

Table 138
TR-1: USAF Sorties by Mission Type

Date	*Other
17-Jan-91	3
18-Jan-91	2
19-Jan-91	3
20-Jan-91	2
21-Jan-91	2
22-Jan-91	2
23-Jan-91	2
24-Jan-91	2
25-Jan-91	2
26-Jan-91	2
27-Jan-91	2
28-Jan-91	2
29-Jan-91	2
30-Jan-91	2
31-Jan-91	2
1-Feb-91	1
2-Feb-91	3
3-Feb-91	3
4-Feb-91	2
5-Feb-91	2
6-Feb-91	3
7-Feb-91	2
8-Feb-91	2
9-Feb-91	2
10-Feb-91	2
11-Feb-91	2
12-Feb-91	1
13-Feb-91	2
14-Feb-91	2
15-Feb-91	2
16-Feb-91	2
17-Feb-91	2
18-Feb-91	2
19-Feb-91	2
20-Feb-91	2
21-Feb-91	2
22-Feb-91	2
23-Feb-91	2
24-Feb-91	3
25-Feb-91	2
26-Feb-91	2
27-Feb-91	3
Total	**89**

* CENTAF logged these missions as Other or Supp but Recce missions were actually being flown.

Source: Composite Sorties Database

Table 139
U-2: USAF Sorties by Mission Type

Date	EW	Other	Total
17-Jan-91	1	2	3
18-Jan-91	1	1	2
19-Jan-91	1	1	2
20-Jan-91	1	1	2
21-Jan-91	1	1	2
22-Jan-91	1	1	2
23-Jan-91	1	1	2
24-Jan-91	1	3	4
25-Jan-91	1	0	1
26-Jan-91	1	3	4
27-Jan-91	1	3	4
28-Jan-91	1	2	3
29-Jan-91	1	3	4
30-Jan-91	1	3	4
31-Jan-91	1	2	3
1-Feb-91	1	3	4
2-Feb-91	1	2	3
3-Feb-91	1	0	1
4-Feb-91	1	4	5
5-Feb-91	1	2	3
6-Feb-91	1	1	2
7-Feb-91	1	3	4
8-Feb-91	1	3	4
9-Feb-91	1	5	6
10-Feb-91	1	4	5
11-Feb-91	1	3	4
12-Feb-91	1	4	5
13-Feb-91	1	3	4
14-Feb-91	1	3	4
15-Feb-91	1	5	6
16-Feb-91	1	1	2
17-Feb-91	1	1	2
18-Feb-91	1	4	5
19-Feb-91	1	4	5
20-Feb-91	1	2	3
21-Feb-91	1	4	5
22-Feb-91	1	4	5
23-Feb-91	1	4	5
24-Feb-91	1	3	4
25-Feb-91	0	4	4
26-Feb-91	1	2	3
27-Feb-91	1	3	4
Total	**41**	**108**	**149**

Source: Composite Sorties Database

Table 140
E-2C: USN Sorties by Mission Type

Date	C3	Other	Total
17-Jan-91	36	2	38
18-Jan-91	31	1	32
19-Jan-91	28	1	29
20-Jan-91	22	0	22
21-Jan-91	26	0	26
22-Jan-91	30	0	30
23-Jan-91	24	1	25
24-Jan-91	30	0	30
25-Jan-91	30	1	31
26-Jan-91	27	1	28
27-Jan-91	30	0	30
28-Jan-91	35	1	36
29-Jan-91	21	0	21
30-Jan-91	27	1	28
31-Jan-91	26	0	26
1-Feb-91	30	2	32
2-Feb-91	25	2	27
3-Feb-91	25	2	27
4-Feb-91	24	1	25
5-Feb-91	25	3	28
6-Feb-91	23	2	25
7-Feb-91	24	3	27
8-Feb-91	24	0	24
9-Feb-91	19	1	20
10-Feb-91	23	2	25
11-Feb-91	27	0	27
12-Feb-91	30	1	31
13-Feb-91	23	2	25
14-Feb-91	23	1	24
15-Feb-91	22	0	22
16-Feb-91	23	0	23
17-Feb-91	23	1	24
18-Feb-91	26	1	27
19-Feb-91	26	0	26
20-Feb-91	25	0	25
21-Feb-91	29	2	31
22-Feb-91	27	0	27
23-Feb-91	24	1	25
24-Feb-91	26	2	28
25-Feb-91	29	2	31
26-Feb-91	35	1	36
27-Feb-91	32	1	33
28-Feb-91	25	1	26
Total	1,140	43	1,183

Source: Composite Sorties Database

Table 141
E-3: USAF and Saudi Arabia Sorties by Mission Type

		Saudi Arabia			**Grand
Date	USAF C3	*Refuel	C3	Total	Total
17-Jan-91	12	9	3	12	24
18-Jan-91	9	3	1	4	13
19-Jan-91	10	4	2	6	16
20-Jan-91	10	5	2	7	17
21-Jan-91	10	5	2	7	17
22-Jan-91	9	5	2	7	16
23-Jan-91	9	7	2	9	18
24-Jan-91	9	6	2	8	17
25-Jan-91	10	5	2	7	17
26-Jan-91	9	5	2	7	16
27-Jan-91	9	5	2	7	16
28-Jan-91	7	7	2	9	16
29-Jan-91	9	5	2	7	16
30-Jan-91	9	5	2	7	16
31-Jan-91	9	6	3	9	18
1-Feb-91	9	6	2	8	17
2-Feb-91	10	6	2	8	18
3-Feb-91	9	6	2	8	17
4-Feb-91	10	5	2	7	17
5-Feb-91	9	5	2	7	16
6-Feb-91	8	5	2	7	15
7-Feb-91	8	5	2	7	15
8-Feb-91	8	5	2	7	15
9-Feb-91	8	6	2	8	16
10-Feb-91	9	5	2	7	16
11-Feb-91	8	5	2	7	15
12-Feb-91	8	4	2	6	14
13-Feb-91	8	5	2	7	15
14-Feb-91	9	5	2	7	16
15-Feb-91	7	5	2	7	14
16-Feb-91	7	5	2	7	14
17-Feb-91	9	4	2	6	15
18-Feb-91	9	4	2	6	15
19-Feb-91	10	5	2	7	17
20-Feb-91	8	5	2	7	15
21-Feb-91	9	5	2	7	16
22-Feb-91	9	5	2	7	16
23-Feb-91	9	4	2	6	15
24-Feb-91	10	5	2	7	17
25-Feb-91	10	5	2	7	17
26-Feb-91	10	5	2	7	17
27-Feb-91	11	5	2	7	18
28-Feb-91	0	1	0	1	1
TOTAL	379	218	85	303	682

* Primary function of the E-3 is C3, however, some sorties were reported as Refueling missions.

** Grand Total is the total number of E-3 sorties flown by USAF and Saudi Arabia on a given day.

Source: Composite Sorties Database

Table 142
E-8: USAF Sorties by Mission Type

Date	C3	Date	C3
18-Jan-91	1	7-Feb-91	1
19-Jan-91	1	8-Feb-91	1
20-Jan-91	1	9-Feb-91	1
21-Jan-91	1	10-Feb-91	1
22-Jan-91	1	11-Feb-91	1
23-Jan-91	1	12-Feb-91	1
24-Jan-91	1	13-Feb-91	1
25-Jan-91	1	14-Feb-91	1
26-Jan-91	1	15-Feb-91	1
27-Jan-91	1	16-Feb-91	1
28-Jan-91	1	17-Feb-91	1
29-Jan-91	1	18-Feb-91	1
30-Jan-91	1	19-Feb-91	1
31-Jan-91	1	20-Feb-91	1
1-Feb-91	1	21-Feb-91	1
2-Feb-91	1	22-Feb-91	1
3-Feb-91	1	23-Feb-91	1
4-Feb-91	1	24-Feb-91	1
5-Feb-91	1	25-Feb-91	2
6-Feb-91	1	26-Feb-91	1
		27-Feb-91	1
		Total	**42**

s: Composite Sorties Database

Table 143
EA-6B: USN and USMC Sorties
by Mission Type

	USN							USMC				*Grand
Date	OCA	Recce	Support	EW	Training	Other	Total	OCA	Support	EW	Total	Total
17-Jan-91	24	0	0	18	1	1	44	0	0	19	19	63
18-Jan-91	19	0	0	6	2	4	31	0	0	11	11	42
19-Jan-91	20	0	0	1	0	1	22	0	0	8	8	30
20-Jan-91	12	0	0	9	1	2	24	0	2	4	6	30
21-Jan-91	16	0	0	4	0	1	21	0	1	4	5	26
22-Jan-91	18	0	0	1	1	2	22	0	8	2	10	32
23-Jan-91	14	0	0	4	0	0	18	0	8	8	16	34
24-Jan-91	18	1	0	5	0	1	25	0	9	7	16	41
25-Jan-91	17	0	0	0	0	4	21	0	6	5	11	32
26-Jan-91	10	0	0	5	0	3	18	0	16	3	19	37
27-Jan-91	12	1	0	4	0	3	20	0	16	2	18	38
28-Jan-91	22	0	0	0	0	4	26	0	14	2	16	42
29-Jan-91	11	0	0	6	0	0	17	0	9	2	11	28
30-Jan-91	16	1	0	4	0	0	21	0	9	2	11	32
31-Jan-91	16	0	0	5	0	4	25	0	7	2	9	34
1-Feb-91	13	0	0	10	0	2	25	0	9	2	11	36
2-Feb-91	11	0	0	5	0	0	16	2	6	3	11	27
3-Feb-91	11	1	1	6	1	1	21	0	11	5	16	37
4-Feb-91	17	1	0	4	0	1	23	0	7	7	14	37
5-Feb-91	22	0	0	4	0	0	26	0	9	4	13	39
6-Feb-91	19	0	0	3	0	0	22	0	4	2	6	28
7-Feb-91	28	0	0	1	0	2	31	0	6	7	13	44
8-Feb-91	22	0	0	1	0	1	24	0	10	4	14	38
9-Feb-91	20	0	0	2	0	1	23	0	1	10	11	34
10-Feb-91	23	0	0	1	0	0	24	0	2	10	12	36
11-Feb-91	26	1	0	0	2	2	31	0	2	6	8	39

Table 143 (cont'd)
EA-6B: USN and USMC Sorties by Mission Type

	USN							USMC				
Date	OCA	Recce	Support	EW	Training	Other	Total	OCA	Support	EW	Total	*Grand Total
12-Feb-91	20	2	0	0	2	1	25	0	1	15	16	41
13-Feb-91	21	2	0	0	0	1	24	0	0	8	8	32
14-Feb-91	24	0	0	0	1	1	26	0	3	5	8	34
15-Feb-91	30	0	0	0	0	3	33	0	1	9	10	43
16-Feb-91	20	0	0	0	0	1	21	0	4	7	11	32
17-Feb-91	19	2	0	0	0	0	21	0	2	5	7	28
18-Feb-91	31	0	0	0	0	1	32	0	3	7	10	42
19-Feb-91	31	0	0	0	0	0	31	0	0	11	11	42
20-Feb-91	23	0	0	0	1	0	24	0	0	9	9	33
21-Feb-91	21	0	0	5	0	3	29	0	0	13	13	42
22-Feb-91	27	0	0	4	0	3	34	0	0	16	16	50
23-Feb-91	23	0	0	10	0	2	35	0	0	16	16	51
24-Feb-91	17	0	0	7	0	1	25	0	0	16	16	41
25-Feb-91	26	1	0	1	0	8	36	0	0	16	16	52
26-Feb-91	31	2	0	2	2	8	45	0	0	15	15	60
27-Feb-91	30	2	0	2	1	7	42	0	0	5	5	47
28-Feb-91	15	0	0	5	1	1	22	0	0	2	2	24
Total	866	17	1	145	16	81	1,126	2	186	316	504	1,630

* Grand Total is the total number of EA-6B sorties flown by USN and USMC on a given day.

Source: Composite Sorties Database

Table 144
EC-130: USAF and USSOCCENT Sorties by Mission Type

	USAF				USSOCCENT				*Grand
Date	EW	C3	Other	Total	SOF	EW	Other	Total	Total
17-Jan-91	8	4	0	12	0	0	0	0	12
18-Jan-91	11	4	0	15	0	3	2	5	20
19-Jan-91	9	5	0	14	0	1	0	1	15
20-Jan-91	7	5	0	12	0	2	0	2	14
21-Jan-91	7	4	0	11	1	3	0	4	15
22-Jan-91	6	4	0	10	1	1	0	2	12
23-Jan-91	8	4	0	12	1	2	0	3	15
24-Jan-91	8	4	0	12	0	4	0	4	16
25-Jan-91	8	3	0	11	2	2	0	4	15
26-Jan-91	6	4	0	10	2	2	0	4	14
27-Jan-91	8	4	0	12	2	2	0	4	16
28-Jan-91	6	4	0	10	1	2	0	3	13
29-Jan-91	7	4	0	11	2	2	0	4	15
30-Jan-91	6	4	0	10	2	2	0	4	14
31-Jan-91	6	3	0	9	2	2	0	4	13
1-Feb-91	7	3	0	10	2	2	0	4	14
2-Feb-91	7	3	0	10	2	2	0	4	14
3-Feb-91	6	3	0	9	2	2	0	4	13
4-Feb-91	7	3	0	10	2	1	0	3	13
5-Feb-91	7	3	0	10	2	3	0	5	15
6-Feb-91	5	3	0	8	2	2	0	4	12
7-Feb-91	6	4	0	10	2	2	0	4	14
8-Feb-91	7	4	1	12	2	2	0	4	16
9-Feb-91	7	3	2	12	2	2	0	4	16
10-Feb-91	7	3	0	10	2	2	0	4	14
11-Feb-91	6	4	0	10	2	2	0	4	14
12-Feb-91	7	3	2	12	2	2	0	4	16
13-Feb-91	6	3	0	9	1	2	1	4	13
14-Feb-91	6	3	0	9	1	1	0	2	11
15-Feb-91	5	3	0	8	1	1	0	2	10
16-Feb-91	6	3	0	9	2	2	0	4	13
17-Feb-91	8	3	0	11	2	2	0	4	15
18-Feb-91	5	3	1	9	2	2	0	4	13
19-Feb-91	7	4	0	11	2	2	0	4	15
20-Feb-91	7	4	0	11	2	2	0	4	15
21-Feb-91	7	3	1	11	2	2	0	4	15
22-Feb-91	6	3	0	9	2	2	0	4	13
23-Feb-91	6	6	0	12	2	2	0	4	16
24-Feb-91	6	6	0	12	2	2	0	4	16
25-Feb-91	6	6	0	12	2	2	0	4	16
26-Feb-91	7	6	0	13	2	2	0	4	17
27-Feb-91	5	4	0	9	2	2	0	4	13
28-Feb-91	1	0	0	1	1	2	0	3	4
Total	284	159	7	450	68	84	3	155	605

* Grand Total is the total number of EC-130 sorties flown by USAF and USSOCCENT on a given day.

Source: Composite Sorties Database

Table 145
EF-111: USAF Sorties by Mission Type

Date	EW
17-Jan-91	29
18-Jan-91	36
19-Jan-91	29
20-Jan-91	24
21-Jan-91	22
22-Jan-91	28
23-Jan-91	27
24-Jan-91	26
25-Jan-91	24
26-Jan-91	26
27-Jan-91	26
28-Jan-91	28
29-Jan-91	22
30-Jan-91	25
31-Jan-91	24
1-Feb-91	28
2-Feb-91	30
3-Feb-91	22
4-Feb-91	31
5-Feb-91	31
6-Feb-91	22
7-Feb-91	23
8-Feb-91	29
9-Feb-91	27
10-Feb-91	27
11-Feb-91	23
12-Feb-91	27
13-Feb-91	27
14-Feb-91	20
15-Feb-91	20
16-Feb-91	21
17-Feb-91	28
18-Feb-91	24
19-Feb-91	26
20-Feb-91	26
21-Feb-91	23
22-Feb-91	30
23-Feb-91	33
24-Feb-91	29
25-Feb-91	27
26-Feb-91	26
27-Feb-91	29
Total	**1,105**

Source: Composite Sorties Database

Table 146
RC-12: USA Sorties by Mission Type

Date	Airlift	Recce	EW	Total
17-Jan-91	0	0	1	1
18-Jan-91	0	0	5	5
19-Jan-91	0	0	4	4
24-Jan-91	0	1	5	6
25-Jan-91	0	0	5	5
26-Jan-91	0	0	4	4
27-Jan-91	0	0	4	4
28-Jan-91	0	0	1	1
30-Jan-91	0	0	4	4
31-Jan-91	0	0	4	4
1-Feb-91	0	0	4	4
2-Feb-91	1	0	4	5
3-Feb-91	0	0	6	6
4-Feb-91	0	0	4	4
5-Feb-91	0	0	2	2
8-Feb-91	0	0	6	6
9-Feb-91	0	0	4	4
10-Feb-91	0	0	7	7
11-Feb-91	1	0	5	6
12-Feb-91	1	0	2	3
13-Feb-91	0	0	7	7
14-Feb-91	1	0	8	9
15-Feb-91	0	0	9	9
16-Feb-91	1	0	8	9
17-Feb-91	0	0	7	7
18-Feb-91	0	0	7	7
19-Feb-91	0	0	11	11
20-Feb-91	1	0	11	12
21-Feb-91	1	0	11	12
22-Feb-91	1	0	7	8
23-Feb-91	0	0	8	8
24-Feb-91	1	0	7	8
25-Feb-91	0	0	5	5
26-Feb-91	0	0	7	7
27-Feb-91	0	0	11	11
28-Feb-91	0	0	1	1
Total	**9**	**1**	**206**	**216**

Source: Composite Sorties Database

Table 147
AC-130: USSOCCENT Sorties by Mission Type

Date	AI	CAS	Training	Other	Total
17-Jan-91	0	1	0	0	1
18-Jan-91	3	0	0	0	3
19-Jan-91	2	1	0	0	3
20-Jan-91	2	0	0	0	2
21-Jan-91	2	0	0	0	2
22-Jan-91	0	1	0	0	1
23-Jan-91	0	2	0	0	2
24-Jan-91	0	2	0	0	2
25-Jan-91	2	0	0	0	2
26-Jan-91	2	0	0	0	2
27-Jan-91	1	0	0	0	1
28-Jan-91	1	0	0	0	1
29-Jan-91	1	0	0	0	1
30-Jan-91	1	2	0	0	3
31-Jan-91	1	0	0	0	1
1-Feb-91	2	0	0	0	2
2-Feb-91	1	0	0	0	1
3-Feb-91	1	0	0	0	1
4-Feb-91	1	0	3	0	4
5-Feb-91	1	1	0	0	2
6-Feb-91	1	0	0	0	1
7-Feb-91	1	0	0	0	1
8-Feb-91	1	0	0	0	1
9-Feb-91	1	0	0	4	5
10-Feb-91	0	0	0	4	4
11-Feb-91	0	0	0	1	1
12-Feb-91	0	0	0	4	4
13-Feb-91	0	0	0	5	5
14-Feb-91	0	0	0	2	2
15-Feb-91	2	0	0	1	3
16-Feb-91	0	0	0	2	2
17-Feb-91	0	0	0	3	3
18-Feb-91	0	2	0	2	4
19-Feb-91	0	0	0	3	3
20-Feb-91	0	0	0	3	3
21-Feb-91	0	0	0	3	3
22-Feb-91	0	2	0	2	4
23-Feb-91	0	3	0	0	3
24-Feb-91	0	3	0	0	3
25-Feb-91	0	3	0	1	4
26-Feb-91	0	4	0	0	4
27-Feb-91	0	4	0	0	4
28-Feb-91	0	0	0	0	0
Total	**30**	**31**	**3**	**40**	**104**

Source: Composite Sorties Database

Table 148
HC-130: USSOCCENT Sorties by Mission Type

Date	Refuel	SOF	Support	Training	Other	Total
16-Jan-91	0	2	0	0	0	2
17-Jan-91	0	2	0	0	0	2
19-Jan-91	1	0	0	0	0	1
20-Jan-91	1	1	0	0	0	2
21-Jan-91	1	1	0	0	0	2
22-Jan-91	2	1	0	0	0	3
23-Jan-91	1	1	0	0	0	2
24-Jan-91	2	1	0	0	0	3
25-Jan-91	2	1	0	0	0	3
26-Jan-91	3	2	0	0	0	5
27-Jan-91	2	1	0	0	0	3
28-Jan-91	1	1	0	0	0	2
29-Jan-91	2	1	0	0	0	3
30-Jan-91	1	1	0	0	0	2
31-Jan-91	2	1	0	0	0	3
1-Feb-91	4	2	0	0	0	6
2-Feb-91	1	3	0	0	0	4
3-Feb-91	0	1	0	0	0	1
4-Feb-91	1	2	1	0	0	4
5-Feb-91	1	1	0	0	0	2
6-Feb-91	0	2	0	0	0	2
7-Feb-91	0	1	0	0	0	1
8-Feb-91	2	2	0	0	0	4
9-Feb-91	1	1	0	0	0	2
10-Feb-91	1	1	0	0	0	2
11-Feb-91	1	2	0	0	0	3
13-Feb-91	1	1	0	0	0	2
14-Feb-91	1	1	0	0	0	2
15-Feb-91	2	3	0	0	0	5
16-Feb-91	2	0	0	0	0	2
17-Feb-91	1	2	0	1	2	6
18-Feb-91	0	0	0	0	0	0
19-Feb-91	1	1	0	0	0	2
21-Feb-91	3	1	0	0	0	4
23-Feb-91	2	1	0	0	0	3
24-Feb-91	2	0	0	0	0	2
25-Feb-91	0	1	0	0	0	1
26-Feb-91	1	0	0	0	0	1
27-Feb-91	4	2	0	0	0	6
28-Feb-91	1	1	0	0	0	2
Total	**54**	**49**	**1**	**1**	**2**	**107**

Source: Composite Sorties Database

Table 149
MC-130: USSOCCENT Sorties by Mission Type

Date	AI	Refuel	SOF	Support	Training	Other	Total
16-Jan-91	0	0	3	0	0	0	3
17-Jan-91	0	1	0	0	0	0	1
19-Jan-91	0	0	0	1	0	0	1
20-Jan-91	0	0	6	0	0	0	6
21-Jan-91	0	0	1	1	0	0	2
23-Jan-91	0	0	2	0	0	0	2
25-Jan-91	0	0	2	0	0	0	2
26-Jan-91	0	0	1	0	0	0	1
27-Jan-91	0	0	3	0	1	0	4
28-Jan-91	0	0	3	1	0	0	4
29-Jan-91	0	0	0	1	1	0	2
30-Jan-91	0	0	2	0	0	0	2
31-Jan-91	0	0	3	0	0	0	3
1-Feb-91	0	0	2	1	1	0	4
2-Feb-91	0	0	1	0	0	0	1
3-Feb-91	0	0	1	1	3	0	5
6-Feb-91	2	0	1	0	0	0	3
7-Feb-91	0	0	0	1	0	0	1
9-Feb-91	0	0	2	0	0	0	2
10-Feb-91	0	1	1	0	0	0	2
11-Feb-91	0	0	1	0	0	1	2
13-Feb-91	0	0	0	2	0	2	4
14-Feb-91	0	0	0	0	0	1	1
15-Feb-91	0	0	0	0	1	1	2
17-Feb-91	0	0	3	0	0	3	6
19-Feb-91	0	0	2	0	2	2	6
20-Feb-91	0	0	1	0	0	1	2
21-Feb-91	0	0	4	0	0	0	4
22-Feb-91	0	0	1	2	1	1	5
27-Feb-91	0	0	1	0	0	0	1
Total	**2**	**2**	**47**	**11**	**10**	**12**	**84**

Source: Composite Sorties Database

Table 150
HH-3/3E: USSOCCENT Sorties by Mission Type

Date	Airlift	SOF	Support	Training	Other	Total
16-Jan-91	0	0	0	2	0	2
18-Jan-91	0	2	0	2	0	4
19-Jan-91	0	2	0	0	0	2
20-Jan-91	0	1	0	3	0	4
23-Jan-91	0	2	0	0	0	2
24-Jan-91	0	2	0	0	1	3
25-Jan-91	0	1	0	0	0	1
26-Jan-91	0	2	0	2	0	4
27-Jan-91	0	2	0	2	0	4
1-Feb-91	0	3	0	0	0	3
2-Feb-91	0	6	0	0	1	7
3-Feb-91	0	1	0	0	1	2
4-Feb-91	0	1	6	6	0	13
5-Feb-91	0	2	4	0	0	6
6-Feb-91	0	0	2	0	0	2
7-Feb-91	0	2	2	0	0	4
8-Feb-91	0	2	4	0	0	6
9-Feb-91	0	7	0	0	0	7
10-Feb-91	0	6	0	0	0	6
11-Feb-91	0	8	0	0	1	9
12-Feb-91	0	2	0	0	0	2
13-Feb-91	0	4	0	0	1	5
14-Feb-91	0	6	0	0	2	8
15-Feb-91	0	3	0	0	0	3
16-Feb-91	0	8	0	0	0	8
17-Feb-91	0	0	0	6	0	6
18-Feb-91	0	2	0	2	0	4
19-Feb-91	0	3	0	2	2	7
20-Feb-91	0	2	0	6	0	8
22-Feb-91	0	2	0	0	2	4
23-Feb-91	2	4	0	0	0	6
24-Feb-91	1	4	0	0	0	5
25-Feb-91	3	3	0	0	0	6
26-Feb-91	1	2	0	0	0	3
27-Feb-91	1	3	0	0	0	4
28-Feb-91	2	3	0	0	0	5
Total	**10**	**103**	**18**	**33**	**11**	**175**

Source: Composite Sorties Database

Table 151
MH-3: USSOCCENT Sorties by Mission Type

Date	SOF	Support	Training	Total
20-Jan-91	0	0	4	4
22-Jan-91	1	0	0	1
23-Jan-91	2	0	0	2
25-Jan-91	3	0	0	3
26-Jan-91	3	0	0	3
27-Jan-91	2	1	0	3
28-Jan-91	2	0	0	2
19-Feb-91	1	0	0	1
Total	**14**	**1**	**4**	**19**

Source: Composite Sorties Database

Table 152
CH-47 USSOCCENT Sorties by Mission Type

Date	Airlift	SOF	Support	Other	Total
18-Jan-91	0	0	1	0	1
19-Jan-91	0	0	0	4	4
22-Jan-91	2	0	0	0	2
23-Jan-91	2	0	0	0	2
30-Jan-91	1	0	0	0	1
31-Jan-91	0	1	0	0	1
4-Feb-91	1	0	0	0	1
21-Feb-91	0	2	0	0	2
Total	**6**	**3**	**1**	**4**	**14**

Source: Composite Sorties Database

Table 153
MH-53: USSOCCOM Sorties by Mission Type

Date	SOF	Support	Training	Other	Total
18-Jan-91	8	0	0	0	8
19-Jan-91	2	0	0	0	2
20-Jan-91	9	0	0	2	11
21-Jan-91	9	0	0	0	9
22-Jan-91	9	0	0	0	9
23-Jan-91	8	0	0	0	8
24-Jan-91	10	0	0	0	10
25-Jan-91	4	0	0	0	4
26-Jan-91	7	0	0	0	7
27-Jan-91	8	0	0	0	8
28-Jan-91	6	0	0	0	6
29-Jan-91	4	0	0	0	4
30-Jan-91	4	0	0	0	4
31-Jan-91	6	0	0	0	6
1-Feb-91	6	2	0	0	8
2-Feb-91	0	0	0	0	0
3-Feb-91	1	0	2	0	3
4-Feb-91	1	1	3	0	5
5-Feb-91	6	2	4	0	12
6-Feb-91	0	0	3	0	3
7-Feb-91	2	0	2	0	4
8-Feb-91	3	0	1	0	4
9-Feb-91	4	0	1	0	5
10-Feb-91	4	0	1	0	5
11-Feb-91	6	0	1	0	7
12-Feb-91	8	0	0	0	8
13-Feb-91	4	0	0	2	6
14-Feb-91	2	0	3	1	6
15-Feb-91	4	0	1	1	6
16-Feb-91	5	0	1	0	6
17-Feb-91	5	0	0	2	7
18-Feb-91	3	0	0	0	3
19-Feb-91	5	0	1	1	7
20-Feb-91	5	0	0	2	7
21-Feb-91	5	0	0	2	7
22-Feb-91	6	0	0	3	9
23-Feb-91	14	0	0	0	14
24-Feb-91	12	0	0	0	12
25-Feb-91	3	0	0	0	3
26-Feb-91	5	0	0	0	5
27-Feb-91	7	0	0	0	7
28-Feb-91	17	0	0	0	17
Total	**237**	**5**	**24**	**16**	**282**

Source: Composite Sorties Database

Table 154
HH-60: USSOCCENT Sorties by Mission Type

Date	SOF	Support	Training	Total
22-Jan-91	1	0	0	1
23-Jan-91	1	0	0	1
24-Jan-91	2	0	0	2
25-Jan-91	0	1	1	2
27-Jan-91	1	0	0	1
13-Feb-91	2	0	0	2
Total	**7**	**1**	**1**	**9**

Source: Composite Sorties Database

Table 155
UH-60: USSOCCENT Sorties by Mission Type

Date	SOF
7-Feb-91	2
8-Feb-91	2
10-Feb-91	1
11-Feb-91	1
12-Feb-91	1
13-Feb-91	2
15-Feb-91	1
Total	**10**

Source: Composite Sorties Database

Table 156
MH-60: USSOCCENT Sorties by Mission Type

Date	Airlift	Recce	SOF	Support	Other	Total
16-Jan-91	0	0	6	0	0	6
17-Jan-91	0	0	8	0	0	8
18-Jan-91	0	0	4	0	0	4
20-Jan-91	0	0	7	0	0	7
21-Jan-91	0	0	3	0	0	3
22-Jan-91	0	0	5	0	0	5
23-Jan-91	0	0	9	0	0	9
24-Jan-91	0	0	8	0	0	8
25-Jan-91	0	0	9	0	0	9
26-Jan-91	0	0	4	0	0	4
27-Jan-91	0	0	5	0	0	5
28-Jan-91	0	2	1	0	0	3
29-Jan-91	0	0	4	1	0	5
30-Jan-91	0	0	4	0	0	4
31-Jan-91	0	0	7	1	0	8
1-Feb-91	0	0	5	1	0	6
2-Feb-91	0	0	5	1	0	6
3-Feb-91	0	0	4	1	0	5
4-Feb-91	0	0	6	2	0	8
5-Feb-91	0	0	7	1	0	8
6-Feb-91	0	0	4	0	0	4
7-Feb-91	0	0	9	1	0	10
8-Feb-91	0	0	10	0	0	10
9-Feb-91	0	0	4	0	0	4
10-Feb-91	0	0	8	0	0	8
11-Feb-91	0	0	8	0	0	8
12-Feb-91	0	0	8	0	0	8
13-Feb-91	0	0	9	0	0	9
14-Feb-91	0	0	6	0	0	6
15-Feb-91	0	0	8	0	0	8
16-Feb-91	0	0	8	0	0	8
17-Feb-91	0	0	5	1	0	6
18-Feb-91	0	0	6	2	0	8
19-Feb-91	2	0	8	0	0	10
20-Feb-91	0	0	8	0	0	8
21-Feb-91	0	0	8	0	0	8
22-Feb-91	0	0	4	0	0	4
23-Feb-91	0	0	12	0	1	13
24-Feb-91	0	0	8	0	1	9
26-Feb-91	0	0	2	0	0	2
27-Feb-91	0	0	4	4	0	8
28-Feb-91	0	0	4	0	0	4
Total	2	2	262	16	2	284

Source: Composite Sorties Database

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Table 157
C-29: USAF Sorties by Mission Type

Date	Airlift
3-Feb-91	4
4-Feb-91	3
21-Feb-91	1
22-Feb-91	1
23-Feb-91	2
24-Feb-91	2
25-Feb-91	2
26-Feb-91	2
27-Feb-91	2
28-Feb-91	1
Total	20

Source: Composite Sorties

Table 158
CC 144: Canada Sorties by Mission Type

Date	Airlift
25-Jan-91	4
29-Jan-91	2
31-Jan-91	5
2-Feb-91	2
4-Feb-91	3
8-Feb-91	2
9-Feb-91	3
10-Feb-91	5
11-Feb-91	4
12-Feb-91	4
14-Feb-91	2
16-Feb-91	4
17-Feb-91	3
19-Feb-91	3
23-Feb-91	4
28-Feb-91	4
Total	54

Source: Composite Sorties

Table 159
C-212: UAE Sorties by Mission Type

Date	Airlift
30-Jan-91	2
31-Jan-91	2
1-Feb-91	2
2-Feb-91	2
3-Feb-91	2
Total	**10**

Source: Composite Sorties Database

Table 160
BN2T: UK Sorties by Mission Type

Date	Airlift
11-Feb-91	35
Total	**35**

Source: Composite Sorties Database

Table 161
BNIS: UK Sorties by Mission Type

Date	Airlift
6-Feb-91	31
7-Feb-91	34
9-Feb-91	31
11-Feb-91	0
12-Feb-91	24
13-Feb-91	26
14-Feb-91	23
15-Feb-91	37
16-Feb-91	33
17-Feb-91	16
18-Feb-91	37
19-Feb-91	50
20-Feb-91	28
21-Feb-91	25
24-Feb-91	51
25-Feb-91	35
27-Feb-91	36
28-Feb-91	0
Total	**517**

Source: Composite Sorties Database

Table 162
H-212: Saudi Arabia and Bahrain Sorties by Mission Type

	Saudi Arabia	Bahrain			*Grand
Date	Airlift	Airlift	SOF	Total	Total
25-Jan-91	0	4	1	5	5
26-Jan-91	43	0	0	0	43
5-Feb-91	70	0	0	0	70
Total	113	4	1	5	118

* Grand Total is the total number of H-212 sorties flown by Saudi Arabia and Bahrain on a given day.

Source: Composite Sorties Database

Table 163
TLAM: USN Sorties by Mission Type

ATO Date	AI
17-Jan-91	122
18-Jan-91	58
19-Jan-91	32
20-Jan-91	8
22-Jan-91	8
24-Jan-91	6
25-Jan-91	11
26-Jan-91	7
28-Jan-91	2
29-Jan-91	3
31-Jan-91	19
1-Feb-91	6
Total	282

Source: Composite Sorties Database

Coalition Sortie Cancellations and Air Aborts During Desert Storm

The following tables provide a daily list of the number of sortie cancellations by reason and air aborts for U.S. Air Force (USAF), U.S. Marine Corps (USMC), U.S. Special Operations, Central Command USSOCCENT, France, Saudi Arabia, Bahrain, Canada, Italy, Kuwait, Qatar, United Arab Emirates (UAE), and United Kingdom (UK). Numbers for U.S. Navy (USN) sortie cancellation reasons are not included since this information was not tracked closely by CENTAF. The data were extracted from the GWAPS Composite Sorties Database on the basis of information compiled in the Unit Sorties Database, Maj Roy Lee, 507th TACCS/DOO, March 1991. Reasons for sortie cancellations were not tracked for all sorties. By comparing the number of cancellation reasons given against the total number of sorties not flown, it is estimated that the following categorizations of sortie cancellations represent approximately only 17% of all sortie cancellations prior to takeoff. We cannot determine the reasons for cancellation of the remaining 83% of sorties not flown.

Reasons for cancellations (occurring before the aircraft ever left the ground) were grouped into six main areas. Headquarters/Air Tasking Order cancellations (HQ/ATO Cancelled) include sorties that were canceled by the Tactical Air Control Center and those that were canceled because of a problem with the ATO. Examples would include target changes, a situation where part of a package was ready but no tankers were available, mismatches on strike packages, or airspace saturation. Operations cancellations (OPS Cancelled) include sorties canceled by the unit for various reasons such as no wild weasels available or the Fire Support Coordination Line (FSCL) was moved. Sorties were also canceled due to maintenance problems (Maint Cancelled) i.e., problems with the weapons systems, hydraulics, or communications, tankers unavailable for refueling, or backups for ground refueling. Maintenance cancellations also include those sorties termed sympathetic cancellations in which one aircraft canceled its mission due to difficulties thereby causing other aircraft in the package to cancel their mission(s).

Sortie cancellations because of weather (Weather Cancelled) include situations where the weather surrounding a takeoff point or target area rendered weapon systems non-effective or unsafe to fly. Other cancella-

tions (Other Cancelled) were simply reported as "other;" and sortie cancelled for unknown reasons as Unknown Cancelled.

Air Aborts, which refer to cancellations after takeoff, were broken out separately. These include sorties aborted in-flight due to communications problems, maintenance problems, weather (e.g., target could not be seen because of weather in the area), missed targets, weapons (e.g., unable to drop weapons at the target area), inability to take on fuel, or no tanker at the rendezvous point.

Reliability data for specific aircraft types may be found in Table 192.

Table 164
USAF: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Canceled	OPS Canceled	Maint Canceled	Weather Canceled	Other Canceled	Unknown Canceled	Total Canceled	Air Aborts	Total Canceled & Aborts
17-Jan-91	5	5	7	2	0	2	21	0	21
18-Jan-91	7	2	7	30	0	4	50	40	90
19-Jan-91	40	1	7	188	1	9	246	37	283
20-Jan-91	97	85	13	177	1	4	377	48	425
21-Jan-91	74	6	12	84	3	0	179	56	235
22-Jan-91	19	10	8	17	6	0	60	61	121
23-Jan-91	3	0	15	7	1	0	26	36	62
24-Jan-91	2	40	11	0	0	0	53	53	106
25-Jan-91	70	25	4	1	1	0	101	122	223
26-Jan-91	2	22	9	4	0	0	37	46	83
27-Jan-91	12	0	7	38	0	0	57	79	136
28-Jan-91	48	4	11	0	0	0	63	43	106
29-Jan-91	29	3	16	12	0	0	60	46	106
30-Jan-91	131	25	5	1	0	8	170	49	219
31-Jan-91	18	3	8	0	1	1	31	53	84
1-Feb-91	4	16	10	0	0	2	32	52	84
2-Feb-91	6	14	2	20	6	0	48	72	120
3-Feb-91	60	3	4	0	10	0	77	43	120
4-Feb-91	54	14	8	4	0	0	80	70	150
5-Feb-91	15	15	8	0	0	0	38	52	90
6-Feb-91	12	21	4	1	5	0	43	53	96
7-Feb-91	9	7	5	1	0	0	22	25	47
8-Feb-91	43	0	5	0	0	0	48	31	79
9-Feb-91	18	6	10	0	0	0	34	22	56
10-Feb-91	8	6	6	0	0	0	20	26	46

Table 164 (cont'd)
USAF: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Canceled	OPS Canceled	Maint Canceled	Weather Canceled	Other Canceled	Unknown Canceled	Total Canceled	Air Aborts	Total Canceled & Aborts
11-Feb-91	0	4	7	28	2	0	41	58	99
12-Feb-91	13	26	4	1	0	0	44	15	59
13-Feb-91	8	16	5	0	0	1	30	23	53
14-Feb-91	20	32	13	0	0	0	65	23	88
15-Feb-91	13	0	5	0	2	0	20	22	42
16-Feb-91	27	3	9	14	0	0	53	48	101
17-Feb-91	17	0	0	169	2	0	188	121	309
18-Feb-91	17	4	5	0	0	0	26	35	61
19-Feb-91	9	14	4	28	0	0	55	46	101
20-Feb-91	6	104	6	138	0	0	254	71	325
21-Feb-91	15	13	12	12	0	0	52	43	95
22-Feb-91	8	5	9	0	0	0	22	22	44
23-Feb-91	5	3	5	0	1	0	14	68	82
24-Feb-91	10	7	2	8	0	0	27	63	90
25-Feb-91	42	6	3	76	0	0	127	135	262
26-Feb-91	32	16	6	37	0	0	91	98	189
27-Feb-91	9	45	6	0	0	0	60	174	234
28-Feb-91	12	0	0	0	0	0	12	0	12
Total	1,049	631	303	1,098	42	31	3,154	2,288	5,434

Source: Composite Sorties Database

Table 165
USMC: Sortie Cancellation and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
18-Jan-91	3	1	0	28	0	0	32	0	32
19-Jan-91	0	0	0	18	0	0	18	0	18
20-Jan-91	2	0	0	0	0	0	2	0	2
21-Jan-91	0	0	0	52	0	0	52	0	52
22-Jan-91	0	0	0	88	0	0	88	0	88
23-Jan-91	0	0	0	10	0	0	10	18	28
24-Jan-91	16	2	6	0	0	0	24	0	24
25-Jan-91	42	16	0	74	0	0	132	1	133
26-Jan-91	4	0	0	31	0	0	35	26	61
27-Jan-91	4	0	0	24	0	0	28	14	42
28-Jan-91	16	10	0	0	0	0	26	1	27
29-Jan-91	4	3	0	1	0	0	8	0	8
30-Jan-91	0	17	0	0	0	0	17	0	17
31-Jan-91	26	17	4	0	0	0	47	0	47
1-Feb-91	5	48	0	0	0	0	53	0	53
2-Feb-91	16	3	0	12	0	0	31	0	31
3-Feb-91	12	32	0	0	0	0	44	0	44
4-Feb-91	36	14	1	4	0	0	55	0	55
5-Feb-91	10	2	0	6	0	0	18	0	18
6-Feb-91	32	6	0	126	0	0	164	0	164
7-Feb-91	36	0	0	0	0	0	36	0	36
8-Feb-91	1	0	3	0	0	0	4	0	4
9-Feb-91	8	2	0	0	0	0	10	0	10
10-Feb-91	5	14	0	0	0	8	27	1	28

Table 165 (cont'd)
USMC Sortie Cancellation and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
11-Feb-91	8	23	0	0	0	0	31	0	31
12-Feb-91	28	20	0	4	0	0	52	0	52
13-Feb-91	57	9	3	0	0	0	69	3	72
14-Feb-91	57	7	0	0	0	0	64	2	66
15-Feb-91	13	0	0	0	0	0	13	0	13
16-Feb-91	6	2	3	0	0	0	11	0	11
17-Feb-91	0	1	0	150	0	0	151	2	153
18-Feb-91	1	0	0	0	0	0	1	0	1
19-Feb-91	1	0	2	0	0	0	3	1	4
20-Feb-91	3	0	0	149	0	0	152	2	154
21-Feb-91	65	80	0	0	0	0	145	0	145
22-Feb-91	18	82	0	0	0	0	100	0	100
23-Feb-91	3	17	0	0	0	0	20	2	22
24-Feb-91	17	21	0	0	0	2	40	0	40
25-Feb-91	2	6	2	73	0	0	83	0	83
26-Feb-91	0	40	2	0	0	0	42	0	42
27-Feb-91	79	88	0	264	0	0	431	0	431
Total	636	583	26	1,114	0	10	2,369	73	2,442

Source: Composite Sorties Database

Table 166
USSOCCENT: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
17-Jan-91	0	0	0	0	0	3	3	0	3
19-Jan-91	0	0	0	1	0	0	1	0	1
22-Jan-91	1	0	0	0	0	0	1	1	2
23-Jan-91	0	0	0	0	0	0	0	1	1
28-Jan-91	1	0	0	0	0	0	1	0	1
1-Feb-91	0	1	0	0	0	0	1	0	1
10-Feb-91	1	0	0	0	0	0	1	0	1
14-Feb-91	0	1	0	0	0	0	1	0	1
15-Feb-91	0	2	0	0	0	0	2	0	2
22-Feb-91	0	0	0	0	0	0	0	1	1
23-Feb-91	0	0	0	0	0	0	0	1	1
Total	3	4	0	1	0	3	11	4	15

Source: Composite Sorties Database

Table 167
France: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
19-Jan-91	2	0	0	0	0	0	2	0	2
20-Jan-91	2	0	0	0	0	0	2	16	18
21-Jan-91	0	0	0	20	0	0	20	0	20
22-Jan-91	0	0	0	8	0	2	10	0	10
23-Jan-91	0	2	0	8	0	0	10	0	10
24-Jan-91	0	0	1	0	0	0	1	0	1
26-Jan-91	0	0	1	0	0	0	1	1	2
27-Jan-91	12	0	4	20	0	0	36	0	36
29-Jan-91	0	4	0	0	0	0	4	2	6
30-Jan-91	0	0	1	0	0	0	1	0	1
31-Jan-91	0	0	0	0	0	0	0	1	1
2-Feb-91	0	0	1	0	0	0	1	0	1
3-Feb-91	0	7	0	0	0	0	7	0	7
4-Feb-91	4	0	2	0	0	0	6	0	6
5-Feb-91	0	9	0	0	0	0	9	0	9
8-Feb-91	0	2	2	0	0	0	4	0	4
13-Feb-91	0	0	0	0	0	0	0	1	1
14-Feb-91	0	14	1	0	0	0	15	0	15
17-Feb-91	0	0	0	28	0	0	28	0	28
18-Feb-91	2	4	0	0	0	0	6	0	6
20-Feb-91	0	2	3	8	0	0	13	0	13
22-Feb-91	0	3	0	0	0	0	3	0	3
25-Feb-91	0	0	0	4	0	0	4	0	4
26-Feb-91	0	4	9	6	0	0	19	0	19
Total	**22**	**51**	**25**	**102**	**0**	**2**	**202**	**21**	**223**

Source: Composite Sorties Database

Table 168
Saudi Arabia: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
19-Jan-91	0	0	0	9	0	0	9	0	9
20-Jan-91	0	0	0	24	0	0	24	0	24
21-Jan-91	0	0	0	33	0	0	33	0	33
22-Jan-91	0	0	0	30	0	0	30	0	30
23-Jan-91	0	0	0	30	0	0	30	0	30
24-Jan-91	0	0	0	16	0	0	16	0	16
25-Jan-91	4	0	3	12	0	0	19	0	19
26-Jan-91	0	6	0	0	0	0	6	0	6
27-Jan-91	0	0	0	12	0	0	12	0	12
28-Jan-91	4	0	5	0	0	0	9	0	9
29-Jan-91	0	0	2	0	0	0	2	0	2
30-Jan-91	0	0	1	0	0	0	1	0	1
31-Jan-91	0	0	1	0	0	0	1	1	2
1-Feb-91	0	1	6	0	0	0	7	0	7
3-Feb-91	0	0	5	0	0	0	5	0	5
4-Feb-91	0	0	11	4	0	0	15	0	15
6-Feb-91	0	0	6	0	0	0	6	0	6
7-Feb-91	0	2	4	0	0	0	6	8	14
9-Feb-91	0	0	2	0	0	0	2	0	2
10-Feb-91	0	4	2	0	0	0	6	0	6

Table 168 (cont'd)
Saudi Arabia: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
12-Feb-91	0	0	0	2	0	0	2	0	2
13-Feb-91	0	10	4	0	0	0	14	0	14
14-Feb-91	0	0	3	0	0	0	3	0	3
15-Feb-91	8	0	2	0	0	0	10	0	10
16-Feb-91	1	0	1	29	0	0	31	0	31
17-Feb-91	0	0	0	53	0	0	53	0	53
18-Feb-91	0	0	2	0	0	0	2	0	2
19-Feb-91	0	0	1	10	0	0	11	0	11
20-Feb-91	0	0	0	6	0	0	6	0	6
21-Feb-91	0	0	4	16	0	0	20	0	20
22-Feb-91	0	0	3	0	0	0	3	0	3
25-Feb-91	0	0	2	46	0	0	48	0	48
26-Feb-91	0	0	1	46	0	0	47	0	47
27-Feb-91	0	9	0	20	0	0	29	0	29
Total	17	32	71	398	0	0	518	9	527

Source: Composite Sorties Database

Table 168 (cont'd)
Saudi Arabia: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
21-Jan-91	0	0	2	0	0	0	2	0	2
25-Jan-91	0	0	2	0	0	0	2	0	2
7-Feb-91	0	2	0	0	0	0	2	0	2
20-Feb-91	0	0	0	4	0	0	4	0	4
26-Feb-91	4	0	0	0	0	0	4	0	4
27-Feb-91	0	0	0	4	0	0	4	0	4
Total	4	2	4	8	0	0	18	0	18

Source: Composite Sorties Database

Table 170
Canada: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
18-Jan-91	0	4	0	0	0	0	4	0	4
19-Jan-91	2	0	5	0	0	0	7	0	7
20-Jan-91	0	0	0	4	0	0	4	0	4
26-Jan-91	2	0	0	0	0	0	2	0	2
29-Jan-91	0	0	0	0	0	0	0	1	1
31-Jan-91	2	1	2	0	0	0	5	0	5
1-Feb-91	32	0	0	0	0	0	32	2	34
3-Feb-91	0	3	0	0	0	0	3	0	3
4-Feb-91	0	5	0	0	0	0	5	0	5
5-Feb-91	0	8	0	0	0	0	8	0	8
6-Feb-91	0	3	0	0	0	0	3	0	3
7-Feb-91	0	1	0	0	0	0	1	0	1
12-Feb-91	0	0	2	0	0	0	2	0	2
13-Feb-91	4	0	2	0	0	0	6	0	6
15-Feb-91	2	2	0	0	0	0	4	0	4
17-Feb-91	0	2	0	8	0	0	10	0	10
18-Feb-91	0	1	0	0	0	0	1	0	1
19-Feb-91	0	7	0	0	0	0	7	3	10
20-Feb-91	0	10	0	5	0	0	15	0	15
22-Feb-91	0	1	0	0	0	0	1	0	1
24-Feb-91	16	3	2	0	0	0	21	0	21
25-Feb-91	20	10	0	0	0	0	30	0	30
26-Feb-91	0	7	0	0	0	0	7	0	7
Total	80	68	13	17	0	0	178	6	184

Source: Composite Sorties Database

Table 171
Italy: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
18-Jan-91	0	0	0	0	0	0	0	7	7
20-Jan-91	4	0	0	0	0	0	4	0	4
21-Jan-91	8	0	0	0	0	0	8	0	8
22-Jan-91	2	0	0	0	0	0	2	0	2
24-Jan-91	0	0	9	0	0	0	9	0	9
30-Jan-91	0	0	1	0	0	0	1	1	2
Total	14	0	10	0	0	0	24	8	32

Source: Composite Sorties Database

Table 172
Kuwait: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
18-Jan-91	0	0	20	0	0	0	20	0	20
20-Jan-91	0	0	0	8	0	0	8	0	8
21-Jan-91	0	0	0	12	0	0	12	0	12
22-Jan-91	0	0	0	21	0	0	21	0	21
23-Jan-91	0	0	0	4	0	0	4	0	4
25-Jan-91	0	0	2	12	0	0	14	0	14
26-Jan-91	0	0	1	0	0	0	1	0	1
27-Jan-91	0	0	0	8	0	0	8	0	8
29-Jan-91	0	0	1	0	0	0	1	0	1
30-Jan-91	0	0	20	0	0	0	20	0	20
1-Feb-91	0	0	2	0	0	0	2	0	2
3-Feb-91	20	0	0	0	0	0	20	0	20
7-Feb-91	0	0	1	0	0	0	1	0	1
9-Feb-91	0	0	1	0	0	0	1	0	1
12-Feb-91	0	0	1	0	0	0	1	0	1
17-Feb-91	0	0	0	14	0	0	14	0	14
20-Feb-91	0	0	0	28	0	0	28	0	28
21-Feb-91	0	0	0	12	0	0	12	0	12
24-Feb-91	0	10	0	0	0	0	10	0	10
26-Feb-91	0	0	1	4	0	0	5	0	5
Total	20	10	50	123	0	0	203	0	203

Source: Composite Sorties Database

Table 173
Qatar: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
22-Jan-91	0	0	0	4	0	0	4	0	4
17-Feb-91	0	0	0	4	0	0	4	0	4
23-Feb-91	0	6	0	0	0	0	6	0	6
27-Feb-91	0	0	0	8	0	0	8	0	8
Total	0	6	0	16	0	0	22	0	22

Source: Composite Sorties Database

Table 174
UAE: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
17-Feb-91	0	0	0	4	0	0	4	0	4
22-Feb-91	0	0	2	0	0	0	2	0	2
24-Feb-91	0	0	0	0	0	0	0	6	6
26-Feb-91	2	0	0	0	0	0	2	0	2
27-Feb-91	2	2	0	0	0	0	4	0	4
Total	4	2	2	4	0	0	12	6	18

Source: Composite Sorties Database

Table 175
UK: Sortie Cancellations and Air Aborts by Day

Date	HQ/ATO Cancelled	OPS Cancelled	Maint Cancelled	Weather Cancelled	Other Cancelled	Unknown Cancelled	Total	Air Aborts	Total Cancelled & Aborts
17-Jan-91	0	0	1	0	0	0	1	1	2
19-Jan-91	3	0	0	4	0	0	7	0	7
21-Jan-91	8	0	0	22	0	0	30	0	30
22-Jan-91	4	0	1	0	0	0	5	0	5
23-Jan-91	0	0	2	0	0	0	2	0	2
26-Jan-91	0	3	1	0	0	0	4	0	4
27-Jan-91	0	4	2	0	0	0	6	0	6
4-Feb-91	2	0	0	0	0	0	2	0	2
5-Feb-91	0	0	2	0	0	2	4	0	4
6-Feb-91	0	2	0	0	0	0	2	0	2
17-Feb-91	0	0	0	48	0	0	48	0	48
26-Feb-91	0	0	1	32	0	0	33	0	33
Total	17	9	10	106	0	2	144	1	145

Source: Composite Sorties Database

8

Desert Storm U.S. and Allied Strikes

The following tables track the number of strikes carried out by U.S. and Allied forces during Operation Desert Storm. It is important to note at the outset what is meant by "strike." We have defined it as the delivery of a weapon or weapons against a specific target, with no subjective assessment as to the degree of success of that strike. The question regarding the number of "strikes" conducted is a complex issue that eludes simple answers. For example, if an F-111 carrying four bombs dropped one bomb each on a fixed Scud site, a road bridge, a tank, and a cement plant, it would have carried out four strikes on that one sortie. If, however, it had dropped all four bombs on a single functional target type, such as a munitions factory, it would have been credited with only one strike. This counting procedure was admittedly arbitrary, but it captured the essence of the air war in a new way. This illustrates the fact that one aircraft (one sortie) could deliver several weapons and thus carry out several strikes against targets in a variety of target categories. For example, the number of F-117 strikes (1,788) is significantly larger than the number of F-117 sorties (1,299), because each F-117 sortie usually carried two weapons and could drop them on different targets. For ninty-five percent of aircraft sorties, however, a sortie equals a strike.

The number of sorties and strikes cannot, however, be easily correlated. The F-117 portion of the Missions Database provides a useful illustration of this. The F-117s flew 1,299 sorties, but were credited with 37% more strikes, 1,788. As cited earlier, since each F-117 generally carried two bombs per sortie, why isn't the strike count double the sortie count? Because not every sortie dropped two bombs: some sorties aborted due to weather and dropped no bombs, others were cancelled, still others experienced mechanical malfunctions and dropped only one bomb, etc. As a result, the strike count is larger but not necessarily double the sortie count. This is relatively easy to see with the F-117s, since they were a relatively small force whose operations against specific, clearly-

identified targets were well documented. The operations of other aircraft with much larger sortie totals, however, such as the A-10s (8,084) or the F-16 (13,087), are not so easily explained or correlated. In an aggregate sense, the ratio of strikes to missions planned, tasked, and executed provides a feel for the differences between planned operations and their eventual course and results.

The tables in this chapter present the total strikes in several different ways. There are tables on strikes as grouped by Automated Intelligence Installation File (AIF) target category; by kill box, by type of precision-guided munitions (PGM) employed, etc. The intent is to depict air war data in several different analytical formats. The primary source for this data is GWAPS' Missions Database (see the Note on Sources), which includes information on aircraft, munitions, aimpoints, C3, defenses, and mission results. The Missions Database itself is an amalgam of other sources and databases, each with its own terminology, idiosyncracies, etc. The two most important inputs to this database were the computer-assisted force management system (CAFMS) and the CENTAF/IN messages, which included the mission reports (MISREPs), the base source of most information on the war. This, in turn illustrates another important point: the Black Hole never had access to these sources. Black Hole planners relied almost completely on the telephone for information. While the verbal reports were obviously faster, however, they were also less complete, which in part explains why Black Hole numbers often differ from the CENTAF data.

The process of purging mistakes and reconciling inconsistencies from the data has been difficult and has often required interpreting several sets of data and then applying judgement. For example, in our initial Missions Database totals we had a large discrepancy in the number of A-10 missions for which we could locate data. We were unable to reconcile this data until we eventually determined that the A-10 units were including in their totals return flights from forward operating locations to their main operating bases. This enabled us to reconcile approximately 1,000 A-10 missions. Despite this, GWAPS still lacks detailed tasking and results data on approximately one out of every three A-10 missions (about 2,000 missions lack data). This is a result in part of the A-10 tasking data, which frequently directed them to merely report to an airborne Forward Air Controller (FAC) such as a Killer or Pointer Scout for on-scene tasking within a killbox, and in part because of the lack of detailed post-mission reporting. This example points out that all

data must be used cautiously because of hidden errors and inconsistencies.

Desert Storm Strike Counts

The following section includes tables on actual strikes on targets from air-to-surface munitions and missiles. They show the relative weight of effort on specific target sets. There are several variations of the strike count tables presented from different perspectives developed during the Survey's analysis. The first series categorizes targets by Automated Intelligence Installation File (see below in sources) functional categories rolled up into target sets. The second purpose is to show the weight of effort in the "Kill Boxes". These are the areas where the Republican Guard and other Iraqi ground troops were deployed or dug-in. The vast majority of these kill box strikes were directed against Ground Order of Battle (GOB) targets. However, about eight percent were directed against other categories of targets. The third set also counts strikes by the AIF functional category, but only when the weapon was a precision, guided munition (PGM). These are not PGM expenditure counts. The last major break-out is based on the Black Hole's Master Target List (MTL). It counts targets identified on the 1 March 1991 list. As stated in previous discussions, a "strike" is distinguished from a "sortie."

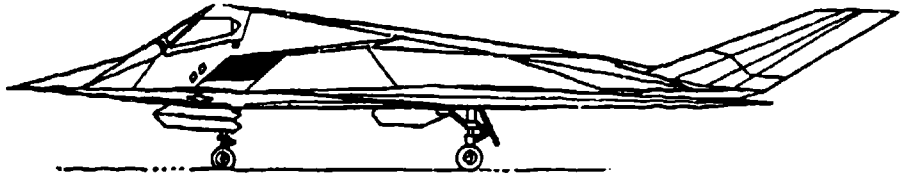
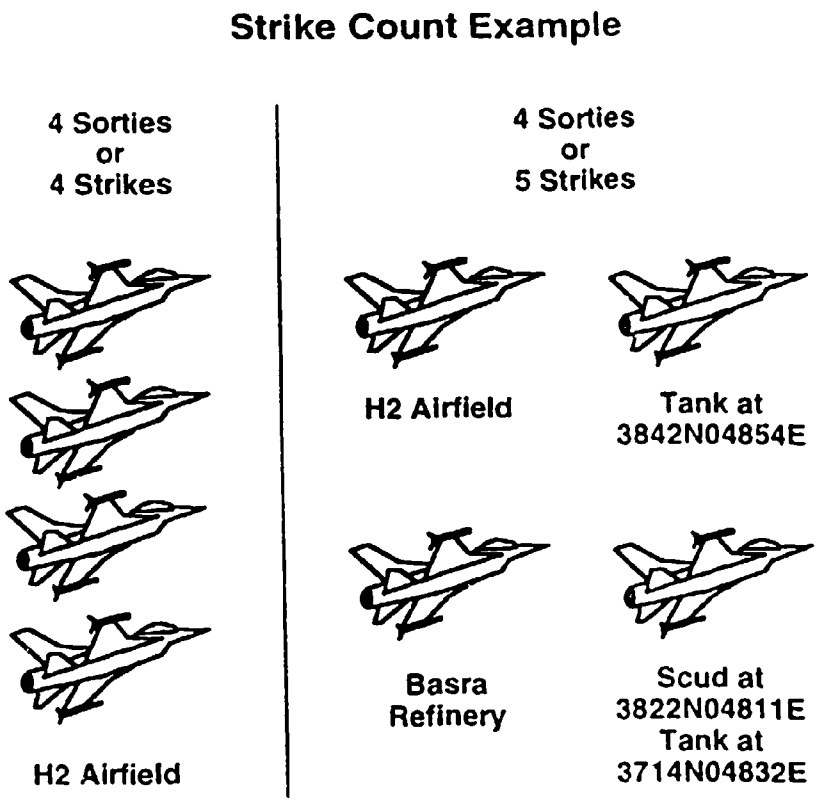


Figure 1


Strike Count Example
4 Sorties
or
4 Strikes
H2 Airfield
4 Sorties
or
5 Strikes
H2 Airfield
Tank at
3842N04854E
Basra
Refinery
Scud at
3822N04811E
Tank at
3714N04832E

The Missions database is a file of air-to-ground missions. Its intent is to document actual execution without attempting to assess results or effectiveness. It is simply a strike history. Beyond the original intention, it has grown to support many other queries, such as detailing if Joint Surveillance Targeting and Reconnaissance System (JSTARS) or a FASTFAC directed a mission. The data is not intended to show planning or tasking data, although they do so in 19.5 percent of the records from the air tasking order which had no unit reporting. The tasking data (ATO) is available through other sources. These sources include the Checkmate and RAND ATO databases and the Computer Assisted Force Management System (CAFMS) database. Planning data is available in the Master Attack Plans. This database was first published in a raw, working form through Air Combat Command, Directorate of Intelligence's IMPACT Program in July 1992 and since updated.

The Missions database provides a strike history of weapon employment and includes information on aircraft, munitions, aimpoints, command and control, mission results, and defenses even though it was originally intended to capture only the strategic targets (interdiction targets). Since nearly all strategic targets are listed in the Automated Intelligence Installation File (AIF) and had Basic Encyclopedia [BE] numbers, GWAPS believed it would be fairly simple to track them by these unique designations. However, it was quickly apparent that the information lacked consistency when it came to target designations. Different systems were used by different organizations to designate targets. BE numbers, for example, came from the Automated Intelligence Installation File while Master Target List (MTL) designators and names from the Black Hole. Compounding the problem; CIA installation names, place names from various map, and corrupted Arabic in roman script (phonetically spelled) added their impact on the data. For these reasons we have prepared different counts from the Missions database. In the case of ground troops, it was necessary to group them by location. We accomplished this by translating the geocoordinates into kill boxes and by providing each kill box with a BE number. This procedure also allowed us to do the same for fixed installations we could not match to a BE number from available clues. The term "clues" is appropriate since the data is open to different interpretations. Not only were there many different coordinate systems used, and misused, but also abbreviations

were tough to decode. "MX" meant "mission canceled" in some sources but also meant "maintenance abort" in others.

As first envisioned, the effort was intended to provide an in-depth assessment of Bomb Damage Assessment and munition effectiveness. The development took much more time than originally envisioned. Its scope, and required data fields, expanded to answer many questions on air power in the Gulf War. The sheer difficulty of interpreting enormous masses of information was misjudged by the principle architect of the GWAPS databases even after he had worked with the data for months. This is not an excuse but a cautionary note to anyone attempting to capture "air power" into an electronic system for its application on any future target set.

The database was constructed from a large variety of sources. That provided varying degrees of detail, validity and integrity. Each source had its own jargon and terms, which differed greatly. The survey worked through these confusing obstacles and relied on cross-checking sources, when possible, to provide the highest fidelity of information. More discussion of the application of air power and information for force level decision makers is included in the Command, Control, and Communications Volume.

Knowledge of how information flowed to our sources was critical to the interpretation of the data. Reporting and collection procedures used by the various sources explained many of the discrepancies. As an example, the difference in close air support (CAS) reporting and interdiction mission reporting were important in interpreting details in the reports. CAS Summaries (CASSUMs) would aggregate many missions into a single report. By knowing how and why the information was compiled we were able to break out many individual events and input them into the database.

The two most important sources were the Computer Assisted Force Management System (CAFMS) and CENTAF/IN (Intelligence) messages which included the mission reports (MISREPs). These provided both a framework for tracking missions (CAFMS) and the aircrews' reports (MISREPs) on targets where they really dropped their ordnance. The difference between the GWAPS Mission database counts and earlier counts results from these two sources. Some earlier counts were based on numbers originating from the Black Hole, which never had access to

CAFMS or the MISREPs. They relied mainly on the telephone where they could get quicker, if verbal, information. These are two reasons why the numbers of sorties against strategic target sets will vary from the original postwar CENTAF numbers.

Aircraft are grouped by type. All F-16s, whether A or C models, U.S. or Bahrain, were counted as F-16s. All air-to-ground models of Tornados were counted as GR-1. The "other" category of aircraft includes A-7s, F-5s, Mirage 2000, AC-130s, etc. Dates of specific events were sometimes confused because of the time zone changes between the military reference time called "Zulu" and local time in theater. Dates are further confused by execution day of the ATO. An ATO day is generally from daybreak to daybreak. The ATO day for CENTAF was set from 6:00 local time to 5:59 local time the following day (3:00 Zulu to 2:59 Zulu). The time over target (TOT) nearly always fell within these limits. However, airspace management and take-off/landing times for these TOTs often occurred on either side of these limits. You will note the first "day" lasted longer than one day and included two nights. Subsequently, the system stabilized according to a standard routine. All dates are reference dates based on the following table. Times are ZULU:

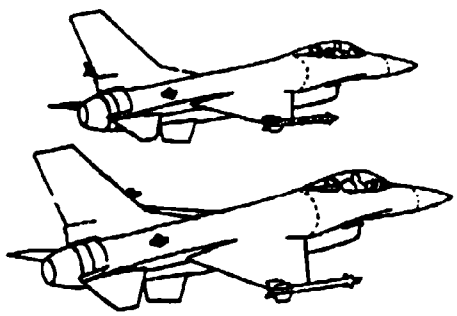


Table 176
ATO Reference Dates

ATO Day	Ref Date	War Day	Start Date	Start Time	End Date	End Time
1	1/17/91	D-Day	1/16/91	1800	1/18/91	0700
2	1/18/91	D+01	1/17/91	2300	1/19/91	0335
3	1/19/91	D+02	1/18/91	2320	1/20/91	0501
4	1/20/91	D+03	1/19/91	2320	1/21/91	0501
5	1/21/91	D+04	1/20/91	2320	1/22/91	0501
6	1/22/91	D+05	1/21/91	2320	1/23/91	0501
7	1/23/91	D+06	1/22/91	2320	1/24/91	0501
8	1/24/91	D+07	1/23/91	2320	1/25/91	0501
9	1/25/91	D+08	1/24/91	2320	1/26/91	0501
10	1/26/91	D+09	1/26/91	0001	1/27/91	0300
11	1/27/91	D+10	1/27/91	0001	1/28/91	0300
12	1/28/91	D+11	1/28/91	0001	1/29/91	0300
13	1/29/91	D+12	1/29/91	0001	1/30/91	0300
14	1/30/91	D+13	1/30/91	0001	1/31/91	0300
15	1/31/91	D+14	1/31/91	0001	2/1/91	0300
16	2/1/91	D+15	2/1/91	0001	2/2/91	0300
17	2/2/91	D+16	2/2/91	0001	2/3/91	0300
18	2/3/91	D+17	2/3/91	0001	2/4/91	0300
19	2/4/91	D+18	2/4/91	0001	2/5/91	0300
20	2/5/91	D+19	2/5/91	0001	2/6/91	0300
21	2/6/91	D+20	2/6/91	0001	2/7/91	0300
22	2/7/91	D+21	2/7/91	0001	2/8/91	0300
23	2/8/91	D+22	2/8/91	0001	2/9/91	0300
24	2/9/91	D+23	2/9/91	0001	2/10/91	0300
25	2/10/91	D+24	2/10/91	0001	2/11/91	0300
26	2/11/91	D+25	2/11/91	0001	2/12/91	0300
27	2/12/91	D+26	2/12/91	0001	2/13/91	0300
28	2/13/91	D+27	2/13/91	0001	2/14/91	0300
29	2/14/91	D+28	2/14/91	0001	2/15/91	0300
30	2/15/91	D+29	2/15/91	0001	2/16/91	0300
31	2/16/91	D+30	2/16/91	0001	2/17/91	0300
32	2/17/91	D+31	2/17/91	0001	2/18/91	0300
33	2/18/91	D+32	2/18/91	0001	2/19/91	0300
34	2/19/91	D+33	2/19/91	0001	2/20/91	0300
35	2/20/91	D+34	2/20/91	0001	2/21/91	0300
36	2/21/91	D+35	2/21/91	0001	2/22/91	0300
37	2/22/91	D+36	2/22/91	0001	2/23/91	0300
38	2/23/91	D+37	2/23/91	0001	2/24/91	0300
39	2/24/91	D+38/GDay	2/24/91	0001	2/25/91	0300
40	2/25/91	D+39/G+01	2/25/91	0001	2/26/91	0300
41	2/26/91	D+40/G+02	2/26/91	0001	2/27/91	0300
42	2/27/91	D+41/G+03	2/27/91	0001	2/28/91	0300
43	2/28/91	D+42/G+04	2/28/91	0001	2/28/91	0500

Source: GWAPS

Sources for the Strike Counts

1. **Automated Intelligence Installation File** (AIF). The AIF, and its Basic Encyclopedia (BE) numbering system for fixed installations, is the only standard, joint reference system for world-wide installations. The AIF includes a large number of data fields used for targeting and other analysis. It is the single authoritative source for U.S. targeting efforts. AIF information is strictly defined to allow users a consistent interpretation of the capabilities, uses, and functions of fixed installations, covering the entire world. Certain countries and elements in the database are not as fully analyzed as others. Not all the data elements were complete for Kuwait and Iraq but it was by far, and still is, the best installation data source. We had precrisis, prewar and postwar AIF extracts to use in the analysis.

2. **Computer Assisted Force Management System** (CAFMS) **data.** CAFMS was generated by CENTAF's Tactical Air Control Center. This system, with fifty five sub-hosts at most unit level Wing Operation Centers, tracked on-going flying operations. It contains fields for both tasking and execution data. CAFMS data, combined with Unit Remarks and Special Instructions (SPINS) constituted the Air Tasking Order (ATO). The air operations portions of the data appears to be consistent. The major failing of the data was the targeting information. It lacked consistency, accuracy and standardization. It was a confusing array of missing and misplaced information.

3. **Center for Naval Analysis** (CNA). The Center provided the carrier-based strike data, minus the mission numbers that we use to track missions. The data was reformatted and input into the Missions and Composite Sorties databases. The data was extracted primarily from logs kept in the carrier's mission planning area. Tomahawk Land Attack Missile (TLAM) data also originated at CNA.

4. **CENTAF Intelligence messages.** Nearly all messages addressed to CENTAF/IN (Intelligence) were archived on the Limited Enemy Situation/Correlation (LENSCE) Van message processor. It saved 30,000 messages including 8,200 Mission Reports (MISREP) and thousands of Tank Killer Reports, Close Air Support (CAS) Summaries and other messages. Nothing was more important to the development of the Missions database then these MISREPs. The LENSCE van was the single largest and most diverse source of electronic text on air operations from the war. These

messages were partially parsed (sorted) by Mitre Corp under the Tactical Air Command's Joint Automated Message Program (JAMPS) Program Office. Most of the information was then painstakingly extracted from the MISREP text by manually copying the data, leaving the original intact. This extensive and complicated work provided the best example why mission reporting should be formatted and standardized. Also, the availability of these messages seems to be a lucky coincidence. The LENSCE van was not used for its full designed purpose but mostly as a message distribution center during the war. It was not intended to be an archiver. Furthermore, all message centers after the war have apparently reused their monthly backup tapes. There was no regulated provision for archiving message traffic.

5. **Proven Force data** was derived from two sources not in complete agreement. EUCOM provided their bomb damage assessment program. A list of strikes was also extracted from the 7440 Composite Wing (Prov) History: "Bomb Damage Assessments, 18 Jan-27 Feb 1 1991." For more information see Chapter 11, Proven Force Data Sources.

6. **The Joint Stars data** in hard copy logs detailed the Joint Stars battlefield interdiction (BAI) war. Joint Stars System Management Office of Tactical Air Command HQ was helpful in getting an U.S. Army contractor to work data into the correct format but, it still needs further analysis. A cross-check against the mission reports would be interesting. Anecdotally, the reports sometimes mention bad JSTARS coordinates or no target found, yet the JSTARS data lists a target engaged.

7. **The 35TFW High-Speed Antiradiation Missile (HARM) database of HARM, AGM-88, shots.** Though this source contains good data, it lacks in most Electronic Order of Battle (EOB) Primary Identification Numbers (PIN) or Basic Encyclopedia Numbers. (BE number or BEN)

8. **Northern Iraq HARM shots.** Air Force Electronic Warfare Center (AFEWC/IN) Lt. Col. Richard D. Snook provides this data from a postwar study.

9. **Air Combat Assessment Summaries (ACAS).** CENTAF/IN produced this message every twelve hours. It was a compilation of bomb damage assessments from other sources taken nearly verbatim from incoming BDA messages.

10. **48TFW database**. A good database except for the identification of targets. Often only a place name such as "Latifiya" is used, precluding positive identification and omitting description of their aimpoints to any specific degree. Their Tank Killer Reports (TANKREPS) were used for their tank-plinking missions,which provided a much better picture of their operations. Their MISREPs also should be cross-checked against the Missions database at some future time.

11. **37TFW database**. The best source found with good, quantifiable information. Their error rate is probably as low as two percent of their records. Their aimpoint description, along with most other sources, is standardized to their own system. Other analysts may need more information.

12. **388TFW/69TFS target list**. A partial list of aimpoints extracted from their MISREPs by the unit. It was used for clarifying their MISREPs and other sources.

13. **4TFW target list**. A list of aimpoint data from the unit. It was used for clarifying their MISREPs and other sources.

14. **HQ SAC's BDA database**. A compilation of imagery interpretation reports on B-52 missions

15. **The ATO change log of the Tactical Air Control Center** provided a list of changes to the tasking for the units.

16. **Master Attack Plans**. Normally there were several sequential versions for any day, usually annotated with changes which provide a look at the air war from the Attack Hole perspective.

17. **Operation Granby**. The United Kingdom's Operations Group compiled several excellent reports and databases. We entered their strike data into the Missions database. All but five Basic Encyclopedia numbers cross-checked with other data and these were corrected. This was an excellent record compared to other sources.

Strike Counts by AIF Category

The first two tables show the Automated Intelligence Installation File (AIF) functional category counts for strikes, which indicate the level of effort against Operations Plan-like target sets. AIF functional category counts were produced to enhance the information on the actual target types struck during the war. They were not used during the war as an airpower, force-level management tool. Where possible, a target was assigned its AIF BE number and the corresponding functional category code as described in Defense Intelligence Agency Manual 65-3-1, "Standard Coding Systems Functional Classification Handbook." (Confidential). Only the primary category codes were included when an installation had multiple subfunctions. Where an AIF BE number could not be assigned, a category code was used according to the system in the manual. The thousands of possible codes appear in a five-digit, hierarchical order. The more digits, the more specific. As only an example, if "00100" were a radar site, "00120" would be early warning radar site and "00123" would be a early warning radar site in a semi-fixed position. Actual category codes however, do not appear because of classification.

Aircraft are grouped by type. All F-16s, whether A or C models, U.S. or Bahrain, were counted as F-16s. All air-to-ground models of Tornados were counted as GR-1. The "other" category of aircraft include A-7s, F-5s, Mirage 2000, AC-130s, etc.

The targets for the functional counts were grouped as following:

Offensive Counter Air (OCA)

Airfields
* Airbases
* Reserve Fields
* Helicopter Bases

Non Communications Electronic Installations
* Radar Installations
* Radars collocated with SAM sites
* ATC/ Nav aids
* Meteorological radars

Air Logistics, general
* Air Depots

Air Ammo Depots
* Maintenance and repair bases

* Aircraft and Components Production and Assembly

Nuclear, Biological, Chemical (NBC)

Atomic Energy Feed and Moderator Materials Production
Chemical and Biological Production and Storage
Atomic Energy-Associated Facilities Production and Storage
Basic and Applied Nuclear Research and Development, general

Command, Control and Communications (CCC)

Telecommunications
Offensive Air Command Control Headquarters and Schools #
Air Defense Headquarters
Electronic Warfare
Space Systems
Missile Headquarters, Surface to Surface
National, Combined and Joint Commands
Ground Force Headquarters
Naval Headquarters and Staff Activities

Electricity

Electric Power Generating, Transmission, and Control Facilities

Government Control

Government Control Centers
Government Bodies, General
Government Ministries and Administrative Bodies, Nonmilitary, General,
Government Detention Facilities, General
Unidentified Control Facility
Trade, Commerce and Government, General
Civil Defense Facilities(in Military use)

Naval

Mineable Areas
Maritime Port Facilities

358-715 O—93——15 QL 3

Cruise Missile Support Facilities, Defensive
Shipborne Missile Support Facilities
Cruise Surface to Surface Missile Launch Positions
Naval Bases and Installations
Naval Supply Depots

Petroleum, Oil and Lubricants (POL)

POL and Related Products Production, Pipeline and Storage Facilities

Lines of Communication (LOC)

Highway Transportation
Railroad Transportation
Inland Water Transportation

Ground Order of Battle (GOB)

Military Troop Installations
Ground Force Material and Storage Depots
Fortifications and Defense Systems

Scuds

Guided Missile and Space System Production and Assembly
Fixed Missile Facility, General
Fixed, Surface to Surface Missile Sites
Offensive Missile Support Facilities
Medium Range Surface to Surface Launch Control Facilities
Fixed Positions for Mobile Missile Launchers
Tactical Missile Troops Field Position

Surface to Air Missile (SAM)

Missile Support Facilities, Defensive, General
Surface to Air Missile Sites/Complexes
Tactical Surface to Air Missile Sites/Installations
SAM Support Facilities

Military Industrial Base

Basic Processing
Basic Equipment Production
End Products(Chiefly Civilian)
Technical Research, Development and Testing, Non nuclear
Covered Storage Facilities, General
Material (Chiefly Military)
Industrial Production Centers
Defense Logistics Agencies

Miscellaneous/Other

All installation not in above list
This category could arguably fit into OCA

Table 177
Strikes by AIF Categories

Aircraft Type	OCA	NBC	C3	Elect	Government Control	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other	Total
A-10	175	2	133	0	2	0	20	2	3,367	135	49	2	3,887	2,947	6,834
A-6	169	38	83	33	0	183	22	91	1,519	56	52	18	2,264	353	2,617
AV-8	8	2	6	4	0	0	4	2	2,421	2	18	0	2,467	118	2,585
B-52	99	42	38	66	0	0	42	17	1,175	58	21	106	1,664	42	1,706
F-111E	104	16	14	40	0	0	47	11	40	30	10	71	383	40	423
F-111F	496	38	30	0	6	0	4	184	1,804	69	9	30	2,670	132	2,802
F-117	419	357	382	3	124	2	8	163	49	64	49	158	1,778	10	1,788
F-15E	278	6	140	14	2	0	16	171	949	391	40	23	2,030	94	2,124
F-16	895	324	340	73	24	10	123	296	8,258	421	218	422	11,404	294	11,698
F-4G	279	0	0	0	0	0	0	0	1	0	630	0	910	10	920
F/A-18	217	83	188	7	0	137	16	113	1,898	96	157	71	2,983	1,568	4,551
GR-1	597	19	30	22	0	0	207	104	232	18	35	22	1,286	31	1,317
TLAM	12	33	48	63	45	0	20	0	0	58	0	2	281	0	281
Subtotal	3,748	960	1,432	325	203	332	529	1,154	21,713	1,398	1,288	925	34,007	5,639	39,646
Other Aircraft	220	9	62	20	0	41	10	14	1,077	61	79	49	1,642	21	1,663
Total	3,968	969	1,494	345	203	373	539	1,168	22,790	1,459	1,367	974	35,649	5,660	41,309

Source: Missions Database (S/NF/WN/NC)

Table 178
Daily Strikes by AIF Categories

Day	Aircraft Type	OCA	NBC	C3	Elect	Goverment Control	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
1	A-10	80	0	48	0	0	0	0	0	194	0	0	2	324	4	328
1	A-6	26	0	0	0	0	13	0	0	0	0	2	0	41	0	41
1	AV-8	0	0	0	0	0	0	0	0	8	0	0	0	8	0	8
1	B-52	15	0	17	18	0	0	0	0	6	0	0	0	56	0	56
1	F-111E	10	0	0	0	0	0	0	0	0	0	0	0	10	0	10
1	F-111F	49	9	0	0	2	0	0	0	5	0	0	4	69	0	69
1	F-117	1	10	39	0	8	0	0	0	1	0	0	2	61	0	61
1	F-15E	14	0	10	6	0	0	5	4	6	18	0	0	63	4	67
1	F-16	81	0	12	0	4	0	21	0	35	4	8	0	165	20	185
1	F-4G	15	0	0	0	0	0	0	0	0	0	103	0	118	0	118
1	F/A-18	5	0	19	0	0	0	1	4	0	0	18	0	47	0	47
1	GR-1	47	0	0	0	0	0	0	0	0	0	6	0	53	0	53
1	TLAM	2	20	14	20	18	0	6	0	0	42	0	0	122	0	122
1	Subtotal	345	39	159	44	32	13	33	8	255	64	137	8	1,137	28	1,165
1	Other Aircraft	27	0	2	0	0	0	0	0	27	0	2	0	58	0	58
1	Total	372	39	161	44	32	13	33	8	282	64	139	8	1,195	28	1,223

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
2	A-10	14	0	22	0	0	0	0
2	A-6	0	0	3	0	0	17	0
2	AV-8	0	0	0	0	0	0	4
2	B-52	0	0	0	0	0	0	5
2	F-111E	4	0	0	8	0	0	0
2	F-111F	22	1	0	0	0	0	0
2	F-117	0	6	22	0	2	0	0
2	F-15E	2	0	4	0	0	0	0
2	F-16	72	8	8	0	0	0	0
2	F-4G	22	0	0	0	0	0	0
2	F/A-18	0	0	0	0	0	5	0
2	GR-1	19	0	0	0	0	0	0
2	TLAM	0	0	10	40	4	0	4
2	Subtotal	155	15	69	48	6	22	13
2	Other Aircraft	10	0	0	0	0	3	0
2	Total	165	15	69	48	6	25	13

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
3	A-10	16	0	2	0	0	0	0
3	A-6	0	6	0	0	0	0	5
3	AV-8	0	0	0	0	0	0	0
3	B-52	3	4	0	0	0	0	0
3	F-111E	0	0	0	0	0	0	0
3	F-111F	8	3	1	0	0	0	0
3	F-117	0	2	14	0	5	0	1
3	F-15E	16	0	16	0	0	0	0
3	F-16	27	51	28	0	8	0	7
3	F-4G	17	0	0	0	0	0	0
3	F/A-18	1	0	10	0	0	0	0
3	GR-1	20	0	0	0	0	0	0
3	TLAM	0	8	6	2	12	0	4
3	Subtotal	108	74	77	2	25	0	17
3	Other Aircraft	15	3	0	0	0	12	0
3	Total	123	77	77	2	25	12	17

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
2	A-10	0	100	18	2	0	156	0	156
2	A-6	0	5	0	0	2	27	6	33
2	AV-8	0	42	0	0	0	46	0	46
2	B-52	0	5	3	0	11	24	0	24
2	F-111E	0	0	0	0	0	12	0	12
2	F-111F	10	3	2	0	0	38	0	38
2	F-117	3	1	1	1	0	36	0	36
2	F-15E	4	2	22	0	0	34	0	34
2	F-16	0	30	28	3	48	197	8	205
2	F-4G	0	0	0	54	0	76	0	76
2	F/A-18	0	14	0	0	0	19	11	30
2	GR-1	0	0	0	4	0	23	7	30
2	TLAM	0	0	0	0	0	58	0	58
2	Subtotal	17	202	74	64	61	746	32	778
2	Other Aircraft	0	7	0	6	4	30	3	33
2	Total	17	209	74	70	65	776	35	811

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
3	A-10	0	12	0	0	0	30	0	30
3	A-6	2	5	0	0	0	18	0	18
3	AV-8	0	14	0	0	0	14	0	14
3	B-52	0	22	7	0	0	36	0	36
3	F-111E	0	0	0	0	0	0	0	0
3	F-111F	1	0	4	0	0	17	0	17
3	F-117	2	0	1	0	1	26	0	26
3	F-15E	6	0	25	0	0	63	0	63
3	F-16	0	72	36	8	8	245	4	249
3	F-4G	0	0	0	39	0	56	0	56
3	F/A-18	10	12	0	0	6	39	0	39
3	GR-1	0	0	0	0	0	20	0	20
3	TLAM	0	0	0	0	0	32	0	32
3	Subtotal	21	137	73	47	15	596	4	600
3	Other Aircraft	0	7	0	23	0	60	0	60
3	Total	21	144	73	70	15	656	4	660

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
4	A-10	0	0	0	0	0	0	0
4	A-6	6	0	0	0	0	6	1
4	AV-8	0	0	0	0	0	0	0
4	B-52	0	0	2	4	0	0	0
4	F-111E	0	12	0	0	0	0	0
4	F-111F	8	0	0	0	0	0	0
4	F-117	3	8	8	0	0	0	0
4	F-15E	8	0	0	0	0	0	0
4	F-16	26	8	3	0	0	0	0
4	F-4G	22	0	0	0	0	0	0
4	F/A-18	15	0	1	0	0	0	0
4	GR-1	23	0	0	0	0	0	0
4	TLAM	2	4	2	0	0	0	0
4	Subtotal	113	32	16	4	0	6	1
4	Other Aircraft	9	0	0	4	0	1	1
4	**Total**	**122**	**32**	**16**	**8**	**0**	**7**	**2**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
5	A-10	0	0	0	0	0	0	0
5	A-6	18	0	0	0	0	6	0
5	AV-8	0	0	0	0	0	0	0
5	B-52	9	0	6	8	0	0	0
5	F-111E	7	0	2	0	0	0	0
5	F-111F	12	7	3	0	0	0	0
5	F-117	5	8	12	0	7	0	0
5	F-15E	17	0	0	0	0	0	0
5	F-16	44	44	16	8	12	0	0
5	F-4G	9	0	0	0	0	0	0
5	F/A-18	2	0	8	4	0	4	0
5	GR-1	23	0	0	0	0	0	0
5	TLAM	0	0	0	0	0	0	0
5	Subtotal	146	59	47	20	19	10	0
5	Other Aircraft	1	0	0	0	0	0	0
5	**Total**	**147**	**59**	**47**	**20**	**19**	**10**	**0**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
4	A-10	0	2	2	0	0	4	19	23
4	A-6	0	2	0	0	0	15	0	15
4	AV-8	0	23	0	0	0	23	0	23
4	B-52	0	15	3	0	4	28	0	28
4	F-111E	0	0	0	0	0	12	0	12
4	F-111F	0	2	0	1	0	11	0	11
4	F-117	0	4	1	3	1	28	0	28
4	F-15E	0	3	29	0	0	40	4	44
4	F-16	0	66	52	29	35	219	0	219
4	F-4G	0	0	0	47	0	69	0	69
4	F/A-18	0	4	0	0	0	20	0	20
4	GR-1	0	8	0	0	0	31	0	31
4	TLAM	0	0	0	0	0	8	0	8
4	Subtotal	0	129	87	80	40	508	23	531
4	Other Aircraft	0	3	0	5	0	23	0	23
4	Total	0	132	87	85	40	531	23	554

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
5	A-10	0	2	4	0	0	6	26	32
5	A-6	0	6	5	0	0	35	0	35
5	AV-8	0	12	0	0	0	12	0	12
5	B-52	0	18	0	0	0	41	0	41
5	F-111E	0	0	0	0	8	17	0	17
5	F-111F	0	1	0	0	0	23	0	23
5	F-117	0	0	0	2	0	34	0	34
5	F-15E	0	2	15	0	4	38	0	38
5	F-16	0	30	18	18	0	190	8	198
5	F-4G	0	0	0	40	0	49	0	49
5	F/A-18	3	0	16	0	0	37	0	37
5	GR-1	0	0	0	4	0	27	0	27
5	TLAM	0	0	0	0	0	0	0	0
5	Subtotal	3	71	58	64	12	509	34	543
5	Other Aircraft	0	2	4	0	0	7	0	7
5	Total	3	73	62	64	12	516	34	550

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
6	A-10	4	0	2	0	0	0	0
6	A-6	6	0	0	0	0	7	7
6	AV-8	0	0	0	0	0	0	0
6	B-52	12	0	4	0	0	0	0
6	F-111E	0	0	0	0	0	0	0
6	F-111F	18	6	6	0	0	0	0
6	F-117	28	0	1	1	3	0	0
6	F-15E	25	0	11	0	0	0	0
6	F-16	40	0	0	0	0	0	0
6	F-4G	11	0	0	0	0	0	0
6	F/A-18	1	0	0	0	0	4	0
6	GR-1	12	8	5	0	0	0	0
6	TLAM	0	0	0	0	2	0	6
6	Subtotal	157	14	29	1	5	11	13
6	Other Aircraft	0	0	0	8	0	0	3
6	**Total**	**157**	**14**	**29**	**9**	**5**	**11**	**16**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
7	A-10	2	0	10	0	0	0	2
7	A-6	6	0	3	0	0	0	0
7	AV-8	0	0	0	0	0	0	0
7	B-52	6	0	4	0	0	0	1
7	F-111E	12	0	0	0	0	0	0
7	F-111F	11	0	0	0	0	0	0
7	F-117	0	0	11	0	0	0	0
7	F-15E	21	0	0	0	0	0	0
7	F-16	128	0	0	0	0	0	0
7	F-4G	12	0	0	0	0	0	0
7	F/A-18	10	0	0	0	0	0	0
7	GR-1	24	0	0	0	0	0	0
7	TLAM	0	0	0	0	0	0	0
7	Subtotal	232	0	28	0	0	0	3
7	Other Aircraft	9	0	0	0	0	0	1
7	**Total**	**241**	**0**	**28**	**0**	**0**	**0**	**4**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
6	A-10	0	48	6	0	0	60	6	66
6	A-6	8	0	0	0	0	28	0	28
6	AV-8	0	20	0	0	0	20	0	20
6	B-52	0	21	0	0	0	37	0	37
6	F-111E	0	0	0	0	0	0	0	0
6	F-111F	0	4	0	0	0	34	0	34
6	F-117	7	0	0	0	0	40	1	41
6	F-15E	2	8	4	0	0	50	6	56
6	F-16	0	53	33	10	0	136	30	166
6	F-4G	0	0	0	13	0	24	2	26
6	F/A-18	0	0	20	0	0	25	0	25
6	GR-1	0	6	0	2	0	33	0	33
6	TLAM	0	0	0	0	0	8	0	8
6	Subtotal	17	160	63	25	0	495	45	540
6	Other Aircraft	0	7	0	1	0	19	0	19
6	Total	17	167	63	26	0	514	45	559

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
7	A-10	0	68	12	0	0	94	2	96
7	A-6	0	4	0	0	0	13	0	13
7	AV-8	0	29	2	0	0	31	0	31
7	B-52	0	26	0	0	0	37	0	37
7	F-111E	0	0	0	0	0	12	0	12
7	F-111F	0	0	0	0	0	11	0	11
7	F-117	6	0	0	0	0	17	0	17
7	F-15E	3	6	4	0	0	34	0	34
7	F-16	0	141	28	5	32	334	0	334
7	F-4G	0	0	0	16	0	28	1	29
7	F/A-18	0	1	0	0	0	11	0	11
7	GR-1	0	0	3	0	0	27	0	27
7	TLAM	0	0	0	0	0	0	0	0
7	Subtotal	9	275	49	21	32	649	3	652
7	Other Aircraft	0	14	0	0	0	24	0	24
7	Total	9	289	49	21	32	673	3	676

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
8	A-10	10	0	0	0	0	0	0
8	A-6	0	0	4	0	0	2	0
8	AV-8	0	0	0	0	0	0	0
8	B-52	10	0	0	3	0	0	0
8	F-111E	12	0	0	0	0	0	0
8	F-111F	27	0	0	0	0	0	0
8	F-117	26	0	1	0	0	0	0
8	F-15E	4	0	0	0	0	0	0
8	F-16	51	0	31	21	0	0	23
8	F-4G	10	0	0	0	0	0	0
8	F/A-18	0	0	13	0	0	1	3
8	GR-1	5	0	0	0	0	0	0
8	TLAM	2	0	4	0	0	0	0
8	Subtotal	157	0	53	24	0	3	26
8	Other Aircraft	1	0	10	0	0	0	0
8	**Total**	**158**	**0**	**63**	**24**	**0**	**3**	**26**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
9	A-10	4	0	2	0	0	0	0
9	A-6	8	0	6	0	0	0	0
9	AV-8	0	0	0	0	0	0	0
9	B-52	10	0	0	0	0	0	0
9	F-111E	0	0	0	0	0	0	0
9	F-111F	10	0	0	0	0	0	0
9	F-117	24	0	0	0	0	0	0
9	F-15E	13	0	8	0	0	0	0
9	F-16	40	16	4	12	0	0	0
9	F-4G	6	0	0	0	0	0	0
9	F/A-18	2	0	11	0	0	0	0
9	GR-1	4	0	4	7	0	0	15
9	TLAM	0	0	5	0	3	0	0
9	Subtotal	121	16	40	19	3	0	15
9	Other Aircraft	0	0	12	0	0	0	0
9	**Total**	**121**	**16**	**52**	**19**	**3**	**0**	**15**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
8	A-10	0	190	14	2	0	216	22	238
8	A-6	6	1	0	0	0	13	7	20
8	AV-8	0	86	0	12	0	98	2	100
8	B-52	3	14	0	0	0	30	0	30
8	F-111E	0	0	0	0	0	12	0	12
8	F-111F	4	0	0	0	0	31	0	31
8	F-117	15	0	0	0	0	42	0	42
8	F-15E	8	26	12	4	0	54	0	54
8	F-16	0	109	18	0	8	261	4	265
8	F-4G	0	0	0	12	0	22	0	22
8	F/A-18	0	8	0	0	0	25	4	29
8	GR-1	0	8	0	0	0	13	0	13
8	TLAM	0	0	0	0	0	6	0	6
8	Subtotal	36	442	44	30	8	823	39	862
8	Other Aircraft	0	12	0	0	0	23	1	24
8	Total	36	454	44	30	8	846	40	886

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
9	A-10	0	150	12	0	0	168	24	192
9	A-6	0	0	0	1	6	21	9	30
9	AV-8	0	30	0	0	0	30	0	30
9	B-52	0	24	0	0	0	34	2	36
9	F-111E	0	0	0	0	0	0	0	0
9	F-111F	0	0	0	0	0	10	0	10
9	F-117	7	0	0	0	0	31	0	31
9	F-15E	0	21	0	4	0	46	0	46
9	F-16	2	150	42	16	0	282	4	286
9	F-4G	0	0	0	15	0	21	0	21
9	F/A-18	0	20	0	0	6	39	0	39
9	GR-1	0	0	0	3	0	33	0	33
9	TLAM	0	0	2	0	0	10	0	10
9	Subtotal	9	395	56	39	12	725	39	764
9	Other Aircraft	0	4	0	2	2	20	2	22
9	Total	9	399	56	41	14	745	41	786

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
10	A-10	0	0	2	0	0	0	2
10	A-6	0	0	2	8	0	9	0
10	AV-8	0	0	0	0	0	0	0
10	B-52	0	0	0	0	0	0	0
10	F-111E	8	0	0	4	0	0	0
10	F-111F	11	0	0	0	0	0	2
10	F-117	42	2	4	0	0	0	0
10	F-15E	4	0	12	0	0	0	0
10	F-16	34	0	16	2	0	0	2
10	F-4G	11	0	0	0	0	0	0
10	F/A-18	0	0	0	0	0	0	0
10	GR-1	0	0	0	0	0	0	0
10	TLAM	0	1	0	0	6	0	0
10	Subtotal	110	3	36	14	6	9	6
10	Other Aircraft	1	0	0	3	0	4	0
10	**Total**	**111**	**3**	**36**	**17**	**6**	**13**	**6**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
11	A-10	0	0	0	0	0	0	0
11	A-6	0	3	3	4	0	7	0
11	AV-8	4	0	0	0	0	0	0
11	B-52	0	2	0	7	0	0	5
11	F-111E	4	0	4	0	0	0	0
11	F-111F	33	0	0	0	0	0	0
11	F-117	33	15	4	0	2	0	0
11	F-15E	2	0	0	0	0	0	4
11	F-16	4	43	49	0	0	0	6
11	F-4G	4	0	0	0	0	0	0
11	F/A-18	8	4	0	0	0	2	0
11	GR-1	0	0	14	0	0	0	0
11	TLAM	0	0	0	0	0	0	0
11	Subtotal	92	67	74	11	2	9	15
11	Other Aircraft	2	1	1	0	0	1	0
11	**Total**	**94**	**68**	**75**	**11**	**2**	**10**	**15**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
10	A-10	0	192	2	0	0	198	46	244
10	A-6	0	6	0	0	0	25	0	25
10	AV-8	0	90	0	0	0	90	0	90
10	B-52	0	35	6	0	0	41	0	41
10	F-111E	0	0	0	0	0	12	0	12
10	F-111F	0	1	1	0	0	15	0	15
10	F-117	0	0	6	0	0	54	1	55
10	F-15E	0	22	8	0	0	46	0	46
10	F-16	0	148	41	6	8	257	0	257
10	F-4G	0	0	0	16	0	27	0	27
10	F/A-18	2	0	0	0	0	2	0	2
10	OR-1	0	12	0	0	0	12	0	12
10	TLAM	0	0	0	0	0	7	0	7
10	Subtotal	2	506	64	22	8	786	47	833
10	Other Aircraft	9	7	4	0	0	28	0	28
10	Total	11	513	68	22	8	814	47	861

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
11	A-10	0	40	44	0	0	84	20	104
11	A-6	1	0	0	1	0	19	2	21
11	AV-8	0	8	0	0	0	12	0	12
11	B-52	0	20	3	0	0	37	0	37
11	F-111E	0	0	0	0	0	8	0	8
11	F-111F	0	0	3	0	0	36	0	36
11	F-117	5	0	0	1	3	63	0	63
11	F-15E	6	17	7	0	0	36	6	42
11	F-16	4	134	0	0	0	240	0	240
11	F-4G	0	0	0	9	0	13	0	13
11	F/A-18	13	6	0	2	0	35	0	35
11	OR-1	0	3	0	0	0	17	0	17
11	TLAM	0	0	0	0	0	0	0	0
11	Subtotal	29	228	57	13	3	600	28	628
11	Other Aircraft	0	9	0	1	0	15	0	15
11	Total	29	237	57	14	3	615	28	643

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
12	A-10	4	0	0	0	0	0	0
12	A-6	1	0	3	0	0	14	0
12	AV-8	0	0	2	0	0	0	0
12	B-52	0	0	0	0	0	0	4
12	F-111E	0	0	0	0	0	0	0
12	F-111F	22	0	0	0	0	0	0
12	F-117	8	10	8	0	3	0	0
12	F-15E	15	0	2	0	0	0	2
12	F-16	24	0	16	0	0	0	0
12	F-4G	8	0	0	0	0	0	0
12	F/A-18	0	0	2	0	0	3	8
12	GR-1	0	0	0	0	0	0	54
12	TLAM	0	0	0	1	0	0	0
12	Subtotal	82	10	33	1	3	17	68
12	Other Aircraft	0	0	0	0	0	1	5
12	**Total**	**82**	**10**	**33**	**1**	**3**	**18**	**73**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
13	A-10	2	0	0	0	0	0	0
13	A-6	0	0	0	0	0	6	0
13	AV-8	0	0	0	0	0	0	0
13	B-52	0	0	0	8	0	0	0
13	F-111E	8	0	0	0	0	0	0
13	F-111F	12	2	1	0	0	0	0
13	F-117	2	13	8	0	2	0	0
13	F-15E	1	0	2	0	0	0	0
13	F-16	0	0	0	0	0	0	4
13	F-4G	12	0	0	0	0	0	0
13	F/A-18	1	0	0	0	0	0	0
13	GR-1	18	0	0	0	0	0	8
13	TLAM	0	0	3	0	0	0	0
13	Subtotal	56	15	14	8	2	6	12
13	Other Aircraft	0	0	0	0	0	11	0
13	**Total**	**56**	**15**	**14**	**8**	**2**	**17**	**12**

Day	Aircraft Type	OCA	NBC	C3	Elect	Goverannt Control	Navy	POL
12	A-10	4	0	0	0	0	0	0
12	A-6	1	0	3	0	0	14	0
12	AV-8	0	0	2	0	0	0	0
12	B-52	0	0	0	0	0	0	4
12	F-111E	0	0	0	0	0	0	0
12	F-111F	22	0	0	0	0	0	0
12	F-117	8	10	8	0	3	0	0
12	F-15E	15	0	2	0	0	0	2
12	F-16	24	0	16	0	0	0	0
12	F-4G	8	0	0	0	0	0	0
12	F/A-18	0	0	2	0	0	3	8
12	GR-1	0	0	0	0	0	0	54
12	TLAM	0	0	0	1	0	0	0
12	Subtotal	82	10	33	1	3	17	68
12	Other Aircraft	0	0	0	0	0	1	5
12	Total	82	10	33	1	3	18	73

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
13	A-10	2	0	0	0	0	0	0
13	A-6	0	0	0	0	0	6	0
13	AV-8	0	0	0	0	0	0	0
13	B-52	0	0	0	8	0	0	0
13	F-111E	8	0	0	0	0	0	0
13	F-111F	12	2	1	0	0	0	0
13	F-117	2	13	8	0	2	0	0
13	F-15E	1	0	2	0	0	0	0
13	F-16	0	0	0	0	0	0	4
13	F-4G	12	0	0	0	0	0	0
13	F/A-18	1	0	0	0	0	0	0
13	GR-1	18	0	0	0	0	0	8
13	TLAM	0	0	3	0	0	0	0
13	Subtotal	56	15	14	8	2	6	12
13	Other Aircraft	0	0	0	0	0	11	0
13	Total	56	15	14	8	2	17	12

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
14	A-10	0	0	0	0	0	0	0
14	A-6	4	0	0	0	0	5	0
14	AV-8	0	0	0	0	0	0	0
14	B-52	6	6	0	0	0	0	6
14	F-111E	0	0	0	8	0	0	0
14	F-111F	36	2	0	0	0	0	0
14	F-117	6	10	6	0	0	0	2
14	F-15E	4	0	2	0	0	0	0
14	F-16	16	0	0	0	0	0	0
14	F-4G	11	0	0	0	0	0	0
14	F/A-18	7	0	8	0	0	2	0
14	GR-1	0	0	4	0	0	0	0
14	TLAM	0	0	0	0	0	0	0
14	Subtotal	90	18	20	8	0	7	8
14	Other Aircraft	8	0	0	0	0	0	0
14	Total	98	18	20	8	0	7	8

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
15	A-10	0	0	2	0	0	0	0
15	A-6	12	0	0	0	0	4	2
15	AV-8	0	0	0	0	0	0	0
15	B-52	0	8	0	0	0	0	0
15	F-111E	3	0	0	0	0	0	0
15	F-111F	32	0	0	0	0	0	0
15	F-117	3	6	8	0	0	0	0
15	F-15E	1	0	1	0	0	0	0
15	F-16	26	0	0	0	0	0	1
15	F-4G	7	0	0	0	0	0	0
15	F/A-18	6	0	0	0	0	0	0
15	GR-1	8	0	0	0	0	0	8
15	TLAM	0	0	4	0	0	0	0
15	Subtotal	98	14	15	0	0	4	11
15	Other Aircraft	0	0	0	0	0	0	0
15	Total	98	14	15	0	0	4	11

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
14	A-10	0	156	0	2	0	158	120	278
14	A-6	0	37	0	3	0	49	0	49
14	AV-8	0	66	0	0	0	66	0	66
14	B-52	0	27	0	0	0	45	0	45
14	F-111E	0	4	0	0	0	12	0	12
14	F-111F	1	5	0	0	0	44	0	44
14	F-117	22	1	0	0	2	49	0	49
14	F-15E	2	29	13	0	0	50	0	50
14	F-16	0	235	0	1	0	252	4	256
14	F-4G	0	0	0	3	0	14	0	14
14	F/A-18	0	19	0	5	0	41	0	41
14	GR-1	0	8	0	7	0	19	0	19
14	TLAM	0	0	0	0	0	0	0	0
14	Subtotal	25	587	13	21	2	799	124	923
14	Other Aircraft	0	25	0	1	0	34	1	35
14	Total	25	612	13	22	2	833	125	958

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
15	A-10	0	86	2	6	0	96	134	230
15	A-6	0	35	1	0	0	54	0	54
15	AV-8	0	102	0	0	0	102	0	102
15	B-52	0	72	0	0	0	80	0	80
15	F-111E	0	0	0	6	0	9	0	9
15	F-111F	4	0	0	0	0	36	0	36
15	F-117	15	2	0	0	0	34	0	34
15	F-15E	4	25	7	2	0	40	0	40
15	F-16	10	154	2	0	0	193	16	209
15	F-4G	0	0	0	2	0	9	0	9
15	F/A-18	0	22	0	2	12	42	0	42
15	GR-1	0	8	0	0	0	24	0	24
15	TLAM	0	0	13	0	2	19	0	19
15	Subtotal	33	506	25	18	14	738	150	888
15	Other Aircraft	0	29	0	1	1	31	5	36
15	Total	33	535	25	19	15	769	155	924

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
16	A-10	4	2	0	0	0	0	0
16	A-6	2	0	0	0	0	5	0
16	AV-8	0	2	0	0	0	0	0
16	B-52	0	0	0	0	0	0	0
16	F-111E	4	0	0	0	0	0	0
16	F-111F	21	0	0	0	0	0	0
16	F-117	9	7	14	1	0	0	0
16	F-15E	3	0	0	0	0	0	0
16	F-16	14	12	0	0	0	0	3
16	F-4G	8	0	0	0	0	0	0
16	F/A-18	3	0	5	0	0	5	0
16	GR-1	8	0	0	0	0	0	15
16	TLAM	6	0	0	0	0	0	0
16	Subtotal	82	23	19	1	0	10	18
16	Other Aircraft	1	0	0	0	0	2	0
16	**Total**	**83**	**23**	**19**	**1**	**0**	**12**	**18**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
17	A-10	0	0	4	0	0	0	0
17	A-6	0	0	0	0	0	4	0
17	AV-8	0	0	0	0	0	0	0
17	B-52	8	0	0	0	0	0	0
17	F-111E	0	4	0	0	0	0	0
17	F-111F	14	0	0	0	0	0	0
17	F-117	12	2	0	0	0	0	0
17	F-15E	0	0	1	0	0	0	0
17	F-16	40	4	0	0	0	0	0
17	F-4G	8	0	0	0	0	0	0
17	F/A-18	0	0	2	0	0	0	0
17	GR-1	8	0	0	0	0	0	8
17	TLAM	0	0	0	0	0	0	0
17	Subtotal	90	10	7	0	0	4	8
17	Other Aircraft	0	0	0	0	0	0	0
17	**Total**	**90**	**10**	**7**	**0**	**0**	**4**	**8**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
16	A-10	0	112	2	0	0	120	116	236
16	A-6	0	28	4	0	0	39	6	45
16	AV-8	0	70	0	0	0	72	0	72
16	B-52	0	38	6	0	6	50	1	51
16	F-111E	0	0	0	0	0	4	8	12
16	F-111F	0	0	0	0	0	21	0	21
16	F-117	14	0	0	0	0	45	0	45
16	F-15E	2	33	2	0	0	40	4	44
16	F-16	4	249	0	0	0	282	10	292
16	F-4G	0	1	0	4	0	13	0	13
16	F/A-18	0	31	0	4	0	48	0	48
16	GR-1	0	0	0	0	0	23	0	23
16	TLAM	0	0	0	0	0	6	0	6
16	Subtotal	20	562	14	8	6	763	145	908
16	Other Aircraft	0	21	0	0	0	24	2	26
16	Total	20	583	14	8	6	787	147	934

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
17	A-10	0	115	0	4	0	123	104	227
17	A-6	0	21	6	0	0	31	0	31
17	AV-8	0	70	0	0	0	70	0	70
17	B-52	0	36	0	0	0	44	2	46
17	F-111E	0	0	4	0	0	8	0	8
17	F-111F	7	3	8	0	0	32	0	32
17	F-117	0	0	0	0	0	14	0	14
17	F-15E	0	38	13	0	0	52	7	59
17	F-16	4	258	0	0	0	306	6	312
17	F-4G	0	0	0	4	0	12	1	13
17	F/A-18	0	33	2	8	0	45	0	45
17	GR-1	0	12	0	0	0	28	0	28
17	TLAM	0	0	0	0	0	0	0	0
17	Subtotal	11	586	33	16	0	765	120	885
17	Other Aircraft	0	17	0	0	0	17	0	17
17	Total	11	603	33	16	0	782	120	902

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Govermnt Control	Navy	POL
18	A-10	6	0	6	0	0	0	0
18	A-6	0	0	4	0	0	0	0
18	AV-8	0	0	0	0	0	0	0
18	B-52	0	0	0	0	0	0	6
18	F-111E	0	0	0	8	0	0	3
18	F-111F	22	0	0	0	0	0	0
18	F-117	6	23	3	0	0	0	0
18	F-15E	1	0	6	0	0	0	0
18	F-16	16	0	6	0	0	0	0
18	F-4G	12	0	0	0	0	0	0
18	F/A-18	0	0	11	0	0	2	0
18	GR-1	0	4	0	0	0	0	0
18	TLAM	0	0	0	0	0	0	0
18	Subtotal	63	27	36	8	0	2	9
18	Other Aircraft	0	0	0	0	0	0	0
18	**Total**	**63**	**27**	**36**	**8**	**0**	**2**	**9**

Day	Aircraft Type	OCA	NBC	C3	Elect	Govermnt Control	Navy	POL
19	A-10	0	0	4	0	0	0	0
19	A-6	7	0	3	0	0	4	0
19	AV-8	0	0	0	0	0	0	0
19	B-52	0	0	0	0	0	0	0
19	F-111E	0	0	0	4	0	0	0
19	F-111F	10	2	0	0	0	0	1
19	F-117	1	18	16	0	4	0	0
19	F-15E	3	0	5	0	0	0	0
19	F-16	19	0	0	0	0	0	0
19	F-4G	5	0	0	0	0	0	0
19	F/A-18	17	0	8	1	0	1	0
19	GR-1	0	0	0	0	0	0	15
19	TLAM	0	0	0	0	0	0	0
19	Subtotal	62	20	36	5	4	5	16
19	Other Aircraft	1	0	0	0	0	0	0
19	**Total**	**63**	**20**	**36**	**5**	**4**	**5**	**16**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
18	A-10	0	58	2	0	[illegible]	72	84	156
18	A-6	0	21	6	0	[illegible]	31	0	31
18	AV-8	0	72	0	0	0	72	0	72
18	B-52	2	33	0	0	0	41	0	41
18	F-111E	0	0	0	0	0	11	0	11
18	F-111F	7	0	0	0	0	29	0	29
18	F-117	3	0	0	0	0	35	0	35
18	F-15E	0	40	12	0	0	59	2	61
18	F-16	2	328	24	0	0	376	10	386
18	F-4G	0	0	0	17	0	29	0	29
18	F/A-18	0	49	2	0	0	64	0	64
18	OR-1	4	18	0	0	8	34	0	34
18	TLAM	0	0	0	0	0	0	0	0
18	Subtotal	18	619	46	17	8	853	96	949
18	Other Aircraft	0	32	0	0	0	32	0	32
18	Total	18	651	46	17	8	885	96	981

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
19	A-10	0	72	0	0	0	76	112	188
19	A-6	0	31	7	0	0	52	0	52
19	AV-8	0	76	0	0	0	76	0	76
19	B-52	0	36	0	0	3	39	0	39
19	F-111E	0	8	0	0	0	12	0	12
19	F-111F	2	0	4	0	0	19	0	19
19	F-117	1	0	1	0	10	51	0	51
19	F-15E	0	34	0	3	0	45	6	51
19	F-16	4	239	15	0	0	277	6	283
19	F-4G	0	0	0	25	0	30	0	30
19	F/A-18	0	24	0	0	0	51	0	51
19	OR-1	6	15	0	0	0	36	0	36
19	TLAM	0	0	0	0	0	0	0	0
19	Subtotal	13	535	27	28	13	764	124	888
19	Other Aircraft	0	41	0	0	0	42	0	42
19	Total	13	576	27	28	13	806	124	930

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
20	A-10	4	0	0	0	0	0	0
20	A-6	2	0	0	0	0	10	0
20	AV-8	0	0	0	0	0	0	0
20	B-52	0	0	0	0	0	0	0
20	F-111E	0	0	0	4	0	0	8
20	F-111F	24	0	2	0	0	0	0
20	F-117	10	22	2	0	2	0	0
20	F-15E	2	0	10	0	0	0	0
20	F-16	10	8	25	0	0	0	0
20	F-4G	4	0	0	0	0	0	0
20	F/A-18	2	0	0	0	0	8	0
20	OR-1	4	0	0	8	0	0	11
20	TLAM	0	0	0	0	0	0	0
20	Subtotal	62	30	39	12	2	18	19
20	Other Aircraft	4	0	0	0	0	0	0
20	**Total**	**66**	**30**	**39**	**12**	**2**	**18**	**19**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
21	A-10	4	0	2	0	2	0	0
21	A-6	3	4	6	5	0	2	0
21	AV-8	0	0	0	0	0	0	0
21	B-52	0	0	0	0	0	0	0
21	F-111E	0	0	0	0	0	0	0
21	F-111F	6	0	0	0	0	0	0
21	F-117	27	16	8	0	4	0	2
21	F-15E	5	0	6	0	0	0	0
21	F-16	15	0	0	0	0	0	0
21	F-4G	3	0	0	0	0	0	0
21	F/A-18	17	0	0	2	0	0	0
21	OR-1	22	0	0	7	0	0	0
21	TLAM	0	0	0	0	0	0	0
21	Subtotal	102	20	22	14	6	2	2
21	Other Aircraft	16	4	0	0	0	0	0
21	**Total**	**118**	**24**	**22**	**14**	**6**	**2**	**2**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-tota:	Other	Total
20	A-10	0	112	0	0	0	116	92	208
20	A-6	1	36	3	2	0	54	0	54
20	AV-8	0	72	0	0	0	72	0	72
20	B-52	0	26	0	0	6	32	6	38
20	F-111E	0	0	0	0	0	12	0	12
20	F-111F	2	1	0	0	0	29	0	29
20	F-117	4	1	3	2	9	55	0	55
20	F-15E	15	28	4	0	0	59	0	59
20	F-16	0	321	0	4	0	368	0	368
20	F-4G	0	0	0	18	0	22	0	22
20	F/A-18	0	37	0	11	0	58	0	58
20	GR-1	9	16	0	0	0	48	0	48
20	TLAM	0	0	0	0	0	0	0	0
20	Subtotal	31	650	10	37	15	925	98	1,023
20	Other Aircraft	0	61	0	1	0	66	1	67
20	Total	31	711	10	38	15	991	99	1,090

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
21	A-10	0	71	2	4	0	85	83	168
21	A-6	1	23	0	3	0	47	0	47
21	AV-8	0	14	0	0	0	14	0	14
21	B-52	0	15	0	3	6	24	3	27
21	F-111E	0	0	0	0	0	0	0	0
21	F-111F	6	0	0	0	0	12	0	12
21	F-117	0	0	0	0	2	59	0	59
21	F-15E	4	23	5	3	0	46	4	50
21	F-16	2	310	4	2	4	337	12	349
21	F-4G	0	0	0	20	0	23	0	23
21	F/A-18	0	13	0	6	0	38	0	38
21	GR-1	8	10	0	2	0	49	0	49
21	TLAM	0	0	0	0	0	0	0	0
21	Subtotal	21	479	11	43	12	734	102	836
21	Other Aircraft	0	29	0	1	0	50	0	50
21	Total	21	508	11	44	12	784	102	886

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
22	A-10	0	0	3	0	0	0	0
22	A-6	9	0	4	4	0	1	0
22	AV-8	0	0	0	0	0	0	0
22	B-52	0	0	0	0	0	0	0
22	F-111E	12	0	0	0	0	0	0
22	F-111F	19	0	1	0	0	0	0
22	F-117	2	29	20	0	2	0	0
22	F-15E	4	0	7	0	0	0	0
22	F-16	0	0	12	0	0	0	2
22	F-4G	1	0	0	0	0	0	0
22	F/A-18	8	0	9	0	0	9	0
22	GR-1	0	0	0	0	0	0	37
22	TLAM	0	0	0	0	0	0	0
22	Subtotal	55	29	56	4	2	10	39
22	Other Aircraft	4	1	1	1	0	0	0
22	Total	59	30	57	5	2	10	39

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
23	A-10	2	0	2	0	0	0	0
23	A-6	2	0	4	0	0	4	4
23	AV-8	0	0	2	0	0	0	0
23	B-52	0	0	0	0	0	0	6
23	F-111E	0	0	0	4	0	0	8
23	F-111F	18	0	0	0	0	0	1
23	F-117	34	21	0	0	0	0	0
23	F-15E	9	0	2	0	0	0	0
23	F-16	1	24	21	0	0	0	0
23	F-4G	3	0	0	0	0	0	0
23	F/A-18	2	8	14	0	0	4	0
23	GR-1	0	0	0	0	0	0	23
23	TLAM	0	0	0	0	0	0	0
23	Subtotal	71	53	45	4	0	8	42
22	Other Aircraft	7	0	1	0	0	0	0
23	Total	78	53	46	4	0	8	42

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SA	Mil Industries	Sub-total	Other	Total
22	A-10	0	21	0	0	0	24	132	156
22	A-6	0	29	0	7	0	54	0	54
22	AV-8	0	114	0	0	0	114	2	116
22	B-52	0	33	0	0	6	39	3	42
22	F-111E	0	0	0	0	0	12	0	12
22	F-111F	0	0	9	3	0	32	2	34
22	F-117	0	0	0	0	0	53	0	53
22	F-15E	2	12	15	0	0	40	8	48
22	F-16	2	275	6	11	0	308	10	318
22	F-4G	0	0	0	20	0	21	0	21
22	F/A-18	0	97	0	0	15	138	3	141
22	GR-1	12	4	0	0	0	53	0	53
22	TLAM	0	0	0	0	0	0	0	0
22	Subtotal	16	585	30	41	21	888	160	1,048
22	Other Aircraft	0	42	0	0	2	51	1	52
22	Total	16	627	30	41	23	939	161	1,100

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
23	A-10	0	40	0	4	0	48	148	196
23	A-6	4	37	0	8	0	63	0	63
23	AV-8	0	100	0	0	0	102	0	102
23	B-52	0	31	0	0	0	37	6	43
23	F-111E	0	0	0	0	0	12	0	12
23	F-111F	0	0	0	0	0	19	23	42
23	F-117	1	0	2	0	4	62	0	62
23	F-15E	2	24	0	0	1	38	0	38
23	F-16	16	238	0	9	0	309	18	327
23	F-4G	0	0	0	10	0	13	0	13
23	F/A-18	0	78	0	25	0	131	9	140
23	GR-1	14	0	0	2	0	39	4	43
23	TLAM	0	0	0	0	0	0	0	0
23	Subtotal	37	548	2	58	5	873	208	1,081
22	Other Aircraft	0	30	0	2	0	40	0	40
23	Total	37	578	2	60	5	913	208	1,121

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
24	A-10	4	0	0	0	0	0	0
24	A-6	4	0	11	3	0	5	0
24	AV-8	0	0	2	0	0	0	0
24	B-52	0	0	0	4	0	0	6
24	F-111E	0	0	0	0	0	0	12
24	F-111F	4	0	0	0	0	0	0
24	F-117	11	13	2	0	3	0	0
24	F-15E	6	0	2	0	0	0	0
24	F-16	4	0	8	2	0	0	44
24	F-4G	10	0	0	0	0	0	0
24	F/A-18	9	0	13	0	0	7	0
24	GR-1	0	0	0	0	0	0	0
24	TLAM	0	0	0	0	0	0	0
24	Subtotal	52	13	38	9	3	12	62
24	Other Aircraft	1	0	1	0	0	0	0
24	**Total**	**53**	**13**	**39**	**9**	**3**	**12**	**62**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
25	A-10	2	0	10	0	0	0	0
25	A-6	6	4	0	0	0	1	0
25	AV-8	0	0	0	4	0	0	0
25	B-52	0	0	0	7	0	0	0
25	F-111E	0	0	0	0	0	0	12
25	F-111F	3	0	0	0	0	0	0
25	F-117	10	1	18	0	1	0	0
25	F-15E	3	0	10	0	0	0	1
25	F-16	13	0	4	0	0	0	0
25	F-4G	8	0	0	0	0	0	0
25	F/A-18	7	21	3	0	0	5	0
25	GR-1	7	0	0	0	0	0	13
25	TLAM	0	0	0	0	0	0	0
25	Subtotal	59	26	45	11	1	6	26
25	Other Aircraft	4	0	0	0	0	4	0
25	**Total**	**63**	**26**	**45**	**11**	**1**	**10**	**26**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
24	A-10	0	27	7	8	0	46	130	176
24	A-6	4	17	0	8	0	52	5	57
24	AV-8	2	90	0	0	0	94	0	94
24	B-52	0	32	0	0	0	42	7	49
24	F-111E	0	0	0	0	0	12	0	12
24	F-111F	4	0	0	0	0	8	34	42
24	F-117	7	0	0	5	0	41	4	45
24	F-15E	2	24	11	1	0	46	0	46
24	F-16	3	284	0	9	0	354	12	366
24	F-4G	0	0	0	3	0	13	0	13
24	F/A-18	9	75	0	19	0	132	19	151
24	GR-1	4	13	0	0	11	28	0	28
24	TLAM	0	0	0	0	0	0	0	0
24	Subtotal	35	562	18	53	11	868	211	1,079
24	Other Aircraft	1	38	0	7	0	48	1	49
24	Total	36	600	18	60	11	916	212	1,128

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
25	A-10	0	61	2	4	0	79	139	218
25	A-6	6	63	0	0	0	80	0	80
25	AV-8	0	92	0	0	0	96	0	96
25	B-52	0	29	0	9	0	45	1	46
25	F-111E	0	0	0	0	0	12	0	12
25	F-111F	7	0	2	0	2	14	28	42
25	F-117	0	1	5	19	4	59	1	60
25	F-15E	0	22	18	0	1	55	0	55
25	F-16	0	279	0	0	43	339	2	341
25	F-4G	0	0	0	4	0	12	2	14
25	F/A-18	10	80	0	6	0	132	21	153
25	GR-1	12	0	3	0	3	38	4	42
25	TLAM	0	0	0	0	0	0	0	0
25	Subtotal	35	627	30	42	53	961	198	1,159
25	Other Aircraft	0	42	0	0	0	50	0	50
25	Total	35	669	30	42	53	1,011	198	1,209

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
26	A-10	4	0	0	0	0	0	0
26	A-6	0	0	4	0	0	4	0
26	AV-8	0	0	0	0	0	0	0
26	B-52	0	0	0	7	0	0	0
26	F-111E	0	0	0	0	0	0	0
26	F-111F	0	0	1	0	0	0	0
26	F-117	22	18	9	0	17	0	0
26	F-15E	6	0	4	3	0	0	0
26	F-16	9	4	1	0	0	0	0
26	F-4G	5	0	0	0	0	0	0
26	F/A-18	3	0	11	0	0	6	0
26	GR-1	4	0	0	0	0	0	0
26	TLAM	0	0	0	0	0	0	0
26	Subtotal	53	22	30	10	17	10	0
26	Other Aircraft	4	0	0	0	0	1	0
26	Total	57	22	30	10	17	11	0

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
27	A-10	4	0	2	0	0	0	0
27	A-6	2	6	0	0	0	2	3
27	AV-8	4	0	0	0	0	0	0
27	B-52	0	0	0	0	0	0	0
27	F-111E	0	0	4	0	0	0	4
27	F-111F	4	0	0	0	0	0	0
27	F-117	0	0	27	0	25	0	0
27	F-15E	0	0	1	1	0	0	0
27	F-16	0	25	12	16	0	0	0
27	F-4G	3	0	0	0	0	0	0
27	F/A-18	8	14	0	0	0	0	4
27	GR-1	14	7	0	0	0	0	0
27	TLAM	0	0	0	0	0	0	0
27	Subtotal	39	52	46	17	25	2	11
27	Other Aircraft	0	0	0	0	0	0	0
27	Total	39	52	46	17	25	2	11

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
26	A-10	0	63	0	0	0	67	98	165
26	A-6	2	34	0	0	0	44	13	57
26	AV-8	0	104	0	0	0	104	0	104
26	B-52	0	30	0	3	6	46	0	46
26	F-111E	0	0	4	0	4	8	4	12
26	F-111F	1	47	9	0	0	58	0	58
26	F-117	0	0	0	0	0	66	0	66
26	F-15E	2	20	3	0	0	38	0	38
26	F-16	8	293	16	0	24	355	8	363
26	F-4G	0	0	0	5	0	10	0	10
26	F/A-18	0	94	10	9	0	133	56	189
26	GR-1	19	22	0	4	0	49	0	49
26	TLAM	0	0	0	0	0	0	0	0
26	Subtotal	32	707	42	21	34	978	179	1,157
26	Other Aircraft	2	41	1	2	0	51	0	51
26	Total	34	748	43	23	34	1,029	179	1,208

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
27	A-10	0	87	0	0	0	93	82	175
27	A-6	0	39	4	0	4	60	17	77
27	AV-8	0	44	0	0	0	48	0	48
27	B-52	0	33	13	0	0	46	0	46
27	F-111E	0	0	0	0	0	8	4	12
27	F-111F	3	187	0	0	0	194	6	200
27	F-117	3	0	0	1	0	56	0	56
27	F-15E	15	20	9	0	0	46	0	46
27	F-16	24	269	0	1	0	347	0	347
27	F-4G	0	0	0	6	0	9	0	9
27	F/A-18	0	10	6	2	0	44	106	150
27	GR-1	0	4	12	0	0	37	0	37
27	TLAM	0	0	0	0	0	0	0	0
27	Subtotal	45	693	44	10	4	988	215	1,203
27	Other Aircraft	0	45	2	0	19	66	0	66
27	Total	45	738	46	10	23	1,054	215	1,269

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
28	A-10	0	0	0	0	0	0	8
28	A-6	0	5	0	3	0	14	0
28	AV-8	0	0	0	0	0	0	0
28	B-52	6	0	0	0	0	0	0
28	F-111E	0	0	4	0	0	0	0
28	F-111F	8	0	0	0	0	0	0
28	F-117	3	0	37	0	0	2	0
28	F-15E	2	0	0	1	0	0	0
28	F-16	11	11	28	2	0	0	8
28	F-4G	3	0	0	0	0	0	0
28	F/A-18	14	6	4	0	0	8	0
28	GR-1	25	0	0	0	0	0	0
28	TLAM	0	0	0	0	0	0	0
28	Subtotal	72	22	73	6	0	24	16
28	Other Aircraft	6	0	0	0	0	1	0
28	**Total**	**78**	**22**	**73**	**6**	**0**	**25**	**16**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
29	A-10	4	0	0	0	0	0	0
29	A-6	0	0	2	0	0	2	0
29	AV-8	0	0	0	0	0	0	0
29	B-52	0	0	0	0	0	0	0
29	F-111E	0	0	0	0	0	0	0
29	F-111F	2	0	1	0	0	0	0
29	F-117	16	8	24	1	0	0	0
29	F-15E	14	0	2	0	0	0	1
29	F-16	0	0	0	6	0	0	2
29	F-4G	4	0	0	0	0	0	0
29	F/A-18	3	0	4	0	0	0	0
29	GR-1	34	0	0	0	0	0	0
29	TLAM	0	0	0	0	0	0	0
29	Subtotal	77	8	33	7	0	2	3
29	Other Aircraft	17	0	0	0	0	0	0
29	**Total**	**94**	**8**	**33**	**7**	**0**	**2**	**3**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
28	A-10	0	60	0	0	0	68	126	194
28	A-6	0	31	0	4	0	57	14	71
28	AV-8	0	74	0	0	0	74	0	74
28	B-52	0	23	1	6	6	42	0	42
28	F-111E	0	0	0	4	4	12	0	12
28	F-111F	8	111	0	0	0	127	17	144
28	F-117	1	9	0	0	0	52	0	52
28	F-15E	13	21	12	0	0	49	2	51
28	F-16	24	220	4	0	0	308	12	320
28	F-4G	0	0	0	18	0	21	1	22
28	F/A-18	2	66	0	4	0	104	67	171
28	GR-1	8	0	0	0	0	33	0	33
28	TLAM	0	0	0	0	0	0	0	0
28	Subtotal	56	615	17	36	10	947	239	1,186
28	Other Aircraft	0	37	0	4	16	64	0	64
28	Total	56	652	17	40	26	1,011	239	1,250

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
29	A-10	0	83	0	4	0	91	108	199
29	A-6	0	76	0	7	3	90	1	91
29	AV-8	0	78	0	0	0	78	0	78
29	B-52	0	16	3	0	15	34	0	34
29	F-111E	0	0	0	0	12	12	4	16
29	F-111F	7	150	0	0	0	160	10	170
29	F-117	1	1	0	2	0	53	0	53
29	F-15E	12	23	9	0	1	62	0	62
29	F-16	12	231	10	9	0	270	20	290
29	F-4G	0	0	0	9	0	13	1	14
29	F/A-18	3	76	0	9	0	95	52	147
29	GR-1	0	4	0	0	0	38	0	38
29	TLAM	0	0	0	0	0	0	0	0
29	Subtotal	35	738	22	40	31	996	196	1,192
29	Other Aircraft	0	50	0	1	2	70	0	70
29	Total	35	788	22	41	33	1,066	196	1,262

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Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
30	A-10	1	0	0	0	0	0	0
30	A-6	0	0	2	6	0	0	0
30	AV-8	0	0	0	0	0	0	0
30	B-52	0	14	0	0	0	0	0
30	F-111E	6	0	0	0	0	0	0
30	F-111F	7	0	0	0	0	0	0
30	F-117	5	5	0	0	0	0	3
30	F-15E	1	0	0	0	0	0	0
30	F-16	4	0	0	0	0	0	0
30	F-4G	2	0	0	0	0	0	0
30	F/A-18	4	0	10	0	0	0	0
30	GR-1	36	0	0	0	0	0	0
30	TLAM	0	0	0	0	0	0	0
30	Subtotal	66	19	12	6	0	0	3
30	Other Aircraft	0	0	17	0	0	0	0
30	**Total**	**66**	**19**	**29**	**6**	**0**	**0**	**3**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
31	A-10	0	0	2	0	0	0	0
31	A-6	4	4	0	0	0	0	0
31	AV-8	0	0	0	0	0	0	0
31	B-52	9	6	0	0	0	0	0
31	F-111E	0	0	0	0	0	0	0
31	F-111F	0	0	0	0	0	0	0
31	F-117	20	0	7	0	0	0	0
31	F-15E	1	0	0	0	0	0	0
31	F-16	30	0	0	0	0	0	0
31	F-4G	0	0	0	0	0	0	0
31	F/A-18	1	7	0	0	0	0	0
31	GR-1	32	0	0	0	0	0	0
31	TLAM	0	0	0	0	0	0	0
31	Subtotal	97	17	9	0	0	0	0
31	Other Aircraft	0	0	0	0	0	0	0
31	**Total**	**97**	**17**	**9**	**0**	**0**	**0**	**0**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
30	A-10	0	104	0	4	0	109	104	213
30	A-6	0	63	0	0	0	71	1	72
30	AV-8	0	88	0	2	0	90	0	90
30	B-52	0	23	0	0	13	50	0	50
30	F-111E	0	0	0	0	4	10	0	10
30	F-111F	5	187	0	0	0	199	0	199
30	F-117	2	20	4	6	13	58	2	60
30	F-15E	6	36	5	1	0	49	3	52
30	F-16	26	243	5	4	24	306	0	306
30	F-4G	0	0	0	10	0	12	2	14
30	F/A-18	0	140	1	5	0	160	17	177
30	GR-1	0	4	0	0	0	40	0	40
30	TLAM	0	0	0	0	0	0	0	0
30	Subtotal	39	908	15	32	54	1,154	129	1,283
30	Other Aircraft	0	33	0	1	0	51	0	51
30	Total	39	941	15	33	54	1,205	129	1,334

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
31	A-10	0	96	0	0	0	98	74	172
31	A-6	0	42	4	0	0	54	12	66
31	AV-8	0	76	0	0	0	76	0	76
31	B-52	0	21	3	0	0	39	0	39
31	F-111E	0	0	0	0	0	0	0	0
31	F-111F	6	81	0	0	0	87	1	88
31	F-117	6	2	6	0	0	41	0	41
31	F-15E	3	34	14	0	4	56	2	58
31	F-16	10	221	0	0	0	261	4	265
31	F-4G	0	0	0	1	0	1	0	1
31	F/A-18	0	71	10	0	0	89	47	136
31	GR-1	0	0	0	0	0	32	4	36
31	TLAM	0	0	0	0	0	0	0	0
31	Subtotal	25	644	37	1	4	834	144	978
31	Other Aircraft	0	32	0	1	0	33	0	33
31	Total	25	676	37	2	4	867	144	1,011

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Govermt Control	Navy	POL
32	A-10	0	0	0	0	0	0	0
32	A-6	6	0	0	0	0	2	0
32	AV-8	0	0	0	0	0	0	0
32	B-52	0	2	0	0	0	0	0
32	F-111E	0	0	0	0	0	0	0
32	F-111F	5	6	0	0	0	0	0
32	F-117	3	8	0	0	0	0	0
32	F-15E	3	2	6	0	0	0	0
32	F-16	30	0	0	0	0	0	0
32	F-4G	1	0	0	0	0	0	0
32	F/A-18	6	14	0	0	0	0	0
32	GR-1	12	0	0	0	0	0	0
32	TLAM	0	0	0	0	0	0	0
32	Subtotal	66	32	6	0	0	2	0
32	Other Aircraft	0	0	0	0	0	0	0
32	**Total**	**66**	**32**	**6**	**0**	**0**	**2**	**0**

Day	Aircraft Type	OCA	NBC	C3	Elect	Govermt Control	Navy	POL
33	A-10	0	0	2	0	0	0	0
33	A-6	7	0	2	0	0	0	0
33	AV-8	0	0	0	0	0	0	0
33	B-52	5	0	0	0	0	0	0
33	F-111E	8	0	0	0	0	0	0
33	F-111F	0	0	3	0	0	0	0
33	F-117	37	8	9	0	0	0	0
33	F-15E	0	0	0	0	0	0	0
33	F-16	4	0	16	0	0	2	0
33	F-4G	0	0	0	0	0	0	0
33	F/A-18	16	0	10	0	0	0	0
33	GR-1	24	0	3	0	0	0	0
33	TLAM	0	0	0	0	0	0	0
33	Subtotal	101	8	45	0	0	2	0
33	Other Aircraft	15	0	0	0	0	0	0
33	**Total**	**116**	**8**	**45**	**0**	**0**	**2**	**0**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
32	A-10	0	20	0	0	0	20	46	66
32	A-6	0	42	0	0	3	53	17	70
32	AV-8	0	26	0	0	0	26	0	26
32	B-52	3	27	0	0	15	47	0	47
32	F-111E	0	0	4	0	4	8	4	12
32	F-111F	0	32	0	0	11	54	0	54
32	F-117	0	0	18	2	22	53	0	53
32	F-15E	1	22	16	3	0	53	2	55
32	F-16	8	92	0	9	16	155	4	159
32	F-4G	0	0	0	1	0	2	0	2
32	F/A-18	0	56	0	0	7	83	32	115
32	OR-1	6	0	0	0	0	18	0	18
32	TLAM	0	0	0	0	0	0	0	0
32	Subtotal	18	317	38	15	78	572	105	677
32	Other Aircraft	0	4	0	1	0	5	0	5
32	Total	18	321	38	16	78	577	105	682

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
33	A-10	0	80	0	3	0	85	106	191
33	A-6	0	77	0	6	0	92	24	116
33	AV-8	0	78	0	0	0	78	2	80
33	B-52	0	45	0	0	0	50	0	50
33	F-111E	0	0	4	0	0	12	0	12
33	F-111F	7	98	0	0	11	119	6	125
33	F-117	2	0	0	0	0	56	0	56
33	F-15E	1	36	5	3	0	45	0	45
33	F-16	16	282	1	7	20	348	2	350
33	F-4G	0	0	0	1	0	1	0	1
33	F/A-18	4	87	0	2	0	119	72	191
33	OR-1	0	4	0	0	0	31	0	31
33	TLAM	0	0	0	0	0	0	0	0
33	Subtotal	30	787	10	22	31	1,036	212	1,248
33	Other Aircraft	0	51	0	0	0	66	0	66
33	Total	30	838	10	22	31	1,102	212	1,314

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Govermnt Control	Navy	POL
34	A-10	0	0	0	0	0	0	0
34	A-6	1	4	11	0	0	0	0
34	AV-8	0	0	0	0	0	0	0
34	B-52	0	0	0	0	0	0	0
34	F-111E	0	0	0	0	0	0	0
34	F-111F	0	0	0	0	0	0	0
34	F-117	0	5	0	0	0	0	0
34	F-15E	12	0	2	0	0	0	0
34	F-16	5	23	6	4	0	0	0
34	F-4G	7	0	0	0	0	0	0
34	F/A-18	0	6	7	0	0	0	0
34	GR-1	27	0	0	0	0	0	0
34	TLAM	0	0	0	0	0	0	0
34	Subtotal	52	38	26	4	0	0	0
34	Other Aircraft	0	0	17	4	0	0	0
34	**Total**	**52**	**38**	**43**	**8**	**0**	**0**	**0**

Day	Aircraft Type	OCA	NBC	C3	Elect	Govermnt Control	Navy	POL
35	A-10	0	0	0	0	0	0	2
35	A-6	4	0	4	0	0	0	0
35	AV-8	0	0	0	0	0	0	0
35	B-52	0	0	0	0	0	0	3
35	F-111E	0	0	0	0	0	0	0
35	F-111F	2	0	0	0	0	0	0
35	F-117	0	5	0	0	0	0	0
35	F-15E	13	1	0	1	0	0	1
35	F-16	7	24	12	0	0	0	0
35	F-4G	3	0	0	0	0	0	0
35	F/A-18	11	0	0	0	0	0	0
35	GR-1	8	0	0	0	0	0	0
35	TLAM	0	0	0	0	0	0	0
35	Subtotal	48	30	16	1	0	0	6
35	Other Aircraft	15	0	0	0	0	0	0
35	**Total**	**63**	**30**	**16**	**1**	**0**	**0**	**6**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
34	A-10	0	100	0	0	0	100	88	188
34	A-6	2	56	0	0	0	74	15	89
34	AV-8	0	92	0	0	0	92	0	92
34	B-52	0	24	7	0	0	31	2	33
34	F-111E	3	0	8	0	0	11	0	11
34	F-111F	1	129	0	0	0	130	4	134
34	F-117	1	0	7	0	3	16	0	16
34	F-15E	3	16	12	0	0	45	0	45
34	F-16	18	261	0	5	0	322	0	322
34	F-4G	0	0	0	6	0	13	0	13
34	F/A-18	4	90	0	0	15	122	101	223
34	GR-1	0	7	0	0	0	34	0	34
34	TLAM	0	0	0	0	0	0	0	0
34	Subtotal	32	775	34	11	18	990	210	1,200
34	Other Aircraft	0	50	0	0	1	72	0	72
34	Total	32	825	34	11	19	1,062	210	1,272

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
35	A-10	0	74	0	0	0	76	102	178
35	A-6	0	67	0	0	0	75	19	94
35	AV-8	0	26	0	0	0	26	0	26
35	B-52	0	25	0	0	0	28	0	28
35	F-111E	4	8	0	0	0	12	0	12
35	F-111F	0	25	14	0	0	41	0	41
35	F-117	6	0	0	0	20	31	0	31
35	F-15E	1	34	11	4	0	66	0	66
35	F-16	4	155	3	5	0	210	2	212
35	F-4G	0	0	0	2	0	5	0	5
35	F/A-18	11	45	0	0	0	67	43	110
35	GR-1	0	4	0	0	0	12	0	12
35	TLAM	0	0	0	0	0	0	0	0
35	Subtotal	26	463	28	11	20	649	166	815
35	Other Aircraft	0	38	0	0	0	53	0	53
35	Total	26	501	28	11	20	702	166	868

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
36	A-10	0	0	6	0	0	0	0
36	A-6	5	0	2	0	0	0	0
36	AV-8	0	0	0	0	0	0	0
36	B-52	0	0	0	0	0	0	0
36	F-111E	0	0	0	0	0	0	0
36	F-111F	3	0	0	0	4	0	0
36	F-117	8	12	19	0	4	0	0
36	F-15E	9	0	1	0	0	0	0
36	F-16	16	0	6	0	0	0	0
36	F-4G	2	0	0	0	0	0	0
36	F/A-18	4	0	1	0	0	1	0
36	GR-1	12	0	0	0	0	0	0
36	TLAM	0	0	0	0	0	0	0
36	Subtotal	59	12	35	0	8	1	0
36	Other Aircraft	0	0	0	0	0	0	0
36	Total	59	12	35	0	8	1	0

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
37	A-10	0	0	0	0	0	0	4
37	A-6	0	0	0	0	0	2	0
37	AV-8	0	0	0	0	0	0	0
37	B-52	0	0	0	0	0	0	0
37	F-111E	0	0	0	0	0	0	0
37	F-111F	2	0	0	0	0	0	0
37	F-117	0	22	8	0	0	0	0
37	F-15E	5	0	0	0	0	0	0
37	F-16	0	2	0	0	0	0	0
37	F-4G	4	0	0	0	0	0	0
37	F/A-18	0	0	0	0	0	0	0
37	GR-1	21	0	0	0	0	0	0
37	TLAM	0	0	0	0	0	0	0
37	Subtotal	32	24	8	0	0	2	4
37	Other Aircraft	0	0	0	0	0	0	0
37	Total	32	24	8	0	0	2	4

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
36	A-10	0	58	0	0	0	64	88	152
36	A-6	2	69	0	0	0	78	31	109
36	AV-8	0	36	0	0	0	36	4	40
36	B-52	0	39	1	0	0	40	0	40
36	F-111E	0	8	0	0	0	8	0	8
36	F-111F	0	167	0	0	0	174	0	174
36	F-117	4	1	4	0	3	55	0	55
36	F-15E	0	37	8	0	0	55	2	57
36	F-16	32	270	0	8	4	336	0	336
36	F-4G	0	0	0	3	0	5	0	5
36	F/A-18	0	57	0	0	10	73	103	176
36	GR-1	0	5	0	0	0	17	0	17
36	TLAM	0	0	0	0	0	0	0	0
36	Subtotal	38	747	13	11	17	941	228	1,169
36	Other Aircraft	0	64	0	2	0	66	0	66
36	Total	38	811	13	13	17	1,007	228	1,235

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
37	A-10	0	104	2	0	0	110	46	156
37	A-6	0	63	0	0	0	65	37	102
37	AV-8	0	52	0	0	0	52	6	58
37	B-52	0	28	0	0	6	34	0	34
37	F-111E	0	0	0	0	0	0	12	12
37	F-111F	6	228	0	0	0	236	0	236
37	F-117	0	0	4	0	1	35	0	35
37	F-15E	3	34	6	4	5	57	0	57
37	F-16	16	246	0	17	20	301	16	317
37	F-4G	0	0	0	9	0	13	0	13
37	F/A-18	0	52	0	0	0	52	187	239
37	GR-1	0	11	0	0	0	32	4	36
37	TLAM	0	0	0	0	0	0	0	0
37	Subtotal	25	818	12	30	32	987	308	1,295
37	Other Aircraft	2	17	8	2	0	29	0	29
37	Total	27	835	20	32	32	1,016	308	1,324

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
38	A-10	0	0	0	0	0	0	0
38	A-6	0	2	0	0	0	0	0
38	AV-8	0	0	0	0	0	0	0
38	B-52	0	0	0	0	0	0	0
38	F-111E	0	0	0	0	0	0	0
38	F-111F	2	0	7	0	0	0	0
38	F-117	0	20	3	0	9	0	0
38	F-15E	13	0	1	2	0	0	0
38	F-16	0	0	0	0	0	0	0
38	F-4G	3	0	0	0	0	0	0
38	F/A-18	0	3	0	0	0	0	0
38	GR-1	31	0	0	0	0	0	0
38	TLAM	0	0	0	0	0	0	0
38	Subtotal	49	25	11	2	9	0	0
38	Other Aircraft	12	0	0	0	0	0	0
38	**Total**	**61**	**25**	**11**	**2**	**9**	**0**	**0**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
39	A-10	0	0	0	0	0	0	2
39	A-6	1	0	0	0	0	4	0
39	AV-8	0	0	0	0	0	0	0
39	B-52	0	0	0	0	0	0	0
39	F-111E	6	0	0	0	0	0	0
39	F-111F	0	0	0	0	0	0	0
39	F-117	0	4	10	0	6	0	0
39	F-15E	10	3	0	0	0	0	0
39	F-16	20	4	0	0	0	0	0
39	F-4G	0	0	0	0	0	0	0
39	F/A-18	0	0	2	0	0	5	0
39	GR-1	28	0	0	0	0	0	0
39	TLAM	0	0	0	0	0	0	0
39	Subtotal	65	11	12	0	6	9	2
39	Other Aircraft	0	0	0	0	0	0	0
39	**Total**	**65**	**11**	**12**	**0**	**6**	**9**	**2**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
38	A-10	0	78	0	0	0	78	44	122
38	A-6	0	50	5	0	0	57	33	90
38	AV-8	0	30	0	0	0	30	26	56
38	B-52	0	52	1	0	0	53	0	53
38	F-111E	0	0	0	0	12	12	0	12
38	F-111F	9	93	0	0	0	111	0	111
38	F-117	0	0	0	0	10	42	1	43
38	F-15E	11	31	10	2	0	70	0	70
38	F-16	16	271	0	6	20	313	0	313
38	F-4G	0	0	0	0	0	3	0	3
38	F/A-18	0	83	0	5	0	91	170	261
38	GR-1	0	0	0	0	0	31	0	31
38	TLAM	0	0	0	0	0	0	0	0
38	Subtotal	36	688	16	13	42	891	274	1,165
38	Other Aircraft	0	32	16	2	0	62	2	64
38	Total	36	720	32	15	42	953	276	1,229

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
39	A-10	0	79	0	0	0	81	30	111
39	A-6	3	62	0	0	0	70	44	114
39	AV-8	0	28	0	0	0	28	30	58
39	B-52	0	40	0	0	3	43	0	43
39	F-111E	0	0	6	0	0	12	0	12
39	F-111F	5	153	0	0	0	158	0	158
39	F-117	11	0	0	0	11	42	0	42
39	F-15E	3	43	8	5	5	77	0	77
39	F-16	10	212	0	3	36	285	2	287
39	F-4G	0	0	0	4	0	4	0	4
39	F/A-18	7	73	8	1	0	96	195	291
39	GR-1	0	4	0	0	0	32	0	32
39	TLAM	0	0	0	0	0	0	0	0
39	Subtotal	39	694	23	13	55	928	301	1,229
39	Other Aircraft	0	18	1	2	2	21	0	21
39	Total	39	712	23	15	57	949	301	1,250

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
40	A-10	0	0	0	0	0	0	0
40	A-6	1	0	0	0	0	3	0
40	AV-8	0	0	0	0	0	0	0
40	B-52	0	0	5	0	0	0	0
40	F-111E	0	0	0	0	0	0	0
40	F-111F	8	0	0	0	0	0	0
40	F-117	0	0	0	0	0	0	0
40	F-15E	6	0	4	0	2	0	2
40	F-16	9	13	0	0	0	4	0
40	F-4G	2	0	0	0	0	0	0
40	F/A-18	8	0	0	0	0	13	0
40	GR-1	4	0	0	0	0	0	0
40	TLAM	0	0	0	0	0	0	0
40	Subtotal	38	13	9	0	2	20	2
40	Other Aircraft	0	0	0	0	0	0	0
40	Total	38	13	9	0	2	20	2

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
41	A-10	0	0	0	0	0	0	0
41	A-6	10	0	0	0	0	3	0
41	AV-8	0	0	0	0	0	0	0
41	B-52	0	0	0	0	0	0	0
41	F-111E	0	0	0	0	0	0	0
41	F-111F	1	0	0	0	0	0	0
41	F-117	0	0	0	0	2	0	0
41	F-15E	0	0	2	0	0	0	0
41	F-16	1	0	0	0	0	0	0
41	F-4G	0	0	0	0	0	0	0
41	F/A-18	4	0	0	0	0	12	0
41	GR-1	4	0	0	0	0	0	0
41	TLAM	0	0	0	0	0	0	0
41	Subtotal	20	0	2	0	2	15	0
41	Other Aircraft	28	0	0	0	0	0	0
41	Total	48	0	2	0	2	15	0

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
40	A-10	0	34	0	0	0	34	26	60
40	A-6	11	90	0	0	0	105	36	141
40	AV-8	0	94	0	0	0	94	10	104
40	B-52	0	40	1	0	0	46	0	46
40	F-111E	0	0	0	0	0	0	0	0
40	F-111F	4	65	0	0	0	77	0	77
40	F-117	0	0	0	0	0	0	0	0
40	F-15E	13	25	7	1	2	62	0	62
40	F-16	10	164	1	0	4	205	0	205
40	F-4G	0	0	0	14	0	16	0	16
40	F/A-18	16	96	0	0	0	133	135	268
40	GR-1	2	4	0	0	0	10	0	10
40	TLAM	0	0	0	0	0	0	0	0
40	Subtotal	56	612	9	15	6	782	207	989
40	Other Aircraft	0	4	0	2	0	6	0	6
40	Total	56	616	9	17	6	788	207	995

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
41	A-10	2	12	0	0	0	14	28	42
41	A-6	1	131	0	0	0	145	4	149
41	AV-8	0	86	0	2	0	88	36	124
41	B-52	9	27	0	0	0	36	6	42
41	F-111E	0	0	0	0	8	8	4	12
41	F-111F	39	10	0	5	0	55	0	55
41	F-117	0	0	0	0	4	6	0	6
41	F-15E	15	13	4	0	0	34	32	66
41	F-16	3	179	0	2	36	221	12	233
41	F-4G	0	0	0	11	0	11	0	11
41	F/A-18	0	105	8	0	0	129	118	247
41	GR-1	0	4	0	0	0	8	0	8
41	TLAM	0	0	0	0	0	0	0	0
41	Subtotal	69	567	12	20	48	755	240	995
41	Other Aircraft	0	0	0	0	0	28	0	28
41	Total	69	567	12	20	48	783	240	1,023

Table 178 (cont'd)
Daily Strikes by AIF Category

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
42	A-10	0	0	0	0	0	0	0
42	A-6	6	0	0	0	0	15	0
42	AV-8	0	0	0	0	0	0	0
42	B-52	0	0	0	0	0	0	0
42	F-111E	0	0	0	0	0	0	0
42	F-111F	0	0	4	0	0	0	0
42	F-117	2	0	0	0	13	0	0
42	F-15E	0	0	0	0	0	0	0
42	F-16	4	0	0	0	0	4	0
42	F-4G	1	0	0	0	0	0	0
42	F/A-18	12	0	2	0	0	30	0
42	GR-1	29	0	0	0	0	0	0
42	TLAM	0	0	0	0	0	0	0
42	Subtotal	54	0	6	0	13	49	0
42	Other Aircraft	2	0	0	0	0	0	0
42	**Total**	**56**	**0**	**6**	**0**	**13**	**49**	**0**

Day	Aircraft Type	OCA	NBC	C3	Elect	Governmt Control	Navy	POL
43	A-10	0	0	0	0	0	0	0
43	A-6	0	0	0	0	0	0	0
43	AV-8	0	0	0	0	0	0	0
43	B-52	0	0	0	0	0	0	0
43	F-111E	0	0	0	0	0	0	0
43	F-111F	0	0	0	0	0	0	0
43	F-117	0	0	0	0	0	0	0
43	F-15E	0	0	0	0	0	0	0
43	F-16	0	0	0	0	0	0	0
43	F-4G	0	0	0	0	0	0	0
43	F/A-18	0	0	0	0	0	0	0
43	GR-1	0	0	0	0	0	0	0
43	TLAM	0	0	0	0	0	0	0
43	Subtotal	0	0	0	0	0	0	0
43	Other Aircraft	0	0	0	0	0	0	0
43	**Total**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
42	A-10	0	0	0	0	0	0	0	0
42	A-6	19	75	6	0	0	121	0	121
42	AV-8	0	6	0	0	0	6	0	6
42	B-52	0	0	0	0	0	0	0	0
42	F-111E	0	0	0	0	15	15	0	15
42	F-111F	12	12	0	0	2	30	1	31
42	F-117	0	0	0	0	26	41	0	41
42	F-15E	0	0	0	0	0	0	0	0
42	F-16	4	74	0	0	32	118	12	130
42	F-4G	0	0	0	22	0	23	0	23
42	F/A-18	14	51	2	0	0	111	0	111
42	GR-1	0	0	0	0	0	29	0	29
42	TLAM	0	0	0	0	0	0	0	0
42	Subtotal	49	218	8	22	75	494	13	507
42	Other Aircraft	0	12	16	3	0	33	2	35
42	Total	49	230	24	25	75	527	15	542

Day	Aircraft Type	Lines of Comm	GOB	Scuds	SAM	Mil Industries	Sub-total	Other	Total
43	A-10	0	0	0	0	0	0	0	0
43	A-6	10	14	5	0	0	29	0	29
43	AV-8	0	0	0	0	0	0	0	0
43	B-52	0	0	0	0	0	0	0	0
43	F-111E	0	0	0	0	0	0	0	0
43	F-111F	0	0	0	0	0	0	0	0
43	F-117	0	0	0	0	0	0	0	0
43	F-15E	0	0	0	0	0	0	0	0
43	F-16	0	0	0	0	0	0	0	0
43	F-4G	0	0	0	0	0	0	0	0
43	F/A-18	0	0	0	0	0	0	0	0
43	GR-1	0	0	0	0	0	0	0	0
43	TLAM	0	0	0	0	0	0	0	0
43	Subtotal	10	14	5	0	0	29	0	29
43	Other Aircraft	0	0	0	0	0	0	0	0
43	Total	10	14	5	0	0	29	0	29

Source: Missions Database (S/NF/WN/NC)

Strike Counts by Kill Box

These next three tables show the weight of effort against the Iraqi ground order of battle in the Kuwaiti Theater of Operations (KTO). Most everyone used kill box designators as a convenient and simple way to direct aircraft on missions. It was based on the Saudi Air Defense Map grid. The following tables provide the number of strikes into the twenty-two kill boxes containing major ground formations. These counts do not include strikes on fixed (permanent) installations except where a particular target has not been identified with a Basic Encyclopedia (BE) number. Seven percent of these kill box counts fall into this category. The types of targets include encampments, revetments, equipment, and other non permanent installations.

Aircraft are grouped by type. All F-16s, whether A or C models, U.S. or Bahrain, were counted as F-16s. All air to ground models of Tornados were counted as GR-1. The "other" category of aircraft include A-7s, F-5s, Mirage 2000, AC-130s, etc. The following illustration and its accompanying Ground Order of Battle depict the situation as we knew it on 21 Feb 91, prior to the ground offensive.

Figure 2
Kuwait Theater of Operations' KillBoxes

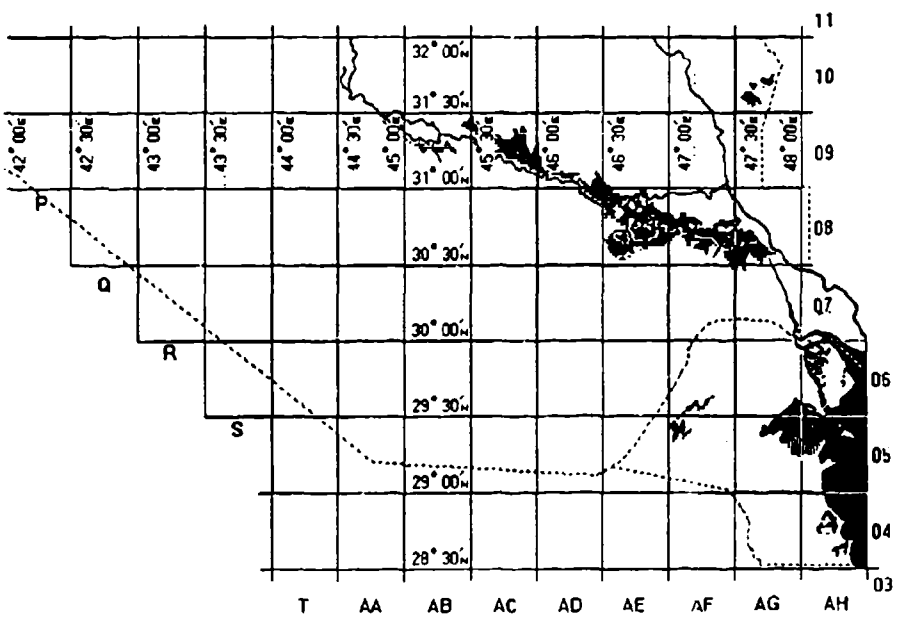


Table 179
KTO Ground Order of Battle
(as of 21 Feb 91)

Kill Box	Primary GOB	Elements of:
AH4	2nd Infantry Div	
	8th Infantry Div	
	18th Infantry Div	
	42nd Infantry Div	
AG4	29th Infantry Div	7th Infantry Div
	14th Infantry Div	5th Mech Div
AH5	19th Infantry Div	11th Infantry Div
	65th SOF Brig	
	66th SOF Brig	
	68th SOF Brig	
	440th Mar Brig(prob)(Faylakah)	
AG5	5th Mech Div	U/I Div
	7th Infantry Div	
	3rd Arm Div(elements)	
	11th Arm Div	
	15th Infantry Div	
	1st Mech Div	
AF5	6th Arm Div	30th Infantry Div(prob)
	21st Infantry Div	
	36th Infantry Div	
	16th Infantry Div	
AE5	30th Infantry Div(prob)	52nd Arm Div
	20th Infantry Div	
	27th Infantry Div	
	47th Infantry Div(prob)	
AD5	31st Infantry Div	27th Infantry Div
	25th Infantry Div	47th Infantry Div(prob)
AC5	48th Infantry Div	31st Infantry Div

Table 179 (cont'd)
KTO Ground Order of Battle
(as of 21 Feb 91)

Kill Box	Primary GOB	Elements of:
AB5	26th Infantry Div(poss)	
AH6	U/I Infantry Div	
	37th Infantry Div	
AG6	51st Mech Div	17th Arm Div
	U/I Infantry Div	RG SOF Div
AF6	10th Arm Div	RG Tawakalna Div
	17th Arm Div	12th Arm Div
AE6	RG Tawakalna Div	
	12th Arm Div	
	52nd Arm Div	
AG7	RG SOF Div	RG Adnan Inf Div(prob)
	RG Al Faw Infantry Div(prob)	
	RG Hammurabi Div	
AF7	RG Adnan Infantry Div(prob)	RG Hammurabi Div
	RG Madinah Arm Div	
	RG Baghdad Infantry Div	
AE7	RG Nebuchadnezzar Inf Div	
AA8	45th Infantry Div	
AD9	35th Infantry Div HQ	
AE9	VI Corps(poss)	
AF8	2 U/I Infantry Brig	
Unlocated	24th Infantry Div	
	28th Infantry Div	
	32nd Infantry Div	
	41th Infantry Div	
	49th Infantry Brig	
	86th Infantry Brig	
	804th Infantry Brig	
	6th Marine Brig	

Table 179 (cont'd)
KTO Ground Order of Battle
(as of 21 Feb 91)

Kill Box	Primary GOB	Elements of:
		441st Naval infantry Brig
		51st Independent Arm Brig
		55th Independent Arm Brig
		57th Independent Arm Brig
		80th Independent Arm Brig

Source: A National Level Estimate as of 21 Feb 91

Table 180
Strikes by Day by Kill Box

Day	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6	AG6	AH6
1	1	0	0	0	1	20	0	0	1	23	5	3	1
2	1	0	4	0	17	4	0	1	0	22	2	1	0
3	2	0	0	2	20	0	0	6	0	34	5	7	0
4	0	0	0	0	10	0	0	0	0	9	10	0	9
5	4	0	0	0	4	0	0	3	0	3	1	0	2
6	0	0	0	4	1	3	0	4	0	17	0	0	0
7	0	0	0	2	0	4	0	4	0	48	0	0	6
8	4	5	1	0	66	45	1	0	6	8	0	2	5
9	0	4	0	8	83	80	0	0	0	6	102	8	0
10	4	5	0	25	109	16	0	0	0	10	91	11	0
11	2	46	0	8	95	4	0	0	0	5	6	2	0
12	0	46	0	0	150	10	0	0	0	84	5	2	0
13	0	6	2	0	240	91	0	2	1	127	3	2	0
14	0	0	2	3	62	160	0	0	1	186	21	17	5
15	0	0	2	0	64	98	2	0	0	111	6	9	0
16	0	0	4	6	120	16	0	0	0	71	31	20	0
17	4	0	5	0	18	11	0	0	0	67	51	19	2
18	6	2	2	10	49	5	0	0	14	36	52	26	0
19	0	0	4	26	121	53	4	0	0	21	39	20	0
20	0	0	4	6	120	80	0	0	8	42	130	47	0
21	0	13	3	0	120	42	0	0	0	17	80	13	0
22	0	0	2	0	69	26	0	0	20	18	86	26	15
23	2	0	0	0	8	12	0	6	2	72	56	49	4
24	0	2	0	0	46	55	0	4	0	29	84	21	0
25	0	0	0	4	115	42	0	0	0	30	88	36	1
26	4	3	9	0	191	30	0	0	18	8	70	24	1
27	0	0	8	1	196	62	0	3	4	57	129	23	7
28	0	7	2	14	141	52	1	14	2	29	86	18	0
29	0	0	6	1	136	36	0	0	3	15	69	19	1
30	2	0	14	14	95	52	0	0	4	60	107	22	30
31	0	6	0	0	63	56	0	14	0	30	33	10	4
32	0	0	4	4	21	9	0	10	2	4	29	2	0
33	0	2	0	0	94	19	0	23	5	28	26	15	6
34	0	8	0	0	91	45	0	7	2	117	33	78	9
35	4	4	0	4	19	26	0	4	0	58	32	6	15
36	0	15	1	27	98	106	42	5	0	13	76	60	8
37	0	16	4	25	15	0	0	18	0	160	32	47	7
38	0	6	0	4	12	9	0	4	12	121	17	38	19
39	0	11	12	14	21	21	0	6	2	140	25	47	8
40	0	12	4	4	56	85	0	2	4	16	15	87	63
41	17	30	13	13	15	40	0	0	0	24	20	163	93
42	12	0	6	4	16	28	0	0	0	0	0	18	32
43	0	0	5	0	0	0	0	0	0	0	0	0	0
Total	**69**	**249**	**123**	**233**	**2,988**	**1,553**	**50**	**140**	**111**	**1,976**	**1,753**	**1,018**	**353**

Day	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Sub-total	Other	Total
1	0	0	54	42	35	28	2	8	18	65	307	916	1,223
2	0	0	20	47	6	5	2	8	28	84	252	559	811
3	0	0	28	4	3	6	0	0	4	56	177	483	660
4	0	10	0	15	8	2	3	9	24	76	185	369	554
5	0	0	24	1	2	4	14	0	0	56	118	432	550
6	0	4	8	8	8	2	0	0	19	97	175	384	559
7	0	6	29	23	10	3	9	14	0	71	229	447	676
8	0	0	8	20	52	17	6	28	72	72	418	468	886
9	0	0	0	1	25	2	11	2	11	39	382	404	786
10	0	0	0	26	10	3	0	4	37	52	403	458	861
11	0	0	2	0	35	0	0	4	8	34	251	392	643
12	0	0	3	4	47	2	2	17	30	31	433	490	923
13	0	0	0	27	14	10	2	31	13	29	600	317	917
14	0	0	4	2	14	2	8	38	41	24	590	368	958
15	0	4	9	24	9	23	8	26	36	41	472	452	924
16	0	4	4	24	17	26	0	53	107	16	519	415	934
17	2	0	4	30	42	133	20	60	28	20	516	386	902
18	0	0	16	52	69	110	23	49	38	36	595	386	981
19	0	4	2	24	76	34	1	20	60	25	534	396	930
20	0	2	14	6	34	16	12	28	56	43	648	442	1,090
21	0	4	10	18	25	8	5	33	18	45	454	432	886
22	0	0	25	0	28	40	[illegible]	16	147	49	574	526	1,100
23	0	10	5	41	52	89	[illegible]	[illegible]	21	61	588	533	1,121
24	0	0	11	11	46	64	[illegible]	[illegible]	38	61	581	547	1,128
25	0	20	26	6	29	38	[illegible]	[illegible]	76	60	609	600	1,209
26	0	8	28	2	19	78	[illegible]	[illegible]	29	75	693	515	1,208
27	0	0	10	22	12	6	2[illegible]	[illegible]	45	68	698	571	1,269
28	0	2	16	16	11	66	62	22	42	73	676	574	1,250
29	0	6	57	20	60	57	33	55	23	173	770	492	1,262
30	0	6	69	48	92	84	49	28	63	92	931	403	1,334
31	0	36	40	28	20	31	41	65	50	121	648	363	1,011
32	0	2	21	37	9	8	76	16	22	57	333	349	682
33	0	21	15	19	109	136	76	50	74	96	814	500	1,314
34	0	8	22	21	34	103	37	33	53	106	807	465	1,272
35	1	14	13	26	14	53	29	24	44	74	464	404	868
36	4	4	17	6	20	59	40	38	55	84	778	457	1,235
37	4	61	58	109	48	110	31	49	7	56	857	467	1,324
38	0	29	37	85	48	113	14	34	47	106	755	474	1,229
39	0	11	7	33	56	83	2	14	20	164	697	553	1,250
40	0	2	2	3	40	73	23	2	22	134	649	346	995
41	0	0	0	0	2	39	5	0	20	80	574	449	1,023
42	0	0	0	0	0	0	0	0	0	94	210	332	542
43	0	0	0	0	0	0	0	0	0	4	9	20	29
Total	11	278	718	931	1,290	1,766	769	1,148	1,546	2,900	21,973	19,336	41,309

Source: Missions Database (S/NP/WN/NC)

Table 181
Kill Box Strikes

Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
A-10	0	0	0	4	10	14	0	31	24	424	314
A-6	0	8	8	9	32	44	0	2	6	77	78
AV-8	0	0	0	0	0	0	0	0	0	0	4
B-52	0	18	0	19	256	38	0	15	0	86	34
F-111E	0	0	0	0	0	0	0	0	0	0	0
F-111F	4	15	6	40	772	249	0	0	0	273	124
F-117	0	0	0	1	0	0	0	0	0	0	0
F-15E	11	6	8	3	77	82	1	2	0	137	146
F-16	50	191	97	135	1,731	1,012	48	73	47	886	910
F-4G	4	5	1	8	29	24	1	1	4	21	35
F/A-18	0	6	3	2	38	82	0	7	18	33	64
GR-1	0	0	0	0	10	0	0	0	0	0	0
TLAM	0	0	0	0	0	0	0	0	0	0	0
Subtotal	69	249	123	221	2,955	1,545	50	131	99	1,937	1,709
Other Aircraft	0	0	0	12	33	8	0	9	12	39	44
Total	69	249	123	233	2,988	1,553	50	140	111	1,976	1,753

Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4
A-10	30	0	11	174	289	336	347	57	0	60	44
A-6	196	117	0	0	12	11	28	195	278	71	182
AV-8	26	18	0	0	0	0	110	461	22	483	550
B-52	24	0	0	12	32	93	127	61	6	56	20
F-111E	0	0	0	0	0	0	0	0	0	0	0
F-111F	4	0	0	1	47	129	0	1	0	0	0
F-117	0	0	0	0	0	0	0	7	0	0	0
F-15E	56	0	0	4	40	40	37	24	8	22	2
F-16	517	19	0	87	285	269	399	542	27	64	99
F-4G	22	1	0	0	1	9	42	64	10	13	0
F/A-18	133	197	0	0	0	18	151	291	328	156	317
GR-1	8	0	0	0	0	0	4	4	0	8	4
TLAM	0	0	0	0	0	0	0	0	0	0	0
Subtotal	1,016	352	11	278	706	905	1,245	1,707	679	933	1,218
Other Aircraft	2	1	0	0	12	26	45	59	90	215	328
Total	1,018	353	11	278	718	931	1,290	1,766	769	1,148	1,546

Other Kboxes	Subtotal	Other	Total
364	2,533	4,301	6,834
119	1,473	1,144	2,617
30	1,704	881	2,585
133	1,030	676	1,706
0	0	423	423
15	1,680	1,122	2,802
7	15	1,773	1,788
580	1,286	838	2,124
938	8,426	3,272	11,698
437	732	188	920
105	1,949	2,602	4,551
48	86	1,231	1,317
0	0	281	281
2,776	20,914	18,732	39,646
124	1,059	604	1,663
2,900	21,973	19,336	41,309

Source: Missions Database (S/NF/WN/NC)

Table 182
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
1	A-10	0	0	0	0	0	0	0	0	0	0	0
1	A-6	0	0	0	0	0	0	0	0	0	0	0
1	AV-8	0	0	0	0	0	0	0	0	0	0	0
1	B-52	0	0	0	0	0	3	0	0	0	0	0
1	F-111E	0	0	0	0	0	0	0	0	0	0	0
1	F-111F	0	0	0	0	0	0	0	0	0	0	0
1	F-117	0	0	0	0	0	0	0	0	0	0	0
1	F-15E	0	0	0	0	0	0	0	0	0	0	0
1	F-16	0	0	0	0	0	8	0	0	0	16	0
1	F-4G	1	0	0	0	1	9	0	0	1	7	5
1	F/A-18	0	0	0	0	0	0	0	0	0	0	0
1	GR-1	0	0	0	0	0	0	0	0	0	0	0
1	TLAM	0	0	0	0	0	0	0	0	0	0	0
1	Subtotal	1	0	0	0	1	20	0	0	1	23	5
1	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
1	Total	1	0	0	0	1	20	0	0	1	23	5

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
1	A-10	0	0	0	0	54	34	0	0	0	0	12	8	108	220	328
1	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	41	41
1	AV-8	0	0	0	0	0	0	0	0	0	0	6	0	6	2	8
1	B-52	0	0	0	0	0	0	0	0	0	0	0	3	6	50	56
1	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
1	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	69	69
1	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	61	61
1	F-15E	0	0	0	0	0	0	0	0	0	0	0	7	7	60	67
1	F-16	0	0	0	0	0	8	7	20	0	0	0	0	59	126	185
1	F-4G	3	1	0	0	0	0	11	8	2	2	0	47	98	20	118
1	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	47	47
1	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	53	53
1	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	122	122
1	Subtotal	3	1	0	0	54	42	18	28	2	2	18	65	284	881	1,165
1	Other Aircraft	0	0	0	0	0	0	17	0	0	6	0	0	23	35	58
1	Total	3	1	0	0	54	42	35	28	2	8	18	65	307	916	1,223

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
2	A-10	0	0	0	0	0	0	0	0	0	12	0
2	A-6	0	0	0	0	0	0	0	0	0	0	0
2	AV-8	0	0	0	0	0	0	0	0	0	0	0
2	B-52	0	0	0	0	4	0	0	0	0	0	0
2	F-111E	0	0	0	0	0	0	0	0	0	0	0
2	F-111F	0	0	0	0	0	0	0	0	0	0	0
2	F-117	0	0	0	0	0	0	0	0	0	0	0
2	F-15E	0	0	4	0	0	0	0	0	0	0	0
2	F-16	0	0	0	0	8	0	0	0	0	8	0
2	F-4G	1	0	0	0	5	4	0	1	0	2	2
2	F/A-18	0	0	0	0	0	0	0	0	0	0	0
2	GR-1	0	0	0	0	0	0	0	0	0	0	0
2	TLAM	0	0	0	0	0	0	0	0	0	0	0
2	Subtotal	1	0	4	0	17	4	0	1	0	22	2
2	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
2	Total	1	0	4	0	17	4	0	1	0	22	2

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
2	A-10	0	0	0	0	20	38	2	0	0	0	0	18	90	66	156
2	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
2	AV-8	0	0	0	0	0	0	0	0	0	6	28	0	34	12	46
2	B-52	0	0	0	0	0	0	0	0	0	0	0	1	5	19	24
2	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
2	F-111F	0	0	0	0	0	0	0	0	0	0	0	2	2	36	38
2	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36
2	F-15E	0	0	0	0	0	0	0	0	0	0	0	4	8	26	34
2	F-16	0	0	0	0	0	8	0	0	0	2	0	4	30	175	205
2	F-4G	1	0	0	0	0	1	4	5	2	0	0	38	66	10	76
2	F/A-18	0	0	0	0	0	0	0	0	0	0	0	14	14	16	30
2	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30
2	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	58	58
2	Subtotal	1	0	0	0	20	47	6	5	2	8	28	81	249	529	778
2	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	3	3	30	33
2	Total	1	0	0	0	20	47	6	5	2	8	28	84	252	559	811

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
3	A-10	0	0	0	0	0	0	0	0	0	0	0
3	A-6	0	0	0	0	0	0	0	0	0	0	0
3	AV-8	0	0	0	0	0	0	0	0	0	0	0
3	B-52	0	0	0	0	3	0	0	6	0	6	0
3	F-111E	0	0	0	0	0	0	0	0	0	0	0
3	F-111F	0	0	0	0	0	0	0	0	0	0	0
3	F-117	0	0	0	0	0	0	0	0	0	0	0
3	F-15E	0	0	0	0	0	0	0	0	0	0	0
3	F-16	0	0	0	0	8	0	0	0	0	28	0
3	F-4G	2	0	0	2	3	0	0	0	0	0	5
3	F/A-18	0	0	0	0	6	0	0	0	0	0	0
3	GR-1	0	0	0	0	0	0	0	0	0	0	0
3	TLAM	0	0	0	0	0	0	0	0	0	0	0
3	Subtotal	2	0	0	2	20	0	0	6	0	34	5
3	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
3	Total	2	0	0	2	20	0	0	6	0	34	5

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
3	A-10	0	0	0	0	0	0	2	0	0	0	0	4	6	24	30
3	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18
3	AV-8	0	0	0	0	0	0	0	0	0	0	4	0	4	10	14
3	B-52	0	0	0	0	0	0	0	0	0	0	0	7	22	14	36
3	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
3	F-117	0	0	0	0	0	0	0	0	0	0	0	1	1	25	26
3	F-15E	0	0	0	0	0	0	0	0	0	0	0	6	6	57	63
3	F-16	0	0	0	0	28	4	0	2	0	0	0	8	78	171	249
3	F-4G	7	0	0	0	0	0	1	4	0	0	0	30	54	2	56
3	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	6	33	39
3	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20
3	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	32	32
3	Subtotal	7	0	0	0	28	4	3	6	0	0	4	56	177	423	600
3	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60
3	Total	7	0	0	0	28	4	3	6	0	0	4	56	177	483	660

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
4	A-10	0	0	0	0	0	0	0	0	0	0	0
4	A-6	0	0	0	0	0	0	0	0	0	0	0
4	AV-8	0	0	0	0	0	0	0	0	0	0	0
4	B-52	0	0	0	0	6	0	0	0	0	6	3
4	F-111E	0	0	0	0	0	0	0	0	0	0	0
4	F-111F	0	0	0	0	0	0	0	0	0	0	0
4	F-117	0	0	0	0	0	0	0	0	0	0	0
4	F-15E	0	0	0	0	0	0	0	0	0	0	0
4	F-16	0	0	0	0	0	0	0	0	0	0	0
4	F-4G	0	0	0	0	4	0	0	0	0	3	7
4	F/A-18	0	0	0	0	0	0	0	0	0	0	0
4	GR-1	0	0	0	0	0	0	0	0	0	0	0
4	TLAM	0	0	0	0	0	0	0	0	0	0	0
4	Subtotal	0	0	0	0	10	0	0	0	0	9	10
4	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
4	**Total**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**9**	**10**

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
4	A-10	0	0	0	0	0	0	0	0	0	0	0	4	4	19	23
4	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15
4	AV-8	0	0	0	0	0	0	0	0	0	0	8	0	8	15	23
4	B-52	0	0	0	0	0	0	0	0	0	0	0	3	18	10	28
4	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
4	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
4	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
4	F-15E	0	0	0	0	0	0	0	0	0	0	0	4	4	40	44
4	F-16	0	0	0	10	0	12	0	0	0	0	16	40	78	141	219
4	F-4G	0	0	0	0	0	3	8	2	2	0	0	23	52	17	69
4	F/A-18	0	9	0	0	0	0	0	0	1	0	0	0	10	10	20
4	GR-1	0	0	0	0	0	0	0	0	0	8	0	0	8	23	31
4	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
4	Subtotal	0	9	0	10	0	15	8	2	3	8	24	74	182	349	531
4	Other Aircraft	0	0	0	0	0	0	0	0	0	1	0	2	3	20	23
4	**Total**	**0**	**9**	**0**	**10**	**0**	15	**8**	2	3	**9**	24	76	185	369	554

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
5	A-10	0	0	0	0	0	0	0	0	0	0	0
5	A-6	0	0	0	0	0	0	0	0	0	0	0
5	AV-8	0	0	0	0	0	0	0	0	0	0	0
5	B-52	0	0	0	0	3	0	0	3	0	3	0
5	F-111E	0	0	0	0	0	0	0	0	0	0	0
5	F-111F	0	0	0	0	0	0	0	0	0	0	0
5	F-117	0	0	0	0	0	0	0	0	0	0	0
5	F-15E	0	0	0	0	0	0	0	0	0	0	0
5	F-16	4	0	0	0	0	0	0	0	0	0	0
5	F-4G	0	0	0	0	1	0	0	0	0	0	1
5	F/A-18	0	0	0	0	0	0	0	0	0	0	0
5	GR-1	0	0	0	0	0	0	0	0	0	0	0
5	TLAM	0	0	0	0	0	0	0	0	0	0	0
5	Subtotal	4	0	0	0	4	0	0	3	0	3	1
5	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
5	Total	4	0	0	0	4	0	0	3	0	3	1

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
5	A-10	0	0	0	0	0	0	0	0	0	0	0	4	4	28	32
5	A-6	0	0	0	0	0	0	0	0	6	0	0	0	6	29	35
5	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
5	B-52	0	0	0	0	0	0	0	0	0	0	0	12	21	20	41
5	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
5	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
5	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34
5	F-15E	0	0	0	0	0	0	0	0	0	0	0	2	2	36	38
5	F-16	0	0	0	0	24	0	0	0	2	0	0	10	40	158	198
5	F-4G	0	0	0	0	0	1	2	4	0	0	0	24	33	16	49
5	F/A-18	0	2	0	0	0	0	0	0	6	0	0	0	8	29	37
5	GR-1	0	0	0	0	0	0	0	0	0	0	0	4	4	23	27
5	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Subtotal	0	2	0	0	24	1	2	4	14	0	0	56	118	425	543
5	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
5	Total	0	2	0	0	24	1	2	4	14	0	0	56	118	432	550

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
6	A-10	0	0	0	0	0	0	0	0	0	0	0
6	A-6	0	0	0	0	0	0	0	0	0	0	0
6	AV-8	0	0	0	0	0	0	0	0	0	0	0
6	B-52	0	0	0	0	0	0	0	0	0	5	0
6	F-111E	0	0	0	0	0	0	0	0	0	0	0
6	F-111F	0	0	0	0	0	0	0	0	0	0	0
6	F-117	0	0	0	0	0	0	0	0	0	0	0
6	F-15E	0	0	0	0	0	0	0	0	0	0	0
6	F-16	0	0	0	4	0	0	0	4	0	12	0
6	F-4G	0	0	0	0	1	3	0	0	0	0	0
6	F/A-18	0	0	0	0	0	0	0	0	0	0	0
6	GR-1	0	0	0	0	0	0	0	0	0	0	0
6	TLAM	0	0	0	0	0	0	0	0	0	0	0
6	Subtotal	0	0	0	4	1	3	0	4	0	17	0
6	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
6	**Total**	**0**	**0**	**0**	**4**	**1**	**3**	**0**	**4**	**0**	**17**	**0**

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
6	A-10	0	0	0	0	4	8	0	0	0	0	2	12	26	40	66
6	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
6	AV-8	0	0	0	0	0	0	0	0	0	0	10	0	10	10	20
6	B-52	0	0	0	0	0	0	0	0	0	0	0	14	19	18	37
6	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34
6	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	41	41
6	F-15E	0	0	0	0	0	0	0	0	0	0	0	9	9	47	56
6	F-16	0	0	0	4	4	0	8	0	0	0	0	47	83	83	166
6	F-4G	0	0	0	0	0	0	0	2	0	0	0	15	21	5	26
6	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	25	25
6	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
6	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
6	Subtotal	0	0	0	4	8	8	8	2	0	0	12	97	168	372	540
6	Other Aircraft	0	0	0	0	0	0	0	0	0	0	7	0	7	12	19
6	**Total**	**0**	**0**	**0**	**4**	**8**	**8**	**8**	**2**	**0**	**0**	**19**	**97**	**175**	**384**	**559**

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
7	A-10	0	0	0	0	0	0	0	0	0	0	0
7	A-6	0	0	0	0	0	0	0	0	0	0	0
7	AV-8	0	0	0	0	0	0	0	0	0	0	0
7	B-52	0	0	0	0	0	0	0	0	0	14	0
7	F-111E	0	0	0	0	0	0	0	0	0	0	0
7	F-111F	0	0	0	0	0	0	0	0	0	0	0
7	F-117	0	0	0	0	0	0	0	0	0	0	0
7	F-15E	0	0	0	0	0	3	0	0	0	0	0
7	F-16	0	0	0	0	0	0	0	4	0	34	0
7	F-4G	0	0	0	2	0	1	0	0	0	0	0
7	F/A-18	0	0	0	0	0	0	0	0	0	0	0
7	GR-1	0	0	0	0	0	0	0	0	0	0	0
7	TLAM	0	0	0	0	0	0	0	0	0	0	0
7	Subtotal	0	0	0	2	0	4	0	4	0	48	0
7	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
7	Total	0	0	0	2	0	4	0	4	0	48	0

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
7	A-10	0	0	0	2	4	10	8	0	0	0	0	10	34	62	96
7	A-6	0	4	0	0	0	0	0	0	0	0	0	0	4	9	13
7	AV-8	0	2	0	0	0	0	0	0	0	0	0	0	2	29	31
7	B-52	0	0	0	0	0	0	0	0	0	0	0	9	23	14	37
7	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
7	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
7	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
7	F-15E	0	0	0	0	2	2	0	0	0	0	0	6	13	21	34
7	F-16	0	0	0	4	23	11	0	0	8	0	0	34	118	216	334
7	F-4G	0	0	0	0	0	0	2	3	0	0	0	12	20	9	29
7	F/A-18	0	0	0	0	0	0	0	0	1	0	0	0	1	10	11
7	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	27	27
7	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Subtotal	0	6	0	6	29	23	10	3	9	0	0	71	215	437	652
7	Other Aircraft	0	0	0	0	0	0	0	0	0	14	0	0	14	10	24
7	Total	0	6	0	6	29	23	10	3	9	14	0	71	229	447	676

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
8	A-10	0	0	0	0	0	0	0	0	0	0	0
8	A-6	0	0	0	0	0	0	0	0	0	0	0
8	AV-8	0	0	0	0	0	0	0	0	0	0	0
8	B-52	0	0	0	0	4	4	0	0	0	4	0
8	F-111E	0	0	0	0	0	0	0	0	0	0	0
8	F-111F	4	0	0	0	0	0	0	0	0	0	0
8	F-117	0	0	0	0	0	0	0	0	0	0	0
8	F-15E	0	0	0	0	0	16	0	0	0	0	0
8	F-16	0	4	0	0	61	24	0	0	6	4	0
8	F-4G	0	1	1	0	1	1	1	0	0	0	0
8	F/A-18	0	0	0	0	0	0	0	0	0	0	0
8	GR-1	0	0	0	0	0	0	0	0	0	0	0
8	TLAM	0	0	0	0	0	0	0	0	0	0	0
8	Subtotal	4	5	1	0	66	45	1	0	6	8	0
8	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
8	**Total**	**4**	**5**	**1**	**0**	**66**	**45**	**1**	**0**	**6**	**8**	**0**

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
8	A-10	0	0	0	0	4	16	52	16	0	22	10	8	128	110	238
8	A-6	0	0	0	0	0	0	0	0	1	0	0	0	1	19	20
8	AV-8	0	[illegible]	0	0	0	0	0	0	0	6	50	4	60	40	100
8	B-52	2	0	0	0	0	0	0	0	0	0	0	0	14	16	30
8	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
8	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	4	27	31
8	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
8	F-15E	0	0	0	0	4	0	0	0	0	0	0	30	50	4	54
8	F-16	0	0	0	0	0	4	0	0	0	0	0	18	121	144	265
8	F-4G	0	0	0	0	0	0	0	1	3	0	0	11	20	2	22
8	F/A-18	0	5	0	0	0	0	0	0	2	0	0	1	8	21	29
8	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
8	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
8	Subtotal	2	5	0	0	8	20	52	17	6	28	60	72	406	456	862
8	Other Aircraft	0	0	0	0	0	0	0	0	0	0	12	0	12	12	24
8	**Total**	**2**	**5**	**0**	**0**	**8**	**20**	**52**	**17**	**6**	**28**	**72**	**72**	**418**	**468**	**886**

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
9	A-10	0	0	0	0	0	0	6	0	0	0	100
9	A-6	0	0	0	0	0	0	0	0	0	0	0
9	AV-8	0	0	0	0	0	0	0	0	0	0	0
9	B-52	0	0	0	0	4	2	0	0	0	6	2
9	F-111E	0	0	0	0	0	0	0	0	0	0	0
9	F-111F	0	0	0	0	0	0	0	0	0	0	0
9	F-117	0	0	0	0	0	0	0	0	0	0	0
9	F-15E	0	0	0	0	9	8	0	0	0	0	0
9	F-16	0	4	0	8	54	70	0	0	0	0	0
9	F-4G	0	0	0	0	0	0	0	0	0	0	0
9	F/A-18	0	0	0	0	16	0	0	0	0	0	0
9	GR-1	0	0	0	0	0	0	0	0	0	0	0
9	TLAM	0	0	0	0	0	0	0	0	0	0	0
9	Subtotal	0	4	0	8	83	80	0	0	0	6	102
9	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
9	Total	0	4	0	8	83	80	0	0	0	6	102

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
9	A-10	0	0	0	0	0	0	20	2	0	0	4	2	128	64	192
9	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30
9	AV-8	0	0	0	0	0	0	0	0	0	2	6	0	8	22	30
9	B-52	0	0	0	0	0	0	0	0	0	0	0	2	16	20	36
9	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
9	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
9	F-15E	0	0	0	0	0	0	0	0	0	0	0	12	29	17	46
9	F-16	8	0	0	0	0	0	4	0	4	0	0	8	160	126	286
9	F-4G	0	0	0	0	0	1	1	0	0	0	0	13	15	6	21
9	F/A-18	0	0	0	0	0	0	0	0	6	0	0	0	22	17	39
9	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
9	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
9	Subtotal	8	0	0	0	0	1	25	2	10	2	10	37	378	386	764
9	Other Aircraft	0	0	0	0	0	0	0	0	1	0	1	2	4	18	22
9	Total	8	0	0	0	0	1	[illegible]	2	11	2	11	39	382	404	786

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
10	A-10	0	0	0	0	0	0	0	0	0	10	80
10	A-6	0	0	0	0	0	0	0	0	0	0	0
10	AV-8	0	0	0	0	0	0	0	0	0	0	0
10	B-52	0	1	0	4	8	0	0	0	0	0	3
10	F-111E	0	0	0	0	0	0	0	0	0	0	0
10	F-111F	0	0	0	0	0	0	0	0	0	0	0
10	F-117	0	0	0	0	0	0	0	0	0	0	0
10	F-15E	4	0	0	0	12	0	0	0	0	0	0
10	F-16	0	4	0	19	87	16	0	0	0	0	8
10	F-4G	0	0	0	2	2	0	0	0	0	0	0
10	F/A-18	0	0	0	0	0	0	0	0	0	0	0
10	GR-1	0	0	0	0	0	0	0	0	0	0	0
10	TLAM	0	0	0	0	0	0	0	0	0	0	0
10	Subtotal	4	5	0	25	109	16	0	0	0	10	91
10	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
10	Total	4	5	0	25	109	16	0	0	0	10	91

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
10	A-10	2	0	0	0	0	26	10	2	0	0	0	4	134	110	244
10	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	25	25
10	AV-8	0	0	0	0	0	0	0	0	0	4	24	0	28	62	90
10	B-52	0	0	0	0	0	0	0	0	0	0	0	1	17	24	41
10	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
10	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15
10	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	55	55
10	F-15E	0	0	0	0	0	0	0	0	0	0	0	22	38	8	46
10	F-16	8	0	0	0	0	0	0	0	0	0	0	4	146	111	257
10	F-4G	1	0	0	0	0	0	0	1	0	0	0	19	25	2	27
10	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
10	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
10	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
10	Subtotal	11	0	0	0	0	26	10	3	0	4	24	50	388	445	833
10	Other Aircraft	0	0	0	0	0	0	0	0	0	0	13	2	15	13	28
10	Total	11	0	0	0	0	26	10	3	0	4	37	52	403	458	861

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
11	A-10	0	0	0	0	0	0	0	0	0	0	6
11	A-6	0	0	0	0	0	0	0	0	0	0	0
11	AV-8	0	0	0	0	0	0	0	0	0	0	0
11	B-52	0	0	0	0	6	0	0	0	0	0	0
11	F-111E	0	0	0	0	0	0	0	0	0	0	0
11	F-111F	0	0	0	0	0	0	0	0	0	0	0
11	F-117	0	0	0	0	0	0	0	0	0	0	0
11	F-15E	2	2	0	0	6	2	0	0	0	4	0
11	F-16	0	38	0	8	83	2	0	0	0	0	0
11	F-4G	0	0	0	0	0	0	0	0	0	1	0
11	F/A-18	0	6	0	0	0	0	0	0	0	0	0
11	GR-1	0	0	0	0	0	0	0	0	0	0	0
11	TLAM	0	0	0	0	0	0	0	0	0	0	0
11	Subtotal	2	46	0	8	95	4	0	0	0	5	6
11	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
11	Total	2	46	0	8	95	4	0	0	0	5	6

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
11	A-10	0	0	0	0	0	0	34	0	0	0	0	0	40	64	104
11	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21
11	AV-8	0	0	0	0	0	0	0	0	0	4	0	0	4	8	12
11	B-52	0	0	0	0	0	0	0	0	0	0	0	4	10	27	37
11	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
11	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36
11	F-117	0	0	0	0	0	0	0	0	0	0	0	1	1	62	63
11	F-15E	0	0	0	0	2	0	0	0	0	0	0	14	32	10	42
11	F-16	2	0	0	0	0	0	0	0	0	0	0	7	140	100	240
11	F-4G	0	0	0	0	0	0	1	0	0	0	0	7	9	4	13
11	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	6	29	35
11	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
11	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Subtotal	2	0	0	0	2	0	35	0	0	4	0	33	242	386	628
11	Other Aircraft	0	0	0	0	0	0	0	0	0	0	8	1	5	6	11
11	Total	2	0	0	0	2	0	35	0	0	4	8	34	251	392	643

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Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
12	A-10	0	0	0	0	0	0	0	0	0	80	2
12	A-6	0	0	0	0	0	0	0	0	0	0	0
12	AV-8	0	0	0	0	0	0	0	0	0	0	0
12	B-52	0	0	0	0	33	0	0	0	0	0	0
12	F-111E	0	0	0	0	0	0	0	0	0	0	0
12	F-111F	0	0	0	0	0	0	0	0	0	0	0
12	F-117	0	0	0	0	0	0	0	0	0	0	0
12	F-15E	0	0	0	0	12	0	0	0	0	0	2
12	F-16	0	45	0	0	105	10	0	0	0	4	0
12	F-4G	0	1	0	0	0	0	0	0	0	0	1
12	F/A-18	0	0	0	0	0	0	0	0	0	0	0
12	GR-1	0	0	0	0	0	0	0	0	0	0	0
12	TLAM	0	0	0	0	0	0	0	0	0	0	0
12	Subtotal	0	46	0	0	150	10	0	0	0	84	5
12	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
12	Total	0	46	0	0	150	10	0	0	0	84	5

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
12	A-10	0	0	0	0	0	0	46	0	0	0	0	4	132	112	244
12	A-6	0	0	0	0	0	0	0	0	2	0	0	0	2	26	28
12	AV-8	0	0	0	0	0	0	0	2	0	12	18	0	32	18	50
12	B-52	0	0	0	0	0	0	0	0	0	0	0	3	36	5	41
12	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
12	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36
12	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	48	48
12	F-15E	0	0	0	0	2	0	0	0	0	0	0	11	27	19	46
12	F-16	0	0	0	0	0	4	0	0	0	0	0	2	170	101	271
12	F-4G	2	0	0	0	1	0	1	0	0	1	0	10	17	4	21
12	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38
12	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	59	59
12	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
12	Subtotal	2	0	0	0	3	4	47	2	2	13	18	30	416	480	896
12	Other Aircraft	0	0	0	0	0	0	0	0	0	4	12	1	17	10	27
12	Total	2	0	0	0	3	4	47	2	2	17	30	31	433	490	923

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
13	A-10	0	0	0	0	0	0	0	2	0	110	0
13	A-6	0	0	0	0	27	2	0	0	0	0	0
13	AV-8	0	0	0	0	0	0	0	0	0	0	0
13	B-52	0	0	0	0	16	2	0	0	0	0	2
13	F-111E	0	0	0	0	0	0	0	0	0	0	0
13	F-111F	0	0	0	0	0	0	0	0	0	0	0
13	F-117	0	0	0	0	0	0	0	0	0	0	0
13	F-15E	0	0	0	0	8	8	0	0	0	8	0
13	F-16	0	4	2	0	149	61	0	0	0	8	0
13	F-4G	0	2	0	0	1	1	0	0	1	1	1
13	F/A-18	0	0	0	0	4	17	0	0	0	0	0
13	GR-1	0	0	0	0	10	0	0	0	0	0	0
13	TLAM	0	0	0	0	0	0	0	0	0	0	0
13	Subtotal	0	6	2	0	215	91	0	2	1	127	3
13	Other Aircraft	0	0	0	0	25	0	0	0	0	0	0
13	Total	0	6	2	0	240	91	0	2	1	127	3

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
13	A-10	0	0	0	0	0	2	12	0	0	6	4	6	142	118	260
13	A-6	0	0	0	0	0	0	0	0	0	0	0	0	29	6	35
13	AV-8	0	0	0	0	0	0	2	8	0	8	2	2	22	35	57
13	B-52	0	0	0	0	0	4	0	0	0	0	0	4	28	14	42
13	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
13	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34
13	F-117	0	0	0	0	0	0	0	0	0	0	0	1	1	37	38
13	F-15E	0	0	0	0	0	2	0	0	2	2	0	14	44	2	46
13	F-16	2	0	0	0	0	18	0	0	0	0	3	0	247	14	261
13	F-4G	0	0	0	0	0	1	0	2	0	0	0	2	12	1	13
13	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	21	4	25
13	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	10	34	44
13	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
13	Subtotal	2	0	0	0	0	27	14	10	2	16	9	29	556	314	870
13	Other Aircraft	0	0	0	0	0	0	0	0	0	15	4	0	44	3	47
13	Total	2	0	0	0	0	27	14	10	2	31	13	29	600	317	917

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
14	A-10	0	0	0	0	0	0	0	0	0	140	0
14	A-6	0	0	0	0	0	8	0	0	0	15	0
14	AV-8	0	0	0	0	0	0	0	0	0	0	0
14	B-52	0	0	0	0	17	2	0	0	0	0	0
14	F-111E	0	0	0	0	0	0	0	0	0	0	0
14	F-111F	0	0	0	0	0	0	0	0	0	0	0
14	F-117	0	0	0	1	0	0	0	0	0	0	0
14	F-15E	0	0	0	0	2	0	0	0	0	2	12
14	F-16	0	0	2	0	40	147	0	0	0	2	8
14	F-4G	0	0	0	2	3	3	0	0	1	1	1
14	F/A-18	0	0	0	0	0	0	0	0	0	18	0
14	GR-1	0	0	0	0	0	0	0	0	0	0	0
14	TLAM	0	0	0	0	0	0	0	0	0	0	0
14	Subtotal	0	0	2	3	62	160	0	0	1	178	21
14	Other Aircraft	0	0	0	0	0	0	0	0	0	8	0
14	Total	0	0	2	3	62	160	0	0	1	186	21

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
14	A-10	0	0	0	0	0	0	0	0	0	8	0	2	150	128	278
14	A-6	0	2	0	0	0	0	0	0	7	0	8	0	40	9	49
14	AV-8	0	0	0	0	0	0	0	0	0	14	20	0	34	32	66
14	B-52	6	0	0	0	0	0	4	0	0	0	0	0	29	16	45
14	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
14	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44
14	F-117	0	0	0	0	0	0	0	2	0	0	0	1	4	45	49
14	F-15E	4	0	0	0	0	2	4	0	0	0	0	21	47	3	50
14	F-16	6	0	0	0	4	0	6	0	0	0	12	0	227	29	256
14	F-4G	1	0	0	0	0	0	0	0	1	0	0	0	13	1	14
14	F/A-18	0	3	0	0	0	0	0	0	0	0	0	0	21	20	41
14	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19
14	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Subtotal	17	5	0	0	4	2	14	2	8	22	40	24	565	358	923
14	Other Aircraft	0	0	0	0	0	0	0	0	0	16	1	0	25	10	35
14	Total	17	5	0	0	4	2	14	2	8	38	41	24	590	368	958

Table 182 (cont'd)
Daily Strikes by KB Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
15	A-10	0	0	0	0	0	0	0	0	0	34	0
15	A-6	0	0	0	0	0	4	0	0	0	15	0
15	AV-8	0	0	0	0	0	0	0	0	0	0	0
15	B-52	0	0	0	0	58	9	0	0	0	0	0
15	F-111E	0	0	0	0	0	0	0	0	0	0	0
15	F-111F	0	0	0	0	0	0	0	0	0	0	0
15	F-117	0	0	0	0	0	0	0	0	0	0	0
15	F-15E	0	0	0	0	0	0	0	0	0	13	4
15	F-16	0	0	2	0	6	74	2	0	0	26	2
15	F-4G	0	0	0	0	0	0	0	0	0	1	0
15	F/A-18	0	0	0	0	0	11	0	0	0	9	0
15	GR-1	0	0	0	0	0	0	0	0	0	0	0
15	TLAM	0	0	0	0	0	0	0	0	0	0	0
15	Subtotal	0	0	2	0	64	98	2	0	0	98	6
15	Other Aircraft	0	0	0	0	0	0	0	0	0	13	0
15	Total	0	0	2	0	64	98	2	0	0	111	6

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
15	A-10	6	0	0	0	0	2	6	10	0	0	4	6	68	162	230
15	A-6	0	0	0	0	0	0	0	0	4	0	5	6	34	20	54
15	AV-8	2	0	0	0	0	0	0	4	0	10	22	2	40	62	102
15	B-52	0	0	0	0	0	0	0	0	0	0	3	0	70	10	80
15	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
15	F-111F	0	0	0	0	0	0	0	1	0	0	0	0	1	35	36
15	F-117	0	0	0	0	0	0	0	0	0	0	0	1	1	33	34
15	F-15E	0	0	0	0	2	0	0	0	2	0	2	10	33	7	40
15	F-16	1	0	0	4	7	22	1	8	0	0	0	3	158	51	209
15	F-4G	0	0	0	0	0	0	2	0	0	0	0	3	6	3	9
15	F/A-18	0	0	0	0	0	0	0	0	2	0	0	2	24	18	42
15	GR-1	0	0	0	0	0	0	0	0	0	0	0	8	8	16	24
15	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19
15	Subtotal	9	0	0	4	9	24	9	23	8	10	36	41	443	445	888
15	Other Aircraft	0	0	0	0	0	0	0	0	0	16	0	0	29	7	36
15	Total	9	0	0	4	9	24	9	23	8	26	36	41	472	452	924

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
16	A-10	0	0	0	2	4	4	0	0	0	17	12
16	A-6	0	0	0	0	0	0	0	0	0	0	0
16	AV-8	0	0	0	0	0	0	0	0	0	0	0
16	B-52	0	0	0	0	9	0	0	0	0	14	0
16	F-111E	0	0	0	0	0	0	0	0	0	0	0
16	F-111F	0	0	0	0	0	0	0	0	0	0	0
16	F-117	0	0	0	0	0	0	0	0	0	0	0
16	F-15E	0	0	0	0	4	0	0	0	0	2	2
16	F-16	0	0	4	4	103	12	0	0	0	37	16
16	F-4G	0	0	0	0	0	0	0	0	0	1	1
16	F/A-18	0	0	0	0	0	0	0	0	0	0	0
16	GR-1	0	0	0	0	0	0	0	0	0	0	0
16	TLAM	0	0	0	0	0	0	0	0	0	0	0
16	Subtotal	0	0	4	6	120	16	0	0	0	71	31
16	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
16	Total	0	0	4	6	120	16	0	0	0	71	31

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
16	A-10	2	0	0	0	0	9	10	4	0	2	4	0	70	166	236
16	A-6	0	0	0	0	0	0	0	0	0	12	17	0	29	16	45
16	AV-8	0	0	0	0	0	0	0	10	0	22	8	2	42	30	72
16	B-52	0	0	0	0	0	6	0	6	0	0	2	0	37	14	51
16	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
16	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21
16	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	45	45
16	F-15E	10	0	0	0	0	8	0	2	0	0	0	5	33	11	44
16	F-16	8	0	0	4	4	0	6	4	0	9	28	2	241	51	292
16	F-4G	0	0	0	0	0	1	1	0	0	1	0	7	12	1	13
16	F/A-18	0	0	0	0	0	0	0	0	0	0	31	0	31	17	48
16	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
16	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
16	Subtotal	20	0	0	4	4	24	17	26	0	46	90	16	495	413	908
16	Other Aircraft	0	0	0	0	0	0	0	0	0	7	17	0	24	2	26
16	Total	20	0	0	4	4	24	17	26	0	53	107	16	519	415	934

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
17	A-10	0	0	0	0	0	0	0	0	0	0	2
17	A-6	0	0	0	0	0	0	0	0	0	0	9
17	AV-8	0	0	0	0	0	0	0	0	0	0	0
17	B-52	0	0	0	0	9	0	0	0	0	9	5
17	F-111E	0	0	0	0	0	0	0	0	0	0	0
17	F-111F	0	0	0	0	0	0	0	0	0	0	0
17	F-117	0	0	0	0	0	0	0	0	0	0	0
17	F-15E	0	0	0	0	8	0	0	0	0	8	2
17	F-16	4	0	5	0	0	11	0	0	0	50	10
17	F-4G	0	0	0	0	1	0	0	0	0	0	4
17	F/A-18	0	0	0	0	0	0	0	0	0	0	19
17	GR-1	0	0	0	0	0	0	0	0	0	0	0
17	TLAM	0	0	0	0	0	0	0	0	0	0	0
17	Subtotal	4	0	5	0	18	11	0	0	0	67	51
17	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
17	Total	4	0	5	0	18	11	0	0	0	67	51

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
17	A-10	0	0	2	0	2	0	22	10	0	12	4	10	64	163	227
17	A-6	0	0	0	0	0	0	0	0	0	0	12	0	21	10	31
17	AV-8	0	0	0	0	0	0	4	6	0	22	8	0	40	30	70
17	B-52	3	0	0	0	0	0	0	0	0	3	0	0	29	17	46
17	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
17	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	32	32
17	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
17	F-15E	4	0	0	0	2	4	8	0	0	0	0	7	43	16	59
17	F-16	12	2	0	0	0	26	8	113	7	8	0	2	258	54	312
17	F-4G	0	0	0	0	0	0	0	4	0	2	0	1	12	1	13
17	F/A-18	0	0	0	0	0	0	0	0	1	13	0	0	33	12	45
17	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
17	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Subtotal	19	2	2	0	4	30	42	133	8	60	24	20	500	385	885
17	Other Aircraft	0	0	0	0	0	0	0	0	12	0	4	0	16	1	17
17	Total	19	2	2	0	4	30	42	133	20	60	28	20	516	386	902

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
18	A-10	0	0	0	0	0	0	0	0	0	2	8
18	A-6	0	0	0	0	0	0	0	0	4	0	4
18	AV-8	0	0	0	0	0	0	0	0	0	0	0
18	B-52	0	0	0	6	5	0	0	0	0	3	8
18	F-111E	0	0	0	0	0	0	0	0	0	0	0
18	F-111F	0	0	0	0	0	0	0	0	0	0	0
18	F-117	0	0	0	0	0	0	0	0	0	0	0
18	F-15E	0	0	0	0	2	0	0	0	0	2	12
18	F-16	6	2	2	4	41	4	0	0	0	28	14
18	F-4G	0	0	0	0	1	1	0	0	0	1	0
18	F/A-18	0	0	0	0	0	0	0	0	10	0	6
18	GR-1	0	0	0	0	0	0	0	0	0	0	0
18	TLAM	0	0	0	0	0	0	0	0	0	0	0
18	Subtotal	6	2	2	10	49	5	0	0	14	36	52
18	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
18	Total	6	2	2	10	49	5	0	0	14	36	52

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
18	A-10	0	0	0	0	6	0	6	2	0	4	0	0	28	128	156
18	A-6	0	0	0	0	0	3	0	0	4	0	6	0	21	10	31
18	AV-8	0	0	0	0	0	0	0	0	0	28	16	0	44	28	72
18	B-52	2	0	0	0	0	0	3	0	0	0	0	0	27	14	41
18	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
18	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	29	29
18	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	35	35
18	F-15E	8	0	0	0	0	2	5	7	4	0	0	2	44	17	61
18	F-16	16	0	0	0	10	31	52	84	0	4	12	10	320	66	386
18	F-4G	0	0	0	0	0	0	3	3	0	0	0	10	19	10	29
18	F/A-18	0	0	0	0	0	16	0	0	7	8	0	0	47	17	64
18	GR-1	0	0	0	0	0	0	0	0	0	0	0	14	14	20	34
18	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Subtotal	26	0	0	0	16	52	69	96	15	44	34	36	564	385	949
18	Other Aircraft	0	0	0	0	0	0	0	14	8	5	4	0	31	1	32
18	Total	26	0	0	0	16	52	69	110	23	49	38	36	595	386	981

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
19	A-10	0	0	0	0	0	8	0	0	0	0	22
19	A-6	0	0	0	0	0	0	0	0	0	0	0
19	AV-8	0	0	0	0	0	0	0	0	0	0	0
19	B-52	0	0	0	6	15	5	0	0	0	3	3
19	F-111E	0	0	0	0	0	0	0	0	0	0	0
19	F-111F	0	0	0	0	0	0	0	0	0	0	0
19	F-117	0	0	0	0	0	0	0	0	0	0	0
19	F-15E	0	0	0	2	0	0	0	0	0	6	4
19	F-16	0	0	4	18	105	39	4	0	0	12	8
19	F-4G	0	0	0	0	1	1	0	0	0	0	2
19	F/A-18	0	0	0	0	0	0	0	0	0	0	0
19	GR-1	0	0	0	0	0	0	0	0	0	0	0
19	TLAM	0	0	0	0	0	0	0	0	0	0	0
19	Subtotal	0	0	4	26	121	53	4	0	0	21	39
19	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
19	Total	0	0	4	26	121	53	4	0	0	21	39

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
19	A-10	4	0	0	4	0	14	4	2	0	0	0	0	58	130	188
19	A-6	0	0	0	0	0	0	15	0	0	0	12	0	27	25	52
19	AV-8	0	0	0	0	0	0	0	2	0	14	32	0	48	28	76
19	B-52	0	0	0	0	0	0	0	0	0	0	0	0	32	7	39
19	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
19	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19
19	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	51	51
19	F-15E	2	0	0	0	2	6	2	2	0	4	9	3	33	18	51
19	F-16	13	0	0	0	0	4	23	18	0	2	0	6	256	27	283
19	F-4G	1	0	0	0	0	0	1	2	0	0	0	16	24	6	30
19	F/A-18	0	0	0	0	0	0	15	0	1	0	0	0	16	35	51
19	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36
19	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Subtotal	20	0	0	4	2	24	60	26	1	20	44	25	494	394	888
19	Other Aircraft	0	0	0	0	0	0	16	8	0	0	16	0	40	2	42
19	Total	20	0	0	4	2	24	76	34	1	20	60	25	534	396	930

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
20	A-10	0	0	0	0	0	0	0	0	0	0	12
20	A-6	0	0	0	0	0	0	0	0	0	0	17
20	AV-8	0	0	0	0	0	0	0	0	0	0	0
20	B-52	0	0	0	0	0	0	0	0	0	0	0
20	F-111E	0	0	0	0	0	0	0	0	0	0	0
20	F-111F	0	0	0	0	0	0	0	0	0	0	0
20	F-117	0	0	0	0	0	0	0	0	0	0	0
20	F-15E	0	0	0	0	0	2	0	0	0	6	0
20	F-16	0	0	4	6	110	70	0	0	8	36	55
20	F-4G	0	0	0	0	2	0	0	0	0	0	1
20	F/A-18	0	0	0	0	0	0	0	0	0	0	22
20	GR-1	0	0	0	0	0	0	0	0	0	0	0
20	TLAM	0	0	0	0	0	0	0	0	0	0	0
20	Subtotal	0	0	4	6	112	72	0	0	8	42	107
20	Other Aircraft	0	0	0	0	8	8	0	0	0	0	23
20	**Total**	**0**	**0**	**4**	**6**	**120**	**80**	**0**	**0**	**8**	**42**	**130**

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
20	A-10	14	0	0	2	4	6	16	0	0	2	0	16	72	136	208
20	A-6	4	0	0	0	0	0	0	6	1	0	5	0	33	21	54
20	AV-8	0	0	0	0	0	0	0	2	2	16	36	0	56	16	72
20	B-52	0	0	0	0	0	0	18	0	0	5	3	0	26	12	38
20	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
20	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	29	29
20	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	55	55
20	F-15E	2	0	0	0	6	0	0	4	0	4	0	7	31	28	59
20	F-16	16	0	0	0	4	0	0	2	0	0	0	2	313	55	368
20	F-4G	0	0	0	0	0	0	0	0	0	1	0	10	14	8	22
20	F/A-18	9	0	0	0	0	0	0	2	0	0	0	0	33	25	58
20	GR-1	0	0	0	0	0	0	0	0	0	0	0	8	8	40	48
20	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Subtotal	45	0	0	2	14	6	34	16	3	28	44	43	586	437	1,023
20	Other Aircraft	2	0	0	0	0	0	0	0	9	0	12	0	62	5	67
20	**Total**	**47**	**0**	**0**	**2**	**14**	**6**	**34**	**16**	**12**	**28**	**56**	**43**	**648**	**442**	**1,090**

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
21	A-10	0	0	0	0	0	0	0	0	0	0	2
21	A-6	0	0	0	0	0	0	0	0	0	0	0
21	AV-8	0	0	0	0	0	0	0	0	0	0	0
21	B-52	0	0	0	0	3	0	0	0	0	0	0
21	F-111E	0	0	0	0	0	0	0	0	0	0	0
21	F-111F	0	0	0	0	0	0	0	0	0	0	0
21	F-117	0	0	0	0	0	0	0	0	0	0	0
21	F-15E	0	0	0	0	0	4	0	0	0	2	2
21	F-16	0	12	3	0	117	33	0	0	0	15	76
21	F-4G	0	1	0	0	0	0	0	0	0	0	0
21	F/A-18	0	0	0	0	0	5	0	0	0	0	0
21	GR-1	0	0	0	0	0	0	0	0	0	0	0
21	TLAM	0	0	0	0	0	0	0	0	0	0	0
21	Subtotal	0	13	3	0	120	42	0	0	0	17	80
21	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
21	Total	0	13	3	0	120	42	0	0	0	17	80

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
21	A-10	0	0	0	0	4	4	18	2	0	0	0	6	36	132	168
21	A-6	0	0	0	0	0	0	0	2	4	5	8	0	19	28	47
21	AV-8	0	0	0	0	0	0	0	0	0	4	2	0	6	8	14
21	B-52	0	0	0	0	0	0	3	2	0	0	0	0	8	19	27
21	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
21	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	59	59
21	F-15E	2	0	0	0	2	4	2	0	0	4	0	2	24	26	50
21	F-16	4	0	0	4	4	10	2	2	0	0	0	20	302	47	349
21	F-4G	0	0	0	0	0	0	0	0	0	0	0	17	18	5	23
21	F/A-18	7	0	0	0	0	0	0	0	0	0	0	0	12	26	38
21	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	49	49
21	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Subtotal	13	0	0	4	10	18	25	8	4	13	10	45	425	413	836
21	Other Aircraft	0	0	0	0	0	0	0	0	1	20	8	0	29	21	50
21	Total	13	0	0	4	10	18	25	8	5	33	18	45	454	432	886

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
22	A-10	0	0	0	0	0	0	0	0	0	0	0
22	A-6	0	0	0	0	0	0	0	0	0	0	0
22	AV-8	0	0	0	0	0	0	0	0	0	0	0
22	B-52	0	0	0	0	3	0	0	0	0	0	0
22	F-111E	0	0	0	0	0	0	0	0	0	0	0
22	F-111F	0	0	0	0	0	0	0	0	0	0	0
22	F-117	0	0	0	0	0	0	0	0	0	0	0
22	F-15E	0	0	0	0	4	4	0	0	0	0	0
22	F-16	0	0	2	0	62	22	0	0	16	18	85
22	F-4G	0	0	0	0	0	0	0	0	0	0	1
22	F/A-18	0	0	0	0	0	0	0	0	0	0	0
22	GR-1	0	0	0	0	0	0	0	0	0	0	0
22	TLAM	0	0	0	0	0	0	0	0	0	0	0
22	Subtotal	0	0	2	0	69	26	0	0	16	18	86
22	Other Aircraft	0	0	0	0	0	0	0	0	4	0	0
22	Total	0	0	2	0	69	26	0	0	20	18	86

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
22	A-10	0	0	0	0	0	0	6	0	0	0	0	14	20	136	156
22	A-6	0	7	0	0	0	0	0	3	0	4	11	0	25	29	54
22	AV-8	0	0	0	0	0	0	0	0	4	12	53	0	69	47	116
22	B-52	8	0	0	0	0	0	10	3	0	0	0	0	24	18	42
22	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
22	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34
22	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	53	53
22	F-15E	0	0	0	0	2	0	0	0	0	0	0	7	17	31	48
22	F-16	18	0	0	0	19	0	2	0	0	0	4	16	264	54	318
22	F-4G	0	0	0	0	0	0	0	0	0	0	0	12	13	8	21
22	F/A-18	0	7	0	0	0	0	10	34	3	0	45	0	99	42	141
22	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	53	53
22	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Subtotal	26	14	0	0	21	0	28	40	7	16	113	49	531	517	1,048
22	Other Aircraft	0	1	0	0	4	0	0	0	0	0	34	0	43	9	52
22	Total	26	15	0	0	25	0	28	40	7	16	147	49	574	526	1,100

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
23	A-10	0	0	0	0	0	0	0	0	2	4	6
23	A-6	0	0	0	0	0	2	0	0	0	4	0
23	AV-8	0	0	0	0	0	0	0	0	0	0	0
23	B-52	0	0	0	0	0	0	0	0	0	0	0
23	F-111E	0	0	0	0	0	0	0	0	0	0	0
23	F-111F	0	0	0	0	0	0	0	0	0	0	0
23	F-117	0	0	0	0	0	0	0	0	0	0	0
23	F-15E	0	0	0	0	4	0	0	2	0	0	0
23	F-16	2	0	0	0	4	8	0	4	0	64	49
23	F-4G	0	0	0	0	0	0	0	0	0	0	1
23	F/A-18	0	0	0	0	0	2	0	0	0	0	0
23	GR-1	0	0	0	0	0	0	0	0	6	0	0
23	TLAM	0	0	0	0	0	0	0	0	0	0	0
23	Subtotal	2	0	0	0	8	12	0	6	2	72	56
23	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
23	Total	2	0	0	0	8	12	0	6	2	72	56

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
23	A-10	0	0	0	0	2	4	8	0	0	0	0	18	44	152	196
23	A-6	0	2	0	0	0	0	0	3	6	12	10	0	39	24	63
23	AV-8	0	0	0	0	0	0	6	32	0	24	2	2	66	36	102
23	B-52	0	0	0	0	3	22	3	0	0	0	0	0	28	15	43
23	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
23	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
23	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62
23	F-15E	2	0	0	2	0	0	0	0	0	0	0	15	25	13	38
23	F-16	29	0	0	8	0	14	35	24	0	0	0	17	258	69	327
23	F-4G	0	0	0	0	0	1	0	0	0	0	0	9	11	2	13
23	F/A-18	18	2	0	0	0	0	0	26	1	34	4	0	87	53	140
23	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	43	43
23	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Subtotal	49	4	0	10	5	41	52	85	7	70	16	61	558	523	1,081
23	Other Aircraft	0	0	0	0	0	0	0	4	0	21	5	0	30	10	40
23	Total	49	4	0	10	5	41	52	89	7	91	21	61	588	533	1,121

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
24	A-10	0	0	0	0	0	0	0	0	0	2	2
24	A-6	0	0	0	0	0	0	0	0	0	2	2
24	AV-8	0	0	0	0	0	0	0	0	0	0	0
24	B-52	0	0	0	0	0	0	0	0	0	3	2
24	F-111E	0	0	0	0	0	0	0	0	0	0	0
24	F-111F	0	0	0	0	0	0	0	0	0	0	0
24	F-117	0	0	0	0	0	0	0	0	0	0	0
24	F-15E	0	0	0	0	0	4	0	0	0	0	6
24	F-16	0	2	0	0	46	50	0	4	0	22	68
24	F-4G	0	0	0	0	0	0	0	0	0	0	1
24	F/A-18	0	0	0	0	0	1	0	0	0	0	3
24	GR-1	0	0	0	0	0	0	0	0	0	0	0
24	TLAM	0	0	0	0	0	0	0	0	0	0	0
24	Subtotal	0	2	0	0	46	55	0	4	0	29	84
24	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
24	Total	0	2	0	0	46	55	0	4	0	29	84

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
24	A-10	0	0	0	0	0	6	2	0	0	0	0	16	28	148	176
24	A-6	0	0	0	0	0	0	0	1	2	9	2	0	18	39	57
24	AV-8	2	0	0	0	0	0	0	22	0	22	8	0	54	40	94
24	B-52	0	0	0	0	0	3	13	0	0	0	0	8	29	20	49
24	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
24	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
24	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	45	45
24	F-15E	2	0	0	0	0	0	2	0	0	0	0	14	28	18	46
24	F-16	16	0	0	0	11	2	28	14	4	4	0	10	281	85	366
24	F-4G	1	0	0	0	0	0	1	1	0	3	0	5	12	1	13
24	F/A-18	0	0	0	0	0	0	0	14	27	24	17	2	88	63	151
24	GR-1	0	0	0	0	0	0	0	0	0	0	0	6	6	22	28
24	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Subtotal	21	0	0	0	11	11	46	52	33	62	27	61	544	535	1,079
24	Other Aircraft	0	0	0	0	0	0	0	12	0	14	11	0	37	12	49
24	Total	21	0	0	0	11	11	46	64	33	76	38	61	581	547	1,128

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
25	A-10	0	0	0	0	0	0	0	0	0	0	0
25	A-6	0	0	0	0	0	4	0	0	0	0	8
25	AV-8	0	0	0	0	0	0	0	0	0	0	0
25	B-52	0	0	0	0	14	0	0	0	0	0	0
25	F-111E	0	0	0	0	0	0	0	0	0	0	0
25	F-111F	0	0	0	0	0	0	0	0	0	0	0
25	F-117	0	0	0	0	0	0	0	0	0	0	0
25	F-15E	0	0	0	0	0	0	0	0	0	2	0
25	F-16	0	0	0	4	100	24	0	0	0	27	77
25	F-4G	0	0	0	0	1	0	0	0	0	1	0
25	F/A-18	0	0	0	0	0	14	0	0	0	0	2
25	GR-1	0	0	0	0	0	0	0	0	0	0	0
25	TLAM	0	0	0	0	0	0	0	0	0	0	0
25	Subtotal	0	0	0	4	115	42	0	0	0	30	87
25	Other Aircraft	0	0	0	0	0	0	0	0	0	0	1
25	Total	0	0	0	4	115	42	0	0	0	30	88

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
25	A-10	0	0	0	12	4	6	6	0	0	0	0	26	54	164	218
25	A-6	12	0	0	0	4	0	0	3	7	5	17	0	60	20	80
25	AV-8	0	0	0	0	0	0	0	0	0	0	29	4	33	63	96
25	B-52	0	0	0	0	0	0	3	0	0	0	0	0	17	29	46
25	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
25	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
25	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60
25	F-15E	0	0	0	0	6	0	2	0	0	0	0	20	30	25	55
25	F-16	18	0	0	8	4	0	10	9	0	0	0	4	285	56	341
25	F-4G	1	0	0	0	0	0	1	2	0	0	0	5	11	3	14
25	F/A-18	5	1	0	0	0	0	7	24	3	8	23	1	88	65	153
25	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
25	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Subtotal	36	1	0	20	18	6	29	38	10	13	69	60	578	581	1,159
25	Other Aircraft	0	0	0	0	8	0	0	0	11	4	7	0	31	19	50
25	Total	36	1	0	20	26	6	29	38	21	17	76	60	609	600	1,209

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
26	A-10	0	0	0	0	0	0	0	0	0	0	0
26	A-6	0	0	0	0	0	1	0	0	2	0	0
26	AV-8	0	0	0	0	0	0	0	0	0	0	0
26	B-52	0	0	0	0	0	0	0	0	0	0	0
26	F-111E	0	0	0	0	0	0	0	0	0	0	0
26	F-111F	0	0	0	0	47	0	0	0	0	0	0
26	F-117	0	0	0	0	0	0	0	0	0	0	0
26	F-15E	0	0	0	0	0	0	0	0	0	0	3
26	F-16	4	3	9	0	144	17	0	0	0	8	66
26	F-4G	0	0	0	0	0	0	0	0	0	0	1
26	F/A-18	0	0	0	0	0	12	0	0	8	0	0
26	GR-1	0	0	0	0	0	0	0	0	0	0	0
26	TLAM	0	0	0	0	0	0	0	0	0	0	0
26	Subtotal	4	3	9	0	191	30	0	0	10	8	70
26	Other Aircraft	0	0	0	0	0	0	0	0	8	0	0
26	Total	4	3	9	0	191	30	0	0	18	8	70

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
26	A-10	0	0	0	8	18	2	2	0	0	0	0	27	57	108	165
26	A-6	4	0	0	0	4	0	0	0	18	0	0	4	33	24	57
26	AV-8	0	0	0	0	0	0	0	40	0	48	8	0	96	8	104
26	B-52	0	0	0	0	6	0	6	12	0	0	0	0	24	22	46
26	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
26	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	47	11	58
26	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	66	66
26	F-15E	2	0	0	0	0	0	6	0	0	0	0	13	24	14	38
26	F-16	18	0	0	0	0	0	4	0	0	0	0	15	288	75	363
26	F-4G	0	0	0	0	0	0	1	1	0	0	0	5	8	2	10
26	F/A-18	0	1	0	0	0	0	0	25	8	22	2	1	79	110	189
26	GR-1	0	0	0	0	0	0	0	0	0	0	0	8	8	41	49
26	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Subtotal	24	1	0	8	28	2	19	78	26	70	10	73	664	493	1,157
26	Other Aircraft	0	0	0	0	0	0	0	0	0	0	19	2	29	22	51
26	Total	24	1	0	8	28	2	19	78	26	70	29	75	693	515	1,208

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
27	A-10	0	0	0	0	0	0	0	3	4	4	0
27	A-6	0	0	0	0	0	0	0	0	0	16	8
27	AV-8	0	0	0	0	0	0	0	0	0	0	0
27	B-52	0	0	0	0	3	0	0	0	0	6	3
27	F-111E	0	0	0	0	0	0	0	0	0	0	0
27	F-111F	0	0	0	1	111	15	0	0	0	0	47
27	F-117	0	0	0	0	0	0	0	0	0	0	0
27	F-15E	0	0	0	0	2	0	0	0	0	4	6
27	F-16	0	0	8	0	80	47	0	0	0	27	65
27	F-4G	0	0	0	0	0	0	0	0	0	0	0
27	F/A-18	0	0	0	0	0	0	0	0	0	0	0
27	GR-1	0	0	0	0	0	0	0	0	0	0	0
27	TLAM	0	0	0	0	0	0	0	0	0	0	0
27	Subtotal	0	0	8	1	196	62	0	3	4	57	129
27	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
27	Total	0	0	8	1	196	62	0	3	4	57	129

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
27	A-10	0	0	0	0	10	20	12	0	0	0	0	18	71	104	175
27	A-6	0	0	0	0	0	0	0	0	5	0	1	6	36	41	77
27	AV-8	0	0	0	0	0	0	0	0	4	12	24	0	40	8	48
27	B-52	3	0	0	0	0	0	0	0	0	0	0	0	15	31	46
27	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
27	F-111F	1	0	0	0	0	0	0	0	0	0	0	1	176	24	200
27	F-117	0	0	0	0	0	0	0	0	0	0	0	1	1	55	56
27	F-15E	2	0	0	0	0	0	0	0	0	0	0	15	29	17	46
27	F-16	17	7	0	0	0	2	0	4	0	4	0	17	278	69	347
27	F-4G	0	0	0	0	0	0	0	2	0	0	0	3	5	4	9
27	F/A-18	0	0	0	0	0	0	0	0	4	0	0	0	4	146	150
27	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37
27	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Subtotal	23	7	0	0	10	22	12	6	13	16	25	61	655	548	1,203
27	Other Aircraft	0	0	0	0	0	0	0	0	16	0	20	7	43	23	66
27	Total	23	7	0	0	10	22	12	6	29	16	45	68	698	571	1,269

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
28	A-10	0	0	0	2	0	0	0	0	2	0	14
28	A-6	0	0	0	0	0	0	0	0	0	10	2
28	AV-8	0	0	0	0	0	0	0	0	0	0	0
28	B-52	0	0	0	0	0	0	0	3	0	4	3
28	F-111E	0	0	0	0	0	0	0	0	0	0	0
28	F-111F	0	1	0	0	86	2	0	0	0	0	19
28	F-117	0	0	0	0	0	0	0	0	0	0	0
28	F-15E	0	0	0	0	2	0	1	0	0	3	6
28	F-16	0	6	2	12	52	50	0	11	0	10	34
28	F-4G	0	0	0	0	1	0	0	0	0	0	0
28	F/A-18	0	0	0	0	0	0	0	0	0	2	0
28	GR-1	0	0	0	0	0	0	0	0	0	0	0
28	TLAM	0	0	0	0	0	0	0	0	0	0	0
28	Subtotal	0	7	2	14	141	52	1	14	2	29	78
28	Other Aircraft	0	0	0	0	0	0	0	0	0	0	8
28	Total	0	7	2	14	141	52	1	14	2	29	86

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
28	A-10	0	0	0	2	14	12	4	0	0	0	0	4	54	140	194
28	A-6	0	0	0	0	0	0	0	2	25	0	0	6	45	26	71
28	AV-8	0	0	0	0	0	0	0	13	0	11	42	0	66	8	74
28	B-52	0	0	0	0	0	0	3	4	0	0	0	3	20	22	42
28	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
28	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	108	36	144
28	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	52	52
28	F-15E	0	0	0	0	0	0	0	0	0	0	0	27	39	12	51
28	F-16	18	0	0	0	2	4	3	1	0	2	0	18	225	95	320
28	F-4G	0	0	0	0	0	0	1	12	0	1	0	3	18	4	22
28	F/A-18	0	0	0	0	0	0	0	30	25	0	0	8	65	106	171
28	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
28	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Subtotal	18	0	0	2	16	16	11	62	50	14	42	69	640	546	1,186
28	Other Aircraft	0	0	0	0	0	0	0	4	12	8	0	4	36	28	64
28	Total	18	0	0	2	16	16	11	66	62	22	42	73	676	574	1,250

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
29	A-10	0	0	0	0	0	0	0	0	0	2	16
29	A-6	0	0	0	0	0	0	0	0	0	9	4
29	AV-8	0	0	0	0	0	0	0	0	0	0	0
29	B-52	0	0	0	0	0	0	0	0	0	0	0
29	F-111E	0	0	0	0	0	0	0	0	0	0	0
29	F-111F	0	0	0	1	118	20	0	0	0	0	5
29	F-117	0	0	0	0	0	0	0	0	0	0	0
29	F-15E	0	0	4	0	0	0	0	0	0	0	2
29	F-16	0	0	2	0	18	16	0	0	2	0	34
29	F-4G	0	0	0	0	0	0	0	0	1	1	0
29	F/A-18	0	0	0	0	0	0	0	0	0	2	0
29	GR-1	0	0	0	0	0	0	0	0	0	0	0
29	TLAM	0	0	0	0	0	0	0	0	0	0	0
29	Subtotal	0	0	6	1	136	36	0	0	3	14	61
29	Other Aircraft	0	0	0	0	0	0	0	0	0	1	8
29	Total	0	0	6	1	136	36	0	0	3	15	69

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
29	A-10	0	0	0	0	20	6	6	0	0	0	0	8	58	141	199
29	A-6	0	0	0	0	0	0	2	4	17	1	9	30	76	15	91
29	AV-8	0	0	0	0	0	0	0	40	2	18	6	0	66	12	78
29	B-52	0	0	0	0	3	6	0	1	0	0	0	6	16	18	34
29	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
29	F-111F	2	0	0	0	0	0	0	0	0	0	0	0	145	25	170
29	F-117	0	0	0	0	0	0	0	0	0	0	0	1	1	52	53
29	F-15E	0	0	0	0	0	0	2	4	0	2	0	33	47	15	62
29	F-16	17	1	0	6	34	8	6	0	0	0	0	87	231	59	290
29	F-4G	1	0	0	0	0	0	0	0	0	0	0	8	11	3	14
29	F/A-18	0	0	0	0	0	0	44	2	10	6	4	0	68	79	147
29	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38
29	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Subtotal	19	1	0	6	57	20	60	51	29	27	19	173	719	473	1,192
29	Other Aircraft	0	0	0	0	0	0	0	6	4	28	4	0	51	19	70
29	Total	19	1	0	6	57	20	60	57	33	55	23	173	770	492	1,262

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
30	A-10	0	0	0	0	6	2	0	0	0	3	28
30	A-6	0	0	0	0	0	0	0	0	0	2	4
30	AV-8	0	0	0	0	0	0	0	0	0	0	0
30	B-52	0	0	0	0	3	0	0	0	0	0	0
30	F-111E	0	0	0	0	0	0	0	0	0	0	0
30	F-111F	0	0	0	14	49	14	0	0	0	36	49
30	F-117	0	0	0	0	0	0	0	0	0	0	0
30	F-15E	0	0	0	0	0	0	0	0	0	4	2
30	F-16	2	0	14	0	37	36	0	0	4	13	17
30	F-4G	0	0	0	0	0	0	0	0	0	0	0
30	F/A-18	0	0	0	0	0	0	0	0	0	2	7
30	GR-1	0	0	0	0	0	0	0	0	0	0	0
30	TLAM	0	0	0	0	0	0	0	0	0	0	0
30	Subtotal	2	0	14	14	95	52	0	0	4	60	107
30	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
30	Total	2	0	14	14	95	52	0	0	4	60	107

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
30	A-10	2	0	0	6	17	18	0	0	0	4	0	2	88	125	213
30	A-6	0	6	0	0	4	8	9	0	27	0	4	4	68	4	72
30	AV-8	0	0	0	0	0	0	20	60	0	4	0	2	86	4	90
30	B-52	0	0	0	0	0	0	0	8	0	9	0	0	20	30	50
30	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
30	F-111F	2	0	0	0	0	0	0	0	0	0	0	3	167	32	199
30	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60
30	F-15E	0	0	0	0	2	0	0	5	0	6	0	23	42	10	52
30	F-16	18	0	0	0	46	22	6	0	0	3	4	47	269	37	306
30	F-4G	0	0	0	0	0	0	0	4	0	2	0	5	11	3	14
30	F/A-18	0	24	0	0	0	0	57	7	22	0	28	0	147	30	177
30	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	40	40
30	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Subtotal	22	30	0	6	69	48	92	84	49	28	36	86	898	385	1,283
30	Other Aircraft	0	0	0	0	0	0	0	0	0	0	27	6	33	18	51
30	Total	22	30	0	6	69	48	92	84	49	28	63	92	931	403	1,334

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
31	A-10	0	0	0	0	0	0	0	0	0	0	0
31	A-6	0	0	0	0	0	0	0	0	0	4	17
31	AV-8	0	0	0	0	0	0	0	0	0	0	0
31	B-52	0	0	0	0	3	0	0	0	0	0	0
31	F-111E	0	0	0	0	0	0	0	0	0	0	0
31	F-111F	0	0	0	0	44	30	0	0	0	0	0
31	F-117	0	0	0	0	0	0	0	0	0	0	0
31	F-15E	0	0	0	0	0	0	0	0	0	17	2
31	F-16	0	6	0	0	16	26	0	14	6	8	14
31	F-4G	0	0	0	0	0	0	0	0	0	0	0
31	F/A-18	0	0	0	0	0	0	0	0	0	0	0
31	GR-1	0	0	0	0	0	0	0	0	0	0	0
31	TLAM	0	0	0	0	0	0	0	0	0	0	0
31	Subtotal	0	6	0	0	63	56	0	14	0	29	33
31	Other Aircraft	0	0	0	0	0	0	0	0	0	1	0
31	Total	0	6	0	0	63	56	0	14	0	30	33

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
31	A-10	0	0	0	26	18	14	3	0	0	0	0	10	71	101	172
31	A-6	4	0	0	0	0	0	0	1	19	0	1	0	46	20	66
31	AV-8	2	4	0	0	0	0	12	8	0	32	6	4	68	8	76
31	B-52	0	0	0	0	0	0	3	6	0	3	0	9	24	15	39
31	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	74	14	88
31	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	41	41
31	F-15E	0	0	0	0	2	0	0	0	0	0	0	15	36	22	58
31	F-16	4	0	0	10	20	14	0	6	0	6	0	71	215	50	265
31	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
31	F/A-18	0	0	0	0	0	0	2	10	22	20	19	8	81	55	136
31	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36
31	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Subtotal	10	4	0	36	40	28	20	31	41	61	26	117	615	363	978
31	Other Aircraft	0	0	0	0	0	0	0	0	0	4	24	4	33	0	33
31	Total	10	4	0	36	40	28	20	31	41	65	50	121	648	363	1,011

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
32	A-10	0	0	0	0	0	0	0	0	0	0	0
32	A-6	0	0	0	0	0	0	0	0	0	0	1
32	AV-8	0	0	0	0	0	0	0	0	0	0	0
32	B-52	0	0	0	0	0	0	0	0	0	0	0
32	F-111E	0	0	0	0	0	0	0	0	0	0	0
32	F-111F	0	0	0	4	16	5	0	0	0	0	0
32	F-117	0	0	0	0	0	0	0	0	0	0	0
32	F-15E	0	0	0	0	0	0	0	0	0	4	2
32	F-16	0	0	4	0	2	4	0	10	2	0	23
32	F-4G	0	0	0	0	0	0	0	0	0	0	0
32	F/A-18	0	0	0	0	3	0	0	0	0	0	3
32	GR-1	0	0	0	0	0	0	0	0	0	0	0
32	TLAM	0	0	0	0	0	0	0	0	0	0	0
32	Subtotal	0	0	4	4	21	9	0	10	2	4	29
32	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
32	**Total**	**0**	**0**	**4**	**4**	**21**	**9**	**0**	**10**	**2**	**4**	**29**

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
32	A-10	0	0	0	2	4	8	2	0	0	0	0	0	16	50	66
32	A-6	0	0	0	0	0	0	0	0	49	0	0	0	50	20	70
32	AV-8	0	0	0	0	0	0	0	4	0	12	8	0	24	2	26
32	B-52	0	0	0	0	0	23	3	0	0	0	0	0	26	21	47
32	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
32	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	25	29	54
32	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	53	53
32	F-15E	0	0	0	0	2	2	0	0	0	0	0	18	28	27	55
32	F-16	2	0	0	0	15	2	4	4	0	0	0	30	102	57	159
32	F-4G	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2
32	F/A-18	0	0	0	0	0	2	0	0	27	0	14	7	56	59	115
32	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18
32	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Subtotal	2	0	0	2	21	37	9	8	76	12	22	57	329	348	677
32	Other Aircraft	0	0	0	0	0	0	0	0	0	4	0	0	4	1	5
32	**Total**	**2**	**0**	**0**	**2**	**21**	**37**	**9**	**8**	**76**	**16**	**22**	**57**	**333**	**349**	**682**

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
33	A-10	0	0	0	0	0	0	0	0	0	0	0
33	A-6	0	0	0	0	2	0	0	2	0	0	2
33	AV-8	0	0	0	0	0	0	0	0	0	0	2
33	B-52	0	0	0	0	0	0	0	0	0	0	0
33	F-111E	0	0	0	0	0	0	0	0	0	0	0
33	F-111F	0	0	0	0	86	11	0	0	0	0	0
33	F-117	0	0	0	0	0	0	0	0	0	0	0
33	F-15E	0	0	0	0	2	0	0	0	0	14	6
33	F-16	0	2	0	0	4	8	0	12	5	14	14
33	F-4G	0	0	0	0	0	0	0	0	0	0	0
33	F/A-18	0	0	0	0	0	0	0	0	0	0	2
33	GR-1	0	0	0	0	0	0	0	0	0	0	0
33	TLAM	0	0	0	0	0	0	0	0	0	0	0
33	Subtotal	0	2	0	0	94	19	0	14	5	28	26
33	Other Aircraft	0	0	0	0	0	0	0	9	0	0	0
33	Total	0	2	0	0	94	19	0	23	5	28	26

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
33	A-10	0	0	0	16	6	4	12	7	0	0	0	8	53	138	191
33	A-6	0	2	0	0	0	0	0	12	34	14	0	4	72	44	116
33	AV-8	0	0	0	0	0	0	28	16	4	10	8	4	72	8	80
33	B-52	0	0	0	1	3	5	20	2	0	0	0	6	37	13	50
33	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
33	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	97	28	125
33	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	56	56
33	F-15E	0	0	0	0	0	4	0	0	0	0	0	16	42	3	45
33	F-16	15	0	0	4	6	6	45	95	0	17	4	50	301	49	350
33	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
33	F/A-18	0	4	0	0	0	0	0	0	22	9	48	0	85	106	191
33	GR-1	0	0	0	0	0	0	0	4	0	0	0	0	4	27	31
33	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Subtotal	15	6	0	21	15	19	105	136	60	50	60	88	763	485	1,248
33	Other Aircraft	0	0	0	0	0	0	4	0	16	0	14	8	51	15	66
33	Total	15	6	0	21	15	19	109	136	76	50	74	96	814	500	1,314

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
34	A-10	0	0	0	0	0	0	0	0	2	0	0
34	A-6	0	0	0	0	0	0	0	0	0	0	0
34	AV-8	0	0	0	0	0	0	0	0	0	0	0
34	B-52	0	0	0	0	0	0	0	0	0	0	0
34	F-111E	0	0	0	0	0	0	0	0	0	0	0
34	F-111F	0	0	0	0	85	29	0	0	0	0	0
34	F-117	0	0	0	0	0	0	0	0	0	0	0
34	F-15E	0	0	0	0	0	2	0	0	0	11	2
34	F-16	0	8	0	0	6	14	0	0	0	90	31
34	F-4G	0	0	0	0	0	0	0	0	0	0	0
34	F/A-18	0	0	0	0	0	0	0	7	0	0	0
34	GR-1	0	0	0	0	0	0	0	0	0	0	0
34	TLAM	0	0	0	0	0	0	0	0	0	0	0
34	Subtotal	0	8	0	0	91	45	0	7	2	101	33
34	Other Aircraft	0	0	0	0	0	0	0	0	0	16	0
34	Total	0	8	0	0	91	45	0	7	2	117	33

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
34	A-10	0	0	0	8	18	19	2	0	0	0	0	20	69	119	188
34	A-6	0	5	0	0	0	0	0	19	7	5	0	7	43	46	89
34	AV-8	0	0	0	0	0	0	16	54	0	18	0	0	88	4	92
34	B-52	0	0	0	0	0	0	16	0	0	0	0	0	16	17	33
34	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11
34	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	114	20	134
34	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
34	F-15E	0	0	0	0	0	2	0	0	0	0	0	13	30	15	45
34	F-16	78	2	0	0	4	0	0	16	0	0	6	42	297	25	322
34	F-4G	0	0	0	0	0	0	0	0	0	0	0	12	12	1	13
34	F/A-18	0	2	0	0	0	0	0	14	30	2	29	0	84	139	223
34	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	34	34
34	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	Subtotal	78	9	0	8	22	21	34	103	37	25	35	94	753	447	1,200
34	Other Aircraft	0	0	0	0	0	0	0	0	0	8	18	12	54	18	72
34	Total	78	9	0	8	22	21	34	103	37	33	53	106	807	465	1,272

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
35	A-10	0	0	0	0	0	0	0	0	0	0	0
35	A-6	0	2	0	0	0	0	0	0	0	0	0
35	AV-8	0	0	0	0	0	0	0	0	0	0	0
35	B-52	0	0	0	0	6	3	0	0	0	0	0
35	F-111E	0	0	0	0	0	0	0	0	0	0	0
35	F-111F	0	0	0	0	13	10	0	0	0	0	0
35	F-117	0	0	0	0	0	0	0	0	0	0	0
35	F-15E	0	0	0	0	0	2	0	0	0	11	4
35	F-16	4	2	0	4	0	11	0	4	0	47	28
35	F-4G	0	0	0	0	0	0	0	0	0	0	0
35	F/A-18	0	0	0	0	0	0	0	0	0	0	0
35	GR-1	0	0	0	0	0	0	0	0	0	0	0
35	TLAM	0	0	0	0	0	0	0	0	0	0	0
35	Subtotal	4	4	0	4	19	26	0	4	0	58	32
35	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
35	Total	4	4	0	4	19	26	0	4	0	58	32

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
35	A-10	0	0	1	12	8	12	2	0	0	0	0	17	52	126	178
35	A-6	0	13	0	0	0	0	0	22	13	0	4	5	59	35	94
35	AV-8	0	0	0	0	0	0	2	10	0	0	14	0	26	0	26
35	B-52	0	0	0	0	3	0	0	3	0	12	0	1	28	0	28
35	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
35	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	23	18	41
35	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
35	F-15E	0	0	0	2	2	0	2	0	0	0	0	21	44	22	66
35	F-16	6	2	0	0	0	14	8	9	0	0	4	9	152	60	212
35	F-4G	0	0	0	0	0	0	0	1	0	0	0	1	2	3	5
35	F/A-18	0	0	0	0	0	0	0	8	16	0	12	0	36	74	110
35	GR-1	0	0	0	0	0	0	0	0	0	0	4	0	4	8	12
35	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Subtotal	6	15	1	14	13	26	14	53	29	12	38	54	426	389	815
35	Other Aircraft	0	0	0	0	0	0	0	0	0	12	6	20	38	15	53
35	Total	6	15	1	14	13	26	14	53	29	24	44	74	464	404	868

Table 182 (cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
36	A-10	0	0	0	0	0	0	0	2	0	2	0
36	A-6	0	0	0	9	0	0	0	0	0	0	0
36	AV-8	0	0	0	0	0	0	0	0	0	0	0
36	B-52	0	0	0	0	6	0	0	3	0	0	0
36	F-111E	0	0	0	0	0	0	0	0	0	0	0
36	F-111F	0	0	1	0	58	84	0	0	0	1	0
36	F-117	0	0	0	0	0	0	0	0	0	0	0
36	F-15E	0	0	0	0	0	0	0	0	0	10	11
36	F-16	0	15	0	4	34	22	42	0	0	0	65
36	F-4G	0	0	0	0	0	0	0	0	0	0	0
36	F/A-18	0	0	0	2	0	0	0	0	0	0	0
36	GR-1	0	0	0	0	0	0	0	0	0	0	0
36	TLAM	0	0	0	0	0	0	0	0	0	0	0
36	Subtotal	0	15	1	15	98	106	42	5	0	13	76
36	Other Aircraft	0	0	0	12	0	0	0	0	0	0	0
36	Total	0	15	1	27	98	106	42	5	0	13	76

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
36	A-10	0	0	4	4	6	2	4	0	0	0	0	0	24	128	152
36	A-6	0	3	0	0	0	0	0	22	7	2	23	4	70	39	109
36	AV-8	0	0	0	0	0	0	0	12	4	14	4	0	34	6	40
36	B-52	0	0	0	0	11	0	4	0	0	12	3	0	39	1	40
36	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
36	F-111F	0	0	0	0	0	0	0	0	0	0	0	6	150	24	174
36	F-117	0	0	0	0	0	0	0	5	0	0	0	0	5	50	55
36	F-15E	2	0	0	0	0	0	0	0	0	0	0	17	40	17	57
36	F-16	58	3	0	0	0	4	8	10	0	3	6	22	296	40	336
36	F-4G	0	0	0	0	0	0	0	0	0	0	0	2	2	3	5
36	F/A-18	0	2	0	0	0	0	4	10	29	3	3	0	53	123	176
36	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
36	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Subtotal	60	8	4	4	17	6	20	59	40	34	39	51	713	456	1,169
36	Other Aircraft	0	0	0	0	0	0	0	0	0	4	16	33	65	1	66
36	Total	60	8	4	4	17	6	20	59	40	38	55	84	778	457	1,235

Table 182 (Cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
37	A-10	0	0	0	0	0	0	0	18	0	0	0
37	A-6	0	6	0	0	0	0	0	0	0	0	0
37	AV-8	0	0	0	0	0	0	0	0	0	0	0
37	B-52	0	0	0	3	3	0	0	0	0	0	0
37	F-111E	0	0	0	0	0	0	0	0	0	0	0
37	F-111F	0	0	0	19	0	0	0	0	0	76	0
37	F-117	0	0	0	0	0	0	0	0	0	0	0
37	F-15E	0	0	0	0	0	0	0	0	0	0	20
37	F-16	0	10	4	3	12	0	0	0	0	83	12
37	F-4G	0	0	0	0	0	0	0	0	0	1	0
37	F/A-18	0	0	0	0	0	0	0	0	0	0	0
37	GR-1	0	0	0	0	0	0	0	0	0	0	0
37	TLAM	0	0	0	0	0	0	0	0	0	0	0
37	Subtotal	0	16	4	25	15	0	0	18	0	160	32
37	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
37	**Total**	**0**	**16**	**4**	**25**	**15**	**0**	**0**	**18**	**0**	**160**	**32**

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
37	A-10	0	0	4	46	20	6	2	0	0	0	0	6	102	54	156
37	A-6	0	4	0	0	0	0	0	37	5	0	0	11	63	39	102
37	AV-8	0	0	0	0	0	0	0	6	0	42	0	0	48	10	58
37	B-52	0	0	0	6	3	0	0	0	6	3	3	4	31	3	34
37	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
37	F-111F	0	0	0	1	33	99	0	0	0	0	0	0	228	8	236
37	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	35	35
37	F-15E	2	0	0	0	0	0	0	0	0	0	0	13	35	22	57
37	F-16	43	0	0	8	2	4	46	32	0	0	0	10	269	48	317
37	F-4G	2	0	0	0	0	0	0	0	0	0	0	7	10	3	13
37	F/A-18	0	3	0	0	0	0	0	25	20	0	4	0	52	187	239
37	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	36	36
37	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Subtotal	47	7	4	61	58	109	48	100	31	45	7	51	838	457	1,295
37	Other Aircraft	0	0	0	0	0	0	0	10	0	4	0	5	19	10	29
37	**Total**	**47**	**7**	**4**	**61**	**58**	**109**	**48**	**110**	**31**	**49**	**7**	**56**	**857**	**467**	**1,324**

Table 182 (Cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
38	A-10	0	0	0	0	0	0	0	4	12	0	0
38	A-6	0	0	0	0	0	0	0	0	0	0	0
38	AV-8	0	0	0	0	0	0	0	0	0	0	0
38	B-52	0	0	0	0	0	0	0	0	0	0	0
38	F-111E	0	0	0	0	0	0	0	0	0	0	0
38	F-111F	0	0	0	0	4	0	0	0	0	39	0
38	F-117	0	0	0	0	0	0	0	0	0	0	0
38	F-15E	0	0	0	0	0	1	0	0	0	0	16
38	F-16	0	6	0	4	8	8	0	0	0	82	1
38	F-4G	0	0	0	0	0	0	0	0	0	0	0
38	F/A-18	0	0	0	0	0	0	0	0	0	0	0
38	GR-1	0	0	0	0	0	0	0	0	0	0	0
38	TLAM	0	0	0	0	0	0	0	0	0	0	0
38	Subtotal	0	6	0	4	12	9	0	4	12	121	17
38	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
38	Total	0	6	0	4	12	9	0	4	12	121	17

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Boxes	Subtotal	Other	Total
38	A-10	0	0	0	14	16	8	0	0	0	0	0	18	72	50	122
38	A-6	4	1	0	0	0	0	0	24	1	2	15	0	47	43	90
38	AV-8	0	0	0	0	0	0	2	12	0	16	0	0	30	26	56
38	B-52	0	0	0	5	0	24	0	0	0	9	6	9	53	0	53
38	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
38	F-111F	0	0	0	0	13	29	0	0	0	0	0	1	86	25	111
38	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	43	43
38	F-15E	0	0	0	0	0	2	2	0	0	0	0	36	57	13	70
38	F-16	28	0	0	10	8	6	44	53	0	0	0	27	285	28	313
38	F-4G	1	0	0	0	0	0	0	0	0	0	0	0	1	2	3
38	F/A-18	5	18	0	0	0	0	0	23	13	7	22	3	91	170	261
38	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
38	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	Subtotal	38	19	0	29	37	69	48	112	14	34	43	94	722	443	1,165
38	Other Aircraft	0	0	0	0	0	16	0	1	0	0	4	12	33	31	64
38	Total	38	19	0	29	37	85	48	113	14	34	47	106	755	474	1,229

Table 182 (Cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
39	A-10	0	0	0	0	0	0	0	0	2	0	0
39	A-6	0	0	0	0	0	0	0	0	0	0	0
39	AV-8	0	0	0	0	0	0	0	0	0	0	0
39	B-52	0	9	0	0	3	4	0	0	0	0	0
39	F-111E	0	0	0	0	0	0	0	0	0	0	0
39	F-111F	0	0	0	1	14	3	0	0	0	121	4
39	F-117	0	0	0	0	0	0	0	0	0	0	0
39	F-15E	0	2	0	0	0	6	0	0	0	4	10
39	F-16	0	0	12	13	4	8	0	6	0	15	11
39	F-4G	0	0	0	0	0	0	0	0	0	0	0
39	F/A-18	0	0	0	0	0	0	0	0	0	0	0
39	GR-1	0	0	0	0	0	0	0	0	0	0	0
39	TLAM	0	0	0	0	0	0	0	0	0	0	0
39	Subtotal	0	11	12	14	21	21	0	6	2	140	25
39	Other Aircraft	2	0	0	0	0	0	0	0	0	0	0
39	Total	0	11	12	14	21	21	0	6	2	140	25

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
39	A-10	0	0	0	8	6	18	0	0	0	0	0	18	52	59	111
39	A-6	23	2	0	0	0	0	0	25	0	0	12	0	62	52	114
39	AV-8	0	2	0	0	0	0	0	12	0	14	0	0	28	30	58
39	B-52	0	0	0	0	0	0	12	11	0	0	0	1	40	3	43
39	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
39	F-111F	0	0	0	0	1	1	0	0	0	0	0	1	146	12	158
39	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
39	F-15E	2	0	0	0	0	0	0	0	0	0	0	24	48	29	77
39	F-16	5	0	0	3	0	4	26	4	0	0	0	105	216	71	287
39	F-4G	0	0	0	0	0	0	0	0	0	0	0	1	1	3	4
39	F/A-18	17	4	0	0	0	0	6	31	2	0	8	14	82	209	291
39	GR-1	0	0	0	0	0	0	4	0	0	0	0	0	4	28	32
39	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Subtotal	47	8	0	11	7	23	48	83	2	14	20	164	679	550	1,229
39	Other Aircraft	0	0	0	0	0	10	8	0	0	0	0	0	18	3	21
39	Total	47	8	0	11	7	33	56	83	2	14	20	164	697	553	1,250

Table 182 (Cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
40	A-10	0	0	0	0	0	0	0	2	0	0	2
40	A-6	0	0	0	0	1	5	0	0	0	0	0
40	AV-8	0	0	0	0	0	0	0	0	0	0	0
40	B-52	0	8	0	0	0	0	0	0	0	0	0
40	F-111E	0	0	0	0	0	0	0	0	0	0	0
40	F-111F	0	0	0	0	41	24	0	0	0	0	0
40	F-117	0	0	0	0	0	0	0	0	0	0	0
40	F-15E	0	0	0	0	0	4	0	0	0	0	8
40	F-16	0	4	4	4	9	44	0	0	4	16	1
40	F-4G	0	0	0	0	0	0	0	0	0	0	0
40	F/A-18	0	0	0	0	5	8	0	0	0	0	0
40	GR-1	0	0	0	0	0	0	0	0	0	0	0
40	TLAM	0	0	0	0	0	0	0	0	0	0	0
40	Subtotal	0	12	4	4	56	85	0	2	4	16	11
40	Other Aircraft	0	0	0	0	0	0	0	0	0	0	4
40	Total	0	12	4	4	56	85	0	2	4	16	15

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
40	A-10	0	0	0	2	0	2	4	0	0	0	0	6	18	42	60
40	A-6	47	20	0	0	0	0	2	8	7	0	0	4	94	47	141
40	AV-8	2	0	0	0	0	0	18	48	0	2	18	2	90	14	104
40	B-52	0	0	0	0	0	0	3	3	0	0	0	23	37	9	46
40	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	65	12	77
40	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	F-15E	8	0	0	0	0	0	0	0	0	0	0	34	54	8	62
40	F-16	8	0	0	0	2	1	7	8	0	0	0	49	161	44	205
40	F-4G	0	0	0	0	0	0	0	0	0	0	0	14	14	2	16
40	F/A-18	18	43	0	0	0	0	6	6	16	0	4	2	108	160	268
40	GR-1	4	0	0	0	0	0	0	0	0	0	0	0	4	6	10
40	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	Subtotal	87	63	0	2	2	3	40	73	23	2	22	134	645	344	989
40	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	4	2	6
40	Total	87	63	0	2	2	3	40	73	23	2	22	134	649	346	995

Table 182 (Cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
41	A-10	0	0	0	0	0	0	0	0	0	2	0
41	A-6	0	0	0	0	0	2	0	0	0	0	0
41	AV-8	0	0	0	0	0	0	0	0	0	0	2
41	B-52	0	0	0	0	9	4	0	0	0	0	0
41	F-111E	0	0	0	0	0	0	0	0	0	0	0
41	F-111F	0	14	5	0	0	2	0	0	0	0	0
41	F-117	0	0	0	0	0	0	0	0	0	0	0
41	F-15E	5	2	0	1	0	16	0	0	0	0	0
41	F-16	12	14	8	12	6	12	0	0	0	22	18
41	F-4G	0	0	0	0	0	0	0	0	0	0	0
41	F/A-18	0	0	0	0	0	[illegible]	0	0	0	0	0
41	GR-1	0	0	0	0	0	[illegible]	0	0	0	0	0
41	TLAM	0	0	0	0	0	0	0	0	0	0	0
41	Subtotal	17	30	13	13	15	40	0	0	0	24	20
41	Other Aircraft	0	0	[illegible]	0	0	0	0	0	0	0	0
41	Total	17	30	[illegible]	13	15	40	0	0	0	24	20

Day	Aircraft Type	AG6	AH6	AI6	C5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
41	A-10	0	0	0	0	0	0	2	0	0	0	0	4	8	34	42
41	A-6	[illegible]	38	0	0	0	0	0	1	0	0	0	3	126	23	149
41	AV-8	16	8	0	0	0	0	0	38	2	0	20	0	86	38	124
41	B-52	0	0	0	0	0	0	0	0	0	0	0	0	13	29	42
41	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
41	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	21	34	55
41	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
41	F-15E	[illegible]	0	[illegible]	0	0	0	0	0	0	0	0	8	34	32	66
41	F-16	[illegible]	[illegible]	[illegible]	0	0	0	0	0	2	0	0	45	158	75	233
41	F-4G	0	[illegible]	0	0	0	0	0	0	0	0	0	8	8	3	11
41	F/A-18	54	[illegible]	0	0	0	0	0	0	1	0	0	12	116	131	247
41	GR-1	4	0	0	0	0	0	0	0	0	0	0	0	4	4	8
41	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Subtotal	163	93	0	0	0	0	2	39	5	0	20	80	574	421	995
41	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
41	Total	163	93	0	0	0	0	2	39	5	0	20	80	574	449	1,023

Table 182 (Cont'd)
Daily Strikes by Kill Boxes

Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
42	A-10	0	0	0	0	0	0	0	0	0	0	0
42	A-6	0	0	3	0	2	16	0	0	0	0	0
42	AV-8	0	0	0	0	0	0	0	0	0	0	0
42	B-52	0	0	0	0	0	0	0	0	0	0	0
42	F-111E	0	0	0	0	0	0	0	0	0	0	0
42	F-111F	0	0	0	0	0	0	0	0	0	0	0
42	F-117	0	0	0	0	0	0	0	0	0	0	0
42	F-15E	0	0	0	0	0	0	0	0	0	0	0
42	F-16	12	0	0	4	10	4	0	0	0	0	0
42	F-4G	0	0	0	0	0	0	0	0	0	0	0
42	F/A-18	0	0	3	0	4	8	0	0	0	0	0
42	GR-1	0	0	0	0	0	0	0	0	0	0	0
42	TLAM	0	0	0	0	0	0	0	0	0	0	0
42	Subtotal	12	0	6	4	16	28	0	0	0	0	0
42	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
42	Total	12	0	6	4	16	28	0	0	0	0	0

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
42	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	A-6	16	8	0	0	0	0	0	0	0	0	0	21	66	55	121
42	AV-8	2	2	0	0	0	0	0	0	0	0	0	2	6	0	6
42	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15
42	F-111F	0	0	0	0	0	0	0	0	0	0	0	1	1	30	31
42	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	41	41
42	F-15E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	F-16	0	0	0	0	0	0	0	0	0	0	0	20	50	80	130
42	F-4G	0	0	0	0	0	0	0	0	0	0	0	20	20	3	23
42	F/A-18	0	22	0	0	0	0	0	0	0	0	0	30	67	44	111
42	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	29	29
42	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Subtotal	18	32	0	0	0	0	0	0	0	0	0	94	210	297	507
42	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	35	35
42	Total	18	32	0	0	0	0	0	0	0	0	0	94	210	332	542

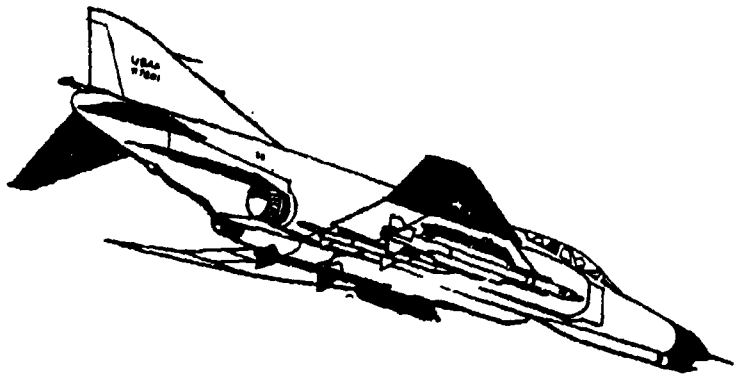
Table 182 (Cont'd)
Daily Strikes by Kill Boxes

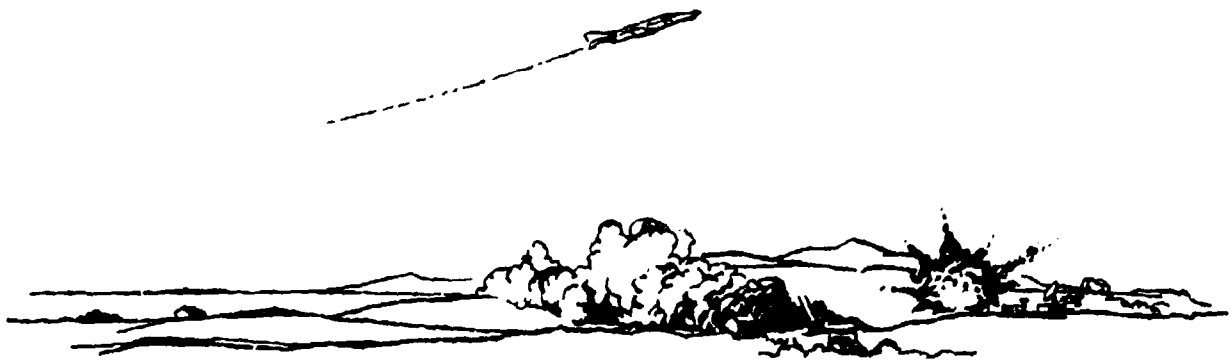
Day	Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
43	A-10	0	0	0	0	0	0	0	0	0	0	0
43	A-6	0	0	5	0	0	0	0	0	0	0	0
43	AV-8	0	0	0	0	0	0	0	0	0	0	0
43	B-52	0	0	0	0	0	0	0	0	0	0	0
43	F-111E	0	0	0	0	0	0	0	0	0	0	0
43	F-111F	0	0	0	0	0	0	0	0	0	0	0
43	F-117	0	0	0	0	0	0	0	0	0	0	0
43	F-15E	0	0	0	0	0	0	0	0	0	0	0
43	F-16	0	0	0	0	0	0	0	0	0	0	0
43	F-4G	0	0	0	0	0	0	0	0	0	0	0
43	F/A-18	0	0	0	0	0	0	0	0	0	0	0
43	GR-1	0	0	0	0	0	0	0	0	0	0	0
43	TLAM	0	0	0	0	0	0	0	0	0	0	0
43	Subtotal	0	0	5	0	0	0	0	0	0	0	0
43	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0
43	Total	0	0	5	0	0	0	0	0	0	0	0

Day	Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Subtotal	Other	Total
43	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	A-6	0	0	0	0	0	0	0	0	0	0	0	4	9	20	29
43	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-15E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	Subtotal	0	0	0	0	0	0	0	0	0	0	0	4	9	20	29
43	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	Total	0	0	0	0	0	0	0	0	0	0	0	4	9	20	29

Source: Missions Database (S/NF/WN/NC)

858-716 O—98——18 QL 3





Strikes by Precision Guided Munitions

The Precision Guided Munition (PGM) tables were extracted from the Missions database and include strikes using Laser Guided Bombs (LGB), Maverick missiles, Electo Optically guided bombs, Skipper missiles, High Speed Anti Radiation Missiles (HARM), Shrike, Walleye, Standoff Land Attack Missiles (SLAM), Tomahawk Land Attack Missiles (TLAM) and Conventional Air Launched Cruise Missiles (CALCM). They were totaled both by kill box and using the AIF functional category codes and OPlan-like groupings. They show the weight of effort for the higher value platforms and what they were used on. Generally, the strike counts are biased for PGMs because the reporting of these weapons is more specific and discriminating. As an example, a flight of four F-16s with six MK-82 bombs each that dropped two at a time against "revetments in Kill box AC6" would tally a total of four strikes. A single F-111 with four GBU-12s that dropped on four different targets (e.g. "tank 294956N0473456E, APC 295541N0471100E, POL storage 300455N0482222E, command post bunker 300004N04800211E) would also get four strikes counted. It must be remembered that Table 183 reflects numbers of strikes, not numbers of munitions dropped or sorties flown.

Aircraft are grouped by type. All F-16s, whether A or C models, U.S. or Bahrain, were counted as F-16s. All air to ground models of Tornados were counted as GR-1. The "other" category of aircraft include A-7s, F-5s, Mirage 2000, AC-130s, etc.

The F-4G Wild Weasel used the Shrike and the HARM. B-52s shot CALCMs on the first night of the war. F-16s dropped LGBs when equipped with the LANTIRN Targeting pod and shot some Maverick and HARM missiles. A-10s shot Maverick missiles. A-6s dropped LGBs and shot Walleye, HARM, SLAM and Skipper missiles. F-15E dropped LGBs after they were equipped with LANTIRN targeting pods. TLAMs were launched from surface ships and submarines.

Table 183
Precision Guided Munitions (PGM) Strikes by AIF Categories

Aircraft Type	OCA	NBC	C3	Elect	Government Control	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other	Total
A-10	130	2	94	0	2	0	4	0	1,296	22	18	0	1,568	94	1,662
A-6	13	10	16	9	0	39	2	22	149	13	1	5	279	28	307
AV-8	0	0	0	0	0	0	0	0	3	0	0	0	3	0	3
B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F-111F	420	22	27	0	6	0	4	136	1,726	62	2	26	2,431	130	2,561
F-117	418	355	374	3	124	2	8	162	49	64	49	151	1,759	10	1,769
F-15E	56	2	37	6	1	0	2	28	198	87	6	7	430	30	460
F-16	4	0	0	0	0	0	0	1	119	0	0	0	124	44	168
F-4G	279	0	0	0	0	0	0	0	1	0	630	0	910	10	920
F/A-18	6	0	11	0	0	12	2	14	21	3	4	8	81	172	253
GR-1	343	0	3	0	0	0	0	104	34	0	0	0	484	4	488
TLAM	12	33	48	63	45	0	20	0	0	58	0	2	281	0	281
Subtotal	1,681	424	610	81	178	53	42	467	3,596	309	710	199	8,350	522	8,872
Other Aircraft	32	0	3	0	0	0	1	3	20	0	0	0	59	186	245
Total	1,713	424	613	81	178	53	43	470	3,616	309	710	199	8,409	708	9,117

Source: Missions Database (S/NF/WN/NC)

Table 184
Precision Guided Munitions(PGM) Strikes by Kill Box

Aircraft Type	AE8	AF8	AG8	AE7	AF7	AG7	AH7	AC6	AD6	AE6	AF6
A-10	0	0	0	4	6	2	0	6	10	82	82
A-6	0	0	0	3	0	3	0	0	1	13	7
AV-8	0	0	0	0	0	0	0	0	0	0	0
B-52	0	0	0	0	0	0	0	0	0	0	0
F-111E	0	0	0	0	0	0	0	0	0	0	0
F-111F	4	4	3	40	744	232	0	0	0	273	124
F-117	0	0	0	1	0	0	0	0	0	0	0
F-15E	0	0	4	0	2	3	0	0	0	51	59
F-16	0	0	2	6	1	1	0	1	0	34	28
F-4G	0	0	0	0	0	0	0	0	0	0	0
F/A-18	0	0	0	0	0	3	0	0	0	0	0
GR-1	0	0	0	0	0	0	0	0	0	0	0
TLAM	0	0	0	0	0	0	0	0	0	0	0
Subtotal	4	4	9	54	753	244	0	7	11	453	300
Other aircraft	0	0	0	0	0	0	0	0	0	0	8
Total	4	4	9	54	753	244	0	7	11	453	308

Aircraft Type	AG6	AH6	AB5	AC5	AD5	AE5	AF5	AG5	AH5	AG4	AH4	Other Kboxes	Sub-total	Other	Total
A-10	4	0	2	64	107	100	141	27	0	16	0	167	820	842	1,662
A-6	11	0	0	0	4	1	7	27	0	11	0	52	140	147	287
AV-8	0	0	0	0	0	0	0	0	0	1	0	2	3	0	3
B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F-111F	4	0	0	1	47	129	0	0	0	0	0	14	1,619	942	2,561
F-117	0	0	0	0	0	0	0	7	0	0	0	7	15	1,754	1,769
F-15E	2	0	0	0	0	4	2	9	0	8	0	144	288	172	460
F-16	12	0	0	10	4	0	8	0	0	0	0	7	114	10	124
F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
F/A-18	0	0	0	0	0	4	1	0	0	0	0	7	15	74	89
GR-1	0	0	0	0	0	0	0	0	0	0	0	8	8	480	488
TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	281	281
Subtotal	33	0	2	75	162	238	159	70	0	36	0	408	3,022	4,703	7,725
Other aircraft	0	0	0	0	0	0	0	0	0	0	0	8	16	1,376	1,392
Total	33	0	2	75	162	238	159	70	0	36	0	416	3,038	6,079	9,117

Source: Missions Database (S/NF/WN/NC)

Strike Counts by Master Target List Categories

The Master Target List counts are strikes comparing the Black Hole generated, 1 March 1991, Master Target List (MTL) against the missions database. The MTL contained redundant listings of targets in different categories and some targets with no BE numbers or locations. This is particularly evident in the Republican Guard category (RG). Compared to the ground order of battle counts in the functional (AIF) counts section, these tables do not show the actual weight of effort expended on ground forces. Another way to view the weight of effort against the Republican Guard is to look at the Kill box strike counts and the units they contained.

The Breaching (BR) category was not counted. The only BE number on the MTL was a gas oil separation facility. Never did anyone report an individual "BR" target number, though many B-52s flew "breaching" missions.

Categories from the Master Target List.

- Airfields (A)
- Breaching (not counted)
- Chemical (C)
- Command and Control (CCC)
- Electricity (E)
- Leadership (L)
- Military/Support (MS)
- Naval (N)
- Oil (O)
- Republican Guard (not able to fully track) (RG)
- Railroads and Bridges (RR)
- Strategic Air Defense (SAD)
- Surface to Air Missile Sites (SAM)
- Scud Sites (Scuds)

Table 185
Strikes by Master Target List Categories

Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
A-10	6	0	6	0	0	0	0	0	0	146	2	4	0	164	6,670	6,834
A-6	103	20	67	37	0	184	19	53	0	38	11	6	93	631	1,986	2,617
AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,585	2,585
B-52	85	19	27	62	0	0	26	15	0	3	12	0	291	540	1,166	1,706
F-111E	57	60	4	24	0	0	43	0	0	8	20	0	111	327	96	423
F-111F	462	40	10	1	2	0	0	67	0	2	14	0	84	682	2,120	2,802
F-117	219	373	209	1	173	2	2	120	10	111	168	2	246	1,636	152	1,788
F-15E	164	13	28	6	0	0	5	37	0	55	306	0	6	620	1,504	2,124
F-16	636	285	105	49	28	0	91	28	12	80	281	27	757	2,379	9,319	11,698
F-4G	7	0	0	0	0	0	0	0	0	2	5	0	6	20	900	920
F/A-18	158	59	104	5	0	94	8	90	11	108	46	37	180	900	3,651	4,551
GR-1	603	0	3	24	0	0	197	100	0	14	32	0	135	1,108	209	1,317
TLAM	12	91	14	63	61	0	20	0	0	16	0	0	2	279	2	281
Subtotal	2,512	960	577	272	264	280	411	510	33	583	897	76	1,911	9,286	30,360	39,646
Other Aircraft	184	28	3	12	0	25	9	7	0	43	50	17	67	445	1,218	1,663
Total	2,696	988	580	284	264	305	420	517	33	626	947	93	1,978	9,731	31,578	41,309

Source: Missions Database (S/NF/WI/NC)

Table 186
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
1	A-10	0	0	0	0	0	0	0	0	0	112	0	0	0	112	216	328
1	A-6	26	0	0	0	0	13	0	0	0	0	0	0	0	39	2	41
1	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
1	B-52	12	0	17	18	0	0	0	0	0	0	3	0	0	50	6	56
1	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
1	F-111F	43	8	0	0	2	0	0	0	0	0	6	0	10	69	0	69
1	F-117	0	5	8	0	16	0	0	0	0	24	0	0	8	61	0	61
1	F-15E	6	0	0	6	0	0	5	3	0	2	34	0	0	56	11	67
1	F-16	14	24	0	0	0	0	21	0	4	0	47	4	4	118	67	185
1	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	118
1	F/A-18	23	0	0	0	0	0	1	4	0	19	0	0	0	47	0	47
1	GR-1	53	0	0	0	0	0	0	0	0	0	0	0	0	53	0	53
1	TLAM	2	62	0	20	32	0	6	0	0	0	0	0	0	122	0	122
1	Subtotal	179	99	25	44	50	13	33	7	4	157	90	4	22	727	438	1,165
1	Other Aircraft	27	0	0	0	0	0	0	0	0	2	0	0	4	33	25	58
1	Total	206	99	25	44	50	13	33	7	4	159	90	4	26	760	463	1,223

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
2	A-10	0	0	0	0	0	0	0	0	0	20	0	0	0	20	136	156
2	A-6	0	2	3	5	0	16	0	0	0	0	0	0	0	26	7	33
2	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	46
2	B-52	0	0	0	0	0	0	5	0	0	0	0	0	14	19	5	24
2	F-111E	0	0	0	4	0	0	0	0	0	0	0	0	0	4	8	12
2	F-111F	22	3	0	0	0	0	0	0	0	0	0	0	0	25	13	38
2	F-117	0	4	5	0	5	0	0	0	0	14	0	0	3	31	5	36
2	F-15E	0	0	2	0	0	0	0	4	0	0	20	0	0	26	8	34
2	F-16	72	8	0	0	0	0	0	0	8	0	0	0	72	160	45	205
2	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76	76
2	F/A-18	0	0	0	0	0	12	0	0	0	0	0	0	0	12	18	30
2	GR-1	23	0	0	0	0	0	0	0	0	0	0	0	0	23	7	30
2	TLAM	0	0	0	40	4	0	4	0	0	10	0	0	0	58	0	58
2	Subtotal	117	17	10	49	9	28	9	4	8	44	20	0	89	404	374	778
2	Other Aircraft	10	0	0	0	0	6	0	0	0	0	0	0	0	16	17	33
2	Total	127	17	10	49	9	34	9	4	8	44	20	0	89	420	391	811

Table 186
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
3	A-10	0	0	0	0	0	0	0	0	0	4	0	0	0	4	26	30
3	A-6	0	6	0	0	0	0	5	2	0	0	0	0	0	13	5	18
3	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
3	B-52	0	0	0	0	0	0	0	0	0	0	3	0	11	14	22	36
3	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	F-111F	8	0	0	0	0	0	0	1	0	1	0	0	3	13	4	17
3	F-117	2	3	4	0	7	0	0	1	0	6	0	0	1	24	2	26
3	F-15E	8	0	4	0	0	0	0	6	0	12	27	0	0	57	6	63
3	F-16	11	51	0	0	16	0	7	0	0	20	32	0	16	153	96	249
3	F-4G	0	0	0	0	0	0	0	0	0	0	1	0	0	1	55	56
3	F/A-18	1	0	0	0	0	0	0	10	6	10	0	0	12	39	0	39
3	GR-1	20	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20
3	TLAM	0	8	0	2	12	0	4	0	0	6	0	0	0	32	0	32
3	Subtotal	50	68	8	2	35	0	16	20	6	59	63	0	43	370	230	600
3	Other Aircraft	2	3	0	0	0	12	0	0	0	0	0	15	0	32	28	60
3	Total	52	71	8	2	35	12	16	20	6	59	63	15	43	402	258	660

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
4	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
4	A-6	0	0	0	0	0	6	1	0	0	6	0	0	0	13	2	15
4	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
4	B-52	0	0	2	0	0	0	0	0	0	0	0	0	4	6	22	28
4	F-111E	0	6	0	0	0	0	0	0	0	0	0	0	6	12	0	12
4	F-111F	10	0	0	0	0	0	0	0	0	0	0	0	0	10	1	11
4	F-117	0	2	2	0	1	0	0	0	0	5	2	0	4	16	12	28
4	F-15E	8	0	0	0	0	0	0	0	0	0	28	0	0	36	8	44
4	F-16	22	16	3	0	0	0	0	0	0	0	24	0	55	120	99	219
4	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	69
4	F/A-18	10	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20
4	GR-1	23	0	0	0	0	0	0	0	0	0	0	0	0	23	8	31
4	TLAM	2	4	0	0	2	0	0	0	0	0	0	0	0	8	0	8
4	Subtotal	75	28	7	0	3	6	1	0	0	11	54	0	69	254	277	531
4	Other Aircraft	7	0	0	4	0	1	1	0	0	1	0	0	0	14	9	23
4	Total	82	28	7	4	3	7	2	0	0	12	54	0	69	268	286	554

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
5	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	32
5	A-6	6	5	0	0	0	10	0	0	0	0	0	0	0	21	14	35
5	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
5	B-52	3	0	0	8	0	0	0	0	0	3	0	0	0	14	27	41
5	F-111E	7	0	0	0	0	0	0	0	0	0	8	0	0	15	2	17
5	F-111F	8	0	0	0	0	0	0	0	0	0	4	0	7	19	4	23
5	F-117	1	10	4	0	9	0	0	0	0	9	0	0	0	33	1	34
5	F-15E	17	0	0	0	0	0	0	0	0	0	19	0	0	36	2	38
5	F-16	40	44	4	8	12	0	0	0	0	8	8	0	4	128	70	198
5	F-4G	0	0	0	0	0	0	0	0	0	0	1	0	0	1	48	49
5	F/A-18	0	16	1	0	0	3	0	1	0	0	7	0	0	28	9	37
5	GR-1	23	0	0	0	0	0	0	0	0	0	0	0	0	23	4	27
5	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Subtotal	105	75	9	16	21	13	0	1	0	20	47	0	11	318	225	543
5	Other Aircraft	1	4	0	0	0	0	0	0	0	0	0	0	0	5	2	7
5	Total	106	79	9	16	21	13	0	1	0	20	47	0	11	323	227	550

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
6	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	66
6	A-6	0	0	0	0	0	11	7	0	0	0	0	0	0	18	10	28
6	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20
6	B-52	12	0	4	0	0	0	0	0	0	0	0	0	0	16	21	37
6	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	F-111F	18	1	6	0	0	0	0	0	0	0	0	0	9	34	0	34
6	F-117	23	0	0	1	1	0	0	6	0	0	0	0	5	36	5	41
6	F-15E	25	0	6	0	0	0	0	0	0	0	4	0	0	35	21	56
6	F-16	7	0	0	0	0	0	0	0	0	0	26	0	0	33	133	166
6	F-4G	1	0	0	0	0	0	0	0	0	0	1	0	0	2	24	26
6	F/A-18	0	0	0	0	0	5	0	0	0	0	20	0	0	25	0	25
6	GR-1	12	0	0	0	0	0	0	0	0	5	0	0	10	27	6	33
6	TLAM	0	0	0	0	2	0	6	0	0	0	0	0	0	8	0	8
6	Subtotal	98	1	16	1	3	16	13	6	0	5	51	0	24	234	306	540
6	Other Aircraft	0	0	0	0	0	0	3	0	0	0	0	0	0	3	16	19
6	Total	98	1	16	1	3	16	16	6	0	5	51	0	24	237	322	559

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
7	A-10	0	0	2	0	0	0	0	0	0	4	0	0	0	6	90	96
7	A-6	6	0	3	0	0	0	0	0	0	0	0	0	0	9	4	13
7	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
7	B-52	6	0	4	0	0	0	0	0	0	0	0	0	0	10	27	37
7	F-111E	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	12
7	F-111F	11	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11
7	F-117	0	0	10	0	0	0	0	4	0	0	1	0	0	15	2	17
7	F-15E	17	0	0	0	0	0	0	0	0	0	4	0	0	21	13	34
7	F-16	140	0	0	0	0	0	4	0	0	0	8	0	56	208	126	334
7	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	6	6	23	29
7	F/A-18	10	0	0	0	0	0	0	0	0	0	0	0	0	10	1	11
7	GR-1	24	0	0	0	0	0	0	0	0	0	3	0	0	27	0	27
7	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Subtotal	226	0	19	0	0	0	4	4	0	4	16	0	62	335	317	652
7	Other Aircraft	9	0	0	0	0	0	1	0	0	0	0	0	0	10	14	24
7	**Total**	235	0	19	0	0	0	5	4	0	4	16	0	62	345	331	676

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
8	A-10	4	0	0	0	0	0	0	0	0	0	0	0	0	4	234	238
8	A-6	0	0	0	0	0	9	0	6	0	4	0	0	0	19	1	20
8	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100
8	B-52	10	0	0	3	0	0	0	3	0	0	0	0	0	16	14	30
8	F-111E	8	0	0	0	0	0	0	0	0	0	0	0	0	8	4	12
8	F-111F	27	0	0	0	0	0	0	0	0	0	0	0	0	27	4	31
8	F-117	18	0	0	0	1	0	0	14	0	1	8	0	0	42	0	42
8	F-15E	4	0	0	0	0	0	0	0	0	0	0	0	0	4	50	54
8	F-16	36	0	16	11	0	0	16	0	0	0	9	0	23	111	154	265
8	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22
8	F/A-18	0	0	12	2	0	5	0	0	0	1	0	0	0	20	9	29
8	GR-1	5	0	0	0	0	0	0	0	0	0	0	0	8	13	0	13
8	TLAM	2	0	4	0	0	0	0	0	0	0	0	0	0	6	0	6
8	Subtotal	114	0	32	16	1	14	16	23	0	6	17	0	31	270	592	862
8	Other Aircraft	0	0	0	0	0	1	0	0	0	10	0	0	0	11	13	24
8	**Total**	114	0	32	16	1	15	16	23	0	16	17	0	31	281	605	886

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
9	A-10	2	0	0	0	0	0	0	0	0	0	0	0	0	2	190	192
9	A-6	8	1	2	0	0	9	0	0	0	4	0	0	5	29	1	30
9	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30
9	B-52	10	0	0	0	0	0	0	0	0	0	0	0	8	18	18	36
9	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	F-111F	10	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
9	F-117	2	0	1	0	0	0	0	7	0	1	15	0	0	26	5	31
9	F-15E	8	0	0	0	0	0	0	0	0	8	0	0	0	16	30	46
9	F-16	24	26	4	8	0	0	0	0	0	0	0	4	44	110	176	286
9	F-4G	0	0	0	0	0	0	0	0	0	2	0	0	0	2	19	21
9	F/A-18	0	0	0	0	0	0	0	0	0	11	0	0	6	17	22	39
9	GR-1	0	0	0	7	0	0	18	0	0	4	0	0	0	29	4	33
9	TLAM	0	2	5	0	3	0	0	0	0	0	0	0	0	10	0	10
9	Subtotal	64	29	12	15	3	9	18	7	0	30	15	4	63	269	495	764
9	Other Aircraft	0	0	0	0	0	2	0	0	0	12	0	0	2	16	6	22
9	**Total**	**64**	**29**	**12**	**15**	**3**	**11**	**18**	**7**	**0**	**42**	**15**	**4**	**65**	**285**	**501**	**786**

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
10	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	244	244
10	A-6	0	0	2	8	0	9	0	0	0	0	0	0	0	19	6	25
10	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	90
10	B-52	0	0	0	0	0	0	0	0	0	0	2	0	22	24	17	41
10	F-111E	8	0	0	4	0	0	0	0	0	0	0	0	0	12	0	12
10	F-111F	7	4	0	0	0	0	0	0	0	0	0	0	0	11	4	15
10	F-117	26	4	0	0	0	0	0	0	0	4	13	0	1	48	7	55
10	F-15E	0	0	0	0	0	0	0	0	0	0	4	0	0	4	42	46
10	F-16	26	0	4	0	0	0	0	0	0	4	0	0	45	79	178	257
10	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	27
10	F/A-18	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	2
10	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	12	12	0	12
10	TLAM	0	1	0	0	6	0	0	0	0	0	0	0	0	7	0	7
10	Subtotal	67	9	6	12	6	9	0	1	0	8	19	0	80	217	616	833
10	Other Aircraft	0	0	0	3	0	0	0	6	0	0	0	0	0	9	19	28
10	**Total**	**67**	**9**	**6**	**15**	**6**	**9**	**0**	**7**	**0**	**8**	**19**	**0**	**80**	**226**	**635**	**861**

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
11	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104
11	A-6	0	3	4	4	0	10	0	0	0	0	0	0	0	21	0	21
11	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
11	B-52	0	0	0	7	0	0	5	0	0	0	0	0	21	33	4	37
11	F-111E	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4	8
11	F-111F	33	0	0	0	0	0	0	0	0	0	0	0	0	33	3	36
11	F-117	28	10	2	0	3	0	0	4	0	2	4	0	9	62	1	63
11	F-15E	2	0	0	0	0	0	0	0	0	0	7	0	0	9	33	42
11	F-16	4	0	16	0	0	0	0	0	0	0	29	0	43	92	148	240
11	F-4G	3	0	0	0	0	0	0	0	0	0	0	0	0	3	10	13
11	F/A-18	8	4	0	0	0	2	0	6	0	0	0	0	0	20	15	35
11	GR-1	0	0	0	0	0	0	0	0	0	3	11	0	3	17	0	17
11	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Subtotal	78	17	22	11	3	12	5	10	0	9	51	0	76	294	334	628
11	Other Aircraft	2	1	1	1	0	0	0	0	0	0	0	0	0	5	10	15
11	Total	80	18	23	12	3	12	5	10	0	9	51	0	76	299	344	643

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
12	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	244	244
12	A-6	1	0	3	0	0	12	0	8	0	0	0	0	0	24	4	28
12	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50
12	B-52	0	0	0	0	0	0	4	0	0	0	0	0	0	4	37	41
12	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
12	F-111F	18	0	0	0	0	0	0	3	0	0	0	0	5	26	10	36
12	F-117	7	11	5	0	4	0	0	4	3	0	2	0	11	47	1	48
12	F-15E	8	0	2	0	0	0	0	2	0	0	5	0	0	17	29	46
12	F-16	24	0	4	0	0	0	0	0	0	12	16	0	30	86	185	271
12	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21
12	F/A-18	0	0	4	1	0	3	7	5	0	0	17	1	0	38	0	38
12	GR-1	0	0	0	0	0	0	47	0	0	2	6	0	0	55	4	59
12	TLAM	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2
12	Subtotal	58	12	18	2	4	15	58	22	3	14	46	1	46	299	597	896
12	Other Aircraft	0	0	0	0	0	0	4	0	0	0	1	0	0	5	22	27
12	Total	58	12	18	2	4	15	62	22	3	14	47	1	46	304	619	923

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
13	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260	260
13	A-6	0	0	0	0	0	6	0	0	0	0	0	0	0	6	29	35
13	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	57
13	B-52	0	0	0	4	0	0	0	0	0	0	0	0	0	4	38	42
13	F-111E	4	0	0	0	0	0	0	0	0	0	0	0	0	4	8	12
13	F-111F	11	2	0	0	0	0	0	3	0	0	0	0	0	16	18	34
13	F-117	0	3	8	0	3	0	0	7	0	0	4	0	12	37	1	38
13	F-15E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	46
13	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	261	261
13	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
13	F/A-18	0	0	0	0	0	1	0	0	0	0	0	3	0	4	21	25
13	GR-1	18	0	0	0	0	0	8	0	0	0	0	0	0	26	18	44
13	TLAM	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0	3
13	Subtotal	33	5	11	4	3	7	8	10	0	0	4	3	12	100	770	870
13	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	1	0	1	46	47
13	**Total**	33	5	11	4	3	7	8	10	0	0	4	4	12	101	816	917

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
14	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	278	278
14	A-6	0	0	0	0	0	5	0	0	0	2	0	0	0	7	42	49
14	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	66
14	B-52	6	0	0	0	0	0	0	0	0	0	0	0	12	18	27	45
14	F-111E	0	0	0	4	0	0	0	0	0	0	0	0	0	4	8	12
14	F-111F	36	1	1	0	0	0	0	0	0	0	0	0	0	38	6	44
14	F-117	0	6	4	0	0	0	0	20	0	3	1	0	9	43	6	49
14	F-15E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50
14	F-16	16	0	0	0	0	0	0	0	0	0	0	0	0	16	240	256
14	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
14	F/A-18	4	0	0	0	0	3	0	0	0	8	0	5	0	20	21	41
14	GR-1	0	0	0	0	0	0	0	0	0	0	4	0	15	19	0	19
14	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Subtotal	62	7	5	4	0	8	0	20	0	13	5	5	36	165	758	923
14	Other Aircraft	8	0	0	0	0	0	0	0	0	0	0	0	0	8	27	35
14	**Total**	70	7	5	4	0	8	0	20	0	13	5	5	36	173	785	958

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
15	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	230	230
15	A-6	8	0	0	0	0	6	2	0	0	3	0	0	0	19	35	54
15	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	102
15	B-52	0	0	0	0	0	0	0	0	0	0	0	0	8	8	72	80
15	F-111E	0	0	0	0	0	0	4	0	0	0	0	0	0	4	5	9
15	F-111F	30	0	0	0	0	0	0	0	0	0	0	0	1	31	5	36
15	F-117	2	0	7	0	0	0	0	12	0	0	1	0	6	28	6	34
15	F-15E	0	0	0	0	0	0	0	0	0	1	0	0	0	1	39	40
15	F-16	20	0	0	0	0	0	0	0	0	6	0	0	0	26	183	209
15	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
15	F/A-18	0	12	0	0	0	0	0	0	0	4	0	2	0	18	24	42
15	GR-1	8	0	0	0	0	0	8	0	0	0	0	0	0	16	8	24
15	TLAM	0	13	2	0	0	0	0	0	0	0	0	0	2	17	2	19
15	Subtotal	68	25	9	0	0	6	14	12	0	14	1	2	17	168	720	888
15	Other Aircraft	0	1	0	0	0	0	0	0	0	0	0	0	0	1	35	36
15	**Total**	**68**	**26**	**9**	**0**	**0**	**6**	**14**	**12**	**0**	**14**	**1**	**2**	**17**	**169**	**755**	**924**

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
16	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	236
16	A-6	1	0	0	0	0	9	0	0	0	0	0	0	0	10	35	45
16	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	72
16	B-52	0	0	0	0	0	0	0	0	0	0	0	0	6	6	45	51
16	F-111E	0	8	0	0	0	0	0	0	0	0	0	0	0	8	4	12
16	F-111F	21	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21
16	F-117	0	3	6	0	0	0	0	13	4	0	10	0	7	43	2	45
16	F-15E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44
16	F-16	0	8	0	0	0	0	0	0	0	2	0	0	0	10	282	292
16	F-4G	0	0	0	0	0	0	0	0	0	0	2	0	0	2	11	13
16	F/A-18	0	0	0	0	0	0	0	0	5	0	0	4	0	9	39	48
16	GR-1	8	0	0	0	0	0	15	0	0	0	0	0	0	23	0	23
16	TLAM	6	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
16	Subtotal	36	19	6	0	0	9	15	13	9	2	12	4	13	138	770	908
16	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	26
16	**Total**	**36**	**19**	**6**	**0**	**0**	**9**	**15**	**13**	**9**	**2**	**12**	**4**	**13**	**138**	**796**	**934**

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
17	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227	227
17	A-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
17	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	70
17	B-52	8	0	0	0	0	0	0	0	0	0	0	0	0	8	38	46
17	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	8
17	F-111F	14	0	0	0	0	0	0	7	0	0	0	0	8	29	3	32
17	F-117	0	12	0	0	0	0	0	0	0	0	0	0	2	14	0	14
17	F-15E	0	0	0	0	0	0	0	0	0	1	7	0	0	8	51	59
17	F-16	18	0	0	0	0	0	0	0	0	0	4	0	4	26	286	312
17	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
17	F/A-18	0	0	2	0	0	0	0	0	0	0	0	8	0	10	35	45
17	GR-1	0	0	0	0	0	0	16	4	0	0	8	0	0	28	0	28
17	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Subtotal	40	12	2	0	0	0	16	11	0	1	19	8	18	127	758	885
17	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
17	**Total**	**40**	**12**	**2**	**0**	**0**	**0**	**16**	**11**	**0**	**1**	**19**	**8**	**18**	**127**	**775**	**902**

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
18	A-10	0	0	0	0	0	0	0	0	0	6	0	0	0	6	150	156
18	A-6	0	0	4	0	0	0	0	0	0	0	2	0	0	6	25	31
18	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	72
18	B-52	0	0	0	0	0	0	0	0	0	0	0	0	8	8	33	41
18	F-111E	0	0	0	4	0	0	3	0	0	0	0	0	0	7	4	11
18	F-111F	22	0	0	0	0	0	0	5	0	0	0	0	0	27	2	29
18	F-117	1	25	3	0	0	0	0	1	0	0	1	0	0	31	4	35
18	F-15E	1	0	1	0	0	0	0	0	0	3	10	0	0	15	46	61
18	F-16	16	0	0	0	0	0	0	0	0	0	0	0	0	16	370	386
18	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	29
18	F/A-18	0	0	13	0	0	2	0	0	0	0	2	0	0	17	47	64
18	GR-1	0	0	0	0	0	0	0	4	0	0	0	0	12	16	18	34
18	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Subtotal	40	25	21	4	0	2	3	10	0	9	15	0	20	149	800	949
18	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	32
18	**Total**	**40**	**25**	**21**	**4**	**0**	**2**	**3**	**10**	**0**	**9**	**15**	**0**	**20**	**149**	**832**	**981**

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
19	A-10	0	0	4	0	0	0	0	0	0	0	0	0	0	4	184	188
19	A-6	2	0	0	0	0	10	0	0	0	6	0	0	0	18	34	52
19	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76	76
19	B-52	0	0	0	0	0	0	0	0	0	0	0	0	3	3	36	39
19	F-111E	0	0	0	4	0	0	0	0	0	0	0	0	8	12	0	12
19	F-111F	7	3	0	1	0	0	0	2	0	0	0	0	0	13	6	19
19	F-117	0	28	7	0	11	0	0	0	0	0	3	0	0	49	2	51
19	F-15E	0	0	0	0	0	0	0	0	0	5	0	0	0	5	46	51
19	F-16	19	0	0	0	0	0	0	0	0	0	0	0	0	19	264	283
19	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30
19	F/A-18	4	0	5	0	0	8	0	0	0	10	0	0	0	27	24	51
19	GR-1	0	0	0	0	0	0	15	9	0	0	0	0	8	32	4	36
19	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Subtotal	32	31	16	5	11	18	15	11	0	21	3	0	19	182	706	888
19	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
19	Total	32	31	16	5	11	18	15	11	0	21	3	0	19	182	748	930

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
20	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	208	208
20	A-6	0	0	0	0	0	10	0	0	0	0	0	2	0	12	42	54
20	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	72
20	B-52	0	6	0	0	0	0	0	0	0	0	0	0	0	6	32	38
20	F-111E	0	0	0	4	0	0	4	0	0	0	0	0	0	8	4	12
20	F-111F	22	1	0	0	0	0	0	2	0	0	0	0	0	25	4	29
20	F-117	10	21	2	0	2	0	0	0	1	0	7	0	10	53	2	55
20	F-15E	0	0	0	0	0	0	0	8	0	8	5	0	0	21	38	59
20	F-16	8	0	0	0	0	0	0	0	0	19	0	4	8	39	329	368
20	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22
20	F/A-18	0	0	0	0	0	12	0	0	0	0	0	0	11	23	35	58
20	GR-1	4	0	0	8	0	0	11	9	0	0	0	0	0	32	16	48
20	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Subtotal	44	28	2	12	2	22	15	19	1	27	12	6	29	219	804	1,023
20	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	1	1	66	67
20	Total	44	28	2	12	2	22	15	19	1	27	12	6	30	220	870	1,090

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
21	A-10	0	0	0	0	0	0	0	0	0	0	2	0	0	2	166	168
21	A-6	2	0	3	5	0	5	0	0	0	0	0	0	12	27	20	47
21	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
21	B-52	0	0	0	0	0	0	0	0	0	0	2	0	9	11	16	27
21	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	F-111F	6	0	0	0	0	0	0	2	0	0	0	0	0	8	4	12
21	F-117	26	16	4	0	6	0	2	0	0	2	0	0	2	58	1	59
21	F-15E	2	0	0	0	0	0	0	6	0	8	1	0	0	17	33	50
21	F-16	11	0	0	0	0	0	0	0	0	0	4	0	0	15	334	349
21	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
21	F/A-18	12	0	0	2	0	0	0	0	0	0	0	0	6	20	18	38
21	GR-1	22	0	0	9	0	0	0	8	0	0	0	0	6	45	4	49
21	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Subtotal	81	15	7	16	6	5	2	16	0	10	9	0	35	203	633	836
21	Other Aircraft	13	0	0	0	0	0	0	0	0	0	0	0	4	17	33	50
21	Total	94	16	7	16	6	5	2	16	0	10	9	0	39	220	666	886

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
22	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	156	156
22	A-6	8	0	4	4	0	0	0	0	0	0	4	0	6	26	28	54
22	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	116
22	B-52	0	0	0	0	0	0	0	0	0	0	0	0	15	15	27	42
22	F-111E	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	12
22	F-111F	19	0	0	0	0	0	0	0	0	0	0	0	9	28	6	34
22	F-117	0	31	10	0	3	0	0	0	0	8	1	0	0	53	0	53
22	F-15E	2	0	0	0	0	0	0	0	0	0	7	0	0	9	39	48
22	F-16	0	8	0	0	0	0	0	2	0	4	0	7	6	27	291	318
22	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21
22	F/A-18	4	0	0	0	0	7	0	0	0	7	0	0	15	33	108	141
22	GR-1	0	0	0	0	0	0	37	12	0	0	0	0	0	49	4	53
22	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Subtotal	45	39	14	4	3	7	37	14	0	19	12	7	51	252	796	1,048
22	Other Aircraft	3	0	0	1	0	0	0	0	0	1	0	0	3	8	44	52
22	Total	48	39	14	5	3	7	37	14	0	20	12	7	54	260	840	1,100

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
23	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	196	196
23	A-6	2	0	0	0	0	0	4	4	0	4	0	0	8	22	41	63
23	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	102
23	B-52	0	0	0	0	0	0	6	0	0	0	0	0	0	6	37	43
23	F-111E	0	0	0	0	0	0	4	0	0	0	0	0	0	4	8	12
23	F-111F	18	0	0	0	0	0	0	0	0	0	0	0	0	18	24	42
23	F-117	6	27	0	0	0	0	0	0	0	0	23	0	6	62	0	62
23	F-15E	0	0	4	0	0	0	0	0	0	4	0	0	0	8	30	38
23	F-16	0	20	10	0	0	0	0	6	0	0	0	4	4	44	283	327
23	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
23	F/A-18	0	0	3	0	0	4	0	0	0	14	0	4	18	43	97	140
23	GR-1	0	0	0	0	0	0	16	14	0	0	0	0	0	30	13	43
23	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Subtotal	26	47	17	0	0	4	30	24	0	22	23	8	36	237	844	1,081
23	Other Aircraft	6	0	0	0	0	0	0	0	0	1	0	1	0	8	32	40
23	Total	32	47	17	0	0	4	30	24	0	23	23	9	36	245	876	1,121

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
24	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	176	176
24	A-6	4	0	11	2	0	9	0	4	0	0	0	4	4	38	19	57
24	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	94
24	B-52	0	0	0	8	0	0	6	0	0	0	0	0	0	14	35	49
24	F-111E	0	0	0	0	0	0	12	0	0	0	0	0	0	12	0	12
24	F-111F	4	0	0	0	0	0	0	3	0	0	0	0	0	7	35	42
24	F-117	0	2	3	0	3	0	0	4	0	2	9	0	13	36	9	45
24	F-15E	3	0	5	0	0	0	0	0	0	0	10	0	0	18	28	46
24	F-16	4	0	3	0	0	0	39	0	0	0	0	0	0	46	320	366
24	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
24	F/A-18	9	0	5	0	0	6	0	8	0	0	0	0	16	44	107	151
24	GR-1	0	0	0	0	0	0	0	4	0	0	0	0	18	22	6	28
24	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Subtotal	24	2	27	10	3	15	57	23	0	2	19	4	51	237	842	1,079
24	Other Aircraft	1	0	1	0	0	1	0	1	0	0	0	0	6	10	39	49
24	Total	25	2	28	10	3	16	57	24	0	2	19	4	57	247	881	1,128

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
25	A-10	0	0	0	0	0	0	0	0	0	0	0	4	0	4	214	218
25	A-6	0	0	2	6	0	0	0	6	0	0	0	0	4	18	62	80
25	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	96
25	B-52	0	0	0	7	0	0	0	0	0	0	0	0	21	28	18	46
25	F-111E	0	0	0	0	0	0	8	0	0	0	0	0	0	8	4	12
25	F-111F	3	2	0	0	0	0	0	4	0	0	0	0	0	9	33	42
25	F-117	0	1	16	0	1	0	0	0	0	10	2	0	11	41	19	60
25	F-15E	0	0	2	0	0	0	0	0	0	0	14	0	0	16	39	55
25	F-16	2	0	3	0	0	0	0	0	0	4	43	0	0	52	289	341
25	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
25	F/A-18	3	0	10	0	0	1	0	9	0	0	0	0	15	38	115	153
25	GR-1	7	0	0	0	0	0	6	8	0	0	0	0	6	27	15	42
25	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Subtotal	15	3	33	13	1	1	14	27	0	14	59	4	57	241	918	1,159
25	Other Aircraft	0	0	0	3	0	0	0	0	0	0	0	0	0	3	47	50
25	Total	15	3	33	16	1	1	14	27	0	14	59	4	57	244	965	1,209

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
26	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165	165
26	A-6	0	0	4	0	0	4	0	1	0	0	0	0	0	9	48	57
26	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104
26	B-52	0	6	0	7	0	0	0	0	0	0	0	0	6	19	27	46
26	F-111E	0	4	0	0	0	0	0	0	0	0	0	0	8	12	0	12
26	F-111F	0	0	1	0	0	0	0	1	0	0	0	0	9	11	47	58
26	F-117	0	21	6	0	17	0	0	0	0	5	8	0	8	65	1	66
26	F-15E	4	0	1	0	0	0	0	0	0	0	1	0	0	6	32	38
26	F-16	5	8	0	0	0	0	0	4	0	1	0	0	43	61	302	363
26	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
26	F/A-18	2	10	15	0	0	0	0	0	0	2	0	4	5	38	151	189
26	GR-1	0	0	0	0	0	0	0	15	0	0	0	0	18	33	16	49
26	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Subtotal	11	49	27	7	17	4	0	21	0	8	9	4	97	254	903	1,157
26	Other Aircraft	0	1	0	0	0	1	0	0	0	0	0	0	17	19	32	51
26	Total	11	50	27	7	17	5	0	21	0	8	9	4	114	273	935	1,208

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
27	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175	175
27	A-6	0	0	0	0	0	2	0	0	0	2	0	0	14	18	59	77
27	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	48
27	B-52	0	0	0	0	0	0	0	0	0	0	0	0	19	19	27	46
27	F-111E	0	4	0	0	0	0	4	0	0	4	0	0	0	12	0	12
27	F-111F	4	0	0	0	0	0	0	2	0	0	0	0	0	6	194	200
27	F-117	0	0	14	0	32	0	0	0	0	6	0	0	0	52	4	56
27	F-15E	0	0	0	0	0	0	0	6	0	0	1	0	0	7	39	46
27	F-16	0	0	8	16	0	0	0	2	0	0	0	0	25	51	296	347
27	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
27	F/A-18	0	0	0	0	0	0	0	0	0	6	0	0	22	28	122	150
27	GR-1	14	0	0	0	0	0	0	0	0	0	0	0	19	33	4	37
27	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Subtotal	18	4	22	16	32	2	4	10	0	18	1	0	99	226	977	1,203
27	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	21	21	45	66
27	Total	18	4	22	16	32	2	4	10	0	18	1	0	120	247	1,022	1,269

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
28	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194	194
28	A-6	0	0	0	3	0	0	0	0	0	0	0	0	9	12	59	71
28	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	74
28	B-52	6	0	0	0	0	0	0	0	0	0	0	0	13	19	23	42
28	F-111E	0	0	4	0	0	0	4	0	0	0	0	0	4	12	0	12
28	F-111F	8	0	0	0	0	0	0	2	0	0	0	0	0	10	134	144
28	F-117	4	0	33	0	2	2	0	0	0	8	2	1	0	52	0	52
28	F-15E	1	0	0	0	0	0	0	0	0	0	3	0	1	5	46	51
28	F-16	11	8	12	0	0	0	0	2	0	0	0	0	11	44	276	320
28	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22
28	F/A-18	14	0	4	0	0	5	0	2	0	0	0	4	6	35	136	171
28	GR-1	25	0	0	0	0	0	0	8	0	0	0	0	0	33	0	33
28	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Subtotal	69	8	53	3	2	7	4	14	0	8	5	5	44	222	964	1,186
28	Other Aircraft	6	16	0	0	0	1	0	0	0	0	0	0	4	27	37	64
28	Total	75	24	53	3	2	8	4	14	0	8	5	5	48	249	1,001	1,250

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
29	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	199	199
29	A-6	0	0	0	0	0	0	0	0	0	0	0	0	9	9	82	91
29	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	78
29	B-52	0	0	0	0	0	0	0	0	0	0	0	0	15	15	19	34
29	F-111E	0	4	0	0	0	0	0	0	0	0	8	0	4	16	0	16
29	F-111F	0	0	0	0	0	0	0	0	0	1	0	0	0	1	169	170
29	F-117	16	0	19	0	0	0	0	0	2	1	4	0	8	50	3	53
29	F-15E	7	0	0	0	0	0	0	0	0	0	3	0	0	10	52	62
29	F-16	0	20	0	6	0	0	0	4	0	0	8	0	0	38	252	290
29	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
29	F/A-18	0	0	2	0	0	0	0	3	0	3	0	2	4	14	133	147
29	GR-1	34	0	0	0	0	0	0	0	0	0	0	0	0	34	4	38
29	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Subtotal	57	24	21	6	0	0	0	7	2	5	23	2	40	187	1,005	1,192
29	Other Aircraft	17	0	0	0	0	0	0	0	0	0	0	0	2	19	51	70
29	**Total**	74	24	21	6	0	0	0	7	2	5	23	2	42	206	1,056	1,262

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
30	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	213	213
30	A-6	0	0	0	0	0	0	0	0	0	2	0	0	0	2	70	72
30	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	90
30	B-52	0	0	0	0	0	0	0	0	0	0	0	0	27	27	23	50
30	F-111E	6	0	0	0	0	0	0	0	0	0	4	0	0	10	0	10
30	F-111F	7	0	0	0	0	0	0	0	0	0	0	0	0	7	192	199
30	F-117	1	6	0	0	0	0	0	0	0	0	5	0	18	30	30	60
30	F-15E	1	0	0	0	0	0	0	2	0	0	0	0	2	5	47	52
30	F-16	0	0	0	0	0	0	0	0	0	0	0	4	24	28	278	306
30	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
30	F/A-18	0	0	1	0	0	0	0	0	0	7	0	0	0	8	169	177
30	GR-1	36	0	0	0	0	0	0	0	0	0	0	0	0	36	4	40
30	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Subtotal	51	6	1	0	0	0	0	2	0	9	9	4	71	153	1,130	1,283
30	Other Aircraft	0	0	0	0	0	0	0	0	0	0	17	0	0	17	34	51
30	**Total**	51	6	1	0	0	0	0	2	0	9	26	4	71	170	1,164	1,334

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
31	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	172	172
31	A-6	1	0	0	0	0	0	0	0	0	3	0	0	4	8	58	66
31	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76	76
31	B-52	9	0	0	0	0	0	0	0	0	0	0	0	6	15	24	39
31	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88	88
31	F-117	4	13	8	0	0	0	0	6	0	0	10	0	0	41	0	41
31	F-15E	1	4	0	0	0	0	0	0	0	0	11	0	0	16	42	58
31	F-16	26	0	0	0	0	0	0	0	0	0	2	0	0	28	237	265
31	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
31	F/A-18	1	0	0	0	0	0	0	0	0	0	0	0	7	8	128	136
31	GR-1	29	0	0	0	0	0	0	0	0	0	0	0	0	29	7	36
31	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Subtotal	71	17	8	0	0	0	0	6	0	3	23	0	17	145	833	978
31	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33
31	Total	71	17	8	0	0	0	0	6	0	3	23	0	17	145	866	1,011

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
32	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	66
32	A-6	0	3	0	0	0	0	0	0	0	0	0	0	0	3	67	70
32	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	26
32	B-52	0	0	0	0	0	0	0	3	0	0	0	0	18	21	26	47
32	F-111E	0	4	0	0	0	0	0	0	0	0	0	0	8	12	0	12
32	F-111F	5	4	0	0	0	0	0	0	0	0	2	0	7	18	36	54
32	F-117	3	15	0	0	0	0	0	0	0	0	13	1	17	49	4	53
32	F-15E	0	0	0	0	0	0	0	0	0	3	12	0	0	15	40	55
32	F-16	28	0	0	0	0	0	0	0	0	0	0	0	16	44	115	159
32	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
32	F/A-18	0	7	0	0	0	0	0	0	0	6	0	0	14	27	88	115
32	GR-1	12	0	0	0	0	0	0	3	0	0	0	0	0	15	3	18
32	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Subtotal	48	33	0	0	0	0	0	6	0	9	27	1	80	204	473	677
32	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
32	Total	48	33	0	0	0	0	0	6	0	9	27	1	80	204	478	682

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
33	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	191	191
33	A-6	2	0	2	0	0	0	0	0	0	0	0	0	10	14	102	116
33	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	80
33	B-52	3	0	0	0	0	0	0	0	0	0	0	0	8	11	39	50
33	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	12	12	0	12
33	F-111F	0	11	0	0	0	0	0	1	0	0	0	0	0	12	113	125
33	F-117	37	4	0	0	6	0	0	0	0	0	3	0	4	54	2	56
33	F-15E	0	0	0	0	0	0	0	0	0	0	2	0	0	2	43	45
33	F-16	0	0	8	0	0	0	0	0	0	0	0	0	20	28	322	350
33	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
33	F/A-18	14	0	10	0	0	0	0	4	0	0	0	0	2	30	161	191
33	GR-1	24	0	3	0	0	0	0	0	0	0	0	0	0	27	4	31
33	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Subtotal	80	15	23	0	6	0	0	5	0	0	5	0	56	190	1,058	1,248
33	Other Aircraft	15	0	0	0	0	0	0	0	0	0	0	0	0	15	51	66
33	Total	95	15	23	0	6	0	0	5	0	0	5	0	56	205	1,109	1,314

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
34	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	188	188
34	A-6	1	0	13	0	0	0	0	2	0	0	0	0	8	24	65	89
34	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	92
34	B-52	0	7	0	0	0	0	0	0	0	0	0	0	8	15	18	33
34	F-111E	0	8	0	0	0	0	0	0	0	0	0	0	0	8	3	11
34	F-111F	0	0	0	0	0	0	0	1	0	0	0	0	0	1	133	134
34	F-117	0	6	0	0	0	0	0	0	0	0	7	0	2	15	1	16
34	F-15E	9	0	0	0	0	0	0	0	0	0	8	0	0	17	28	45
34	F-16	0	0	0	0	0	0	0	0	0	0	20	0	4	24	298	322
34	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
34	F/A-18	0	0	11	0	0	0	0	4	0	0	0	0	21	36	187	223
34	GR-1	30	0	0	0	0	0	0	0	0	0	0	0	0	30	4	34
34	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	Subtotal	40	21	24	0	0	0	0	7	0	0	35	0	43	170	1,030	1,200
34	Other Aircraft	0	0	1	0	0	0	0	0	0	16	0	0	1	18	54	72
34	Total	40	21	25	0	0	0	0	7	0	16	35	0	44	188	1,084	1,272

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
35	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178	178
35	A-6	4	0	4	0	0	0	0	0	0	0	0	0	0	8	86	94
35	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	26
35	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
35	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	8	8	4	12
35	F-111F	2	0	0	0	0	0	0	0	0	0	0	0	14	16	25	41
35	F-117	0	8	2	0	0	0	0	2	0	0	0	0	19	31	0	31
35	F-15E	9	0	1	0	0	0	0	0	0	0	10	0	0	20	46	66
35	F-16	7	0	4	0	0	0	0	0	0	0	0	0	24	35	177	212
35	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
35	F/A-18	11	0	0	0	0	0	0	11	0	0	0	0	0	22	88	110
35	GR-1	8	0	0	0	0	0	0	0	0	0	0	0	0	8	4	12
35	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Subtotal	41	8	11	0	0	0	0	13	0	0	10	0	65	148	667	815
35	Other Aircraft	15	0	0	0	0	0	0	0	0	0	0	0	0	15	38	53
35	Total	56	8	11	0	0	0	0	13	0	0	10	0	65	163	705	868

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
36	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	152	152
36	A-6	4	0	0	0	0	0	0	2	0	2	0	0	0	8	101	109
36	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	40
36	B-52	0	0	0	0	0	0	0	0	0	0	1	0	0	1	39	40
36	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	8	8	0	8
36	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174	174
36	F-117	0	24	13	0	0	0	0	4	0	0	9	0	0	50	5	55
36	F-15E	5	0	0	0	0	0	0	0	0	0	7	0	1	13	44	57
36	F-16	0	4	6	0	0	0	4	8	0	0	0	0	14	36	300	336
36	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
36	F/A-18	4	10	0	0	0	0	0	0	0	0	0	0	0	14	162	176
36	GR-1	13	0	0	0	0	0	0	0	0	0	0	0	0	13	4	17
36	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Subtotal	26	38	19	0	0	0	4	14	0	2	17	0	23	143	1,026	1,169
36	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	66
36	Total	26	38	19	0	0	0	4	14	0	2	17	0	23	143	1,092	1,235

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
37	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	156	156
37	A-6	0	0	0	0	0	2	0	0	0	0	0	0	0	2	100	102
37	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	58
37	B-52	0	0	0	0	0	0	0	0	0	0	0	0	3	3	31	34
37	F-111E	0	12	0	0	0	0	0	0	0	0	0	0	0	12	0	12
37	F-111F	0	0	0	0	0	0	0	6	0	0	0	0	0	6	230	236
37	F-117	0	22	0	0	0	0	0	0	0	0	0	0	5	27	8	35
37	F-15E	0	5	0	0	0	0	0	0	0	0	8	0	0	13	44	57
37	F-16	0	16	0	0	0	0	0	0	0	0	0	0	20	36	281	317
37	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
37	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	239	239
37	GR-1	32	0	0	0	0	0	0	0	0	0	0	0	0	32	4	36
37	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Subtotal	32	55	0	0	0	2	0	6	0	0	8	0	28	131	1,164	1,295
37	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	29
37	Total	32	55	0	0	0	2	0	6	0	0	8	0	28	131	1,193	1,324

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
38	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122	122
38	A-6	0	0	0	0	0	0	0	0	0	0	5	0	0	5	85	90
38	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	56
38	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	53
38	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	12	12	0	12
38	F-111F	0	0	0	0	0	0	0	5	0	0	0	0	0	5	106	111
38	F-117	0	18	3	0	9	0	0	0	0	0	0	0	12	42	1	43
38	F-15E	8	0	0	0	0	0	0	0	0	0	8	0	0	16	54	70
38	F-16	0	0	0	0	0	0	0	0	0	0	0	0	20	20	293	313
38	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
38	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	261	261
38	GR-1	31	0	0	0	0	0	0	0	0	0	0	0	0	31	0	31
38	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	Subtotal	39	18	3	0	9	0	0	5	0	0	13	0	44	131	1,034	1,165
38	Other Aircraft	12	0	0	0	0	0	0	0	0	0	16	0	0	28	36	64
38	Total	51	18	3	0	9	0	0	5	0	0	29	0	44	159	1,070	1,229

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
39	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111	111
39	A-6	1	0	0	0	0	0	0	3	0	0	0	0	0	4	110	114
39	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	58
39	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	43
39	F-111E	0	6	0	0	0	0	0	0	0	0	0	0	6	12	0	12
39	F-111F	0	0	0	0	0	0	0	5	0	0	0	0	0	5	153	158
39	F-117	0	4	0	0	16	0	0	11	0	0	0	0	11	42	0	42
39	F-15E	5	4	0	0	0	0	0	0	0	0	14	0	2	25	52	77
39	F-16	12	0	0	0	0	0	0	0	0	0	0	0	41	53	234	287
39	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
39	F/A-18	0	0	2	0	0	0	0	4	0	0	0	0	0	6	285	291
39	GR-1	28	0	0	0	0	0	0	0	0	0	0	0	0	28	4	32
39	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Subtotal	46	14	2	0	16	0	0	23	0	0	14	0	60	175	1,054	1,229
39	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	2			21
39	Total	46	14	2	0	16	0	0	23	0	0	14	0	62	17.		1,250

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal		otal
40	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60
40	A-6	0	0	3	0	0	2	0	6	0	0	0	0	0	11	130	141
40	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	104
40	B-52	0	0	0	0	0	0	0	0	0	0	1	0	4	5	41	46
40	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	F-111F	8	0	0	0	0	0	0	4	0	0	0	0	0	12	65	77
40	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	F-15E	3	0	0	0	0	0	0	0	0	0	8	0	0	11	51	62
40	F-16	9	0	0	0	0	0	0	0	0	0	1	0	13	23	182	205
40	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
40	F/A-18	8	0	2	0	0	2	0	13	0	0	0	0	0	25	243	268
40	GR-1	4	0	0	0	0	0	0	2	0	0	0	0	0	6	4	10
40	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	Subtotal	32	0	5	0	0	4	0	25	0	0	10	0	17	93	896	989
40	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
40	Total	32	0	5	0	0	4	0	25	0	0	10	0	17	93	902	995

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
41	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
41	A-6	10	0	0	0	0	0	0	0	0	0	0	0	0	10	139	149
41	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	124	124
41	B-52	0	0	0	0	0	0	0	9	0	0	0	0	2	11	31	42
41	F-111E	0	4	0	0	0	0	0	0	0	0	0	0	8	12	0	12
41	F-111F	0	0	0	0	0	0	0	7	0	0	0	0	0	7	48	55
41	F-117	0	0	0	0	2	0	0	0	0	0	0	0	4	6	0	6
41	F-15E	0	0	0	0	0	0	0	0	0	0	4	0	0	4	62	66
41	F-16	0	12	0	0	0	0	0	0	0	0	0	0	36	48	185	233
41	F-4G	3	0	0	0	0	0	0	0	0	0	0	0	0	3	8	11
41	F/A-18	4	0	0	0	0	0	0	0	0	0	0	0	0	4	243	247
41	GR-1	4	0	0	0	0	0	0	0	0	0	0	0	0	4	4	8
41	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Subtotal	21	16	0	0	2	0	0	16	0	0	4	0	50	109	886	995
41	Other Aircraft	28	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28
41	Total	49	16	0	0	2	0	0	16	0	0	4	0	50	137	886	1,023

Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
42	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	A-6	6	0	0	0	0	9	0	6	0	0	0	0	0	21	100	121
42	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
42	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	15	15	0	15
42	F-111F	0	0	2	0	0	0	0	1	0	0	2	0	2	7	24	31
42	F-117	2	8	0	0	13	0	0	0	0	0	0	0	18	41	0	41
42	F-15E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	F-16	4	12	0	0	0	0	0	0	0	0	0	0	32	48	82	130
42	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
42	F/A-18	12	0	2	0	0	13	0	5	0	0	0	0	0	32	79	111
42	GR-1	29	0	0	0	0	0	0	0	0	0	0	0	0	29	0	29
42	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Subtotal	53	20	4	0	13	22	0	12	0	0	2	0	67	193	314	507
42	Other Aircraft	2	2	0	0	0	0	0	0	0	0	16	0	0	20	15	35
42	Total	55	22	4	0	13	22	0	12	0	0	18	0	67	213	329	542

Table 186 (cont'd)
Daily Strikes by Master Target List Categories

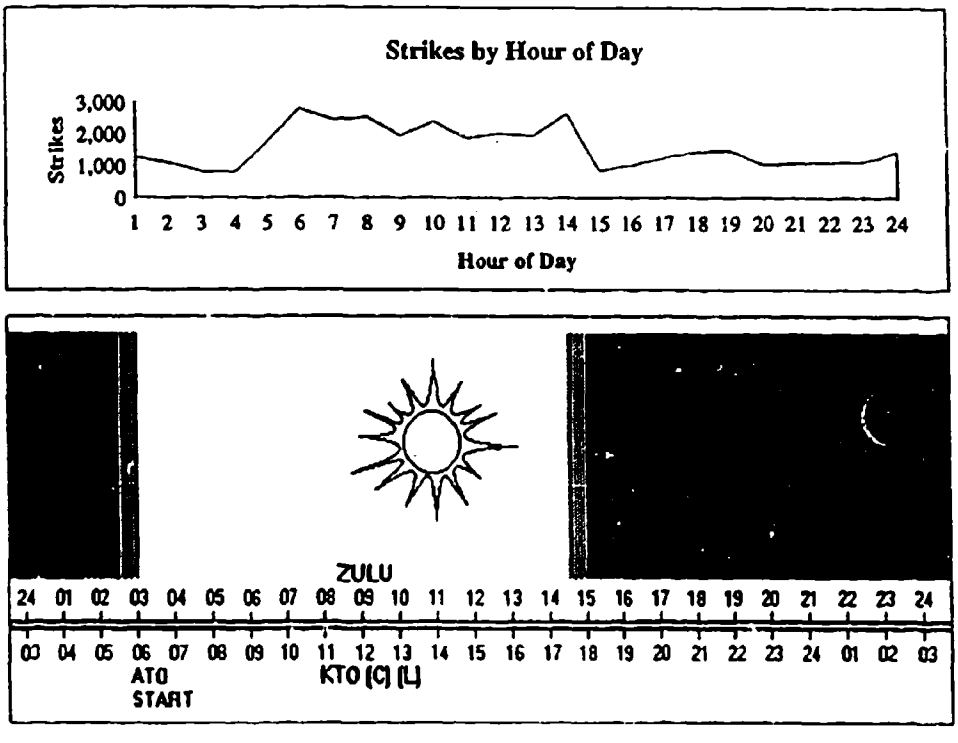
Day	Aircraft Type	A	C	C3	E	L	N	O	RR	RG	SAD	Scuds	SAM	MS	Subtotal	Other	Total
43	A-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	A-6	0	0	0	0	0	0	0	3	0	0	0	0	0	3	26	29
43	AV-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-111F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-15E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F/A-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	GR-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	TLAM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	Subtotal	0	0	0	0	0	0	0	3	0	0	0	0	0	3	26	29
43	Other Aircraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	Total	0	0	0	0	0	0	0	3	0	0	0	0	0	3	26	29

Source: Missions Database (S/NF/WN/NC)

Strikes by Hour of Day

Table 187 and Figure 3 present the summation of the time-over-target (TOT) from the GWAPS Mission database. It depicts the times that strike aircraft dropped their munitions. The strikes are continuous, twenty four hours a day and only decrease at dusk and dawn when both the lighting conditions make it difficult to see, and infrared (IR) systems are experiencing thermal crossover which makes most objects appear to have the same heat signature.

Figure 3

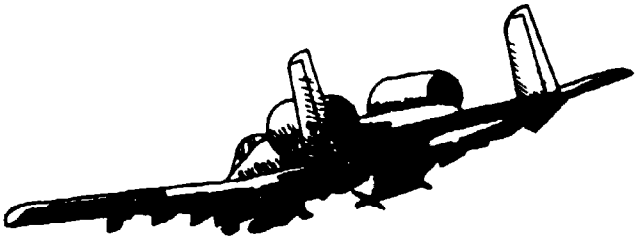


Source: Missions Database (S/NF/WN/NC)

Table 187
Strikes by Hour of the Day

Hour/Zulu	Strikes Flown	Percentage
0	1,271	3.31%
1	1,116	2.91%
2	817	2.13%
3	819	2.14%
4	1,769	4.61%
5	2,822	7.36%
6	2,453	6.40%
7	2,544	6.63%
8	1,960	5.11%
9	2,400	6.26%
10	1,884	4.91%
11	2,023	5.27%
12	1,964	5.12%
13	2,651	6.91%
14	870	2.27%
15	1,023	2.67%
16	1,267	3.30%
17	1,435	3.74%
18	1,488	3.88%
19	1,042	2.72%
20	1,094	2.85%
21	1,101	2.87%
22	1,124	2.93%
23	1,416	3.69%
Total	**38,353**	**100.00%**

Source: Missions Database (S/NF/WN/NC)



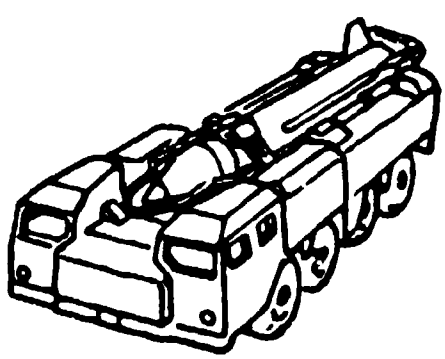


9

Counter-Scud Operations

Iraq's Scud missiles posed one of the most serious challenges for the Desert Storm air campaign. This threat was aggravated by the adverse weather that precluded effective identification of Scud locations from space and hampered the subsequent aerial hunt for Scud launchers. Prewar national intelligence agencies underestimated the total number of Iraqi Scud launchers. The Iraqis had also presurveyed a number of launch sites within Iraq and Kuwait from which they could employ their missiles with relative confidence and hit targets in Saudi Arabia and Israel. The launchers proved particularly difficult to detect and were never fully suppressed. It is also difficult to determine the precise impact of the Scud-hunting campaign on Scud launches. A Scud missile unengaged by Patriot missiles was responsible for the single worst loss of American forces in the war when it hit an American barracks in Dharan killing 28 American soldiers and wounding 97 others.

The data in the following table provides insight into the tempo and scope of Iraqi Scud launches. Viewed in context with Scud suppression data, the Iraqi Scud launch data may be used in analyzing the effectiveness of anti-Scud tactics employed by the U.S. and Allied forces.



858-716 O—98—19 QL 3

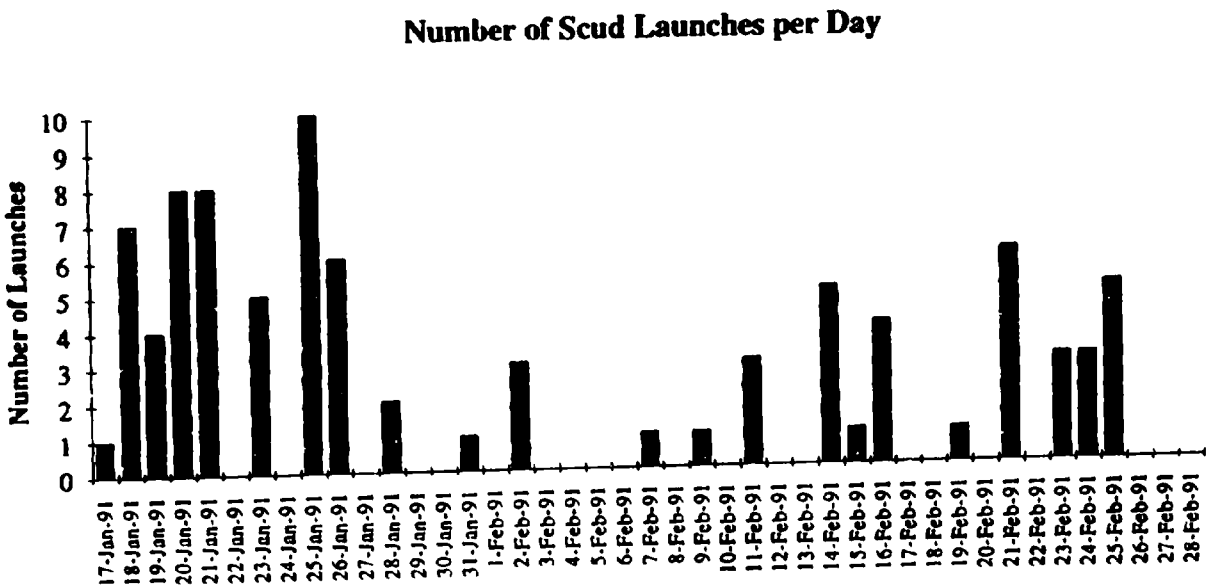


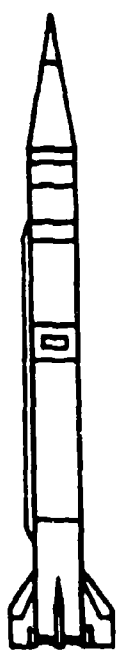
Figure 4

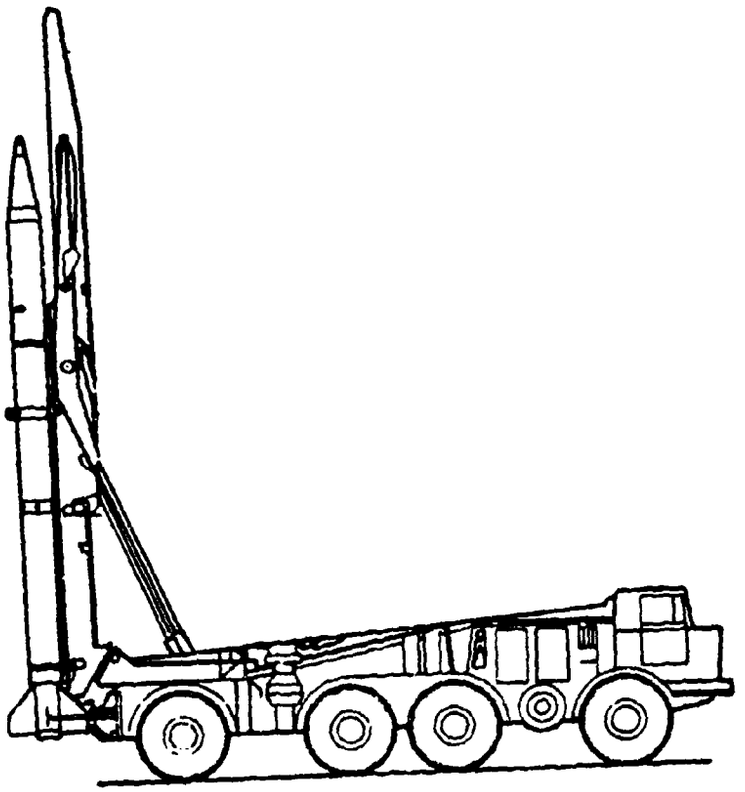
Source: Christie, Thomas P., "Desert Storm SCUD Campaign," IDA Paper P-2661, Apr 92 (S/NF/WN)

The so-called "Scud-Hunt" was triggered by the Scud launches during the opening days of Desert Storm and continued throughout the war. The strategy developed to deal with mobile Scuds was to: 1) attack fixed facilities, storage bunkers and known launch sites, 2) place 24-hour Scud Combat Air Patrols (airborne attack aircraft) over western and eastern launch areas (these areas were also known as "Scud boxes") using surveillance sensors to locate and attack suspected Scud launchers, and 3) use armed reconnaissance aircraft to locate and destroy Scud equipment and facilities.

Scud Launches

There were eighty-eight Scud Launches.





10

Logistics & Maintenance: Support for Combat Operations

The following tables present information on some of the less visible aspects of air power, especially maintenance, supply, fuels, and munitions. The tables on aircraft mission-capable rates provide information on the number of aircraft capable of carrying out their assigned missions each day. Tables on logistics and supply provide perspective on the colossal task of keeping personnel and forces stocked with those consumable items (e.g., fuel) required on a recurring basis. The munitions tables provide information on the types, quantity, and costs of ordnance used in the Gulf War.

The primary sources for munitions data were derived from a collection of postwar reports and databases prepared by HQ USAF/LG, Combat Support Division, the 1990 Weapons File and OP-411D; the Marine Corps "Reconstruction Report;" and the "EARFLAP" report from CENTAF. Maintenance data and mission-capable rates came from CENTAF/LG.

Not surprisingly, gaps were found in some of the data. The USCINCCENT/LG SITREPs, for example, do not mention the use of napalm, although the Marine Corps used several hundred MK-77 napalm fire bombs; nor do the AFCENT situation reports (SITREPs) report the use of the giant BLU-82 15,000-lb. bomb, although Air Force Special Operations Forces used nearly a dozen. Since cost data were not available, the tables do not include these two weapons, although they are discussed and the expenditure data included in the following table introduction. Daily Aircraft Summaries (Table 192) were not available for 19 and 22 Jan 91.

Munitions in Desert Shield and Desert Storm

The following tables depict the great variety and the large number of munitions used by the U.S. Air Force (USAF), U.S. Navy (USN), and U.S. Marine Corps (USMC) in the Gulf War. Major factors in the U.S. ability to provide these munitions in the Gulf War were the prepositioned 48,325 short tons of munitions in the area of responsibility prior to Desert Shield, 11,993 short tons stored at permanent explosives storage locations in Diego Garcia and Oman, and 36,322 short tons of munitions located on three prepositioned ships, the SS *American Kestral*, SS *Advantage*, and SS *Santa Victoria*. Not included in these totals are the Marine Corps air and ground munitions aboard the 13 Maritime Prepositioning Ships (MPS), nor the Navy and embarked Marines munitions routinely carried aboard combatant and resupply ships.

Munitions prepositioned ashore and afloat primarily consisted of items such as General Purpose Bombs, older Cluster Bomb Units (CBUs), aircraft gun ammunition and a few older model Laser-Guided Bombs (LGBs). Examples of prepositioned munitions include the following: 65,000 General Purpose Bombs (MK-82/84, M-117), 4,000 MK-20 Rockeyes, 8,400 CBU-52s, 8,500 CBU-58s, 350 CBU-71s, 1,000 GBU-10s, 1,000 GBU-12s, 780 Durandals (BLU-107s), 5 million rounds of 20mm, and 2 million rounds of 30mm.

The data in these tables were derived from multiple sources. The totals for weapons expended (EXP) were extracted from The Directorate of Supply HQ USAF/LGS, Combat Support Division (LGSP). U.S. Air Force cost information was extracted from the 1990 Weapons File in FY 90$ and U.S. Navy and U.S. Marine Corps cost information was extracted from the OP-411D in FY 91$. U.S. Marine Corps weapons expenditures as shown in Table 196 track very closely with figures reported by HQ USMC(ASL-30). Efforts were made to convert U.S. Air Force cost information from FY 90$ to FY 91$; however, such a conversion requires specific appropriation line numbers for each munitions type. These appropriation line numbers were not provided with the original data; therefore, a conversion was not possible at this time.

Though not shown in Tables 188 - 191, the Air Force Special Operations Command (AFSOC) expended 11 BLU-82s[2] (a 15,000-lb bomb) and the USMC used 489 MK77 Napalm fire bombs.[3] The MK77 bombs were used to clear Iraqi fire trenches. U.S. Army Apache helicopters also shot 2,876 Hellfire missiles.[4] Cost data were unavailable for these munition types. Also not included are rockets and gun ammunition successfully employed in the air-to-ground role.

Limited dollars for procurement of precision-guided munitions did not allow for prepositioning of our newest munitions items in any great quantities. These munitions were allocated to the MAJCOMS in small numbers with U.S. Air Force, Central Command (CENTAF) storing most of their new munitions in the Standard Air Munitions Package/Standard Tank, Rack, Adapter, and Pylon Package (STAMP/STRAPP) programs. These packages were designed to provide rapid-deployable configurations of selected munitions and essential aircraft accessories to battlefield commanders. These munitions required airlift from Medina Annex (San Antonio) and Hill Air Force Base to the area of responsibility (AOR) once requirements were established.

All of the prepositioned stocks of munitions could sustain air campaign operations for less than 10 days. By the time cease fire was called, 349,742 short tons of munitions were shipped by air and sea. Of this amount of munitions, 69,000 short tons were expended.

Note:

The figures for Hellfire and TOW reflect those fired by Army helicopters operating from Navy ships.

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[2] AFSOC Msg #281905Z 5 May 92

[3] Headquarters Marine Corps/Aviation Logistics

[4] US HQDA ODCSOPS

Table 188
Desert Shield/Storm: USAF Weapons Cost and Utilization (FY 90$)

Air-To-Air Missiles	Expended	Unit Cost	Total Cost
AIM-7M	67	$225,700	$15,121,900
AIM-9M	48	$70,600	$3,388,800
Total	115		$18,510,700

General Purpose Bombs	Expended	Unit Cost	Total Cost
MK-82 LD (500 lb Low Drag General Purpose Bomb)	51,932	$498	$25,862,136
MK-82 HD (500 lb High Drag General Purpose Bomb)	7,952	$1,100	$8,747,200
MK-84 LD (2000 lb Low Drag General Purpose Bomb)	7,856	$1,871	$14,698,576
MK-84 HD (2000 lb High Drag General Purpose Bomb)	2,611	$2,874	$7,504,014
M117 (750 lb Low-Drag Demolition Bomb)	43,435	$253	$10,989,055
UK-1000 (1000 lb General Purpose Bomb)	288	$16,?22	$4,671,936
CBU-52/58/71 (Fragmentation Bomb)	17,831	$2,159	$38,497,129
CBU-87 (Combined Effects Munitions, Anti-Armor, Anti-Personnel)	10,035	$13,941	$139,897,935
CBU-89 (Gator/Anti-Personnel/Anti-Tank)	1,105	$39,963	$44,159,115
MK-20 (Rockeye II/Anti-Materiel/Anti-Tank Cluster)	5,345	$3,449	$18,434,905
Total	148,390		$313,462,001

Guided Bombs	Expended	Unit Cost	Total Cost
GBU-10 (Laser/Mk-84)	2,377	$22,000	$52,294,000
GBU-12 (Laser/Mk-82)	4,086	$9,000	$36,774,000
GBU-15 (Electro-optical and Infrared/Mk-84)	71	$227,600	$16,159,600
GBU-24 (Low-level Laser/Mk-84)	284	$65,000	$18,460,000
GBU-24 (Low-level laser/BLU 109 2000 lb penetrating warhead)	897	$85,000	$76,245,000
GBU-27 (Laser/BLU-109 2000 lb penetrating warhead)	739	$75,539	$55,823,321
*GBU-28 (Laser/4000 lb penetrating warhead)	2	$100,000	$200,000
Total	8,456		$255,955,921

Anti-Radiation Missiles	Expended	Unit Cost	Total Cost
AGM-45 (Shrike)	53	$89,000	$4,717,000
AGM-88 (HARM/ High-speed, anti-radiation missile)	1,067	$257,000	$274,219,000
Total	1,120		$278,936,000

Air-To-Surface Missiles	Expended	Unit Cost	Total Cost
AGM-65B (Maverick/EO guided missile, shaped charge)	1,673	$64,100	$107,239,300
AGM-65D (Maverick/IR guided missile, shaped charge)	3,405	$111,000	$377,955,000
AGM-65G (Maverick/IR guided missile, penetrator/blast frag)	177	$269,000	$47,613,000
Total	5,255		$532,807,300

CALCMS	Expended	Unit Cost	Total Cost
*CALCM (Conventional Air-Launched Cruise Missile)	35	$1,500,000	$52,500,000
Grand Total			$1,452,171,922

* These costs are in FY 91$

Sources: The Directorate of Supply HQ USAF/LGS, Combat Support Division (LGSP); 1990 Weapons File

Table 189
Desert Shield/Storm: USN Weapons Cost and Utilization (FY 91$)

Air-To-Air Missiles	Expended	Unit Cost	Total Cost
AIM-7M	14	$225,700	$3,159,800
AIM-9M	26	$70,600	$1,835,600
Total	**40**		**$4,995,400**

General Purpose Bombs	Expended	Unit Cost	Total Cost
MK-82 (500 lb General Purpose Bomb)	10,941	$498	$5,448,618
MK-83 (1000 lb General Purpose Bomb)	10,125	$1,000	$10,125,000
MK-84 (2000 lb General Purpose Bomb)	971	$1,871	$1,816,741
MK-20 (Rockeye II / Anti-Materiel/Anti-Tank Cluster)	6,814	$3,449	$23,501,486
CBU-78 Gator (Anti-Personnel/Anti-Tank)	148	$39,963	$5,914,524
Total	**28,999**		**$46,806,369**

Guided Bombs	Expended	Unit Cost	Total Cost
GBU-10 (Laser/Mk-84)	202	$22,000	$4,444,000
GBU-12 (Laser/Mk-82)	205	$9,000	$1,845,000
GBU-16 (Laser/Mk-83)	216	$150,000	$32,400,000
Total	**623**		**$38,689,000**

Anti-Radiation Missiles	Expended	Unit Cost	Total Cost
AGM-45 (Shrike)	18	$89,000	$1,602,000
AGM-88 (HARM/ High-speed, anti-radiation missile)	661	$257,000	$169,877,000
Total	**679**		**$171,479,000**

Air-To-Surface Missiles	Expended	Unit Cost	Total Cost
AGM-123A Skipper (II)	9	$31,240	$281,160
AGM-62B Walleye (II)	131	$70,000	$9,170,000
AGM-84B SLAM (Stand-Off Land Attack Missile)	7	$346,000	$2,422,000
Total	**147**		**$11,873,160**

TLAMS	Expended	Unit Cost	Total Cost
BGM-109 TLAM (Tomahawk Land Attack Missile)	298	$1,100,000	$327,800,000

Helicopter Munitions	Expended	Unit Cost	Total Cost
AGM-114 Hellfire (Semiactive laser-guided)	30	$35,127	$1,053,810
BGM-71 TOW (Anti-tank, optical wire-guided missile)	38	$15,000	$570,000
Total	**68**		**$1,623,810**
Grand Total			**$603,266,739**

Source: The Directorate of Supply HQ USAF/LGS, Combat Support Division (LGSP); OP-411D

Table 190
Desert Shield/Storm: USMC Weapons Cost and Utilization (FY91$)

Air-To-Air Missiles	Expended	Unit Cost	Total Cost
AIM-7M	7	$225,700	$1,579,900
AIM-9M	12	$70,600	$847,200
Total	**19**		**$2,427,100**

General Purpose Bombs	Expended	Unit Cost	Total Cost
MK-82 (500 lb General Purpose Bomb)	6,828	$498	$3,400,344
MK-83 (1000 lb General Purpose Bomb)	8,893	$1,000	$8,893,000
MK-84 (2000 lb General Purpose Bomb)	751	$1,871	$1,405,121
MK-20 (Rockeye II / Anti-Materiel/Anti-Tank Cluster)	15,828	$3,449	$54,590,772
CBU-72 FAE (High-speed Fuel Air Explosive)	254	$3,800	$965,200
CBU-78 Gator (Anti-Personnel/Anti-Tank)	61	$39,963	$2,437,743
Total	**32,615**		**$71,692,180**

Guided Bombs	Expended	Unit Cost	Total Cost
GBU-10 (Laser/Mk-84)	58	$22,000	$1,276,000
GBU-12 (Laser/Mk-82)	202	$9,000	$1,818,000
GBU-16 (Laser/Mk-83)	3	$150,000	$450,000
Total	**263**		**$3,544,000**

Anti-Radiation Missiles	Expended	Unit Cost	Total Cost
AGM-45 (Shrike)	7	$89,000	$623,000
AGM-88 (HARM/ High-speed, anti-radiation missile)	233	$257,000	$59,881,000
Total	**240**		**$60,504,000**

Air-To-Surface Missiles	Expended	Unit Cost	Total Cost
AGM-123A Skipper (II)	3	$31,240	$93,720
AGM-62B Walleye (II)	2	$70,000	$140,000
AGM-65C	5	$110,000	$550,000
AGM-65E (Maverick/Laser-guided missile, penetrator/blast frag)	36	$101,000	$3,636,000
Total	**46**		**$4,419,720**

Helicopter Munitions	Expended	Unit Cost	Total Cost
AGM-114 Hellfire (Semiactive laser-guided)	159	$35,546	$5,651,814
BGM-71 TOW (Anti-tank, optical wire-guided missile)	255	$15,000	$3,825,000
Total	**414**		**$9,476,814**
Grand Total			**$152,063,814**

Source: The Directorate of Supply HQ USAF/LGS, Combat Support Division (LGSP); OP-411D

Table 191
Desert Shield/Storm: Total USAF, USN, and USMC Weapons Cost and Utilization (FY 90/91$)

Air-To-Air Missiles	Expended	Unit Cost	Total Cost
AIM-7M	88	$225,700	$19,861,600
AIM-9M	86	$70,600	$6,071,600
Total	**174**		**$25,933,200**

General Purpose Bombs	Expended	Unit Cost	Total Cost
MK-82 LD (500 lb Low Drag General Purpose Bomb)	69,701	$498	$34,711,098
MK-82 HD (500 lb High Drag General Purpose Bomb)	7,952	$1,100	$8,747,200
MK-83 (1000 lb Low Drag General Purpose Bomb)	19,018	$1,000	$19,018,000
MK-84 (2000 lb General Purpose Bomb)	9,578	$1,871	$17,920,438
MK-84 HD (2000 lb High Drag General Purpose Bomb)	2,611	$2,874	$7,504,014
M-117 (750 lb Low Drag Demolition Bomb)	43,435	$253	$10,989,055
UK-1000 (1000 lb General Purpose Bomb)	288	$16,222	$4,671,936
CBU-52/58/71 (Fragmentation Bomb)	17,831	$2,159	$38,497,129
CBU-87 (Combined Effects Munitions, Anit-Armor, Anti-Personnel)	10,035	$13,941	$139,897,935
CBU-89 (Gator/ Anti-Personnel/Anti-Tank)	1,105	$39,963	$44,159,115
MK-20 (Rockeye II / Anti-Materiel/Anti-Tank Cluster)	27,987	$3,449	$96,527,163
CBU-72 FAE (High-speed Fuel Air Explosive)	254	$3,800	$965,200
CBU-78 Gator (Anti-Personnel/Anti-Tank)	209	$39,963	$8,352,267
Total	**210,004**		**$431,960,550**

Guided Bombs	Expended	Unit Cost	Total Cost
GBU-10 (Laser/Mk-84)	2,637	$22,000	$58,014,000
GBU-12 (Laser/Mk-82)	4,493	$9,000	$40,437,000
GBU-15 (Electro-optical and Infrared/Mk-84)	71	$227,600	$16,159,600
GBU-16 (Laser/Mk-83)	219	$150,000	$32,850,000
GBU-24 (Low-level Laser/Mk-84)	284	$65,000	$18,460,000
GBU-24 (Low-level laser/BLU-109 2000 lb penetrating warhead)	897	$85,000	$76,245,000
GBU-27 (Laser/BLU-109 2000 lb warhead)	739	$75,539	$55,823,321
GBU-28 (Laser/4000 lb penetrating warhead)	2	$100,000	$200,000
Total	**9,342**		**$298,188,921**

Anti-Radiation Missiles	Expended	Unit Cost	Total Cost
AGM-45 (Shrike)	78	$89,000	$6,942,000
AGM-88 (HARM/ High-speed, anti-radiation missile)	1,961	$257,000	$503,977,000
Total	**2,039**		**$510,919,000**

Table 191 (cont'd)
Desert Shield/Storm: Total USAF, USN, and USMC Weapons Cost and Utilization (FY 90/91$)

Air-To-Surface Missiles	Expended	Unit Cost	Total Cost
AGM-132A Skipper (II)	12	$31,240	$374,880
AGM-62B Walleye (II)	133	$70,000	$9,310,000
AGM-65B (Maverick/EO guided missile, shaped charge)	1,673	$64,100	$107,239,300
AGM-65C	5	$110,000	$550,000
AGM-65D (Maverick/IR guided missile, shaped charge)	3,405	$111,000	$377,955,000
AGM-65E (Maverick/Laser-guided missile, penetrator/blast frag)	36	$101,000	$3,636,000
AGM-65G (Maverick/IR guided missile, penetrator/blast frag)	177	$269,000	$47,613,000
AGM-84B SLAM (Stand-Off Land Attack Missile)	7	$346,000	$2,422,000
Total	**5,448**		**$549,100,180**

TLAMS & CALCMS	Expended	Unit Cost	Total Cost
BGM-109 TLAM (Tomahawk Land Attack Missile)	298	$1,100,000	$327,800,000
CALCM (Conventional Air-Launched Cruise Missile)	35	$1,500,000	$52,500,000
Total	**333**		**$380,300,000**

Helicopter Munitions	Expended	Unit Cost	Total Cost
AGM-114 Hellfire (Semiactive laser-guided) - USN	30	$35,127	$1,053,810
AGM-114 Hellfire (Semiactive laser-guided) - USMC	159	$35,546	$5,651,814
BGM-71 TOW (Anti-tank, optical wire-guided missile)	293	$15,000	$4,395,000
Total	**482**		**$11,100,624**

Grand Total **$2,207,502,475**

Sources: The Directorate of Supply HQ USAF/LGS, Combat Support Division (LGSP); 1990 Weapons File; OP-411D

U.S. Air Force Mission-Capable Rates

Mission-capable rates are used to track the number of aircraft available for tasking. These tables originated at CENTAF/LG. Mission-capable rates are also important because they serve as an indicator of logistic capability and, somewhat, the "maintainability" of complex weapon systems. These particular rates reflect "snapshot" looks, as they are calculated differently than the Core Automated Maintenance System (CAMS) rates. Snapshots look at a particular time of the day and count mission capable aircraft. Such rates are usually higher than the CAMS rates which calculate mission-capable rates on the amount of time in the day that an aircraft is available. During the Gulf war, the snapshot rates are the rates decision makers were tracking.

"Fully Mission-Capable" (FMC) aircraft are fully operational. "Partially Mission-Capable" (PMC) aircraft can perform the mission, but some subsystems are inoperable. Aircraft that are not mission-capable are grouped by the type of problem that keep them from performing their missions. This is either "Not Mission Capable-Supplies" (NMCS); or "Not Mission Capable-Maintenance" (NMCM). NMCS is due to parts availability. The total column shows the number of aircraft assigned to the base.

Table 192
Daily Aircraft Summary as of 16 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	125	94.7%	0	2	5
AC-130	4	3	75.0%	1	0	0
B-52	21	21	100.0%	0	0	0
C-130	132	118	89.4%	0	7	7
E-3A	10	9	90.0%	0	1	0
E-8A	2	2	100.0%	0	0	0
EC-130	14	11	78.6%	1	0	2
EF-111	18	18	100.0%	0	0	0
F-111F	64	63	98.4%	0	0	1
F-117	36	30	83.3%	3	2	1
F-15	96	92	95.8%	0	2	2
F-15E	48	45	93.8%	0	2	1
F-16	192	186	96.9%	0	0	6
F-4G	48	47	97.9%	0	0	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	1	25.0%	3	0	0
HH-3	4	1	25.0%	2	1	0
KC-10	28	28	100.0%	0	0	0
KC-135A	58	55	94.8%	0	2	1
KC-135E	64	59	92.2%	0	1	4
KC-135Q	10	9	90.0%	0	0	1
KC-135R	64	60	93.8%	0	1	3
MC-130	4	0	0.0%	4	0	0
MH-53	8	3	37.5%	4	0	1
MH-60	8	1	12.5%	6	1	0
OA-10	12	12	100.0%	0	0	0
RC-135	6	4	66.7%	0	0	2
RF-4C	18	17	94.4%	0	0	1
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,131**	**1,045**	**92.4%**	**24**	**22**	**40**
		92.4%		2.1%	1.9%	3.5%

Table 192 (cont'd)
Daily Aircraft Summary as of 17 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	128	97.0%	1	0	3
AC-130	4	1	25.0%	2	1	0
B-52	20	15	75.0%	0	5	0
C-130	132	119	90.2%	0	6	7
E-3A	10	10	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	14	12	85.7%	1	0	1
EF-111	18	18	100.0%	0	0	0
F-111F	64	62	96.9%	0	0	2
F-117	36	35	97.2%	0	0	1
F-15	96	87	90.6%	0	7	3
F-15E	48	44	91.7%	0	3	1
F-16	192	184	95.8%	0	4	5
F-4G	48	47	97.9%	0	0	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	4	1	25.0%	3	0	0
KC-10	30	29	96.7%	0	1	0
KC-135A	60	55	91.7%	0	2	3
KC-135E	67	64	95.5%	0	3	0
KC-135Q	10	10	100.0%	0	0	0
KC-135R	64	62	96.9%	0	1	1
MC-130	4	0	0.0%	4	0	0
MH-53	8	6	75.0%	2	0	0
MH-60	8	4	50.0%	4	0	0
OA-10	12	11	91.7%	0	1	0
RC-135	6	4	66.7%	0	0	2
RF-4C	18	17	94.4%	1	0	0
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,137**	**1,055**	**92.8%**	**18**	**35**	**31**
		92.8%		1.6%	3.1%	2.7%

Table 192 (cont'd)
Daily Aircraft Summary as of 18 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	128	97.0%	1	0	3
AC-130	4	1	25.0%	3	0	0
B-52	26	21	80.8%	0	4	1
C-130	132	119	90.2%	0	6	7
E-3A	10	10	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	1	0	1
EF-111	18	18	100.0%	0	0	0
F-111F	64	62	96.9%	0	0	2
F-117	36	34	94.4%	0	0	2
F-15	96	92	95.8%	0	1	3
F-15E	47	45	95.7%	0	1	1
F-16	192	184	95.8%	0	3	5
F-4G	48	47	97.9%	0	0	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	2	50.0%	1	1	0
HH-3	5	4	80.0%	1	0	0
KC-10	30	29	96.7%	0	1	0
KC-135A	65	60	92.3%	0	2	3
KC-135E	59	56	94.9%	0	3	0
KC-135Q	10	10	100.0%	0	0	0
KC-135R	64	62	96.9%	0	1	1
MC-130	4	1	25.0%	3	0	0
MH-53	8	4	50.0%	4	0	0
MH-60	8	4	50.0%	4	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	6	4	66.7%	0	0	2
RF-4C	18	18	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,141**	**1,067**	**93.5%**	**18**	**23**	**33**
		93.5%		1.6%	2.0%	2.9%

Table 192 (cont'd)
Daily Aircraft Summary as of 20 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	123	93.2%	1	5	3
AC-130	4	1	25.0%	3	0	0
B-52	36	32	88.9%	0	4	0
C-130	132	120	90.9%	0	5	7
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	14	8	57.1%	6	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	57	89.1%	0	5	2
F-117	36	32	88.9%	0	3	1
F-15	96	90	93.8%	0	3	3
F-15E	48	40	83.3%	0	7	1
F-16	190	179	94.2%	0	3	8
F-4G	47	43	91.5%	0	3	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	0	0	0.0%	0	0	0
HH-3E	5	3	60.0%	2	0	0
KC-10	30	28	93.3%	0	0	2
KC-135A	58	55	94.8%	0	1	2
KC-135E	66	62	93.9%	0	2	2
KC-135Q	10	9	90.0%	0	0	1
KC-135R	64	61	95.3%	0	0	3
MC-130	4	0	0.0%	4	0	0
MH-53	8	7	87.5%	1	0	0
MH-60	8	5	62.5%	3	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	0	1
RF-4C	18	18	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,150**	**1,049**	**91.2%**	**20**	**42**	**39**
		91.2%		1.7%	3.7%	3.4%

Table 192 (cont'd)
Daily Aircraft Summary as of 21 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	128	97.0%	0	1	3
AC-130	4	1	25.0%	2	1	0
B-52	37	31	83.8%	0	6	0
C-130	132	121	91.7%	0	6	5
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	13	10	76.9%	2	1	0
EF-111	18	17	94.4%	0	1	0
F-111F	63	61	96.8%	0	1	1
F-117	36	34	94.4%	0	1	1
F-15	96	92	95.8%	0	2	2
F-15E	48	45	93.8%	0	2	1
F-16	192	181	94.3%	0	4	7
F-4G	49	47	95.9%	0	0	2
FA-16	18	14	77.8%	0	3	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	1	0	0
KC-10	30	29	96.7%	0	1	0
KC-135A	50	49	98.0%	0	0	1
KC-135E	65	62	95.4%	0	2	1
KC-135Q	10	10	100.0%	0	0	0
KC-135R	73	70	95.9%	0	0	3
MC-130	4	3	75.0%	1	0	0
MH-53	8	4	50.0%	3	1	0
MH-60	8	5	62.5%	3	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	0	1
RF-4C	18	18	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,153**	**1,079**	**93.6%**	**12**	**33**	**29**
		93.6%		1.0%	2.9%	2.7%

Table 192 (cont'd)
Daily Aircraft Summary as of 23 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	126	95.5%	1	3	2
AC-130	4	3	75.0%	0	1	0
B-52	37	33	89.2%	0	4	0
C-130	132	122	92.4%	0	6	4
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	13	12	92.3%	1	0	0
EF-111	18	17	94.4%	0	1	0
F-111F	63	55	87.3%	0	7	1
F-117	36	32	88.9%	0	3	1
F-15	96	93	96.9%	0	1	2
F-15E	48	45	93.8%	0	1	2
F-16	192	180	93.8%	0	4	8
F-4G	49	47	95.9%	0	1	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	2	40.0%	3	0	0
KC-10	30	28	93.3%	0	1	1
KC-135A	50	46	92.0%	0	2	2
KC-135E	64	59	92.2%	0	3	2
KC-135Q	10	10	100.0%	0	0	0
KC-135R	73	66	90.4%	0	3	4
MC-130	4	0	0.0%	4	0	0
MH-53	8	4	50.0%	2	1	1
MH-60	8	5	62.5%	3	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	5	71.4%	0	1	1
RF-4C	18	16	88.9%	0	1	1
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,152**	**1,060**	**92.0%**	**14**	**44**	**34**
		92.0%		1.2%	3.8%	3.0%

Table 192 (cont'd)
Daily Aircraft Summary as of 24 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	125	94.7%	0	5	2
AC-130	4	2	50.0%	2	0	0
B-52	36	31	86.1%	0	2	3
C-130	132	122	92.4%	0	6	4
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	13	11	84.6%	2	0	0
EF-111	18	18	100.0%	0	0	0
F-111F	63	60	95.2%	0	3	0
F-117	36	30	83.3%	0	4	2
F-15	96	91	94.8%	0	2	3
F-15E	48	46	95.8%	0	1	1
F-16	191	174	91.1%	0	8	9
F-4G	49	46	93.9%	0	2	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	1	0	0
HH-3	5	2	40.0%	3	0	0
KC-10	30	26	86.7%	0	1	3
KC-135A	51	46	90.2%	0	3	2
KC-135E	62	58	93.5%	0	3	1
KC-135Q	10	10	100.0%	0	0	0
KC-135R	73	67	91.8%	0	1	5
MC-130	4	0	0.0%	4	0	0
MH-53	8	5	62.5%	2	0	1
MH-60	8	5	62.5%	3	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	0	1
RF-4C	18	14	77.8%	0	4	0
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	1,149	1,048	91.2%	17	45	39
		91.2%		1.5%	3.9%	3.4%

Table 192 (cont'd)
Daily Aircraft Summary as of 25 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	126	95.5%	0	3	3
AC-130	4	3	75.0%	1	0	0
B-52	36	33	91.7%	0	1	2
C-130	132	121	91.7%	0	6	5
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	14	93.3%	1	0	0
EF-111	18	16	88.9%	0	1	1
F-111F	64	61	95.3%	0	2	1
F-117	36	31	86.1%	0	3	2
F-15	96	90	93.8%	0	3	3
F-15E	48	44	91.7%	0	1	3
F-16	192	176	91.7%	0	3	13
F-4G	49	45	91.8%	0	3	1
FA-16	18	16	88.9%	0	0	2
HC-130		4	100.0%	0	0	0
HH-3		3	60.0%	1	0	1
KC-10		26	86.7%	0	2	2
KC-135A		44	88.0%	0	3	3
KC-135E	62	54	87.1%	0	6	2
KC-135Q	10	10	100.0%	0	0	0
KC-135R	72	67	93.1%	0	2	3
MC-130	4	1	25.0%	3	0	0
MH-53	8	5	62.5%	2	0	1
MH-60	8	6	75.0%	2	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	5	71.4%	0	0	2
RF-4C	18	17	94.4%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,151**	**1,051**	**91.3%**	**10**	**40**	**50**
		91.3%		0.9%	3.5%	4.3%

Table 192 (cont'd)
Daily Aircraft Summary as of 26 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	128	97.0%	0	2	2
AC-130	4	3	75.0%	0	1	0
B-52	36	32	88.9%	0	0	4
C-130	132	122	92.4%	0	7	3
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	13	12	92.3%	1	0	0
EC-135L	1	1	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	62	96.9%	0	2	0
F-117	36	34	94.4%	0	1	1
F-15	96	92	95.8%	0	1	3
F-15E	48	46	95.8%	0	0	2
F-16	192	180	93.8%	0	3	9
F-4G	48	47	97.9%	0	0	1
FA-16	18	14	77.8%	0	2	2
HC-130	4	4	100.0%	0	0	0
HH-3	5	2	40.0%	2	0	1
KC-10	32	28	87.5%	0	3	1
KC-135A	51	45	88.2%	0	4	2
KC-135E	62	53	85.5%	0	5	4
KC-135Q	10	8	80.0%	0	2	0
KC-135R	73	68	93.2%	0	2	3
MC-130	4	3	75.0%	1	0	0
MH-53	8	5	62.5%	1	1	1
MH-60	8	6	75.0%	2	0	0
OA-10	12	11	91.7%	0	1	0
RC-135	7	5	71.4%	0	0	2
RF-4C	18	17	94.4%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	4	4	100.0%	0	0	0
Total	**1,153**	**1,066**	**92.5%**	**7**	**38**	**42**
		92.5%		0.6%	3.3%	3.6%

Table 192 (cont'd)
Daily Aircraft Summary as of 27 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	127	96.2%	1	3	1
AC-130	4	3	75.0%	1	0	0
B-52	36	34	94.4%	0	2	0
C-130	132	122	92.4%	0	5	5
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	14	93.3%	0	1	0
EC-130L	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	63	55	87.3%	0	8	0
F-117	42	33	78.6%	1	6	2
F-15	96	92	95.8%	0	0	4
F-15E	48	45	93.8%	0	1	2
F-16	194	181	93.3%	0	5	8
F-4G	49	46	93.9%	0	2	1
FA-16	18	16	88.9%	0	0	2
HC-130	4	4	100.0%	0	0	0
HH-3	5	2	40.0%	2	0	1
KC-10	30	26	86.7%	0	2	2
KC-135A	50	49	98.0%	0	0	1
KC-135E	62	50	80.6%	0	4	8
KC-135Q	10	9	90.0%	0	1	0
KC-135R	72	69	95.8%	0	2	1
MC-130	4	0	0.0%	3	1	0
MH-53	8	6	75.0%	1	0	1
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	7	5	71.4%	0	0	2
RF-4C	18	16	88.9%	0	2	0
TR-1	4	4	100.0%	0	0	0
U-2	5	5	100.0%	0	0	0
Total	**1,157**	**1,060**	**91.6%**	**9**	**45**	**43**
		91.6%		0.8%	3.9%	3.7%

Table 192 (cont'd)
Daily Aircraft Summary as of 28 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	127	96.2%	0	3	2
AC-130	3	2	66.7%	1	0	0
B-52	36	31	86.1%	0	5	0
C-130	138	128	92.8%	0	6	4
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	12	80.0%	2	0	1
EC-135L	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	58	90.6%	0	6	0
F-117	42	33	78.6%	3	4	2
F-15	96	90	93.8%	0	2	4
F-15E	48	46	95.8%	0	0	2
F-16	194	184	94.8%	0	2	8
F-4G	49	46	93.9%	0	2	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	3	60.0%	2	0	0
KC-10	30	26	86.7%	0	2	2
KC-135A	51	48	94.1%	0	2	1
KC-135E	64	54	84.4%	0	7	3
KC-135Q	10	9	90.0%	0	0	1
KC-135R	73	69	94.5%	0	2	2
MC-130	4	1	25.0%	3	0	0
MH-53	8	6	75.0%	1	0	1
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	0	1
RF-4C	18	17	94.4%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	5	5	100.0%	0	0	0
Total	**1,167**	**1,072**	**91.9%**	**12**	**44**	**39**
		91.9%		1.0%	3.8%	3.3%

Table 192 (cont'd)
Daily Aircraft Summary as of 29 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	123	93.2%	0	6	3
AC-130	3	2	66.7%	1	0	0
B-52	37	35	94.6%	0	2	0
C-130	149	139	93.3%	0	5	5
E-3A	11	10	90.9%	0	1	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	10	66.7%	3	0	2
EC-135L	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	61	95.3%	0	3	0
F-117	42	39	92.9%	0	1	2
F-15	96	90	93.8%	0	2	4
F-15E	48	46	95.8%	0	0	2
F-16	194	184	94.8%	0	1	9
F-4G	49	44	89.8%	0	4	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	2	50.0%	2	0	0
HH-3	5	2	40.0%	0	1	2
KC-10	30	26	86.7%	0	2	2
KC-135A	51	46	90.2%	0	4	1
KC-135E	64	52	81.3%	0	8	4
KC-135Q	10	10	100.0%	0	0	0
KC-135R	73	69	94.5%	0	2	2
MC-130	4	1	25.0%	3	0	0
MH-53	8	6	75.0%	1	0	1
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	0	1
RF-4C	18	17	94.4%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	5	5	100.0%	0	0	0
Total	**1,179**	**1,081**	**91.7%**	**10**	**43**	**45**
		91.7%		0.8%	3.6%	3.8%

Table 192 (cont'd)
Daily Aircraft Summary as of 30 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	123	93.2%	1	4	4
AC-130	3	1	33.3%	2	0	0
B-52	37	32	86.5%	0	3	2
C-130	144	134	93.1%	0	4	6
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	11	73.3%	2	0	2
EC-130L	0	0	0.0%	0	0	0
EC-135	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	61	95.3%	0	2	1
F-117	42	38	90.5%	0	2	2
F-15	96	87	90.6%	0	5	4
F-15E	48	47	97.9%	0	0	1
F-16	194	183	94.3%	0	5	6
F-4G	49	48	98.0%	0	0	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	1	0	0
HH-3	5	0	0.0%	0	3	2
KC-10	30	27	90.0%	0	2	1
KC-135A	51	47	92.2%	0	1	3
KC-135E	62	59	95.2%	0	0	3
KC-135Q	10	10	100.0%	0	0	0
KC-135R	73	68	93.2%	0	2	3
MC-130	4	1	25.0%	3	0	0
MH-53	8	5	62.5%	2	0	1
MH-60	4	3	75.0%	1	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	0	1
RF-4C	18	18	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	5	5	100.0%	0	0	0
Total	**1,172**	**1,081**	**92.2%**	**12**	**33**	**46**
		92.2%		1.0%	2.8%	3.9%

Table 192 (cont'd)
Daily Aircraft Summary as of 31 Jan 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	123	93.2%	1	5	3
AC-130	3	2	66.7%	1	0	0
B-52	36	32	88.9%	0	4	0
C-130	144	136	94.4%	0	4	4
E-3A	11	10	90.9%	0	1	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	8	53.3%	5	0	2
EC-130L	0	0	0.0%	0	0	0
EC-135	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	61	95.3%	0	1	2
F-117	42	39	92.9%	0	1	2
F-15	96	87	90.6%	0	5	4
F-15E	48	47	97.9%	0	0	1
F-16	194	187	96.4%	0	1	6
F-4G	49	46	93.9%	0	2	1
FA-16	18	16	88.9%	0	1	1
HC-130	4	1	25.0%	2	1	0
HH-3	5	2	40.0%	2	0	1
KC-10	30	28	93.3%	0	1	1
KC-135A	52	48	92.3%	0	2	2
KC-135E	62	55	88.7%	0	3	4
KC-135Q	10	10	100.0%	0	0	0
KC-135R	74	68	91.9%	0	4	2
MC-130	4	1	25.0%	3	0	0
MH-53	8	5	62.5%	2	0	1
MH-60	4	3	75.0%	1	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	4	57.1%	0	1	2
RF-4C	18	18	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	5	5	100.0%	0	0	0
Total	**1,173**	**1,078**	**91.9%**	**17**	**37**	**41**
		91.9%		1.4%	3.2%	3.5%

Table 192 (cont'd)
Daily Aircraft Summary as of 1 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	121	91.7%	2	5	4
AC-130	2	1	50.0%	1	0	0
B-52	36	31	86.1%	0	5	0
C-130	144	131	91.0%	0	5	8
C-130E	5	4	80.0%	0	0	1
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	11	73.3%	2	0	2
EC-135	2	2	100.0%	0	0	0
EF-111	18	16	88.9%	0	0	2
F-111F	64	56	87.5%	0	8	0
F-117	42	35	83.3%	0	5	2
F-15	96	87	90.6%	0	5	4
F-15E	48	46	95.8%	0	1	1
F-16	194	184	94.8%	0	4	6
F-4G	49	45	91.8%	0	3	1
FA-16	18	16	88.9%	0	1	1
HC-130	4	2	50.0%	2	0	0
HH-3	5	2	40.0%	2	0	1
KC-10	30	26	86.7%	0	1	3
KC-135A	50	46	92.0%	0	2	2
KC-135E	62	59	95.2%	0	0	3
KC-135Q	10	10	100.0%	0	0	0
KC-135R	73	69	94.5%	0	2	2
MC-130	4	1	25.0%	3	0	0
MH-53	8	4	50.0%	3	0	1
MH-60	4	3	75.0%	1	0	0
OA-10	12	10	83.3%	1	1	0
RC-135	7	5	71.4%	0	0	2
RF-4C	12	12	100.0%	0	0	0
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	5	4	80.0%	0	1	0
Total	**1,174**	**1,061**	**90.4%**	**17**	**49**	**47**
		90.4%		1.4%	4.2%	4.0%

Table 192 (cont'd)
Daily Aircraft Summary as of 2 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	121	91.7%	3	5	3
AC-130	2	1	50.0%	1	0	0
B-52	36	33	91.7%	0	2	1
C-130	145	137	94.5%	0	4	4
C-130E	5	4	80.0%	0	0	1
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	7	46.7%	6	0	2
EC-135	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	60	93.8%	0	4	0
F-117	42	29	69.0%	0	11	2
F-15	96	89	92.7%	0	3	4
F-15E	48	45	93.8%	0	1	2
F-16	194	185	95.4%	0	2	7
F-4G	49	45	91.8%	0	2	2
FA-16	18	17	94.4%	0	0	1
HC-130	4	1	25.0%	1	2	0
HH-3	5	2	40.0%	1	1	1
KC-10	30	27	90.0%	0	3	0
KC-135A	48	46	95.8%	0	0	2
KC-135E	62	60	96.8%	0	0	2
KC-135Q	11	11	100.0%	0	0	0
KC-135R	75	68	90.7%	0	3	4
MC-130	4	2	50.0%	2	0	0
MH-53	8	3	37.5%	1	2	2
MH-60	4	4	100.0%	0	0	0
OA-10	12	10	83.3%	1	1	0
RC-135	7	5	71.4%	0	0	2
RF-4C	12	10	83.3%	0	1	1
RF-4C	6	5	83.3%	0	1	0
TR-1	4	3	75.0%	0	1	0
U-2	5	5	100.0%	0	0	0
Total	**1,176**	**1,066**	**90.6%**	**16**	**49**	**45**
		90.6%		1.4%	4.2%	3.8%

Table 192 (cont'd)
Daily Aircraft Summary as of 3 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	131	122	93.1%	0	5	4
AC-130	2	2	100.0%	0	0	0
B-52	35	31	88.6%	0	3	1
C-130	145	138	95.2%	0	3	4
C-130E	5	4	80.0%	0	0	1
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	1	0
EC-130	15	12	80.0%	0	1	2
EC-135	2	2	100.0%	0	0	0
EF-111	18	16	88.9%	0	1	1
F-111F	64	59	92.2%	0	5	0
F-117	42	37	88.1%	0	2	3
F-15	96	88	91.7%	0	4	4
F-15E	48	47	97.9%	0	0	1
F-16	194	184	94.8%	0	2	8
F-4G	49	44	89.8%	0	4	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	4	80.0%	0	0	1
KC-10	30	25	83.3%	0	4	1
KC-135A	48	45	93.8%	0	1	2
KC-135E	61	55	90.2%	0	1	5
KC-135Q	10	10	100.0%	0	0	0
KC-135R	74	69	93.2%	0	1	4
MC-130	4	4	100.0%	0	0	0
MH-53	8	6	75.0%	0	1	1
MH-60	4	4	100.0%	0	0	0
OA-10	12	11	91.7%	0	1	0
RC-135	7	6	85.7%	0	0	1
RF-4C	12	10	83.3%	0	1	1
RF-4C	6	5	83.3%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	5	5	100.0%	0	0	0
Total	**1,171**	**1,081**	**92.3%**	**0**	**43**	**47**
		92.3%		0.0%	3.7%	4.0%

Table 192 (cont'd)
Daily Aircraft Summary as of 4 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	131	123	93.9%	0	4	4
AC-130	2	1	50.0%	0	1	0
B-52	35	30	85.7%	0	4	1
C-130	145	138	95.2%	0	4	3
C-130E	5	4	80.0%	0	0	1
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	12	80.0%	0	2	1
EC-135	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	62	96.9%	0	2	0
F-117	42	39	92.9%	0	0	3
F-15	96	92	95.8%	0	0	4
F-15E	48	46	95.8%	0	1	1
F-16	194	186	95.9%	0	0	8
F-4G	49	40	81.6%	0	8	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	4	80.0%	0	0	1
KC-10	30	27	90.0%	0	2	1
KC-135A	48	43	89.6%	0	2	3
KC-135E	59	54	91.5%	0	1	4
KC-135Q	11	10	90.9%	0	1	0
KC-135R	76	70	92.1%	0	2	4
MC-130	4	3	75.0%	0	1	0
MH-53	8	5	62.5%	0	2	1
MH-60	4	4	100.0%	0	0	0
OA-10	12	11	91.7%	0	1	0
RC-135	7	6	85.7%	0	1	0
RF-4C	12	10	83.3%	0	1	1
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	**1,173**	**1,087**	**92.7%**	**0**	**41**	**45**
		92.7%		0.0%	3.5%	3.8%

Table 192 (cont'd)
Daily Aircraft Summary as of 5 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	131	125	95.4%	0	2	4
AC-130	4	3	75.0%	0	1	0
B-52	36	33	91.7%	0	2	1
C-130	145	138	95.2%	0	4	3
C-130E	5	4	80.0%	0	0	1
E-3A	11	10	90.9%	0	1	0
E-8A	2	1	50.0%	0	0	1
EC-130	15	12	80.0%	0	2	1
EC-135	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	58	90.6%	0	5	1
F-117	42	37	88.1%	0	3	2
F-15	96	90	93.8%	0	2	4
F-15E	48	47	97.9%	0	0	1
F-16	194	184	94.8%	0	2	8
F-4G	49	44	89.8%	0	3	2
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	0	1
KC-10	30	27	90.0%	0	2	1
KC-135A	48	46	95.8%	0	0	2
KC-135E	60	57	95.0%	0	1	2
KC-135Q	10	10	100.0%	0	0	0
KC-135R	76	68	89.5%	0	3	5
MC-130	4	4	100.0%	0	0	0
MH-53	8	5	62.5%	0	2	1
MH-60	4	4	100.0%	0	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	1	0
RF-4C	12	9	75.0%	0	1	2
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	**1,176**	**1,094**	**93.0%**	**0**	**37**	**45**
		93.0%		0.0%	3.1%	3.8%

Table 192 (cont'd)
Daily Aircraft Summary as of 6 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	131	122	93.1%	0	4	5
AC-130	6	5	83.3%	0	1	0
B-52	36	35	97.2%	0	0	1
C-130	145	139	95.9%	0	4	2
C-130E	5	4	80.0%	0	0	1
E-3A	11	10	90.9%	0	0	1
E-8A	2	1	50.0%	0	1	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	59	92.2%	0	4	1
F-117	42	34	81.0%	0	4	4
F-15	96	86	89.6%	0	6	4
F-15E	48	47	97.9%	0	0	1
F-16	194	182	93.8%	0	4	8
F-4G	49	45	91.8%	0	3	1
FA-16	18	15	83.3%	0	2	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	0	1
KC-10	28	26	92.9%	0	0	2
KC-135A	50	46	92.0%	0	0	4
KC-135E	59	56	94.9%	0	0	3
KC-135Q	11	11	100.0%	0	0	0
KC-135R	75	67	89.3%	0	3	5
MC-130	4	4	100.0%	0	0	0
MH-53	8	7	87.5%	0	0	1
MH-60	4	3	75.0%	0	1	0
OA-10	12	12	100.0%	0	0	0
RC-135	6	5	83.3%	0	0	1
RF-4C	12	10	83.3%	0	1	1
RF-4C	6	5	83.3%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	6	5	83.3%	0	1	0
Total	**1,176**	**1,085**	**92.3%**	**0**	**41**	**50**
		92.3%		0.0%	3.5%	4.3%

Table 192 (cont'd)
Daily Aircraft Summary as of 7 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	129	123	95.3%	0	2	4
AC-130	6	2	33.3%	0	4	0
B-52	36	35	97.2%	0	0	1
C-130	146	141	96.6%	0	3	2
C-130E	5	4	80.0%	0	0	1
E-3A	11	10	90.9%	0	0	1
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	2	100.0%	0	0	0
EF-111	18	15	83.3%	0	1	2
F-111F	64	58	90.6%	0	5	1
F-117	42	29	69.0%	0	9	4
F-15	96	89	92.7%	0	2	5
F-15E	48	47	97.9%	0	0	1
F-16	195	178	91.3%	0	8	9
F-4G	49	42	85.7%		6	1
FA-16	18	15	83.3%	0	2	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	0	1
KC-10	28	26	92.9%	0	0	2
KC-135A	52	46	88.5%	0	4	2
KC-135E	59	54	91.5%	0	2	3
KC-135Q	11	11	100.0%	0	0	0
KC-135R	76	70	92.1%	0	1	5
MC-130	4	4	100.0%	0	0	0
MH-53	8	7	87.5%	0	0	1
MH-60	4	4	100.0%	0	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	6	5	83.3%	0	0	1
RF-4C	12	10	83.3%	0	0	2
RF-4C	6	5	83.3%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	6	4	66.7%	0	2	0
Total	**1,179**	**1,075**	**91.2%**	**0**	**53**	**51**
		91.2%		0.0%	4.5%	4.3%

Table 192 (cont'd)
Daily Aircraft Summary as of 8 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	129	121	93.8%	0	5	3
AC-130	7	6	85.7%	0	1	0
B-52	37	36	97.3%	0	0	1
C-130	146	139	95.2%	0	4	3
C-130E	5	4	80.0%	0	0	1
E-3A	11	10	90.9%	0	1	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	2	100.0%	0	0	0
EF-111	18	16	88.9%	0	0	2
F-111F	64	60	93.8%	0	3	1
F-117	42	32	76.2%	0	6	4
F-15	96	88	91.7%	0	4	4
F-15E	48	47	97.9%	0	0	1
F-16	194	185	95.4%	0	0	9
F-4G	49	37	75.5%	0	11	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	4	80.0%	0	0	1
KC-10	28	26	92.9%	0	0	2
KC-135A	51	46	90.2%	0	2	3
KC-135E	60	53	88.3%	0	4	3
KC-135Q	11	10	90.9%	0	0	1
KC-135R	78	72	92.3%	0	1	5
MC-130	4	4	100.0%	0	0	0
MH-53	8	6	75.0%	0	0	2
MH-60	4	4	100.0%	0	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	6	5	83.3%	0	0	1
RF-4C	12	9	75.0%	0	1	2
RF-4C	6	5	83.3%	0	1	0
TR-1	4	4	100.0%	0	0	0
U-2	6	5	83.3%	0	0	1
Total	**1,182**	**1,083**	**91.6%**	**0**	**46**	**53**
		91.6%		0.0%	3.9%	4.5%

Table 192 (cont'd)
Daily Aircraft Summary as of 9 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	130	122	93.8%	0	8	0
AC-130	7	5	71.4%	0	2	0
B-52	66	61	92.4%	0	2	3
C-130	146	140	95.9%	0	4	2
C-130E	5	4	80.0%	0	0	1
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	2	0
EC-135	2	2	100.0%	0	0	0
EF-111	18	17	94.4%	0	0	1
F-111F	64	58	90.6%	0	5	1
F-117	42	37	88.1%	0	1	4
F-15	96	91	94.8%	0	2	3
F-15E	48	47	97.9%	0	0	1
F-16	194	179	92.3%	0	8	7
F-4G	49	41	83.7%	0	7	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	2	50.0%	0	2	0
HH-3	5	4	80.0%	0	0	1
KC-10	29	26	89.7%	0	1	2
KC-135A	50	46	92.0%	0	2	2
KC-135E	61	54	88.5%	0	2	5
KC-135Q	10	9	90.0%	0	0	1
KC-135R	76	71	93.4%	0	0	5
MC-130	4	4	100.0%	0	0	0
MH-53	8	6	75.0%	0	0	2
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	6	5	83.3%	0	1	0
RF-4C	12	10	83.3%	0	0	2
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	1,210	1,115	92.1%	0	49	46
		92.1%		0.0%	4.0%	3.8%

Table 192 (cont'd)
Daily Aircraft Summary as of 10 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	130	125	96.2%	0	5	0
AC-130	7	4	57.1%	0	3	0
B-52	66	62	93.9%	0	2	2
C-130	146	140	95.9%	0	5	1
C-130E	5	4	80.0%	0	0	1
E-3A	11	10	90.9%	0	1	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	0	2
EC-135	2	2	100.0%	0	0	0
EF-111	18	16	88.9%	0	0	2
F-111F	64	59	92.2%	0	3	2
F-117	42	37	88.1%	0	2	3
F-15	96	87	90.6%	0	4	5
F-15E	48	47	97.9%	0	0	1
F-16	194	178	91.8%	0	8	8
F-4G	49	42	85.7%	0	6	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	3	60.0%	0	2	0
KC-10	30	27	90.0%	0	3	0
KC-135A	49	46	93.9%	0	1	2
KC-135E	63	58	92.1%	0	1	4
KC-135R	88	79	89.8%	0	0	9
MC-130	4	4	100.0%	0	0	0
MH-53	8	6	75.0%	0	0	2
MH-60	4	4	100.0%	0	0	0
OA-10	12	11	91.7%	0	1	0
RC-135	7	4	57.1%	0	1	2
RF-4C	12	9	75.0%	0	1	2
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	**1,215**	**1,116**	**91.9%**	**0**	**49**	**50**
		91.9%		0.0%	4.0%	4.1%

Table 192 (cont'd)
Daily Aircraft Summary as of 11 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	130	125	96.2%	0	4	1
AC-130	7	6	85.7%	0	1	0
B-52	66	60	90.9%	0	3	3
C-130	146	140	95.9%	0	4	2
C-130E	5	4	80.0%	0	0	1
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	2	100.0%	0	0	0
EF-111	18	16	88.9%	0	0	2
F-111F	64	60	93.8%	0	2	2
F-117	42	36	85.7%	0	2	4
F-15	96	90	93.8%	0	2	4
F-15E	48	45	93.8%	0	2	1
F-16	197	183	92.9%	0	6	8
F-4G	49	44	89.8%	0	5	0
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	4	80.0%	0	0	1
KC-10	29	27	93.1%	0	1	1
KC-135A	50	42	84.0%	0	3	5
KC-135E	57	48	84.2%	0	4	5
KC-135R	86	78	90.7%	0	0	8
MC-130	4	4	100.0%	0	0	0
MH-53	8	6	75.0%	0	1	1
MH-60	4	4	100.0%	0	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	6	5	83.3%	0	1	0
RF-4C	12	10	83.3%	0	0	2
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	5	83.3%	0	0	1
Total	**1,209**	**1,112**	**92.0%**	**0**	**43**	**54**
		92.0%		0.0%	3.6%	4.5%

Table 192 (cont'd)
Daily Aircraft Summary as of 12 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	127	95.5%	0	6	0
AC-130	7	7	100.0%	0	0	0
B-52	65	55	84.6%	0	4	6
C-130	146	137	93.8%	0	5	4
C-130E	5	4	80.0%	0	0	1
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	14	93.3%	0	0	1
EC-135	2	2	100.0%	0	0	0
EF-111	21	18	85.7%	0	0	3
F-111F	64	61	95.3%	0	2	1
F-117	42	37	88.1%	0	0	5
F-15	96	88	91.7%	0	5	3
F-15E	48	47	97.9%	0	0	1
F-16	197	182	92.4%	0	6	9
F-4G	49	39	79.6%	0	5	5
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	0	1
HH-3	5	4	80.0%	0	0	1
KC-10	29	27	93.1%	0	1	1
KC-135A	50	41	82.0%	0	5	4
KC-135E	57	47	82.5%	0	6	4
KC-135R	86	78	90.7%	0	1	7
MC-130	4	4	100.0%	0	0	0
MH-53	8	5	62.5%	0	2	1
MH-60	4	4	100.0%	0	0	0
OA-10	13	13	100.0%	0	0	0
RC-135	6	5	83.3%	0	1	0
RF-4C	12	9	75.0%	0	1	2
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	**1,215**	**1,104**	**90.9%**	**0**	**50**	**61**
		90.9%		0.0%	4.1%	5.0%

Table 192 (cont'd)
Daily Aircraft Summary as of 13 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	128	96.2%	0	4	1
AC-130	7	7	100.0%	0	0	0
B-52	65	51	78.5%	0	8	6
C-130	146	137	93.8%	0	5	4
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	11	73.3%	0	3	1
EC-135	2	2	100.0%	0	0	0
EF-111	21	18	85.7%	0	0	3
F-111F	64	60	93.8%	0	4	0
F-117	42	33	78.6%	0	6	3
F-15	96	88	91.7%	0	4	4
F-15E	48	47	97.9%	0	0	1
F-16	197	185	93.9%	0	5	7
F-4G	49	39	79.6%	0	9	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	0	1
HH-3	5	4	80.0%	0	1	0
KC-10	29	26	89.7%	0	1	2
KC-135A	49	45	91.8%	0	1	3
KC-135E	57	49	86.0%	0	4	4
KC-135R	87	78	89.7%	0	1	8
MC-130	4	4	100.0%	0	0	0
MH-53	8	7	87.5%	0	0	1
MH-60	4	4	100.0%	0	0	0
OA-10	13	13	100.0%	0	0	0
RC-135	6	5	83.3%	0	1	0
RF-4C	12	9	75.0%	0	1	2
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	**1,215**	**1,104**	**90.9%**	**0**	**58**	**53**
		90.9%		0.0%	4.8%	4.4%

Table 192 (cont'd)
Daily Aircraft Summary as of 14 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	130	97.7%	0	3	0
AC-130	7	4	57.1%	0	2	1
B-52	66	51	77.3%	0	9	6
C-130	146	138	94.5%	0	5	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	14	93.3%	0	0	1
EC-135	2	2	100.0%	0	0	0
EF-111	20	17	85.0%	0	0	3
F-111F	64	61	95.3%	0	3	0
F-117	42	34	81.0%	0	5	3
F-15	96	85	88.5%	0	7	4
F-15E	48	46	95.8%	0	1	1
F-16	197	185	93.9%	0	6	6
F-4G	49	40	81.6%	0	8	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	0	1
HH-3	5	4	80.0%	0	0	1
KC-10	28	26	92.9%	0	0	2
KC-135A	49	45	91.8%	0	2	2
KC-135E	56	49	87.5%	0	3	4
KC-135R	86	77	89.5%	0	2	7
MC-130	4	3	75.0%	0	0	1
MH-53	8	7	87.5%	0	0	1
MH-60	4	3	75.0%	0	0	1
OA-10	13	13	100.0%	0	0	0
RC-135	6	5	83.3%	0	1	0
RF-4C	12	8	66.7%	0	2	2
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	**1,212**	**1,101**	**90.8%**	**0**	**59**	**52**
		90.8%		0.0%	4.9%	4.3%

Table 192 (cont'd)
Daily Aircraft Summary as of 15 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	121	91.0%	0	11	1
AC-130	7	5	71.4%	0	1	1
B-52	67	55	82.1%	0	3	9
C-130	146	137	93.8%	0	6	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	10	90.9%	0	1	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	12	80.0%	0	1	2
EC-135	2	2	100.0%	0	0	0
EF-111	20	17	85.0%	0	0	3
F-111F	64	59	92.2%	0	5	0
F-117	42	34	81.0%	0	5	3
F-15	96	89	92.7%	0	4	3
F-15E	48	44	91.7%	0	3	1
F-16	197	185	93.9%	0	4	8
F-4G	49	36	73.5%	0	12	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	0	1
HH-3	5	4	80.0%	0	1	0
KC-10	27	24	88.9%	0	0	3
KC-135A	49	44	89.8%	0	3	2
KC-135E	56	50	89.3%	0	3	3
KC-135R	84	76	90.5%	0	2	6
MC-130	4	3	75.0%	0	0	1
MH-53	8	8	100.0%	0	0	0
MH-60	4	3	75.0%	0	0	1
OA-10	13	13	100.0%	0	0	0
RC-135	7	7	100.0%	0	0	0
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	6	100.0%	0	0	0
Total	**1,211**	**1,092**	**90.2%**	**0**	**65**	**54**
		90.2%		0.0%	5.4%	4.5%

Table 192 (cont'd)
Daily Aircraft Summary as of 16 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	131	125	95.4%	0	3	3
AC-130	7	6	85.7%	0	0	1
B-52	65	56	86.2%	0	4	5
C-130	146	138	94.5%	0	6	2
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	0	2
EC-135	2	2	100.0%	0	0	0
EF-111	21	17	81.0%	0	2	2
F-111F	64	61	95.3%	0	3	0
F-117	42	33	78.6%	0	6	3
F-15	96	88	91.7%	0	4	4
F-15E	48	47	97.9%	0	0	1
F-16	196	184	93.9%	0	2	10
F-4G	49	40	81.6%	0	8	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	0	1
KC-10	27	24	88.9%	0	0	3
KC-135A	50	46	92.0%	0	2	2
KC-135E	55	50	90.9%	0	2	3
KC-135R	86	78	90.7%	0	1	7
MC-130	4	2	50.0%	0	1	1
MH-53	8	8	100.0%	0	0	0
MH-60	4	3	75.0%	0	0	1
OA-10	13	13	100.0%	0	0	0
RC-135	5	4	80.0%	0	0	1
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	5	83.3%	0	1	0
Total	**1,207**	**1,107**	**91.7%**	**0**	**45**	**55**
		91.7%		0.0%	3.7%	4.6%

Table 192 (cont'd)
Daily Aircraft Summary as of 17 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	**130**	122	93.8%	0	6	2
AC-130	**7**	7	100.0%	0	0	0
B-52	**65**	58	89.2%	0	3	4
C-130	**146**	138	94.5%	0	7	1
C-130E	**5**	5	100.0%	0	0	0
E-3A	**11**	11	100.0%	0	0	0
E-8A	**2**	2	100.0%	0	0	0
EC-130	**15**	11	73.3%	0	1	3
EC-135	**2**	2	100.0%	0	0	0
EF-111	**20**	17	85.0%	0	2	1
F-111F	**64**	58	90.6%	0	6	0
F-117	**42**	36	85.7%	0	4	2
F-15	**96**	85	88.5%	0	6	5
F-15E	**48**	47	97.9%	0	0	1
F-16	**196**	185	94.4%	0	2	9
F-4G	**49**	38	77.6%	0	11	0
FA-16	**18**	17	94.4%	0	0	1
HC-130	**4**	3	75.0%	0	0	1
HH-3	**5**	5	100.0%	0	0	0
KC-10	**27**	25	92.6%	0	0	2
KC-135A	**51**	47	92.2%	0	1	3
KC-135E	**56**	52	92.9%	0	0	4
KC-135R	**87**	78	89.7%	0	1	8
MC-130	**4**	4	100.0%	0	0	0
MH-53	**8**	8	100.0%	0	0	0
MH-60	**4**	4	100.0%	0	0	0
OA-10	**13**	13	100.0%	0	0	0
RC-135	**6**	6	100.0%	0	0	0
RF-4C	**12**	10	83.3%	0	0	2
RF-4C	**6**	5	83.3%	0	1	0
TR-1	**4**	4	100.0%	0	0	0
U-2	**7**	7	100.0%	0	0	0
Total	**1,210**	**1,110**	**91.7%**	**0**	**51**	**49**
		91.7%		0.0%	4.2%	4.0%

Table 192 (cont'd)
Daily Aircraft Summary as of 18 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	130	125	96.2%	0	4	1
AC-130	7	5	71.4%	0	1	1
B-52	64	58	90.6%	0	4	2
C-130	145	136	93.8%	0	6	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	1	0
EC-130	15	15	100.0%	0	0	0
EC-135	2	2	100.0%	0	0	0
EF-111	20	17	85.0%	0	1	2
F-111F	64	61	95.3%	0	2	1
F-117	42	38	90.5%	0	2	2
F-15	96	88	91.7%	0	5	3
F-15E	48	47	97.9%	0	0	1
F-16	195	185	94.9%	0	3	7
F-4G	49	41	83.7%	0	8	0
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	4	80.0%	0	0	1
KC-10	28	26	92.9%	0	1	1
KC-135A	49	44	89.8%	0	2	3
KC-135E	55	52	94.5%	0	0	3
KC-135R	87	78	89.7%	0	2	7
MC-130	4	4	100.0%	0	0	0
MH-53	8	7	87.5%	0	0	1
MH-60	4	3	75.0%	0	1	0
OA-10	13	13	100.0%	0	0	0
RC-135	6	6	100.0%	0	0	0
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	4	3	75.0%	0	1	0
U-2	7	6	85.7%	0	1	0
Total	**1,205**	**1,118**	**92.8%**	**0**	**46**	**41**
		92.8%		0.0%	3.8%	3.4%

Table 192 (cont'd)
Daily Aircraft Summary as of 19 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	125	94.7%	0	5	2
AC-130	7	5	71.4%	0	1	1
B-52	64	56	87.5%	0	5	3
C-130	145	139	95.9%	0	5	1
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	2	0
EC-135	2	2	100.0%	0	0	0
EF-111	20	18	90.0%	0	0	2
F-111F	64	61	95.3%	0	2	1
F-117	42	38	90.5%	0	2	2
F-15	96	87	90.6%	0	6	3
F-15E	48	47	97.9%	0	0	1
F-16	195	187	95.9%	0	1	7
F-4G	49	40	81.6%	0	9	0
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	0	1
KC-10	28	25	89.3%	0	1	2
KC-135A	50	45	90.0%	0	2	3
KC-135E	56	53	94.6%	0	0	3
KC-135R	87	78	89.7%	0	2	7
MC-130	4	3	75.0%	0	0	1
MH-53	8	8	100.0%	0	0	0
MH-60	4	4	100.0%	0	0	0
OA-10	13	13	100.0%	0	0	0
RC-135	6	6	100.0%	0	0	0
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	4	66.7%	0	2	0
Total	**1,208**	**1,121**	**92.8%**	**0**	**45**	**42**
		92.8%		0.0%	3.7%	3.5%

Table 192 (cont'd)
Daily Aircraft Summary as of 20 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	126	94.7%	0	5	2
AC-130	7	5	71.4%	0	1	1
B-52	65	55	84.6%	0	6	4
C-130	145	138	95.2%	0	4	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	12	80.0%	0	2	1
EC-135	2	2	100.0%	0	0	0
EF-111	20	18	90.0%	0	1	1
F-111F	66	61	92.4%	0	2	3
F-117	42	37	88.1%	0	3	2
F-15	96	88	91.7%	0	4	4
F-15E	48	47	97.9%	0	0	1
F-16	197	189	95.9%	0	1	7
F-4G	48	41	85.4%	0	7	0
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	0	1
KC-10	28	26	92.9%	0	1	1
KC-135A	49	44	89.8%	0	2	3
KC-135E	57	52	91.2%	0	2	3
KC-135R	87	79	90.8%	0	1	7
MC-130	4	3	75.0%	0	0	1
MH-53	10	10	100.0%	0	0	0
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	7	7	100.0%	0	0	0
RF-4C	12	10	83.3%	0	1	1
RF-4C	6	6	100.0%	0	0	0
TR-1	4	4	100.0%	0	0	0
U-2	6	4	66.7%	0	1	1
Total	**1,215**	**1,122**	**92.3%**	**0**	**44**	**49**
		92.3%		0.0%	3.6%	4.0%

Table 192 (cont'd)
Daily Aircraft Summary as of 21 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	134	129	96.3%	0	4	1
AC-130	8	7	87.5%	0	0	1
B-52	65	58	89.2%	0	3	4
C-130	145	135	93.1%	0	7	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	2	100.0%	0	0	0
EF-111	20	17	85.0%	0	2	1
F-111F	65	61	93.8%	0	2	2
F-117	42	35	83.3%	0	5	2
F-15	96	90	93.8%	0	3	3
F-15E	48	46	95.8%	0	1	1
F-16	197	187	94.9%	0	3	7
F-4G	48	40	83.3%	0	7	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	4	80.0%	0	0	1
KC-10	29	28	96.6%	0	1	0
KC-135A	49	44	89.8%	0	1	4
KC-135E	56	52	92.9%	0	2	2
KC-135R	86	77	89.5%	0	2	7
MC-130	4	3	75.0%	0	0	1
MH-53	10	9	90.0%	0	1	0
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	7	7	100.0%	0	0	0
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	5	5	100.0%	0	0	0
U-2	6	4	66.7%	0	1	1
Total	**1,216**	**1,123**	**92.4%**	**0**	**47**	**46**
		92.4%		0.0%	3.9%	3.8%

Table 192 (cont'd)
Daily Aircraft Summary as of 22 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	126	95.5%	0	3	3
AC-130	8	7	87.5%	0	0	1
B-52	65	56	86.2%	0	4	5
C-130	145	135	93.1%	0	5	5
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	14	93.3%	0	0	1
EC-135	2	2	100.0%	0	0	0
EF-111	21	18	85.7%	0	3	0
F-111F	65	61	93.8%	0	2	2
F-117	42	37	88.1%	0	3	2
F-15	96	87	90.6%	0	7	2
F-15E	48	47	97.9%	0	0	1
F-16	197	186	94.4%	0	5	6
F-4G	48	41	85.4%	0	7	0
FA-16	18	17	94.4%	0	1	0
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	0	1
KC-10	29	27	93.1%	0	2	0
KC-135A	49	45	91.8%	0	1	3
KC-135E	56	49	87.5%	0	4	3
KC-135R	85	72	84.7%	0	4	9
MC-130	4	2	50.0%	0	0	2
MH-53	10	9	90.0%	0	1	0
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	1	0
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	6	5	83.3%	0	0	1
U-2	6	4	66.7%	0	1	1
Total	**1,215**	**1,111**	**91.4%**	**0**	**54**	**50**
		91.4%		0.0%	4.4%	4.1%

Table 192 (cont'd)
Daily Aircraft Summary as of 23 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	132	129	97.7%	0	2	1
AC-130	8	7	87.5%	0	0	1
B-52	64	56	87.5%	0	3	5
C-130	145	138	95.2%	0	4	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	14	93.3%	0	0	1
EC-135	2	1	50.0%	0	0	1
EF-111	21	18	85.7%	0	2	1
F-111F	65	63	96.9%	0	1	1
F-117	42	33	78.6%	0	7	2
F-15	96	90	93.8%	0	4	2
F-15E	48	47	97.9%	0	0	1
F-16	197	186	94.4%	0	5	6
F-4G	48	37	77.1%	0	10	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	5	100.0%	0	0	0
KC-10	29	27	93.1%	0	1	1
KC-135A	51	43	84.3%	0	3	5
KC-135E	56	52	92.9%	0	2	2
KC-135R	85	74	87.1%	0	4	7
MC-130	4	2	50.0%	0	0	2
MH-53	10	10	100.0%	0	0	0
MH-60	4	3	75.0%	0	0	1
OA-10	12	12	100.0%	0	0	0
RC-135	7	6	85.7%	0	0	1
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	6	5	83.3%	0	0	1
U-2	6	4	66.7%	0	1	1
Total	**1,216**	**1,117**	**91.9%**	**0**	**50**	**49**
		91.9%		0.0%	4.1%	4.0%

Table 192 (cont'd)
Daily Aircraft Summary as of 24 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	128	96.2%	0	4	1
AC-130	8	7	87.5%	0	0	1
B-52	65	59	90.8%	0	1	5
C-130	145	139	95.9%	0	3	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	1	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	1	50.0%	0	0	1
EF-111	20	18	90.0%	0	1	1
F-111F	66	54	81.8%	0	10	2
F-117	42	39	92.9%	0	2	1
F-15	96	92	95.8%	0	2	2
F-15E	48	47	97.9%	0	0	1
F-16	197	186	94.4%	0	5	6
F-4G	49	40	81.6%	0	8	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	3	75.0%	0	1	0
HH-3	5	5	100.0%	0	0	0
KC-10	29	29	100.0%	0	0	0
KC-135A	52	45	86.5%	0	2	5
KC-135E	53	47	88.7%	0	1	5
KC-135R	87	79	90.8%	0	3	5
MC-130	4	2	50.0%	0	0	2
MH-53	10	9	90.0%	0	1	0
MH-60	4	3	75.0%	0	0	1
OA-10	13	13	100.0%	0	0	0
RC-135	7	5	71.4%	0	0	2
RF-4C	12	10	83.3%	0	1	1
RF-4C	6	6	100.0%	0	0	0
TR-1	6	6	100.0%	0	0	0
U-2	6	4	66.7%	0	0	2
Total	**1,220**	**1,123**	**92.0%**	**0**	**47**	**50**
		92.0%		0.0%	3.9%	4.1%

Table 192 (cont'd)
Daily Aircraft Summary as of 25 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	130	97.7%	0	3	0
AC-130	8	6	75.0%	0	2	0
B-52	66	62	93.9%	0	2	2
C-130	145	140	96.6%	0	2	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	1	0
EC-130	15	14	93.3%	0	0	1
EC-135	2	2	100.0%	0	0	0
EF-111	20	16	80.0%	0	1	3
F-111F	66	62	93.9%	0	1	3
F-117	42	40	95.2%	0	1	1
F-15	96	93	96.9%	0	1	2
F-15E	48	47	97.9%	0	0	1
F-16	197	190	96.4%	0	0	7
F-4G	49	41	83.7%	0	7	1
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	5	100.0%	0	0	0
KC-10	29	29	100.0%	0	0	0
KC-135A	53	45	84.9%	0	2	6
KC-135E	53	49	92.5%	0	0	4
KC-135R	87	80	92.0%	0	3	4
MC-130	4	2	50.0%	0	0	2
MH-53	10	10	100.0%	0	0	0
MH-60	4	4	100.0%	0	0	0
OA-10	13	13	100.0%	0	0	0
RC-135	7	7	100.0%	0	0	0
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	6	100.0%	0	0	0
TR-1	6	6	100.0%	0	0	0
U-2	6	4	66.7%	0	0	2
Total	**1,222**	**1,152**	**94.3%**	**0**	**26**	**44**
		94.3%		0.0%	2.1%	3.6%

Table 192 (cont'd)
Daily Aircraft Summary as of 26 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	128	96.2%	0	5	0
AC-130	8	6	75.0%	0	2	0
B-52	65	55	84.6%	0	9	1
C-130	145	140	96.6%	0	2	3
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	1	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	2	100.0%	0	0	0
EF-111	20	16	80.0%	0	2	2
F-111F	66	57	86.4%	0	6	3
F-117	42	37	88.1%	0	3	2
F-15	96	92	95.8%	0	2	2
F-15E	48	47	97.9%	0	0	1
F-16	197	184	93.4%	0	7	6
F-4G	49	39	79.6%	0	7	3
FA-16	18	17	94.4%	0	0	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	4	80.0%	0	1	0
KC-10	29	26	89.7%	0	2	1
KC-135A	53	44	83.0%	0	5	4
KC-135E	53	49	92.5%	0	1	3
KC-135R	87	81	93.1%	0	2	4
MC-130	4	2	50.0%	0	2	0
MH-53	10	9	90.0%	0	1	0
MH-60	4	3	75.0%	0	1	0
OA-10	13	13	100.0%	0	0	0
RC-135	7	6	85.7%	0	1	0
RF-4C	12	10	83.3%	0	1	1
RF-4C	6	6	100.0%	0	0	0
TR-1	6	6	100.0%	0	0	0
U-2	6	3	50.0%	0	0	3
Total	**1,221**	**1,116**	**91.4%**	**0**	**64**	**41**
		91.4%		0.0%	5.2%	3.4%

Table 192 (cont'd)
Daily Aircraft Summary as of 27 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	128	96.2%	0	5	0
AC-130	8	8	100.0%	0	0	0
B-52	66	59	89.4%	0	4	3
C-130	145	141	97.2%	0	2	2
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	1	50.0%	0	1	0
EC-130	15	13	86.7%	0	0	2
EC-135	2	2	100.0%	0	0	0
EF-111	20	19	95.0%	0	1	0
F-111F	66	59	89.4%	0	4	3
F-117	42	38	90.5%	0	3	1
F-15	96	91	94.8%	0	2	3
F-15E	48	46	95.8%	0	1	1
F-16	197	184	93.4%	0	6	7
F-4G	49	43	87.8%	0	3	3
FA-16	18	16	88.9%	0	1	1
HC-130	4	4	100.0%	0	0	0
HH-3	5	3	60.0%	0	2	0
KC-10	29	26	89.7%	0	2	1
KC-135A	53	46	86.8%	0	4	3
KC-135E	52	48	92.3%	0	1	3
KC-135R	88	81	92.0%	0	4	3
MC-130	4	2	50.0%	0	0	2
MH-53	10	10	100.0%	0	0	0
MH-60	4	4	100.0%	0	0	0
OA-10	13	13	100.0%	0	0	0
RC-135	7	7	100.0%	0	0	0
RF-4C	12	10	83.3%	0	0	2
RF-4C	6	6	100.0%	0	0	0
TR-1	6	6	100.0%	0	0	0
U-2	6	3	50.0%	0	2	1
Total	**1,222**	**1,133**	**92.7%**	**0**	**48**	**41**
		92.7%		0.0%	3.9%	3.4%

Table 192 (cont'd)
Daily Aircraft Summary as of 28 Feb 91

Aircraft Type	Total	FMC	% FMC	PMC	NMCM	NMCS
A-10	133	125	94.0%	0	5	3
AC-130	8	7	87.5%	0	1	0
B-52	67	63	94.0%	0	1	3
C-130	145	139	95.9%	0	4	2
C-130E	5	5	100.0%	0	0	0
E-3A	11	11	100.0%	0	0	0
E-8A	2	2	100.0%	0	0	0
EC-130	15	13	86.7%	0	1	1
EC-135	2	2	100.0%	0	0	0
EF-111	20	17	85.0%	0	2	1
F-111F	66	62	93.9%	0	2	2
F-117	42	40	95.2%	0	1	1
F-15	96	90	93.8%	0	4	2
F-15E	48	47	97.9%	0	0	1
F-16	195	184	94.4%	0	4	7
F-4G	49	42	85.7%	0	5	2
FA-16	17	17	100.0%	0	0	0
HC-130	4	4	100.0%	0	0	0
HH-3	5	3	60.0%	0	1	1
KC-10	29	27	93.1%	0	2	0
KC-135A	52	45	86.5%	0	3	4
KC-135E	53	48	90.6%	0	2	3
KC-135Q	11	10	90.9%	0	1	0
KC-135R	78	71	91.0%	0	3	4
MC-130	4	2	50.0%	0	0	2
MH-53	10	9	90.0%	0	1	0
MH-60	4	4	100.0%	0	0	0
OA-10	12	12	100.0%	0	0	0
RC-135	7	7	100.0%	0	0	0
RF-4C	12	11	91.7%	0	0	1
RF-4C	6	5	83.3%	0	0	1
TR-1	6	5	83.3%	0	0	1
U-2	6	5	83.3%	0	0	1
Total	**1,220**	**1,134**	**93.0%**	**0**	**43**	**43**
		93.0%		0.0%	3.5%	3.5%

Source: CENTAF/LG, "Daily Maintenance Stats by Aircraft, by Base." (S)

U.S. Air Force Ammunition Supplies

The following tables, Table 193 and 194, depict U.S. Air Force ammunition expenditures. Table 193 shows the number of U.S. Air Force ammunition (by type) on-hand and required at monthly intervals from Sep 90 to Feb 91. This information was compiled from USCINCCENT situation reports (SITREPs) and Logistics situation reports (SITREPs).

Table 194 shows daily reporting for AFCENT munition expenditures stock levels and projected requirements. This table was extracted from the "EARFLAP" daily munitions expenditure reports compiled by RAND. It contains a final report from 9 March 1991 and a delta (difference) to reconcile the reported differences.

Notes:

1. The "Requirement (RQMT)" column for 1 Dec 90 in Table 193 refers to recently revised requirements, as Persian Gulf forces transitioned from a defensive to an offensive force posture.

2. The "% O/H vs. RQMT" column in Table 193 reflects the ammunition on-hand compared to requirements and expressed as a percentage. These numbers are computed by taking the number of ammunition on-hand and dividing by the number required.

Table 193 (cont'd)
U.S. Air Force Ammunition Supplies

Ordnance Type	2 Sep 1990 O/H	2 Sep 1990 Rqmt	2 Sep 1990 % O/H vs Rqmt	3 Oct 1990 O/H	3 Oct 1990 Rqmt	3 Oct 1990 % O/H vs Rqmt	2 Nov 1990 O/H	2 Nov 1990 Rqmt	2 Nov 1990 % O/H vs Rqmt
20 MM	–	–	–	5,659,120	2,015,000	281%	5,386,264	2,015,000	267%
30 MM	594,931	–	–	1,042,156	4,600,000	23%	3,013,778	3,400,000	89%
AGM-65B	268	–	–	1,915	2,800	68%	2,470	2,000	124%
AGM-65D	504	–	–	2,035	3,300	62%	2,382	4,100	58%
AGM-88	502	–	–	1,536	1,500	102%	1,580	1,500	105%
AGM-45	64	–	–	64	100	64%	64	64	100%
GBU-27	35	–	–	265	260	102%	265	260	102%
GBU-10	–	–	–	561	2,274	25%	940	1,194	79%
GBU-12	–	–	–	24	24	100%	24	24	100%
GBU-15	–	–	–	159	150	106%	150	130	115%
GBU-24	–	–	–	550	520	106%	684	1,140	60%
CBU-87	183	–	–	1,255	7,800	16%	2,127	7,500	28%
CBU-89	–	–	–	1,268	2,750	46%	1,403	2,100	67%
CBU-52/58/71	4,184	–	–	8,573	12,300	70%	11,112	8,450	132%
AIM-7	504	–	–	1,392	1,358	103%	1,446	1,358	106%
AIM-9	885	–	–	1,714	1,952	88%	1,953	1,952	100%
BLU-107	–	–	–	498	780	64%	780	780	100%
MK-20	2,000	–	–	4,526	4,900	92%	5,711	4,200	136%
MK-84	–	–	–	4,504	7,750	58%	5,174	6,650	78%
MK-82	–	–	–	22,462	18,500	121%	22,836	13,750	166%

Table 193
U.S. Air Force Ammunition Supplies

Ordnance Type	1 Dec 1990 O/H	1 Dec 1990 Rqmt	1 Dec 1990 % O/H vs Rqmt	1 Jan 1991 O/H	1 Jan 1991 Rqmt	1 Jan 1991 % O/H vs Rqmt	2 Feb 1991 O/H	2 Feb 1991 Rqmt	2 Feb 1991 % O/H vs Rqmt
20 MM	5,472,543	2,345,000	233%	4,711,609	2,575,000	183%	5,676,786	2,575,000	220%
30 MM	3,608,194	7,610,000	47%	4,263,351	7,530,000	57%	4,167,443	7,530,000	55%
AGM-65B	2,469	3,500	71%	2,784	3,500	80%	2,553	3,500	73%
AGM-65D	2,381	5,100	47%	3,355	5,100	66%	2,501	5,600	45%
AGM-88	2,477	2,500	99%	2,579	2,500	103%	1,786	2,500	71%
AGM-45	64	64	100%	64	64	100%	64	64	100%
GBU-27	365	500	73%	365	1,450	25%	316	1,050	30%
GBU-10	1,106	3,500	32%	1,215	2,090	58%	1,035	1,950	53%
GBU-12	50	300	17%	24	24	100%	24	24	100%
GBU-15	150	150	100%	108	150	72%	127	150	85%
GBU-24	758	1,450	52%	551	1,450	38%	322	650	50%
CBU-87	4,061	13,750	30%	12,287	13,000	95%	6,127	13,000	47%
CBU-89	1,387	2,950	47%	3,165	8,410	38%	2,798	8,410	33%
CBU-52/58/71	12,528	34,500	36%	17,986	51,310	35%	13,864	51,310	27%
AIM-7	1,443	1,536	94%	1,537	1,536	100%	1,564	1,536	102%
AIM-9	1,950	2,188	89%	2,106	2,188	96%	2,500	2,276	110%
BLU-107	1,980	780	254%	708	780	91%	778	780	100%
MK-20	5,811	7,550	77%	6,756	7,550	89%	4,376	7,550	58%
MK-84	6,904	30,900	22%	8,629	30,900	28%	7,464	30,900	24%
MK-82	25,088	51,900	48%	37,124	64,900	57%	48,646	64,900	75%

Sources: USSINCCENT SITREPs(S/UK); Logistics SITREPs(S)

Table 194
AFCENT Daily Munitions Expenditures

Munition	19-Jan-91	20-Jan-91	21-Jan-91	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
AGM-45								
AGM-65B				10				29
AGM65D	4	30	6	5	23	48	48	161
AGM-65G								
AGM-65E								
AGM-88	125	83	62	51	48	38	27	24
AIM-7	5	3	7		2			
AIM-9	3	8	10	1				6
Mk-20	348	122	12					
CBU-89	1,316	14	13		109		4	
CBU-52/58/71	576	174	212	198	785	1,660	576	377
BLU-107								
CBU-87		104	167	318	176	452	368	540
GBU-10	20	16	13	48	45	42	41	20
GBU-10/I-2000								
GBU-12								
GBU-15	6							
GBU-24	50	52	30		66	2	15	
GBU-24/I-2000								
GBU 27	77	6	15	6	6	4		
30mm	19,050	5,280	790		2,634		22,000	28,000
20mm	14,972		1,020	5,083	115			
Mk-84	255	325	314	8,102	94	129	368	248
Mk-82	260	174	644	343	260	134	175	938
M117	225	493	276	667	711	431	704	823
UK 1000lb	291							

Dates are reporting dates, in most cases weapons were expended the day prior

Table 194 (Cont'd)
AFCENT Daily Munitions Expenditures

Munition	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91	1-Feb-91	2-Feb-91	3-Feb-91
AGM-45								
AGM-65B	2	41		47	7	39	48	52
AGM65D	39		97	142	281	190	94	58
AGM-65G								
AGM-65E								
AGM-88		251	4	29	13	21	17	21
AIM -7			4		3	7	4	
AIM-9	1				2			
Mk-20				363	560	376	599	416
CBU-89	6	4	413		44	75	16	62
CBU-52/58/71	90	232	195	283		347	235	258
BLU-107								
CBU-87	718	533		1,987	734	619	105	59
GBU-10	112	19	21	79	86	93	51	39
GBU-10/I-2000				30	119	8	11	
GBU-12								
GBU-15		2				2		
GBU-24								
GBU-24/I-2000	98		59	33	23	118	53	2
GBU-27	45	45	45	21	12	15	14	20
30mm	2,000	29,000		42,000	38,000	49,000		40,389
20mm		3,000		220	2,000	17		
Mk-84	334	274	258	209	90	155	128	6
Mk-82	742	1,007	839	728	1,219	1,865	3,499	2,775
M117	659	270	546	411	546	353	584	360
UK 1000lb								

Table 194 (Cont'd)
AFCENT Daily Munitions Expenditures

Munition	4-Feb-91	5-Feb-91	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91	11-Feb-91
AGM-45								
AGM-65B	82	17	38	68	20	50	82	67
AGM65D	67	26	63	59	96	49	27	63
AGM-65G								8
AGM-65E								
AGM-88	14	8		23	21	24	7	12
AIM-7					1	6		
AIM-9		1	1	1	4			
Mk-20	414	419	371	99	50	211	296	223
CBU-89		54	8	12				
CBU-52/58/71	72	243	247	58	283	310	422	320
BLU-107								
CBU-87	32		32	52		4	13	
GBU-10	50	81	72	53		91		47
GBU-10/1-2000		63	32	31		30	34	
GBU-12								
GBU-15	2		4	3				
GBU-24				24		28		
GBU-24/1-2000	64		17	11		29	29	
GBU-27	13	8	17	34	28	27	41	12
30mm	51,980	18,694	23,493	30,229	14,126	33,865	28,760	40,766
20mm	761					153		
Mk-84	115	44	94	92	58	54	130	154
Mk-82	1,850	2,230	1,915	2,050	2,464	2,557	1,965	2,092
M117	1,536	1,247	1,246	1,597	707	925	855	819
UK 1000lb								

Table 194 (Cont'd)
AFCENT Daily Munitions Expenditures

Munition	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91	16-Feb-91	17-Feb-91	18-Feb-91	19-Feb-91
AGM-45			4	1				2
AGM-65B		150	55	92	61	112	73	3
AGM65D		135	30	62	68	67	53	46
AGM-65G		4	1	1	3	10		
AGM-65E								
AGM-88		25	7	16	14	15	3	8
AIM -7						1		
AIM-9			1					
Mk-20		169	24	25	12			
CBU-89								
CBU-52/58/71		1,073	360	491	316	538	792	190
BLU-107							8	
CBU-87		196	22	24	96	64	44	54
GBU-10		216	60	65	60	82	12	
GBU-10/I-2000		38			11	25	193	88
GBU-12		324	133	272	393	323		4
GBU-15				4	12			19
GBU-24		28		20			20	10
GBU-24/I-2000		30	16		24	27	21	12
GBU-27		50	20	3	19		12,180	2,970
30mm		66,313	44,939	42,994	49,433	40,282	1,600	2,800
20mm		2,400			8,021	1,600	626	196
Mk-84		593	430	432	241	404	1,486	617
Mk-82		3,805	2,145	1,826	726	1,107	879	1,128
M117		1,593	270	518	748	1,143		
UK 1000lb								

Table 194 (Cont'd)
AFCENT Daily Munitions Expenditures

Munition	20-Feb-91	21-Feb-91	22-Feb-91	23-Feb-91	24-Feb-91	25-Feb-91	26-Feb-91
AGM-45							
AGM-65B	79	67	23	25	74	66	37
AGM65D	53	73	47	64	144	142	143
AGM-65G							
AGM-65E							
AGM-88	1	[illegible]	6	5	3	8	8
AIM-7							
AIM-9		[illegible]		1			
Mk-20				16		88	56
CBU-89	30	35	12	12	12	54	77
CBU-52/58/7[illegible]	52	449	394	479	462	183	682
BLU-107							
CBU-87		18		30	18	12	420
GBU-10	53	30	34	52	47	20	39
GBU-10 w/2000	14						
GBU-12	223	234	76	338	434	282	264
GBU-15	10			4	7		6
GBU-24	16	16	23	12	8	37	8
GBU-24/T-2000	[illegible]		8	4	7		
GBU-27			13	12	7	25	4
30mm		10,870	3,860	13,140	11,955	9,192	47,081
20mm	[illegible]	2,000	1,200	2,443	2,310	1,398	200
Mk-84	575	610	233	458	562	626	490
Mk-82	991	1,384	1,013	913	899	1,419	1,678
M117	1,335	846	901	1,081	1,350	1,139	951
UK 1000lb							

Table 194 (Cont'd)
AFCENT Daily Munitions Expenditures

Munition	27-Feb-91	28-Feb-91	Total	9-Mar-91	Error
AGM-45			7	7	0
AGM-65B	16	33	1,665	1,703	(38)
AGM65D	104	176	3,883	3,536	(453)
AGM-65G			27	187	(160)
AGM-65E			0		0
AGM-88	16	9	1,877	909	168
AIM -7			43	51	(8)
AIM-9			41	36	5
Mk-20	14	4	5,287	5,364	(77)
CBU-89	91	60	2,533	1,107	1,426
CBU-52/58/71	593	485	16,202	17,029	(827)
BLU-107			0		0
CBU-87	768	1,274	9,963	10,815	(852)
GBU-10			2,005	2,007	(2)
GBU-10/I-2000		8	466	403	63
GBU-12	137	39	3,753	4,124	(371)
GBU-15	3		69	71	(2)
GBU-24	2		456	284	172
GBU-24/I-2000			694	877	(183)
GBU-27			724	718	6
30mm	18,362	26,526	923,633	1,024,838	(101,205)
20mm		13,014	67,827	71,400	(3,573)
Mk-84	135	59	18,700	11,024	7,676
Mk-82	877	442	54,053	53,757	296
M117	1,476	1,221	33,570	34,808	(1,238)
UK 1000lb			291	288	3

Source: EARFLAP Reports

Petroleum, Oil, and Lubricant (POL) Consumption at Weekly Intervals

POL usage was often reported as three-day totals under the assumption that each day had identical usage (rounded to one decimal place). Following are dates when only three-day totals were reported:

3-5	Oct 90	24-26	Oct 90
10-12	Oct 90	31-1	Oct - 2 Nov 90
17-19	Oct 90	7-9	Nov 90

Beginning with the POL usage for 3 Nov 90, the stated figures also include the Navy's average daily consumption .

In the reporting period 31 Jan to 19 Feb 91, the reported consumption of POL appears to be a day off. There was no report for 31 January and two reports for 19 Feb. The table was modified to reflect this error (i.e., 31 January POL is actually reported as 1 February POL in the SITREPs). No SITREPs were available for 25-28 Feb 91, and no data were reported for 22-28 Feb 91. Linear interpolation was used to supplement the missing data.

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Table 195
Petroleum, Oil, and Lubricant (POL) Consumption at Weekly Intervals

Date	POL Usage (Million Gallons)	Total To Date (Million Gallons)
1-Sep-90	2.20	2.20
8-Sep-90	3.20	20.46
15-Sep-90	2.80	39.11
22-Sep-90	3.00	60.41
29-Sep-90	2.80	79.51
6-Oct-90	2.90	100.91
13-Oct-90	3.50	121.41
20-Oct-90	2.90	142.51
27-Oct-90	3.50	161.81
3-Nov-90	4.50	183.91
10-Nov-90	3.90	214.51
17-Nov-90	4.40	245.31
24-Nov-90	4.70	278.80
1-Dec-90	5.30	311.60
8-Dec-90	5.20	348.10
15-Dec-90	5.70	384.20
22-Dec-90	5.85	426.85
29-Dec-90	6.20	466.65
5-Jan-91	7.50	513.65
12-Jan-91	8.80	570.95
19-Jan-91	16.40	650.45
26-Jan-91	15.50	768.05
2-Feb-91	16.40	889.75
9-Feb-91	18.30	1,014.85
16-Feb-91	18.40	1,141.65
23-Feb-91	19.10	1,271.85

Source: USCINCCENT SITREPs (S)

11

Proven Force

The Operations of Joint Task Force Proven Force added another dimension to the coalition air campaign. From the outset of the war, Proven Force struck targets in northern Iraq that would have been difficult or impossible for Gulf-based air elements to strike. This further stressed the Iraqi air defense system and improved the efficiency of other coalition air operations. Later in the campaign, as the concentration of coalition air operations shifted southward towards the KTO, Proven Force was able to "pick up the slack" and keep the pressure on key target systems in north central Iraq. Organizationally, Proven Force resembled a composite wing inwhich one unit and base, the 7440th Composite Wing (Provisional) at Incirlik AB, Turkey, combined all the necessary elements for air operations: fighter/bombers, EW/SEAD support, tankers, C^3I assets, day-night capability, etc.

Although this is not as large a chapter as others in this report, we determined that the Proven Force data should be presented in a separate chapter, to simplify research into its operations. The tables that follow depict the composition of Proven Force, its operations, maintenance data, and others.

The sources for this data included the 7440th Composite Wing (P) histories, and HQ EUCOM bomb damage assessments, which provided data on the combat strikes carried out by Proven Force.

Proven Force Data Sources

Proven Force data were derived from several sources, not always in total agreement. In an effort to show the conflicting sources we have compiled Table 196. We collected all the sortie counts on Proven Force and tried to match similar categories. At times, there was no exact match, because different offices count and categorize sorties in different ways. For that matter, the days may be on the ATO cycle, Zulu time, or local time. However, the totals for the war should be close.

Our first source was HQ USAFE Historical Study, Illustration 2 (S). The second source was a 1 Mar 91 USAFE/LGM (Logistics-Maintenance) Letter, "Proven Force Performance Data" (S). The third source was compiled in the GWAPS Composite Sorties Database, from Proven Force SITREPs (S) with the type of aircraft in the mission categories extracted from the fourth source, the "7440CW Bomb Damage Assessments" (S). Source five was the "EUCOM BDA Program" (S). The first three sources counted sorties; the last two counted air-to-ground strikes. The table demonstrates the discrepancy in sources and the difficulty of establishing reliability of one source over another.

F-16WW are the Wild Weasel F-16s (paired with F-4Gs) that would normally have been High-Speed Anti-Radiation Missile (HARM) shooters. In the Gulf War they also flew some air-to-air escort and bomb-dropping missions. Total sortie and strike counts allowed us to compare sources and identify problem areas. Note the difference between strikes and sorties discussed in Chapters Seven and Eight. The 7440CW and EUCOM strike counts do not include aborts or times when an aircraft flew but did not drop ordnance.

The data in the Proven Force Strike Counts, Table 199 and Table 200, were extracted solely from the 7440CW BDA list, source four. No HARM shots were counted for these strike counts but are tabulated in the strike counts in Chapter Eight. All Proven Force sortie and strike counts are included in the Chapters Seven and Eight.

Table 196
Proven Force Data Sources

	USAFE/HO	USAFE/LG	GWAPS	7440CW/HO	EUCOM
F-4G	695	429	389	NA	75
F-16WW	123	577	NA	NA	NA
WW Total		**818**	**1006**		
F-16	1223	1108	1560	1106	505
F-16 Total		**1346**	**1685**		
F-111E	462	553	458	423	505
F-4E	6	6	4	4	0
B-52	0	0	114	98	40
Potential Strikes	**1691**	**1667**	**2525**	**1631**	**1268**
RF-4C	108	109	103		
F-15C	818	1068	1187		
EF-11	206	250	223		
EC-130	100	NA	102		
Others	742	715	645		
Total	**4483**	**4815**	**4785**		

Source: GWAPS

Proven Force Aircraft

Proven Force was mainly based at Incirlik Air Base, Republic of Turkey. However, there were bomber and support forces throughout Europe. These numbers and locations were extracted from HQ USAFE's History Office documents compiled by CMSgt Jerome E. Schroeder, with additions from HQ TAC/XPM "USCENTAF Provisional Divisions." Fairford B-52s began supporting JTF Proven Force on 11 Feb 91. That is why there may be some discrepancy with the Moron and Fairford B-52s appearing to belong to both CENTAF and Proven Force.

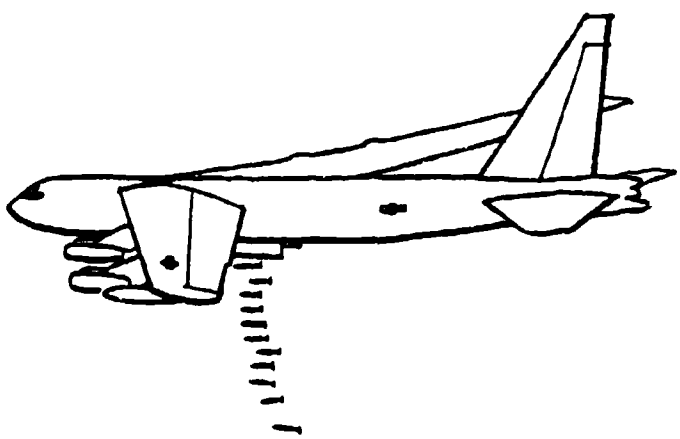


Table 197
Proven Force Aircraft

Fighter Aircraft

Unit / Subunit	Aircraft	Number	Location	Deployment Date
20TFW				
77TFS	F-111E	14	Incirlik AB	1-Aug-90
55TFS	F-111E	8	Incirlik AB	31-Aug-90
79TFS	F-111E	4	Incirlik AB	17-Jan-91
401TFW				
525TFS	F-15C	24	Incirlik AB	16-Dec-90
43ECS	EC-130	3	Incirlik AB	17-Jan-91
42ECS	EF-111A	6	Incirlik AB	17-Jan-91
32TFG	F-15C	5	Incirlik AB	17-Jan-91
52TFW				
23TFS	F-16	11	Incirlik AB	17-Jan-91
23TFS	F-4G	13	Incirlik AB	17-Jan-91
26TRW	RF-4C	6	Incirlik AB	4-Feb-91
3TFW(PACAF)	F-4E	4	Incirlik AB	21-Feb-91

Bomber Aircraft

801PBW B-52		21	Moron, Spain	
806PBW B-52		8	Fairford, UK	

Support Aircraft

804ARW	KC-135	15	Incirlik AB	
VQ-2	EP-3	2	Incirlik AB	6-Dec-90
552AWACW	E-3A	3	Incirlik AB	
67SOS	MC-130/HC-130	7	Incirlik AB	
67SOS	MH-53J		Incirlik AB	
37TAS	C-130H	11	Incirlik AB	
61TAS	C-130E	8	Incirlik AB	
	KC-10	7	Malpensa, Italy	
	KC-10	7	Zaragoza, Spain	
	KC-135	1	Zaragoza, Spain	
	KC-135	9	Mont de Marsen	
	KC-135	9	Mildenhall, UK	
	KC-135	1	Andravida, Greece	
	KC-135	7	Helenikon, Greece	
	RC-135	2	Souda Bay	

Source: HQ USAFE/HO(S)

Table 198
Proven Force Sorties by Aircraft Type

Aircraft Type	Flown
B-52	114
E-3	81
EC-130	102
EF-111	223
F-111E	458
F-15C	1,187
F-16	1,560
F-4E	4
F-4G	389
KC-10	2
KC-135	515
P-3	4
RC-135	43
RF-4C	103
Total	**4,785**

Source: Composite Sorties Database

Table 199
Proven Force Sorties by Mission Type by Day

Mission Type	17-Jan-91	18-Jan-91	19-Jan-91	20-Jan-91	21-Jan-91
Interdiction	0	11	23	35	4
Total AI	**0**	**11**	**23**	**35**	**4**
DCA	24	40	44	33	38
Total DCA	**24**	**40**	**44**	**33**	**38**
OCA	22	41	22	0	29
SEAD	12	12	26	19	24
Total OCA	**34**	**53**	**48**	**19**	**53**
Recce	0	1	1	1	2
Total Recce	**0**	**1**	**1**	**1**	**2**
Refueling	10	15	15	11	12
Total Refueling	**10**	**15**	**15**	**11**	**12**
SOF	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
EW	8	18	13	6	2
Total EW	**8**	**18**	**13**	**6**	**2**
ABN Early Warning	0	1	2	2	2
Total C3	**0**	**1**	**2**	**2**	**2**
Total	**76**	**139**	**146**	**107**	**113**

Mission Type	22-Jan-91	23-Jan-91	24-Jan-91	25-Jan-91	26-Jan-91
Interdiction	0	19	12	22	14
Total AI	**0**	**19**	**12**	**22**	**14**
DCA	30	38	31	28	30
Total DCA	**30**	**38**	**31**	**28**	**30**
OCA	40	34	41	16	20
SEAD	20	28	23	17	16
Total OCA	**60**	**62**	**64**	**33**	**36**
Recce	0	0	2	2	2
Total Recce	**0**	**0**	**2**	**2**	**2**
Refueling	14	16	16	8	9
Total Refueling	**14**	**16**	**16**	**8**	**9**
SOF	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
EW	14	12	9	7	7
Total EW	**14**	**12**	**9**	**7**	**7**
ABN Early Warning	2	1	2	2	2
Total C3	**2**	**1**	**2**	**2**	**2**
Total	**120**	**148**	**136**	**102**	**100**

Table 199 (cont'd)
Proven Force Sorties by Mission Type by Day

Mission Type	27-Jan-91	28-Jan-91	29-Jan-91	30-Jan-91	31-Jan-91
Interdiction	10	20	8	12	8
Total AI	10	20	8	12	8
DCA	41	46	18	32	38
Total DCA	41	46	18	32	38
OCA	28	16	8	30	27
SEAD	17	16	8	13	13
Total OCA	45	32	16	43	40
Recce	2	2	1	2	1
Total Recce	2	2	1	2	1
Refueling	9	15	7	11	12
Total Refueling	9	15	7	11	12
SOF	0	0	0	0	0
Total SOF	0	0	0	0	0
EW	10	7	4	7	6
Total EW	10	7	4	7	6
ABN Early Warning	2	0	2	2	2
Total C3	2	0	2	2	2
Total	119	122	56	109	107

Mission Type	1-Feb-91	2-Feb-91	3-Feb-91	4-Feb-91	5-Feb-91
Interdiction	18	28	12	20	44
Total AI	18	28	12	20	44
DCA	24	39	20	28	32
Total DCA	24	39	20	28	32
OCA	31	20	19	31	10
SEAD	24	22	12	22	22
Total OCA	55	42	31	53	32
Recce	1	1	1	8	7
Total Recce	1	1	1	8	7
Refueling	15	14	9	13	13
Total Refueling	15	14	9	13	13
SOF	0	0	0	0	0
Total SOF	0	0	0	0	0
EW	11	11	2	12	12
Total EW	11	11	2	12	12
ABN Early Warning	2	3	2	3	3
Total C3	2	3	2	3	3
Total	126	138	77	137	143

Table 199 (cont'd)
Proven Force Sorties by Mission Type by Day

Mission Type	6-Feb-91	7-Feb-91	8-Feb-91	9-Feb-91	10-Feb-91
Interdiction	34	24	51	60	56
Total AI	**34**	**24**	**51**	**60**	**56**
DCA	18	20	28	32	34
Total DCA	**18**	**20**	**28**	**32**	**34**
OCA	0	12	4	0	0
SEAD	9	11	23	21	25
Total OCA	**9**	**23**	**27**	**21**	**25**
Recce	5	5	7	7	5
Total Recce	**5**	**5**	**7**	**7**	**5**
Refueling	8	7	14	14	13
Total Refueling	**8**	**7**	**14**	**14**	**13**
SOF	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
EW	4	2	9	9	9
Total EW	**4**	**2**	**9**	**9**	**9**
ABN Early Warning	2	2	2	2	3
Total C3	**2**	**2**	**2**	**2**	**3**
Total	**80**	**83**	**138**	**145**	**145**

Mission Type	11-Feb-91	12-Feb-91	13-Feb-91	14-Feb-91	15-Feb-91
Interdiction	35	36	28	39	8
Total AI	**35**	**36**	**28**	**39**	**8**
DCA	20	28	20	22	16
Total DCA	**20**	**28**	**20**	**22**	**16**
OCA	12	20	11	0	8
SEAD	9	18	13	14	8
Total OCA	**21**	**38**	**24**	**14**	**16**
Recce	5	5	5	5	1
Total Recce	**5**	**5**	**5**	**5**	**1**
Refueling	8	12	9	11	8
Total Refueling	**8**	**12**	**9**	**11**	**8**
SOF	0	4	0	0	0
Total SOF	**0**	**4**	**0**	**0**	**0**
EW	2	10	7	2	4
Total EW	**2**	**10**	**7**	**2**	**4**
ABN Early Warning	2	2	2	2	1
Total C3	**2**	**2**	**2**	**2**	**1**
Total	**93**	**135**	**95**	**95**	**54**

Table 199 (cont'd)
Proven Force Sorties by Mission Type by Day

Mission Type	16-Feb-91	17-Feb-91	18-Feb-91	19-Feb-91	20-Feb-91
Interdiction	16	36	28	35	30
Total AI	**16**	**36**	**28**	**35**	**30**
DCA	16	33	32	32	30
Total DCA	**16**	**33**	**32**	**32**	**30**
OCA	28	16	12	16	18
SEAD	15	30	16	28	27
Total OCA	**43**	**46**	**28**	**44**	**45**
Recce	7	7	5	7	7
Total Recce	**7**	**7**	**5**	**7**	**7**
Refueling	10	15	16	16	15
Total Refueling	**10**	**15**	**16**	**16**	**15**
SOF	0	0	0	0	0
Total SOF	**0**	**0**	**0**	**0**	**0**
EW	6	9	6	10	8
Total EW	**6**	**9**	**6**	**10**	**8**
ABN Early Warning	1	3	2	3	2
Total C3	**1**	**3**	**2**	**3**	**2**
Total	**99**	**149**	**117**	**147**	**137**

Mission Type	21-Feb-91	22-Feb-91	23-Feb-91	24-Feb-91	25-Feb-91
Interdiction	42	32	38	20	42
Total AI	**42**	**32**	**38**	**20**	**42**
DCA	22	24	26	30	18
Total DCA	**22**	**24**	**26**	**30**	**18**
OCA	0	0	8	16	6
SEAD	25	18	22	16	16
Total OCA	**25**	**18**	**30**	**32**	**22**
Recce	5	5	7	1	7
Total Recce	**5**	**5**	**7**	**1**	**7**
Refueling	14	11	18	16	17
Total Refueling	**14**	**11**	**18**	**16**	**17**
SOF	2	0	2	0	0
Total SOF	**2**	**0**	**2**	**0**	**0**
EW	9	6	9	7	6
Total EW	**9**	**6**	**9**	**7**	**6**
ABN Early Warning	2	2	2	2	2
Total C3	**2**	**2**	**2**	**2**	**2**
Total	**121**	**98**	**132**	**108**	**114**

Table 199 (cont'd)
Proven Force Sorties by Mission Type by Day

Mission Type	26-Feb-91	27-Feb-91	28-Feb-91	Total
Interdiction	58	15	0	1,083
Total AI	**58**	**15**	**0**	**1,083**
DCA	24	8	0	1,187
Total DCA	**24**	**8**	**0**	**1,187**
OCA	0	0	0	672
SEAD	20	8	0	758
Total OCA	**20**	**8**	**0**	**1,430**
Recce	5	0	0	150
Total Recce	**5**	**0**	**0**	**150**
Refueling	17	4	0	517
Total Refueling	**17**	**4**	**0**	**517**
SOF	4	0	0	12
Total SOF	**4**	**0**	**0**	**12**
EW	9	4	0	325
Total EW	**9**	**4**	**0**	**325**
ABN Early Warning	2	1	0	81
Total C3	**2**	**1**	**0**	**81**
Total	**139**	**40**	**0**	**4,785**

Source: Composite Sorties Database

Table 200
Proven Force Strikes by AIF Categories

Aircraft Type	OCA	NBC	C3	Elect	Govt Cntrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other/ Unclass	Total
B-52	24	8	3	28	0	0	7	0	4	11	0	13	98	0	98
F-111E	104	14	14	40	0	0	47	11	40	30	10	71	381	42	423
F-16	285	81	178	38	0	0	39	8	30	46	21	271	997	98	1,095
F-4E	0	0	0	0	0	0	0	0	0	0	0	2	2	2	4
Total	413	103	195	106	0	0	93	19	74	87	31	357	1,478	142	1,620

Source: Missions Database (S/NF/WN/NC)

Table 201
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
1	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	F-111E	10	0	0	0	0	0	0	0	0	0	0	0	10	0	10
1	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Total	10	0	0	0	0	0	0	0	0	0	0	0	10	0	10

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
2	B-52	0	0	0	0	0	0	0	0	0	3	0	3	6	0	6
2	F-111E	4	0	0	8	0	0	0	0	0	0	0	0	12	0	12
2	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Total	4	0	0	8	0	0	0	0	0	3	0	3	18	0	18

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
3	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	34	0	34
3	F-16	10	0	24	0	0	0	0	0	0	0	0	0	0	0	0
3	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	34	0	34
3	Total	10	0	24	0	0	0	0	0	0	0	0	0	34	0	34

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
4	B-52	0	0	0	4	0	0	0	0	0	0	0	0	4	0	4
4	F-111E	0	10	0	0	0	0	0	0	0	0	0	0	10	2	12
4	F-16	22	8	3	0	0	0	0	0	0	0	0	0	33	0	33
4	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Total	22	18	3	4	0	0	0	0	0	0	0	0	47	2	49

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
5	B-52	0	0	0	4	0	0	0	0	0	0	0	0	4	0	4
5	F-111E	7	0	2	0	0	0	0	0	0	0	0	8	17	0	17
5	F-16	0	0	8	8	0	0	0	0	0	0	0	0	16	0	16
5	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Total	7	0	10	12	0	0	0	0	0	0	0	8	37	0	37

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
6	B-52	4	0	0	0	0	0	0	0	0	0	0	0	4	0	4
6	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Total	4	0	0	0	0	0	0	0	0	0	0	0	4	0	4

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
7	B-52	0	0	3	0	0	0	0	0	0	0	0	0	3	0	3
7	F-111E	12	0	0	0	0	0	0	0	0	0	0	0	12	0	12
7	F-16	11	0	0	0	0	0	0	0	0	8	4	8	31	0	31
7	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Total	23	0	3	0	0	0	0	0	0	8	4	8	46	0	46

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
8	B-52	3	0	0	3	0	0	0	0	0	0	0	0	6	0	6
8	F-111E	12	0	0	0	0	0	0	0	0	0	0	0	12	0	12
8	F-16	8	0	23	8	0	0	0	0	0	0	0	0	39	0	39
8	F4-E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Total	23	0	23	11	0	0	0	0	0	0	0	0	57	0	57

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
9	B-52	4	0	0	0	0	0	0	0	0	0	0	0	4	0	4
9	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	F-16	16	0	4	4	0	0	0	0	0	0	0	0	24	0	24
9	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Total	20	0	4	4	0	0	0	0	0	0	0	0	28	0	28

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
10	B-52	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4
10	F-111E	8	0	0	4	0	0	0	0	0	0	0	0	12	0	12
10	F-16	2	0	16	2	0	0	0	0	0	0	0	0	20	0	20
10	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Total	10	0	16	6	0	0	0	0	0	4	0	0	36	0	36

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
11	B-52	0	0	0	3	0	0	3	0	0	0	0	0	6	0	6
11	F-111E	4	0	4	0	0	0	0	0	0	0	0	0	8	0	8
11	F-16	4	0	16	0	0	0	0	0	0	0	0	0	20	0	20
11	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Total	8	0	20	3	0	0	3	0	0	0	0	0	34	0	34

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
12	B-52	0	0	0	0	0	0	4	0	0	0	0	0	4	0	4
12	F-111E	0	0	0	0	0	0	0	4	8	0	0	0	12	0	12
12	F-16	16	0	4	0	0	0	0	0	0	0	0	0	20	0	20
12	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Total	16	0	4	0	0	0	4	4	8	0	0	0	36	0	36

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
13	B-52	0	0	0	4	0	0	0	0	0	0	0	0	4	0	4
13	F-111E	8	0	0	0	0	0	0	0	4	0	0	0	12	0	12
13	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Total	8	0	0	4	0	0	0	0	4	0	0	0	16	0	16

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
14	B-52	6	0	0	0	0	0	0	0	0	0	0	0	6	0	6
14	F-111E	0	0	0	8	0	0	0	0	4	0	0	0	12	0	12
14	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Total	6	0	0	8	0	0	0	0	4	0	0	0	18	0	18

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
15	B-52	0	4	0	0	0	0	0	0	0	0	0	0	4	0	4
15	F-111E	3	0	0	0	0	0	0	0	0	0	6	0	9	0	9
15	F-16	20	0	0	0	0	0	0	0	0	0	0	0	20	0	20
15	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Total	23	4	0	0	0	0	0	0	0	0	6	0	33	0	33

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
16	B-52	0	0	0	0	0	0	0	0	0	6	0	6	6	0	6
16	F-111E	4	0	0	0	0	0	0	0	0	0	0	0	4	8	12
16	F-16	12	0	0	0	0	0	0	0	0	0	0	0	12	8	20
16	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Total	16	0	0	0	0	0	0	0	0	0	0	6	22	16	38

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
17	B-52	4	0	0	0	0	0	0	0	0	0	0	0	4	0	4
17	F-111E	0	4	0	0	0	0	0	0	0	4	0	0	8	0	8
17	F-16	28	4	0	0	0	0	0	0	0	0	0	0	32	0	32
17	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Total	32	8	0	0	0	0	0	0	0	4	0	0	44	0	44

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
18	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	F-111E	0	0	0	8	0	0	3	0	0	0	0	0	11	0	11
18	F-16	16	0	0	0	0	0	0	0	0	16	0	0	32	0	32
18	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Total	16	0	0	8	0	0	3	0	0	16	0	0	43	0	43

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
19	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	F-111E	0	0	0	4	0	0	0	0	8	0	0	0	12	0	12
19	F-16	19	0	0	0	0	0	0	0	0	0	0	0	19	0	19
19	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Total	19	0	0	4	0	0	0	0	8	0	0	0	31	0	31

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
20	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	F-111E	0	0	0	4	0	0	8	0	0	0	0	0	12	0	12
20	F-16	8	8	23	0	0	0	0	0	0	0	0	0	39	0	39
20	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Total	8	8	23	4	0	0	8	0	0	0	0	0	51	0	51

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
21	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	F-16	11	0	0	0	0	0	0	0	0	0	0	4	15	0	15
21	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Total	11	0	0	0	0	0	0	0	0	0	0	4	15	0	15

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
22	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	F-111E	12	0	0	0	0	0	0	0	0	0	0	0	12	0	12
22	F-16	0	0	0	0	0	0	0	0	4	6	0	0	10	8	18
22	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Total	12	0	0	0	0	0	0	0	4	6	0	0	22	8	30

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
23	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	F-111E	0	0	0	4	0	0	8	0	0	0	0	0	12	0	12
23	F-16	0	24	0	0	0	0	0	0	0	0	0	0	24	0	24
23	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Total	0	24	0	4	0	0	8	0	0	0	0	0	36	0	36

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
24	B-52	0	0	0	4	0	0	0	0	0	0	0	0	4	0	4
24	F-111E	0	0	0	0	0	0	12	0	0	0	0	0	12	0	12
24	F-16	4	0	0	0	0	0	39	0	0	0	0	0	43	0	43
24	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Total	4	0	0	4	0	0	51	0	0	0	0	0	59	0	59

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
25	B-52	0	0	0	3	0	0	0	0	0	0	0	0	3	0	3
25	F-111E	0	0	0	0	0	0	12	0	0	0	0	0	12	0	12
25	F-16	0	0	0	0	0	0	0	0	0	0	0	43	43	0	43
25	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Total	0	0	0	3	0	0	12	0	0	0	0	43	58	0	58

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
26	B-52	0	0	0	3	0	0	0	0	0	0	0	0	3	0	3
26	F-111E	0	0	0	0	0	0	0	0	0	4	0	4	8	4	12
26	F-16	4	0	0	0	0	0	0	0	0	12	0	20	36	8	44
26	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Total	4	0	0	3	0	0	0	0	0	16	0	24	47	12	59

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
27	B-52	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4
27	F-111E	0	0	4	0	0	0	4	0	0	0	0	0	8	4	12
27	F-16	0	0	8	16	0	0	0	0	0	0	0	0	24	0	24
27	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Total	0	0	12	16	0	0	4	0	0	4	0	0	36	4	40

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
28	B-52	3	0	0	0	0	0	0	0	0	0	0	0	3	0	3
28	F-111E	0	0	4	0	0	0	0	0	0	0	4	4	12	0	12
28	F-16	8	0	15	0	0	0	0	0	0	4	0	0	27	12	39
28	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Total	11	0	19	0	0	0	0	0	0	4	4	4	42	12	54

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other/Unclass	Total
29	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	F-111E	0	0	0	0	0	0	0	0	0	0	0	12	12	4	16
29	F-16	0	0	0	0	0	0	0	0	0	0	4	0	4	20	24
29	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Total	0	0	0	0	0	0	0	0	0	0	4	12	16	24	40

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
30	B-52	0	4	0	0	0	0	0	0	0	0	0	0	4	0	4
30	F-111E	6	0	0	0	0	0	0	0	0	0	0	4	10	0	10
30	F-16	0	0	0	0	0	0	0	0	0	0	0	24	24	0	24
30	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Total	6	4	0	0	0	0	0	0	0	0	0	28	38	0	38

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
31	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
32	B-52	0	0	0	0	0	0	0	0	0	0	0	4	4	0	4
32	F-111E	0	0	0	0	0	0	0	0	0	4	0	4	8	4	12
32	F-16	24	0	0	0	0	0	0	0	0	0	0	16	40	0	40
32	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Total	24	0	0	0	0	0	0	0	0	4	0	24	52	4	56

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
33	B-52	0	0	0	0	0	0	0	0	4	0	0	0	4	0	4
33	F-111E	8	0	0	0	0	0	0	0	0	4	0	0	12	0	12
33	F-16	0	0	16	0	0	0	0	0	0	0	4	20	40	0	40
33	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Total	8	0	16	0	0	0	0	0	4	4	4	20	56	0	56

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
34	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	F-111E	0	0	0	0	0	0	0	3	0	8	0	0	11	0	11
34	F-16	4	0	0	0	0	0	0	0	20	0	0	0	24	0	24
34	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	Total	4	0	0	0	0	0	0	3	20	8	0	0	35	0	35

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
35	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	F-111E	0	0	0	0	0	0	0	4	8	0	0	0	12	0	12
35	F-16	7	24	12	0	0	0	0	0	0	0	0	0	43	0	43
35	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Total	7	24	12	0	0	0	0	4	8	0	0	0	55	0	55

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
36	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	F-111E	0	0	0	0	0	0	0	0	8	0	0	0	8	0	8
36	F-16	14	0	6	0	0	0	0	8	0	0	4	4	36	0	36
36	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Total	14	0	6	0	0	0	0	8	8	0	4	4	44	0	44

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
37	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
37	F-16	0	0	0	0	0	0	0	0	2	0	5	20	27	16	43
37	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Total	0	0	0	0	0	0	0	0	2	0	5	20	27	28	55

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
38	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0		
38	F-111E	0	0	0	0	0	0	0	0	0	0	0	12	12		
38	F-16	0	0	0	0	0	0	0	0	0	0	0	20	20	0	
38	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
38	Total	0	0	0	0	0	0	0	0	0	0	0	32	32	0	32

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
39	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	F-111E	6	0	0	0	0	0	0	0	0	6	0	0	12	0	12
39	F-16	8	0	0	0	0	0	0	0	0	0	0	24	32	2	34
39	F-4G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	F-4E	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2
39	Total	14	0	0	0	0	0	0	0	0	6	0	26	46	2	48

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
40	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	F-16	9	13	0	0	0	0	0	0	0	0	0	0	22	0	22
40	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	Total	9	13	0	0	0	0	0	0	0	0	0	0	22	0	22

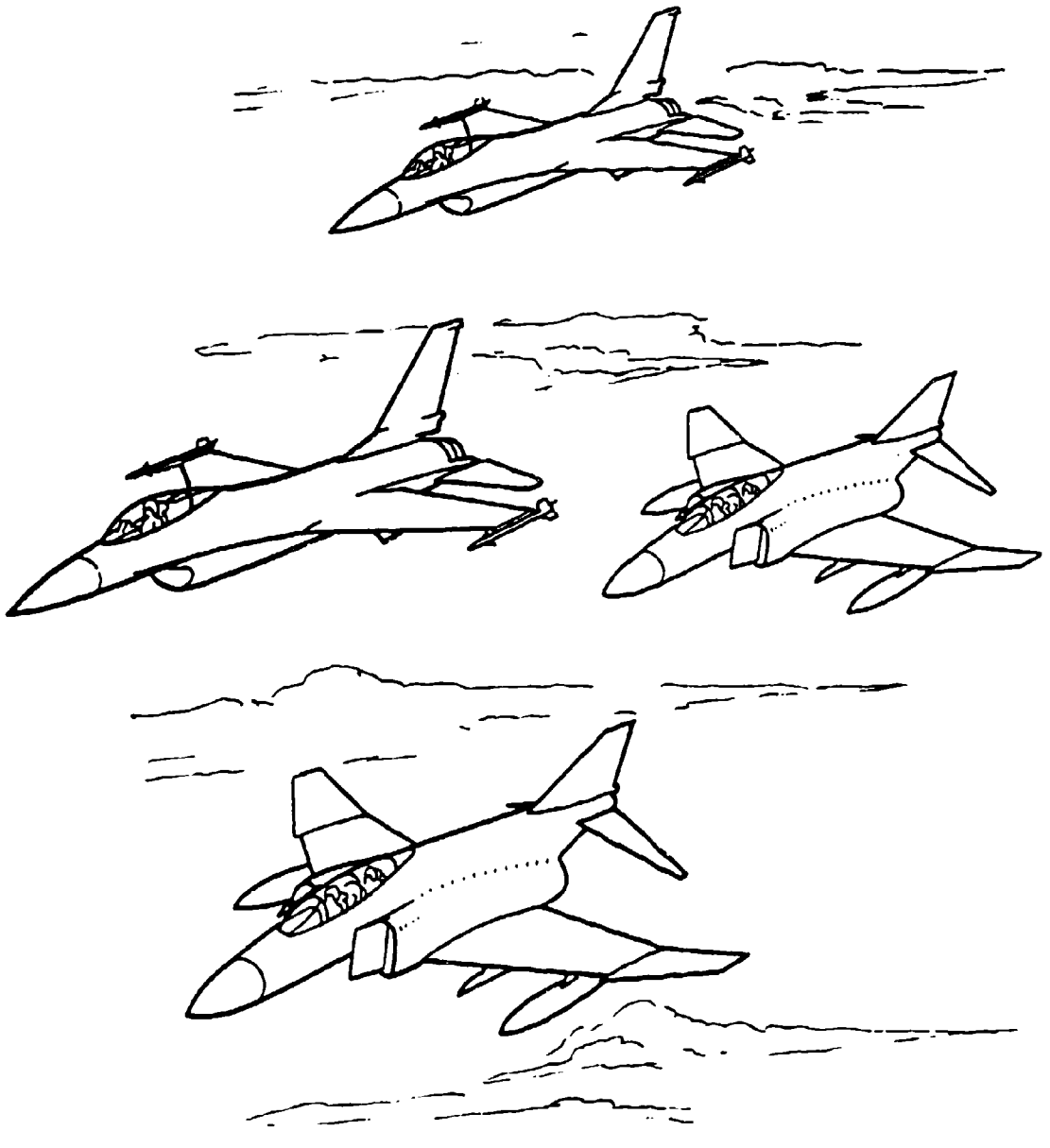
Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
41	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	F-111E	0	0	0	0	0	0	0	0	0	0	0	8	8	4	12
41	F-16	0	0	0	0	0	0	0	0	0	0	0	36	36	12	48
41	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Total	0	0	0	0	0	0	0	0	0	0	0	44	44	16	60

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
42	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	F-111E	0	0	0	0	0	0	0	0	0	0	0	15	15	0	15
42	F-16	0	0	0	0	0	0	0	0	4	0	0	32	36	12	48
42	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
42	Total	0	0	0	0	0	0	0	0	4	0	0	47	51	14	65

Table 201 (Cont'd)
Proven Force Strikes by AIF Categories by Day

Day	Aircraft Type	OCA	NBC	C3	Elect	Govt Ctrl	Navy	POL	Lines of Comm	GOB	Scuds	SAM	Military Industries	Subtotal	Other Unclass	Total
43	B-52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-111E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	F-4E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Missions Database (S/NF/WN/NC)



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Aircraft and Personnel Losses

During the Gulf War Allied aircraft dominated the skies over Iraq, downing 39 Iraqi aircraft in air-to-air combat for the suspected loss of one,[5] and this chapter includes tables with aggregate data on these engagements. The vast majority of Allied aircraft losses were inflicted by ground-based air defenses. We have developed a table listing U.S. personnel losses. Finally, we have included a table on coalition aircraft losses during Desert Shield, prior to the outbreak of hostilities, although these losses resulted from causes such as training accidents and mechanical failure rather than enemy fire.

Losses during Desert Shield were derived from U.S. Commander-in-Chief, Central Command (USCINCCENT) situation reports (SITREPs) and from a U.S. Air Force, Central Command (CENTAF) Safety Division publication, "USCENTAF Mishap Rate Charts." The table on personnel losses combines data from wartime SITREPs and a postwar report from the OSD/Public Information office. This table illustrates the difference between wartime knowledge, in which the status of several dozen personnel carried as MIA was uncertain, and the postwar resolution of their status.

[5]The determination of the cause of loss of a Navy F/A-18 on the first night of the war has not been conclusively settled as of the time of this writing. While it is suspected that this loss was caused by an Iraqi fighter, the issue is still under evaluation.

Aircraft Attrition in Desert Shield

The data in the following table list the aircraft losses sustained by the coalition during Operation Desert Shield, their causes, time of occurrence, and location.

The table was derived from USCINCCENT situation reports during Desert Shield, as published by the Pentagon Directorate of Operations. Data were also extracted from "USCENTAF Mishap Rate Charts" published 11 Jan 91 by CENTAF/SE.

U.S. losses listed in this table are confined to Class "A" mishaps resulting either in loss of life or complete destruction of the aircraft. Allied losses included all accidents listed in the reports. Following are aircraft losses reported in the Mishap Charts, but not described in the SITREPs:

- 23 Sep 90 crash of SH-3
- 29 Sep 90 crash of UH-60
- 2 Oct 90 crash of OH-58C
- 7 Jan 91 crash of AH-64

The crash of AH-1W on 6 Sep 90 is listed in SITREPs but not in Class "A" Mishaps compilation.

On 11 Oct 90, additional flight restrictions were enacted due to an increase in accidents:

- Minimum altitude of 1000 ft AGL for low-level training
- Minimum altitude of 5000 ft AGL for air-to-air training
- No practice "Gun Jinking" allowed

Table 202
U.S. Aircraft Attrition During Desert Shield

Date	Unit/Service	Aircraft Type	Mission	Location	Cause	Remarks
20-Aug-90	82ND ABN DIV, USA	OH-58D	Nvg training	King Fahd	Ground impact during gun jink	No injuries
28-Aug-90	U.S. Air Force	C-5	Transport	Ramstein AFB	_	13 fatalities
3-Sep-90	363 TFW, USAF	F-16C	Training	2400N05300E	Engine fire	Minor injuries; pilot picked up by UAE SAR
6-Sep-90	1 MEF, USMC	AH-1W	_	Near Dhahran	_	2 minor injuries
7-Sep-90	101ST AVN BDE, USA	OH-58C	Nvg training	King Fahd	Impacted sand dune while noe	1 minor injury
13-Sep-90	1 MEF, USMC	CH-53E	_	King Abdul Aziz	Crashed on take-off	Minor injuries - smoke inhalation, burns
23-Sep-90	USS Kennedy, USN	SH-3	_	Red Sea	_	Crashed in water 100 yd from USS Kennedy
29-Sep-90	U.S. Army	UH-60	Nvg training	_	Impacted sand dune	Crashed in terrain flight mode - 5 injuries
30-Sep-90	4 TFW, USAF	F-15E	Training	Oman	Ground impact vicinity Thumrayt	Low altitude training - 2 fatalities
2-Oct-90	U.S. Army	OH-58C	Training	_	Lost reference to ground	Impacted during approach - no injuries
8-Oct-90	HMM-164, USMC	UH-1N	Nvg training	2014N05948E	Mid-air collision	SAR discontinued 090730z oct- 8 fatalities
8-Oct-90	106 TRS, USAF	RF-4C	Training	_	Ground impact during gun jink	2 fatalities - deployed to Al Dhafra, UAE
10-Oct-90	48 TFW, USAF	F-111	Training	40 NM SE Taif	Impact during low level train	2 fatalities
24-Nov-90	U.S. Marine Corps	CH-53E	_	_	Fire in #2 engine	A/C landed - crew exited - no injuries
5-Dec-90	_	AH-1	_	_	Lost power on takeoff	Crashed - no injuries
7-Jan-90	U.S. Army	AH-64	_	_	APU fire	Extensive damage to aircraft
9-Jan-91	U.S. Air Force	F-16C	Night Cannon	_	_	1 fatality
11-Jan-91	101ST AVN BN, USA	CH-47D	_	_	Engine failure and fire	No fatalities
13-Jan-91	138 TFS, USAF	F-16	_	_	Aircraft malfunction	Pilot successfully ejected

Source: USCINCCENT SITREPs (S) and "USCENTAF Mishap Rate Charts" published 11 January 1991 by CENTAF/SE (U)

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Desert Storm Coalition Aircraft Attrition

The following table provides information on U.S. & Allied aircraft attrition during Desert Storm from 17 Jan 91 to 28 Feb 91.

Table 203 summarizes combat losses by cause for each aircraft type. Each entry in Table 204 gives the date and approximate Zulu time (which is Greenwich Mean Time) or Local time of the incident, the aircraft type, the country of origin, service, unit, mission, whether the aircraft was damaged or lost, whether the mission was day or night, assessment of mission combat status (combat or noncombat), position, and cause of the incident. Combat losses/damages involved actual or perceived direct enemy action (i.e., the aircraft was fired upon or thought to have been fired upon). The one EF-111 listed under the "Direct Enemy Action - Other" column took evasive action when he believed an aircraft was behind him and crashed. Noncombat losses/damages refer to aircraft attrition through non-direct enemy action, for example; an aircraft which experienced engine difficulties while flying a combat mission. Many do not have a specific date. Two additional entries for the USMC were extracted from the CNA report (S) *Marine Corps Desert Storm Reconstruction Report Vol IV: Third Marine Aircraft Wing Operations* and added to Table 204. Another entry was added from a Department of the Navy, Office of the Chief of Naval Operations Report entitled "The United States Navy in Desert Shield'/ Desert Storm'."

The data in these tables represent the most comprehensive information available to GWAPS at this time. This information is useful in providing a look at the number and scope of aircraft attrition sustained by the U.S. and its allied partners.

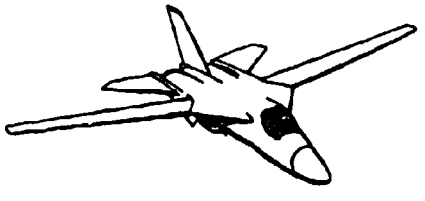


Table 203
Desert Storm Total Coalition Combat Losses by Cause

Service/ Country	Aircraft	AAA	IR SAM	RDR SAM	Direct Enemy Action-Other	MIG 25	Unknown	Total
USAF	A-10	0	4	0	0	0	0	4
	AC-130	0	1	0	0	0	0	1
	EF-111	0	0	0	1	0	0	1
	F-15E	1	0	1	0	0	0	2
	F-16	1	0	2	0	0	0	3
	F-4G	1	0	0	0	0	0	1
	OA-10	0	2	0	0	0	0	2
Total		3	7	3	1	0	0	14
USN	A-6E	2	0	1	0	0	0	3
	F-14	0	0	1	0	0	0	1
	F/A-18	0	0	0	0	1	1	2
Total		2	0	2	0	1	1	6
USMC	AV-8B	2	3	0	0	0	0	5
	OV-10	0	2	0	0	0	0	2
Total		2	5	0	0	0	0	7
Saudi Arabia	F-5	0	0	0	0	0	1	1
	Tornado GR-1	1	0	0	0	0	0	1
Total		1	0	0	0	0	1	2
UK	Tornado GR-1	1	1	4	0	0	1	7
Italy	Tornado GR-1	0	0	0	0	0	1	1
Kuwait	A-4	0	0	1	0	0	0	1
Grand Total		9	13	10	1	1	4	38

Source: Air Force Studies and Analysis Agency/Regional Forces Division (AFSAA/SAG) (S/NF), Maj Bill Troy

Table 204
Desert Storm Coalition Aircraft Attrition

No	Date	Time	Aircraft	Country	Service	Unit	Mission
1	17-Jan-91	2012 Z	F-15E	US	USAF	4 TFW	INT
2	17-Jan-91	1933 Z	GR-1	UK	RAF	No617 SQDN	OCA
3	17-Jan-91	1327 Z	A-4	KU	KAF	KAF	INT
4	17-Jan-91	0200 Z	F/A-18	US	USN	USS Saratoga	SEAD
5	17-Jan-91	0632 Z	GR-1	UK	RAF	No15 SQDN	OCA
6	17-Jan-91	2000 Z	A-6E	US	USN	USS Saratoga	INT
7	17-Jan-91		Jaguar	France	FAF	FAF	INT
8	17-Jan-91		Jaguar	France	FAF	FAF	INT
9	17-Jan-91		A-6E	US	USN	USS Saratoga	INT
10	17-Jan-91		Jaguar	France	FAF	FAF	INT
11	17-Jan-91	0700 Z	A-10	US	USAF	10 TFW	CAS
12	17-Jan-91	0210 Z	F-111F	US	USAF	48 TFW	INT
13	17-Jan-91		Jaguar	France	FAF	FAF	INT
14	17-Jan 91		A-10	US	USAF	354 TFW	INT
15	17-Jan-91	1200L	A-10	US	USAF	354 TFW	BAI
16	17-Jan-91		B-52G	US	USAF	42 BW	INT
17	17-Jan-91	0130 Z	F-111F	US	USAF	48 TFW	INT
18	17-Jan-91	0230 Z	F-111F	US	USAF	48 TFW	INT
19	17-Jan-91		F-15E	US	USAF	4 TFW	INT
20	18-Jan-91	1540 Z	A-6E	US	USN	USS Ranger	INT
21	18-Jan-91	0001 Z	GR-1	Italy	IAF	IAF	INT
22	18-Jan-91	0610 Z	OV-10	US	USMC	USMC	FAC
23	18-Jan-91	0020 Z	F-111E	US	USAF	20 TFW	INT
24	19-Jan-91	0642 Z	GR-1	UK	RAF	No617 SQDN	OCA
25	19-Jan-91	1700 Z	GR-1	UK	RAF	No15 SQDN	OCA
26	19-Jan-91	2219 Z	F-15E	US	USAF	4 TFW	INT
27	19-Jan-91		GR-1	Saudi Arabia	RSAF	RSAF	INT
28	19-Jan-91	1404 Z	F-16C	US	USAF	401 TFW	INT
29	19-Jan-91	1928 Z	GR-1	Saudi Arabia	RSAF	3 FW	INT
30	19-Jan-91	0255 Z	F-4G	US	USAF	35 TFW	WW
31	19-Jan-91	1557 Z	F-16C	US	USAF	401 TFW	INT
32	19-Jan-91		B-52G	US	USAF	4300 PBW	INT
33	19-Jan-91		F-16C	US	USAF	401 TFW	INT
34	19-Jan-91		KC-135	US	USAF	USAF	AR
35	19-Jan-91		F-16C	US	USAF	401 TFW	INT
36	19-Jan-91		F-4G	US	USAF	52 TFW	INT
37	19-Jan-91		F-111F	US	USAF	48 TFW	INT
38	20-Jan-91	1900 Z	GR-1	UK	RAF	No20 SQDN	OCA
39	21-Jan-91	0354 Z	F-14	US	USN	USS Saratoga	OCA
**40	21-Jan-91		A-6E	US	USN		
41	21-Jan-91	0900 Z	F-16C	US	USAF	388 TFW	INT
42	21-Jan-91		A-10	US	USAF	926 TFG	INT
43	21-Jan-91	1900 Z	AC-130	US	USAF	1 SOW	INT
44	22-Jan-91	0200 Z	GR-1	UK	RAF	No16 SQDN	INT
45	22-Jan-91	1508 Z	AV-8B	US	USMC	VMF 331	NAV OPS
46	22-Jan-91		F-15C	US	USAF	1 TFW	DCA
47	23-Jan-91	1214 Z	F-16C	US	USAF	401 TFW	INT
48	23-Jan-91	1630 L	A-10	US	USAF	23 TFW	BAI
49	24-Jan-91	0248 Z	GR-1	UK	RAF	RAF	OCA
50	24-Jan-91	1605 Z	F/A-18	US	USN	USS Roosevelt	FLT DEF
51	24-Jan-91		GR-1	UK	RAF	RAF	INT

Table 204 (cont'd)
Desert Storm Coalition Aircraft Attrition

No	Lost/ Damage	Day/ Nite	Assess as Combat	Position	Cause
1	Lost	Night	Yes	16NM S.W. Basra	AAA
2	Lost	Night	Yes	8NM N.W. W Tallil	AAA
3	Lost	Day	Yes	25NM S. Kuwait City	Radar SAM
4	Lost	Night	Yes	29NM S.E. Bagdad	MIG 25
5	Lost	Day	Yes	1NM W. Basra	Radar SAM
6	Lost	Night	Yes	10NM S.W. H-3	Radar SAM
7	Damage		Yes		AAA
8	Damage		Yes		Unknown
9	Damage		Yes	H3	AAA
10	Damage		Yes		AAA
11	Damage	Day	Yes	S.E. Iraq	AAA
12	Damage	Night	Yes	15 E. Salmon Pac	AAA
13	Damage		Yes		IR SAM
14	Damage		No		Other
15	Damage	Day	Yes		AAA
16	Damage	Night	Yes		IR SAM
17	Damage		Yes	1NM S. Balad Afld	AAA
18	Damage	Night	Yes	Unknown	AAA
19	Damage	Night	No	Qasr Srmb Cmplx	Other
20	Lost	Day	Yes	Marsh-S.W. Abadan-S.E. Basra	AAA
21	Lost	Night	Yes	20NM N.W. Kuwait City	Unknown
22	Lost	Day	Yes	14NM N.E. Ras Al Mishab	IR SAM
23	Damage	Night	No	S. Mosul Afld	Other-Self Frag
24	Lost	Day	Yes	51NM S.E. Tallil	IR SAM
25	Lost	Night	Yes	H-3	Radar SAM
26	Lost	Night	Yes	Al Qiam	Radar SAM
27	Lost		Yes		AAA
28	Lost	Day	Yes	36NM W. Tallil	Radar SAM
29	Lost	Night	No	KKMC	Other-Fuel
30	Lost	Night	Yes	1NM N. KKMC	AAA
31	Lost	Day	Yes	Bagdad	Radar SAM
32	Damage		No		Other
33	Damage		No	Tanker Track	Other
34	Damage	Night	No		Other-Hit by F-111F
35	Damage		No		Other
36	Damage		No		Other
37	Damage	Night	No	at the Tanker Mid Air W/Trk	Other-Crew
38	Lost		No	Tabuk	Other-Flt Continue
39	Lost	Day	Yes	Al Asad (H2/H3)	Radar SAM
**40	Damage		Yes		
41	Damage	Day	Yes	Bagdad Nuclear Reserch Ctr	Radar SAM
42	Damage		No		Other
43	Damage	Night	Yes		IR SAM
44	Lost	Night	Yes	N3306 E04002	Unknown
45	Lost	Day	No	S. of Masirah	Other-Pilot Error
46	Damage		Yes	Home Station/#1 for take off	DEA Other
47	Lost	Day	No	20NM S.E. of Kuwait City	Other-Fuze Malf
48	Damage	Day	Yes		AAA
49	Lost	Night	No	Basra	Other-Fuze Malf
50	Lost	Night	No	50NM N. Bahrain	Other-Engine
51	Damage		Yes		Radar SAM

Table 204 (cont'd)
Desert Storm Coalition Aircraft Attrition

No	Date	Time	Aircraft	Country	Service	Unit	Mission
52	24-Jan-91		A-10	US	USAF	10 TFW	INT
53	25-Jan-91		F-16A	US	USAF	169 TFW	INT
54	26-Jan-91	0313 Z	B-52G	US	USAF	1708 PBW	INT
55	26-Jan-91	0313 Z	B-52G	US	USAF	1708 PBW	INT
56	27-Jan-91		B-52G	US	USAF	1708 PBW	INT
57	28-Jan-91	0707 Z	AV-8B	US	USMC	USMC	INT
58	28-Jan-91		A-10	US	USAF	354 TFW	INT
59	28-Jan-91		A-10	US	USAF	354 TFW	INT
60	28-Jan-91		A-10	US	USAF	354 TFW	INT
61	29-Jan-91	0900 L	A-10	US	USAF	354 TFW	INT
62	30-Jan-91		B-52G	US	USAF	1708 PBW	INT
63	30-Jan-91		A-10	US	USAF	23 TFW	CAS
64	30-Jan-91		A-10	US	USAF	23 TFW	INT
65	30-Jan-91		A-10	US	USAF	926 TFG	CAS
66	30-Jan-91		A-10	US	USAF	354 TFW	INT
67	30-Jan-91		A-10	US	USAF	10 TFW	INT
68	30-Jan-91		A-10	US	USAF	23 TFW	INT
69	30-Jan-91		A-10	US	USAF	354 TFW	INT
70	31-Jan-91	0325 Z	AC-130H	US	USAF	1 SOW	CAS
71	31-Jan-91		A-10	US	USAF	23 TFW	CAS
72	31-Jan-91	1600 L	A-10	US	USAF	354 TFW	INT
73	31-Jan-91		OA-10	US	USAF	23 TASS	PAC
74	31-Jan-91		A-10	US	USAF	354 TFW	CAS
75	31-Jan-91	1015 L	A-10	US	USAF	926 TFG	INT
76	1-Feb-91		A-10	US	USAF	354 TFW	INT
77	1-Feb-91		A-10	US	USAF	354 TFW	CAS
78	1-Feb-91		A-10	US	USAF	23 TFW	BAI
79	2-Feb-91	0925 Z	A-10	US	USAF	23 TFW	BAI
80	2-Feb-91	0840 Z	A-6E	US	USN	USS Roosevelt	INT
81	2-Feb-91	2145 Z	B-52G	US	USAF	4300 PBW	INT
82	2-Feb-91		A-10	US	USAF	354 TFW	INT
83	2-Feb-91		A-10	US	USAF	10 TFW	INT
84	2-Feb-91		A-10	US	USAF	354 TFW	INT
85	3-Feb-91		A-7E	US	USN	???	INT
86	3-Feb-91		A-10	US	USAF	354 TFW	INT
87	5-Feb-91	0610 Z	F/A-18	US	USN	USS Roosevelt	INT
88	5-Feb-91	1500 L	A-10	US	USAF	354 TFW	INT
89	5-Feb-91		A-10	US	USAF	23 TFW	INT
90	6-Feb-91	1100 L	A-10	US	USAF	354 TFW	SEAD
91	6-Feb-91		A-10	US	USAF	926 TFG	CAS
92	7-Feb-91		A-7E	US	USN	USS Kennedy	INT
93	7-Feb-91		A-6E	US	USN	???	INT
94	7-Feb-91		GR-1	UK	RAF	No27 SQDN	INT
95	8-Feb-91		A-10	US	USAF	23 TFW	INT
96	8-Feb-91		A-10	US	USAF	354 TFW	INT
97	8-Feb-91		A-10	US	USAF	354 TFW	INT
98	9-Feb-91	1340 Z	AV-8B	US	USMC	USMC	INT
99	9-Feb-91		A-10	US	USAF	354 TFW	INT
*100	9-Feb-91		F/A-18	US	USMC		INT
101	10-Feb-91		A-10	US	USAF	23 TFW	INT
102	11-Feb-91		A-10	US	USAF	354 TFW	INT

Table 204 (cont'd)
Desert Storm Coalition Aircraft Attrition

No	Lost/ Damage	Day/ Nite	Assess as Combat	Position	Cause
52	Damage		No		Other
53	Damage		No		Other
54	Damage		Yes		AAA
55	Damage		Yes		AAA
56	Damage		No		Other
57	Lost	Day	Yes	15NM S. Ahmadi	AAA
58	Damage		No		Other
59	Damage		No		Other
60	Damage		No		Other
61	Damage	Day	Yes		AAA
62	Damage		No		Other
63	Damage		No		Other
64	Damage		No		Other
65	Damage		No		Other
66	Damage		No		Other
67	Damage		No		Other
68	Damage		No		Other
69	Damage		No		Other
70	Lost	Day	Yes	12NM N. Ras Al Khafji	IR SAM
71	Damage		No		Other
72	Damage	Day	Yes		AAA
73	Damage	Day	Yes		AAA
74	Damage		No		Other
75	Damage	Day	Yes	N3010 E04620	IR SAM
76	Damage		No		Other
77	Damage		Yes		AAA
78	Damage	Day	Yes		AAA
79	Lost	Day	Yes	20NM S.W. Kuwait City	IR SAM
80	Lost	Day	Yes	20NM E. Kuwait City	AAA
81	Lost	Night	No	15NM N. Diego Garcia	Other - Crew/Log
82	Damage		No		Other
83	Damage		No		Other
84	Damage		Yes		AAA
85	Lost		No	Red Sea	Other-MX
86	Damage		No		Other
87	Lost	Day	Yes	40NM E. Kuwait City	Unknown
88	Damage	Day	Yes		AAA
89	Damage		No		Other
90	Damage	Day	Yes		IR SAM
91	Damage		No		Other
92	Lost		No		Other-MX
93	Lost		No		Other-MX
94	Lost		Yes		Radar SAM
95	Damage		No		Other
96	Damage		No		Other
97	Damage		No		Other
98	Lost	Day	Yes	24NM S.W. Kuwait City	IR SAM
99	Damage		No		Other
*100	Damage		Yes		Poss IR SAM
101	Damage		No		Other
102	Damage		No		Other

Table 204 (cont'd)
Desert Storm Coalition Aircraft Attrition

No	Date	Time	Aircraft	Country	Service	Unit	Mission
103	11-Feb-91	1130 L	A-10	US	USAF	23 TFW	BAI
104	11-Feb-91		A-6E	US	USN	USS Roosevelt	INT
105	11-Feb-91		A-10	US	USAF	23 TFW	CAS
106	12-Feb-91		AV-8B	US	USMC	VMA 542	
107	12-Feb-91		F-4G	US	USAF	52 TFW	INT
108	12-Feb-91		A-10	US	USAF	23 TFW	INT
109	13-Feb-91	0630 Z	F-5	Saudi Arabia	RSAF	RSAF	INT
110	13-Feb-91	1855 Z	F-15	Saudi Arabia	RSAF	RSAF	DCA
111	13-Feb-91	2239 Z	EF-111	US	USAF	20 TFW	EC
112	13-Feb-91		F-16C	US	USAF	366 TFW	INT
113	13-Feb-91		A-10	US	USAF	23 TFW	INT
114	14-Feb-91	0545 Z	GR-1	UK	RAF	No15 SQDN	OCA
115	14-Feb-91		A-10	US	USAF	354 TFW	INT
116	14-Feb-91		A-10	US	USAF	354 TFW	INT
117	15-Feb-91	1335 Z	A-10	US	USAF	354 TFW	BAI
118	15-Feb-91		A-6E	US	USN		
119	15-Feb-91	1335 Z	A-10	US	USAF	354 TFW	BAI
120	15-Feb-91	1723 Z	F-16C	US	USAF	363 TFW	INT
121	15-Feb-91		A-6E	US	USN	USN	
122	15-Feb-91	0830 L	A-10	US	USAF	23 TFW	BAI
123	15-Feb-91		A-10	US	USAF	23 TFW	INT
124	16-Feb-91		OA-10	US	USAF	23 TASS	INT
125	17-Feb-91	1435 Z	F-16C	US	USAF	363 TFW	INT
126	17-Feb-91		A-10	US	USAF	10 TFW	INT
127	19-Feb-91	0622 Z	OA-10	US	USAF	23 TASS	FAC
128	20-Feb-91	1230 Z	F-16C	US	USAF	401 TFW	INT
129	21-Feb-91		F/A-18	US	USMC	VMFA 314	
130	21-Feb-91		F/A-18	US	USMC	VMFA 121	
131	21-Feb-91		A-10	US	USAF	354 TFW	INT
132	21-Feb-91		A-6E	US	USMC	VMA 224	INT
133	21-Feb-91		F/A-18	US	USMC	VMFA 333	
134	22-Feb-91	1500 L	A-10	US	USAF	23 TFW	CAS
135	22-Feb-91		F/A-18	US	USMC	VMFA 451	
136	23-Feb-91	1930 Z	AV-8B	US	USMC	VMA 542	INT
137	23-Feb-91		A-10	US	USAF	23 TFW	CAS
138	23-Feb-91		AV-8B	US	USMC	VMA 311	
139	24-Feb-91		F/A-18	US	USMC	VMFA 314	INT
140	24-Feb-91		F/A-18	US	USMC	VMFA 314	INT
141	25-Feb-91	0945 Z	OV-10	US	USMC	VMA 01	FAC
142	25-Feb-91	0700 Z	AV-8B	US	USMC	VMA 542	INT
143	26-Feb-91	1030 L	B-52G	US	USAF	379 BMW	INT
144	26-Feb-91	1230 Z	F-16A	US	USAF	174 TFW	CAS
145	26-Feb-91		F-16C	US	USAF	388 TFW	INT
146	26-Feb-91	1029 L	B-52G	US	USAF	379 BMW	INT
147	27-Feb-91	0932 Z	OA-10	US	USAF	23 TASS	FAC
148	27-Feb-91	0345 Z	AV-8B	US	USMC	VMA 331	INT
149	27-Feb-91	1233 Z	F-16C	US	USAF	363 TFW	INT
150	27-Feb-91	1600 L	F-16C	US	USAF	50 TFW	BAI
151	27-Feb-91	1330 L	F-16C	US	USAF	388 TFW	INT
*152	27-Feb-91		F/A-18	US	USMC		FAC
153	Unknown		Unknown	OMAN	OMAF	OMAF	
154	Unknown		F-15E	US	USAF	4 TFW	INT

Table 204 (cont'd)
Desert Storm Coalition Aircraft Attrition

No	Lost/ Damage	Day/ Nite	Assess as Combat	Position	Cause
103	Damage	Day	Yes		AAA
104	Damage	Day	Yes	Faylaka Island	AAA
105	Damage		No		Other
106	Damage		Yes		AAA
107	Damage		No		Other
108	Damage		No		Other
109	Lost	Day	Yes	50NM W. Wadi Al Khirk	Unknown
110	Lost	Night	No	24NM S.W. Khamis Mushait	Other
111	Lost	Night	Yes	30NM N.W. Arar	DEA Other
112	Damage		No		Other
113	Damage		No		Other
114	Lost	Day	Yes	40NM N.W. Bagdad	Radar SAM
115	Damage		No		Other
116	Damage		No		Other
117	Lost	Day	Yes	60NM N.W. Kuwait City	IR SAM
118	Lost	Night	No	at the boat	Other-MX
119	Lost	Day	Yes	60NM N.W. Kuwait City	IR SAM
120	Lost	Night	No	17NM S.E. Al Dhafara	Other
121	Damage		Yes		Unknown
122	Damage	Day	Yes		IR SAM
123	Damage		No		Other
124	Damage		No		Other
125	Lost	Day	No	117NM N. KKMC	Other-Engine
126	Damage		No		Other
127	Lost	Day	Yes	62NM N.W. Kuwait City	IR SAM
128	Lost	Day	No	2NM S. Diyarbakir, Turkey	Other-MX
129	Damage		Yes		IR SAM
130	Damage		Yes		IR SAM
131	Damage		No		Other
132	Damage		Yes		AAA
133	Damage		Yes		IR SAM
134	Lost	Day	Yes		IR SAM
135	Damage		Yes		IR SAM
136	Lost	Night	Yes	2NM W. Kuwait City	IR SAM
137	Damage		No		Other
138	Damage		Yes		AAA
139	Damage		Yes		IR SAM
140	Damage		Yes		IR SAM
141	Lost	Day	Yes	S. Kuwait	IR SAM
142	Lost	Day	Yes	Ali Al Salem/Al Jaber Afld	IR SAM
143	Damage	Day	Yes		ROR SAM
144	Damage	Day	Yes		IR SAM
145	Damage		Yes		Unknown
146	Damage	Day	Yes		Radar SAM
147	Lost	Day	Yes	KKMC	IR SAM
148	Lost	Day	Yes	30NM N.N.E. Kuwait City	AAA
149	Lost	Day	No	26NM W.S.W. Basra	Other
150	Lost	Day	Yes		AAA
151	Damage	Day	Yes		IR SAM
*152	Damage		Yes		Small Arms
153	Lost		No		Other
154	Damage		No		Other

Table 204 (cont'd)
Desert Storm Coalition Aircraft Attrition

No	Date	Time	Aircraft	Country	Service	Unit	Mission
155	Unknown		F-15E	US	USAF	4 TFW	INT
156	Unknown		F-15E	US	USAF	4 TFW	INT
157	Unknown		F-16C	US	USAF	363 TFW	INT
158	Unknown		F-15E	US	USAF	4 TFW	INT
159	Unknown		F-15E	US	USAF	4 TFW	INT
160	Unknown		F-111F	US	USAF	48 TFW	INT
161	Unknown		F-15E	US	USAF	4 TFW	INT
162	Unknown		F-15E	US	USAF	4 TFW	INT
163	Unknown		F-15E	US	USAF	4 TFW	INT
164	Unknown		F-15E	US	USAF	4 TFW	INT
165	Unknown		F-15E	US	USAF	4 TFW	INT
166	Unknown		F-111F	US	USAF	48 TFW	INT
167	Unknown		F-16C	US	USAF	50 TFW	INT
168	Unknown		F-111F	US	USAF	48 TFW	INT
169	Unknown		F-15E	US	USAF	4 TFW	INT
170	Unknown		F-16C	US	USAF	50 TFW	INT
171	Unknown		F-15E	US	USAF	4 TFW	INT
172	Unknown		F-16C	US	USAF	363 TFW	INT
173	Unknown		F-16C	US	USAF	363 TFW	INT
174	Unknown		F-15E	US	USAF	4 TFW	INT
175	Unknown		F-15E	US	USAF	4 TFW	INT
176	Unknown		F-15E	US	USAF	4 TFW	INT
177	Unknown		F-16C	US	USAF	363 TFW	INT

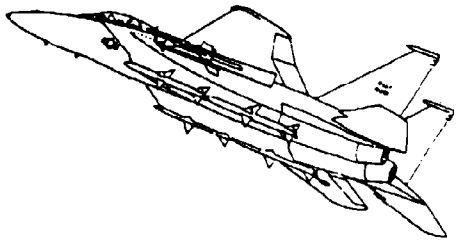


Table 204 (cont'd)
Desert Storm Coalition Aircraft Attrition

No	Lost/ Damage	Day/ Nite	Assess as Combat	Position	Cause
155	Damage		No		Other
156	Damage		No		Other
157	Damage		No		Other
158	Damage		No		Other
159	Damage		No		Other
160	Damage		No		Other
161	Damage		No		Other
162	Damage		No		Other
163	Damage		No		Other
164	Damage		No		Other
165	Damage		No		Other
166	Damage		No		Other
167	Damage		No		Other
168	Damage		No		Other
169	Damage		No		Other
170	Damage		No		Other
171	Damage		No		Other
172	Damage		No		Other
173	Damage		No		Other
174	Damage		No		Other
175	Damage		No		Other
176	Damage		No		Other
177	Damage		No		Other

Sources: AFSAA/SAG, Maj Bill Troy (S/NF);
* Document (S), Parsons, John D., Benjamin T. Regala, and Orman H. Paananen, Marine Corps Desert Storm Reconstruction Report Vol IV: Third Marine Aircraft Wing Operations , CNA, Feb 92 (S);
**Department of the Navy, Office of the Chief of Naval Operations, "The United States Navy in 'Desert Shield' 'Desert Storm' Washington, DC, 15 May 1991, Appendix F (S/NF)

Desert Storm Coalition Aircraft Combat Attrition Rates

The following table shows the number of aircraft damaged/lost per 1,000 combat sorties flown by aircraft type for each U.S. Service and allies that sustained any combat damages/losses. This table is based on the Desert Storm Coalition Aircraft Attrition Worksheet built by Maj. Bill Troy of the Air Force Studies and Analysis Agency/Regional Forces Division (AFSAA/SAG). Three additional entries to the worksheeet where also extracted from a CNA report entitled (S) *Marine Corps Desert Storm Reconstruction Report Vol IV: Third Marine Aircraft Wing Operations*, Feb 1992, and a Department of the Navy, Office of the Chief of Naval Operations report entitled *The United States Navy in "Desert Shield"/"Desert Storm,"* May 1991. For each aircraft type, the total number of combat and combat support sorties (excluding Training sorties) was extracted from the Tables in Chapter 7. If an aircraft suffered no damage or losses (such as the F-117) it is not listed.

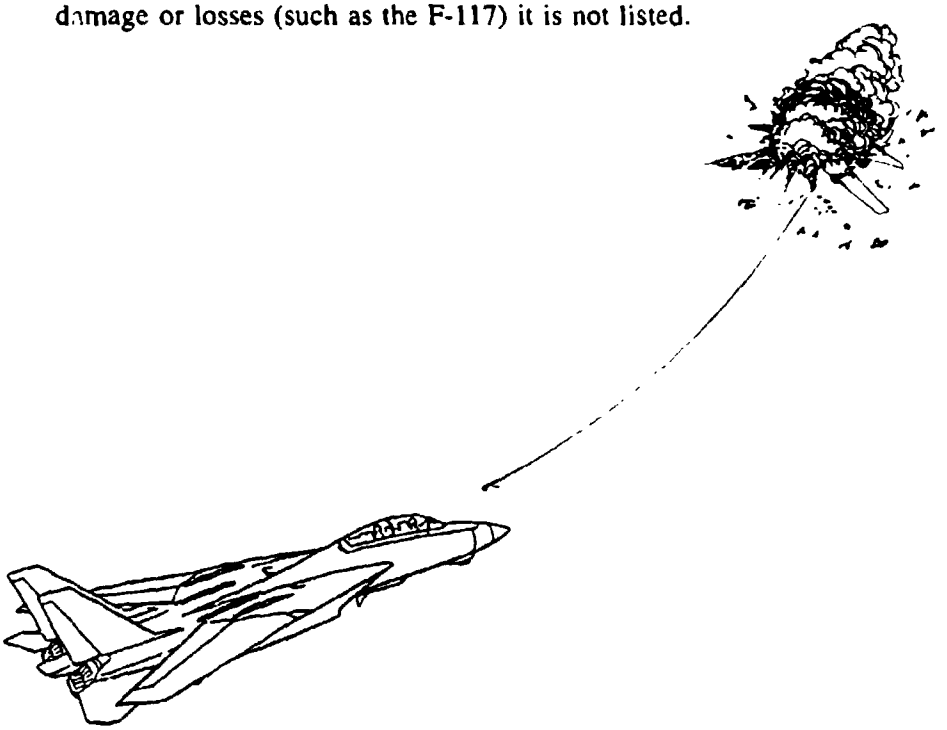


Table 205
Desert Storm: Coalition Aircraft Combat Attrition Rates

Service/ Country	Aircraft Type	Combat Sorties Flown	Aircraft Damaged: Damaged Aircraft	Aircraft Damaged: Number Damaged per 1,000 Sorties	Aircraft Lost: Lost Aircraft	Aircraft Lost: Number Lost per 1,000 Sorties
USAF	A-10	7,983	13	1.6	4	0.5
	AC-130	101	1	9.9	1	9.9
	B-52G	1,741	5	2.9	0	0
	EF-111	1,105	0	0	1	0.9
	F-111F	2,420	3	1.2	0	0
	F-15C	5,674	1	0.2	0	0
	F-15E	2,142	0	0	2	0.9
	F-16	13,066	4	0.3	3	0.2
	F-4G	2,678	0	0	1	0.4
	OA-10	657	1	1.5	2	3.0
	Total	**37,567**	**28**	**0.7**	**14**	**0.4**
USN	A-6E	4,800	4	0.8	3	0.6
	F-14	3,916	0	0	1	0.3
	F/A-18	4,316	0	0	2	0.5
	Total	**13,032**	**4**	**0.3**	**6**	**0.5**
USMC	A-6E	793	1	1.3	0	0
	AV-8B	3,349	2	0.6	5	1.5
	F/A-18	4,934	8	1.6	0	0.0
	OV-10	482	0	0	2	4.1
	Total	**9,558**	**11**	**1.2**	**7**	**0.7**
Allies	A-4	651	0	0.0	1	1.5
	F-5	1,129	0	0.0	1	0.9
	Jaguar	571	4	7.0	0	0.0
	Tornado GR-1	2,482	1	1	9	10
	Total	**4,833**	**5**	**8**	**11**	**13**

Principal Sources: 1. Desert Storm Coalition Aircraft Attrition Worksheet, Air Force Studies and Analysis/Regional Forces Division (AFSAA/SAG), Maj Bill Troy (S/NF)
2. Composite Sorties Database (U)

Coalition Air-to-Air Kill Matrix

The following table lists coalition Air-to-Air Kills during Desert Storm including date, callsign/unit, pilot/squadron, shooter, bandit, ordnance and identification systems. This data were compiled by HQ TAC/DOT (A-Team) from mission reports, pilot engagement summaries, and engagement summaries included in unit after-action reports. U.S. Navy data were extracted from the Association of Naval Aviation, "The Shield and the Storm," Falls Church, Va., 1991, pp. 8-9. Saudi Arabian air-to-air kill information was extracted from John M. Duer's *Wall of Eagles: Aerial Engagements and Victories in Operation Desert Storm*, p. 22.

"Unit" identifies the fighter wing/group to which the pilot was assigned. The term Joint Task Force (JTF) in parenthesis identifies pilots assigned in support of "Proven Force." The weapons shown in the ordnance column reflect weapons that destroyed the target though other weapons may have been fired at the same target.

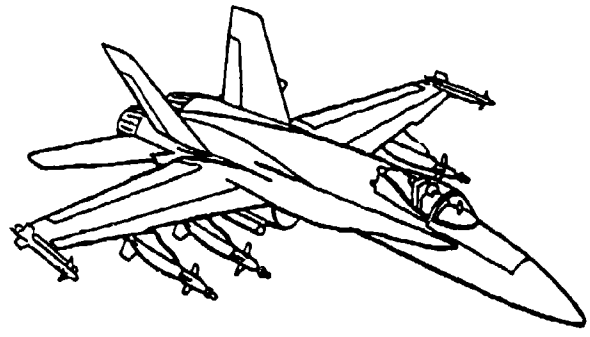


Table 206
Coalition Air-to-Air Kill Matrix

No	Date	Callsign / Unit	Pilot / Squadron	Shooter	Bandit	Kill By
		Pennzoil 63	Capt Kelk			
1	17-Jan-91	33 TFW Citgo 65	58 TFS Capt Graeter	F-15C	MiG-29	AIM-7
2	17-Jan-91	33 TFW Citgo 65	58 TFS Capt Graeter (2)	F-15C	Mirage F-1	AIM-7
3	17-Jan-91	33 TFW Quaker 11	58 TFS Capt Tate	F-15C	Mirage F-1	GRND
4	17-Jan-91	1 TFW Zerex 71	71 TFS Capt Magill	F-15C	Mirage F-1	AIM-7
5	17-Jan-91	33 TFW Zerex 73	58 TFS (USMC) Capt Draeger	F-15C	MiG-29	AIM-7
6	17-Jan-91	33 TFW	59 TFS Ldr Fox	F-15C	MiG-29	AIM-7
7	*17-Jan-91	USS Saratoga	VFA-81	F/A-18	MiG-21	AIM-9
8	*17-Jan-91	USS Saratoga Citgo 21	VFA-81 Capt Tollini	F/A-18	MiG-21	AIM-7
9	19-Jan-91	33 TFW Citgo 22	58 TFS Capt Pitts	F-15C	MiG-25	AIM-7
10	19-Jan-91	33 TFW Chevron 25	58 TFS Capt Rodriguez	F-15C	MiG-25	AIM-7
11	19-Jan-91	33 TFW Chevron 26	58 TFS Capt Underhill	F-15C	MiG-29	GRND
12	19-Jan-91	33 TFW Rambo 03	58 TFS Capt Prather	F-15C	MiG-29	AIM-7
13	19-Jan-91	36 TFW (JTF) Rambo 04	525 TFS Lt Sveden	F-15C	Mirage F-1	AIM-7
14	19-Jan-91	36 TFW (JTF) Royal Saudi Arabia	525 TFS Shamrani	F-15C	Mirage F-1	AIM-7
15	**24-Jan-91	Air Force (RSAF) Royal Saudi Arabia	No. 13 Sqdn. Shamrani	F-15C	Mirage F-1	AIM-9
16	**24-Jan-91	Air Force (RSAF) Citgo 25	No. 13 Sqdn. Capt Draeger (2)	F-15C	Mirage F-1	AIM-9
17	26-Jan-91	33 TFW Citgo 26	59 TFS Capt Schiavi	F-15C	MiG-23	AIM-7
18	26-Jan-91	33 TFW Citgo 27	58 TFS (2)	F-15C	MiG-23	AIM-7
19	26-Jan-91	33 TFW Opec 01	58 TFS Capt Denny	F-15C	MiG-23	AIM-7
20	27-Jan-91	36 TFW Opec 01	53 TFS Capt Denny (2)	F-15C	MiG-23	AIM-9
21	27-Jan-91	36 TFW Opec 02	53 TFS Capt Powell	F-15C	MiG-23	AIM-9
22	27-Jan-91	36 TFW Opec 02	53 TFS Capt Powell (2)	F-15C	MiG-23	AIM-7
23	27-Jan-91	36 TFW Bite 04	53 TFS Capt Watrous	F-15C	Mirage F-1	AIM-7
24	28-Jan-91	32 TFG (JTF) Chevron 17	32 TFG Capt Rose	F-15C	MiG-23	AIM-7
25	29-Jan-91	33 TFW Rifle 01	58 TFS Capt Masters	F-15C	MiG-23	AIM-7
26	2-Feb-91	36 TFW (JTF)	525 TFS	F-15C	IL-76	AIM-7

Table 206 (cont'd)
Coalition Air-to-Air Kill Matrix

No	Date	Callsign / Unit	Pilot / Squadron	Shooter	Bandit	Kill By
		Zerex 53	Capt Dietz			
27	6-Feb-91	36 TFW Zerex 53	53 TFS Capt Dietz (2)	F-15C	MiG-21	AIM-9
28	6-Feb-91	36 TFW Zerex 54	53 TFS 1Lt Heberman	F-15C	MiG-21	AIM-9
29	6-Feb-91	36 TFW Zerex 54	53 TFS (2)	F-15C	Su-25	AIM-9
30	6-Feb-91	36 TFW Savage 01	53 TFS Capt Swain	F-15C	Su-25 OBS	AIM-9
31	6-Feb-91	926 TFG	706 TFS	A-10A	HELO	30 MM
32	*7-Feb-91	USS Ranger Chevron 21	VF-1 Capt Murphy	F-14 (2)	Mi-8	AIM-9M
33	7-Feb-91	33 TFW Chevron 21	58 TFS Capt Murphy	F-15C	Su-7/17	AIM-7
34	7-Feb-91	33 TFW Chevron 22	58 TFS Col Parsons	F-15C	Su-7/17	AIM-7
35	7-Feb-91	33 TFW Killer 03	33 TFW Maj May	F-15C	Su-7/17 ATTACK	AIM-7
36	7-Feb-91	36 TFW (JTF) Pistol 01/02	22 TFS McKenzie	F-15C	HELO ATTACK	AIM-7
37	11-Feb-91	36 TFW Springfield 27	525 TFS Capt Sheey	2 x F-15C	HELO	AIM-7
38	15-Feb-91	10 TFW Amoco 34	511 TFS Capt Donesski	A-10A	Mi-8 Hip	30 MM
39	20-Mar-91	36 TFW Zerex 21	22 TFS Capt Dietz (3)	F-15C	Su-22	AIM-9
40	22-Mar-91	36 TFW Zerex 22	53 TFS (3)	F-15C	Su-22	AIM-9
41	22-Mar-91	36 TFW	53 TFS	F-15C	PC-9	GRND

Source: HQ TAC/DOT (A-Team) (S)
* Association of Naval Aviation. "The Shield and the Storm."
Falls Church, VA. 1991. pp 8-9.
** Deur, John M., Wall of Eagles Aerial Engagements and
Victories in Operation Desert Storm, p. 22

U.S. Personnel Losses in Desert Storm

The following tables summarize personnel losses by day for 15 Jan 91 to 28 Feb 91. These numbers include personnel losses for all U.S. Services. Table 207 shows the data as it appeared in the USCINCCENT situation reports for 16 Jan 91 to 1 Mar 91. Data for any given day may be found in the report dated the next day; for example, data for 15 Jan 91 may be found in the SITREP dated 16 Jan 91. Though the situation reports consistently provided the data during this period, there were still administrative errors caused some totals to be incorrectly computed. Where necessary, the true totals were reconstructed and retabulated. Corrections were also made to account for errors in the "as of" dates for 4-6 Feb 91.

U.S. personnel losses were grouped into four categories. Those categorized as killed in action (KIA) include those who died as a direct result of combat. Wounded in action (WIA) refers to all kinds of wounds incurred in combat. Missing in action (MIA) is defined as a person whose whereabouts and status are unknown. Prisoner of war (POW) refers to those individuals who are captured and held by the enemy during a war. Finally, disease nonbattle injury (DNBI) encompasses injuries or deaths caused by anything other than battle. In this case, there were injuries/fatalities during Desert Storm that resulted from vehicle accidents.

Table 207 is a postwar deconfliction of the numbers of U.S. personnel who were killed in action or were taken prisoner. There are no individuals who were missing in action (MIA) after the war; all have been reclassified as killed in action (KIA) or repatriated prisoners of war (POWs). The data on personnel KIA was provided from the Office of the Secretary of Defense/Washington Headquarters Services (OSD/WHS), Directorate for Information Operations & Reports: U.S. Active Duty Military Deaths, Alphabetical Index by Name, Operation Desert Shield/Desert Storm, as of October 1992. These totals include all U.S. Services.

A combination of sources was used to deconflict data pertaining to prisoners of war (POWs). U.S. Air Force prisoner of war (POW) information was extracted from Report (S), SURVIAC-TR-92-001 WL-TR-92-3048, U.S. Air Force Surface-to-Air Engagements During Operation Desert Storm, USAF Air Warfare Center, USAFAWC/TXM, Eglin Air Force Base,

Florida, January 1992. This report provided detailed accounts of USAF combat battle engagements. Also used was a USCENTCOM Joint Recovery Coordination Center (JRCC) Desert Storm Status Report. U.S. Navy and U.S. Marine Corp POW information was extracted from a Department of the Navy, Office of the Chief of Naval Operations report entitled "The United States Navy in 'Desert Shield' 'Desert Storm'," Washington, D.C., 15 May 1991, Appendix A, Appendix F. U.S. Army POW data were taken from Robert F. Dorr's book, *Desert Storm Air War*, Motorbooks International Publishers & Wholesalers, WI, 1991, p 116.

The information in these tables provides a look at the scope and number of losses sustained by each U.S. Service. Comparison with the OSD/PA data on the number KIA depicts the differences in reporting during the intensity of war versus its aftermath. During the war, a total of 76 KIA were reported for all U.S. Services; however, that number increased to 134 in Oct 92.

Notes:

1. The U.S. Commander-in-Chief, Central Command (USCINCCENT) situation reports (SITREPs) for 4 - 6 Feb 91 contained errors in their "as of" dates that were corrected. Following are sources for the personnel numbers for 3 - 6 Feb 91:

- 3 Feb 91: Extracted from USCINCCENT SITREP ZYUW RHIPAAA2174 0360045, 042115Z FEB 91 (S)
- 4 Feb 91: Extracted from USCINCCENT SITREP ZYUW RHIPAAA2245 0370111, 052115Z FEB 91 (S)
- 5 Feb 91: Extracted from USCINCCENT SITREP ZYUW RHIPAAA2283 0372336, 062115Z FEB 91 (S)
- 6 Feb 91: Extracted from USCINCCENT SITREP ZYUW RHIPAAA2373 0390112, 072115Z FEB 91 (S)

Table 207
Desert Storm Summary of U.S. Personnel Losses by Day
(as of 1 March 1991)

Date	KIA	WIA	MIA	DNBI	Total
15-Jan-91	0	0	0	13	13
16-Jan-91	0	0	0	19	19
17-Jan-91	0	2	5	41	48
18-Jan-91	0	0	4	8	12
19-Jan-91	0	0	4	25	29
20-Jan-91	0	0	0	27	27
21-Jan-91	0	0	1	61	62
22-Jan-91	0	2	0	20	22
23-Jan-91	0	0	0	31	31
24-Jan-91	0	0	0	50	50
25-Jan-91	0	0	0	20	20
26-Jan-91	0	2	0	69	71
27-Jan-91	0	0	0	7	7
28-Jan-91	0	0	1	46	47
29-Jan-91	0	0	0	17	17
30-Jan-91	11	2	0	8	21
31-Jan-91	0	0	16	47	63
1-Feb-91	0	0	0	79	79
2-Feb-91	1	2	0	20	23
3-Feb-91	0	1	3	43	47
4-Feb-91	2	0	0	50	52
5-Feb-91	0	0	1	30	31
6-Feb-91	0	0	0	50	50
7-Feb-91	0	0	0	28	28
8-Feb-91	0	0	0	22	22
9-Feb-91	0	0	1	31	32
10-Feb-91	0	0	0	22	22
11-Feb-91	0	0	0	42	42
12-Feb-91	0	0	0	28	28
13-Feb-91	0	0	0	27	27
14-Feb-91	2	0	0	21	23
15-Feb-91	0	0	2	24	26
16-Feb-91	0	0	0	20	20
17-Feb-91	2	8	0	37	47
18-Feb-91	0	0	0	25	25
19-Feb-91	0	7	1	34	42
20-Feb-91	1	7	0	41	49
21-Feb-91	4	0	0	21	25
22-Feb-91	0	2	0	36	38
23-Feb-91	0	0	0	49	49
24-Feb-91	0	2	0	49	51
25-Feb-91	3	11	1	19	34
26-Feb-91	31	129	0	39	199
27-Feb-91	14	5	1	22	42
28-Feb-91	7	61	1	39	108
Total	**78**	**243**	**42**	**1,457**	**1,820**

Source: USCINCCENT SITREPs (S)

Table 208
Desert Storm Post-Conflict Summary of U.S. Personnel Losses by Day
(as of October 1992)

Date	KIA	*POW	Date	KIA	*POW
15-Jan-91	0	0	7-Feb-91	0	0
16-Jan-91	0	0	8-Feb-91	0	0
17-J ı-91	3	2	9-Feb-91	0	1
18-Ja ·91	2	2	10-Feb-91	0	0
19-Jan-91	0	4	11-Feb-91	0	0
20-Jan-91	0	0	12-Feb-91	0	0
21-Jan-91	0	1	13-Feb-91	0	0
22-Jan-91	0	0	14-Feb-91	2	0
23-Jan-91	0	0	15-Feb-91	1	1
24-Jan-91	0	0	16-Feb-91	0	0
25-Jan-91	0	0	17-Feb-91	2	0
26-Jan-91	0	0	18-Feb-91	0	0
27-Jan-91	0	0	19-Feb-91	0	1
28-Jan-91	0	1	20-Feb-91	5	0
29-Jan-91	11	0	21-Feb-91	0	0
30-Jan-91	0	0	22-Feb-91	0	0
31-Jan-91	14	2	23-Feb-91	2	0
1-Feb-91	0	0	24-Feb-91	3	0
2-Feb-91	3	1	25-Feb-91	31	1
3-Feb-91	0	0	26-Feb-91	21	0
4-Feb-91	0	0	27-Feb-91	32	4
5-Feb-91	1	0	28-Feb-91	1	0
6-Feb-91	0	0	**Total**	**134**	**21**

* All POWs were released after the war

Sources: 1. Office of the Secretary of Defense/Washington Headquarters Services (OSD/WHS), Directorate for Information Operations & Reports: U.S. Active Duty Military Deaths, Alphabetical Index by Name, Operation Desert Shield/Desert Storm, as of October 1992

2. Department of the Navy, Office of the Chief of Naval Operations, "The United States Navy in 'Desert Shield' 'Desert Storm'", Washington, DC, 15 May 1991, Appendix A, Appendix F

3. Report (S), SURVIAC-TR-92-001 WL-TR-92-3048, U.S. Air Force Surface-to-Air Engagements During Operation Desert Storm, USAF Air Warfare Center, USAFAWC/TXM, Eglin Air Force Base, Florida, January 1992

4. USCENTCOM Joint Recovery Coordination Center (JRCC) Desert Storm Status Report

5. Dorr, Robert F., *Desert Storm Air War*, Motorbooks International Publishers & Wholesalers, WI, 1991, p. 116.

U.S. Prisoners of War (POWs) During Desert Storm

The following table lists the names and ranks by Service for U.S. POWs during Desert Storm. All POWs were returned to U.S. control in the aftermath of Desert Storm. This list was compiled from Operation Yellow Ribbon - Next Of Kin Travel Information in Contingency Support Staff files on Operation Yellow Ribbon - Repatriation of POWs Mar, May 91.

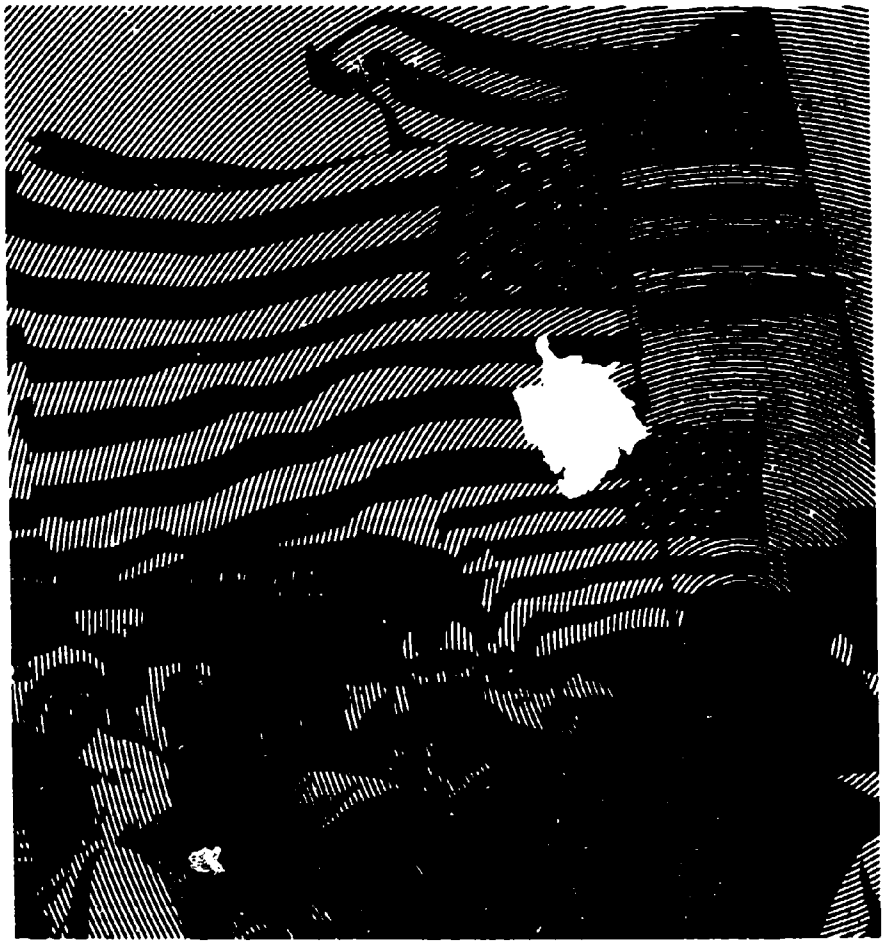


Table 209
U.S. Personnel of War (POWs) During Desert Storm

Service	Last Name	First Name	Rank
USAF	Andrews	William F.	Captain
	Eberly	David W.	Colonel
	Fox	Jeffrey D.	Lieutenant Colonel
	Griffith	Thomas E. Jr.	Major
	Roberts	Harry M.	Captain
	Storr	Richard D.	Captain
	Sweet	Robert J.	First Lieutenant
	Tice	Jeffrey S.	Major
USA	Comum	Rhonda	Major
	Dunlap	Troy	Specialist
	Lockett	David	Specialist
	Rathburn-Nealy	Melissa	Specialist
	Stamaris	Daniel	Staff Sargeant
USN	Slade	Lawrence R.	Lieutenant
	Wetzel	Robert	Lieutenant
	Zaun	Jeffrey N.	Lieutenant
USMC	Acree	Cliff	Lieutenant Colonel
	Berryman	Michael C.	Captain
	Hunter	Guy	Chief Warrant Officer Four
	Sanborn	Russell	Captain
	Small	Joseph J.	Major

Source: Contingency Support Staff (CSS) Safe #2, CSS Folder #10,
Operation Yellow Ribbon - Repatriation of POWs Mar, May 91,
Operation Yellow Ribbon - Next Of Kin Travel Information

Part II

Chronology of the Gulf War

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Part II

Chronology of the Gulf War

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Report Acknowledgements

The chronology reflects contributions of many individuals devoting more than a year with the Gulf War Air Power Survey. Early on, Dr. Aron Pinker laid a massive foundation of statistical and narrative information upon which others could build. Mr. Tom Mahnken along with Col. Dave Tretler and Mr. Alan Hefferman advanced the document's editorial process. Several other individuals left their mark during the final three months of effort to bring this document to maturity. Col. Emery Kiraly provided conceptual guidance and extracted several hundred valuable entries from situation and after-action reports. At the USAF Historical Research Agency, Maxwell AFB, Alabama, 2d Lt. Johnna Adams, Capt. Jeffrey Barger, and Senior Airman Robert Light drew many entries from several dozen heretofore uncataloged collections. Lieutenant Adams also served for two weeks in residence as researcher and writer for this project. Mr. Mac Lloyd, as the documents manager (archivist), provided time-saving research support; Ms. Kathy Glahe, as Team I secretary, kept the background administrative details in order. The authors further acknowledge the editing support of Ms. Mary Blake.

Security Review

The Gulf War Air Power Survey reports were submitted to the Department of Defense for policy and security review. In accordance with this review, certain information has been removed from the original text. These areas have been annotated as [DELETED].

Introduction

This chronology outlines many of the principal events of clear, direct, and tangible relevance to the planning and conduct of theater air operations during the 1990-1991 Gulf War. It begins in the months prior to the Iraqi invasion of Kuwait, on 2 August 1990, and ends with events immediately following the ceasefire on February 28, 1991. To enhance an understanding of contemporary perceptions of the pace and significance of these events, the most authoritative data and analysis available at the time were selected, with no post mortem analysis of their objectivity or accuracy. Further, while major national and international political events of the conflict were unquestionably relevant to air operations, they are covered in other sources and, thus, are enumerated only in the barest form. Once again, this chronology is not offered as a general data-pool of the conflict but rather as a tool for grasping the constituent elements of air war planning and operations at the theater and service component command levels (USENTCOM and USCENTAF).

Entries have been categorized according to the following scheme:

- **Background Events:** Relevant domestic and international political events.
- **Leaders:** Assignments, movements, and activities of top U. S. military leaders.
- **Scud War:** Scud and anti-Scud operations.
- **Intelligence:** Contemporary reports of Iraqi military and political capabilities, actions and intentions.
- **Air Order of Battle:** Force summaries and key unit arrivals and movements in the theater.
- **Ground Order of Battle:** Force summaries and key arrivals and movements in the theater.
- **Support Activities:** Movements and mission activities of maintenance, civil engineer, communications, intelligence, logistics, weather, staff and other support organizations and systems.

- **Medical:** Movements and activities of USCENTAF and theater medical units and facilities.

- **Civil Engineers:** Movements, activities and reports of civil engineer units and organizations in support of air operations.

- **Security:** Movements, activities and reports of USCENTAF Security Police and other organizations providing ground security for air operations and bases.

- **Logistics:** Movements, activities and reports emanating from supply and transportation units and organizations (USENTCOM/J4, USTRANSCOM, MAC, etc.)

- **Planning:** Planning criteria and actions in support of air operations.

- **Air Operations:** Flying training and combat operations events and statistics.

- **Other Activities:** Non-flying activities and operations of importance to air operations.

No entry has been duplicated, though it is understood that many of them fit into more than one category. Each entry, except those categorized as Background Events, will have a full archival citation. Virtually all entries are drawn from documents held in the files gathered by the Gulf War Air Power Survey or the Air Force Historical Research Agency (AFHRA) at Maxwell AFB, Alabama. By mid-1993, the GWAPS files should be incorporated into the AFHRA files, and thus will be accessible under AFHRA file or IRIS microfilm numbers, cross-referenced with the GWAPS series. The remaining entries are drawn, in a few cases, from files held at the U.S. Army Center for Military History (CMH) or the U.S. Navy Historical Research Center (HRC), and the remainder from appropriate secondary and tertiary sources. The research staffs at both Centers also provided support for GWAPS researchers.

The reference "day" for the chronology is based on Greenwich Mean Time, known in the U.S. military as "Zulu" or "Z" time. Key local time conversions are derived in the following manner: Eastern Standard or Daylight Savings Time (Z - 5 or Z - 6 hours) and Saudi Arabian as (Z + 3 hours). Thus, if an event occurred at 1700L (Local) time in Riyadh, it usually is reported in this chronology as having occurred at 1400Z.

In a related matter, U.S. military messages are cited in this chronology by their distinguishing date-time group (DTG). Normally appearing at the head of all U.S. military messages, a DTG indicates the time of initial transmission. Thus, a DTG of 032100 Nov 90 indicates that a message was transmitted on 3 November, 1990, at 2100 hours.

Antecedents to the Conflict

Iraq emerged from its eight-year war against Iran in 1988 in possession of the fourth largest military system in the world. Equipped with modern aircraft, armored forces, ballistic missiles, an arsenal of chemical and biological weapons, and a nascent nuclear weapons program, Iraq's military system was a powerful threat to its regional neighbors and, thus, to interests outside the Middle East.

By the fall of 1989, when it was clear that events in Eastern Europe and the Soviet Union had attenuated Soviet global military capabilities, DOD contingency planning for the USCENTCOM area of responsibility had shifted from countering a Soviet incursion through Iran, to defending the Arabian peninsula from the regional threat of Iraqi expansionism. Accordingly, in February 1990, USCINCCENT asked the U.S. Army Concepts Analysis Agency to conduct War Game Persian Tiger to test OPlan 1002-88, the existing blueprint for countering an Iraqi attack by a coalition of Kuwait, Saudi and U.S. forces. At the conclusion of Persian Tiger, the Agency reported that U.S. forces would arrive too late to influence combat and thus fail to restore the territorial integrity of Kuwait and Saudi Arabia and that Iraqi forces would quickly advance through open Kuwaiti territory and into central Saudi Arabia. (U.S. Army Concepts Analysis Agency, Strategy and Plans Directorate, "Wargame Persian Tiger 89," CAA-SR-90-5 (S/NF), August 1990, GWAPS NA-80) Faced by these sobering conclusions, USCINCENT continued to develop a new Concept Outline Plan for the defense of the Arabian Peninsula against an Iraqi assault.

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Chronology of Desert Shield

16 April 1990

Planning: Outline Plan of USCINCCENT OPLAN 1002-90 proposes a three-phase defense: Deterrence; Counterair, Interdiction and Defensive Operations; and Counteroffensive Campaign of friendly Arabian Peninsula states and critical oil supplies, in the event of major Iraqi attack into Saudi Arabia and Kuwait. Charged to direct theater air operations, as the Joint Force Air Component Commander (JFACC), COMUSCENTAF's responsibilities include "planning, coordination, allocation, and tasking based on USCINCCENT apportionment decisions." Tactical and strategic air forces contributed by other commands and USCENTCOM Components will "remain under the command of their respective commanders." The plan goes on to say that the JFACC's responsibility to make apportionment recommendations "does not preclude the forwarding of apportionment recommendations by any component commander directly to USCINCCENT." (USCINCCENT OPLAN 1002-90 Outline Plan (S/NF), 16 Apr 90, GWAPS, CHC-13, pp 21-24)

April 1990

Planning: COMUSCENTAF, General Horner, briefs USCINCCENT, General Schwarzkopf on a three-phase air plan in support of OPLAN 1002. Phase One (deterrence) emphasizes providing an immediate air defense capability, while building up the overall capabilities needed to fight immediately, if required. The next two phases (delay/attrition and counteroffensive) provided for air attacks on targets like airfields, transportation chokepoints, chemical weapons storage and production sites and delivery means (Scud missiles) and, if the Iraqis did use chemical weapons, key refineries, power plants, and the Baghdad nuclear center. (Briefing (S) Gen Horner to Gen Schwarzkopf, subj: OPLAN 1002, Apr 90, GWAPS, NA-256)

25 April 1990

Planning: CENTCOM J-2 initiates an "Iraq Regional Warning Problem" to increase the priority of intelligence collection against Iraq. (Headquarters United States Central Command, "After Action Report" (S), 15 Jul 91, GWAPS, NA-9, p 2)

14 May 1990

Planning: Summarizing the HQ Air Force review of USCINCCENT OPLAN 1002-90, the Deputy Director for Warfighting (XOXW, Col John Warden) deems it " . . . [will be] harmful to the best interests of the Air Force and will reduce the combat capability of the joint force as a whole. Specifically those sections concerning the duties and authority of the JFACC and some tasks assigned to ground commanders need to be revised." (AF/XOXW ltr, 14 May 90, GWAPS, CHC 9, 9-6)

21 May 1990

Planning: In estimating the developing security environment in the Persian Gulf region, USCENTCOM recognizes that Iraq is heavily armed and has economic and territorial grievances with Kuwait, but it assess that "Iraq is not expected to use military force to attack Kuwait or Saudi Arabia to seize disputed territory or resolve a dispute over oil policy." (Report (S), USCENTCOM, "Security Environment 2000: A CENTCOM View," 21 May 90, pp III-2 - III-5, GWAPS, CIM-87)

25 June 1990

Support Activities: The commander of the 4440th Support Squadron, also known as the Elf One Coordination Team, welcomes arriving augmenters to the only USAF support organization (11 personnel) at Riyadh Air Base. (Ltr, EOCT/CC to all Augmenters, subj: Welcome, 25 Jun 90, in 4409 OSW, Riyadh Air Base Master Chronology, IRIS 00887752/K-WG-4409-SU-RE)

9 July - 27 July 1990

Planning: The Naval War College's annual Global War Game includes an Iraqi attack and occupation of Kuwait and Saudi Arabian as one of its exercise scenarios. One participant, role-playing as the Executive Secretary of the National Security Council, recommends an aerial

counteroffensive against Iraqi "heartland-high value targets" (i.e. important government, industrial, and military targets) as one option for the "President" to consider (Naval War College Center for Naval Warfare Studies, Global War Game 90, Section III, Part 1, World 1 Crisis Development (working papers) (S/NF), GWAPS, NA-380)

12 July 1990

Background Events: A meeting is held at the White House to consider a United Arab Emirates (UAE) request that the USAF deploy two KC-135 tankers to support the UAE Air Force.

17 July 1990

Background Events: Saddam Hussein angrily and publicly threatens Kuwait and the United Arab Emirates with war for exceeding OPEC production quotas and driving down the price of oil.

Ground Order of Battle: In response to Iraqi threats, Kuwait places its armed forces on full alert and deploys forces in preparation for defending Kuwait City. (Headquarters United States Central Command, "After Action Report" (S), 15 Jul 91, GWAPS, NA-9, p 127)

18 July 1990

Intelligence: USCENTCOM issues a Worldwide Warning Indicator Monitoring System (WWIMS) status change to DOD intelligence warning community and to its own subordinate commands concerning the Iraqi propaganda and diplomatic campaign against Kuwait and the U.S. (CENTCOM J-5 After Action Report and Supporting Documents, 5 Mar 91 (S/NF), GWAPS, NA-259, p 2)

Planning: To provide timely guidance for Exercise INTERNAL LOOK 90, USCINCCENT issues the second draft of OPLAN 1002-90. His objective is to incorporate lessons learned from the exercise into a subsequent draft, expected in October, which would then allow preparation of a draft Time-Phased Force Deployment Plan (TPFDD) in time for the Phase I TPFDD conference scheduled for October-November 1990. (USCINCCENT OPLAN 1002-90 (Second Draft) (S/NF), 18 Jul 90, GWAPS, NA-41, cover letter)

19 July 1990

Intelligence: USCENTCOM receives the first intelligence reports of movement of two Iraqi divisions into deployment areas near the Kuwaiti border. (CENTCOM J-5 After Action Report and Supporting Documents, 5 Mar 91,(S/NF) GWAPS, NA-259, p 2)

21 July 1990

Intelligence: Intelligence reports an Iraqi armor division has moved just north of Kuwait and other reports confirm that approximately 3,000 military vehicles were on the road from Baghdad to deployment areas north of Kuwait. (CENTCOM J-5 After Action Report and Supporting Documents, 5 Mar 91, (S/NF) GWAPS, NA-259, p 2)

23 - 28 July 1990

Planning: Anticipating an attack by Iraqi forces of some 300,000 troops and 640 combat aircraft, CENTCOM command post exercise INTERNAL LOOK 90 focuses on key periods of draft OPLAN 1002-90. (Headquarters United States Central Command, "After Action Report" (S), 15 Jul 91, GWAPS, NA-9, p 33; Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992) p 291)

23 July 1990

Intelligence: DIA starts twice-daily production of Defense Special Assessments on the developing situation. All intelligence agencies provide detailed reporting on the Iraqi buildup and issue warnings of possible Iraqi military action against Kuwait. (SECDEF, Conduct of the Persian Gulf War, Final Report to Congress (U), Apr 92, GWAPS NA-252, p 334)

The DIA estimates that Iraqi logistic weaknesses, and possession of a bare 2:1 advantage in tank strength on the Kuwait border, reduce the likelihood of immediate military action. (Brfg (S/NF), CJCS Morning Briefing (U), 23 Jul 90)

Air Operations: In an operation code-named IVORY JUSTICE, two USAF KC-135s deploy to Al Dahfra Airport, in response to a United Arab Emirates request for air refueling training for its air defense aircraft. (Headquarters United States Central Command, "After Action Report" (S),

15 Jul 91, GWAPS, NA-9, pp 2-3; Msg (S), USCINCEUR, (S) Deployment Order for Exercise IVORY JUSTICE, 230511Z Jul 90, IRIS 881127, reel 23599)

25 July 1990

Background Events: Kuwait mobilizes its 20,000-man armed forces.

26 July 1990

Intelligence: Iraq is assessed as having 120,000 combat troops in southeastern Iraq deployment areas. (CENTCOM J-5 After Action Report and Supporting Documents, 5 Mar 91, (S/NF) GWAPS, NA-259, p 3)

31 July 1990

Intelligence: USCENTCOM J-2 informs USCINCCENT of movement by Iraqi Republican Guard heavy units from tactical assembly areas to attack positions against Kuwait. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 Jul 91, GWAPS, NA-9, p 3)

CENTCOM notifies Washington that war between Iraq and Kuwait appeared imminent. The Defense Intelligence Agency concurs with this estimate. (Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992) p 295)

1 August 1990

Leaders: Briefing the Secretary of Defense and Joint Chiefs of Staff on military options, USCINCCENT assesses that an Iraqi attack on Kuwait is a certainty, but it would stop just past the 30th parallel, taking Kuwait's part of the Rumaila oil field and Bubiyan Island. He also presents a detailed plan for air and sea strikes which included vulnerable, high-value targets, such as military headquarters, power plants, and factories. (Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992) p 294)

Intelligence: CIA, DIA, and CENTCOM issue warnings that attack of Kuwait was likely, if not imminent. (CENTCOM J-5 After Action Report and Supporting Documents, 5 Mar 91 (S/NF), GWAPS, NA-259, p 3) (SECDEF, Conduct of the Persian Gulf War, Final Report to Congress (U), Apr 92, GWAPS NA-252, p 334)

2 August 1990

Background Events: At 0300Z three Iraqi Republican Guard Divisions cross the Kuwaiti border and begin converging on the capital, Kuwait City. The main objectives of the assault—the Kuwait Army's positions around Al Jahra and the governmental buildings in Kuwait City—are secured within five hours. Kuwaiti troops within the city are driven out, but continue to fight as they retreat to the south. The Emir and the Crown Prince of Kuwait escape to Saudi Arabia. Iraq captures the Kuwaiti naval force of eight guided missile patrol boats equipped with Exocet antiship missiles.

President Bush signs Executive Orders 12722 and 12723 which freeze Iraqi assets and ban imports from Iraq. In addition, all U.S. Departments and Agencies are instructed not to provide any form of assistance to Iraq, including, but not limited to, financial assistance, loan guarantees, and export licenses. At an afternoon Presidential press conference in Aspen, Colorado, President Bush condemns the invasion and calls for "the immediate and unconditional withdrawal of Iraqi forces . . . [and] we're not ruling any options in, but we're not ruling any options out."

The UN adopts Security Council resolution 660 condemning the invasion of Kuwait and demanding Iraqi unconditional withdrawal. (Msg SECSTATE to All Diplomatic and Consular posts, subj: UN Security Council Resolutions on Iraqi Invasion of Kuwait, 121916Z Aug 90, GWAPS, CSS safe #7, CATLO folder #22)

Leaders: At a 1400Z (0800L) meeting of the National Security Council at the White House, USCINCCENT presents military options for demonstrating US resolve in the crisis and, if necessary, punishing Iraq for the invasion of Kuwait. The President expresses his conviction that a further Iraqi attack on Saudi Arabia would be cause for war. (Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992) p 298)

Air Order of Battle: CJCS issues a Warning Order alerting CENTCOM, TAC, MAC, and SAC to prepare to deploy forces, and a Partial Deployment Order to the United States Navy. MAJCOMS activate their Crisis Action Teams (CAT). (Headquarters United States Central Command, "After Action Report" (S/NF), 15 Jul 91, GWAPS, NA-9, p 3)

Planning: USCENTCOM activates its' CAT and begins to develop courses of action and examine alternative force levels to respond to the crisis. In general, response options range from execution of specialized contingency support options to execution of the final draft of OPLAN 1002-90. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 Jul 91, GWAPS, NA-9, p 4)

At 0802Z The National Military Command Center orders the USS *Independence* Carrier Battle Group to deploy to the North Arabian Sea, and also directs the USAF to deploy two KC-10s to Diego Garcia. (Memorandum from XOXJ to XO and CSAF, subj: Iraqi Invasion of Kuwait, 2 Aug 90, GWAPS, CSS safe #7, CATLO folder #25)

Air Operations: Kuwaiti A-4s and F-1s fly attack and air defense missions against Iraqi forces. The Kuwaiti Air Force (KAF) claims thirty-six Iraqi helicopters and two Iraqi fighters shot down and numerous armored vehicles destroyed. Around 1200Z the Iraqis enter Kuwait international airport and fifteen KAF F-1 fighters retreat from Ali Al Salem Air Base to Saudi Arabia and Bahrain at 1445Z. (Intvw (S), Col Emery Kiraly with Col Saber Al-Suwaidan, 13 Jul 92, GWAPS,377; Msg (S), JCS to OCSA, subj: Status of Kuwaiti Military Aircraft, Arms and Ammunition Subsequent to Iraqi invasion, 231511Z Aug 90, GWAPS, CSS safe #7, CATLO folder #16)

3 August 1990

Background Events: Even as Baghdad announces it will begin to withdraw troops on Sunday, 5 August, the Defense Department reports that Iraq has deployed armored brigades close to the Saudi border and poured reinforcements into Kuwait, heightening concerns about a possible Iraqi attack on Saudi Arabia. President Bush issues a Declaration of a National Emergency before Congress, while several congressman call on him to "draw a line in the sand".

Planning: In Washington, COMUSCENTAF briefs USCINCCENT on courses of action and OPLAN 1002-90 - concentrating on questions about numbers and basing of aircraft. ("Project Air Force Desert Shield Assessment," (S) Vol. II draft, WD-5270/1-AF. Santa Monica: The RAND Corp, Mar 91, GWAPS, NA-25)

Air Operations: Two KC-10 and one KC-135R deploy from Hickam and Andersen AFB to Diego Garcia and a second KC-135R remains in

place at Diego Garcia. (Msg (U), SAC to USCINCCENT, "Tanker Deployment to Diego Garcia ", 030350Z Aug 90, GWAPS, NA-86)

4 August 1990

Leaders: At Camp David, the President and much of the National Security Council hear USCINCCENT and COMUSCENTAF briefings on military options. COMUSCENTAF briefs that US aircraft flying from Saudi bases and from aircraft carriers in the Persian Gulf and Red Sea could establish air superiority within a period of days. After hearing USCINCCENT's report that he would need at least 100,000 troops to begin offensive operations 120 days after their arrival in theater, the President orders him to prepare for military activity and to activate OPLAN 1002-90 upon receipt of a host nation request for assistance. (Memo, Col Douglas C. Roach, USAF, Dep Asst Dir for Joint and NSC Matters, HQ USAF/DCS Plans and Operations, Camp David Discussions Re: Iraq, Saturday, 4 Aug 90; Headquarters United States Central Command, "After Action Report" (S), 15 Jul 91, GWAPS, NA-9, p 4; Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), pp 299-301)

Air Operations: The Kuwaiti Air Force evacuate nineteen A-4Q aircraft from Al Jaber Air Base to Dhahran Air Base, Saudi Arabia and Bahrain International Air Port, Bahrain. (Intvw (S), Col Emery Kiraly with Col Saber Al-Suwaidan, 13 Jul 92, GWAPS, 377; Msg (S), JCS to OCSA, subj: Status of Kuwaiti Military Aircraft, Arms and Ammunition Subsequent to Iraqi invasion, 231511Z Aug 90, GWAPS, CSS safe #7, CATLO folder #16)

5 August 1990

Air Order of Battle: The USS *Independence* is within range in the North Arabian Sea to launch air strikes against Iraqi forces, if necessary. (Association of Naval Aviation, *The Shield and the Storm: Naval and Marine Corps Aviation in the Gulf War.* GWAPS, NA-50, p 1, also GWAPS, NA-9, p 49)

6 August 1990

Background Events: United Nations Resolution 661 calls for restoration of Kuwaiti sovereignty, independence, and territorial integrity, and for an imbargo on Iraq. (Msg (U), SECSTATE to All Diplomatic and Consular posts, subj: UN Security Council Resolutions on Iraqi Invasion of Kuwait, 121916Z Aug 90, GWAPS, CSS safe #7, CATLO folder #22)

The State Department expresses US goals in the Gulf Crisis as (1) Iraq's immediate and unconditional withdrawal from Kuwait, (2) restoring power to a legitimate Kuwaiti government, (3) ensuring the safety of American nationals in the region, and (4) ensuring the free navigation and flow of oil from the Gulf Region. (*Washington Post*, 7 August 1990, p A1)

Leaders: The Secretary of Defense, USCINCCENT, USCENTCOM J-4 and J-5, and the USARCENT and USCENTAF commanders arrive in Jeddah, Saudi Arabia to seek King Fahd's agreement on deploying US forces to defend Saudi Arabia. When the King grants permission for the operation, the Secretary and USCINCCENT return to the US to influence the prioritization and deployment of forces. COMUSCENTAF is designated Commander, USCENTCOM Forward and remains in Saudi Arabia to coordinate additional regional access and monitor the reception of US forces. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 Jul 91, GWAPS, NA-9, p 4; Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), p 306)

Planning: Planning for the USCENTAF quick reaction module ceases and the draft USCINCCENT OPLAN 1002-90 becomes the baseline for deployment planning. (Executive Summary of Iraq and Kuwait Conflict, LTC Chabot, AF Ops Center, 6 Aug 90, GWAPS, CHSH 29-145)

Air Operations: SAC tankers are operating from Al Dhafra, Lajes, Moron, Zaragoza, Mildenhall, Andersen, and Diego Garcia in support of air movements to the Gulf region. (Msg (S), CINCSAC to JCS, subj: Sitrep 090626Z Aug 90, GWAPS, CSS safe #7, CATLO folder #15)

Air National Guard KC-135 tankers deploy out of the continental US to support deployments. (Rpt, NGB/RD, Air National Guard Desert Shield/Desert Storm Lessons Learned, 7 Jan 92, p A-4)

7 August 1990
C-Day
[C-Day is the day a deployment begins–Joint Pub 1-02]

Background Events: President Bush orders deployment of U. S. Forces to Saudi Arabia. Meanwhile, Iraq takes several hundred Westerners from Kuwaiti hotels and transports them by bus to Iraq. There are reportedly 3,800 Americans in Kuwait, but the State Department says it is "premature" to characterize them as hostages. Finally, in meeting with

Secretary of Defense Cheney, Egyptian President Mubarak commits Egyptian forces to the defense of Saudi Arabia and grants permission for the USS *Eisenhower* carrier battle group to transit the Suez.

At 0050Z, CJCS, issues deployment orders for [initial forces to respond to] Southwest Asia military operations. Designated forces include the ready brigade of the 82nd Airborne Division, Maritime Prepositioning Squadrons (MPS) from Guam and Diego Garcia, the Eisenhower carrier battle group, the USS *Wisconsin* battleship, 2 F-15 squadrons, sufficient E-3 AWACS aircraft to maintain one 24-hour CAP, and air refueling assets as required. Permission is granted to activate Stage I of the Civil Reserve Air Fleet, if required. C-day/L-hour is designated as soon as possible. (Msg (U) CJCS, Southwest Asia (SWA) Military Operations, 070050Z Aug 90, GWAPS, NA-86)

Air Order of Battle: At 1305Z, USCINCCENT initiates deployment of forces directing USCENTAF to establish forward headquarters at Riyadh, as soon as possible. Additionally, he specifies that, when directed by him, COMUSCENTAF will be dual-hatted as COMUSCENTAF FWD and COMUSCENTCOM FWD. Beddown for the F-15s is designated as Dhahran and for the AWACS as Riyadh. (Msg (U), USCINCCENT to JCS, subj: Southwest Asia (SWA) Military Operations, 071305Z Aug 90, GWAPS, NA-86)

The Chairman of the Joint Chiefs of Staff issues several deployment orders for air units. (1) 1430Z: one U-2R Senior Span electronic intelligence, one U-2R SYERS electro-optical reconnaissance system, and three RC-135 (Burning Wind) aircraft to [DELETED] as soon as possible. (2) 1435Z: retain former Ivory Justice KC-135 aircraft in the United Arab Emirates. (3) 2153Z: additional forces to flow into the area of operations over the next nine days. These include a Special Operations Squadron (four MC-130, four HC-130, eight MH-53), four C-130 airlift squadrons, an F-15E squadron, six F-16 squadrons, one Control and Reporting Center and Forward Air Control Post, a Tactical Air Control Center, and three E-3 aircraft, and air refueling support, as required. C-day/L-Hour is designated as 090001Z August 1990. (Msgs (U), CJCS to USCINCCENT, subj: Southwest Asia (SWA) Military Operations, 071430Z, 071435Z, and 072153Z Aug 90, GWAPS, NA-86)

At 1400Z, USS *Independence* (CV-62) arrives on station in Gulf of Oman and is ready for strike operations. USS *Eisenhower* (CVN-69) is approaching the Suez Canal en route to the Red Sea. (Executive

Summary of Current Events (U), LTC Chabot, AF Ops Center, 7 Aug 90, GWAPS, 29-144)

The 71st TFS, Langley AFB, Virginia, launches 24 F-15s enroute to Dhahran, Saudi Arabia. (Msg (S), HQ TAC/BSD to HQ/USAF, subj: Sitrep 090126Z Aug 90, GWAPS, CSS #23)

Support Activities: Chairman of the Joint Chiefs of Staff messages also direct deployment of the following support forces: 1435Z: E-2C downlink equipment, 2151Z: four DIA National Military Intelligence Support Teams (NMIST) to support USCENTAF, USNAVCENT, USARCENT, and USCENTCOM and, at 2152Z: contingency communications equipment. (Msgs (S), CJCS to USCINCCENT, subj: Southwest Asia (SWA) Military Operations, 071435Z, 072151Z, 072152Z Aug 90, GWAPS, NA-86)

Logistics: Eight Fast Sealift Ships (FSS) are activated at 2359Z. (Msg (S), USCINCTRANS/CAT to JCS, subj: Sitrep 090640Z Aug 90, GWAPS, CSS #76) Meanwhile, USCINCCENT requests the release of 239 prepositioned vehicles located in Bahrain and Oman. (Msg (S), USCINCCENT to CHUSTMTM, subj: Clearance to receive vehicles, 071735Z Aug 90, GWAPS, CSS safe #7, CATLO folder #15)

Planning: At 1000Z JCS activates the JCS Crisis Action Team. (Msg (S), JCS to SECDEF, subj: Crisis Action Team Activation, 070912Z Aug 90, GWAPS, CSS safe #7, CATLO folder #15)

Members of the HQ USAF Deputy Director for Warfighting (AF/XOXW) staff gather, in what used to be the "Checkmate" Division in the basement of the Pentagon, to build a concept plan for a strategic air campaign against Iraqi centers of gravity defined as leadership, infrastructure, key production, population (psychological operations), and fielded forces. (Harvey Notes (S), 7 Aug 90, GWAPS, CHP 9-1)

8 August 1990
C+1

Background Events: President Bush announces U. S. deployments to "defensive positions" and reiterates the four policy objectives announced by the State Department on 6 August. The ongoing operation is designated Desert Shield.

Great Britain commits itself to the defense of Saudi Arabia, and Secretary of State Baker offers Turkey increased military and intelligence cooperation, in return for access to Turkish bases by Desert Shield air forces.

Leaders: USCINCCENT, having returned from Saudi Arabia, Egypt, and Morocco, recommends to the Joint Staff that the ongoing operations be called "Peninsula Shield." That code-name is rejected, in favor of "Desert Shield," which was put forward by the CENTCOM staff. (Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992) p 310)

Air Order of Battle: At 0330Z, USCINCCENT decreases the number of F-16 squadrons requested by CJCS message 072153Z Aug 90 from six to four, while simultaneously adding the following forces to the request: five B-52s, one F-117 and one F-4G Wild Weasel squadrons; four A-10 squadrons and six EC-130 Airborne Command, Control and Communications (ABCCC) aircraft; one F-15C squadron and an additional RC-135; four more C-130 Tactical Airlift Squadrons; one EF-111F squadron; five EC-130 Compass Call aircraft, one AC-130 squadron, and one B-52 squadron; one Special Ops Squadron; and (on call) one F-111D squadron. (Msg (U), USCINCCENT to JCS, subj: Follow-on Forces Additions (U), 080330Z Aug 90, GWAPS, NA-86)

1250Z, USCINCCENT initiates deployment of selected follow-on-forces with beddowns designated as follows: F-15Es - Seeb, Oman; tactical airlift squadrons - Masirah and Thumrait, Oman and Abu Dhabi, UAE; F-16s - Sharjah, UAE; Special Ops squadron - Riyadh. C-day/L-Hour is designated as 7 Aug/1700Z. (Msg (U), USCINCCENT, Deploy Order, 081250Z Aug 90, GWAPS, NA-86)

1733Z, CJCS amends his C+5 force requirements by adding a second F-4G squadron, deleting the Forward Air Control Post and three AWACS, and reducing his F-16 squadron closures from 4 to 2. He also designates C-day/L-hour as 071700Z Aug 90, superseding the date and hour established on 7 Aug as 090001Z Aug 90. (Msg (U) CJCS, Deployment of Follow-on Forces, 081733Z Aug 90, GWAPS, NA-86)

1300Z, the last of twenty-three (one diverted enroute) USAF F-15Cs and accompanying KC-10 tankers arrive at Dhahran and immediately begin to augment Royal Saudi Air Force air defense alert and combat air patrol operations. Five E-3A AWACS aircraft arrive at Riyadh AB and

begin flying missions within 24 hours. Six C-141s and one C-5 depart Robins AFB with initial communications gear. (HQ TAC BSD Sitrep, 090126Z Aug 90 (S), GWAPS, CSS #23)

Support Activities: 1520Z, CJCS issues a deployment order for a Joint Communications Support Element (JCSE) to provide contingency communications. (Msg (U), CJCS to JCSE, subj: Deployment Order 081520Z Aug 90, GWAPS, NA-86.)

Six C-141s and one C-5 depart Robins AFB with initial communications gear. (HQ TAC BSD Sitrep, 090126Z Aug 90 (S), GWAPS, CSS #23)

Planning: At 1930Z (1330L) in the Pentagon, Colonel Warden (AF/XOXW) briefs the Air Force Vice Chief of Staff, General Mike Loh, on the concept he and his staff have developed for bombing strategic centers of gravity in Iraq. Code named INSTANT THUNDER, Warden's target priorities include: strategic air defenses, strategic offensive forces, Saddam Hussein's regime (leadership), command and control, electricity, refined oil for Iraqi consumption, railroads, and highways. Warden is told to proceed with planning and be ready to brief Gen Schwarzkopf on 10 Aug. (Harvey notes (U), 8 Aug 90, GWAPS, CHP #10, and Brfg (S/NF), AF/XOXW, Iraqi Air Campaign, 8 Aug 90).

Air Operations: USCINCTRANS reports that strategic lift remains capable of moving early requirements faster than they can be generated. MAC operations at Langley AFB, in support of deployments of two Langley AFB F-15 squadrons, and at Tinker AFB, in support of the movement of the TAC Command Support Element, were delayed by slow cargo generation. (Msg (S), USCINCTRANS to JCS, subj: USCINCTRANS Sitrep, 090640Z Aug 90, GWAPS, CSS #76)

Furthermore, initial phases of the deployment planning is being done manually while the Services, CENTCOM, and TRANSCOM construct a time-phased force deployment data (TPFDD) list since numerous factors prevent the use of JOPES (Joint Operations, Planning and Execution System) (SECDEF, Conduct of the Persian Gulf War, Final Report to Congress (U), Apr 92, GWAPS NA-252, p 372)

Exercise Ivory Justice is terminated and the two participating KC-135s are directed to remain at Al Dhafra. (Msg (S), USCINCCENT to HQ

SAC, subj:, Termination Of Ivory Justice, 080207Z Aug 90, GWAPS, CSS safe #7, CATLO folder #15)

Desert Shield Begins
9 August 1990
C+2

Background: The UN Security Council condemns Iraq's annexation of Kuwait as illegal, null and void. (Msg (U), SECSTATE to All Diplomatic and Consular posts, subj: UN Security Council Resolutions on Iraqi Invasion of Kuwait, 121916Z Aug 90, GWAPS, CSS safe #7, CATLO folder #22)

The British government decides to send two RAF squadrons (one F-3 ADV Tornado and one Jaguar) to Bahrain and increase its naval presence in the eastern Mediterranean. (Msg (S), USDAO London to DIA, subj: British Military Support for the Persian Gulf Area, 091347Z Aug 90, GWAPS, CSS safe #7, CATLO folder #22)

Leaders: USCENTAF (FWD) headquarters arrives at Riyadh at 0830Z. Major General Olson is acting COMUSCENTAF (FWD), since Lieutenant General Horner is the acting COMUSCENTCOM (FWD). (Msg (S), USCINCCENT to JCS, subj: Sitrep, 100650Z Aug 90, GWAPS, CSS #35)

Rear Admiral G.A. Sharp, USCINCCENT/CCJ-5, arrives at Riyadh and is designated COMUSNAVCENT FWD. (Msg (S), COMUSNAVCENT to CNO, subj: Activation of Plain Language Address (PLA) and Associated Routing Indicator (RI) for COMUSNAVCENT FWD, 9 Aug 1990, NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

Intelligence: Additional Iraqi air defense assets, including SA-2 sites at Al Jahra and Al Jaber air bases and a ZSU 23-4 at Al Jaber, indicates that the Iraqis are constructing an integrated air defense network. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 100650Z Aug 90, GWAPS, CSS #35)

Support Activities: Air Force Global Weather Central, located at Omaha, Nebraska, issues the first Operation Desert Shield products – theater-tailored horizontal weather depictions, satellite discussions, and enroute and in-theater winds and weather hazards. (Air Weather Service, "Air Weather Service Contribution to Winning the War–The Value of Weather Support: Operation Desert Shield/Storm Report 1," 23 May 91, pp 4, 87, GWAPS, NA-531)

Air Order of Battle: USCINCCENT designates the "beddown" bases for his F-4G and F-117 squadrons as Dubai, United Arab Emirates and Seeb, Oman, respectively. (Msg (U) CINCCENT, Southwest Asia (SWA) Military Operations, 090355Z Aug 90, GWAPS, NA-86)

The Chairman of the Joint Chiefs of Staff issues further deployment orders for follow-on air units through C+30. These forces include: one AC-130 squadron, one MC-130 squadron, one MH-60 squadron, nine B-52s, fourteen B-52s, twenty-four F-16, seventy-two A-10, six EC-130 ABCCC, one Air Support Operations Center (ASOC), twenty-four F-15C, one RC-135, forty-eight F-16, twenty-four A-10, six EF-111, five EC-130 Compass Call, eighteen F-111D on order, and four tactical airlift squadrons. (Msg (S), CJCS to USCINCCENT, subj: Deployment Order for Follow-on Forces, 091345Z Aug 90, GWAPS, CSS safe #5 folder #115)

Ground Order of Battle: ARCENT ADVON arrives in Riyadh and Command elements of XVIII Airborne Corps and 82nd Airborne Division begin arriving at Dhahran. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 100650Z Aug 90, GWAPS, CSS #35)

Support Activities: HQ USAF convenes its' Contingency Support staff (CSS). (Msg (S), AFOC to AIG 10454, subj: JOPREP JIFFY, 091130Z Aug 90, GWAPS, CSS safe #2, folder #24)

Logistics: Confusion over valid movement requirements continues to have an adverse impact upon the air lift flow to Southwest Asia. A request for Air Force Reserve volunteer aeromedical evacuation crews met with limited success. Requirements identified to date do not warrant activation of Stage I of the Civil Reserve Air Fleet. (Msg (S), USCINCTRANS to JCS, subj: USCINCTRANS Sitrep, 090640Z Aug 90, GWAPS, CSS #76)

Planning: CENTAF (Rear) forwards 48 targets to HQ USAF Checkmate planners, raising total targets thus far identified for an air campaign to 70. (Harvey notes (U), 9 Aug 90, GWAPS, CHP #10)

The Joint Staff advises USCENTCOM to expect the British to deploy twelve Tornado, twelve Jaguar and three Nimrod aircraft to the AOR, with advanced parties to begin arriving on 10 August. (NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

Air Operations: US and Saudi AWACS split time to maintain 24 hour a day orbits. Saudis provide 24 hour fighter CAP. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 100650Z Aug 90, GWAPS, CSS #35)

The first of four (by 19 Aug) SAC RC-135 Rivet Joint aircraft begins providing support to Desert Shield. (SECDEF, Conduct of the Persian Gulf War, Final Report to Congress (U), Apr 92, GWAPS NA-252, p 385)

10 August 1990
C+3

Background Events: Most Arab League nations agree to help defend Saudi Arabia and to seek the reestablishment of the rightful Kuwaiti government.

Leaders: USCINCCENT establishes COMUSCENTAF as the Joint Forces Air Component Commander, giving him increased authority to direct the operations of some of the air units of the other CENTCOM Service Components. (Msg (S/NF), USCINCCENT to Joint Staff, OPORD 001, 101100Z Aug 90, GWAPS, CSS safe #5, folder #114)

Intelligence: USCINCCENT now identifies seven SA-2 and four SA-6 SAM batteries in the KTO. There appears also to be an increase in Iraqi defensive air activity in the area during daylight hours. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 110848Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: Twenty-four USAF F-16Cs arrive (1158Z) at Al Dhafra, United Arab Emirates, and twenty-four F-15E arrive (1230Z) at Thumrait, Oman. The British Royal Air Force arrives at Dhahran with twelve Tornado F-3s. The first two RC-135 Rivet Joint aircraft arrive at Riyadh AB. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 110848Z Aug 90, GWAPS, CSS #35)

Support Activities: The Tactical Information Broadcast System becomes operational. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 Jul 91, GWAPS, NA-9, pg 50)

Logistics: No major USAF munitions movements have been initiated from CONUS. It is assessed that prepositioned assets and near-term preposition ship assets will support operations for a limited period. (Msg (S), USAF ACP/MMW to USCENTAF, subj: Ammunition requirements, 101730Z Aug 90, GWAPS, CSS safe #5, folder #114)

CENTAF forces have no appreciable air-to-ground attack capability yet, due to "malpositioned" munitions. (Executive Summary of Current Events (S), LTC Chabot, AF Ops Center, 10 Aug 90, GWAPS, CHSH 29-143)

Planning: USCINCCENT's Operation Order (OPORD) for Desert Shield outlines a three-phase concept of operations–deterrence, interdiction of advancing forces, and restoration of the border. COMUSCENTAF is designated the Joint Force Air Component Commander (JFACC). The JFACC has operational control of all USCENTAF forces, and tactical control of SAC tanker forces and all USNAVCENT and USMARCENT sorties allocated to the theater air campaign. To "ensure unity of effort for the conduct of theater air operations" the JFACC (among other duties) is tasked to plan, coordinate, allocate and task theater air operations "based on USCINCCENT apportionment decisions." The JFACC's responsibility to recommend sortie apportionments to USCINCCENT does not preclude the other Service components from making such recommendations directly to the theater commander. (Msg (S/NF), USCINCCENT to Joint Staff, OPORD 001, 101100Z Aug 90, GWAPS, CSS safe #5, folder #114)

USCINCCENT also requests deployment of prototype E-8 J-STARS surface surveillance radar aircraft to Saudi Arabia to observe Iraqi ground force movements. (Msg (C), USCINCCENT to JCS, subj: Joint Stars Deployment to Saudi Arabia, 1142300Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

At USCENTCOM Headquarters, MacDill AFB, Colonel Warden and "Checkmate" planners brief USCINCCENT on the INSTANT THUNDER concept for a, mainly, strategic air campaign against Iraq. General Schwarzkopf recommends including Turkey-based forces in the concept, and he asks to see an "executable" plan by 15 August. (Harvey notes (U), 10 Aug 90, GWAPS, CHP #10)

TAC/XP sends a copy of the INSTANT THUNDER briefing to CENTAF (FWD), along with proposals for USCINCCENT guidance. (TACOPS Msg (S), 100145Z Aug 90, GWAPS, CHP 24-1)

Air Operations: The first USAF RC-135 enters Saudi airspace and begins collection against Iraqi targets. US F-15s fly training and orientation flights with Saudi F-15s. Both carrier battle groups maintain 24 hour fleet air defense CAPS. Forces from RSAF, USAF, and USN conduct Exercise Arabian Gulf to coordinate air operations in the Persian Gulf.

(Msg (S), USCINCCENT to JCS, subj: Sitrep, 100650Z Aug 90 and 110848Z (S), GWAPS, CSS #35)

11 August 1990
C+4

Air Order of Battle: The first sixteen C-130 arrive at Masirah AB, Oman, and another F-16 squadron arrives at Al Dhafra. Twelve KC-135s (including some Air National Guard planes and crews) arrive at Jeddah together with the SAC U-2 advanced element. NAVCENT arranges to place two reserve SAR units on alert to support CENTAF. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 120621Z Aug 90, GWAPS, CSS #35

Support Activities: The CJCS transmits the initial alert order authorizing execution planning for a maritime interdiction operation to enforce an economic quarantine of Iraq/Kuwait in support of Operation Desert Shield. (Msg (S), CJCS to USCINCCENT, 111700Z Aug 90, GWAPS, CSS safe #2, folder #24)

Logistics: The JCS learn that sixty-five C-141 loads of F-15 and F-16 standard air munitions packages and related equipment still await airlift transportation, seriously undermining USAF air-to-ground attack capabilities in theater. (Point Paper (S), Lt Col Wiseman, AF/LEYX, "Munitions Status (U)", 11 Aug 1990).

Planning: USCINCCENT's deployment emphasis remains on building combat power in the AOR as quickly as possible. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 110848Z Aug 90, GWAPS, CSS #35)

AF/XOXW's team briefs the CJCS on INSTANT THUNDER. General Powell considers the use of Turkish bases, as yet, unnecessary. Asking if Colonel Warden's plan could be executed around 22 August, General Powell expresses a desire to destroy the Iraqi army and, " . . . leave tanks as kilometer fence posts.." back to Baghdad. (Harvey notes (U), 11 Aug 90, GWAPS, CHP #10)

Austria approves blanket overflight clearance for MAC flights to the Middle East. Approval is restricted to unarmed transport flights and is limited to the duration of the present action in the Middle East. (Msg (S), AmE Vienna to Secstate, subj: Request for aircraft clearance, 111258Z Aug 90, GWAPS, CSS safe #5, Folder #113)

Air Operations: A second "Arabian Gulf" exercise is conducted to coordinate CAP over the southern Arabian Gulf. Continuous 24 hour coverage with RC-135s begins. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 120621Z Aug 90, GWAPS, CSS #35

12 August 1990
C+5

Background: The US initiates Operation Stigma, an arms embargo on Iraq. (Msg (S), SECSTATE to All Diplomatic Posts, subj: Arms Embargo on Iraq, 122244Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Intelligence: Defensive deployments of Iraqi ground units in Kuwait suggest greater concern with foiling attacks along the coast and borders with Saudi Arabia, than with launching offensive operations. (Msg (S), USCINCCENT to JCS, Subject: Sitrep, 120621Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: Seven B-52s arrive (0900Z) at Diego Garcia and twelve RAF Jaguars join the F-15Es already at Thumrait, Oman. (Msg (S), USCINCCENT to JCS, Subject: Sitrep, 130717Z and 140600Z Aug 90, GWAPS, CSS #35)

The Department of Defense says it is willing to release up to twenty-four F-15C aircraft to Saudi Arabia. (Msg (C), SECDEF/USDP to HQ USAF, subj: F-15 Aircraft, 121702Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Planning: At 2300Z, CENTAF (Rear) consolidates with the HQ Tactical Air Command (TAC) Battle Staff at Langley AFB, Virginia. (Msg (S), HQ CENTAF (TAC) Langley AFB to HQ USAF, subj: Sitrep, 132227Z Aug 90 GWAPS, CSS #23)

JCS/J-3 directs that HQ USAF channel its planning actions through "Checkmate" on their way to the Joint Staff. The Air Force DCS Plans and Operations is designated as the Air Force J-3. (Lt Col Stanfill, AF/XOXWF, notes 12 Aug 90, p 3, GWAPS, CHP #24-1)

COMUSCENTAF directs his staff to begin strategic planning for strikes against Iraqi targets, with the purpose of defeating an invasion. (Interview (S), Maj Gen Olsen, CENTAF/CV by MSgt Turner, AF/HO, 30 Sep 90, Riyadh, GWAPS, CHP-16A)

Logistics: USTRANSCOM establishes air and sea sustainment channels to focus on resupply transportation. (Msg (S), USCINCTRANS to JCS, subj: Sustainment resupply transportation system, 122323Z Aug 90, GWAPS, CSS safe #7, CATLO folder #22)

STAR (Scheduled Tactical Airlift) routes are established to provide efficient use of intratheater airlift using C-130s. (Interview (S) Maj Gen Olsen, CENTAF/CV by MSgt Turner, AF/HO, 30 Sep 90, Riyadh, GWAPS, CHP-16A)

Air Operations: US F-15s fly combat air patrol sorties in support of AWACS, while others sit on Quick Reaction Alert for air defense and ground attack missions. (Msg (S), USCINCCENT to JCS, Subject: Sitrep, 130717Z Aug 90, GWAPS, CSS #35)

13 August 1990
C+6

Intelligence: USCINCCENT believes the Iraqis have three infantry divisions, two armored divisions, and one mechanized infantry division in Kuwait. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 140600Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The first elements (four MH-53s) of a special operations squadron arrive at Riyadh. Seven more B-52s arrive at Diego Garcia, while a British Nimrod aircraft arrives at Seeb. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 140600Z Aug 90, GWAPS, CSS #35)

Fourteen B-52s are "loaded" at Diego Garcia. (Msg (S), CINCSAC/BS to JCS, subj: Sitrep 140500Z Aug 90, GWAPS, CSS #88)

Planning: The saturation of Saudi basing facilities prompts USCINCCENT to request State Department efforts to obtain aircraft basing agreements with Qatar, Egypt, and Turkey. (Msg (S), USCINCCENT to JCS, subj: Forward staging/Deployment of aircraft, 130215Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Air Operations: The second U.S.-only AWACS orbit begins. U.S. F-16 aircraft at Al Dhafra, UAE initiate an alert posture for air-to-air and air-to-ground operations. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 140600Z Aug 90, GWAPS, CSS #35)

Due to Desert Shield requirements, the Military Airlift Command cancels most long-range channel [scheduled, common-use] airlift missions in the Pacific route system. (Msg (S), USCINCPAC to JCS, subj: Pacific Strategic Airlift Support, 131830Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

14 August 1990
C+7

Intelligence: The Iraqi disposition of ground forces becomes clearer and are assessed as assuming a "clearly defensive posture." No Iraqi fighter deployments to Kuwait have been observed. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 150615Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: Twelve RAF Jaguars arrive at Thumrait, Oman. USSOCCENT relocates from Riyadh to King Fahd airport (Msg (S), USCINCCENT to JCS, subj: Sitrep, 150615Z Aug 90, GWAPS, CSS #35)

Ground Order of Battle: Seventh Marine Expeditionary Brigade advance elements arrive at Jubayl. ARCENT FWD is fully established. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 150615Z Aug 90, GWAPS, CSS #35)

Support Activities: The USCENTAF Directorate of Electronic Combat (USCENTAF/EC) is established at Riyadh, under Brig Gen Larry L. Henry. (After Action Report, USCENTAF/EC, Oct 91, IRIS 00885089/K178.81-6)

Medical: The 1st Air Transportable Hospital becomes operational at Dhahran. (HQ USAF/SGPA, "Desert Shield/Desert Storm: Aerospace Medicine Consolidated After-Action Report," January 1992, Sup Doc #3, p 15, GWAPS, NA-529) In retrospect, the commander reports that his 50-bed facility provided the only functioning US military hospital in the eastern half of Saudi Arabia for 6 weeks, supporting most of the 18th Airborne Corps' deployment, and seeing between 80 and 130 outpatients and supporting about 40 inpatients daily. He also reported existing medication, equipment and medical-specialization deployment lists were not always appropriate for the climate and disease characteristics of the AOR. (Major Richard S. Williams, "1st ATH Desert Shield/Desert Storm After Action Report: Commander's Summary," 1st Medical Group, Langley AFB, Virg., 17 April 1991, Sup Doc #88, pp 1-2, GWAPS, NA-529)

Planning: The INSTANT THUNDER air campaign plan now contains 84 targets. (Notes, Lt Col Harvey, 16 Aug 90, GWAPS, CHP-9-4)

15 August 1990
C+8

Air Order of Battle: The last of the B-52s arrive at Diego Garcia completing its planned full strength. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 52)

Ground Order of Battle: The 82nd Airborne Division's Ready Brigade is on the ground and preparing for combat, while 7th Marine Expeditionary Brigade lead elements have arrived to prepare for reception of three Maritime Pre-positioned Squadron two ships that arrived at Jubayl with Marine M-60A1 tanks, the first heavy U.S. armored vehicles to reach the AOR. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 160800Z and 150615Z Aug 90, GWAPS, CSS #35)

Logistics: Apparently referring to the expanding scale of deployment planning, USCINCCENT reports that "airlift requirements through C+40 have averaged double the USTRANSCOM delivery capability." (Msg (S), USCINCCENT to JCS subj: Sitrep, 150615Z Aug 90, GWAPS, CSS #35)

For the first time in history, the entire United States strategic airlift capability is committed world wide - seventy-three percent of C-141 and ninety-three percent of C-5 missions are committed to Desert Shield. Sealift requirements will result in activation of a total of twenty-seven Ready Reserve Fleet ships. (Msg (S), USCINCTRANS to JCS, 150400Z Aug 90, GWAPS, CSS #76)

Planning: NATO gives USEUCOM blanket authority to move US equipment and forces from Europe to support Desert Shield. (Msg (S), USCINCEUR to Joint Staff, subj: USEUCOM Consolidation Sitrep 160753Z Aug 90, NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

Other activities: CJCS provides psychological operations guidance in support of Desert Shield. National level emphasis is placed on gaining support of Arab nations for US actions and to isolate both Iraq and Saddam Hussein. (Msg (C), CJCS to USCINCCENT, subj: Psyop Guidance, 152245Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

16 August 1990
C+9

Intelligence: USCINCCENT believes that Iraq will likely deploy close air support aircraft into Kuwait. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 160800Z Aug 90, GWAPS, CSS #35)

Support Activities: The Tactical Air Control Center arrives in Riyadh to assume command and control functions for deployed air forces. Also, a Control and Reporting Center and a Message Processing Center arrive at Dhahran and begin working side-by-side with their Saudi air defense counterparts. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 170635Z Aug 90, GWAPS, CSS #35)

Communications capabilities are extremely limited, with approximately twenty-five percent of all USAF tactical communications assets either airborne [enroute] or in-country. (Msg (S), HQ USCENTAF (TAC) to HQ USAF, subj: Sitrep 170144Z Aug 90, GWAPS, CSS safe #7, folder #15)

Medical: USCENTAF FWD publishes the Aeromedical Evacuation Concept of Operations for Desert Shield. (Msg (S), USCENTAF to USCENTCOM, subj: USCENTCOM Aeromedical Evacuation Concept of Operations, 162200Z Aug 90, GWAPS, CSS safe #7, CATLO folder #15)

NOTE: The USCENTAF Aeromedical Evacuation Concept of Operations remained in effect until the Military Airlift Command issued one of its own. (Msg (S), USCENTAF/SG to HQ TACOPS, subj: Aeromedical Staging Facility–TPFDD Requirements 251100Z Dec 90, Sup Doc #3, GWAPS, NA-529)

Logistics: USCINCCENT expects the arrival of ground refueling equipment to reduce the vulnerability of, and a critical bottle-neck to, the logistics buildup - by allowing the command to activate Aerial Ports of Debarkation in addition to Dhahran. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 160800Z Aug 90, GWAPS, CSS #35)

USAF logistics advisers tell MAJCOMs to deploy personnel with three sets of chemical warfare defense equipment, instead of the planned four, to alleviate immediate shortages. (Point Paper (S), Lt Col Roan, AF/LEYX-LRC, "Logistics Support Desert Shield," 16 Aug 90, GWAPS, BH Box 7 Folder 7)

Planning: USCINCCENT movement priority remains on combat power [vs sustainment], particularly antitank weapons and forces. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 160800Z Aug 90, GWAPS, CSS #35)

USCINCCENT requests USPACOM and Defense Intelligence Agency support in preparing strike planning materials for Desert Shield targets. (Msg (S), USCINCCENT to USCINCPAC, subj: Target Materials, 162350Z Aug 90, GWAPS, CSS safe #7, CATLO folder #15)

Other Activities: President Bush authorizes U.S. forces to participate in multinational maritime interception operations. Shortly after, the JCS authorizes U.S. naval forces to begin intercepting commercial shipping to or from Iraq and Kuwait. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 170635Z Aug 90, GWAPS, CSS #35)

17 August 1990
C+10

Intelligence: The eight Iraqi divisional headquarters thus far identified in Kuwait are believed to control twelve light and eleven heavy brigades. The Iraqi Air Force continues defensive patrols, but apparently has halted Saudi airspace violations and ECM operations for the moment. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 170635Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: Two U-2s arrive in the theater. The first F-4G "Wild Weasel" squadron arrives at Shaikh Isa, Bahrain. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 180613Z Aug 90, GWAPS, CSS #35)

Qatar announces that they will accept the beddown of US aircraft at Doha. (Interview (S) MG Olsen, CENTAF/CV by MSgt Turner, AF/HO, 4 Oct 90, Riyadh, GWAPS, CHP-16A)

Ground Order of Battle: 1st Brigade, 82nd Airborne Division and the 7th Marine Expeditionary Force continue to arrive and organize for battle, while 2nd Bde, 82nd Abn Division provides security. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 170635Z Aug 90, GWAPS, CSS #35)

Support Activities: The Second Marine Air Wing commander identifies an urgent requirement to install HAVE QUICK II radios into his EA-6B aircraft, in order to have secure communications with Air Force and Navy forces. (NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

Logistics: Host nations continue to cooperate in the release and movement of pre-positioned assets from Bahrain and Oman to Saudi Arabia. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 170635Z Aug 90, GWAPS, CSS #35)

For the first time, Stage I of the Civil Reserve Air Fleet is activated, adding thirty-eight civil airliners to the Desert Shield airlift. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 190400Z Aug 90, GWAPS, CSS #76)

Three ships filled with pre-positioned materiel arrive at Ad Dammam. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 180613Z Aug 90, GWAPS, CSS #35)

No standard air munitions packages (STAMPS) have moved to the AOR since 15 August. (Point Paper (S), Lt Col Fisher, AF/LEYX-LRC, "Logistics Support Desert Shield," 18 August 1990, GWAPS, BH Box 7, Folder 7)

Planning: USCINCCENT hears the INSTANT THUNDER air campaign plan briefing again - now composed of a strategic phase against Iraqi centers of gravity and an operational phase against Iraqi forces in Kuwait. While listening to Colonel Warden's plans to strike ninety-four targets in a single week and dislocate or degrade Iraqi political, command and military capabilities, Gen Schwarzkopf scribbles out a four-phase version of a theater campaign, consisting of Instant Thunder, suppression of Iraqi air defenses in Kuwait, attrition of enemy forces by fifty percent, and a ground attack, - he decides to call the campaign Desert Storm. Schwarzkopf tells Warden to brief CENTAF in Riyadh on INSTANT THUNDER. (Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992) pp 319-320; Lt Col Deptula briefing to GWAPS, 26 Nov 91; Memo. CAPT Johnson, J-3/JOD, CINCCENT Trip Report, 17 Aug 90; Notes: LTC Harvey, (S) 17 Aug 90, GWAPS, CHP 9-4)

18 August 1990
C+11

Background Events: Iraqi forces begin withdrawing from Iranian territory they have occupied since the end of the Iran-Iraq War.

Intelligence: Two new SA-3 surface-to-air missile sites are identified in Kuwait. Iraqi fighters simulate air-to-air missile launches, ground-controlled intercepts, and practice ground strikes. (Msg (S), USCINCCENT to JCS, subject: Sitrep, 190655Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The first A-10 squadron arrives at King Fahd International Airport. (Msg (S), USCINCCENT to JCS, subject: Sitrep, 190655Z Aug 90, GWAPS, CSS #35)

Logistics: After a squadron of twenty-four A-10s arrives at King Fahd Airport, local fuel supplies are found to be contaminated. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 53)

F-15E flying operations are restricted when a shipment of tires fails to arrive in theater. (HQ TAC/BS Sitrep 180108Z Aug 90 (S), GWAPS, CSS #23)

Saudi and United Arab Emirates officials assure USCINCCENT that they will support all USCENTCOM petroleum requirements. (Msg (S), USCINCCENT FWD to JCS, subj: Fuel Support 180800Z Aug 90, GWAPS, CSS safe #7, CATLO folder #15)

USCINCTRANS reports that the return of cargo pallets, nets and tie-down devices continues to be a problem. (Msg (S), USCINCTRANS to JCS, subj: Sitrep 180400Z Aug 90, NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

Planning: USCINCCENT reports that Iraqi intentions remain unclear, but they could transition rapidly to offensive operations, so logistics focus remains on maximum buildup of combat power with minimum sustainment. (Msg (S), USCINCCENT to JCS, subject: Sitrep, 180613Z Aug 90, GWAPS, CSS #35)

COMUSCENTAF informs USCINCSAC that USCENTCOM does not have the ground forces required to stop a full-scale Iraqi invasion of Saudi Arabia, so his battle plan involves heavy reliance on air assets, including SAC B-52s. (Msg (S), USCENTAF to HQ/SAC, subj: STRATFOR D-Day Situation Planning 18 Aug 90 181500Z, IRIS 00882839/K416-239)

Due to Saudi concern over alarming the populace, COMUSCENTCOM FWD prohibits low-altitude flying, practice air-to-ground attacks, and supersonic flights over the Kingdom. (Msg (S), COMUSCENTCOM FWD to USCENTAF, subj: Sitrep, 191800Z Aug 90, GWAPS, CSS #12)

General Horner and General Behery, the Saudi Air Force commander hear a D-Day briefing. (Interview (S) MG Olsen, CENTAF/CV by MSgt Turner, AF/HO, 4 Oct 90, Riyadh, GWAPS, CHP-16A)

19 August 1990
C+12

Intelligence: U.S. AWACS observe Iraqi fighter activity at all three primary Kuwaiti airfields. USCINCCENT believes Iraq intends to use US detainees as shields against US air strikes. (Msg (S), USCINCCENT to JCS, subject: Sitrep, 190655Z Aug 90, GWAPS, CSS #35)

Support Activities: A basic network of satellite and ground-based radio systems is in place to support inter- (High Frequency and Defense Communications System) and intra-theater (Tactical Satellite) communications between major installations., but most beddown locations are communicating via commercial telephone, contributing to delays of up to twenty hours in receiving messages. The Computer Assisted Force Management System is not yet in place. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 191800Z Aug 90, GWAPS, CSS #12)

CENTAF communications priorities are (1) a message center for Riyadh, (2) base communications support equipment for King Fahd and Jeddah, and (3) a Special Security Office (SSO) van for Bateen. (Interview (S) MG Olsen, CENTAF/CV by MSgt Turner, AF/HO, 20 Oct 90, Riyadh, GWAPS, CHP-16A)

Logistics: CENTAF FWD requests approval to install Have Quick II anti-jamming radios in all Saudi defensive assets. (Msg (S), USCENTAF FWD to USCINCCENT FWD, subj: Request for FMS Approval and Use of Have Quick II Anti-Jam UHF Radios with Saudi DCA forces Supporting Desert Shield Psyop Guidance, 191115Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Airlift forces are committed to Desert Shield at near wartime rates, while KC-10s begin to fly dual-role, tanker-cargo missions. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 190400Z Aug 90, GWAPS, CSS #76)

Air Operations: Two B-52s fly training missions in the AOR to establish coordination procedures with AWACS. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 190800Z Aug 90, GWAPS, CSS #35)

20 August 1990
C+13

Intelligence: Iraqi ground combat and support forces continue to pass southward through Kuwait City, leading USCINCCENT to reiterate his

caution that continued defensive preparations along the Kuwait-Saudi border do not "alter the Iraqi option to defend or attack with little or no warning." Some Iraqi fighters are now believed to be based at Ali al Salem Airfield, Kuwait. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 200554Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: A second squadron of twenty-four A-10s arrive at King Fahd Airport and, because of contaminated fuel, they air refuel before landing so they can fly one combat mission. The first US Marine aircraft arrive in theater with the arrival of eighteen AV-8Bs of the 3rd Marine Air Wing at Shaikh Isa, Bahrain, at 1000Z. Two HC-130s arrive at King Fahd. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 210632Z Aug 90, GWAPS, CSS #35)

Logistics: The Arrival of six refueling trucks allows USCENTCOM to open King Fahd airport as a second aerial port of debarkation. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 200554Z Aug 90, GWAPS, CSS #35)

USCENTCOM air units are experiencing problems getting mission critical parts (MICAP) and War Readiness Spares Kits (WRSK) to the AOR. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 210632Z Aug 90, GWAPS, CSS #35)

The first Maritime Pre-positioning Ship arrives in Jeddah and off loads vehicles and equipment, including [DELETED] ammunition and air base assets. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 210632Z Aug 90, GWAPS, CSS #35)

Planning: USCINCCENT publishes OPORD 003 as an interim combined defense plan. It represents the first combined planning product of the crisis. (Msg (S), USCINCCENT FWD OPORD 003, subj: "Desert Shield Operations", 201230Z Aug 90, GWAPS, CSS #35; and SECDEF, Conduct of the Persian Gulf War, Final Report to Congress (U), Apr 92, GWAPS NA-252, p 491)

COMUSCENTAF FWD's priorities, in the event of an Iraqi attack, are: (1) interdiction - delay and attrit any Iraqi ground forces that cross into Saudi Arabia, (2) counterair - achieve air superiority over the battlefield, (3) plan, and (4) prepare for possible D-day operations; exercise air traffic control procedures/coordination. He expresses some concern over the work-arounds required by the continued absence of an Air Support Operations Center, to coordinate ground support requirements, and of Airborne Battlefield Command and Control Center aircraft, to control

airborne strike aircraft. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 201800Z Aug 90, GWAPS, CSS #12)

At Riyadh, Colonel Warden (AF/XOXW) and his staff members brief USCENTCOM FWD on INSTANT THUNDER. Branding the plan as "academic" and out of touch with the presence of enemy ground forces at the border, Lt Gen Horner nevertheless requests that three Lieutenant Colonels accompanying Warden remain to work with his staff to develop the air campaign. (Plan (TS Limdis), AF/XOXW, "Instant Thunder", 17 Aug 90; Notes: LTC Harvey, (S) 20 Aug 90, GWAPS, CHP 9-4)

At a CJCS and CINCs conference in Washington, CENTCOM estimates that a high-confidence defense capability will be reached by 25 September, with offensive operations possible after C+120. (Brfg, USCENTCOM, "CJCS and CINC's Conference", 20-21 August 1990)

Air Operations: C-21s and C-130s begin flying STAR (scheduled tactical airlift) routes to provide intratheater airlift. (Interview (S) MG Olsen, CENTAF/CV by MSgt Turner, AF/HO, 4 Oct 90, Riyadh, GWAPS, CHP-16A)

21 August 1990
C+14

Background Events: President Bush rejects Saddam Hussein's offer to negotiate, declaring that there will be no negotiations until Iraq withdraws from Kuwait.

Intelligence: CENTCOM reports indications that well-equipped Republican Guard armored and mechanized units in southern Kuwait are being replaced by less well-equipped regular infantry formations. There is also evidence that Iraq has mined all Kuwaiti harbors in order to enhance its coastal defense. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 210632Z Aug 90, GWAPS, CSS #35)

The Iraqi Air Force has also increased air intercept training flights in southern Iraq and is operating a steady stream of transport flights into all three Kuwaiti primary fields. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 220550Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The first squadron of eighteen F-117s arrives in theater at 1400Z, and three EC-130 Compass Call and nine KC-135Q arrive at Riyadh AB. The USS *Saratoga* enters USCENTCOM control. (Msg

(S), USCINCCENT to JCS, subj: Sitrep, 220405Z Aug 90, GWAPS, CSS #35; Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 54)

Meanwhile, three MC- and five HC-130 aircraft are ordered to the theater from Europe, along with EC-130 Volant Solo aircraft from the U.S. (Msg (S), CJCS to USCINCCENT and USCINCEUR, subj: Deployment Order, 211116Z and 211125Z (resp) Aug 90, GWAPS, CSS safe #2, folder #24)

Medical: Strategic Air Command (SAC) and Military Airlift Command (MAC) squadron medical elements are arriving in the AOR without adequate supplies. There still exists no in-patient (Air Transportable Hospital) capability in the western region of the peninsula. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 211800Z Aug 90, GWAPS, CSS #12)

Logistics: USTRANSCOM requests strategic airlift and sealift assistance from foreign sources to make up shortfalls. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 210400Z Aug 90, GWAPS, CSS #76)

Austria approves continuing US military transport overflights. (Msg (S), USCINCEUR to JCS, subj: Sitrep, 220753Z Aug 90, GWAPS, CSS #51)

Planning: COMUSCENTAF notes that Qatar's recent grant of basing rights enhances his command's capabilities. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 211800Z Aug 90, GWAPS, CSS #12)

22 August 1990
C+15

Background Events: For the first time since the enactment of the law, President Bush issues Executive Order 12727 (Title 10 USC 673b, 200K Call-Up) authorizing call-up of units and up to 200,000 personnel of the Selected Reserve for up to 180 days (90 days with one 90-day extension). He also issues Executive Order 12728 (Title 10 USC 673c) suspending any provision of law relating to promotion, separation, and retirement of members of the Armed Forces. (Final Report, Air National Guard Desert Shield/Desert Storm Lessons Learned, Jan 7, 1992 (U) GWAPS, NA-274, pp iv, 103, A-6; Msg (U), SAF/PA to AIG 9333, subj: Public Affairs Guidance, 231512Z Aug 90, GWAPS, safe #7, CATLO folder #16)

Intelligence: Iraqi air activity increases with a focus on transport flights into the three Kuwaiti airfields. Closure of all but one Iraqi commercial airway, in conjunction with increased air combat maneuvers and defensive patrols in the Baghdad area, and display of Iraqi airborne warning system aircraft, suggests they are increasingly concerned about their capability to intercept attacking aircraft effectively before they reach Baghdad. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 220550Z Aug 90, GWAPS, CSS #35)

Movement of Republican Guard units northward, after replacement on the Kuwait-Saudi border by less well-equipped regular army units, decreases the likelihood of a no-warning attack, but USCINCCENT cautions against discounting the possibility all together. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 220550Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The first USMC F/A-18 squadron arrives at Shaikh Isa with 24 aircraft at 1230Z. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 230801Z Aug 90, GWAPS, CSS #35)

Four C-21 aircraft are in-place at Riyadh to provide courier services to deployed units. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 54)

A wing of F-111F's replaces a wing of F-111D's on the deployment list, because of the former's capability to conduct autonomous (self-designating) laser-guided bomb attacks. (Msg (S), CJCS to USCINCCENT subj: Deployment Order, 221421Z Aug 90, GWAPS, CSS safe #2, folder #24)

Ground Order of Battle: Major U.S. ground systems in the theater include 32 M-60A1 and 25 M-551 tanks, 156 TOW anti-tank missile vehicles, 50 artillery pieces and 3 multiple launch rocket systems and 8 Patriot launch units. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 220550Z Aug 90, GWAPS, CSS #35)

Support Activities: Bateen and Masirah still have USAF aircraft on the ground without USAF security police protection. Initial and sustaining communications capability between USCENTAF FWD and numerous beddown locations remain frustrated due to the lack of priority airlift to the AOR. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 220550Z Aug 90, GWAPS, CSS #35)

368-716 O—93——24 QL 3

Medical: U.S. forces continue to field only limited clinic capabilities in the western part of the AOR. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 220550Z Aug 90, GWAPS, CSS #35)

Logistics: Efforts continue to identify tanker and B-52 beddown locations inside and outside the AOR. Explosive shipments into Saudi by the Civil Reserve Air Fleet are restricted to Al Dhafra only, creating further demand on limited intra-theater airlift. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 220550Z Aug 90, GWAPS, CSS #35)

CENTCOM FWD requests clearance to supply Saudi combat aircraft with HAVE QUICK II radios needed to communicate with USCENTAF Airborne Warning and Control System aircraft. (Msg (S), USCENTAF TAC/BS to HQ USAF, subj: Sitrep, 222251Z Aug 90, GWAPS, CSS #23)

Advising USCINCCENT that present USCENTCOM air movement priorities do not provide for sustainment shipments, USCINCTRANS suggests that any future "airlift prioritization include airlift dedicated to sustainment." (Msg (S), USCINCTRANS to USCINCCENT, subj: Airlift Support for Sustainment 221710Z Aug 90, NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

Planning: Announcing the assignment of Brigadier General Buster Glosson to USCENTAF FWD, General Horner makes him Director of the Special Planning Project [sic] and directs him to brief an offensive air campaign plan to USCINCCENT around 27 August, and to make that plan "executable" by 15 September. (Intvws, MSgt Turner, AF historian, with BG Glosson and MG Olsen, CENTAF/CV, Riyadh, 17 and 20 Oct 90, respectively, GWAPS, CHP-16A and CHP 5A; Notes: LTC Harvey, (S) 22 Aug 90, CHP 9-4)

23 August 1990
C+16

Background Events: The Secretary of Defense sets call-up ceilings of: Army, 25,000; Navy, 6,300; Marine Corps, 3,000; Air Force 14,500. (Memorandum (U), SECDEF to Secretaries of Services, subj: Call-up of Selected Reserve Units and Personnel to Active Duty, 23 Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Leaders: USCINCCENT requests Service Chiefs and commanders of other combatant commands to help him "turn off" the "deluge" of visit requests

from senior officers eager to visit their units deployed to the theater. "Now is not the time," he says, for any visits for other than a "legitimate operational, repeat operational requirement." (Msg (C), USCINCCENT to numerous addressees, subj: Visit Requests, 231723Z Aug 90, CSS Safe #7, CATLO Folder #1A, SOA # 345)

Believing that adequate communications facilities are now in the AOR, USCINCCENT informs the CJCS that he is ready to go to Saudi Arabia. (Schwarzkopf, H. Norman, *It Doesn't Take a Hero* (New York: Bantam Books, 1992, p 324)

Intelligence: USCENTCOM reports that the appearance of tanks containing decontamination materials near two Iraqi artillery battalions indicates that they may be preparing to fire chemical weapons. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 230800 Aug 90, GWAPS, CSS #35)

Meanwhile, USCENTCOM notes the first indications of Iraqi night flying over Kuwait. Iraqi MiG-29 and MiG-23 defensive patrols have increased, and Iraqi aircraft have violated the border at least twice since 20 August, probably to test coalition alert and response procedures, but possibly to maintain air superiority over a part of Saudi territory. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 230801Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The first TF[illegible] arrive at [DELETED] at 1300Z. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 240633Z Aug 90, GWAPS, CSS #35)

Also, USCINCCENT modifies his deployment orders, by requesting HQ TAC draw from Europe one [LANTIRN] of the five F-16 squadrons to the AOR. (Msg (S), USCINCCENT/CCJS to JCS [illegible]: Deployment Modification, 232143Z Aug 90, GWAPS, CSS st[illegible]#2 folder #24)

Support Activities: The installation of a Red Phone, to [illegible] USCINCCENT directly to Washington DC, is underway at Riyadh. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 230800Z Aug 90, GWAPS, CSS #35)

Civil Engineers: CENTAF is still short of PRIME BEEF (Base Emergency Engineering Force), PRIME RIB (Readiness in Base Services), and fire protection personnel at nine bases. Long term problems with electrical distribution systems continue at most sites. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 231800Z Aug 90, GWAPS, CSS #12)

Logistics: The backlog of cargo at CONUS aerial ports of embarkation, and at Ramstein Air Base, Germany, has decreased from 992 to 831 short tons. USCENTCOM FWD is moving US military personnel out of hotels and into billeting areas that provide improved security against terrorist threats. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 230800 Aug 90, GWAPS, CSS #35)

Planning: COMUSCENTAF changes his priorities to: interdiction; counterair; close air support; plan and prepare for possible D-day operations. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 231800Z Aug 90, GWAPS, CSS #12)

Air Operations: While US and Saudi Arabian AWACS aircraft maintain 24-hour orbits, other USCENTAF aircraft begin flying training, defensive air patrol and airlift sorties, and others maintain ground alerts. The Royal Saudi Air Force maintains constant combat air patrols, while the two US Navy carriers in the AOR conduct normal 12-hour operations and maintain a 24-hour "Ready 5" alert posture. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 240633Z Aug 90, GWAPS, CSS #35)

24 August 1990
C+17

Intelligence: Analysts believe that heavily armored Republican Guard divisions in the interior of Kuwait have been replaced by units of the regular army. Elements of at least three armored/mechanized divisions assume positions along the southern defensive line, while three Republican Guard infantry divisions continue to defend along the Kuwaiti coast. Reliable, but unconfirmed, intelligence sources report the presence of Scud transporter-erector-launchers with missiles in Kuwait. Defensive patrols have increased over Kuwait and southern and central Iraq. The Mirage F-1 with the Super Matra 530 and MiG-29 Fulcrum with AA-10A Alamo gives the Iraqis a formidable all-aspect air-to-air capability. Two Mirage F-1s reacted to a pair of allied fighters patrolling south of the border. Increased fighter and helicopter operations at southern Iraqi and Kuwaiti airfields suggests forward deployment into Kuwait. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 240633Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The USS *Wisconsin* arrives in the Gulf with its complement of TLAM cruise missiles. The first 8 EF-111 electronic warfare aircraft arrive at Taif, Saudi Arabia, at 1230Z, and the first 6 A-6E all-weather attack, and 12 EA-6Bs electronic warfare aircraft, arrive at Shaikh

Isa at 1530Z. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 250537Z Aug 90, GWAPS, CSS #35)

USCINCPAC issues deployment orders for one P-3 REEF POINT aircraft. (Msg (S), USCINCPAC/CAT to CINCPACFLT, subj: Deployment Order 242214Z Aug 90, GWAPS, CSS safe #2 folder #24)

Support Activities: Efforts are underway to obtain secure communications between the Saudi and US forces. Effective at 230001Z Aug 90, USCENTCOM FWD assumes Joint Communications Control Center (JCCC) functions. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 240633Z Aug 90, GWAPS, CSS #35)

There is still no USAF explosive ordnance disposal support at Taif, Tabuk, and Jeddah. (Msg (S), USCENTAF TAC/BS Sitrep, 242334Z Aug 90, GWAPS, CSS #23)

Medical: The USCENTCOM Surgeon General's office has moved to the AOR. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 240633Z Aug 90, GWAPS, CSS #35)

Logistics: Widebody aircraft capability now exists at Dhahran, King Fahd, Khamis Mushait, Shaikh Isa, and Thumrait. Refueling capability at King Fahd now includes one commercial and 10 R-9 refueling vehicles. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 240633Z Aug 90, GWAPS, CSS #35)

The airlift backlog for CONUS TAC bases alone has grown to 185 pallets of spare parts, mobility bags and fuels support packages. (Msg (S), USCENTAF TAC/BS Sitrep, 242334Z Aug 90, GWAPS, CSS #23)

Kuwait and South Korea have offered aircraft to augment the strategic airlift effort. Five KC-10 tanker-transports begin, and will continue, to be used in an airlift-only role. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 250400Z Aug 90, GWAPS, CSS #76)

Planning: SAC activates the 17th Air Division (Provisional) to organize and administer Strategic Air Command assets assigned to the AOR. USCENTAF receives operational control of assigned B-52s and tactical control of assigned KC-135s and strategic reconnaissance assets. (Headquarters Strategic Air Command, Special Order GB-084, 24 August 1990; Msg (U), CINCSAC to 8AF, 15AF, 3AD, 7AD, 14AD, 17AD (P),

4300 BMW (P), subj: Command relationships of SAC Forces Supporting Desert Shield, 241900Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Air Operations: United Kingdom aircraft begin flying orientation and training flights. (Msg (S), USCENTCOM/CAT to JCS, subj Sitrep, 250627Z Aug 90, GWAPS, CSS #35)

25 August 1990
C+18

Intelligence: Iraqi air responses to coalition air activities south of the Kuwait-Saudi Arabia border indicate that they consider the area south of Kuwait and north of the 28th parallel as within their air defense zone. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 250537Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The first eighteen F-111Fs arrive at Taif at 1300Z, and the first six RF-4Cs arrive at Al Dhafra at 0300Z. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 260552Z Aug 90, GWAPS, CSS #35)

Support Activities: The Computer Aided Flight Management System is activated at several sites to augment secure facsimile machines and C-21 aircraft in distributing air tasking orders throughout the theater. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 251800Z Aug 90, GWAPS, CSS #12)

Medical: There are now three 50-bed air transportable hospitals (ATH) fully functional in the AOR. Also, COMUSCENTAF FWD notes that some CENTAF personnel on maintenance medications are arriving without the required 30-day supply, while others were being medically evacuated after arriving in the theater physically unfit for mobility status. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 251800Z Aug 90, GWAPS, CSS #12)

The commander of the 1st ATH recommended that individuals deploy with a 90-day supply of maintenance medications. (Major Richard S. Williams, "1st ATH Desert Shield/Desert Storm After Action Report: Commander's Summary," 1st Medical Group, Langley AFB, Virg., 17 April 1991, p 1)

Security: Deployment of requested security forces to arrive at new locations prior to arrival of aircraft remains critical. (Msg (S),

COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 251800Z Aug 90, GWAPS, CSS #12)

Logistics: MAC has declared 463L pallets as critical items and has asked for in-CONUS accounting and redistribution. (Sitrep Summary (S), LTC Chabot, AF Ops Center, 25 Aug 90, GWAPS, CHSH 29-116)

26 August 1990
C+19

Background Events: Iraq cuts off water services to foreign embassies in Kuwait, surrounds them with soldiers, and shuts off electricity to the American Embassy.

Leaders: USCINCCENT and USCENTCOM Chief of Staff, Maj Gen Robert B. Johnston (USMC), arrive at Riyadh about 0700Z. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 260552Z Aug 90, GWAPS, CSS #35)

Intelligence: USCINCCENT reports indications of three separate Iraqi brigade-strength units west of the Iraqi-Kuwaiti border, a potential flanking threat to allied troops. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 260552Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: USCENTAF is concerned that the Air Support and Coordination Center (ASOC) [sic] has not departed Shaw AFB, limiting his ability to conduct close air support operations. He also requires a second Computer-Aided Force Management System from 12th Air Force. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 261800Z Aug 90, GWAPS, CSS #12)

Ground Order of Battle: 24th Infantry Division personnel are arriving in the AOR, preparatory to the arrival of their sea-embarked equipment. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 260552Z Aug 90, GWAPS, CSS #35)

The 7th Marine Expeditionary Brigade completes its air deployment to Al Jubayl. (Msg (S), USCENTCOM REAR to JCS, subj: Sitrep, 270513Z Aug 90, GWAPS, CSS #35)

Support Activities: Airlift of TRAC/TADMS processor equipment is completed - the control vans for the Advanced Synthetic Aperture Radar

System (ASARS II) arrive in Riyadh. (Msg (S), USCENTCOM REAR to JCS, subj: Sitrep, 270513Z Aug 90, GWAPS, CSS #35)

Civil Engineers: While communications with USCENTAF bases and sites is improving, a shortage of primary power distribution centers is hampering the actual construction of associated tent cities. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 261800Z Aug 90, GWAPS, CSS #12)

Logistics: USCENTAF expresses concerned that no strategic airlift is available to move Air Force outsize cargo into theater. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 261800Z Aug 90, GWAPS, CSS #12)

The US accepts a Kuwaiti offer to use two of their 747s for airlift between the US and Saudi Arabia at no cost to the US. (USCINCTRANS to SECDEF, subj: Acceptance of Transportation Services from Kuwait, 260453Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Planning: Brigadier General Glosson briefs USCENTAF on the "new" INSTANT THUNDER air campaign plan. General Horner directs that the first 24 hours of the campaign be put into Air Tasking Order format by the next day, so it can be executed if, as USCINCCENT stated, ". . . Hussein puts a bullet through the head of our Ambassador." General Horner also informs General Glosson of USCINCCENT's four phase offensive campaign plan. (Notes: LTC Harvey, (S) 26 Aug 90, GWAPS, CHP 9-4; Notes: LTC Deptula, (U) 24 Sep 90, GWAPS, CHP 5-11)

27 August 1990
C+20

Background Events: A small group of "non-official" Americans is allowed to leave Iraq via Turkey. Nearly 3,000 American hostages remain in Iraq and Kuwait. (Msg (S), USCENTCOM REAR to JCS, subj: Sitrep, 270513Z Aug 90, GWAPS, CSS #35)

SECDEF Cheney issues stop-loss guidance memorandum to restrict separations and retirements from the U.S. military during the Gulf crisis. (GWAPS, NA-254, p A-6)

Greek constitutional restrictions prevent early basing of SAC tanker aircraft on Greek bases. (Msg (S), USCINCEUR to HQ SAC, subj: Tanker Operations 271746Z Aug 90, IRIS 00888288)

Leaders: HQ USCENTCOM shifts from Florida to Riyadh (Msg (S), USCENTCOM REAR to JCS, subj: Sitrep, 270513Z Aug 90, GWAPS, CSS #35)

Intelligence: While CENTCOM cannot confirm that Iraqi Air Force units have been stationed in Kuwait, the frequency and number of their flights in the area indicate a concerted local-area-familiarization and air-defense effort. Additionally, a near continuous Iraqi combat air patrol over southern Iraq and central Kuwait, along with increased use of their airborne warning aircraft, indicate an intent to establish firm air control of the area. (Msg (S), USCENTCOM REAR to JCS, subj: Sitrep, 270513Z Aug 90, GWAPS, CSS #35)

The DIA assesses that Iraq has numerous SA-2, SA-3, SA-6, and SA-8s, together with an unknown number of SA-9, SA-13, and Roland launchers in Kuwait. The captured Kuwaiti HAWK SAM batteries have moved but since the Iraqis do not have HAWKs in their inventory, they likely will not be employed. (Msg (S), DIA to USCINCCENT, subj: Crisis Order of Battle, 271534Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Air Order of Battle: The CJCS issues deployment orders for an additional fourteen F-111F GBU capable aircraft and a squadron of F-16s. (Msgs (S), CJCS to USCINCCENT, subj: Deployment Orders 271705Z and 283500Z Aug 90, GWAPS, CSS safe #2 folder #24)

Logistics: The airlift backlog of airlift stands at 86 C-141 equivalents and 1240 passengers. (Msg (S), USCENTAF TAC/BS Sitrep, 272119Z Aug 90, GWAPS, CSS #23)

28 August 1990
C+21

Background Events: Iraq announces the "re-establishment" of the 19th province of Iraq, bringing Kuwait under the jurisdiction of Baghdad. Meanwhile, the Bush administration declares that their goal is an Iraqi withdrawal "without violence," and that the toppling of Saddam Hussein's regime is not required.

Leaders: Effective 282400Z Aug 90, USCENTCOM FWD is disestablished and USCINCCENT established at Riyadh. The HQ element remaining at MacDill is designated USCENTCOM REAR. (Msg (S), USCINCCENT to JCS, subj: Disestablishment of USCENTCOM FWD, 311051Z Aug 90, GWAPS, CSS safe #7, CATLO folder #16)

Intelligence: CENTCOM reports that Iraqi air operations have stabilized in intensity, and they have apparently adopted more restrictive rules of engagement for defensive counter air operations, probably in an attempt to avoid prompting coalition retaliation. (Msg (S), USCENTCOM REAR to JCS, subj: Sitrep, 280221Z Aug 90, GWAPS, CSS #35)

Ground Order of Battle: The 101st Airborne Division (Air Assault) begins air deployment into AOR to meet inbound, sea-embarked equipment. (Msg (S), USCENTCOM REAR to JCS, subj: Sitrep, 280221Z Aug 90, GWAPS, CSS #35)

Support Activities: In an example of the value of weather support, forecast data on Hurricane Gustav, provided by the TAC Weather Support Unit, allowed two TAC deployment missions to proceed on their planned routes, after only a 24-hour delay. (Air Weather Service, "Air Weather Service Contribution to Winning the War–The Value of Weather Support: Operation Desert Shield/Storm Report 1," 23 May 1991, GWAPS, NA-76, p 30)

Logistics: USCENTAF REAR reports the airlift backlog at three days. USCINCTRANS reports that the first Korean Airlines Boeing 747 entered the Desert Shield airlift stream, and a C-5 crashed at Ramstein Air Base, Germany. (Msg (S), USCENTAF TAC/BS subj: Sitrep, 282241Z Aug 90, GWAPS, CSS #23; Msg (S) USCINCTRANS to JCS, subj: Sitrep, 290400Z Aug 90, GWAPS, CSS #76)

Planning: USCENTAF requests twenty Sentinel Byte work stations to provide flying squadrons with automated intelligence support for mission planning. (Msg (S), CENTAF-TAC to HQ USAF, subj: Sentinel Byte Support to Desert Shield, 282155Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

An Air Force Studies and Analysis Agency analysis predicts a four percent attrition rate for all allied air forces during the first 24 hours of a campaign against Iraq. (Maj Frederic T. Case, AF/SA, "Analysis of Air Operations During Desert Shield/Desert Storm," Nov 91, GWAPS, NA-212, p 1)

29 August 1990
C+22

Intelligence: CENTCOM reports Iraqi air activity increased to its highest sortie rate since the invasion of Kuwait. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 302115Z Aug 90, GWAPS, CSS #35)

Leaders: USCENTCOM REAR terminates situation reporting to the Joint Staff with the period ending 290400Z and establishes USCINCCENT Sitrep reporting period to the JCS as 1600Z to 1600Z. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 302115Z Aug 90, GWAPS, CSS #35)

Air Order of Battle: The first TR-1 ASARS surveillance mission is flown in the AOR. (Msg (S), CINCSAC to JCS, subj: Sitrep, 300600Z Aug 90, GWAPS, CSS #88)

Ground Order of Battle: The CJCS issues deployment orders for a Joint Communications Support Element (JCSE) to provide contingency communications. (Msg (S), CJCS to JCSE, subj: Deployment Order 291455Z Aug 90, GWAPS, CSS safe #2 folder #24)

Support Activities: The CJCS authorizes additional U.S. military historians for the AOR. (Msg (U) JCS to Services, subj: Blanket Historical Augmentation for Operation Desert Shield, 292023Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

Planning: COMUSCENTAF issues the Operations Order for the Phase I offensive air campaign against Iraq. The objectives of the Phase I campaign are to isolate, discredit, and incapacitate Saddam Hussein's regime; to induce Iraq to withdraw from Kuwait; to restore the legitimate government in Kuwait; and to ensure the defense of Saudi Arabia. COMUSCENTAF Operations Order: Offensive Campaign - Phase I (TS Limdis), 29 August 1990, GWAPS, CHC-17-4)

Air Operations: The Saudi government issues blanket clearance for deploying and supporting aircraft through 10 September. (Msg (C), USDAO to 21 AFOC, subj: Blanket Dip Aircraft Clearance for Deployment, 291416Z Aug 90, GWAPS, CSS safe #7 CATLO folder #22)

30 August 1990
C+23

Leaders: USCINCCENT issues General Order 1 to guide the actions of U.S. personnel in respect to Saudi Arabian religious and political sensitivities. (Msg (U), HQ SAC to AIG 668, subj: Desert Shield General Order GO-1 302359Z Aug 1990, IRIS 00888288)

Intelligence: The Iraqi Air Force has launched over 360 sorties in the past two days, concentrating on air-to-ground training and air-to-air patrols. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 312115Z Aug 90, GWAPS, CSS #35)

Ground Order of Battle: USARCENT and USMARCENT weapons in the AOR now include 84 attack helicopters, 169 TOW systems, 118 M1 and 82 M-60A1 tanks and 109 artillery pieces. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 302115Z Aug 90, GWAPS, CSS #35)

Support Activities: A Light-Table Mensuration System for precision measurements of imagery is installed at USCENTCOM REAR, at MacDill AFB, Florida, while four additional systems are set up for deployment to the AOR. Meanwhile, the Air Support Operations Center is being assembled at Dhahran. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 56)

Logistics: USCENTCOM is assessing the ability of host nations to meet its petroleum, oil and lubricants requirements during combat surge operations. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 312115Z Aug 90, GWAPS, CSS #35)

COMUSCENTAF continues to place high priority on the distribution of Meal Ready to Eat (MRE) rations, and he requests B-rations to improve the diet of his troops. He also reports that five USCENTAF beddown locations have no wartime fuels surge capability due to equipment shortfalls. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 301800Z Aug 90, GWAPS, CSS #12)

Air Operations: The USAF C-130s in theater are being tasked at ninety-five percent of capacity to move high-priority cargo and passengers, such as munitions, rations and fuel trucks. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 302115Z Aug 90, GWAPS, CSS #35)

31 August 1990
C+24

Air Order of Battle: The first two EC-130 Volant Solo aircraft arrive at King Fahd. Allied aircraft on 5-minute to 1-hour alerts include 105 day air-to-ground, 63 night air-to-ground, 24 day air-to-air, 20 night air-to-air and 7 B-52s. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 312115Z Aug 90, GWAPS, CSS #35)

Support Activities: CENTAF and CENTCOM develop a policy on requesting host nation support for immediate and future construction. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 301800Z Aug 90, GWAPS, CSS #12)

Logistics: DOD authorizes USTRANSCOM to employ certified foreign air cargo aircraft in Desert Shield on a gratis basis. Additional Korean Air assets have been made available and certification of Kuwaiti aircraft continues. Germany grants blanket explosives clearance for Desert Shield missions. Total Desert Shield missions to date: 1,668. (Msg (S), USCINCTRANS/CAT to JCS, subj: Sitrep, 010400Z Sep 90, GWAPS, CSS #75)

In response to an Air Force Reserve Headquarters complaint, HQ USAF orders its major commands to "cease immediately" the unauthorized removal of chemical warfare defense equipment from reserve unit supply stocks. (Msg (U), HQ USAF to ALMAJCOM, subj: Unauthorized Withdrawal of CWDE Assets 241441Z Aug 90, GWAPS, NA-529)

Planning: USCINCCENT states his air operations priorities as (1) counterair, (2) interdiction, (3) close air support and (4) preparations for possible D-day operations. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 312115Z Aug 90, GWAPS, CSS #35)

Air Operations: In the first Desert Shield Combat Search and Rescue mission, USSOCCENT launches an MH-53 on what proves to be a false alarm. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 312115Z Aug 90, GWAPS, CSS #35)

1 September 1990
C+25

Intelligence: USCINCCENT reports that Iraqi ground forces in Kuwait continue to dig in, while retaining the ability to launch an attack within 18

to 24 hours of making the decision. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 012115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: The USS *Blue Ridge* arrives in the Arabian Gulf to provide command facilities for COMUSNAVCENT. In the later opinion of his Air Force Liaison Officer, COMUSNAVCENT's decision to locate his command at sea, coupled with the communications limitations of the *Blue Ridge*, significantly limited his ability to influence planning for the air campaign. (End of Tour Report, COMUSNAVCENT AFLO, 5 Mar 1991, IRIS 00888278)

Six EC-130 Airborne Battlefield Command and Control Center (ABCCC) aircraft arrive at Sharjah, United Arab Emirates. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 012115Z Sep 90, GWAPS, CSS #34)

The government of Greece approves basing of a SAC tanker force at Hellenikon Air Base, near Athens. (Msg (S), CINCSAC to JCS, subj: Sitrep 010530Z Sep 90, GWAPS, CSS #87)

Support Activities: Combat Camera satellite links are established from Saudi Arabia to the Pentagon. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 012115Z Sep 90, GWAPS, CSS #34)

AN/TRC-170 Tropo radios begin arriving in the AOR. Once all TRC-170 radios are in place, the in-theater communications "backbone" will be established and available for users. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 012123Z Sep 90, GWAPS, CSS #22)

Logistics: The Saudi government is providing numerous national assets, bulk water, some fuels, about 25,000 meals per day, and numerous port, storage and military facilities at no cost. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 012115Z Sep 90, GWAPS, CSS #34)

CINCSAC reports that 22 munitions support vehicles, stranded at Anderson AFB, Guam, are urgently needed at Diego Garcia, to unload over 5,000 bombs from the USS *Kestrel* when it docks between 10-14 September. (Msg (S), CINCSAC to JCS, subj: Sitrep, 010530Z Sep 90, GWAPS, CSS #87)

Planning: In order, USCINCCENT's air operations priorities are to (1) continue combat air patrols to protect airfields and AWACS and RIVET JOINT aircraft, (2) maintain aircraft in a ground alert posture to delay and attrit

any Iraqi ground forces crossing into Saudi territory, (3) retain the capability to provide close air support for friendly troops in contact with the enemy, and (4) continue preparations for possible D-day operations. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 012115Z Sep 90, GWAPS, CSS #34)

2 September 1990
C+26

Intelligence: USCINCCENT reports that Iraqi air activity decreased to only sixty-eight observed sorties today. Significantly, no defensive patrols have been flown for two days, indicating increased reliance on early warning systems and ground alert aircraft. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 022115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: The last planned F-111F, F-16, and A-10 squadrons arrive at, respectively, Taif, Al Minhad, and King Fahd Air Bases, Saudi Arabia, bringing in-theater forces to 32, 120 and 96 aircraft. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 57)

Ground Order of Battle: USMARCENT places all of his forces into a single Marine Air-Ground Task Force (MAGTAF) - the 1st Marine Expeditionary Force (1st MEF). After executing the first deployment of a Maritime Preposition Force brigade, the 7th Marine Expeditionary Brigade is absorbed into the 1st MEF. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 032115Z Sep 90, GWAPS, CSS #34)

Support Activities: The Joint Staff J-3 and USCENTCOM J-3 establish a KY-68 direct communications link. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 022115Z Sep 90, GWAPS, CSS #34)

Civil Engineers: The USCENTAF FWD Civil Engineer reports that aircraft are deploying to bases without adequate crash and rescue equipment. (Area of Operation Status Report, USCENTAF FWD/DE, 2 Sep 1990, p 12, IRIS 00887476/K178.9301)

Approximately six months after all Desert Shield forces close in the AOR, the USCENTAF FWD Civil Engineer intends to upgrade all facilities constructed during the deployment to temporary-construction standards. (History, USCENTAF/DE, "Operation Desert Shield C+60 - C+90: Commander's Journal," IRIS 00887485/K178.9301-104)

The engineering services deployment priority is movement of the 823rd Red Horse Squadron to the AOR. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 022032Z Sep 90, GWAPS, CSS #22)

Logistics: USCINCCENT orders the deployment of 16 C-130s of the 130th Tactical Airlift Group to Al Ain, United Arab Emirates. (Msg (S), USCINCCENT to USCINCEUR, subj: Deployment Order, 021950Z Sep 90, GWAPS, CSS 87)

Due to the critical shortage of sustainment airlift, USCENTAF reports that munitions, fuels equipment, fire protection, satellite communications and security force shortages render "marginal" his ability to sustain combat. Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 020800Z Sep 90, GWAPS, CSS #11)

3 September 1990
C+27

Intelligence: Iraqi air activity continues at a low level. Although Iraqi forces in Kuwait retain the ability to go over to the attack in 12-24 hours, USCINCCENT does not see the artillery and logistics buildup that would precede a campaign of more than limited objectives. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 032115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: US and Saudi Special Forces make initial contact and begin cross training in preparation for employment as combined special reconnaissance teams along the Saudi-Kuwait border in the Eastern Provincial Area Command. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 032115Z Sep 90, GWAPS, CSS #34)

Total U.S. military personnel in the AOR reached 104,304. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 032115Z Sep 90, GWAPS, CSS #34)

Support Activities: A Defense Meteorological Satellite Program (DMSP) van becomes operational at Riyadh. This system, along with Wraase satellite receivers and Rapid Deployment Imagery Terminals, receives imagery from US military and civilian satellite systems, as well as from the European Meteorological Satellite. Subsequently, US weather personnel and commanders found the data gathered from these systems is invaluable to support of such actions as target planning, redirecting sorties, ground movement planning, and for getting optimal effectiveness from night vision and night attack systems.

Logistics: USCINCCENT reports that load-out and mechanical difficulties of available shipping has delayed numerous closures and, consequently, his "high confidence defense date." (Msg (S), USCINCCENT to JCS, subj: Sitrep, 032115Z Sep 90, GWAPS, CSS #34)

Eight KC-10s are used in the pure cargo role. Also, the last two reserve squadrons of C-5 aircrews are activated. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 040400Z Sep 90, GWAPS, CSS #75)

Planning: The Joint Department of Operational Planning (JDOP) working group finishes the final draft of the concept of operations for a combined defense. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 032115Z Sep 90, GWAPS, CSS #34)

Other Activities: The pilot of a US F-16C, downed by a reported engine fire, is recovered by a United Arab Emirates search and rescue helicopter. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 Jul 1991, GWAPS, NA-9, p 57)

4 September 1990
C+28

Leaders: CINCUSAFE (Gen Oaks) presents the "second front" concept (known as the "Charlie One Air Component" which had been developed by members of the 52 TFW in August, and called for a couple of days worth of airborne electronic combat operations operating out of Incirlik AB, Turkey to complicate Iraqi air defenses and divert enemy attention and resources should war come) to SACEUR (Gen Galvin) at the USEUCOM component commanders conference in Naples, It. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

Intelligence: Iraqi Air Force low-level training flights appear to key their turn points on towers and other man-made objects to minimize their exposure to coalition interference. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 042115Z Sep 90, GWAPS, CSS #34)

Logistics: COMUSCENTAF reports that airlift shortfalls continue to stymie beddown activities. The shortage of R-9 refueling vehicles is reaching critical proportions as more aircraft arrive in country. The overall mission capable rate for USCENTAF aircraft is eighty-eight percent, with the only aircraft showing a trend being the F-117s, which are experiencing exhaust

problems. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 040800Z Sep 90, GWAPS, CSS #11)

While the general air munitions situation is improving, flares and chaff packages remain a limiting factor. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 042115Z Sep 90, GWAPS, CSS #34)

Air Operations: The first Kuwaiti Boeing 747 mission is flown in support of Desert Shield. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 050400Z Sep 90, GWAPS, CSS #75)

To test emergency dispersal procedures, AFSOCCENT sends four MC-130 and two EC-130s to Oman to remain over night in exercise Partial Flush. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 052115Z Sep 90, GWAPS, CSS #34)

Other Activities: US forces seize control of an Iraqi ship for the first time in support of the United Nations embargo against Iraq. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 042115Z Sep 90, GWAPS, CSS #34)

5 September 1990
C+29

Intelligence: The Iraqi Air Force conducts three combat air patrols and night ground controlled intercept training. Approximately fifty percent of Iraqi sorties are devoted to transport activity. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Sep 91, GWAPS, CSS #34)

Air Order of Battle: The last planned F-4G "Wild Weasel" squadron arrives at Shaikh Isa with 12 aircraft, bringing the total of such aircraft in the theater to 36. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 58)

Logistics: Summarizing the critical shortage of airlift cargo pallets and tie-down nets, an Air Staff expert reports that, although MAC ordered 240,000 pallets and 100,000 nets on 31 August, there remains a critical shortage of pallets and "immediate action by deployed units to expedite return of assets [is] required to prevent [the] issue from snowballing. (Point Paper, Major Whicker, HQ USAF-LRC, TRANSCELL, 5 Sep 90, GWAPS, NA-529)

The growing theater airlift backlog prompts COMUSCENTAF to request 3-5 days of in-country strategic airlift augmentation to move munitions,

vehicles, and bare base assets. Munitions supplies remain below 7-10 days of stocks. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 050800Z Sep 90, GWAPS, CSS #11)

6 September 1990
C+30

Background Events: As Britain's Parliament meets in emergency session and issues overwhelming support for the Western military deployment in the Persian Gulf, a Wall Street Journal/NBC News poll shows strong American public support for American military defense of Saudi Arabia, the liberation of Kuwait and retaliation for any harm to American hostages.

Intelligence: The Iraqi Army digs deeper in Kuwait, while the Iraqi Air Force maintains a modest pace of operations (79 sorties noted), though it does resume limited combat air patrols. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 062115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: USCINCCENT reports that the USS *Kennedy* carrier battle group entered the AOR, bringing his fixed-wing combat air assets to 109 air-to-air, 243 air-to-ground, 227 dual-role, and 317 support aircraft. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 062115Z Sep 90, GWAPS, CSS #34)

Three EF-111s arrive at Taif and one E-3A AWACS arrives at Riyadh. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 062149Z Sep 90, GWAPS, CSS #22)

Ground Order of Battle: The 24th Infantry Division completes the air movement portion of its deployment, while the French 6th Light Armor Brigade begins its deployment to the AOR. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 58)

USCINCCENT reports that the arrivals of the 4th Marine Expeditionary Brigade and a special operations marine expeditionary unit add dimension to USCENTCOM's combat capabilities. Both units will remain afloat and prepared to conduct a full range of amphibious operations. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 062115Z Sep 90, GWAPS, CSS #34)

Support Activities: The National Security Agency releases the first two editions of the Joint Communications Electronic Operations Instructions

(JCEOI) for Desert Shield. It arrives in theater and will be distributed by 9 September. (Msg JCS to DIRNSA (C), subj: Joint CEOI for Operation Desert Shield, 051340Z Sep 90, GWAPS,CSS safe #7, CATLO folder 20; Msg (S), USCINCCENT to JCS, subj: Sitrep, 092115Z Sep 90, GWAPS, CSS #34)

Medical: The Navy's 350-bed Fleet Hospital-5 sees its first patient at Al Jubayl. (Amy Graham, et al., *Desert Storm Reconstruction Report, Volume XI: Medical*, Center for Naval Analyses Report CRM 91-187, Alexandria, Virginia, October 1991, GWAPS, NA-273). NOTE: Up until this point, five USCENTAF air transportable hospitals (350 beds total) provided the only deployed US hospitalization facilities in the theater. (Lt Col Bob Furguson, "Operations Desert Shield and Storm: Air Force Medical Plans and Operations," HQ USCENTAF/CXM, Shaw AFB, SC, 25 November 1991, pp 1 and 35, GWAPS, NA-529)

Civil Engineers: Clarifying theater construction priorities, USCENTCOM/J-4 directs "build at initial standards," meaning that facilities will be constructed to austere standards, with a minimum of contract effort and for one to six months of expected use. (Msg (U), USCINCCENT/CCJ-4, subj: Policy and Planning Guidance for Theater Construction, 6 Sep 90)

At USCENTAF FWD request, all pending deployments of engineering and services personnel are halted. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 062149Z Sep 90, GWAPS, CSS #22)

Logistics: Most USCENTAF support forces are in theater, but without the planned 30-day supplies of munitions and rations. The first munitions ship arrives in theater, and the Saudi government agrees to provide food, water, and transportation for US forces. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 58)

In order, COMUSCENTAF's strategic airlift priorities are munitions, R-9 refueling trucks, Harvest Falcon equipment, communications equipment, and war readiness supply kits. He also reports that misdirected shipments and the slow movement (7-14 days) of MICAP (Mission Critical Aircraft Part) assets from the US and Europe are causing disruption and delays in his operations. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 060800Z Sep 90, GWAPS, CSS #11)

MAC requests the activation of four additional C-141 Reserve squadrons to be in place by 10 September. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 070400Z Sep 90, GWAPS, CSS #75)

Planning: USCINCCENT plans to conduct small-scale electronic-combat exercises, along with increasingly realistic air-to-ground training operations in Saudi Arabia. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 062115Z Sep 90, GWAPS, CSS #34)

7 September 1990
C+31

Intelligence: The Iraqis have established a 9-division defensive belt running from the northern shore of Kuwait Bay around to the northwestern corner of Kuwait, backed up by a counterattack force of two armor, one mechanized, and two infantry divisions. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 072115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: The US government agrees to allow the Saudi government to purchase twenty-four F-15C/Ds, to be delivered in September-October. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 58)

Ground Order of Battle: Two brigades of the 24th Infantry Division are now equipped and deployed in the field. Six of nine Army Tactical Missile Systems (ATACMS) have arrived in the AOR, enhancing the ability of the XVIII Abn Corps to strike deep targets. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 072115Z Sep 90, GWAPS, CSS #34)

Deployment of the 12th Aviation Brigade commences and the 4th Marine Expeditionary Brigade is "chopped" (change of operational command) to USCINCCENT. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 58)

Support Activities: The first elements of the 602nd TAIRCW Computer Assisted Force Management System (CAFMS) arrives in theater. COMUSCENTAF plans to install CAFMS terminals at Jeddah New, Tabuk, Doha, Al Minhad, Seeb, Sharjah, Bateen, King Khalid, Riyadh, Al Ayn, and Masirah. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 070800Z Sep 90, GWAPS, CSS #11)

USCINCCENT places electronic intelligence emphasis on locating and analyzing Iraqi radar emitters. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 072115Z Sep 90, GWAPS, CSS #34)

Medical: The 500-bed hospital ship, USS *Comfort*, anchors near Bahrain, augmenting not only Navy and Marine Corps medical capabilities, but the hospitalization capacity of the overall theater. (Amy Graham, et al., *Desert Storm Reconstruction Report, Volume XI: Medical*, Center for Naval Analyses Report CRM 91-187, Alexandria, Virginia, October 1991, GWAPS, NA-273).

Civil Engineers: The chief civil engineers for the Army, Navy and Air Force form a joint planning and support cell for Operation Desert Shield, to minimize duplication and delay in providing engineering support during the crisis. (Msg (C) Joint Staff to USCINCCENT/CCJ-4-7, subj: Desert Shield Joint Engineering Planning and Support Cell, 170517Z Sep 90, NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

Logistics: USCINCCENT reports that stockages of critical air-to-air and "tank killer" munitions still fall below the goal of establishing a adequate supply for CENTAF. Supply levels for Maverick missiles (AGM-65B/D) are less than 20 percent desired, while some cluster munitions are present at less than 10 percent of the goal. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 072115Z Sep 90, GWAPS, CSS #34)

Reporting on the status of bare base assets being used in support of Desert Shield, an Air Staff expert reports that 82 percent of all required Harvest Falcon assets are on hand. Of those, 4 percent were on three pre-positioning ships currently unloading in the AOR, 36 percent were on land in theater, and 60 percent remained in the CONUS, awaiting air or sea lift. The Harvest Falcon package was designed to provide the munitions, supplies and equipment required to support a 55,000-person, 750-aircraft, 37-squadron air force in a contingency theater. A current problem, the expert reported, was that the CONUS-stored materiel was not packaged in unit sets and "squadron set integrity was ignored and items were sent where the requirements existed." (Background Paper on Desert Shield Bare Base Assets Status, Lt Col Fisher, AF/LEYX, 7 Sep 90, GWAPS, NA-529)

Planning: USCINCCENT updates Operations Order 003, but there are no major changes in USCENTCOM strategy or mission assignments. (Msg (S), USCINCCENT to Service Components, subj: Annex C to USCINCCENT OPORD 003 for Operation Desert Shield 071650Z Sep 90, GWAPS, NA-523)

8 September 1990
C+32

Background Events: Secretary of State James A. Baker completes three days of talks with Egyptian President Hosni Mubarak and Saudi King Fahd. All agree there will be no negotiations with Iraq until its troops withdraw from Kuwait.

Air Order of Battle: Four AC-130 gunships arrive at King Fahd Airport, Saudi Arabia. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 082300Z Sep 90, GWAPS, CSS #22)

The arrival of the last two planned C-130 squadrons at Sharjah and Al Ain air bases brings the total in-theater fleet to 96. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 58; Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 080800Z Sep 90, GWAPS, CSS #11)

Logistics: As base populations increase, COMUSCENTAF encourages efforts to limit deploying personnel. The lack of outsized cargo-capable theater airlift aircraft forces surface movement of critical equipment. However, customs clearance at the Saudi-United Arab Emirates border brings vehicle movement to a standstill, leaving R-9 refuelers, vacuum sweepers, and P-13 fire fighting equipment on flatbed trucks at the border unable to move. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 080800Z Sep 90, GWAPS, CSS #11)

Air Operations: USCENTAF begins an integrated-package flying training program. Missions consist of packages of air-to-ground, air-to-air, and adversary aircraft [sic]. Initial packages are single-service, but plans are made to progress to multi-service and multi-national scenarios. Meanwhile, RF-4Cs begin flying long-range optical reconnaissance missions. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 092115Z Sep 90, GWAPS, CSS #34)

Other Activities: COMUSCENTAF is designated the search and rescue (SAR) coordinator for the AOR. (Msg (S), USCENTAF FWD/JRCC to AFRCC, subj: Sitrep, 091200Z Sep 90, GWAPS, CSS #24)

9 September 1990
C+33

Background Events: In Helsinki, Finland, President Bush and Soviet President Gorbachev issue a joint pledge to act "individually and in concert" to reverse Iraq's conquest of Kuwait, even if that can not be accomplished by peaceful means.

Intelligence: Iraqi ground units in Kuwait remain in a defensive posture, and their air force continues to operate at reduced levels. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 092115Z Sep 90, GWAPS, CSS #34)

Security: USCINCCENT tasks USARCENT to "provide forces for air base ground defense operations outside the designated base or installation boundaries of other component/supporting commands." COMUSCENTAF is responsible for defending his bases within their designated boundaries, but should "be prepared to receive OPCON [Operational Control] of selected forces from other components to counter [larger threats]." (Msg (S), USCINCCENT to Service Components, subj: OPORD 003, 090651Z Sep 90, GWAPS, NA-524 [notes only])

Planning: COMUSCENTAF plans a 6-day theater airlift effort to move mal-positioned munitions to operating bases. However, theater airlift operations remain hampered by the lack of oversize cargo-capable aircraft and a shortage of 463L air cargo pallets, tie down chains and chain tensioners. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 090800Z Sep 90, GWAPS, CSS #11)

Air Operations: U-2, TR-1, RF-4, and RSAF RF-5 aircraft fly reconnaissance missions along the Saudi-Kuwait border. Electronic combat assets (EF-111, F-4G, EC-130, and EA-6B) practice threat suppression profiles and communications. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 102115Z Sep 90, GWAPS, CSS #34)

USCINCSAC reports that, between 20 August and 6 September, SAC B-52s flew 16 training sorties over Saudi Arabia and 11 at Diego Garcia. The command is awaiting basing approval to increase theater B-52 strength to 28. (Msg (S), CINCSAC to JCS, subj: Sitrep, 090400Z Sep 90, GWAPS, CSS #87)

10 September 1990
C+33

Background Events: Iran and Iraq announce plans to resume diplomatic relations, and Saddam Hussein offers free oil to Third World nations that can arrange shipping to Iraq.

Support Activities: Imminent danger/hostile fire pay is made retroactive to 1 August 1990 for US service personnel in the AOR. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 59)

Logistics: USCINCCENT reports that 10,000 cases of USCENTAF Meals Ready to Eat (MRE) rations are being "cross-leveled" to USARCENT, and that USCENTAF's critical air munitions shortages are AGM-65, AGM-88, CBU-87/89s. Mavericks (AGM-65s) remain at less than 25 percent of desired 7-day stockage levels. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 102115Z Sep 90, GWAPS, CSS #34)

COMUSCENTAF reports that shortages of F-15 fuel tanks are a limiting factor in their operations. He also identifies continued transport, communications, war-readiness spares kit limitations, along with overworked 750Kw generators, as key problems. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 100800Z Sep 90, GWAPS, CSS #11)

11 September 1990
C+35

Background Events: President Bush tells a joint session of Congress, "We will not let this aggression stand," and reiterates four policy objectives: (1) the complete, immediate and unconditional Iraqi withdrawal from Kuwait, (2) restoration of Kuwait's legitimate government, (3) assurance of security and stability in the Persian Gulf, and (4) protection of American citizens abroad.

Leaders: CSAF, General Michael J. Dugan, visits USCENTCOM FWD. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Sep 90, GWAPS, CSS #34)

Intelligence: USCINCCENT revises his estimate of Iraqi strength. He now believes that 11 divisions are committed in Kuwait, with 5 more divisions in reinforcement. These 16 divisions are assessed as capable of offensive

operations within 12 to 24 hours after receiving orders. Meanwhile, Iraq redeploys SA-6 surface-to-air missile batteries from central Kuwait to southern Iraq, suggesting a growing emphasis on protection of the Iraqi border. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: The deployment of the 1st Cavalry Division begins. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 59)

Support Activities: Key elements of the 726th Tactical Control Squadron's Control and Reporting Center (CRC) depart Homestead AFB, Florida, on board six C-141s. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 110009Z Sep 90, GWAPS, CSS #22)

Logistics: COMUSCENTAF reports that, as expected, the desert environment is causing additional aircraft maintenance problems: sand ingestion is burning F-15 turbine blades and combustors, and blowing sand abrades the windows of Forward Looking Infra-Red (FLIR) equipment. Meanwhile, twenty 3,000 pound capacity ice machines are distributed to USCENTAF field kitchens and air transportable hospitals. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 0110800Z Sep 90, GWAPS, CSS #11)

USCENTAF REAR requests air movement priority, vice sealift, for thirty USCENTAF tactical field laundries, and reports all backlogged rations have been shipped to the AOR. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 110009Z Sep 90, GWAPS, CSS #22)

Planning: As the flow of deploying combat aircraft slows, USCINCCENT places additional emphasis on establishing munitions sustainability, refueling capacity, and communications support at the operating bases. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Sep 90, GWAPS, CSS #34)

Air Operations: MAC begins operations into King Khalid Military City to deliver forces as close as possible to their beddown location. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 120400Z Sep 90, GWAPS, CSS #75)

12 September 1990
C+36

Intelligence: USCINCCENT now reports Iraqi ground forces in Kuwait probably include 10 deployed and 7 reinforcing divisions, capable of launching an offensive within 12 to 24 hours of receiving orders. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 121115Z Sep 90, GWAPS, CSS #34)

Leaders: CJCS, General Colin Powell visits the [illegible] (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: Five Patriot SAM batteries are now deployed in the theater, along with thirty-two PAC II missiles capable of defeating Iraqi Scuds. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 121115Z Sep 90, GWAPS, CSS #34)

With the arrival of the last of 5 AC-130 "Gun Ships" at King Fahd Airport, all Phase I combat aircraft are closed in-theater. Current strength includes 962 fixed wing (600 combat) and approximately 1100 rotary wing aircraft. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 59)

Ground Order of Battle: The air movement phase of the 1st Marine Expeditionary Brigade's deployment is complete. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 59)

USSOCCENT FWD is established at King Khalid Military City. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Sep 90, GWAPS, CSS #34)

Support Activities: USCENTAF coordinates Tactical Field Exchange (TFE) requirements and site priorities with HQ Army-Air Force Exchange Service (AAFES)-Europe. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 0120800Z Sep 90, GWAPS, CSS #11)

Civil Engineers: 750Kw generators continue to break down at a high rate. USCENTAF requests five transformers from RAF Mildenhall, England to connect the King Fahd Airport tent city to commercial power. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 0120800Z Sep 90, GWAPS, CSS #11)

Logistics: Assessing that "we're bedded down and working sustainment of combat air operations," COMUSCENTAF reports his logistic priorities as, in order: munitions, R-9 refuelers, Harvest Falcon equipment, communications, sustainment supplies and War Readiness Spares Kits. BLU-109s for F-111Fs are added to the munitions shortfall. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 0120800Z Sep 90, GWAPS, CSS #11)

Advising CSAF that Desert Shield reaffirmed the value of a strong airlift infrastructure in Europe, CINCMAC reports that "we would have an extremely difficult time doing Desert Shield without Rhein Main and Torrejon Air Bases." (Msg (U), CINCMAC to CSAF, subj: Lessons Learned from Desert Shield, 122230Z Sep 90, GWAPS, NA-529)

To expedite the return flow of airlift cargo pallets and tie-down nets, HQ USAF instructs USCENTAF to establish a procedure "which relieves custodians from accountability for deployed pallets and nets." (Msg (U), HQ USAF to USCENTAF, subj: Pallets and Nets, 122149Z Sep 90, GWAPS, NA-529)

Air Operations: USCENTAF training emphasizes the creation and operation of large force packages. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 121115Z Sep 90, GWAPS, CSS #34)

13 September 1990
C+37

Intelligence: Iraqi air activity continues to be moderate, at around 80 sorties per day. Nearly one-half of the transport flights into Kuwait are landing at Kuwait International Airport. Republican Guard units deployed immediately north of the Kuwaiti border are not maintaining a high state of readiness, increasing USCINCCENT's estimate of the time required for Iraq to mount an offensive. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Sep 90, GWAPS, CSS #34)

Support Activities: The Armed Forces Radio and Television Service begins broadcasts in the AOR. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Sep 90, GWAPS, CSS #34)

Civil Engineers: USCENTAF deploys a power production team to Thumrait, Oman to conduct depot-level maintenance of bare base electrical

generators and power distribution systems. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Sep 90, GWAPS, CSS #34)

Air Force PRIME BEEF teams, together with Navy SEABEES are working to identify construction requirements with initial focus on connecting tent cities to commercial utilities, and constructing aircraft barriers and munitions storage areas. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 01308000 Sep 90, GWAPS, CSS #11)

Logistics: Officials of the Saudi Arabian Marketing and Refining Company assure USCENTCOM planners that they can produce and provide all coalition wartime fuel requirements in Saudi Arabia. USCINCCENT asks Oman and Bahrain for similar assurances. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Sep 90, GWAPS, CSS #34)

Based on his observations during an 11-14 September trip to the AOR, the HQ USAF DCS/Logistics and Engineering, Lt Gen Henry Viccellio Jr., reports that the slow return of airlift pallets and tie-down nets from the AOR was due in part to CENTAF's unawareness of the problem, the usefulness of the pallets for non-airlift purposes, the accountability of the pallets (which leads users to consider them as their assets), and the fact that "MAC aircraft refuse to accept ad hoc retrograde." A staff officer determines this last factor as probably the consequence of an isolated incident, and he reports efforts have been underway to alleviate the pallet shortage since 21 August. (Point Papers, "Status of Pallets and Nets," Maj Whicker, USAF-LRC-TRANSCELL, 17 Sep and 2 Oct 90, GWAPS, NA-529)

Supply and spare parts shortages reduce F-117 flying by twenty percent, while the scarcity of cargo chains and tie-down devices delays munitions movements at several bases. Along with several critical aircraft parts and systems, USCENTAF requests priority air movement of dry chemical and Halon fire fighting agents from Europe. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 0130800Z Sep 90, GWAPS, CSS #11)

Air Operations: The Government of Egypt approves the beddown of SAC air refueling aircraft at Cairo West AB, Egypt. (Msg (S), USOMC Cairo to USCENTAF FWD, subj: Sitrep, 131544Z Sep 90, GWAPS, CSS #192)

Planning: USCENTAF 's priorities for countering an Iraqi invasion of Saudi Arabia are (1) counterair, (2) close air support, and (3) interdiction. (Msg

(S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Sep 90, GWAPS, CSS #34)

14 September 1990
C+38

Background Events: The UK announces that it will send armored units to support the Coalition.

Intelligence: USCINCCENT now estimates that 10 deployed and 8 reinforcing Iraqi divisions in or near Kuwait could launch an offensive within 36 to 48 hours of a decision to do so, though he believes this is their least likely course of action. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: All AFSOCCENT subordinate units are in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: The 4th Marine Expeditionary Brigade closes in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Sep 90, GWAPS, CSS #34)

Support Activities: In some further observations from his 11-14 September trip to the AOR, Lt Gen Henry Viccellio Jr., reports that "few units thought to bring contracting agents and paying agents. Result: lots of needs, lots of goods/services available, but no way to get at them." General Viccellio noted a suggestion that USCENTAF "surrender" its field laundries to USARCENT ("NO, NO, NO,"- Viccellio) and maintenance problems with USCENTAF field kitchens, 750 Kw generators, and Harvest Falcon assets. He also suggested that USCENTAF look at British techniques for expeditiously "entrenching" munitions for protection. (Notes, Lt Gen Henry Viccellio Jr., GWAPS, NA-529)

In order, COMUSCENTAF's logistics priorities change to, munitions, resupply/War Readiness Spares Kits (WRSK), F-15 external tanks, R-9 refueling vehicles, and Harvest Falcon assets. 536 F-15 external fuel tanks are needed to meet a 45-day requirement, and the command is establishing the Pacer Camel program to expedite spare engine shipments. GBU-24's at Taif are rendered inoperable by bursting nitrogen bottles. The PRIME FARE program has moved one million Meals Ready to Eat (MRE) to

forward sites. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 0140800Z Sep 90, GWAPS, CSS #11)

Planning: USCINCCENT reports a "positive and constructive," three-day fire-support conference with the Saudi Northern Command (NAC) and the Eastern Area Command (EAC). Issues di were US and Saudi fire-support plans (emphasizing simplicity, mu port, and feasibility); close air support; airborne command, contro communication; naval gunfire; and airspace coordination. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Sep 90, GWAPS, CSS #34)

Air Operations: USCENTAF conducts close air support and tactical air control system exercises, while USSOCCENT trains Royal Saudi Air Force pilots as forward air controllers. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Sep 90, GWAPS, CSS #34)

CINCSAC reports that, of twenty B-52s at Diego Garcia, 14 are on alert loaded with CBU or M-117 bombs. The command has 186 tankers committed to Desert Shield (94 in theater, 13 in the Pacific, and 79 in Europe or the Atlantic), and 47 more in reserve. Also, SAC reconnaissance assets have flown 74 sorties/892 hours (RC-135), 32 sorties/251 hours (U-2), and 15 sorties/117 hours (TR-1). (Msg (S), CINCSAC to JCS, subj: Sitrep, 140400Z Sep 90, GWAPS, CSS #87)

15 September 1990
C+39

Air Order of Battle: The USS *Kennedy* Carrier Battle Group changes to the operational control of USCINCCENT. Total fixed wing aircraft in theater now total 1,043. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 60)

Ground Order of Battle: Total USCENTCOM personnel strength in the AOR reaches 157,281. Major ground weapons include 117 attack helicopters, 589 TOW systems, 385 tanks, 276 artillery pieces and 38 multiple launch rocket systems. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Sep 90, GWAPS, CSS #34)

France announces it will deploy a regiment of the 6th Light Armored Division, a helicopter regiment, and some tactical aircraft to the theater - approximately 4,000 personnel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Sep 90, GWAPS, CSS #34)

All planned USMARCENT forces have arrived in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Sep 90, GWAPS, CSS #34)

Logistics: To enhance intratheater air cargo movement within the AOR, USCENTCOM's Joint Movements Center approves a daily schedule of so-called "Camel" missions. USCENTAF airlift operations are otherwise hampered by a combined shortfall of 258 10,000lb (10K) and 13,000 pound capacity (13K) forklifts. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 150800 Sep 90, GWAPS, CSS #11)

Planning: USAF Chief of Staff, Gen. Michael Dugan tells reporters during a regional tour that air power (including a bombing campaign against Iraq), is the only effective option to expel Iraq from Kuwait. He suggests that Marine and Army ground forces could be used for diversions, flanking attacks and to block an Iraqi counterstrike on Saudi Arabia, and that ground forces might be called upon to reoccupy Kuwait. However, this would occur only after air power devastates enemy resistance, greatly easing those tasks. Regarding the Iraqi Air Force, Dugan attributes to them a "very limited capability", noting that "they did not distinguish themselves in the war against Iran." (Rick Atkinson, "U.S. to Rely on Air Strikes If War Erupts," *The Washington Post*, 16 September 1990)

USCINCTRANS continues to evaluate in-theater strategic airlift crew staging. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 160400Z Sep 90, GWAPS, CSS #75)

16 September 1990
C+40

Intelligence: Iraqi Air Force operations remain focused on training and defensive operations, with fighter activity in Kuwait virtually nonexistent over the past twenty days. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Sep 90, GWAPS, CSS #34)

Civil Engineers: The USCENTAF Civil Engineer establishes a three- phase plan to upgrade beddown facilities from initial construction standards to temporary standards as the Desert Shield contingency progresses. (Briefing, USCENTAF/DE, Theater Construction Policy, Briefing slides from CENTCOM J-4/7 for the Theater Construction Meeting, Theater Construction Strategy, 16 Sep 1990, IRIS 00887497/ K178.9301-116)

Since many sites are approaching completion of expedient construction for initial beddown and feeding, construction shifts to preparations for hostilities—hardening, dispersal, and backup utilities. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Sep 90, GWAPS, CSS #34)

Air Operations: USCENTAF flies two large-package interdiction exercises. One package consists of forty F-16s while the second includes eight F-16s and two F-4Gs. The overall AOR aircraft mission-capable rate is eighty-nine percent. Lack of spare parts replenishment continues to be a problem. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Sep 90, GWAPS, CSS #34)

Other Activities: Coalition naval units conduct their 1000th successful intercept action. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Sep 90, GWAPS, CSS #34)

17 September 1990
C+41

Background Events: President Bush declares his support for a proposed UN Security Council-sanctioned aerial blockade of Iraq.

Leaders: In relieving USAF Chief of Staff General Michael Dugan of his duties, SECDEF Cheney cited his unauthorized disclosures of "operational details" of "decisions that may or may not be made," and his remarks regarding targeting Saddam Hussein and his family, in violation of long-standing Presidential prohibitions on the assassination of foreign leaders, as evidence of General Dugan's "poor judgement." Further, the SECDEF viewed the CSAF's statements that the USAF would play the most important role in any attack on Iraq as a violation of the JCS prohibition against issuing statements that could be considered derogatory toward the other services. (Jeffrey Smith, "Chief of Air Staff Fired by Cheney," *The Washington Post*, 18 September 1990)

Logistics: Concerned by an "accelerated . . . bow wave of deferred maintenance" on his C-5s and C-141s, CINCMAC asks CSAF for authority to call up 890 Reserve Associate personnel to augment his maintenance and logistics infrastructure. (Msg (S), CINCMAC to CSAF, subj: Desert Shield Reserve Logistics Augmentation 172359Z Sep 90, GWAPS, NA-529)

Planning: USCINCCENT reports that daily strategic and tactical reconnaissance missions by USAF and RSAF aircraft are a critical element

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of planning for the defense of Saudi Arabia. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Sep 90, GWAPS, CSS #34)

Four graduates of the US Army's School of Advanced Military Studies (SAMS) arrive to augment the CENTCOM planning staff. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Sep 90, GWAPS, CSS #34)

CINCCENT issues OPORD 004, covering the defensive phase of operations should Iraq attack Saudi Arabia. The order is a refinement of previous plans based on increased friendly force levels. (Msg (S), USCINCCENT to JCS, subj: OPORD 004 for Operation Desert Shield (S), 171345Z Sep 90)

Air Operations: Mobile ground threat simulators are shipped from Mountain Home AFB to Diego Garcia to boost ECM training. (Msg (S), CINCSAC to JCS, subj: Sitrep, 180400Z Sep 90, GWAPS, CSS 87)

Two C-5 humanitarian flights deliver tents, blankets, and cots to Jordan to assist Iraqi refugees. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 180501Z Sep 90, GWAPS, CSS #75)

18 September 1990
C+42

Background Events: Turkey announces the extension of the Defense and Economic Cooperation Agreement with the U.S. to cover the use of military bases in Turkey as launch sites for possible action against Iraq.

Air Operations: US AWACS and RC-135 RIVET JOINT missions provide continuous surveillance coverage of Kuwait and southern Iraq. A-10 missions are flown to provide aircraft familiarization for the ground forces. NAVCENT continues large package coordination exercises in the Red Sea with a 63 aircraft night strike package from the USS *Kennedy* and USS *Saratoga*, using KC-135 refueling support. A combined force package is flown with F-4G and Saudi F-15 and Tornado aircraft. USSOCCENT completes training of the first increment of Royal Saudi Air Force Air Liason Officers to provide tactical air control for the forward Saudi brigades. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Sep 90, GWAPS, CSS #34)

Major Operations: Twenty F-16s from the 401st Tactical Fighter Wing join the 14 F-111Es from the 20 TFW, on a weapons training deployment,

and four F-16s forward deployed from the 401st TFW, to meet NATO commitments, at Incirlik AB to participate in NATO exercise Display Determination 90. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

19 September 1990
C+43

Intelligence: Although Iraqi Air Force operations are above normal levels, most fighter operations are training-orientated and virtually none have been conducted in Kuwait over the past two weeks. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: Deployment of the Egyptian 3rd Mechanized Division begins. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 60)

Logistics: COMUSCENTAF places forklifts ahead of R-9 refuelers on his list of logistic priorities. There are currently 754 unfilled, not mission capable - supply, mission critical parts (NMCS-MICAP) requirements. Some units are "cannibalizing" aircraft to keep others operational. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 190800Z Sep 90, GWAPS, CSS #11)

Planning: USCINCTRANS reports that the Government of Japan will charter Evergreen International Airlines for nine missions (three per week) from Dover to Dhahran for cargo use only. Meanwhile, repatriation flights continue for American citizens (five have been flown to date), and the CJCS has approved refugee flights (beginning 22 Sep) from Jordan to Sri Lanka, Bangladesh, and the Philippines. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 200400Z Sep 90, GWAPS, CSS #75)

Air Operations: Still training at an increased tempo, USCENTAF flys 287 sorties, including joint and combined packages. USNAVCENT also flys 2 large packages from the *Kennedy* and *Saratoga*, using KC-135 refueling support. During the exercises, emphasis is put on launch procedures, marshalling, package integrity, and mass recovery. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Sep 90, GWAPS, CSS #34 and Sitrep 192115Z Sep 90, GWAPS, CSS safe #7, CATLO folder #20)

20 September 1990
C+44

Intelligence: Iraqi forces remain defensively deployed. Iraqi air activity is slightly higher than average for the third consecutive day, possibly an indication that the Iraqis were rotating flight crews. Similar activity was noted in late August and early September. On the ground, USCENTCOM/J-2 assesses 10 divisions committed and 9 reinforcing within the KTO. Infantry units continue to deploy in front of mechanized and armored divisions in accordance with Iraqi defensive doctrine, and all but 3 of the 12 heavy divisions in the Iraqi inventory are located in the KTO. The bulk of these units are still positioned to the rear of the forward defensive line. Although J-2 sees no indications of offensive preparations, the Iraqi divisions are considered capable of transitioning to offensive operations within 36 to 48 hours of orders. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: Six F-15Cs, the first half of the Saudi Foreign Military Sales consignment, are delivered to the Royal Saudi Air Force at Dhahran. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: The 197th Infantry Brigade closes in theater. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 60)

Logistics: Based on the 30-day combat-sustainability requirement, COMUSCENTAF continues to assess his logistics as "marginal." There is now a critical shortage of C-130 engine spares, and 7-day munitions shortfalls are: 65 GBU-27, 300 GBU-24 (I-2000), 1004 CBU-89, and 2171 CBU-87. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 02008000Z Sep 90, GWAPS, CSS #11)

Six C-130 aircraft are tasked daily to support a "hub-spoke" network of cargo channels, centered on the Riyadh aerial port of debarkation (APOD) and called "camel routes", to provide daily service to dispersed USCENTCOM units. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Sep 90, GWAPS, CSS #34)

Planning: The first draft of the Joint Department of Operational Planning (JDOP) objective defense plan is presented to the USCENTCOM staff and

Saudi representatives. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Sep 90, GWAPS, CSS #34)

USCINCCENT and the commander of the Saudi Arabian Joint Forces and Theater Operations Command approve a combined training program. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Sep 90, GWAPS, CSS #34)

Air Operations: USCENTAF training continues at an increased tempo. Several joint and combined packages are flown, including one with eight F-16s, four F-4Gs, and four Saudi Tornados. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Sep 90, GWAPS, CSS #34)

Other Activities: USCINCCENT approves a psychological operations campaign plan. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 60)

21 September 1990
C+45

Background Events: The Turkish Foreign Ministry expresses its intention to extend a defense pact allowing the United States to use military bases in the country as launch sites for possible action against Iraq.

Intelligence: Iraqi air activity is slightly higher than average for the fourth consecutive day, suggesting that the Iraqis are, in part, rotating aircraft. In the KTO, USCENTCOM/J-2 assesses a total of 22 Iraqi divisions, with 10 committed against Kuwait, 9 reinforcing, and 3 committed along the Iranian border. Although J-2 finds no indications of offensive preparations, the Iraqi divisions are capable of switching to the offensive within 36 to 48 hours of the decision to do so. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: The USS *Saratoga* carrier battle group departs the AOR, reducing USCENTCOM's strength to 606 combat and 968 aircraft overall. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: Egyptian armored forces begin to arrive at Yanbu on the Red Sea. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Sep 90, GWAPS, CSS #34)

Medical: Seven Air Transportable Hospitals (350 beds total) are operational. (Lt Col Robert Furgeson, "Operations Desert Shield and Storm: Air Force Medical Plans and Operations," HQ USCENTAF/CXM, 25 Nov 1991, Sup Doc #3, GWAPS, NA-529)

Logistics: While deleting F-15 external tanks from his priority list, COMUSCENTAF assesses that spare engine transportation and repair-time requirements necessitate staging more of them in the AOR. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 0210800Z Sep 90, GWAPS, CSS #11)

Air Operations: The first Government of Japan chartered Evergreen International Airline flight departs Dover AFB, Delaware, for Dhahran with sustainment cargo. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 220400Z Sep 90, GWAPS, CSS #75)

22 September 1990
C+46

Ground Order of Battle: The 101st Airborne Division closes for personnel, though some equipment is not yet in the AOR. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Sep 90, GWAPS, CSS #34; Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Sep 90, GWAPS, CSS #34))

Support Activities: Located at CENTAF, but functioning as part of the USCENTCOM staff, the Desert Shield Forecast Unit (DSFU) becomes the central weather forecasting agency for the entire theater, supporting and supported by staff weather officers (SWOs) at the unit level. The DSFU's Joint Operations Area Forecast (JOAF) provides an unclassified 48-hour forecast for general use, while a more specialized derivative of the JOAF, the Special Support Bulletin, provides target-planning forecasts over a 72-hour period. The CENTAF SWO provides weather support to every land-based air force in the coalition, except for USMARCENT airlift units. (Air Weather Service, "Air Weather Service Contribution to Winning the War–The Value of Weather Support: Operation Desert Storm/Desert Shield Report 1," 23 May 1991, p 10, GWAPS, NA-76)

USCENTAF requests 35 table mixing machines to improve the quality of bakery products. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 220800Z Sep 90, GWAPS, CSS #11)

Medical: 176 patients have been carried, thus far, on intra-theater aeromedical flights, while 442 have been lifted out of the theater, 412 of them to Europe. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 242131Z Sep 90, GWAPS, CSS 109)

Civil Engineers: The USCENTAF Civil Engineer comments that PRIME RIB and PRIME BEEF bare-base support units have limited insight into, or control over, the contents and priorities of Harvest Falcon shipments being sent to the AOR by Air Force Logistics. [See 7 Sept entry for details of Harvest Falcon assets] (Status Report (S), USCENTAF/DE, 22 Sep 90, p 30, IRIS 00887476/K178.9301-95)

Logistics: Based on the 7-day sustainability requirement, COMUSCENTAF now assesses his logistics status as "satisfactory," but follow-on 30-day sustainability remains "marginal." Fire trucks are now #5 on his movement priority list. Many units have or will have soon exhausted their 30-day War Readiness Spares Kit critical items. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 220800Z Sep 90, GWAPS, CSS #11

Planning: USCINCCENT General Order Number 2 establishes the USCENTCOM military community relations program, which provides for community relations councils to work with Saudi military authorities and civilian officials. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Sep 90, GWAPS, CSS #34)

COMUSCENTAF establishes a 90-day rotation policy for AFLC ABDR (aircraft battle damage repair) teams. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 220800Z Sep 90, GWAPS, CSS #11)

Air Operations: Inter-theater airlift arriving in the AOR has temporarily declined as Time-Phased Force Deployment Data (TPFDD) requirements are being met and other movement backlogs are being decreased. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 230400Z Sep 90, GWAPS, CSS #75)

23 September 1990
C+47

Background Events: The government of Israel responds to Iraqi threats by stating that "Israel has a strong deterrent capability" and that "Israel knows how to defend itself."

Intelligence: USCENTCOM now identifies 23 Iraqi divisions in the KTO, with 11 committed in Kuwait, 9 reinforcing, and 3 committed along the Iranian border. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: The 24th Infantry Division (Mech) receives the last of its division equipment, while the 101st Airborne Division (Air Assault) still awaits the last of its equipment. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Sep 90, GWAPS, CSS #34)

Civil Engineers: The USCENTAF Civil Engineer initiates Phase One of his theater construction plan, directing deployed wings to construct all facilities to initial standards, with additional emphasis on hardening fuel stocks, munitions supplies and other critical assets. (Msg (S), USCENTAF/DE to deployed wings, subj: Theater Construction, 23 Sep 90, IRIS 00887497/K178.9301-166)

In retrospective analysis, the Civil Engineer identified political sensibilities and the undetermined length of Desert Shield as the greatest barriers to developing a definitive construction plan for the theater. (History, USCENTAF/DE, "Operation Desert Shield C+60 - C+90: Commander's Journal," IRIS 00887485/ K178.9301-104)

Air Operations: Among several strike packages, one of USCENTCOM training operations includes five B-52s working a low-level strike mission supported by F-4Gs providing defense suppression. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Sep 90, GWAPS, CSS #34)

The last scheduled repatriation flight of 112 US citizens fleeing the Middle East arrives at Raleigh-Durham Airport, North Carolina. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 240400Z Sep 90, GWAPS, CSS #75)

24 September 1990
C+48

Background Events: At the UN, Iranian Foreign Minister Ali Akbar Velayati pledges Iran will abide by sanctions against Iraq adopted by the UN Security Council.

Intelligence: Following six days of higher than average activity, Iraqi air activity returns to levels consistent with those observed during the first half of September. A similar decrease in activity was noted in late August to

early September, following the end of a training cycle. USCENTCOM/J-2 anticipates a general return to normal levels of 80 sorties per day over the next few weeks, with a possible reduction or lull in activity. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 252115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: The first eight of a total of 10 Italian Air Force Tornados arrive at Al Dhafra, UAE. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 Jul 1991, GWAPS, NA-9, p 62)

EF-111, F-4G, and EC-130E (Volant Solo) aircraft exercise electronic combat integration of joint assets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Sep 90, GWAPS, CSS #34)

Ground Order of Battle: The 24th Infantry Division (Mech) closes with the arrival of its Division Support Command and Aviation Brigade equipment by sea. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Sep 90, GWAPS, CSS #34)

Support Activities: USCINCCENT continues to place high priority on Morale, Welfare, and Recreation (MWR) programs, while, as USCENTCOM's executive agent for MWR, USCENTAF has deployed sixteen MWR kits with eleven more in the pipeline. The mail backlog in Europe and CONUS has been eliminated. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Sep 90, GWAPS, CSS #34)

Medical: COMUSCENTAF's first airlift priority for medical assets are the materials, temper tents, and equipment required to erect aeromedical staging facilities at Dhahran and Bahrain air ports. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 240800Z Sep 90, GWAPS, CSS #11)

Logistics: COMUSCENTAF reports that his command now has the required AGM-88s on hand, while war readiness spares kits and spare parts continue to be primary concerns. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 240800Z Sep 90, GWAPS, CSS #11)

25 September 1990
C+49

Background Events: The UN Security Council imposes an air embargo on Iraq that cuts off all air links except those the Security Council approves for humanitarian reasons.

Civil Engineers: All in-theater AM-2 matting supplies have been exhausted and USCENTAF makes an immediate request for 94 bundles of matting to provide ramp space at Dhahran. The total AM-2 requirement for shelters, ramp space, and rapid runway repair is currently 500 bundles. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 250800Z Sep 90, GWAPS, CSS #11)

Logistics: CENTAF expresses concern that shipment dates for GBU-24 (I-2000) will not close before 5 Oct. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 250800Z Sep 90, GWAPS, CSS #11)

Planning: USCINCTRANS emphasizes shipments from resupply points of embarkation. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 260400Z Sep 90, GWAPS, CSS #75)

26 September 1990
C+50

Background Events: Djibouti agrees to station U.S. P-3 aircraft on its territory.

Intelligence: Contrary to earlier predictions, the Iraqi Air Force continues to fly an above average number of air defense and training sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Sep 90, GWAPS, CSS #34)

Air Order of Battle: With the full activation of a comprehensive and redundant USAF-RSAF air surveillance, command and control system (much of it airlifted in from the United States), USCINCCENT reports that "our theater tactical air capabilities and the requisite command and control structure are ready to meet the challenges of Operation Desert Shield." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Sep 90, GWAPS, CSS #34)

Support Activities: COMUSCENTAF requests airlift for mortuary morgue tents to AOR. Only nine sites have mortuary capability and refrigeration units are in short supply. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 260800Z Sep 90, GWAPS, CSS #11)

Civil Engineers: USCENTAF and USARCENT engineers met to discuss the construction of temporary cantonment areas at USCENTAF bases. (Msg (S),

COMUSCENTAF FWD to USCINCCENT, subj: Sitrep, 260800Z Sep 90, GWAPS, CSS #11)

Air Operations: Coalition air forces continue combined-package training operations. One package today included four USAF F-16s and four F-4Gs, four UK Jaguars and four Saudi F-15 aircraft. USAF and USMC air units also conducted joint CAS training. Four night B-52 low-level sorties were flown also. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Sep 90, GWAPS, CSS #34)

27 September 1990
C+51

Intelligence: USCINCCENT cautions that the recent UN vote to impose an air embargo on Iraq, coupled with increasing international and military pressure, potentially may increase Iraq's incentive to react militarily, something it could probably do within 36 to 48 hours of such a decision. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Sep 90, GWAPS, CSS #34)

Logistics: USCENTAF has received follow-on-supply kits for its EC-130, F-117, F-16, and F-4G aircraft. Kits for the 15C/D/E and A-10 fleets are enroute. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 271909Z Sep 90, GWAPS, CSS #22)

Planning: Due to the decrease in airlift requirements, USTRANSCOM releases five of the ten KC-10s loaned by SAC to support the airlift. Japan doubles, to eighteen, the number of Evergreen International Airline charters they will sponsor in support of Desert Shield. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 280400Z Sep 90, GWAPS, CSS #75)

Air Operations: In rehearsal of the proposed D-Day Air Tasking Order, USCENTCOM air forces fly surveillance and combat air patrol sorties at near-wartime levels, while also conducting extensive aircraft ground servicing and weapons loading activities. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Sep 90, GWAPS, CSS #34)

28 September 1990
C+52

Background Events: The Administration confirms Central Intelligence Agency documents (publicly released by Representative Les Aspin), which

estimate that Iraq could have a substantial stock of biological weapons by early next year.

Air Order of Battle: At the Government of Oman's request, COMUSCENTAF deploys four F-15Cs to Masirah, Oman, to "provide air defense against suspected intrusion of airspace over Masirah Island." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 050800Z Oct 90, GWAPS, CSS #10)

Logistics: COMUSCENTAF now assesses his logistics status as "satisfactory," though mortuary equipment remains a shortfall. USARCENT is not prepared to assume theater ration-distribution duties prior to C+80. USCENTAF will handle its own rations until then. (Msg (S), COMUSCENTAF to USCINCCENT, subj: Sitrep, 0280305Z Sep 90, GWAPS, CSS #11)

The draft combined Objective Defense Operations Plan for Saudi Arabia has been completed. Distribution for US and Saudi review is expected on 29 September, with finalization due by mid-October. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Sep 90, GWAPS, CSS safe #7, CATLO folder #20)

Air Operations: USCENTAF F-15s and USNAVCENT F-14s conducted dissimilar air combat training (DACT). Three joint and combined packages tested theater coordination and interoperability. (Msg (S), USCINCCENT to AIG 904. subj: Sitrep, 292115Z Sep 90, GWAPS, CSS #34)

29 September 1990
C+53

Intelligence: The Iraqi Air Force flies 115 sorties, including regular fighter sorties over Kuwait, something they have not done since the beginning of September. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Sep 90, GWAPS, CSS #34)

Logistics: Faced by the difficulty of providing JP-5 fuel for USNAVCENT aircraft operating in the AOR, USCENTAF proposes that they use commercial Jet A-1 fuel with appropriate additives. (Msg (S), CINCPACFLT to USNAVCENT/N4, subj: Navy JP-5 Requirements at Airfields in CENTCOM 290337Z Sep 90, NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

The Saudi Ministry of Defense and Aviation (MODA) assigns liaison officers to key USCENTAF beddown locations to help coordinate and resolve issues or problems that may develop during wartime. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Sep 90, GWAPS, CSS #34)

Air Operations: One air training package today includes sixteen USAF and RAF aircraft operating in opposition to a number of RSAF F-15s. Three HC-130s conduct formation night tactical operations and helicopter aerial refueling. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Sep 90, GWAPS, CSS #34)

Other Activities: The 4th Marine Expeditionary Brigade begins a 5-day amphibious assault exercise in Southern Oman, an exercise that will ultimately put over 6,000 marines ashore to test their plans, operational timing, combat readiness and communications. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Sep 90, GWAPS, CSS #34)

30 September 1990
C+54

Intelligence: USCINCCENT estimates that the likelihood of an Iraqi attack or Iraqi-sponsored terrorism is somewhat increased, due to the approaching anniversaries of the Prophet Muhammad's birthday (1 October) and Iraq's Independence Day (3 October). (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Sep 90, GWAPS, CSS #34)

The Iraqis fly 123 sorties, including a patrol/buddy-refueling operation by two Mirage F-1s. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Oct 90, GWAPS, CSS #34)

Air Order of Battle: A 4th Tactical Fighter Wing F-15E crashes in Oman during low altitude intercept training with Omani Jaguars. (Headquarters United States Central Command, "After Action Report" (S/NF), 15 July 1991, GWAPS, NA-9, p 63)

COMUSCENTAF requests five tactical air control parties (TACPs) to coordinate coalition tactical aircraft, air defense and surface fires. (Msg (S), USCENTAF REAR to AIG 7972, subj: Sitrep, 302134Z Sep 90, GWAPS, CSS #22)

Logistics: In 3,541 Desert Shield strategic airlift missions, USTRANSCOM has lifted 127,739 passengers and 115,826 short tons of cargo to the AOR.

Additionally, 339 patients have been lifted in the theater, while 1,834 have been lifted out of the theater, including 537 to Europe. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 010518Z Oct 90, GWAPS, CSS #75)

1 October 1990
C+55

Background Events: The United States House of Representatives passes a joint resolution by a vote of 380-29 supporting President Bush's current Persian Gulf policy, though the resolution stops short of endorsing future military action against Iraq.

Intelligence: Iraqi air activity is lower than average (92 sorties), which likely reflects the observance of the Prophet's birthday. Flight activity is characterized by point-to-point navigation and airfield familiarization training, suggesting that new pilots are rotating into southern Iraqi airfields. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Oct 90, GWAPS, CSS #33)

Logistics: Two C-130s transhipped twelve pallets of badly needed parts from Riyadh to Taif, Saudi Arabia, the first such shipment to Taif in eight days. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 020800Z Oct 90, GWAPS, CSS #10)

Planning: In order to maintain six squadrons of C-130s in the AOR, MAC request HQ USAF review and approve the call-up of Reserve and Guard C-130 units with assigned support packages. Activation is requested prior to 4 Oct in order to swap-out volunteer units scheduled to rotate back to the US on 9 Oct. Coordination of the movement of aircraft landing matting out of Korea on no-cost Japanese bulk carrier continues. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 020400Z Oct 90, GWAPS, CSS #74)

Air Operations: Increased emphasis on movement from resupply APODs (aerial port of debarkation) results in more than one thousand tons of sustainment cargo being airlifted. Submission of small unit movement requirements in the Defense Transportation System formats results in increased intransit visibility and permits more effective scheduling of lift. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 020400Z Oct 90, GWAPS, CSS #74)

2 October 1990
C+56

Background Events: The U.S. Senate votes 96 to 3 in support of President Bush's actions in response to the Iraqi invasion of Kuwait. General Powell and Chief of the Soviet General Staff General Mikhail Moiseyev publicly state that economic sanctions against Iraq are working, and no force should be used in the Persian Gulf unless approved by the UN.

Air Order of Battle: The aircraft carrier USS *Independence* arrives in the Persian Gulf, representing only the second time that a carrier battle group has passed through the Straits of Hormuz (The USS *Constellation* did so in 1974). (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Oct 90 and 052115Z Oct 90, GWAPS, CSS #33)

Medical: Ten Air Transportable Hospitals (500 beds total) are operational. (Lt Col Robert Furgeson, "Operations Desert Shield and Storm: Air Force Medical Plans and Operations," HQ USCENTAF/CXM, 25 Nov 1991, Sup Doc #3, GWAPS, NA-529)

Support Activities: COMUSCENTAF reports that his staff is working with the Battle Staff to locate technical data on Harvest Falcon bare-base assets. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 020800Z Oct 90, GWAPS, CSS #10)

Logistics: In addition to official sources of host-nation support, CENTCOM civilian contract awards in support of Desert Shield is estimated now to have reached $499 million. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Oct 90, GWAPS, CSS #33)

COMUSCENTAF requests airlift for 400 camouflage nets and poles to provide shade for sensitive missile systems. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 020800Z Oct 90, GWAPS, CSS #10)

Air Operations: Combined package training missions include eight F-16s, four F-4Gs, and two Saudi Tornados; twelve F16s, four F-4Gs, and eight UK Jaguars; six F-16s, four F-4Gs, and four UK Jaguars; and, four F-4Gs, two EF111s, four F-111, and two Saudi Tornados. In addition, A-10s, F-16s, and airborne C3 aircraft conduct a large scale CAS exercise. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Oct 90, GWAPS, CSS #33)

3 October 1990
C+57

Intelligence: USCINCCENT reports Iraqi air activity at an above-average level -- 127 sorties. At least four MiG-23/Floggers perform combat maneuvers out of Qasr Amij South dispersal airfield, which is the first noted activity out of this airfield and reflects an ongoing Iraqi effort to disperse their air assets. Intelligence now estimates a total of 22 divisions in the KTO: 12 committed and 10 reinforcing. The previous estimate of 24 divisions probably included two that were double-counted. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Oct 90, GWAPS, CSS #33)

Planning: Combined planning efforts result in general agreement on the deployment of coalition ground units to exploit their specific advantages, such as the French armored brigade's reconnaissance and counterattack capabilities, and to minimize the possibility of fratricide, such as placing the Eastern Bloc-equipped Syrian divisions on the extreme left flank. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Oct 90, GWAPS, CSS #33)

Air Operations: The Republic of Korea pledges 30 million dollars for transportation support of Desert Shield, including two Boeing 747 airlift missions per week and one ship per month. The daily C-141 mission delivering U-2 fuel will be reduced in frequency now that maximum AOR storage capacity has been approached. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 030400Z Oct 90, GWAPS, CSS #74)

Three of ten KC-10s in a cargo-only role are returned to SAC and two additional will be returned on 5 Oct. Evergreen Airlines, chartered by Japan, carried vehicle parts, medical supplies, and aircraft parts among the cargo of its first three flights. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 040400Z Oct 90, GWAPS, CSS #74)

4 October 1990
C+58

Background Events: Pentagon officials disclose that Iraq has developed a fuel-air explosive, whose blast effect is similar to a small nuclear weapon and is particularly effective against air bases, oil fields, troops in the open, fuel depots, ammunition dumps and radar vans. However, a Pentagon official states there is no clear evidence Iraq is capable of mounting such devices on missiles.

Planning: USCINCCENT, all CENTCOM component commanders, and major ground commanders conduct an extensive and "successful" map exercise to analyze defensive operations, plans and intentions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Oct 90, GWAPS, CSS #33)

Air Operations: CENTCOM conducts a D-day–type air tasking coordination exercise. Packages contain eight F-16s, four F-4Gs, two EF-111s, and four Saudi F-15s; twelve F/A-18s; and a CAS exercise consists of thirty-four A-10s, two AC-130s, one MC-130, five OV-10s, ten F/A-18s, and fourteen AV-8s. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Oct 90, GWAPS, CSS #33)

5 October 1990
C+59

Intelligence: Iraqi air activity reaches 117 sorties, mainly devoted to navigation and ground attack training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Oct 90, GWAPS, CSS #33)

Logistics: COMUSCENTAF's top priorities are munitions, war readiness spares kits, forklifts, Harvest Falcon assets, fire operations and rescue equipment. Other ongoing concerns include building up the supply of operationally ready drop tanks, erecting aircraft arresting systems at several bases, and repairing field laundry equipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 050800Z Oct 90, GWAPS, CSS #10)

Other Activities: HQ SAC coordinates with 8AF, 15AF, and the STRATFOR on a rotation policy. (Msg (S), CINCSAC to JCS, subj: Sitrep, 060400Z Oct 90, GWAPS, CSS #86)

6 October 1990
C+60

Intelligence: Iraqi air activity (127 sorties) focuses on navigation, ground attack, and ground controlled intercept training. One Iraqi reconnaissance flight crosses over the Saudi border for approximately two minutes. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Oct 90, GWAPS, CSS #33)

Ground Order of Battle: The 101st Airborne Division (Air Assault) closes in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Oct 90, GWAPS, CSS #33)

Civil Engineers: A PRIME BEEF team begins erecting the tent city at King Khalid Air Base. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 070800Z Oct 90, GWAPS, CSS #10)

Logistics: In addition to previously stated logistics priorities, COMUSCENTAF requests movement of all available AGM-88 High-Speed Anti-Radiation Missiles (HARMs) to the theater, along with several thousand cargo tie-down chains, straps and devices to support intra-theater munitions shipments. Also, battle dress utility (BDU) uniforms are wearing out faster than anticipated. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 060800Z Oct 90, GWAPS, CSS #10)

Planning: USTRANSCOM states that incomplete, inaccurate, or missing cargo documentation continues to impede cargo movement into and out of the AOR. They are currently evaluating a German offer of material handling equipment, cargo pallets, and C-160 airlift to support the European operations in support of Desert Shield. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 070400Z Oct 90, GWAPS, CSS #74)

Air Operations: Packages flown in training exercises include ten F-16s, four F-4Gs, and four F-15s; fourteen F-16s, four F-4Gs, two EF-111s, two F/A-18s, four Saudi F-15s, and three UK Tornados; and six F-16s, four F-4Gs, and four F-15s. Three B-52 night sorties with F-4G support are also planned. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Oct 90, GWAPS, CSS #33)

7 October 1990
C+61

Intelligence: Iraqi air activity averages 112 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Oct 90, GWAPS, CSS #32)

Air Operations: Strike training continues, including the following packages: forty F-16s, four F-15s, and four F-4Gs; six F-16s, four F-4Gs, and four UK Tornados; and sixteen F-16s, four F-4Gs, and six Saudi Tornados. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Oct 90, GWAPS, CSS #33)

1,186 tons of sustainment cargo airlifted today sets a new record. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 080400Z Oct 90, GWAPS, CSS #74)

8 October 1990
C+62

Logistics: COMUSCENTAF notes that some strategic airlift cargo shipments marked for Riyadh are going to Dhahran instead, increasing the burden on intheater units and intratheater airlift. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 080800Z Oct 90, GWAPS, CSS #10)

Air Operations: Coalition forces fly additional fighter combat air patrols in the western and central Iraqi-Saudi border regions in response to recent Iraqi reconnaissance and fighter activity in the area. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Oct 90, GWAPS, CSS #33)

A 106th Tactical Reconnaissance Squadron RF-4C crashes with the loss of both crew members. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 090800Z Oct 90, GWAPS, CSS #10)

9 October 1990
C+63

Background Events: Saddam Hussein announces that, in the event of war, he will attack Saudi Arabia and Israel with long-range missiles. (*New York Times*, 10 October, p A11)

Meanwhile, with mass executions of civilians reported from Kuwait, President Bush warns Iraq that his patience is "wearing very thin." (*Los Angeles Times*, 10 October, p 10)

Ground Order of Battle: The Egyptian 3rd Armored Division closes in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Oct 90, GWAPS, CSS #33)

Civil Engineers: The USCENTAF Engineer's top priorities are force beddown and support, transition from tentage to temporary facilities, with current emphasis on connecting operating locations to commercial utilities and constructing munitions and fuels storage facilities. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 090800Z Oct 90, GWAPS, CSS #10)

Logistics: COMUSCENTAF reports that local United Arab Emirate restrictions oblige his command to move parts and equipment either by airlift or contract linehaul, rather than in its own vehicles with military

drivers. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 090800Z Oct 90, GWAPS, CSS #10)

Field laundry technical orders arrive, as USCENTAF engineers continue to assess spare parts shortfalls for tactical field laundries. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 100800Z Oct 90, GWAPS, CSS #10)

10 October 1990
C+64

Ground Order of Battle: There are now 200,079 USCENTCOM personnel in the AOR, including 32,333 assigned to CENTAF. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Oct 90, GWAPS, CSS #33)

Logistics: Since his command now has a seven-day stock of all but three types of munitions, COMUSCENTAF realigns his priorities to resupply and war readiness spares, Harvest Falcon equipment, fire operations and rescue equipment, munitions, and forklifts, in that order. Once three munitions ships, currently in the AOR, are unloaded, he expects to have a thirty-day supply of most munitions and will take them off of his priority list. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 100800Z Oct 90, GWAPS, CSS #10)

COMUSCENTAF also reports that over twenty percent of all MICAP (Mission Critical Aircraft Parts) orders are over twelve days old. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 100800Z Oct 90, GWAPS, CSS #10)

Air Operations: Among several coalition air strike training packages flown, one includes eight F-16s, four F-15s, four F-4Gs, four EF-111s and, for the first time, four Canadian CF-18s. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Oct 90, GWAPS, CSS #33)

An F-111F crashes at 100238Z with the loss of both crewmen. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 100800Z Oct 90, GWAPS, CSS #10)

COMUSCENTAF cancels all CENTAF flying after 0900Z and later restricts subsequent low-level flying training operations to no lower than 1,000 feet above ground level (AGL) (500' AGL for B-52s on established training routes), air-to-air training to no lower than 5,000' AGL, and prohibits

"practice 'gun jinking' from simulated air-to-air or surface-to-air threats." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 110800Z Oct 90, GWAPS, CSS #10)

USCENTAF wing commanders use the no-fly period to conduct safety meetings. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 130800Z Oct 90, GWAPS, CSS #10)

11 October 1990
C+65

Background Events: More than 300 U.S. citizens and a few other refugees leave Iraq on a flight to London. (The Philadelphia Inquirer, 11 October 90, p 4)

Intelligence: The Iraqi Air Force maintains a high level of air activity (148 sorties), though the majority of these flights are for routine training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Oct 90, GWAPS, CSS #33)

Civil Engineers: COMUSCENTAF reports that the "Japanese government has agreed to purchase two K-Span machines and enough compatible steel to erect eight 10,000-SF [square foot, ed.] facilities for USCENTAF . . . [by] end of Oct." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 110800Z Oct 90, GWAPS, CSS #10)

Planning: The coalition combined planning staff completes the second draft plan for the defense of Saudi Arabia. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Oct 90, GWAPS, CSS #33)

Air Operations: CENTAF flies a reduced schedule to allow time for meetings emphasizing safety and training awareness. Meanwhile, CENTAF reports its aircraft have an eighty-nine percent mission-capable rate. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Oct 90, GWAPS, CSS #33)

12 October 1990
C+66

Intelligence: USCINCCENT attributes the sudden drop in the Iraqi Air Force's sortie count to fifty-two, the lowest this month, to maintenance requirements, crew rest, and the observance of the Islamic holy day (Friday). (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Oct 90, GWAPS, CSS #33)

Air Order of Battle: A second U-2 arrives at Taif. (Msg (S), CINCSAC to JCS, subj: Sitrep, 0140400Z Oct 90, GWAPS, CSS #86)

Logistics: COMUSCENTAF requests airlift of sixty-five 150-lb fire extinguishers for flightline fire protection at Thumrait, Oman. Other fire operations/crash rescue equipment shortfalls are being assessed. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 120800Z Oct 90, GWAPS, CSS #10)

Planning: Work continues on the airlift of sixteen British Puma helicopters, personnel, and support equipment under the US/UK cooperative military agreement. Also, coordination with CENTCOM, the Services, DLA, and SAC continues on a concept of operations to provide a premium airlift service, called Desert Express, for highest priority critical repair parts for Desert Shield units. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 130400Z Oct 90, GWAPS, CSS #74)

HQ USAFE initiates a study to determine if they can support the deployment of a number of aircraft to Turkey. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

Air Operations: A Pan Am 747 with 277 repatriated (from Iraq/Kuwait) Americans arrives at Raleigh-Durham NC from London. A total of 2,103 repatriated personnel have been airlifted to the US to date. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 130400Z Oct 90, GWAPS, CSS #74)

COMUSCENTAF meets with flying wing commanders to discuss the lessons learned and results of their 10 October safety dialogs, and to make it clear that "we must do 'whatever is necessary' to stop accidents." (COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 130800Z Oct 90, GWAPS, CSS #10)

13 October 1990
C+67

Intelligence: Flying 130 sorties today, the Iraqi Air Force is operating back up to "normal" levels. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Oct 90, GWAPS, CSS #33)

Civil Engineers: The tent city at King Khalid Air Base is now complete, except for one Harvest Falcon latrine. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 130800Z Oct 90, GWAPS, CSS #10)

Logistics: COMUSCENTAF reduces request for forklifts, to augment prepositioned stocks, from 180 to 104. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 130800Z Oct 90, GWAPS, CSS #10)

There are now 503 backlogged MICAP (Mission Critical Aircraft Part) orders. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 130800Z Oct 90, GWAPS, CSS #10)

Planning: USTRANSCOM works on long-range planning for aeromedical evacuation in the event of hostilities. (Msg (S), USCINCTRANS to JCS, subj: Sitrep, 140400Z Oct 90, GWAPS, CSS #74)

Based on expected positive response from the Turkish government to retain aircraft at Incirlik upon completion of NATO exercise Display Determination, USAFE postpones actions to redeploy twenty-four F-16s and fourteen F-111Es. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 130703Z Oct 90, GWAPS, CSS #49)

14 October 1990
C+68

Background Events: Iraq and Iran reestablish diplomatic relations after a ten-year hiatus following the outbreak of the Iran-Iraq War.

Air Order of Battle: USCINCCENT reports that allied air combat forces include more than 830 fixed and rotary-wing aircraft, and more than 1,150 support aircraft. The United Kingdom, France, Canada, and Italy add more than 150 combat and support aircraft which are included in the air tasking order. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Oct 90, GWAPS, CSS #33)

Logistics: The levels of air munitions available in the theater exceed the seven-day surge requirement, and nearly sixty percent of the required weapons types meet or exceeded thirty-day operational requirements. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Oct 90, GWAPS, CSS #33)

Air Operations: Continuous AWACS and RC-135 RIVET JOINT reconnaissance flights and combined combat air patrols are being flown. Combat air training has progressed from small single-unit missions to large multinational strike packages, with opposition air, escort fighters, early warning aircraft, and Wild Weasel support. CAS exercises are expanded to include all echelons required for coordination. These complex exercises span 12- to 14-hour time periods and maintain four to eight aircraft in the target area throughout. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Oct 90, GWAPS, CSS #33)

The initial deployment of KC-135As into King Khalid begins with the arrival of the first five of forty scheduled. (Msg (S), CINCSAC to JCS, subj: Sitrep, 0150400Z Oct 90, GWAPS, CSS #86)

15 October 1990
C+69

Air Order of Battle: U.S. aircraft in the theater now include 110 air-to-air, 286 air-to-ground, and 210 dual-role combat aircraft, backed by 410 support aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Oct 90, GWAPS, CSS #33)

Ground Order of Battle: Major weapon systems available to U. S. ground forces in the theater now include 261 attack helicopters, 668 support helicopters, 559 main battle tanks, 456 artillery pieces, 48 Multiple-Launch Rocket Systems and 9 Army Tactical Missile Systems. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Oct 90, GWAPS, CSS #33)

Support Activities: COMUSCENTAF requests a secure hotline between USCENTAF Logistics Readiness Center and its USAFE counterpart. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 150800Z Oct 90, GWAPS, CSS #10)

COMUSCENTAF coordinates Thanksgiving meal requirements with ARCENT and meets with Service representatives to discuss Army-Air Force

exchange requirements. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 160800Z Oct 90, GWAPS, CSS #10)

Logistics: With an adequate stockage of most munitions items in theater, COMUSCENTAF's logistics top priorities are now, in order: resupply and WRSK kits, mortuary affairs and morgue equipment, Harvest Falcon assets, forklifts, and fire operations and crash rescue equipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 150800Z Oct 90, GWAPS, CSS #10)

Planning: USCINCCENT anticipates rotating troops serving in a "austere and harsh combat environment" on a 6-to-8 month cycle, while troops not living under such conditions will rotate in and out of the theater on a 12-month cycle, and "certain essential and key commanders and staff may remain indefinitely." (Msg (S), USCINCCENT to JCS, subj: Desert Shield Theater Rotation Policy, 151800Z Oct 90, GWAPS, NA-523)

16 October 1990
C+70

Intelligence: Iraqi air assets fly 173 sorties, the highest level since 30 August, with emphasis placed on air combat maneuvers (ACM). (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Oct 90, GWAPS, CSS #33)

Ground Order of Battle: While British 7th Armored Brigade advanced-party personnel continue preparations to incorporate their unit into the 1st Marine Expeditionary Force, British troops begin to arrive by air to receive their unit equipment from ships already underway from Germany. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Oct 90, GWAPS, CSS #33)

Logistics: COMUSCENTAF believes that continued delays in shipping MICAP parts reinforces the need for early implementation of both a CONUS and a European "Desert Express." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 160800Z Oct 90, GWAPS, CSS #10)

17 October 1990
C+71

Air Order of Battle: As USCENTCOM moves towards its goal of fielding eight Patriot SAM batteries in the AOR, procedures are developed in conjunction with USSPACECOM and associated intelligence organizations to

employ these missiles in the Theater Anti-Ballistic Missile mode. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Oct 90, GWAPS, CSS #33)

Ground Order of Battle: French forces close at Hafar Al Batin. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Oct 90, GWAPS, CSS #33)

Civil Engineers: In a briefing to the Secretary of the Air Force, the USCENTAF Civil Engineer emphasizes that the success of the Desert Shield deployment hinged to a great degree on prepositioned Harvest Falcon assets and trained personnel. (Operation Desert Shield Unit History C+60-C+90, USCENTAF FWD/DE, IRIS 00887485/K178.9301-104)

Planning: Coalition planners are realigning the boundaries and defense sectors in the NAC and EAC to accommodate objective defense force employments in the draft Combined Operation Plan. The NAC forward edge of the battle area is moved 15 to 20 km south of the location specified in the plan to allow more time for the air interdiction campaign to attrit enemy forces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Oct 90, GWAPS, CSS #33)

18 October 1990
C+72

Background Events: The United Nations Secretary General announces that military action to free Kuwait would be legitimate if sanctions fail to induce Iraq to withdraw.

Support Activities: COMUSCENTAF reports shortages of air purifier filters for fire fighter's masks and continued problems with field laundries. Meanwhile, three mini-morgues arrive for distribution to Al Dhafra and Cairo West. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 180800Z Oct 90, GWAPS, CSS #10)

Ground Order of Battle: All 1st Cavalry Division personnel are in the theater, and their equipment continues to arrive by sea. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Oct 90, GWAPS, CSS #33)

Air Operations: Charleston AFB is designated as the primary aerial port of embarkation for Desert Expresε. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 190400Z Oct 90, GWAPS, CSS #74)

19 October 1990
C+73

Background Events: The United States announces a plan to ship 836 tanks from Europe to the Gulf: 616 M-1A1s to U.S. forces, 43 M60A3s to Oman, 27 M-60A3s to Bahrain, and 160 M-60A3s to Saudi Arabia.

Air Order of Battle: CINCFOR notes that one of the two active-component Air Support Operations Centers in the CONUS is already deployed in support of the 18th Airborne Corps in Southwest Asia. (Msg (S), CINCFOR to Dept of the Army, subj: ASOC Alignment to I Corps, 191940Z Oct 90, GWAPS, 523)

Support Activities: COMUSCENTAF assess the chemical decontamination capabilities at "high threat" areas as "good," while lower threat sites generally have "fair" capabilities or better. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 190800Z Oct 90, GWAPS, CSS #10)

The USCENTAF Tactical Air Control Center requires deployment of a communications van to provide added computer-aided force management system (CAFMS) connectivity and to make up for long-term equipment malfunctions. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 190800Z Oct 90, GWAPS, CSS #10)

Planning: After a four-day reconnaissance of the area along the Saudi-Kuwait border and southward towards Riyadh, a U.S.-Saudi team reports that the terrain immediately south of the border has no obstructions, and there is little defensible terrain north of Riyadh. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Oct 90, GWAPS, CSS #33)

In enumerating high-technology programs that could satisfy USCENTCOM operational mission requirements, the Joint Staff passes over the E-8 JSTARS aircraft with minimal comment, apparently accepting the conclusion of an 031713Z Sep 90 USCINCCENT message that stated "Desert Shield is not suitable in time or place for introduction of Joint STARS." (Msg (S), Joint Staff to USCINCCENT, subj: High Leverage Technology Support to Operation Desert Shield, 192205Z Oct 90, GWAPS, NA-523)

Air Operations: USTRANSCOM states that abuse of 9BE 999 priority designator continues to hamper efforts to ensure that critical items receive

the highest priority. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 200400Z Oct 90, GWAPS, CSS #74)

Major Operations: As of 17 Oct, Defense Mapping Agency had distributed 12,716,785 products as follows: Topographic maps of Iraq and Saudi Arabia - 8,343,914 copies; Aeronautical maps - 2,530,678 copies; Hydrographic maps - 295,758 copies. The DMA Desert Shield production plan for completion of all outstanding requirements will be complete 24 Oct. The Deputy Director of DMA informs Deputy CINCCENT that the airlift of maps was "over the hump." (Msg (S), HQ DMA to USCINCCENT, subj: Sitrep, 192050Z Oct 90, GWAPS, CSS #192)

20 October 1990
C+74

Intelligence: USCINCCENT now estimates that twenty-five Iraqi divisions are in the Kuwaiti Theater of Operations, including fourteen committed and eleven reinforcing. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Oct 90, GWAPS, CSS #33)

Logistics: COMUSCENTAF reports the "jungle boot currently in use is not suitable in this environment . . . request alternative avenues of supply be explored . . . to get desert boots to the troops." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 200800Z Oct 90, GWAPS, CSS #10)

21 October 1990
C+75

Support Activities: Fifteen more morgue sets arrive in theater. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 220800Z Oct 90, GWAPS, CSS #10)

Civil Engineers: An entire PRIME BEEF unit arrives in theater without its tool boxes, hampering its efforts to repair malfunctioning generators at King Khalid tent city. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 220800Z Oct 90, GWAPS, CSS #10)

Air Operations: Implementation procedures for Desert Express are published. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 220400Z Oct 90, GWAPS, CSS #74)

22 October 1990
C+76

Background Events: Administration sources claim that, after 12 weeks of apparently ineffective diplomacy and economic embargo against the intransient Iraqi regime, U.S. policy makers are gradually "building up" toward an ultimatum backed by a threat of force. (*Washington Times*, 22 October, p 8)

Intelligence: In decreasing order of probability, USCINCCENT now estimates Iraq's options as defend, reinforce, withdraw, and attack. In addition, the American Embassy in Baghdad believes Saddam Hussein could be preparing for a partial withdrawal from Kuwait, perhaps to force a coalition concession on the Palestinian issue. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Oct 90, GWAPS, CSS #33)

Planning: The CJCS reaffirms that all USAF tactical air forces deployed to USCENTCOM will be under the Operational Control of USCINCCENT, as will all SAC B-52s and appropriate USTRANSCOM airlift personnel and assets. Strategic Air Command KC-135s and strategic reconnaissance forces operating in the AOR will operate under USCINCCENT Tactical Control, while remaining OPCON to CINCSAC. (Msg (S), CJCS to USCINCCENT, subj: Operation Desert Shield Command Relationships, 222335Z Oct 90 & SECDEF, Conduct of the Persian Gulf War, Final Report to Congress (U), Apr 92, GWAPS NA-252, p 547)

23 October 1990
C+77

Ground Order of Battle: The 1st Cavalry Division, including the 1st Brigade of the 2nd Armored Division, closes. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Oct 90, GWAPS, CSS #33)

Support Activities: With immediate USCENTAF morgue requirements filled, COMUSCENTAF requests that the remaining 46 morgues for his command be shipped "as transport is available." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 230800Z Oct 90, GWAPS, CSS #10)

Logistics: After several days of highlighting the need for perimeter defense materials, COMUSCENTAF requests priority airlift for a "C-5 load of concertina wire to the AOR for base perimeter security needs and

munitions storage security." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 230800Z Oct 90, GWAPS, CSS #10)

Planning: After identifying several "potentially serious" problems in coalition air defense coordination and operational arrangements, USCINCCENT reports that "we are working to resolve these critical problems to ensure the proper balance between defending against enemy air threats and preventing fratricide among friendly forces." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Oct 90, GWAPS, CSS #33)

Air Operations: CENTAF conducts a large-scale, joint CAS exercise in northeast Saudi Arabia. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Oct 90, GWAPS, CSS #33)

24 October 1990
C+78

Background Events: As the CIA determines that economic sanctions are having little effect on the Iraqi military, Secretary of Defense Cheney announces that more U. S. combat troops will be sent to the Persian Gulf.

Intelligence: At ninety sorties, Iraqi air activity is lower than average, but it is highlighted by the reappearance of defensive patrol activity. CENTCOM intelligence now estimates that the Iraqi's have committed fifteen divisions to the KTO, with eleven more in reinforcing positions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Oct 90, GWAPS, CSS #33)

Logistics: COMUSCENTAF reports that the percentage of MICAP shipments overdue from the CONUS and from Europe, has decreased from twenty percent to thirteen percent in the past week. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 240800Z Oct 90, GWAPS, CSS #10)

Air Order of Battle: Four of eight Patriot SAM batteries deployed in the theater are inoperative for radar repairs. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Oct 90, GWAPS, CSS #33)

Air Operations: The thirty-six hour INITIAL HACK exercise begins. Coalition air forces will practice pre- and post-strike air refueling, airfield attacks, airfield defense, CAS, and command and control procedures against a simulated D-day Air Tasking Order. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Oct 90, GWAPS, CSS #33)

Three C-141s per day begin mail service from McGuire AFB, NJ to Dhahran (2 aircraft) and Riyadh (1 aircraft). (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 240400Z Oct 90, GWAPS, CSS #74)

25 October 1990
C+79

Air Operations: INITIAL HACK continues with mock attacks on Al Dhafra, Taif, and Al Ahso airfields. Strike packages include thirty-two F-16s, two EA-6s, and two French Mirage 2000s; and a night strike by two F-117s, four F-15Es, two B-52s, two F-4Gs, two EF-111s, one EC-130, six Saudi Tornados, and eight RAF Tornados. The USS *Kennedy* and *Saratoga* also conducted dual-carrier operations. (Msg (S), USCINCCENT to AIG 904, "Sitrep (U)", 252115Z Oct 90; (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 260800Z Oct 90, GWAPS, CSS #10)

26 October 1990
C+80

Background Events: A senior engineer for the Kuwait Oil Company reports that Iraq has rigged explosives on 300 of 1,000 oil wells. (London Financial Times, Oct 26, p 4.)

Intelligence: Reported Iraqi air activity reaches its highest level in October at 176 sorties, an increase probably accounted for in part by enhanced coalition Airborne Warning and Control System data collection. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Oct 90, GWAPS, CSS #33; (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Oct 90, GWAPS, CSS #33))

Support Activities: COMUSCENTAF requests air shipment of eighty M-80 water heaters for shower/shave requirements of deployed units. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 260800Z Oct 90, GWAPS, CSS #10)

Air Operations: Exercise INITIAL HACK ends after 48 hours of operations involving more than 300 simulated combat and 200 other sorties in support of 18 air packages involving about 40 coalition air units. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Oct 90, GWAPS, CSS #33)

27 October 1990
C+81

Logistics: COMUSCENTAF requests USCENTCOM assistance in finding three lost shipments of cargo straps, tie-down chains and devices. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Oct 90, GWAPS, CSS #10)

Air Operations: All eight deployed Patriot SAM batteries are now operational. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Oct 90, GWAPS, CSS #33)

The National Guard Bureau reaffirms its support of SAC Desert Shield operations and will continue their 16 tanker aircraft/20 crew package until 1 Apr 91. To date, 285 sorties and 3,100 hours have been flown by RC-135s, TR-1s, and U-2s in support of USCINCCENT's intelligence requirements. (Msg (S), CINCSAC to JCS, subj: Sitrep, 280400Z Oct 90, GWAPS, CSS #86)

28 October 1990
C+82

Civil Engineers: Based on field visits, COMUSCENTAF assesses that PRIME BEEF civil engineer units are making good progress in war readiness preparations at King Fahd, Dhahran and Tabuk air bases. But, rapid runway repair vehicles are still needed to reach full capability. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 280800Z Oct 90, GWAPS, CSS #10)

Logistics: COMUSCENTAF requests airlift of thirty pallets of stakes, required to secure concertina wire, from the CONUS to the AOR. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 280800Z Oct 90, GWAPS, CSS #10)

Air Operations: USCINCCENT issues a deployment order directing swap out of twenty KC-135A for twenty KC-135R at King Khalid not later than 16 Nov 90. (Msg (S), CINCSAC to JCS, subj: Sitrep, 290400Z Oct 90, GWAPS, CSS #86)

29 October 1990
C+83

Background Events: The U.N. passes Resolution 674, specifying that Iraq is responsible for all damage, injuries and human rights violations by Iraqi forces in Kuwait, and warning that the U.N. Security Council will take unspecified "measures under the Charter," if Iraq continues to reject its demands. (*New York Times*, 30 October, p A1)

Intelligence: Iraqi ground forces continue to develop a series of trenches designed to be filled with oil and ignited as additional barriers. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Oct 90, GWAPS, CSS #33)

The Iraqi Air Force is observed to fly ninety-four sorties, including three in which two Iraqi MiGs intercept an Iraqi F-1 reconnaissance aircraft operating near the Iraq-Kuwait-Saudi tri-border area, either to provide air defense training or to provide escort for the F-1. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Oct 90, GWAPS, CSS #33)

Air Operations: As Kuwaiti A-4s fly their first local mission out of Dhahran, USCENTAF initiates "Desert Triangle," a daily exercise designed to challenge Iraqi air defenses through aggressive coalition air operations near the Saudi-Iraqi and Saudi-Kuwaiti borders. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Oct 90, GWAPS, CSS #33)

30 October 1990
C+84

Background Events: General Merrill A. McPeak becomes Chief of Staff, USAF.

Support Activities: USCENTAF personnel are working to ensure that host nation food service contracting sites have Thanksgiving Day rations. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 300800Z Oct 90, GWAPS, CSS #10)

Civil Engineers: COMUSCENTAF reports that the Saudi government agreed to fund materials, fuel and rental equipment needed to construct a munitions storage facility at Al Kharj. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 300800Z Oct 90, GWAPS, CSS #10)

858-715 O—93——26 QL 3

Air Operations: As part of Exercise DESERT TRIANGLE, four Saudi Tornados make a high-speed approach within fifteen miles of the Saudi-Kuwaiti border, then turn parallel to it, but elicit no observable Iraqi response. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Oct 90, GWAPS, CSS #33)

The first Desert Express mission departs Charleston AFB carrying high priority cargo. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 310400Z Oct 90, GWAPS, CSS #74)

31 October 1990
C+85

Air Order of Battle: The 1610th Airlift Division (Provisional) is formed to organize and administer airlift forces assigned to the operational control of USCENTAF. (Headquarters Military Airlift Command, Special Order GA-11, 31 Oct 90)

Ground Order of Battle: All maneuver and fire support elements of the XVIII Airborne Corps are formed, including those elements of the 1st Cavalry, 24th Infantry, 82nd Airborne and 101st Airborne (Air Assault) divisions, and the 11th Air Defense Artillery Brigade. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 312115Z Oct 90, GWAPS, CSS #33)

Support Activities: While USCENTAF gives wing commanders the authority to approve locally funded construction projects, any project costing more than $25,000 must be approved by the Civil Engineer, USCENTAF/DE. (Msg (S), USCENTAF to AIG 10322, subj: Construction Policy, 311502Z Oct 90, IRIS 00887497/K178.9301-116)

Logistics: To alleviate a shortage of spare engines at several bases, COMUSCENTAF makes them his number two logistics priority. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 310800Z Oct 90, GWAPS, CSS #10)

Air Operations: To date, 748 patients have been medivaced within country, 1141 medivaced to Europe, and 719 Desert Shield patients medivaced from Europe to the US. Total Desert Shield missions flown to date are 4,960 (1365 C-5, 2669 C-141, 163 KC-10, 763 commercial) that have transported 178,893 passengers and 170,119 short tons of cargo to the AOR. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 010400Z Nov 90, GWAPS, CSS #73)

SAC states they are prepared to reinforce theater forces to the planned level of 182 tankers within 60 hours of notification. Currently there are 121 tankers in theater directly supporting CENTCOM. (Msg (S), CINCSAC to JCS, subj: Sitrep, 010400Z Nov 90, GWAPS, CSS #85)

1 November 1990
C+86

Air Order of Battle: US aircraft in the theater now include 109 air-to-air, 277 air-to-ground, and 258 dual-role combat aircraft, backed by 450 support aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Nov 90, GWAPS, CSS #32)

There are now 31,543 USCENTAF personnel in the AOR. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 010800Z Nov 90, GWAPS, CSS #9)

Ground Order of Battle: The Syrian 9th Armored Division begins to deploy to Saudi Arabia. Major weapon systems available to U. S. ground forces in the theater now include 273 attack helicopters, 788 support helicopters, 857 main battle tanks, and 526 artillery pieces, 63 Multiple-Launch Rocket Systems and 9 Army Tactical Missile Systems. Additionally, the British 7th Armored Brigade is reinforcing the 1st Marine Expeditionary Force with 140 Challenger tanks, 102 armored fighting vehicles and 24 artillery pieces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Nov 90, GWAPS, CSS #32)

Medical: USCENTAF medical facilities saw 526 outpatients and treated 43 inpatients. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 020800Z Nov 90, GWAPS, CSS #9)

Civil Engineers: The Saudi government assumes funding and contract management responsibilities to provide food, water, transportation, housing and fuel to US forces in Saudi Arabia. (Msg (U), USCENTAF/AC to USCENTAF/CC, 30 Oct 90, IRIS 00887485/K178.9301-104)

Air Operations: Two Iraqi F-1s violate the Saudi border by 9 nautical miles, but flee northward when two USAF F-15s are vectored to intercept them by an Airborne Warning and Control System aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Nov 90, GWAPS, CSS #32; Msg (S) COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 020800Z Nov 90, GWAPS, CSS #9)

Ten Navy and one Marine fatality were returned to Dover on a C-141. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 020400Z Nov 90, GWAPS, CSS #73)

Other Activities: The 4th Marine Expeditionary Brigade begins "Sea Soldier II" on the coast of Oman, the MEB's second large-scale amphibious exercise during Desert Shield. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Nov 90, GWAPS, CSS #32)

2 November 1990
C+87

Intelligence: The Iraqi Air Force flies 98 sorties, including an increased number along the Saudi border. Among them, two MiG-25s make runs at the border, possibly simulating intercept operations, and likely in response to ongoing "Desert Triangle" feints by coalition aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Nov 90, GWAPS, CSS #32)

3 November 1990
C+88

Intelligence: Iraqi air operations are highlighted by intelligence-collection flights along the Saudi border (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Nov 90, GWAPS, CSS #32)

Support Activities: COMUSCENTAF reports concern that USARCENT's decision to "reduce unitized B-ration menu selection by approximately 40 percent . . . . unless heavily supplemented with bulk B-rations and local purchase food, will not meet AF feeding standards." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 030800Z Nov 90, GWAPS, CSS #9)

4 November 1990
C+89

Support Activities: Among the elements of COMUSCENTAF's extensive communications plan are the acquisition of additional land-mobile radios to support wing operations, expansion of a secure voice network to include Saudi and Egyptian air force units, additional telephone circuits, and investigation into the possibility of putting Computer-Aided Force Management System (CAFMS) equipment on US Navy carriers. (Msg (S),

COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 040800Z Nov 90, GWAPS, CSS #9)

Logistics: Reflecting the continued shortage of spare engines, COMUSCENTAF's top logistics priorities are engine spares, resupply and war readiness spares, Harvest Falcon assets, fire operations and crash rescue equipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 040800Z Nov 90, GWAPS, CSS #9)

Planning: USTRANSCOM works medical reinforcement TPFDD with USEUCOM and USCENTCOM to be available in case the situation in the AOR should deteriorate. Aeromedical evacuation plans are formalized. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 050400Z Nov 90, GWAPS, CSS #73)

Air Operations: First MAC channel mission through Cairo West to Riyadh is flown. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 060400Z Nov 90, GWAPS, CSS #73)

To date, SAC tankers have flown 7,865 sorties, offloading 195,893,000 pounds of fuel to 12,178 receivers in support of Desert Shield operations. (Msg (S), CINCSAC to JCS, subj: Sitrep, 040400Z Nov 90, GWAPS, CSS #85)

A "Desert Triangle" package of four F-16s and two F-4Gs working as near as 10 nautical miles from the Iraqi border elicits no apparent Iraqi air defense reaction. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Nov 90, GWAPS, CSS #32)

5 November 1990
C+90

Background Events: Secretary of State Baker and Saudi King Fahd agree that, if a decision is made to invade Iraq, U.S. forces will be under U.S. control while, in the event of an Iraqi attack on Saudi Arabia, a joint U.S./Saudi command and control structure will come into place. (*New York Times*, 6 November, p A1.)

Intelligence: Two Iraqi MiG-23s appear to launch in reaction to a CENTAF RF-4 reconnaissance flight. If so, this is the first active Iraqi air defense response observed by the coalition since September. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Nov 90, GWAPS, CSS #32)

Support Activities: The USCENTAF Civil Engineer reports that engineer combat readiness was reduced by a lack of familiarity with some Harvest Falcon assets, along with the frequent absence of appropriate technical orders. (Msg (S/NF), USCENTAF/DE to USCENTAF/DO, subj: In House Lessons Learned, 5 Nov 90, IRIS 00887409/K178.9301-28)

Air Operations: USCINCCENT reports that coalition air forces flew four strike/close air support packages of twenty or more aircraft. All special operations air units of SOCCENT participated in the third and largest combat search and rescue exercise to date. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 052115Z Nov 90, GWAPS, CSS #32)

Planning: Over 650 Army requirement records (ULNs) are accidently deleted from Time Phased Force Deployment List (TPFDL). TRANSCOM functional and technical database managers begin recovery procedures in coordination with CENTCOM REAR. Full recovery of all requirements, schedule, and manifest data may take until 9 Nov. Air Force, Navy, and Marine ULNs are unaffected. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 070400Z Nov 90, GWAPS, CSS #73)

Air Operations: CENTAF Joint Rescue and Coordination Center (JRCC) participates in SOCCENT's SAREX 91-3 rescue exercise. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 061930Z Nov 90, GWAPS, CSS #24)

6 November 1990
C+91

Intelligence: Iraqi air activity is well above average at 186 sorties. In an apparent attempt to provoke and observe a coalition response, one formation flys over water to near the Saudi-Kuwaiti border, then flys west to parallel the border. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Nov 90, GWAPS, CSS #32)

Logistics: COMUSCENTAF, noting the arrival of MICAP parts at Al Dafhra within 2-3 days of shipment via the "Desert Express," reports that "this type of support is encouraging." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 060800Z Nov 90, GWAPS, CSS #9)

A new special project code (9AU) is approved for Desert Express cargo. Five thousand pound tie down straps reach a critical level, depot balance is zero, contract deliveries are delinquent and the second contract

will not begin until next year. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 070400Z Nov 90, GWAPS, CSS #73)

7 November 1990
C+92

Background Events: Defense Secretary Cheney initiates the first combat reserve call-up since the Korean War when the Marine Corps asks for and receives permission to summon 3,000 Marine reservists. (*The Washington Post*, 7 November 1990, p 7)

Intelligence: Iraqi air activity continues at higher than normal levels -- 170 sorties. This includes border reconnaissance and defensive patrols. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Nov 90, GWAPS, CSS #32)

Support Activities: Noting that a key Defense Communications Satellite has lost its ability to maintain a proper axis inclination, COMUSCENTAF reports, "we view need to launch another DCS satellite as important issue." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 070800Z Nov 90, GWAPS, CSS #9)

Civil Engineers: The Al Kharj munitions storage facility is ready to receive shipments, scheduled to begin on 8 November. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 070800Z Nov 90, GWAPS, CSS #9)

Logistics: A Joint Staff team assesses that some Desert Shield deployment operations were hampered by the lack of finished operations and force deployment plans and, the incomplete transmission of USCENTCOM crisis action procedures (CAPs) and other planning factors to component and supporting organizations and, the limited operational authority of USTRANSCOM over its Service components, in relation to its responsibility to organize emergency movements quickly and efficiently. (Joint Staff Assessment Team, "Operation Desert Shield Assessment Team Summary Report (Through 7 November 1990)," n.d., GWAPS, NA-529)

Air Operations: Due to limited use of the first two Cairo West-Riyadh frequency channel airlift missions, USTRANSCOM asks USCENTCOM to reevaluate the requirement. MAC publishes implementation guidance for a provisional organization structure for airlift forces supporting Operation

Desert Shield. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 080400Z Nov 90, GWAPS, CSS #73)

8 November 1990
C+93

Background Events: President Bush orders more than 150,000 additional air, sea and ground troops to the Persian Gulf to provide "an adequate *offensive* option" to drive Iraqi troops from Kuwait. This move is seen by some as a signal to Saddam Hussein that the U.S. has the will, and shortly will have the means, to go to war with Iraq. (*New York Times*, 9 November, p A1)

Air Order of Battle: The 11th Air Defense Artillery Brigade now fields 12 operational Patriot SAM batteries. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Nov 90, GWAPS, CSS #32)

Support Activities: USCENTAF now has 538 body transfer cases at its main mortuary, at Dhahran, 6 morgue tents set up and operational, and has surveyed local facilities for refrigerated storage in the Dhahran area. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 080800Z Nov 90, GWAPS, CSS #9)

USCENTAF Weather expects to cut over to an N1-C1 4800 Baud Weather Circuit overnight, which should provide Air Force Digital Information and Graphics System availability within 36-48 hours. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 080800Z Nov 90, GWAPS, CSS #9)

Air Operations: Coalition aircraft flew an 81-aircraft close air support exercise and a 44-aircraft strike exercise. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Nov 90, GWAPS, CSS #32)

Due to adequate stocks of JPTS (U-2 fuel) in the AOR, daily C-141 "Bladder Bird" missions are terminated. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 070400Z Nov 90, GWAPS, CSS #73)

9 November 1990
C+94

Background Events: The Iraqi government announces that the chief of staff of the Iraqi military has been replaced, which may indicate dissension

in the hierarchy of the Iraqi armed forces. (*New York Times*, 9 November 1990, p A13)

Logistics: Despite their continued inclusion in his logistics top priorities list, COMUSCENTAF reports that spare engine stocks are at critical levels for some units. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 090800Z Nov 90, GWAPS, CSS #9)

Other Activities: In Oman the U.S. Marines conclude amphibious exercise "Sea Soldier II." Planning begins for the next exercise, "Imminent Thunder" on 15-21 November. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Nov 90, GWAPS, CSS #32)

10 November 1991
C+95

Intelligence: Iraqi air activity was at lower than normal levels with 96 sorties, due to the Islamic holy day. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Nov 90, GWAPS, CSS #32)

Logistics: A JCS/OSD negotiating team recently concluded an implementing agreement with the Saudi Arabian government for Host Nation Support. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Nov 90, GWAPS, CSS #32)

11 November 1991
C+96

Intelligence: Iraqi air activity remained low probably due to poor weather and maintenance standdown. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Nov 90, GWAPS, CSS #32)

12 November 1991
C+97

Background: Protestors march at the gates of Westover AFB, MA against Operation Desert Shield. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 122119Z Nov 90, GWAPS, CSS #107)

Intelligence: After four consecutive days of low activity, the Iraqi sortie count reaches a more normal 130, including two MiG-25 intercept sorties

against simulated high-value air assets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Nov 90, GWAPS, CSS #32)

Support Activities: COMUSCENTAF reports that the planned increase in his force structure, coupled with a "lack of satellite bandwidth in space segment," means that "each wing will have only satellite or tropospheric scatter radio connectivity . . . . and any equipment failure will cause [a] lack of tactical communications." He expects, however, that a combination of commercial telephone circuits and STU-III scrambler phones will "prevent [the] isolation of wings and provide [a] back-up for ATO dissemination." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 120800Z Nov 90, GWAPS, CSS #9)

Air Operations: In addition to three combined strike packages, coalition air forces flew a 108-aircraft close air support exercise including, for the first time, participation by Kuwaiti A-4s. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Nov 90, GWAPS, CSS #32)

13 November 1990
C+98

Intelligence: Iraqi air activity increases to 160 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Nov 90, GWAPS, CSS #32)

Logistics: Several USCENTAF wings have critically needed spare engines and parts available in Germany, but are awaiting airlift to ship them. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 130800Z Nov 90, GWAPS, CSS #9)

Expanding force structure requirements lead COMUSCENTAF to place munitions back on his logistics top priorities list, and to request immediate shipment of 1,000 AGM-88 High-speed Anti-Radiation Missiles, 500 Improved 2000-lb bombs and 100 GBU-27 weapons. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 130800Z Nov 90, GWAPS, CSS #9)

Air Operations: Exercise SANDY BEACH is flown in Qatar, consisting of a 20-plane U.S. strike force attacking airspace defended by French and Qatar Mirage F-1s. Meanwhile, a 20-hour close air support exercise involves 120 coalition aircraft, and C-130s perform simulated airdrops while escorted by coalition fighters. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Nov 90, GWAPS, CSS #32)

UK requests one C-5 aircraft to recover a damaged Tornado aircraft from the AOR back to the UK under the provisions of the US/UK cooperative military airlift agreement. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 140400Z Nov 90, GWAPS, CSS #73)

14 November 1990
C+99

Background Events: Secretary of Defense Cheney authorizes the call-up of another 72,500 National Guard and reserve troops including, for the first time in Desert Shield, Army Reserve combat units. (*The Washington Post*, 15 November 1990, p 32)

Logistics: Declaring "Desert Express" a success, with its 2-3 day shipping times, COMUSCENTAF suggests establishing a similar service out of Europe. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 140800Z Nov 90, GWAPS, CSS #9)

Intelligence: Consistent with established patterns, the Iraqi Air Force does not respond to two "Desert Triangle" missions near Saudi Arabia's borders with Kuwait and Iraq. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Nov 90, GWAPS, CSS #32)

15 November 1990
C+100

Intelligence: The Iraqi Air Force flew only 40 sorties today, possibly as a cautious response to the coalition's IMMINENT THUNDER exercise. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Nov 90, GWAPS, CSS #32)

Air Order of Battle: U.S. aircraft in the theater now include 91 air-to-air, 264 air-to-ground, and 240 dual-role combat aircraft, backed by 440 support aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Nov 90, GWAPS, CSS #32)

Ground Order of Battle: USCENTCOM forces in the theater now total 235,215, including 30,981 in CENTAF. Major weapon systems available to U. S. ground forces in the theater now include 270 attack helicopters, 770 support helicopters, 857 main battle tanks, and 538 artillery pieces, 63 Multiple-Launch Rocket Systems and 18 Army Tactical Missile Systems. Additionally, the British 7th Armored Brigade is reinforcing the 1st Marine

Expeditionary Force with 15 helicopters, 140 Challenger tanks, 139 armored fighting vehicles and 24 artillery pieces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Nov 90, GWAPS, CSS #32)

Civil Engineers: Faced by the construction requirements of the new force build up, COMUSCENTAF assigns his highest movement priority to getting Air Force RED HORSE heavy construction units into the theater. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 150800Z Nov 90, GWAPS, CSS #9)

Planning: USTRANSCOM announces that the Dover/Dhahran channel is approaching max utilization in support of sustainment requirements which are on the increase. Utilization of that channel for Phase II deployments will restrict the throughput and significantly delay closure, thus, effective 19 Nov, the aerial port of embarkation for channel airlift thru Rhein Main, Ramstein, Soesterberg, Tempelhof, Amman, and Cairo will change from Dover to McGuire AFB. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 160400Z Nov 90, GWAPS, CSS #73)

Air Operations: In support of Exercise IMMINENT THUNDER, a fully-integrated, combined exercise, coalition air forces launch 9 combined strike packages and a CAS package - involving more than 700 aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Nov 90, GWAPS, CSS #32)

16 November 1990
C+101

Intelligence: Iraqi air activity returns to an average level of 128 sorties, including a mission by the modified Il-76/Candid airborne early warning aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Nov 90, GWAPS, CSS #32)

Leaders: The SECDEF directs the deployment of additional forces to Saudi Arabia and contiguous areas to support execution of Operation Desert Shield. The deployment order calls for the following air forces to arrive in the AOR NLT (15 Jan 91): 18 F-117, 24 F-15E, 32 F-111F, 24 F-15C, 12 RF-4C, 8 B-52, 12 F-4G, 42 F-16, 32 C-130, 79 tankers, 1 Combat Reporting Center (CRC), and 1 Air Support Operation Center (ASOC). Forces to close in the AOR NLT (30 Jan 91): 42 A-10. Aircraft on-call for deployment within 120 hours of the commencement of hostilities: 14 B-52, 6 F-117, 5 AC-130, 4 E-3, 48 F-16, and 24 tankers. (Msg (S), CJCS to

USCINCCENT, subj: Follow-on Air Forces for Operation Desert Shield, 161540Z Nov 90, GWAPS, CSS safe #2, CSS folder #21)

Civil Engineers: COMUSCENTAF civil engineering emphasis is on opening the new beddown site at Al Kharj. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 160800Z Nov 90, GWAPS, CSS #9)

RED HORSE personnel finish site layout for Al Kharj. Thirty-three PRIME BEEF personnel are due in on 17 November to begin camp build-up. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 170800Z Nov 90, GWAPS, CSS #9)

Planning: In reflection of the President's decision to build up USCENTCOM to a strength required to launch a two-corps ground campaign, USCINCCENT now expects the arrival of substantial forces by 15 January. Among those forces are the VII Corps Headquarters, the 1st Armored Division, 1st Infantry Division (-), the 3rd Armored Division, a brigade from the 2nd Armored Division, an additional Marine Expeditionary Force, the USS *Ranger*, *Roosevelt* and *America* Carrier Battle Groups, and the battleship*Missouri*. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Nov 90, GWAPS, CSS #32)

Air Operations: USCENTCOM and coalition flight operations are planned to simulate the actual air tasking orders for D-day plus 1. Sorties include 12 combined strike packages and a single CAS exercise involving more than 200 sorties. Combined U.S., Saudi, and French forces participate in combat search and rescue exercises as part of IMMINENT THUNDER. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Dec 90, GWAPS, CSS #31)

17 November 1990
C+102

Intelligence: Iraqi ground forces in the KTO now total 17 committed and 10 reinforcing divisions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Nov 90, GWAPS, CSS #32)

Air Operations: IMMINENT THUNDER flight operations are planned to closely simulate the potential air tasking order for D-day plus 2. The sorties include five combined strike packages and a CAS exercise of more than 280 sorties. The F117s conduct a simulated night airfield attack.

(Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Nov 90, GWAPS, CSS #32)

Combat Control Team personnel arrive at Al Kharj to provide air traffic control services for C-130s flying in support of base set-up. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 180800Z Nov 90, GWAPS, CSS #9)

18 November 1990
C+103

Background Events: Saddam Hussein's announcement that Iraq will free all remaining foreign hostages between 25 December 90 and 25 March 91, "unless something should occur to disturb the atmosphere of peace," is taken as a move to divide world public opinion and to protect Iraq from attack during the most likely time for a U.S.-led offensive to oust Iraqi forces from Kuwait. (*The Washington Post*, 19 November 1990, p 1; *New York Times*, 19 November, p A13)

Leaders: In reference to the deployment order for follow-on forces, USCINCCENT requests that the second 48 F-16s on-call within 120 hours be deployed in mid-January and that one of the squadrons be LANTIRN equipped. Also, he requests that the 4 E-3s on call be deployed within 96 hours of deployment notification. (Msg (S), USCINCCENT to JCS, subj: Follow-on Air Forces for Operation Desert Shield, 181630Z Nov 90, GWAPS,CSS safe #2, CSS folder #21)

Air Order of Battle: The deployment of follow-on air forces is modified as follows: Six OA-10 are included in the forty-two A-10s requested and eighteen F/A-16 are included in the forty-two F-16s requested. (Msg (S), USCENTAF REAR to HQ USAF, subj: Deployment Order for Follow-on Forces, 182200Z Nov 90, GWAPS, CSS safe #2, CSS folder #21)

Air Operations: B-52s fly eleven sorties in support of exercise IMMINENT THUNDER (15-20 Nov). (Msg (S), CINCSAC to JCS, subj: Sitrep, 190400Z Nov 90, GWAPS, CSS #85)

Other Activities: As part of IMMINENT THUNDER, The 4th Marine Expeditionary Brigade conducts a heliborne assault in the vicinity of Ras Al Ghar, about 75 miles below Kuwait on the Persian Gulf. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Nov 90, GWAPS, CSS #32)

19 November 1990
C+104

Background Events: Iraq announces it will send 250,000 more troops into Kuwait and southern Iraq, thereby increasing its total number of forces in the area to approximately 680,000. Pentagon officials state that while many of the new Iraqi troops would be reservists, up to 100,000 could come from relatively well-trained forces guarding borders with Turkey and Iran. (*New York Times*, 20 November, p A1)

Leaders: USCINCEUR orders the deployment of the following USAFE units to provide forces to support CINCCENT: 48TFW 32 F-111F, USAFE 1 MPC, 36TFW 24 F-15C, 52TFW 12 F-4G, 10TFW 18 A-10, and 8th ASOC one ASOC. Additionally, 24 USAFE F-16s are placed on-call. (Msg (S), USCINCEUR to HQ USAFE, subj: Follow-on Air Forces, 191313Z Nov 90, GWAPS, CSS safe #2, CSS folder #21)

Support Activities: All Thanksgiving meals for USCENTAF personnel have been delivered. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 200800Z Nov 90, GWAPS, CSS #9)

Air Operations: IMMINENT THUNDER operations continue with a 296-sortie CAS exercise. SOCCENT forces have completed over 35 unannounced combat search and rescue scenarios as part of the exercise. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Nov 90, GWAPS, CSS #32)

20 November 1990
C+105

Ground Order of Battle: The British 7th Armored Brigade closes. The movement of this brigade of 140 Challenger tanks and 139 armored fighting vehicles required 42 ships. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Nov 90, GWAPS, CSS #32)

Civil Engineers: USCENTAF civil engineering emphasis remains on opening the new beddown site at Al Kharj. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 200800Z Nov 90, GWAPS, CSS #9)

Logistics: Planned USCENTCOM force increases are expected to place a heavy demand for construction of aircraft beddown and other support facilities. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Nov 90, GWAPS, CSS #32)

Air Operations: Desert Shield Phase II air and sealift operations commence. A repatriation flight with 87 passengers aboard arrives in Washington, DC. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 200400Z Nov 90, GWAPS, CSS #73)

21 November 1990
C+106

Intelligence: Higher than normal Iraqi air activity, 147 sorties, includes 32 helicopter flights, most probably moving troops along the Iraq-Kuwait border. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Nov 90, GWAPS, CSS #32)

Support Activities: USCENTAF's communications priorities include improving tactical UHF satellite communications with AWACS and ABCCC aircraft, expanding secure voice capabilities with allied forces, publishing USCENTCOM instrument approach procedures flight documents, and establishing a communications cell at the Tactical Air Control Center. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 210800Z Nov 90, GWAPS, CSS #9)

Air Operations: Exercise IMMINENT THUNDER ends with four strike packages, flown by U.S., Saudi, British, French, and Canadian forces, and a close air support package flown by U.S., Saudi, and Kuwaiti forces. The exercise ultimately involved 1,000 coalition aircraft flying 4,000 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Nov 90, GWAPS, CSS #32)

At 210920Z, a USARCENT AH-1 helicopter inadvertently fired a Hellfire missile into a USCENTAF ammo dump, at King Fahd Airport, causing a fire that destroyed a quantity of weapon components and two vehicles. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 220800Z Nov 90, GWAPS, CSS #9)

22 November 1990
C+107

Leaders: (U) President Bush visits the theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Nov 90, GWAPS, CSS #32)

Logistics: COMUSCENTAF's highest logistics priority is now on obtaining communications equipment for Al Kharj. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 220800Z Nov 90, GWAPS, CSS #9)

Planning: The first ship carrying elements of the U. S. 2nd Armored Cavalry Regiment leaves Bremerhaven, Germany. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Nov 90, GWAPS, CSS #32)

Air Operations: USCENTAF operates additional AWACS and fighter sorties to protect the presidential aircraft. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 220800Z Nov 90, GWAPS, CSS #9)

23 November 1990
C+108

Logistics: USCINCTRANSCOM requests all users to return 463L pallets and associated hardware to the airlift system to facilitate loading of Phase II equipment. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 230400Z Nov 90, GWAPS, CSS #73)

Planning: Preparations for a vast expansion of coalition forces deployed in the field continue. The United Kingdom will deploy an additional mechanized infantry brigade to the theater, with the 1st Armored Division Headquarters to control it and the 7th Armored Brigade already deployed. Also, the Syrians and Egyptians each are in the process of deploying an additional armored division to the theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Nov 90, GWAPS, CSS #32)

24 November 1990
C+109

Air Operations: Two additional KC-10s are made available in a primary cargo role. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 240400Z Nov 90, GWAPS, CSS #73)

25 November 1990
C+110

Background Events: U.S. administration officials and foreign diplomats say that the United States has enough support in the UN Security Council to gain approval of a resolution that would authorize the use of military force against Iraq if it did not withdraw its forces from Kuwait. The White House reportedly seeks a 1 January 1991 deadline, but diplomats said that no final decision has been made. There is speculation that the Security Council will set the deadline for the end of January to allow more time for last-minute attempts to promote a peaceful settlement. (*The New York Times*, 26 November 1990, p 1)

Leaders: USCINCCENT orders the deployment of four HH-60 combat search and rescue helicopters from the Pacific Command to Tabuk, SA to arrive NLT 10 Dec. (Msg (S), USCINCCENT to USCINCPAC, subj: Deployment Execution Directive, 251515Z Nov 90, GWAPS, CSS safe #2, CSS folder #21)

Intelligence: Iraqi's 117 air sorties today include six fighters performing low-level ground attack training. There is evidence that Iraq may have developed and practiced simultaneous refueling of two fighter aircraft from a modified Il-76/Candid. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Nov 90, GWAPS, CSS #32)

Support Activities: With the site layout at Al Kharj now finalized, preparations are underway to move in an Airlift Control Element (ALCE) and initial equipment packages. A USAF fire truck is now operational at the base. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 260800Z Nov 90, GWAPS, CSS #9)

Air Operations: DESERT TRIANGLE continues on a daily basis. As in all previous cases, today's package of 12 Navy aircraft draws no response from the Iraqi air defense system. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Nov 90, GWAPS, CSS #32)

26 November 1990
C+111

Background Events: While the permanent members of the UN Security Council support an authorization of force to end Iraq's occupation of Kuwait, most diplomatic sources believe that the Soviet Union's preference for a 15 January deadline will be chosen over the 1 January deadline sought by the United States. (*The Washington Post*, 27 November 1990, p 1)

Support Activities: Four more fire trucks and 23 firefighters arrived at Riyadh, bound for Al Kharj, which retains COMUSCENTAF 's logistics and construction priorities. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Nov 90, GWAPS, CSS #9)

Air Operations: A combined CAS exercise is flown involving 117 coalition aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Nov 90, GWAPS, CSS #32)

27 November 1990
C+112

Intelligence: Thunderstorms in Iraq hold the country's air activities to 45 sorties, including 37 transport and helicopter flights. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Nov 90, GWAPS, CSS #32)

Support Activities: Local authorities grant USCENTAF permission to begin operating Al Kharj runway and airfield lighting. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 280800Z Nov 90, GWAPS, CSS #9)

COMUSCENTAF requests priority shipment of a TPN-19 Precision Approach Radar system for Al Kharj, to facilitate pending arrivals of civilian air transports. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Nov 90, GWAPS, CSS #9)

Air Operations: A combined CAS exercise involving 167 aircraft is flown. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Nov 90, GWAPS, CSS #32)

28 November 1990
C+113

Intelligence: Iraqi air activity returns to normal levels, highlighted by six intelligence collection flights. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Nov 90, GWAPS, CSS #32)

29 November 1990
C+114

Background Events: The UN Security Council votes to use force against Iraq, unless that country fully complies with previous council resolutions calling for its unconditional withdrawal from Kuwait and release of foreign nationals by 15 January. (*New York Times*, 30 November, p A1; *The Washington Post*, 30 November 1990, p 1)

Intelligence: Iraqi air activity is slightly higher than normal with 148 sorties. A single Iraqi fighter orbiting 10 nautical miles from the Saudi border elicits a four-ship F-15 scramble. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Nov 90, GWAPS, CSS #32)

Air Order of Battle: Twenty USAFE F-111Fs deploy to Taif AB, SA beginning Phase II of the USAFE deployments in support of Desert Shield. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 290703Z Nov 90, GWAPS, CSS #48)

Logistics: USCENTCOM approves the immediate air movement of 272 1000-pound bombs from the UK to Diego Garcia. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 300400Z Nov 90, GWAPS, CSS #73)

Air Operations: Four combined strike packages of 16-54 aircraft each are flown, along with a CAS exercise involving 125 coalition aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Nov 90, GWAPS, CSS #32)

The first combined defense plan for Operation Desert Shield, entitled "Combined OPLAN for the Defense of Saudi Arabia" is signed and published in Arabic and English versions. The plan is to be executed in the event that Iraq invades Saudi Arabia. The plan's concept of operations has two phases: deter and defend. The deterrence phase would attempt to confront Iraq with the prospect of incurring unacceptable costs should it attack Saudi Arabia. In the event of a conflict, friendly air assets would initiate theater counterair, interdiction, and close air support. They would

also seek to destroy, delay, disrupt, or divert Iraqi forces and protect friendly units. Ground forces would delay and attrit Iraqi forces as far forward as possible, avoiding a decisive engagement and establishing defense in depth in suitable terrain. (HQ USCENTCOM and Joint Forces Theater of Operations (S), Combined OPLAN for Defense of Saudi Arabia (U), Nov 29, 1990).

Per USCENTCOM request, the RC-135s return to 24 hour operations and TR-1 missions are extended by 2 hours. (Msg (S), CINCSAC to JCS, subj: Sitrep, 300400Z Nov 90, GWAPS, CSS #85)

30 November 1990
C+115

Logistics: In an example of what was almost a daily occurrence, COMUSCENTAF requests priority air shipment of replacement parts for malfunctioning food service equipment at a USCENTAF base. Priority shipment of laundry equipment for another base is also requested. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 300800Z Nov 90, GWAPS, CSS #9)

Air Operations: To date, 1,137 patients have been medivaced within country, 1,813 medivaced to Europe, and 1,374 Desert Shield patients medivaced from Europe to the US. Total Desert Shield strategic airlift missions flown to date are 6,432 (1,791 C-5, 3,398 C-141, 211 KC-10, 1,032 commercial) that have transported 199,446 passengers and 213,810 short tons of cargo to the AOR. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 010400Z Dec 90, GWAPS, CSS #72)

1 December 1990
C+116

Air Order of Battle: U.S. aircraft in the theater now include 91 air-to-air, 284 air-to-ground, and 240 dual-role combat aircraft, backed by 452 support aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Dec 90, GWAPS, CSS #31)

Ground Order of Battle: USCENTCOM forces in the theater now total 241,720, including 31,480 in CENTAF. Major weapon systems available to U. S. ground forces in the theater now include 273 attack helicopters, 777 support helicopters, 867 main battle tanks, and 546 artillery pieces, 63 Multiple-Launch Rocket Systems and 18 Army Tactical Missile Systems.

Additionally, the British 7th Armored Brigade is reinforcing the 1st Marine Expeditionary Force with 15 helicopters, 140 Challenger tanks, 139 armored fighting vehicles and 24 artillery pieces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Dec 90, GWAPS, CSS #31)

Air Operations: A coalition air defense exercise is flown over the central and eastern sectors of Saudi Arabia. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Dec 90, GWAPS, CSS #31)

2 December 1990
C+117

Intelligence: Between 0430Z and 0515Z the Iraqis test launch 3 or 4 Scud missiles from the Al Amarah area 600 kilometers west-northwest to the Wadi Amij area. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Dec 90, GWAPS, CSS #31)

Meanwhile, the Iraqi Air Force flys 209 sorties, including one by an airborne early warning aircraft. The aircraft is noted to pass into Jordanian airspace during its mission. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Dec 90, GWAPS, CSS #31)

Support Activities: In addition to reiterating his 5 November report of the limited familiarity his units had with incoming Harvest Falcon shipments, the USCENTAF Civil Engineer points out that the planned 3-day initial issue of meals ready to eat (MREs) to deploying units was not sufficient to sustain them during deployments of this size. (USCENTAF/DE, Joint Universal Lessons Learned System (JULLS) Long Report (S), 2 Dec 1990, IRIS 00887409/K178.9301-28)

Air Operations: Due to Scud launches in Iraq, most coalition air training is cancelled to rest crews and generate aircraft for heightened alert status. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Dec 90, GWAPS, CSS #31)

USCENTAF halts all operations at 0500Z to conduct a mass load out exercise. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 030800Z Dec 90, GWAPS, CSS #8)

COMUSCENTAF reports the following sortie totals for Desert Shield to date: combat air patrols, 2,326; air-to-air (training), 3,426; air-to-ground (training), 14,621; tactical reconnaissance, 469; strategic reconnaissance,

421; electronic reconnaissance, 2,800; AWACS, 253; air refueling, 4,831; theater airlift, 17,536; for a total of 46,683. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 020800Z Dec 90, GWAPS, CSS #8)

Seven KC-10s begin support of USTRANSCOM in the pure cargo role. (Msg (S), CINCSAC to JCS, subj: Sitrep, 030400Z Dec 90, GWAPS, CSS #84)

3 December 1990
C+118

Background Events: Testifying before the Senate Armed Services Committee, the Chairman of the Joint Chiefs of Staff rejects an air power-only campaign against Iraq, saying the American military is planning a "combined overwhelming air, land, sea campaign." (*New York Times*, 4 December, p A1; *The Washington Post*, 4 December 1990, p 1)

Air Order of Battle: The USS *Kennedy* carrier battle group enters the AOR. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Dec 90, GWAPS, CSS #31)

Support Activities: USCENTAF mortuary units receive 4,100 human remains pouches of a planned 5,000-pouch shipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 040800Z Dec 90, GWAPS, CSS #8)

COMUSCENTAF reports that several varieties of viruses have been found in command computers. Virus detection software has been obtained. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 040800Z Dec 90, GWAPS, CSS #8)

Logistics: COMUSCENTAF reports the windows on F-15E Forward-Looking InfraRed (FLIR) equipment are only lasting 60 days in the AOR environment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 030800Z Dec 90, GWAPS, CSS #8)

Planning: USCINCCENT reports that the previous day's Scud launches "offered us an opportunity to evaluate and fine tune our missile warning procedures from the top down. Communications proceeded smoothly. Previously agreed upon procedures allowed SPACECOM to enter our execution net and disseminate scud launch information simultaneously to all of our components . . . . At the time of launch, four of twelve Patriot

batteries were in active TBM [theater ballistic missile] battle stations mode . . . the remaining Patriot units attained battle stations within five minutes of alert." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Dec 90, GWAPS, CSS #31)

Air Operations: To date, SAC reconnaissance aircraft have flown 428 operational sorties for a total of 4,506 hours. Also, since the onset of Desert Shield, SAC tankers have flown 10,034 sorties (over 5,000 in theater) for 45,980 hours and unloaded over 262 million pounds of fuel to 17,496 receivers. (Msg (S), CINCSAC to JCS, subj: Sitrep, 040400Z Dec 90, GWAPS, CSS #82)

4 December 1990
C+119

Background Events: Turkish President Ozal reportedly urges his nation to send a token force to Saudi Arabia and allow U.S. forces to use a key Turkish air base in the event of a war against Iraq. According to Turkish Prime Minister Yildirim Akbulut, "The conditions are changing, and if they change, we may make a decision to send troops." (*New York Times*, 5 December, p A1)

Intelligence: A recently-constructed, short-range ballistic missile storage facility is identified approximately 85 miles west of Baghdad. Also, the identification of the lead elements of a new infantry division in the KTO, brings the total of Iraqi divisions to 18 committed and 10 reinforcing. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Dec 90, GWAPS, CSS #31)

5 December 1990
C+120

Intelligence: Iraqi flight activity is 100 sorties, a more normal rate following three days of higher operating tempos. Iraqi reconnaissance flights along the western Saudi Arabian and Syrian borders, suggests increased attention to U.S. and coalition activity in these areas. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: The 14th and 15th Air Divisions (Provisional) are formed to exercise operational control of USCENTAF-assigned tactical fighter wings and combat support aircraft (electronic warfare, reconnaissance, AWACs, etc), respectively. Brigadier General Buster C. Glosson is named

14th AD(P) commander, putting him in the position of both planning and largely executing the coming air campaign. Brigadier General Glenn A. Profitt II is appointed commander of the 15th AD(P). (Msg (U), COMUSCENTAF to AIG 10322, subj: USCENTAF Organization Structure, 120600Z Dec 90)

Logistics: The first ship loaded with VII Corps equipment arrives in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Dec 90, GWAPS, CSS #31)

Air Operations: Exercise DESERT FORCE begins with a total of 10 strike training packages (243 aircraft) being flown by USCENTAF, Saudi, British, and French air forces against simulated targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 052115Z Dec 90, GWAPS, CSS #31)

Two additional SAC KC-10s are released to USTRANSCOM for use in the pure cargo role. (Msg (S), CINCSAC to JCS, subj: Sitrep, 060400Z Dec 90, GWAPS, CSS #84)

6 December 1990
C+121

Background Events: Iraqi President Saddam Hussein says that all 2,000 or more foreigners being held hostage in Iraq and Kuwait will be released promptly since Iraq no longer needs them for human shields and because he wants to make a gesture to foster stepped-up diplomatic efforts in order to avert war.

Intelligence: Continuing to reinforce the KTO, Iraq now has 18 committed and 11 reinforcing divisions in the area. Unit repositioning and new force deployments over the past three weeks focused on extending Iraqi defenses to the West. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Dec 90, GWAPS, CSS #31)

Civil Engineers: COMUSCENTAF reports USCENTCOM/J-4 approval to take delivery of materials for construction of Shaikh Isa Air Base taxiway and hardstand projects, the first such projects to use funds donated by the Japanese government. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 060800Z Dec 90, GWAPS, CSS #8)

Planning: Noting that aircraft are scheduled to bed down at Al Kharj before refuelling trucks and facilities arrive, COMUSCENTAF requests

priority airlift for the required fuel bladders and associated equipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 060800Z Dec 90, GWAPS, CSS #8)

USCINCTRANSCOM expresses his concern for the "alarming" rate of growth of air cargo sustainment requirements. He request users reexamine their requirements for conversion to sea movements. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 060400Z Dec 90, GWAPS, CSS #72)

7 December 1990
C+122

Support Activities: COMUSCENTAF requests expeditious movement of two mobile communications antennas from Lindsey Air Force Station, Germany, to Dhahran. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 070800Z Dec 90, GWAPS, CSS #8)

Air Operations: Exercise DESERT FORCE concludes with 74 aircraft in two strike packages attacking simulated targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Dec 90, GWAPS, CSS #31)

USTRANSCOM requests extreme emphasis be placed on immediate return of pallets, nets, and tie down equipment to the MAC system. They also seek approval to contract allied commercial airlift to meet the 15 January closure due to a shortage of US commercial long-range international aircraft availability through 5 Jan 91. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 080400Z Dec 90, GWAPS, CSS #72)

A French Air Force Mirage crashes 150 NM south of Dhahran killing the pilot. (Msg (S), USCENTAF/JRCC to COMUSARCENT Main, subj: Sitrep, 081500Z Dec 90, GWAPS, CSS #24)

8 December 1990
C+123

Intelligence: The movement of another Iraqi armored division into the KTO raises the total to 19 committed and 11 reinforcing divisions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Dec 90, GWAPS, CSS #31)

Logistics: COMUSCENTAF's top logistics priorities remain communications equipment, spare aircraft engines, munitions, resupply and war readiness

spares, and Harvest Falcon equipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 080800Z Dec 90, GWAPS, CSS #8)

Other activities: Exercise SEA SOLDIER III begins with a practice, silent night landing by elements of the 4th Marine Expeditionary Brigade. A second practice landing is planned for 9 Dec, followed by a full-scale exercise the next day. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Dec 90, GWAPS, CSS #31)

Air Operations: Four additional SAC KC-10s and eleven crews are released to USTRANSCOM for use in the pure cargo role. (Msg (S), CINCSAC to JCS, subj: Sitrep, 090400Z Dec 90, GWAPS, CSS #84)

European Desert Express begins operations. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 090400Z Dec 90, GWAPS, CSS #72)

9 December 1990
C+124

Background Events: More than 950 foreigners, including at least 160 Americans, leave Iraq in the first mass departure since Saddam Hussein decided to stop holding hostages.

Intelligence: At 186 sorties, Iraqi air activity is heavier than normal and includes a large intelligence collection effort for the second day in a row. These missions include two MiG-25/Foxbats over Iraqi dispersal fields, a Boeing 727 reconnaissance mission, and a single fighter sortie over southern Iraq. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Dec 90, GWAPS, CSS #31)

Support Activities: USCENTAF now has all of its order of 5,000 human remains pouches. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 090800Z Dec 90, GWAPS, CSS #8)

Civil Engineers: COMUSCENTAF reports that the RED HORSE team building a cantonment area at King Khalid Military City is short a Harvest Falcon water distribution system, while other engineers installed US aircraft arresting barriers at Al Kharj, since the Host Nation barriers were inadequate. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 090800Z Dec 90, GWAPS, CSS #8)

Logistics: Food service equipment and spare parts continue to be a USCENTAF logistics concern. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 090800Z Dec 90, GWAPS, CSS #8)

Planning: SAC requests the call-up of 14 Air Reserve Component KC-135E units and one KC-10 reserve unit. (Msg (S), CINCSAC to JCS, subj: Sitrep, 100400Z Dec 90, GWAPS, CSS #84)

10 December 1990
C+125

Intelligence: There remain 19 committed and 11 reinforcing Iraqi divisions in the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Dec 90, GWAPS, CSS #31)

Support Activities: USCENTAF is still awaiting publication of the AOR flight information document by the Defense Mapping Agency. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 100800Z Dec 90, GWAPS, CSS #8)

Civil Engineers: The RED HORSE team at Al Kharj has erected five of seventeen K-Span munitions shelters and is making good progress on the others. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 100800Z Dec 90, GWAPS, CSS #8)

Logistics: Purchase of 7,800 additional pallets is approved. Production is scheduled to begin in two weeks with request for supplemental funding ($22M) on hold pending Congressional approval. HQ USAF seeks 463L pallets from allied nations and contributions from Japan to support additional purchases. Present return rates and production capability is deemed inadequate to meet AOR requirements. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 110400Z Dec 90, GWAPS, CSS #72)

Air Operations: SAC deploys the 9th RTS Mobile Imagery Processing and Exploitation (MIPE) system to Riyadh. Per CENTAF request, RC-135 operations return to 12/24 hour schedule. (Msg (S), CINCSAC to JCS, subj: Sitrep, 110400Z Dec 90, GWAPS, CSS #84)

In addition to normal surveillance and air defense operations, an F-16 drops simulated leaflets from 4,500 ft and 15,000 ft to refine release parameters and measure leaflet dispersal patterns. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Dec 90, GWAPS, CSS #31)

Other Activities: Exercise SEA SOLDIER III conducts a silent, night amphibious assault by four Marine Expeditionary Brigade elements, followed by a heliborne assault. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Dec 90, GWAPS, CSS #31)

11 December 1990
C+126

Background Events: According to the US State Department, nearly all Americans who want to leave Kuwait and Iraq have done so following an American evacuation flight with no Americans on board; this confirms that approximately 310 U.S. citizens have chosen to remain in Kuwait while as many as 200 Americans voluntarily remain in Iraq. (*New York Times*, 12 December, p A1; *The Washington Post*, 12 December 1990, p 1)

Air Order of Battle: Twelve F-111Fs from the 48th Tactical Fighter Wing, RAF Lakenheath, UK, deployed to Taif, SA. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 120703Z Dec 90, GWAPS, CSS #47)

Support Activities: USCENTAF staff is working to expedite delivery of Christmas decorations to USCENTAF field kitchens, despite cargo movement priorities that blocked their shipment at Dover AFB, Delaware. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 110800Z Dec 90, GWAPS, CSS #8)

Civil Engineers: The RED HORSE team at Dhahran has constructed three hot-pit refueling pads at Dhahran and is now laying the asphalt taxiways into them. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 110800Z Dec 90, GWAPS, CSS #8)

Logistics: COMUSCENTAF reports a shortfall of 1,000 bundles of AM-2 matting for constructing aircraft parking and taxi surfaces. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 110800Z Dec 90, GWAPS, CSS #8)

Air Operations: HQ SAC provides an additional seven KC-10s and fourteen crews for use in the pure cargo role. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 100400Z Dec 90, GWAPS, CSS #72)

Airlift of a Czechoslovakian chemical decontamination battalion begins. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 120400Z Dec 90, GWAPS, CSS #72)

HQ USAF approves the SAC request to call-up 14 Air Reserve Component (ARC) KC-135E units. (Msg (S), CINCSAC to JCS, subj: Sitrep, 120400Z Dec 90, GWAPS, CSS #84)

The ARC call-up affects 12 of 13 Air Guard units and 2 of 3 AF Reserve units. A total of 130 KC-135Es are being called for with 72 slated for the AOR and 58 covering continental US requirements. One AF Reserve KC-10 ops squadron and its associated maintenance squadron is included. (Msg (S), CINCSAC to JCS, subj: Sitrep, 150400Z Dec 90, GWAPS, CSS #84)

Other Activities: SEA SOLDIER III continues, with over 2600 4th Marine Expeditionary Brigade troops ashore. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Dec 90, GWAPS, CSS #31)

12 December 1990
C+127

Intelligence: The Iraqis now have 20 committed and 11 reinforcing divisions in the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Dec 90, GWAPS, CSS #31)

Meanwhile, they fly an unusually high 213 sorties, including 139 by fighters, 40 transport sorties and 3 for reconnaissance purposes. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Dec 90, GWAPS, CSS #31)

Support Activities: The Al Kharj air traffic control (ATC) radar survey is complete. USCENTAF is now awaiting the arrival of a TPN-19 radar from Germany. The ATC radar at King Fahd Air Base is in place and undergoing final installation. Other USCENTAF communications projects include improving E-3 and EC-130 tactical satellite communications, establishing a Control and Reporting Center and Air Support Operations Center at King Khalid Military City, and expanding secure voice communications with allied forces. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 120800Z Dec 90, GWAPS, CSS #8)

USCENTAF also reports that the Defense Mapping Agency now expects to publish the AOR/USCENTCOM Flight Document by 24 December. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 120800Z Dec 90, GWAPS, CSS #8)

Planning: DOD authorizes USCINCTRANS to contract with NATO foreign flag air carriers to the extent necessary (and possible) to meet Desert Shield

airlift requirements - recognizing constraints due to the holiday season. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 130400Z Dec 90, GWAPS, CSS #72)

Air Operations: U. S. and Saudi AWACS provide continuous coverage of Kuwait and southern Iraq. One hundred and twenty-nine aircraft fly in support of a close air support exercise, while one hundred and forty-one others support four exercise strike packages. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Dec 90, GWAPS, CSS #31)

13 December 1990
C+128

Intelligence: At 188 sorties, Iraqi air activity remains above the established daily average of about 143. Today's air activity suggests preparation for deep strike missions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Dec 90, GWAPS, CSS #31)

Also, fire trenches constructed by Iraqi ground forces are noted for the first time in the vicinity of the tri-border area. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Jan 91, GWAPS, CSS #30)

Logistics: 5,000-pound capacity cargo tie down straps are in extremely short supply. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 132013Z Dec 90, GWAPS, CSS #106)

14 December 1990
C+129

Background Events: Testifying before Congress, Retired Gen Charles L. Donnelly, former Commander of U.S. Air Forces Europe, estimates that U.S. air forces flying 20,000 sorties in the first 10 days of a war with Iraq would lose approximately 100 aircraft. He also suggested that the United States could keep Israel out of the war by striking ballistic missile sites in northern and northwestern Iraq. (Aviation Week and Space Technology, 14 Dec 90, p 17)

Intelligence: Iraqi air activity decreases markedly to 98 sorties, probably due to the Moslem holy day, aircrew rest, and aircraft maintenance requirements. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Dec 90, GWAPS, CSS #31)

Ground Order of Battle: Combat and support personnel of the 2nd Marine Division and 2nd Marine Air Wing begin to arrive in the theater. Meanwhile, the French announce plans to reinforce their 6th Light Armored Division (-), already deployed in north-central Saudi Arabia, with an armored, a mechanized infantry, a helicopter and an artillery battalion. This movement should be complete by 15 January, and will add about 4,000 troops to the 5,000 already in the division. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Dec 90, GWAPS, CSS #31)

Logistics: HQ USAF approves a Group B Modification for 200 KC-135s to be fitted with a single VHF radio, providing a configuration of one VHF and two UHF radios per aircraft. A team of 44 personnel from Tinker AFB, OK will arrive in Riyadh on 17 Dec and complete 9 tankers per day in order to complete installation on all tankers by the end of Dec. (Msg (S), CINCSAC to JCS, subj: Sitrep, 150400Z Dec 90, GWAPS, CSS #84)

Other Activities: Thirty-four hundred Marines are now ashore as part of SEA SOLDIER III. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Dec 90, GWAPS, CSS #31)

Air Operations: A C-5 repatriation flight with Ambassador Howell and seventy others arrives at Andrews AFB. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 150400Z Dec 90, GWAPS, CSS #72)

15 December 1990
C+130

Intelligence: Iraqi air activity increases to 174 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: U.S. aircraft in the theater now include 92 air-to-air, 337 air-to-ground, and 222 dual-role combat aircraft, backed by 464 support aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Dec 90, GWAPS, CSS #31)

Ground Order of Battle: Showing the early effects of the new deployments ordered by President Bush, USCENTCOM forces in the theater now total 271,127, including 34,163 in CENTAF. Major weapon systems available to U. S. ground forces in the theater now include 274 attack helicopters, 789 support helicopters, 939 main battle tanks, 542 artillery pieces, 63 Multiple-Launch Rocket Systems and 18 Army Tactical Missile Systems. Additionally, the British 7th Armored Brigade is reinforcing the

1st Marine Expeditionary Force with 15 helicopters, 140 Challenger tanks, 139 armored fighting vehicles and 24 artillery pieces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Dec 90, GWAPS, CSS #31)

Air Operations: Today's [illegible] TRIANGLE mission, this time involving 12 aircraft from the USS *Kennedy* gets the usual response from the Iraqi air defense system – nothing. Coalition air forces uncover minor communications connectivity problems in the course of a comprehensive air defense exercise over northern Saudi Arabia. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Dec 90, GWAPS, CSS #31)

After some delay, due to movement priorities, field kitchen Christmas decorations depart Dover AFB, Delaware. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 160800Z Dec 90, GWAPS, CSS #8)

16 December 1990
C+131

Background Events: CIA Director William Webster expresses his conviction that Saddam Hussein will not withdraw from Kuwait until convinced that he "is in peril of imminent military attack." Until then, Hussein is expected to stretch out the Persian Gulf crisis, possibly by staging a partial pullout or some other move short of the UN demand for a full withdrawal by 15 January. Mr. Webster adds, "I don't believe the military assessments contemplate a quick buckle." The Iraqis are set up in "a very tough, defensive land position so that much would depend on the effectiveness of an air assault . . . but we know they're pretty well dug-in and shielded." (*The Washington Post*, 16 December 1990, p 1)

Intelligence: With the identification of an heretofore unidentified Iraqi armored division in the KTO, USCINCCENT reports that all Iraqi regular army and Republican Guard heavy divisions are committed to or reinforcing the area. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Dec 90, GWAPS, CSS #31)

Civil Engineers: The USCENTAF Engineer and USCENTCOM/J-4 certify Al Kharj as ready to receive aircraft. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 170800Z Dec 90, GWAPS, CSS #8)

Support Activities: The initiation of the second phase of USCENTCOM's force buildup prompts the USCENTAF Civil Engineer to hold all construction

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projects to initial standards, with priority on constructing ammunition supply points, airfield improvements, helicopter support facilities, supply routes and forward supply points. (Msg (S), USCENTAF to AIG 10322, subj: Guidance for Programming Construction Requirements, 161409Z Dec 90, In Theater Construction Strategy file, IRIS 00887497/K178.9301-116)

Logistics: COMUSCENTAF requests CENTCOM support in obtaining C-5 support to move outsize equipment in support of the F-15E redeployment from Thumrait, Oman, to Al Kharj Air Base, just south of Riyadh. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 160800Z Dec 90, GWAPS, CSS #8)

Planning: U.S. OPLAN Desert Storm is published. The theater strategy outlined in the plan includes: defensive operations, a four-phase offensive campaign, ensuring the post-war security of Kuwait, enhancing regional security, and redeployment operations. The missions stated in the plan are to neutralize the Iraqi national command authorities, eject Iraqi armed forces from Kuwait; destroy the Republican Guard; as early as possible destroy Iraq's nuclear, biological, chemical and missile capabilities; and assist in the restoration of the legitimate government of Kuwait. The four phases of the offensive plan consist of a strategic air campaign, gaining air supremacy in the KTO, battlefield preparation, and a ground offensive campaign. (HQ USCENTCOM (TS/NF/Limdis), U.S. OPLAN Desert Storm, 16 Dec 1990)

17 December 1990
C+132

Intelligence: Returning to near-average levels, the Iraqi's fly 154 sorties, including two low-altitude intercept sorties in the Baghdad-Basra air-transport corridor. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Dec 90, GWAPS, CSS #31)

Meanwhile, Iraqi ground forces in the KTO increase to 21 committed and 11 reinforcing divisions, and continued reserve call-ups bring the Iraqi armed forces to about 1.5 million personnel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: After several weeks of preparatory construction by USCENTAF engineers, 26 F-15Es move from Thumrait Air Base, in southern Oman, to Al Kharj Air Base, in central Saudi Arabia, moving them over 500 nautical miles closer to their potential targets in the KTO.

The movement is supported by a C-5 sortie moving outsized equipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 180800Z Dec 90, GWAPS, CSS #8)

Civil Engineers: A series of training classes on the folded fiberglass mat, rapid runway repair system ends, after 151 PRIME BEEF and 1 allied personnel are trained in the system. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 170800Z Dec 90, GWAPS, CSS #8)

Logistics: COMUSCENTAF's highest security police movement priority is for Al Kharj, which currently has "more aircraft than SP's [sic], great expanses of perimeter to secure, and hundreds of third country national contractors on base." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 170800Z Dec 90, GWAPS, CSS #8)

Planning: The USCENTAF Tactical Air Control Center is reorganized. The reorganization concentrates all planning functions in a new Campaign Plans Directorate. Under Campaign Plans, the Guidance, Apportionment, and Targeting Division (GAT) contains both the Iraqi and Kuwait Theater of Operations planning groups, which are both placed under the direction of Black Hole-experienced officers, Lieutenant Colonels Dave Deptula and Sam Baptiste respectively. (USCENTAF Combat Plans Handout (S), January 1991, GWAPS, NA-20)

Air Operations: CENTAF begins changing aircraft call signs to improve operations security. The Coalition begins Operation Border Look, flying large numbers of AWACS and fighter combat air patrols near the border to condition the Iraqis to the presence of large numbers of aircraft. A two-day dissimilar aerial combat tactics training program begins, to provide training for fighter pilots and airborne warning and control system crews. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Dec 90, GWAPS, CSS #31)

18 December 1990
C+133

Intelligence: Iraqi air activity increases to the highest fighter and the third highest total sortie level observed in December, 156 and 208 respectively, mostly consisting of routine training and transport operations. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Dec 90, GWAPS, CSS #31)

Iraqi ground forces in the KTO now total 22 committed and 11 reinforcing divisions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Dec 90, GWAPS, CSS #31)

Civil Engineers: The USCENTAF Civil Engineer advises subordinate units that they may contract for essential construction, when it is "not practical, possible or realistic" for construction contracting and/or they have mutual agreement with their Saudi counterparts that the Saudi Government will reimburse the US for that construction. (Implementation Plan, USCENTAF/DE, Host/Third Nation Contributions file, IRIS 00887506/ K178.9301.125)

Civil engineering projects are approved and prioritized at the theater level at the twice-weekly meetings of the Combined Civil-Military Engineering Board. At the USCENTAF level, the RCCM (Regional Contingency Construction Management) team validates and recommends priorities for projects, in accordance with USCINCCENT guidance. (USCENTAF/DE, Procedures for Construction in the Kingdom of Saudi Arabia, in Construction Policy file, IRIS 00887497/K178.9301-116)

Logistics: To support the continued buildup in forces, COMUSCENTAF requests 200 tons per day of additional strategic airlift, between C+139 and C+148, to support the movement of 4 units into the AOR. He also adds fuels support equipment and vehicles to his logistics top priorities list for the same purpose. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 180800Z Dec 90, GWAPS, CSS #8)

Pallet covers are out of stock in the supply system. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 182104Z Dec 90, GWAPS, CSS #106)

Planning: SAC executes the call-up of selected Air Reserve Component tanker units effective 20 Dec. (Msg (S), CINCSAC to JCS, subj: Sitrep, 190400Z Dec 90, GWAPS, CSS #84)

Other Activities: CINCSAC notes that the SAC band deployment to Operation Desert Shield is paying dividends. They have already played for thousands of troops and been well received. After a two and one half hour concert at one of the tent cities, the troops were cheering for more. (Msg (S), CINCSAC to JCS, subj: Sitrep, 190400Z Dec 90, GWAPS, CSS #84)

19 December 1990
C+133

Background Events: The Secretary of Defense and Chairman of the Joint Chiefs of Staff arrive in Riyadh for briefings. The deputy commander of U.S. forces, Army Lt Gen Calvin A. H. Waller, tells the press his troops would not be ready for "combat activities" on 15 January and that he couldn't "imagine" President Bush ordering an offensive that soon. Addressing Waller's comments, the White House Press Secretary suggests that "what he really said is they might not be as ready as they would like to be . . . for all the contingencies. We are assured they will be ready to do whatever they are called upon to do." (*The Washington Post*, 20 December 1990, p 1)

Intelligence: The Iraqi's fly 191 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Dec 90, GWAPS, CSS #31)

Support Activities: USCENTAF mortuary affairs personnel meet with the Judge Advocate (USCENTAF/JA) to coordinate the disposition of the personal effects (sic) and AOR summary court martial actions of deceased personnel. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 200800Z Dec 90, GWAPS, CSS #8)

Air Operations: A SANDY BEACH exercise takes place in Qatar involving sixteen inbound U.S. fighters, six allied fighters, and Qatar's air defense. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z, GWAPS, CSS #31)

20 December 1990
C+135

Background Events: Turkey requests its NATO partners send a multinational force of air units to bolster Turkish defenses against possible border clashes with Iraq. (*The Washington Post*, 20 December 1990, p 26)

Intelligence: Iraqi air activity reaches its second highest level for December and the highest fighter activity level since September, at 210 and 170 sorties respectively. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: Twenty-four F-15Cs deploy to Al Kharj. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 210800Z Dec 90, GWAPS, CSS #8)

Security: COMUSCENTAF requests priority deployment of additional security to Al Kharj, which should occur, he believes, before additional aircraft arrive at the base. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 200800Z Dec 90, GWAPS, CSS #8)

Logistics: As the force buildup continues, COMUSCENTAF reports that the "next 30 days is [the] most important period of sustainment for USCENTAF." In addition to specific requests for war readiness spares kits and field kitchens, he sets his logistics top priorities as resupply and war readiness spares kits, POL equipment, vehicles, munitions, spare aircraft engines, and communications equipment. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 200800Z Dec 90, GWAPS, CSS #8)

HQ USAFE deploys a logistics planner to Incirlik AB to lay the initial groundwork for the reception of US (Proven Force) forces. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

Air Operations: Typhoon Russ passes Andersen AFB, Guam. Total Desert Shield B-52 sorties to date are 418 for 4,020 flying hours. Total SAC tanker sorties to date are 13,129 for 57,555 hours and offloaded 338 million pounds of fuel to 25,028 receivers. SAC reconnaissance aircraft have flown 509 operational sorties for 5347 hours to date. Per CENTCOM request, RC-135s resume 24 hour coverage of the AOR. (Msg (S), CINCSAC to JCS, subj: Sitrep, 210400Z Dec 90, GWAPS, CSS #84)

21 December 1990
C+136

Background Events: Pentagon officials, traveling with Secretary Cheney, dispute Gen Waller's comments that U.S. forces would not be ready for combat on 15 January. They issue a statement acknowledging that "some parts of the force become ready before others," but emphasize that Air Force and Navy warplanes would be prepared for combat before ground troops finish taking positions. Along with this emphasis, a senior official cited public speculation that a U.S. attack would start with an air campaign. (*The Washington Post*, 21 December 1990, p 32)

Intelligence: Iraqi air activity falls to 174 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Dec 90, GWAPS, CSS #31)

Meanwhile, Iraqi ground forces in the KTO increase again, to 23 committed and 11 reinforcing divisions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: Twenty-four F-15Cs from the 36th Tactical Fighter Wing, Bitburg, GE, and eighteen A-10s from the 10th Tactical Fighter Wing, RAF Alconbury, UK, arrive at Al Kharj and King Fahd ABs, respectively. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 210703Z Dec 1990, GWAPS, CSS #47)

Planning: USCINCEUR Crisis Action Team telefaxes an advance copy of the preliminary JTF Proven Force OPORD to HQ USAFE. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

22 December 1990
C+137

Intelligence: Iraqi air activity totals 138 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Dec 90, GWAPS, CSS #31)

Ground Order of Battle: As U.S. personnel strength in the theater reaches 303,572, the first time over 300,000, the 2nd Armored Cavalry Regiment closes, the first major ground combat unit of the Phase II deployment to do so. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Dec 90, GWAPS, CSS #31)

Logistics: In two days USAF civil engineers erect tent billeting for 2,000 people, and most of the maintenance shelters, hangers, fuel storage tanks, runway aircraft arrester systems, and the munitions storage facilities required to convert the Royal Saudi Air Force Airfield at Al Karj from a bare-base into a facility capable of handling 114 aircraft and 4,800 people. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Dec 90, GWAPS, CSS #31)

Planning: MAC is tasked to provide a C-141 to transport USS *Saratoga* casualties from Tel Aviv to Dover. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 230400Z Dec 90, GWAPS, CSS #72)

Air Operations: A successful test link is effected between the coalition air defense system in Saudi Arabia and the NATO Airborne Warning and Control System in Turkey. The coalition also conducts an air defense

exercise and continues with daily close air support training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Dec 90, GWAPS, CSS #31)

23 December 1990
C+138

Intelligence: Iraqi ground forces in the KTO total 23 committed and 11 reinforcing divisions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Dec 90, GWAPS, CSS #31)

Logistics: COMUSCENTAF requests expedited shipments of C-130 propellers to make up for unexpectedly high usage and incomplete spares stocks. Also, a propeller repair shop will be established at Sharjah, United Arab Emirates. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 230800Z Dec 90, GWAPS, CSS #8)

Air Operations: For the first time, USAF F-15s and Kuwaiti F-1s conduct combined air-to-air training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Dec 90, GWAPS, CSS #31)

USCINCEUR issues OPORD [DELETED] establishing Combined Joint Task Force - Proven Force, to support multinational force operations (" . . . to deter conflict and provide combat capability in event of hostilities.") in the USCINCCENT Area of Responsibility from Turkey. (Msg (S), USCINCEUR to CINCUSAREUR, subj: USCINCEUR OPORDER for CJTF Proven Force, 231243Z Dec 90, GWAPS, NA-185)

24 December 1990
C+139

Intelligence: A drop in Iraqi air activity, due mainly to poor weather, confirms assessments that Iraqi pilots are not adequately trained in all-weather operations. There are now 24 committed and 10 reinforcing Iraqi divisions in the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252112Z Dec 90, GWAPS, CSS #31)

Logistics: In light of the arrival, or pending arrival, of 3 additional field kitchens, COMUSCENTAF releases a training kitchen previously requested for deployment to the AOR. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 240800Z Dec 90, GWAPS, CSS #8)

COMUSCENTAF also points out that vehicles being moved into the theater by air should be delivered directly to their destinations "to avoid double handling and unnecessary line haul operations." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 240800Z Dec 90, GWAPS, CSS #8)

Air Operations: In addition to normal reconnaissance, close air support and local-orientation training, 15 USS *Kennedy* aircraft flew a simulated strike into northwestern Saudi Arabia, against defending Kuwaiti and Saudi Air Force aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Dec 90, GWAPS, CSS #31)

25 December 1990
C+140

Background Events: *The Washington Post* reports that U.S. military commanders in the Middle East cautioned Secretary of Defense Cheney and Chairman Powell against going to war with Iraq before the American force is fully prepared in early to mid-February. (*The Washington Post*, 26 December 1990, p 1)

Intelligence: Iraqi air activity totals 176 sorties, with fighters accounting for 124. (Msg (S), USCINCCENT to AIG 904, "Sitrep (U)", 262115Z Dec 90)

Thirty Iraqi fighters, from six bases, also conduct simultaneous, countrywide nighttime ground controlled intercept training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: There are now sixteen Patriot SAM batteries in country with the 11th Air Defense Artillery Brigade, six providing Anti Tactical Ballistic Missile defense for major U.S. installations in eastern Saudi Arabia. four more batteries are expected in country by 15 January 1991. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Dec 90, GWAPS, CSS #31)

26 December 1990
C+141

Background Events: Israel indicates that it will not launch a preemptive strike against Iraq, though Israeli Defense Minister Moshe Arens warns "if we are hit we shall strike back. But there is no need for panic." (*The Washington Post*, 27 December 1990, p 1)

Intelligence: Iraqi air activity totals 156 sorties, including a reconnaissance flight by a modified Boeing 727. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: Arrival of 11 more F-4Gs at Shaikh Isa Airport, Bahrain, brings the total there to 47. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Dec 90, GWAPS, CSS #8)

Support Activities: USCENTAF mortuary affairs requests USCENTAF REAR help in obtaining an additional 5,000 body pouches and 500 human remains transfer cases. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 260800Z Dec 90, GWAPS, CSS #8)

Civil Engineers: RED HORSE personnel return from Al Jubayl, Saudi Arabia, after training US Navy Seabees on using K-Span construction equipment for erecting metal buildings. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Dec 90, GWAPS, CSS #8)

Planning: USCINCCENT asserts that the "prevention of fratricide" is of great concern to himself and is the priority of Lt Gen Horner, his air defense commander. To combat the problem, all multinational forces are integrated into the overall command and control structure. U.S. and Saudi air defense forces have established a Combined Control and Reporting Center (CCRC) for the Northeastern Sector of Saudi Arabia. In addition, Syrian, Egyptian, and French liaison officers maintain 24-hour contact with their air defense forces through U.S. supplied communications equipment located in the CCRC. Early warning and weapons status information, as well as notice of friendly aircraft overflight, are passed to their respective headquarters. Another communications channel links the CCRC, through the U.S. air support operations center, to the tactical air control parties located with each nation's forces. Centralized identification and engagement control, visual recognition training during simulated CAS missions, air defense exercises, and coordinated strike and minimum risk route procedures are all being used to prevent fratricide. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Dec 90, GWAPS, CSS #31)

USTRANSCOM receives a JCS deployment order for Navy C-9s. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 270400Z Dec 90, GWAPS, CSS #72)

Planning for the beddown of twelve Navy C-9s to support Phase II passenger deployment begins. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 280400Z Dec 90, GWAPS, CSS #72)

27 December 1990
C+142

Leaders: Major General James L. Jamerson, HQ USAFE Deputy Chief of Staff for Operations is appointed JTF Proven Force Commander. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

Intelligence: Iraqi air activity totals 191 sorties, with fighter aircraft accounting for 151. USCINCCENT believes that Iraq has reached a goal of flying 25 percent of its air sorties at night. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Dec 90, GWAPS, CSS #31)

Support Activities: Two 9-1 field kitchens are now operational at Al Kharj. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Dec 90, GWAPS, CSS #8)

COMUSCENTAF reports that 1,800 radios funded by the government of Japan, along with base stations and repeaters funded by the US Air Force, will fill seventy percent of a long-standing communications requirement at the deployed wings. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Dec 90, GWAPS, CSS #8)

Security: COMUSCENTAF requests expeditious shipment of 1.3 million sandbags to the AOR for air base defense. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 270800Z Dec 90, GWAPS, CSS #8)

28 December 1990
C+143

Background Events: *The New York Times* reports that Iraq is strengthening its forces along its border with Turkey. (*New York Times*, 29 December, p 1)

Intelligence: The Iraqi's test launch a single short-range ballistic missile (probably an Al-Abbas Scud) about 735-750 kilometers, between points in southeastern and western Iraq. USCINCCENT reports that the Iraqi's protect their Scuds by dispersing their mobile erector launchers (MELs), moving the

MELs mainly at night for launches near sunset or sunrise, and concealing the MELs and Scuds in buildings or in camouflaged, earth-covered trenches. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Dec 90, GWAPS, CSS #31)

115 sorties of Iraqi air activity, include a Mirage F-1 flying within 22 nautical miles of an F/A-18 flying combat air patrol. There is no reaction by either aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: Twenty more F-15Es arrive at Al Kharj, Saudi Arabia, from the CONUS. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 290800Z Dec 90, GWAPS, CSS #8)

Medical: COMUSCENTAF reports that equipment shortages limit the newly-deployed 4th TAC Hospital at King Khalid International Airport to twenty-five operational beds. He urges special efforts to find "opportune airlift" to get medical supplies, particularly decontamination kits, to the theater. (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 280800Z Dec 90, GWAPS, CSS #8)

29 December 1990
C+144

Intelligence: Iraqi air activity reaches its highest level since the invasion of Kuwait. Sorties total 231, with fighter aircraft accounting for 175. A contributing factor to the higher count is the coverage added to the ongoing AWACS routes by E-2C Hawkeyes working in the northern Gulf. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Dec 90, GWAPS, CSS #31)

Air Operations: In addition to normal close air support training, air defense operations and local orientation flights, thirty-six CENTAF F-111s conduct a mass launch in preparation for large force generation operations. Two New Zealand Air Force C-130s join the ongoing theater airlift effort. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Dec 90, GWAPS, CSS #31)

30 December 1990
C+145

Intelligence: Iraqi air activity totals 219 sorties, including a second day of flights over the northern Persian Gulf and Kuwait in possible coastal defense and fighter sweep operations. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 312115Z Dec 90, GWAPS, CSS #31)

Air Order of Battle: Nine KC-135s arrive at AOR bases, while twenty-two F-16s deploy to Al Kharj, Saudi Arabia (two aborted for maintenance to follow later). (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep, 310800Z Dec 90, GWAPS, CSS #8)

31 December 1990
C+146

Background Events: Iraq orders 17-year-olds to report for military duty, the youngest age-group ever drafted in modern Iraq. (The *Philadelphia Inquirer*, 1 January 1991, p 1)

Intelligence: Iraqi air activity totals 107 sorties. For the second day in a row, there is no Boeing 727 intelligence collection flight over southern Iraq. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Dec 90, GWAPS, CSS #31)

Ground Order of Battle: The Syrian 9th Armored Division closes in theater - fielding: T-62 main battle tanks, artillery pieces, anti-tank weapons and air defense weapons. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 312115Z Dec 90, GWAPS, CSS #31)

Medical: The 4th TAC Hospital now has all 50 of its beds "operational." (Msg (S), COMUSCENTAF FWD to USCINCCENT, subj: Desert Shield Sitrep 310800Z Dec 90, GWAPS, CSS #8)

Logistics: CENTAF requests help in acquiring F-111 ARS antennas since five 48 TFW (deployed) aircraft are NMC-S (not mission capable - supply) for failed antennas. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 040800Z Jan 91, GWAPS, CSS #7)

Air Operations: Two U.S.-Saudi strike packages fly against French Mirage 2000s acting as opposition air defense. In addition, twelve Italian

Tornados practice air refueling from a KC-135. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 312115Z Dec 90, GWAPS, CSS #31)

1 January 1991
C+147

Intelligence: Severe weather restricts Iraqi air activity to 36 total sorties. Iraq now has 24 committed and 10 reinforcing divisions in the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitreps, 012115Z & 022115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: U.S. aircraft in the theater now include 116 air-to-air, 385 air-to-ground, and 318 dual-role combat aircraft, backed by 549 support aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Dec 90, GWAPS, CSS #31)

Following a delay at Moron AB, Spain, twenty-four F-16s from the 50th Tactical Fighter Wing, Hahn AB, Germany, deploy to Al Dhafra. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 020703Z Jan 1990, GWAPS, CSS #46)

Ground Order of Battle: USCENTCOM forces in the theater now total 334,921, including 39,028 in CENTAF. Major weapon systems available to U. S. ground forces in the theater now include 344 attack helicopters, 1016 support helicopters, 1046 main battle tanks, and 650 artillery pieces, 90 Multiple-Launch Rocket Systems and 18 Army Tactical Missile Systems. Additionally, the British 7th Armored Brigade is reinforcing the 1st Marine Expeditionary Force with 15 helicopters, 117 Challenger tanks, 111 armored fighting vehicles and 24 artillery pieces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Dec 90, GWAPS, CSS #31)

Logistics: COMUSCENTAF top logistics priorities are: resupply/WRSK, POL issues, vehicles, munitions, spare aircraft engines and props, and communications equipment. Logistics assessment is satisfactory. Overall aircraft mission capable rate is 92.8 percent. MICAP parts backlog is 305. Days sustainability of rations is 78 for B-rations and 75 for MREs based on 37,500 personnel to support. CENTAF personnel strength in AOR totals 39,028. CENTAF communications priority projects are: airborne radio relay capability for UHF/VHF; E-3/EC-130 TACSAT engineering assistance; ground-air transmit/receive relay sites for AWACS/ABCCC; Land mobile radios (LMR) for wing support; CRC and ASOC beddown at KKMC; Giant Voice alerting systems; allied secure voice program; mini-multiplex equipment;

electronic warfare reprogramming; CAMS/SBSS; USCENTCOM flight document; and comm center phase II equipment. (Msg (S) COMUSCENTAF to AIG 9671, subj: Sitrep, 020800Z Jan 91, GWAPS, CSS #7)

Planning: Air campaign priorities for countering an Iraqi invasion of Saudi Arabia remain: counterair, close air support, and interdiction. (Msg (S) COMUSCENTAF to AIG 9671, subj: Sitrep, 020800Z Jan 91, GWAPS, CSS #7)

Air Operations: A total of 311,644 passengers and 307,742 tons of cargo have been moved in support of Desert Shield to date. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 012100Z Jan 91, GWAPS, CSS #105)

Aeromedical evacuations to date (read patient numbers as litter/ambulatory): Cumulative theater - 409/1276; cumulative strategic to Europe - 976/1644; strategic aeromedical evacuation of Desert Shield patients from Europe to Conus - 490/1522. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 012100Z Jan 91, GWAPS, CSS #105)

Total missions offloaded in AOR: C-5 1987, C-141 4192, KC-10 287, Commercial 1451, total 7917. Total missions completed to date: C-5 2373, C-141 4824, KC-10 333, Commercial 1663, total 9193. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 012100Z Jan 91, GWAPS, CSS #105)

Training, reconnaissance, electronic combat, command and control, air refueling, and airlift sorties flown total 451 sorties. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 020800Z Jan 1991, GWAPS, CSS #7)

2 January 1991
C+148

Background Events: NATO approves the Turkish request for the protective deployment of the 42 fighter aircraft and 470+ personnel of the Allied Commander Europe Mobile Force's rapid reaction force. (*The Washington Post*, 3 January 1991, p 17)

Leaders: CJTF Proven Force briefs CENTAF FWD staff on JTF Proven Force concept of operations and coordinated air tasking order procedures for offensive operations conducted by USAFE aircraft from Turkish bases. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

Intelligence: Continued poor weather holds Iraqi air activity to 37 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: Eighteen F-16s arrive at Al Kharj. (Msg (S) COMUSCENTAF to AIG 9671, subj: Sitrep, 030800Z Jan 91, GWAPS, CSS #7)

Logistics: LANTRIN FLIR windows continue to deteriorate rapidly. In addition to 21 degraded windows previously reported (F-15E), five F-16 windows deteriorated to the point that video reception is degraded and expected to be totally unserviceable in a few more sorties. Other FLIR windows are also showing signs of deterioration. Desert Express flights have not been used for "9AU" (priority parts) shipments to Cairo West and Shaikh Isa so shipments have been held in the US awaiting scheduled flights to these sites - CENTAF notes that they are eligible for Desert Express flights. T-1 commercial satellite comm links is added to the comm priority projects list. Expected closure of all medical assets is expected by C+161. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 030800Z Jan 91, GWAPS, CSS #7)

Air Operations: Six Navy C-9s flew their first common-user airlift missions today in support of USCENTCOM unit movement. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 030400Z Jan 91, GWAPS, CSS #71)

Total sorties flown by CENTAF today is 567. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 030800Z Jan 91, GWAPS, CSS #7)

3 January 1991
C+149

Intelligence: Iraqi air activity increases to a still-below-average 93 sorties. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Jan 91, GWAPS, CSS #30)

On the ground, USCINCCENT estimates that Iraq has 532,900 personnel, 4,000 tanks, 2,700 armored personnel carriers and infantry fighting vehicles, and 3,020 artillery pieces arrayed against the 580,000 multinational troops in the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Jan 91, GWAPS, CSS #30)

Support Activities: The 4th Tactical Fighter Wing (Provisional) reports that maintenance problems with the emergency power units of newly-

arrived F-16s stemmed from their arrivals during ongoing sand storms. (Historical Report, 4 TFW (P), Executive Summary, 1-5 Jan 1991, IRIS 00881104/K-WG-4-HI)

Logistics: Newly arrived F-15Es deployed with modules not compatible with chaff and flares currently on station. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 040800Z Jan 91, GWAPS, CSS #7)

Air Operations: Total sorties flown by CENTAF today is 689, with the increase being in air-to-air and air-to-ground training. An exercise was conducted to test ability to rapidly increase from one to four the number of airborne AWACS. The exercise consisted of scrambling air defense alert aircraft to provide CAP of high value assets, generating of one and two hour air defense alert aircraft to 5-minute status, and scrambling tankers to support additional AWACS and CAPS. An air defense exercise was conducted in conjunction with the scrambling of additional air defense assets, simulating attacks against KKMC and Riyadh, and exercising SAM weapon systems. The exercise included Saudi and RAF assets. (Msg (S) COMUSCENTAF to AIG 9671, subj: Sitrep, 040800Z Jan 91, GWAPS, CSS #7)

4 January 1991
C+150

Intelligence: Most of Iraqi's 48 sorties today are transport missions into the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Jan 91, GWAPS, CSS #30)

Support Activities: COMUSCENTAF directs the USCENTAF Staff Weather Officer to begin providing an updated long-range planning forecast every two days. The SWO provided this data both to COMUSCENTAF and the Director of the Guidance, Apportionment, and Tasking Section of the Tactical Air Control Center, Brigadier General Buster C. Glosson. (Air Weather Service, "Air Weather Service Contribution to Winning the War–The Value of Weather Support: Operation Desert Storm/Desert Shield Report 1," 23 May 1991, p 10, GWAPS, NA-76)

Logistics: CENTAF requests expeditious release of mission essential items originating from Defense Logistics Agency depots. Total CENTAF personnel in AOR is 40,708. Lack of air traffic controllers is hampering flight operations at King Fahd. CENTAF/SGAO is preparing a contingency support plan to provide details on actions to be taken by TAC medical

forces at D-day. (Msg (S) COMUSCENTAF to AIG 9671, subj: Sitrep, 050800Z Jan 91, GWAPS, CSS #7)

Air Operations: Daily coalition air defense, strike and close air support (CAS) training programs continue, including 144 CAS sorties in northeast Saudi Arabia. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Jan 91, GWAPS, CSS #30)

Total sorties flown by CENTAF today is 762. An AC-130 and three C-130s are deployed to Mombasa, Kenya to support Operation Eastern Exit, non-combatant evacuation operations from Magadishu, Somalia. Aircraft will redeploy to unit beddowns upon completion. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 050800Z Jan 91, GWAPS, CSS #7)

5 January 1991
C+151

Intelligence: Iraqi air activity remains below average levels at 60 sorties, and transport missions account for more than fifty percent of this activity. Analysts note that the lack of normal air activity during the previous four days has increased the number of sorties Iraq could fly in support of offensive or defensive operations. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: Sixteen A-10s and six OA-10s arrive at King Fahd. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 060800Z Jan 91, GWAPS, CSS #7)

Logistics: Analysis is needed to determine why ARS antennas are failing at such an accelerated rate. Completed first training class of AOR mortuary augmentees to support expanded operations, if necessary. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 060800Z Jan 91, GWAPS, CSS #7)

Air Operations: The coalition conducts an extensive air defense exercise, complete with "fakers," AWACS, airborne combat air patrol aircraft, ground alert combat air patrol aircraft, and air defense command and control agencies. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 052115Z Jan 91, GWAPS, CSS #30)

Total sorties flown by CENTAF today is 771. A second AC-130 is sent to support Operation Eastern Exit. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 060800Z Jan 91, GWAPS, CSS #7)

6 January 1991
C+152

Intelligence: Iraqi air activity totals 88 sorties, including 64 by fighter aircraft. USCINCCENT believes Iraqi air activity will increase in an attempt to reach operational proficiency prior to 15 January. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Jan 91, GWAPS, CSS #30)

Logistics: Harvest Falcon equipment is added to COMUSCENTAF's list of top logistics priorities. Mission critical parts total 333 and expeditious shipment of three F-15 rudders and a F-16A bleed air valve is requested. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 070800Z Jan 91, GWAPS, CSS #7)

Air Operations: Combined U.S. and allied training included dissimilar aerial combat tactics, low-level navigation, surface attack, and air refueling operations. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Jan 91, GWAPS, CSS #30)

Total sorties flown by CENTAF today is 551. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 070800Z Jan 91, GWAPS, CSS #7)

7 January 1991
C+153

Background Events: U.S. military leaders reportedly decide against using nuclear or chemical arms to destroy Iraqi military installations or retaliate against Iraqi poison gas or germ warfare attacks. This decision is believed to reflect high confidence in U.S. conventional firepower, as well as a desire not to compound the already unpredictable political consequences of a potential military conflict. (*The Washington Post*, 7 January 1991, p 1)

Intelligence: Iraqi ground forces in the KTO now stand at 24 committed and 11 reinforcing divisions, armed with 4,000 main battle tanks, 2,500 armored-fighting vehicles, and 3,000 artillery pieces. The Iraqi Air Force is estimated at 700 aircraft plus helicopters; however, pilot proficiency is considered low. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Jan 91, GWAPS, CSS #30)

Poor weather holds Iraqi air activity to 59 sorties, including only 17 by fighters. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Jan 91, GWAPS, CSS #30)

Ground Order of Battle: The final ships carrying the French 6th Armored Division (7,100 personnel) and the Egyptian 4th Armored Division (13,700 personnel) close at Yanbu, on the Red Sea. Due to time involved in assembly and road-march to Northern Area positions, these units are not expected to be ready for combat until 15 and 11 January, respectively. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 052115Z Jan 91, GWAPS, CSS #30; Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Jan 91, GWAPS, CSS #30)

Air Operations: Exercise FISH BARREL begins with 266 simulated close air support and air interdiction sorties by coalition aircraft. For the first time, six B-52s complete a strike training mission in northeast Saudi Arabia. A CENTAF/USMC/Italian Air Force package conducts simulated strikes against Al Dhafra airfield and an industrial complex in the United Arab Emirates. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Jan 91, GWAPS, CSS #30)

Daily flights (one C-141 and one C-5) begin using Eastern European flight routing. Plans are in the making for possible use of Eastern European routing for Navy C-9s. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 050400Z Jan 91, GWAPS, CSS #71)

JTF Proven Force is activated at Ramstein AB, Germany effective 0800Z. Concurrently, the Turkish General Staff approves the deployment of a small ADVON to Incirlik AB. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

8 January 1991
C+154

Background Events: According to Congressman Les Aspin (D-Wisconsin), Chairman of the House Armed Services Committee, military action against Iraq will come in phases, beginning with an air attack. A ground attack would come as the last phase after it had been determined that Iraqi forces had been sufficiently weakened. He foresees a good likelihood of a quick allied victory. (*New York Times*, 9 January, p A1)

Intelligence: Iraqi air activity increases to 130 sorties, with fighters accounting for 89. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: Twenty-four F-16s arrive at Al Minhad and two EC-130s (ABCCC) arrive at Riyadh. An F-16 on a night interdiction training mission impacted the ground destroying the aircraft and killing the pilot. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 090800Z Jan 91, GWAPS, CSS #7)

Logistics: Currently, there is insufficient airlift to accommodate 53 short tons for J-Stars support. CENTAF requires movement of an F-15 drop tank build-up team from Holloman AFB, New Mexico, to Al Kharj and priority transport of 5 engine spares to Tabuk. All MAJCOMs, depots, and home units are ordered to replenish WRSK, HPMSK, and MSK to full authorization. Expeditious airlift is requested for GBU-27, all countermeasure munitions, and 208 AGM-65/Gs (Mavericks). Request is made for a explosive-qualified military working dog team for Al Kharj. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 090800Z Jan 91, GWAPS, CSS #7)

Air Operations: Exercise FISH BARREL continues with 575 coalition air sorties, including 285 for close air support training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Jan 91, GWAPS, CSS #30)

The twenty KC-10s currently being used for common use lift begin to be incrementally returned to SAC. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 080400Z Jan 91, GWAPS, CSS #71)

9 January 1991
C+155

Background Events: Talks between United States Secretary of State Baker and Iraqi Foreign Minister Aziz in Geneva fail to reach agreement on a peaceful resolution to the Persian Gulf crisis. (*The Washington Post*, 10 January, p A1; (*New York Times*, 10 January, p A1)

Intelligence: At 81 sorties, Iraqi air activity remains lower than normal for the seventh consecutive day. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: An E-3 AWACS and RC-135 arrive at Riyadh. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 100800Z Jan 91, GWAPS, CSS #7)

Ground Order of Battle: The British 1st Armored Division closes in the theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Jan 91, GWAPS, CSS #30)

Civil Engineers: USCENTCOM cautions that the reliability and responsiveness of host nation contractors will become "increasingly questionable" as a means to meet construction needs in the forward areas, especially if hostilities commence. (Msg (S), USCINCCENT/CCJR to Service Components, subj: Troop and Contract Construction in Support of Operation Desert Shield in Reference to Problems with Contract Construction in Theater 191800Z Jan 91, IRIS 00887500/K178.9301-119)

Logistics: COMUSCENTAF states concern for the lack of countermeasure chaff and flares, and the need for all assets required to complete CENTAF's 30 day requirement to be shipped by expeditious airlift. A limited supply of F-15C wheels exists in the AOR requiring a 6 month extension to the 24 month overhaul criteria. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 100800Z Jan 91, GWAPS, CSS #7)

Shortages of 5000-pound capacity cargo tiedown straps continue to be a problem. While contractors have delivered 20,000 and are supposed to deliver 40,000 more by the end of January, if straps are not returned from the theater the problem will reoccur. (Msg (S), MACCAT to TRANSCOM, subj: Sitrep, 092031Z Jan 91, GWAPS, CSS #105)

Assessments begin to examine the possibility of establishing an express retrograde system for reparables. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 090400Z Jan 91, GWAPS, CSS #71)

Planning: USCINCCENT now estimates that Iraq is more likely to stand and fight in Kuwait than withdraw. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Jan 91, GWAPS, CSS #30)

Air Operations: Coalition aircraft flew another 575 sorties in support of exercise FISH BARREL, including 211 for CAS training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Jan 91, GWAPS, CSS #30)

Other Activities: The 82 Airborne Division's Ready Brigade begins to move to Thumama Airfield, 30 nautical miles north of Riyadh, by theater airlift and surface transportation, to provide rear-area security for coalition forces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Jan 91, GWAPS, CSS #30)

10 January 1991
C+156

Intelligence: Iraqi air activity increases to 130 sorties, with 89 flown by fighter aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: The first E-8 Joint Stars aircraft [is scheduled to arrive] arrives at Riyadh. (Contingency Historical Report, 4409th OSW, Riyadh Air Base Master Chronology, 10 Jan 91, IRIS 00887752/K-WG-4409-SU-RE)

Logistics: One CAFMS terminal arrived damaged, so four vans are operational, providing 44 remote terminal capability. The contract for Japanese-funded land mobile radios has not been executed due to delays in contract validation, so it appears they will not arrive prior to Jan 15. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 110800Z Jan 91, GWAPS, CSS #7)

Planning: By 13 January CENTAF will establish its air-to-air and air-to-ground combat aircraft at [DELETED] of their tasked loadout [armed-and-ready] posture. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Jan 91, GWAPS, CSS #30)

Air Operations: Coalition theater airlift forces move a 101st Airborne Division (Air Assault) task force to King Khalid Military City. Fifty percent of all Patriot SAM batteries are at heightened alert condition in preparation for possible Iraqi theater ballistic missile attacks. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Jan 91, GWAPS, CSS #30)

The last KC-10s complete offload in the pure cargo role for MAC and are returned to CINCSAC. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 0110400Z Jan 91, GWAPS, CSS #71)

11 January 1991
C+157

Leaders: At CENTAF direction, CINCSAC accelerates his tanker force commitment into the AOR as he approaches the final hours of providing CINCCENT with the requested plus-up of B-52, KC-135, and KC-10 aircraft and aircrews for Operation Desert Shield. His assessment is that pre-hostility levels of 224 tankers and 353 aircrews will be attained on

13 January. (Msg (S), CINCSAC to JCS, subj: Sitrep, 120400Z Jan 91, GWAPS, CSS #83)

Air Order of Battle: Two TR-1s arrive at Taif. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 120800Z Jan 91, GWAPS, CSS #7)

Logistics: CENTAF/DO reduces the GBU-27 requirement by 400. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 120800Z Jan 91, GWAPS, CSS #7)

Air Operations: Coalition air operations included 250 close air support training sorties, night training operations for several types of combat aircraft, and continued airlift operations in support of the 101st Airborne Division (Air Assault) task force movement to King Khalid Military City. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Jan 91, GWAPS, CSS #30)

Total sorties flown by CENTAF today is 788. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 120800Z Jan 91, GWAPS, CSS #7)

12 January 1991
C+158

Background Events: Following three days of debate, Congress grants President Bush the authority to go to war against Iraq.

Intelligence: Good weather allows Iraqi air activity to rise to 221 sorties, including simulated air combat, local-area, and over water training for fighter aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: Two JSTARS aircraft arrive in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Jan 91, GWAPS, CSS #30)

Ground Order of Battle: USCENTCOM theater personnel strength passes the 400,000 mark, at 408,876. Reinforcements for the French 6th Armored Division close at King Khalid Military City, bringing along AMX-30 tanks, AMX-10 armored fighting vehicles, artillery pieces and attack helicopters. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Jan 91, GWAPS, CSS #30)

Logistics: Communications equipment is dropped from CENTAF logistics priorities. Priorities have been realigned with munitions now topping the

list. They revise the priority of preferred munitions stocks/components in the TPFDD to close at points of intended use NLT C+171. Receipt of these assets will provide a significant increase in combat effectiveness and meet 30-day stockpile objectives. Request is made to expedite POL (Jet A-1 and JP-4) resupply ships arrival to 15 Jan. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 130800Z Jan 91, GWAPS, CSS #7)

Air Operations: As F-16s begin to augment F-15s on air defense patrols, CENTAF air-to-ground and air-to-air units begin loadout [armed and ready]. Additionally, the newly-arrived, search-and-rescue, local user terminal's ability to locate the emergency beacons of downed pilots is tested. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Jan 91, GWAPS, CSS #30)

Total sorties flown by CENTAF today is 770. COMUSCENTAF begins to transition from training to wartime posture. They will fly 30 percent of a normal flying schedule, load out all air-to-air units, and load out most of the air-to-ground units. Indications are positive that Oman will approve new airway structures to keep commercial air carriers well south of Iraqi border areas. (Msg (S), COMUSCENTAF to AIG 9671, subj: Sitrep, 130800Z Jan 91, GWAPS, CSS #7)

13 January 1991
C+159

Intelligence: Inclement weather helps restrict Iraqi air activity to 142 sorties, including 61 by fighters and 56 by transports. USCINCCENT assesses that the Iraqi Air Force has had sufficient time to disperse aircraft to any of the 128 airfields in Iraq. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Jan 91, GWAPS, CSS #30)

Ground Order of Battle: VII Corps Headquarters closes in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Jan 91, GWAPS, CSS #30)

Logistics: All AGM-65/Gs have been received. Munitions in the TPFFD with a LAD (latest arrival date) of C+170 or earlier are removed from the shortfall list. 1,400 human remains transfer cases are identified for transfer from Ramstein AB, Germany, to Dhahran. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 140800Z JAN 91, GWAPS, CSS #7)

Planning: USCENTCOM and HQ Joint Force/Theater of Operations staffs approve the "Combined OPLAN for Offensive Operations to Eject Iraqi

Forces from Kuwait." The plan has four phases: preparation, which includes the forward movement of friendly troops to the Saudi-Kuwaiti border; security, which includes breaching Iraqi defenses, securing key objectives in Kuwait and positioning a screening force on the Kuwaiti-Iraqi border; defense, which incudes integrating friendly defenses; and consolidation, which includes the transitioning of responsibility for Kuwaiti security back to the government of Kuwait. The plan is issued to the field on 17 January. (HQ USCENTCOM and HQ JF/Theater of Operations, "Combined OPLAN for Offensive Operations to Eject Iraqi Forces from Kuwait (S), 17 Jan 91, GWAPS, NA-106)

The Turkish government approves the construction of 30 12-person tents to house projected Proven Force personnel at Incirlik AB and Batman AB, Turkey. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

Air Operations: Air-to-ground and air-to-air units are loaded out [armed and ready]. Meanwhile, protective air patrols increase and a tanker exercise simulates wartime operations. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Jan 91, GWAPS, CSS #30)

Total CENTAF sorties flown today is 288 - 721 were scheduled but weather required cancellation of most. An F-16 was lost 30 NM south of Al Kharj due to probable oil system failure - pilot bailed out. Load out of aircraft is completed. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 140800Z Jan 91, GWAPS, CSS #7)

14 January 1991
C+160

Intelligence: In addition to two intelligence collection flights, the Iraqi Air Force generally flew at reduced levels, concentrating fighter operations on air combat and local area training. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: The USS *Roosevelt* Carrier Battle Group arrives in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Jan 91, GWAPS, CSS #30)

Six RF-4Cs arrive at Shaikh Isa and one U-2 arrives at Taif. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 150800Z Jan 91, GWAPS, CSS #7)

Logistics: Overall aircraft mission capable rate is 94%. Engineering and services emphasis is concentrated on airfield operations and base recovery after attack (BRAAT). Total CENTAF personnel in the AOR is 45,585. CAFMS is activated at Abu Dhabi and Dubai and approved for the Canadian WOC (Wing Operations Center) at Doha. Thirty two air traffic controllers in-processed. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 150800Z Jan 91, GWAPS, CSS #7)

Planning: COMUSCENTAF publishes wartime rules of engagement (Msg (S), COMCENTAF to USCINCCENT, subj: COMCENTAF Wartime Rules of Engagement: Desert Shield, 142030Z Jan 91)

Air Operations: Total CENTAF sorties flown today is 524. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 142030Z Jan 91, GWAPS, CSS #7)

15 January 1991
C+161

Background Events: President George Bush authorizes military actions to bring about Iraq's withdrawal from Kuwait, provided there is no last minute diplomatic breakthrough and that Congress is notified. [source DELETED]

Leaders: The US Ambassador to Turkey receives formal approval from the Turkish Foreign Ministry for the "temporary" deployment of 48 additional fighters to Incirlik AB. This brings to 96 the total of combat aircraft at Incirlik. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

COMUSCENTAF assesses that "we have essentially completed deployment of USCENTAF forces for Desert Shield. We have planned, trained, and are ready to conduct air operations." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 160800Z Jan 91, GWAPS, CSS #7)

Intelligence: Iraqi forces defending the KTO include 24 committed and 11 reinforcing divisions, composed of 42 heavy (armored/mechanized) and 83 light (infantry) brigades, and fielding some 540,000 personnel, 4,200 tanks, 2,800 armored and armored fighting vehicles, and 3,100 artillery pieces. (Msg (S), USCINCCENT to AIG 704, subj: Sitrep, 152115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: U.S. aircraft in the theater now include 195 air-to-air, 477 air-to-ground, and 426 dual-role combat aircraft, backed by 749 support aircraft. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Jan 91, GWAPS, CSS #30)

Ground Order of Battle: USCENTCOM forces in the theater now total 422,041, including 3,173 SOCCENT, 245,290 ARCENT, 46,523 CENTAF, 52,160 NAVCENT and 73,662 MARCENT personnel. Major weapon systems available to U. S. ground forces in the theater now include 383 attack helicopters, 1,120 support helicopters, 1,110 main battle tanks, 2,426 other armored and armored fighting vehicles, 711 artillery pieces, 121 Multiple-Launch Rocket Systems and 18 Army Tactical Missile Systems. Additionally, the British 1st Armored Division is reinforcing VII Corps with helicopters, Challenger tanks, armored fighting vehicles and artillery pieces. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Jan 91, GWAPS, CSS #30)

Logistics: CENTAF requests immediate action to bring 200 qualified tractor trailer operators to the AOR within 48 hours to meet line haul requirements. Overall aircraft mission capable rate is 94.6 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 160800Z Jan 91, GWAPS, CSS #7)

Air Operations: Units are flying minimum schedule - coalition aircraft fly 1,200 sorties (of which CENTAF aircraft fly a total of 605 sorties). Air-to-air and air-to-ground units remain loaded out. All airfields are operational. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 160800Z Jan 91, GWAPS, CSS #7)

2

Chronology of Desert Storm

16 January 1991
C+162 D-Day

Note: Because this chronology is referenced to Greenwich Mean time (Z-time), 16 January 1991 is ascribed as "D-Day." The coalition's first weapons struck Iraqi targets at 2339Z and a commitment to hostilities occurred almost an hour before with the launching of TLAM cruise missiles at Baghdad. This contrasts with most accounts of the war, which report the war's start as 17 January, based on local Saudi time (Z-time + 3 hours or 0239L).

Background Events: Just before the commencement of hostilities, France announces that its troops will be placed under American command for "pre-determined missions" to liberate Kuwait. (*The Washington Post*, 17 January, p A27)

Intelligence: Iraq maintains twenty-four committed and eleven reinforcing divisions in the KTO which, while remaining on alert for a possible coalition attack, do not show signs of unusual dispersal. Air transport sorties dominate Iraqi Air Force operations, possibly in support of munitions build-ups at dispersal airfields. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: Fifteen of sixteen Patriot and twenty-two of twenty-two ARCENT Hawk SAM fire units are operational. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Jan 91, GWAPS, CSS #30)

The Elusive Concept Force (Special Operations Forces) and the first echelon of the Joint Task Force (Proven Force) Headquarters arrive at Incirlik AB, Turkey. Deployment of the Air Force (AFFOR) augmentation package of 48 aircraft is initiated with the arrival of four F-111E from Sigonella AB, Italy. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 170703Z Jan 90, GWAPS, CSS #46)

The arriving JTF (Proven Force) contingent at Incirlik AB, Turkey, consists of 39 headquarters personnel from Ramstein AB, Germany. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

One RC-135 arrives at Riyadh, one U-2 at Taif, six B-52s at [DELETED] and eight B-52s at Moron. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 170800Z Jan 91, GWAPS, CSS #7)

Support Activities: The USCENTAF Staff Weather Officer (SWO) briefs the Director of the Guidance, Apportionment and Tasking Section (GAT) of the Tactical Air Control Center, Brigadier General Buster C. Glosson, twice daily, and he posts Horizontal Weather Depictions and satellite weather information in the GAT's Iraq and Kuwait Planning Cells. Additionally, for targets scheduled to be hit within the next 48 hours, the Staff Weather Officer (SWO) provides target planning worksheets to the Air Tasking Order cell by 0730Z each day. (Air Weather Service, "Air Weather Service Contribution to Winning the War–The Value of Weather Support: Operation Desert Storm/Desert Shield Report 1," 23 May 1991, p 10, GWAPS, NA-531)

Logistics: Desert Shield cargo requirements now exceed the combined capabilities of available MAC organic aircraft, Civil Reserve Airlift Fleet (CRAF) Stage I, and volunteer civil aircraft, leading the SECDEF to approve activation of CRAF Stage II effective 170240Z. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 170400Z and 200400Z Jan 91, GWAPS, CSS #71)

Limited jet fuel supplies at Zaragoza Air Base, Spain, require maximum rerouting of airlift flights to other enroute facilities. 463L pallets and nets remain critical at all aerial ports of embarkation. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 170400Z Jan 91, GWAPS, CSS #71)

Planning: The JCS authorizes the evacuation of American citizens and their immediate family members from Eastern Saudi Arabia and Bahrain on DOD owned or controlled aircraft. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitreps, 170400Z and 200400Z Jan 91, GWAPS, CSS #71)

Ten B-52s will deploy from Wurtsmith AFB to [DELETED] at H+29. The Spanish government approved offensive operations from Moron Air Base. The Turkish government gives approval for the beddown of eight

additional tankers at Incirlik AB. (Msg (S), CINCSAC to JCS, subj: Sitrep, 170400Z Jan 91, GWAPS, CSS #83)

Air Operations: The airlift in support of Proven Force begins at Incirlik, Turkey with the arrival of two C-5s. 'al of 396,378 passengers and 362,631 tons of cargo have been m support of Desert Shield to date. The total number of missions d in the AOR to date is 9,194 and the total number of missions c d to date is 10,693. (Msg (S), MACCAT to USTRANSCOM, subj: Sitn 162211Z Jan 91, GWAPS, CSS #105)

Coalition air training and support operations continue at ordinary levels and patterns. The Desert Storm air campaign begins at 2339Z (170239L), when USARCENT AH-64s, led by USCENTSOC MH-53s, deliver their first ordnance against two Iraqi early warning radar sites, located about 50 nautical miles north and north north-east of Ar'Ar. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Jan 91, GWAPS, CSS #30)

17 January 1991
C+163 D+1

Leaders: Brigadier General Jamerson, Commander Joint Task Force (Proven Force) arrives at Incirlik AB, Turkey. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

Intelligence: USCINCCENT attributes minimal Iraqi Air Force reaction to Desert Storm air attacks as an effort to maximize free-fire zones for ground-based antiaircraft units, and perhaps to a reluctance to engage coalition aircraft in aerial combat. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Jan 91, GWAPS, CSS #30)

The coalition observes only 54 Iraqi combat air patrols. Since the majority of SAM attacks on coalition aircraft have been optically aimed, and emissions from Iraqi radars and electronic warfare sites have declined, USCINCCENT assess a "severe degradation in Iraq's capability to detect and/or track ingressing aircraft." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: USCINCCENT/J-3 advises COMUSCENTAF to be ready to receive Tactical Control (TACON) of Joint Task Force [Proven Force, ed.] tactical air and combat search and rescue forces based in Turkey. (Msg (TS) USCINCCENT/J-3 to Joint Staff, subj: Follow-Up Execute

Order–USCINCCENT OPORD 001 for Desert Storm, 170001Z Jan 91, GWAPS, CHC #8)

Within hours after the Turkish Parliament empowers the Turkish government to employ "those forces previously authorized at the time and in the manner the government deems appropriate to carry out UN Security Council resolutions," thirty augmentation aircraft (F-16, F-4G, EF-111A, EC-130, and E-3A) arrive at Incirlik Air Base, and by the morning of 18 January the remaining fighter aircraft are in place. (HQ USAFE/HO, *History of Joint Task Force - Proven Force* (S/NF), 13 Dec 1991, GWAPS, NA-141)

JTF Proven Force and Elusive Concept forces now consist of one C-130, two MC-130, five MH-53J, and four HC-130; fourteen F-15C, six EF-111, eight KC-135, eleven F-16 and thirteen F-4G Wild Weasel, four F-111E, and three EC-130s. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 180703Z Jan 90, GWAPS, CSS #46)

Some Proven Force operational elements begin forward deployment [DELETED]. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 180703Z Jan 90, GWAPS, CSS #46)

Support Activities: Elements of a USCENTAF Red Horse Civil Engineering Squadron have moved to King Khalid Military City Air Base to augment the construction efforts of a Saudi Contractor hampered by an "instable" labor situation. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Jan 91, GWAPS, CSS #30)

Logistics: USCINCLANT reports that, since 1 January, he has received an average of only one-third of the daily airlift he needs to maintain the combat readiness of his ships. Consequently, he has a backlog of 52 replacement aircraft engines awaiting shipment, and 578 critical repair shipments failed to move during today alone. (Msg (C) USCINCLANT to CNO, subj: Sustainment Airlift 172200Z Jan 91, NHC, 91719, CNO-DCNO Briefer Files; GWAPS, NA-524 [notes only])

COMUSCENTAF's top logistics priorities are placed on munitions, POL issues, resupply/WRSK, vehicles, Harvest Falcon equipment, and spare aircraft engines and props. Logistics assessment is satisfactory. Overall aircraft mission capable rate is 94.6 percent. He requests expeditious approval for 33 TFW (P) request for depot assistance and repair kits for permanent repair of forward cracks on leading edge of vertical stabilizers

on 16 F-15s affected. MICAP parts backlog is 216. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 170800Z Jan 91, GWAPS, CSS #7)

USCENTCOM halts return of pallets and nets from the AOR, holding them for C-130 movements. Current inventory in the US will support airlift flow for six days based on top nets available, eight days based on side nets available, and thirteen days based on pallets available. (Msg (S), MACCAT to USTRANSCOM, subj: Sitrep, 182227Z Jan 91, GWAPS, CSS #105)

Air Operations: USCINCCENT sortie recap (162300Z to 180100Z): USCENTAF-1381, USNAVCENT-415, USMARCENT (fixed-wing)-169, Allied-423. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Jan 91, GWAPS, CSS #30)

USCENTAF reports that, by 0800Z, 30 air-to-ground packages, eight air-to-air packages, and two reconnaissance packages have been flown against a variety of strategic air defense, telecommunications, command, Scud, airfield and chemical and biological weapon storage targets. Only one F/A-18 is presumed lost. Coalition air forces claim two kills and three possible kills. Approximately twelve enemy aircraft got airborne but were ineffective. One F-111 package had to divert on recovery due to fog at home base. Current operations priorities are offensive counterair and interdiction. COMUSCENTAF's evaluation is that based on information so far the " . . .campaign has been highly successful" while " . . . enemy air defenses have been ineffective." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 170800Z Jan 91, GWAPS, CSS #7)

USNAVCENT vessels launch 116 Tomahawk Land Attack Missiles (TLAMs) against Iraq. [By war's end, the Navy would launch 299 TLAMs, of which 284 successfully transitioned to sustained flight, and 75-80 percent of those would strike 174 aimpoints at 38 targets. 257 TLAMs carried unitary warheads, while 27 carried submunitions - ed]. (Andrew P. Borden, *Preliminary Assessment of Tomahawk Effectiveness in Operation Desert Storm*, Center for Naval Analysis, CRM 91-52, March 1991, pp v, 1-2)

Marine AV-8s silence Iraqi batteries firing on Marine units near the Saudi-Kuwaiti border. Coalition air forces (non-US) fly 18 percent of ATO missions, with the Saudi and Kuwait air forces flying offensive missions beyond the borders of Saudi Arabia. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Jan 91, GWAPS, CSS #30)

358-715 O—93——28 QL 3

Other Activities: The USCENTAF Joint Rescue Coordination Center reports the following incidents: 0210Z, an MH-47 helicopter, damaged by missile fire, lands safely on mattresses at Rafha; 0424Z, a Marine F/A-18 is reported hit by a SAM, causing the airplane to explode, killing the pilot; 1327Z, the emergency locator transmitter (ELT) of a RAF Tornado is initially received by AWACS, but ceased; 0609Z, an emergency transponder squawk and simultaneous bailout call are deemed bogus after a search by two USMARCENT helicopters; 1327Z, a Kuwaiti A-4 pilot ejects and lands in an area deemed high threat for combat search and rescue, but Kuwaiti resistance reports contact with the pilot; 2020Z, an RAF Tornado is reported to have flown into the ground; 2012Z, an F-15E is reported as not arriving over its target and is currently missing; 2050Z, Saudi intelligence reports a Navy A-6 down with its crew captured. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 180630Z Jan 91, GWAPS, CSS #24)

18 January 1991
C+164 D+2

Intelligence: The Iraqi Air Force conducts limited defensive and no offensive air operations, losing at least five fighters for its trouble. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Jan 91, GWAPS, CSS #30)

Except for limited artillery action along the coast and in the tri-border area, no other Iraqi ground activity was noted. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Jan 91, GWAPS, CSS #30)

Scud War: A Patriot SAM destroys a Scud missile overhead Dhahran, while USCINCCENT reports that current air operations priorities are counterair, interdiction and close air support, with "special emphasis on eliminating remaining Scud fixed and mobile launch systems." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Jan 91, GWAPS, CSS #30)

Israeli officials warn that Scud attacks against Israel cannot stand without retaliation. (*New York Times*, 19 January, p A1)

The JCS directs USCINCEUR to deploy a Patriot SAM battalion to Israel. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 190703Z Jan 91, GWAPS, CSS #46)

A-10s report ten kills on mobile Scuds south of As Salman and Mudaysis. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Jan 91, GWAPS, CSS #7)

The first Patriot missiles are delivered to Israel. (Msg (S), MACCAT to USTRANSCOM, subj: Sitrep, 19 Jan 91, GWAPS, CSS #105)

The "great Scud hunt" begins with direction that the remainder of the day is to be spent targeting Scud sites. (TACC Historian Transcripts (S), p 4, GWAPS, NA-200)

Air Order of Battle: Three B-52s arrive [DELETED]. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force is reinforced by twenty-four F-16, twenty F-15, four KC-135, two RC-135, and fourteen F-111E aircraft. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 190703Z Jan 91, GWAPS, CSS #46)

Logistics: The USCENTAF overall aircraft mission capable rate is 94.2 percent. F-15Es are expending external fuel tanks above forecasted levels. Two A-10s had minor battle damage and one B-52 had fuselage and vertical stabilizer damage. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Jan 91, GWAPS, CSS #7)

USEUCOM finalizes Proven Force airlift requirements, which are identified as force module "TTT" in the appropriate movement documents. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 190400Z Jan 91, GWAPS, CSS #71)

Air Operations: COMUSCENTAF current operational priorities are: counterair, interdiction and strategic offense, and close air support. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Jan 91, GWAPS, CSS #7)

USCINCCENT sortie recap (180100Z to 190100Z): USCENTAF-1529, USNAVCENT-233, USMARCENT (fixed-wing)-122, Allied-316. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Jan 91, GWAPS, CSS #30)

Coalition air forces continue the strategic air campaign against Iraq. Twenty-three packages attacked targets in Iraq and Kuwait. Enemy air activity was light with no air-to-air engagements. Four coalition aircraft were lost: an Italian Tornado that proceeded to its target alone, after his three wingmen aborted; a USMC OV-10; a USN A-6E; and an F-4G that ran out of fuel. Four packages of F-117s aborted due to area weather. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Jan 91, GWAPS, CSS #7)

USCINCCENT reports his belief that all eight coalition aircraft lost as of 1600Z were downed by Iraqi ground-based air defenses. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Jan 91, GWAPS, CSS #30)

Proven Force aircraft (F-111s) conduct their first mission of the war against four Early Warning (EW) sites at Basiqah Northeast, Machurah Dawg North, and Sununi. Elusive Concept forces continue deployment to, and buildup of, a forward staging base at Batman AB and prepare to conduct search and rescue operations in support of Desert Storm. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 180703Z and 190703Z Jan 91, GWAPS, CSS #46)

USCINCTRANS requests the use of US Coast Guard C-130s to provide aeromedical evacuation support within the US. Five hundred and seventy DOD dependents are repatriated from Turkey and an evacuation of American citizens from Israel by C-141 is in progress. An airfield attack at Dhahran causes only minimal disruption in Civil Reserve Air Fleet operations. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 190400Z Jan 91, GWAPS, CSS #71)

Ten SAC B-52s deploying from Wurtsmith AFB, Michigan, conduct strikes enroute to their deployment location in theater. To date, SAC active and reserve force tankers have flown 16,643 sorties and 72,073 hours in support of Desert Shield and Storm, performing 32,511 air refuelings and delivering 427 million pounds of fuel in the process. (Msg (S), CINCSAC to JCS, subj: Sitrep, 190400Z Jan 91, GWAPS, CSS #83)

Other Activities: USSOCCENT forces stand by for combat search and rescue operations. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Jan 91, GWAPS, CSS #30)

The USCENTAF Joint Rescue Coordination Center reports the following incidents: 0235Z, an Italian AF Tornado is reported downed 20 nautical miles northwest of Kuwait City with both pilots captured; 0710Z, a USMC OV-10 is reported downed 14 nautical miles northeast of Al Mishab, Saudi Arabia, with the crew captured; 1622Z, an A-6E is reported downed 30 nautical miles south-southeast of Basrah, Iraq, with no contact from the crew. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 211500Z Jan 91, GWAPS, CSS #24)

19 January 1991
C+165 D+3

Intelligence: The Iraqi Air Force continues to fly a limited number of ineffective defensive sorties. Meanwhile, USCINCCENT estimates that Iraq's 35 divisions in the KTO remain largely immobile in an effort to preserve their strength for future operations. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Jan 91, GWAPS, CSS #30)

Scud War: The United States deploys two Patriot SAM batteries to Israel, along with the American technicians needed to operate them and the two other batteries already there. Their arrival prompts Israel to say it probably will withhold retaliation for the second night of Scud attacks. (*New York Times*, 20 January, p 1.)

COMUSCENTAF makes finding and destroying Scuds his primary effort, ahead of other strategic targets and the Republican guard, although poor weather makes bomb damage assessment difficult. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 200800Z Jan 91, GWAPS, CSS #7)

Air Order of Battle: Seven more B-52s arrive in theater. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 200800Z Jan 91, GWAPS, CSS #7)

Logistics: In apparent reference to his 18 January decision to stop returning 463L air cargo pallets to the strategic airlift system, and "being aware of the urgent need for pallet return," USCINCCENT reports that "we will continue our efforts to return as many pallets and as much associated tie-down equipment as possible." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF adds munitions and F-15 external fuel tanks to his top logistics priorities, and he requests an additional 1,000 nestable F-15 tanks and 1,000 pigtails. To preclude exhaustion of M-117 general purpose bomb stocks by D+9, he also requests priority airlift for a daily resupply rate of 1,200 bombs. The overall mission capable rate is 93 percent. One B-52 and two F-16s that sustained battle damage are repairable. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 200800Z Jan 91, GWAPS, CSS #7)

Planning: COMUSCENTAF evaluates that air operations are proceeding as planned in spite of chasing mobile Scuds and bad weather. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Jan 91, GWAPS, CSS #7)

Air Operations: USCINCCENT sortie recap (190100Z to 200100Z): USCENTAF-1275, USNAVCENT-178, USMARCENT (fixed-wing)-108, Allied-302. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Jan 91, GWAPS, CSS #30)

B-52s and JTF Proven Force F-111s strike air defense, transportation, electrical and POL targets at Al Mawsil with no losses. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 190703Z Jan 91, GWAPS, CSS #46)

COMUSCENTAF reports that 26 USCENTAF strike packages attacked a variety of air defense, command and control, chemical production and storage, airfields, military supply and storage, and Republican guard targets, while 3 other packages (295 sorties) aborted for poor weather. A-10s flew 136 sorties against Iraqi forces along the Saudi-Iraqi and Kuwaiti-Iraqi borders. Coalition aircraft claim 2 Fulcrums, 2 Foxbats, and an F-1 shot down, while 2 US F-16s, 1 F-15E, and a RAF Tornado are lost, with none of the crews rescued. Additionally, a Saudi Tornado ran out of fuel following a missed approach in weather. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 200800Z Jan 91, GWAPS, CSS #7)

US Navy A-6s and A-7s make the first combat launches of the Standoff Land Attack Missile (SLAM). Also, the USS *Louisville*, submerged in the Red Sea, fired the first submarine-launched Tomahawk Land Attack Missile (TLAM) of the war. (Department of the Navy, "The United States Navy in Desert Shield/Desert Storm," 15 May 1991.)

Other Activities: The XVIII Airborne Corps, along with the attached French 6th Light Armored Division, is moving to new positions in the vicinity of Al Rafha. Meanwhile Exercise SEA SOLDIER IV begins in Oman, ultimately to involve a D-Day invasion of 8,000 marines on 26 January. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Jan 91, GWAPS, CSS #30)

USSOCCENT MH-53s, based at Rafha, conduct an unsuccessful search for a downed F-16 pilot just west of Tabil, while an MC-130 makes a successful night leaflet drop in Kuwait. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep 200825Z Jan 91, GWAPS, CSS #146)

USNAVSOC calls in three close air support missions during a mission in the vicinity of the Khaleej border station. Also, SH-3 helicopters from the USS *Leftwich* conduct an unsuccessful CSAR mission for two OV-10

pilots. (Msg (S), USCINCSOC to JCS, subj: Sitrep, 200230Z Jan 91, GWAPS, CSS #56)

The USCENTAF Joint Rescue Coordination Center reports the following incidents: 1445Z, AWACS reported that the pilot of an F-16 with fuel problems bailed out 36 nautical miles west of Jallil airfield (AFSOC helicopters with fighter support unsuccessfully searched the area for the pilot); 1557Z, an F-16 was shot down over Baghdad, but no beacon was received; 1905Z, an RAF Tornado was shot down near Talil, Iraq with no beacon or chute reported; 2203Z, an F-15E was downed near Al Qahm, with no contact after an initial possible voice contact with the crew. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 211500Z Jan 91, GWAPS, CSS #24)

20 January 1991
C+166 D+4

Intelligence: The Iraqi Air Force continues its limited defensive operations, giving no indication that it is prepared to attempt any type of offensive counterair campaign. USCINCCENT believes that the degradation of Iraqi command and control nodes, indicated by the use of visual spotters along the Saudi-Iraq border, contributes to this paltry effort. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Jan 91, GWAPS, CSS #30)

Scud War: USCINCCENT gives the Iraqi Scud force his highest targeting priority. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Jan 91, GWAPS, CSS #30)

Two Patriot batteries, deployed from Germany, are operational in the vicinity of Tel Aviv and Haifa, Israel. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 200703Z Jan 91, GWAPS, CSS #46)

COMUSCENTAF cannot make a battle damage assessment of anti-Scud attacks at this time. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 210800Z Jan 91, GWAPS, CSS #7)

Support Activities: Realizing that the ongoing theater airlift of USARCENT forces into north-central Saudi Arabia was operating with incomplete and unrepresentative weather reports, the USCENTAF Airlift Control Center (ALCC) Staff Weather Officer dispatched an Air Force observer team to Rafha. This team worked closely with the Desert Storm Forecasting Unit, at USCENTAF Headquarters, to provide accurate data and to give the

Commander of Airlift Forces hourly weather briefings. (Air Weather Service, "Air Weather Service Contribution to Winning the War–The Value of Weather Support: Operation Desert Storm/Desert Shield Report 1," 23 May 1991, p 30, GWAPS, NA-531)

Logistics: Reiterating the need for M-117 bombs, COMUSCENTAF stresses that there is no suitable substitute. He also requests that newly-developed equipment for detecting biological agents be rushed to the AOR. The overall aircraft mission capable rate is 94.7 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 210800Z Jan 91, GWAPS, CSS #7)

Planning: COMUSCENTAF assesses that the weather and the level of effort locating and destroying scuds is hindering his ability to strike other strategic targets and the Republican Guard. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 210800Z Jan 91, GWAPS, CSS #7)

Air Operations: USCINCCENT sortie recap (200100Z to 210100Z): USCENTAF-1223, USNAVCENT-1001, USMARCENT (fixed-wing)-517, Allied-1387. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF reports thirty-three packages (three Proven Force) flown against airfields, military/industrial production and storage facilities, C3, Republican Guard, and GCI sites. Thirty-one A-10 sorties attacked Iraqi forces along the Saudi border. A RAF Tornado is lost on takeoff due to flight control problems. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 210800Z Jan 91, GWAPS, CSS #7)

Proven Force forces attack targets at Kirkuk (including chemical bunkers) and Quayyarah (ammo dumps). One F-111E sustained minor battle damage. Iraqi aircraft responded to the attack and two Iraqi Mirage F-1s were destroyed in air-to-air combat. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 210703Z Jan 91, GWAPS, CSS #46)

Six SAC KC-135Es are tasked to begin the so-called "Mighty Express" airlift, on 21 January, between Moron Air Base, Spain, and RAF Mildenhall, England, to speed the movement of resupply cargo from the US to the AOR. (Msg (S), CINCSAC to JCS, subj: Sitrep, 210400Z Jan 91, GWAPS, CSS #83)

Other Activities: SOCCENT combat search and rescue forces, which include 5 helicopters, penetrate 110 nautical miles into Iraq, but lose radio contact with a downed pilot before recovering him. As part of ongoing

psychological operations, an F-16 drops a leaflet bomb over Baghdad, while Volant Solo EC-130 aircraft continue simultaneous propaganda broadcasts on FM and Iraqi tactical net frequencies. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Jan 91, GWAPS, CSS #30)

In a second combat search and rescue effort, poor weather limits the response of one MH-53. No radio contact is made with the downed crew, but an Iraqi helicopter is observed in the crash area about 30 minutes after the crew ejected. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 211100Z Jan 91, GWAPS, CSS #146)

The USCENTAF Joint Rescue Coordination Center reported the following incidents: 1815Z, the crew of an RAF Tornado encountered controllability problems and bailed out near Tabuk, being picked up by Royal Saudi Air Force helicopters. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 211500Z Jan 91, GWAPS, CSS #24)

To date over 1,000 HARMs have been launched against SAM targets. (TACC Historian Transcripts (S), p 12, GWAPS, N-200)

An MC-130 makes a night leaflet drop near the Kuwait border. A second CSAR mission was flown in daylight with A-10 escort and F-15 CAP. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 211100Z Jan 91, GWAPS, CSS #146)

The US Army fires four ATACMs at SA-2 sites in the KTO. (TACC Historian Transcripts (S), p 11, GWAPS, NA-200)

21 January 1991
C+167 D+6

Intelligence: While USCINCCENT believes the Iraqi Air Force is still capable of offensive operations, it is observed to fly less than 25 sorties and has begun operating from highway strips. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Jan 91, GWAPS, CSS #30)

A bombing attack against the Military Traffic Management Command (MTMC) outport facility in Istanbul, Turkey, is the first confirmed terrorist action against a US military facility in the USEUCOM AOR since the beginning of Desert Storm. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 240703Z Jan 91, GWAPS, CSS #46)

Scud War: According to USCINCCENT, anti-Scud missions consume a "significant portion of coalition air effort." Additionally, 37 Patriot SAMs are expended in efforts to intercept at least 10 Scuds fired at Riyadh and Dhahran. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF reports that poor weather continues to hamper Scud hunting efforts, though improving weather will allow his command to gather imagery of Scud locations struck in the last 48 hours. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 220800Z Jan 91, GWAPS, CSS #7)

Logistics: USCENTAF distributes 200 AGM-88 missiles and 1,400 GBU-12 bombs to USMARCENT, 100 Mk-20 bombs to the Italian Air Force, and 500 CBU-87 bombs to the Royal Air Force. COMUSCENTAF removes aircraft engines and C-130 propellers from his logistics top priority list, and assesses that his command has a "satisfactory" level of spares. A-10 retread tires are wearing much faster than new tires, prompting a request for shipment of all available new main tires to the AOR. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 220800Z Jan 91, GWAPS, CSS #7)

Air Operations: USCINCCENT sortie recap (210100Z to 220100Z): USCENTAF-1394, USNAVCENT-240, USMARCENT (fixed-wing)-213, Allied-246. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF reports that eighty-nine packages struck targets in Iraq and the KTO, with ten packages dedicated to reducing the combat power of Republican Guard forces in the Basrah area. Eight strike packages were canceled due to weather and two additional canceled due to tanker weather aborts. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 220800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force conducts 3 strike packages (95 sorties), against targets in Northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 220703Z Jan 91, GWAPS, CSS #46)

Weather in the AOR disrupted the strategic airlift flow for a brief period. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 220400Z Jan 91, GWAPS, CSS #71)

Other Activities: SOCCENT aircraft remain primarily on combat search and rescue alert, while an MC-130 and an F-16 drop over 1,000,000 leaflets.

(Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Jan 91, GWAPS, CSS #30)

In the first successful CSAR mission, one of two F-14 crewmembers is recovered 50 miles north of Mudaysis airfield. A package of MH-53s, A-10s, F-16s, and F-15s missed the pilot position by 30 miles due to the wrong position being passed, so they aborted the mission. However, an A-10 located the pilot and neutralized two Iraqi land rovers converging on the scene. Also, an AC-130 was engaged simultaneously by two surface-to-air missiles while conducting an armed reconnaissance mission looking for Scuds. Its evasive maneuvering resulted in exceeding engine torque and G limits. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 221050Z Jan 91, GWAPS, CSS #146)

22 January 1991
C+168 D+6

Background Events: Carrying out earlier threats, Iraqi forces set fires at two Kuwaiti oil refineries and at the al-Wafra oil field near Kuwait's border with Saudi Arabia. (Philip Shenon, "Iraq Sets Oil Refineries Afire As Allies Step Up Air Attacks; Missile Pierces Tel Aviv Shield," *The New York Times*, 23 January 1991, p 1)

Intelligence: Overall, USCINCCENT reports that defense is Iraq's most likely course of action in the KTO. While its air and ground forces have the ability to conduct offensive operations, their focus seems to be on surviving the coalition air assault and retaining the maximum amount of combat power for future operations. In keeping with this, Iraqi ground forces continue to improve their defensive positions in Kuwait, while its Air Force puts up a few defensive flights and its fragmented air defense system provides some tactical warning to ground-based air defense units. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Jan 91, GWAPS, CSS #30)

Scud War: Iraq launches at least three Scuds at Saudi Arabia and probably launches three others though these last are not engaged by USCENTCOM Patriot units. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Jan 91, GWAPS, CSS #30)

Another Scud is fired at Tel Aviv. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Jan 91, GWAPS, CSS #30)

The airlift of Patriot missiles (CJTF Patriot Defender) is completed. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 230703Z Jan 91, GWAPS, CSS #46)

Ground Order of Battle: The US 1st Armored Division closes. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Jan 91, GWAPS, CSS #30)

Logistics: The air sustainment backlog has reached 7,400 tons, so USCINCTRANS requests USCENTCOM to challenge "all, repeat all" airlift requests, and to divert more shipments to sealift, preferably before they arrive at aerial ports of debarkation. (Msg (C) USCINCTRANS to USCINCCENT/CCJ-4, subj: Sustainment Airlift, 220039Z Jan 91, GWAPS, NA-524)

COMUSCENTAF reiterates the need for more airlift to move M-117 bombs. He also states requirements for two TTU-373A/E computer control group test sets to support an additional GBU-10 commitment at Al Kharj, and for expedited shipment of ALQ-119 SASE, electronic counter measures test stations to Al Kharj. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 230800Z Jan 91, GWAPS, CSS #7)

With the supply of pallets down to eleven days, MAC plans to establish pallet recovery teams. (Msg (S), MACCAT to USTRANSCOM, subj: Sitrep, 222216Z Jan 91, GWAPS, CSS #105)

Planning: COMUSCENTAF assesses that coalition forces have established air superiority over Iraq and "can fly throughout [the] country with relative impunity." With improving weather he will place emphasis for the next 2 days on the Republican Guard. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 230800Z Jan 91, GWAPS, CSS #7)

MAC airlift assets are fully tasked in support of Desert Storm. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 230400Z Jan 91, GWAPS, CSS #71)

Air Operations: USCINCCENT sortie recap (220100Z to 230100Z): USCENTAF-1362, USNAVCENT-189, USMARCENT (fixed-wing)-149, Allied-282. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Jan 91, GWAPS, CSS #30)

C-130 theater airlift forces begin moving the 82nd and 101st Airborne divisions to attack positions near Rafha. For the first time, Qatari F-1 Mirages are scheduled to fly in a combined strike mission inside Iraq, but

are cancelled due to lack of fuel to reach the target.. Further, to reduce response time for anti-Scud alert aircraft, twelve F-16s equipped with LANTIRN all-weather targeting pods are moved to King Khalid Military City. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Jan 91, GWAPS, CSS #30)

JTF Proven Force conducts two strike packages (96 sorties) against targets in Northern Iraq. The first attack of seventy-one aircraft air aborted due to weather while the second attack of twenty-five sorties successfully attacked Mosul airfield. The USS *Virginia*, *Spruance*, and *Philadelphia* attacked the Bayji oil refinery with six TLAMs in support of JTF Proven Force. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 230703Z Jan 91, GWAPS, CSS #46)

COMUSCENTAF reports that weather continues to obscure targets, and Scuds remain the priority target. Twenty-nine strike packages were tasked, but three (one of which was Proven Force) totalling 283 sorties were cancelled due to weather. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 230800Z Jan 91, GWAPS, CSS #7)

Other Activities: An MC-130 makes another leaflet drop. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Jan 91, GWAPS, CSS #30)

The USCENTAF Joint Rescue Coordination Center reports the following incidents: 0409Z, an RAF Tornado and its crew are reported missing 10 nautical miles west of Ar Rutbah, Iraq; 0340Z the USCENTCOM Joint Operations Center reports an AV-8 crash south of Masirah, Oman, with the dead crewman recovered by USNAVCENT; an emergency locator transmitter signal is detected 47 miles west of Kuwait City, but no aircraft were reported missing and no aircraft were flying in that area and the ELT ceased before it was located. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 231500Z Jan 91, GWAPS, CSS #24)

23 January 1991
C+169 D+7

Background Events: Iraq halts distribution of gasoline in order to marshall supplies. (*New York Times*, 24 January, p A13)

Intelligence: While USCINCCENT reports that there were no air-to-air engagements between Iraqi and coalition aircraft over the past 24 hours (leaving ground-based threats as the only threat to coalition aircraft over

Iraq), he still considers defense to be their most likely action in the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Jan 91, GWAPS, CSS #30)

Scud War: Patriot SAM batteries at King Khalid Military City fire three missiles at a false target, while at Dhahran eleven are fired at five unconfirmed targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Jan 91, GWAPS, CSS #30)

Later, Iraq fires five Scuds at Saudi Arabia and one toward Israel. Defending Patriot batteries fire three missiles, for two "confirmed kills," and three others at two false targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Jan 91, GWAPS, CSS #30)

Concerned by automatic launches of Patriot SAMs against false targets, and by the "unsupportable ratio" of sixty-two missiles launched to destroy thirteen Scuds, USCINCCENT orders USARCENT Patriot batteries to operate in the manual fire mode, "unless we receive intelligence warning that supports going to automatic mode," and he makes replenishment of the Patriots his highest supply priority. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Jan 91, GWAPS, CSS #30)

The Israeli government reaffirms its decision to postpone any military action against Iraq. (*The Washington Post*, 24 January, p A1)

Ground Order of Battle: While continuing air and ground movement to attack positions near Rafha, the XVIII Airborne Corps retains only "limited ability to execute combat operations." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Jan 91, GWAPS, CSS #30)

Logistics: COMUSCENTAF reports that the overall aircraft mission capable rate is 92.8 percent and that, at current expenditure rates, he expects to run out of M-117 bombs [DELETED] by 4 Feb. Due to suspected early burst problems with the FMU-139A/B fuzes, he suspends their use. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 240800Z Jan 91, GWAPS, CSS #7)

USCINCSAC expresses concern for the limited supply of CBU-58s available for B-52 strikes. (Msg (S), CINCSAC to JCS, subj: Sitrep, 240400Z Jan 91, GWAPS, CSS safe #2, CSS folder #60)

Planning: The Headquarters USAF/XOXWF (Checkmate) targetting cell sends a protective shelter busting plan to USCENTAF via FAX at 1200Z.

That same day, F-111Fs attack shelters at Al Asad Airfield to begin a concerted campaign against Iraqi fighters being hidden in protective shelters. (AFXOXW, "Airfield Attack Plan," 23 Jan 1991, and Talking Paper, Maj Michael B. Hoyes, AF/XOXW, 071845Z Feb 91, both in GWAPS, CHST fldr #8)

USCINCCENT directs that civil affairs operations in Kuwait will be conducted to assist the legitimate government regain control of its territory, restore internal security, protect civilians, coordinate and assist in restoration of essential services, and to assist in removing hazardous materials. (Msg (S), USCINCCENT to COMUSARCENT, subj: Commanders Guidance for Civil Affairs Operations in Kuwait, 230645Z Jan 91, GWAPS, CSS safe #2, CSS folder #60)

The number of C-5s dedicated to transporting HEMTTs (heavy expanded mobility tactical truck) is increased. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 230400Z Jan 91, GWAPS, CSS #71)

Air Operations: USCINCCENT Sortie Recap (230100Z to 240100Z): USCENTAF-1679, USNAVCENT-238, USMARCENT (fixed-wing)-216, Allied-291. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Jan 91, GWAPS, CSS #30)

Twenty USCENTAF and two Proven Force strike packages attack Iraqi airfield facilities and Scud-related targets, while another eleven packages (one Proven Force) hit logistics, weapons production plants, lines of communications and C3 targets. Three TU-16 bombers are destroyed. One package is cancelled due to weather, but generally improved weather allows increased attacks against Iraqi ground forces. The Qatari Air Force flies its first interdiction missions. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 240800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force flies 3 strike packages (144 sorties) against northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 240703Z Jan 91, GWAPS, CSS #46)

At 1229Z, an AWACS reports a downed F-16 20 nautical miles southeast of Kuwait City. A USNAVCENT SH-3, supported by USNAVCENT and USMARCENT fighters, subsequently recovers the pilot. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 231500Z Jan 91, GWAPS, CSS #24)

24 January 1991
C+170 D+8

Intelligence: Five Iraqi F-1s fly into the northern Arabian Gulf. Two continue south toward coalition ships, and are shot down by a Saudi F-15 at 240935Z. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Jan 91, GWAPS, CSS #30)

USCENTCOM has observed twenty-six Iraqi aircraft crossing the Iranian border to apparent sanctuary. The Iraqis are also using fake craters and smoke generators to deceive pilots and hinder battle damage assessment of coalition airfield attacks. Overall, USCINCCENT still considers defense the most likely option of the Iraqi Air Force and the thirty-five Iraqi divisions committed to or reinforcing the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Jan 91, GWAPS, CSS #30)

JTF Proven Force notices reduced Iraqi air defense radar activity on all missions. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 250703Z Jan 91, GWAPS, CSS #46)

Scud War: Iraq launches six Scuds at targets in Saudi Arabia and Israel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Jan 91, GWAPS, CSS #30)

In response to a 23 February Joint Chief of Staff directive to move additional Patriot missiles to Israel, a C-5 mission departs Ramstein AB, GE at 240143Z Jan. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 240447Z Jan 91, GWAPS, CSS #71)

Logistics: Overall aircraft mission capable rate is 92.3 percent. A battle damaged F-16 is assessed as requiring 2 months or more to replace the wing. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 250800Z Jan 91, GWAPS, CSS #7)

Planning: USCINCCENT's air operation priorities remain counterair (Iraqi command and control facilities and airfields), interdiction (Scuds, Republican Guard Forces, leadership centers, artillery and artillery rocket sites, aircraft and Scud shelters, and lines of communication), and close air support in the event of an Iraqi counterattack. Planned targets for the next day include the Republican Guard's Hammurabi Division, Scuds, recovering airfields, undestroyed command and control bunkers, leadership and telecommunications facilities and other production and research

facilities. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF concentrates his interdiction effort on the Hammurabi Division of the Republican Guard. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 240800Z Jan 91, GWAPS, CSS #7)

Air Operations: USCINCCENT Sortie Recap (240100Z to 250100Z): USCENTAF-1741, USNAVCENT-455, USMARCENT (fixed-wing)-278, Allied-337. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Jan 91, GWAPS, CSS #30)

USCINCCENT reports that Scuds retain the highest priority for air attack, but he also places increased emphasis on attacking Iraqi airfield facilities. Using "kill-boxes" to organize their attacks, A-10s continue to strike Iraqi field forces in Kuwait. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Jan 91, GWAPS, CSS #30)

Meanwhile, USNAVCENT aircraft sink an Iraqi patrol boat and a mine layer, and conduct other strikes against naval targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Jan 91, GWAPS, CSS #30)

Improved weather provides a high sortie day, with target priorities on Scuds, airfields, and the Hammurabi division. Thirty packages (three Proven Force) were planned and two were diverted from airfields to the Republican Guard and two more "rerolled" from airfields to Scud alerts. A USNAVCENT package against naval facilities was added. A RSAF F-15 shot down two probable Iraqi F-1s while a RAF Toronado and Navy F/A-18 were lost. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 250800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force flies 3 strike packages (148 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 250703Z Jan 91, GWAPS, CSS #46)

The restriction on F-1s from Kuwait, France, and Qatar participating in combat missions due to the risk of misidentification is lifted. However, F-1s will have to be in formation with either a Kuwaiti A-4, French Jaguar, or Qatari F-16 to improve visual identification as a friendly asset. (Msg (S), TACC/DCO to All WOCs, subj: F-1 Participation in Desert Shield Operations, 240740Z Jan 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Other Activities: SOCCENT continues daily F-[illegible] and MC-130 leaflet drops and propaganda broadcasts on commercial and Iraqi tactical frequencies. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242145Z Jan 91, GWAPS, CSS #30)

The USCENTAF Joint Rescue Coordination Center reports the following events: 0432Z, A RAF Tornado is reported missing near Ar Rumaylah, Iraq. The wingman observed two flashes believed to be the aircrew's ejection, but the threat is too high for a combat search and rescue attempt. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 241400Z Jan 91, GWAPS, CSS #24)

At 1605Z, The USMARCENT Tactical Air Control Center reports a F/A-18 down 50 nautical miles north of Bahrain and 10 nautical miles north of the USS *Roosevelt*, with the pilot subsequently rescued by a helicopter from the USS *Caron*. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 251400Z Jan 91, GWAPS, CSS #24)

25 January 1991
C+171 D+9

Background Events: The United States accuses Iraq of releasing millions of gallons of Kuwaiti crude oil into the Persian Gulf. The oil slick is nine miles long, and is flowing from tankers anchored at the port of Nina Al Ahmadi, and from the Sea Island Terminal 10 miles off the Kuwaiti coast. (*New York Times*, 26 January, p 1)

The independent Soviet news agency Interfax quotes unidentified Soviet Defense Ministry officials as saying President Saddam Hussein had several top commanders shot after heavy losses in the Persian Gulf war. The Iraqi Embassy in Moscow denies the report. (*New York Times*, 26 January, p 7)

Responding to media stories that it is charging the standard commercial rate plus 50 percent to US citizens flying out of Saudi Arabia on military aircraft, HQ MAC clarifies that its rates are slightly lower than commercial rates. (Msg (S), MACCAT to USTRANSCOM, subj: Sitrep, 252153Z Jan 91, GWAPS, CSS #105)

Scud War: The US European Command reports that twenty-eight Patriot SAMs were fired to destroy all seven Scuds launched by the Iraqis against Israel. USCINCCENT reports that four Patriots were fired to successfully

destroy two more Scuds launched against Riyadh, though the "low intercept" of one warhead results in one person dead and twenty injured. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Jan 91, GWAPS, CSS #30)

Two more Patriot SAM batteries are deploying to Israel from Europe. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 260703Z Jan 91, GWAPS, CSS #46)

Air Order of Battle: Two EC-135L arrive at Riyadh. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 260800Z Jan 91, GWAPS, CSS #7)

Logistics: COMUSCENTAF reports that the overall aircraft mission capable rate is 93.1 percent, and that an F-16 with a battle-damaged stabilizer was quickly repaired and returned to mission capable status. Halon gas resupply has become critical due to surge sortie rates requiring 7500-lbs per day. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 260800Z Jan 91, GWAPS, CSS #7)

Planning: MARCENT moves its fire support coordination line 5 km into the Kuwait border to preclude the danger from friendly air strikes. [Procedurally, strikes within the FSCL must be coordinated with appropriate ground commanders, ed.]

COMUSCENTAF assesses that "strikes are exacting [a] heavy toll on Iraqi forces." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 250800Z Jan 91, GWAPS, CSS #7)

USCINCCENT guidance: 26th is Medina Republican Guard (RG) day, 27th and 28th are Adnan RG days. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Air Operations: USCINCCENT Sortie Recap (250100Z to 260100Z): USCENTAF-1526, USNAVCENT-396, USMARCENT (fixed-wing)-138, Allied-347. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Jan 91, GWAPS, CSS #30)

The Saudi, British, Canadian, French, Italian, Kuwaiti and Qatari air forces are contributing to the offensive campaign (interdiction and close air support), while the Bahrain Air Force is flying defensive patrols. One hundred A-10 sorties provide close air support to USMARCENT forces.

(Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Jan 91, GWAPS, CSS #30)

Four of twenty-eight scheduled packages (three Proven Force) are cancelled (one at JCS direction, one for lack of electronic warfare support, and two for weather), while another is added. Five packages hit Scud-associated targets, while ground attack aircraft concentrated on the Republican Guards. There were no losses. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 260800Z Jan 91, GWAPS, CSS #7)

JTF Proven Forces flies three strike packages (126 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 260703Z Jan 91, GWAPS, CSS #46)

Other Activities: The airlift portion of the XVIII Airborne Corps' movement to attack positions near Rafha is going well, but ground transport limitations are hampering the overall effort. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Jan 91, GWAPS, CSS #30)

26 January 1991
C+172 D+1

Intelligence: Some Iraqi fighters joined transport and early warning aircraft in the exodus into Iran, bringing the total of interned aircraft to at least 45. The continued destruction of Iraqi forces by the coalition air campaign leads USCINCCENT to estimate that Saddam Hussein will have to reevaluate his campaign plan in the next 24 to 96 hours. USCINCCENT believes the Iraqis are capable of responding with spoiling attacks against ground and naval forces while escalating the war through the introduction of chemical or biological weapons. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Jan 91, GWAPS, CSS #30)

The exodus of Iraqi fighters to Iran followed four days of intensive attacks on protective shelters at six Iraqi airfields. (Talking Paper, Maj Michael B. Hoyes, AF/XOXW, 071845Z Feb 91, GWAPS, CHST fldr #8)

Scud War: USCINCCENT reports that four Patriots were fired to destroy a Scud launched against Dhahran. Also, multiple night strike "responses" are launched in response to Scud launches against Saudi Arabia and Israel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Jan 91, GWAPS, CSS #30)

Later, nine Patriot SAMs are fired to destroy five of six confirmed Scuds fired at Israel. Iraq simultaneously fires one unconfirmed and one confirmed Scud at Saudia Arabia, the latter of which is destroyed by two Patriots. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Jan 91, GWAPS, CSS #30)

Dedicated Scud hunter aircraft and 4 strike packages attack Scud facilities. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 270800Z Jan 91, GWAPS, CSS #7)

Air Order of Battle: Six more F-117s arrive in the AOR. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 270800Z Jan 91, GWAPS, CSS #7)

Ground Order of Battle: The 1st Infantry Division (-) closes. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Jan 91, GWAPS, CSS #30)

Logistics: COMUSCENTAF deletes F-15 external tanks from his top logistics priorities list. Also, reporting that his units are experiencing a high usage rate of LAU-118 launchers due to hang fires, he requests rapid movement of 39 available launchers at Clark AB, Philippines, to the AOR, in addition to technical assistance teams to determine if the problem is in the launchers or missiles. The overall aircraft mission capable rate is 92.4 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 270800Z Jan 91, GWAPS, CSS #7)

Planning: COMUSCENTAF places priority on targetting the Republican Guard. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 260800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force requests an EC-130E (Volant Solo) to conduct one mission per day from Incirlik AB, Turkey. (Msg (S), USCINCEUR to JCS, subj: Volant Solo Support to JTF Proven Force, 270515Z Jan 91, GWAPS, safe #2, CSS folder #60)

Air Operations: USCINCCENT Sortie Recap (260100Z to 270100Z): USCENTAF-1635, USNAVCENT-403, USMARCENT (fixed-wing)-266, Allied-368. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Jan 91, GWAPS, CSS #30)

A strike against an anti-ship missile site in Kuwait marks the first offensive mission of the Bahrain Air Force. Four USCENTAF F-15Cs shoot down three Iraqi MiG-23s at approximately 260130Z. USMARCENT air forces experienced positive results using JSTARS to identify Iraqi logistics

sites with moving vehicles and vehicle convoys for immediate air strikes in the 1st Marine Expeditionary Force targeting area. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 262115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF reports that air supremacy is achieved as combat air patrols push further into Iraq. Twenty-one packages (two Proven Force) are flown with one package aborting due to tanker availability and one diverted from airfield to Scud storage sites and hydroelectric plants. Bridge attacks are showing effect, with eight down or significantly damaged. Good weather also enabled high sortie rates against the Republican Guards. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 270800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force launches two strike packages (95 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 270703Z Jan 91, GWAPS, CSS #46)

One hundred and one C-130 sorties are flown in the last 24 hours into Rafha Air Base, bringing the total sorties thus far utilized in moving the 101st Airborne Division there to 462. The last sortie in the movement lands at 260300Z (Msgs (S), COMUSARCENT MAIN to AIG 11743, subj: Sitreps, 260300Z and 270300Z Jan 91, GWAPS, NA- 523)

F-111Fs from Taif fly a special attack mission against the Al Ahmadi refinery and oiling bouy to stop the flow of oil into the Gulf. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Two F-111s are scrambled to attack a Kuwaiti Army post following a report from the Kuwaiti resistance that a meeting of Iraqi Army VIPs was being held in a residence there - five limos were noted parked in front of the residence and were destroyed in the attack. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Other Activities: Poor weather prevents AFSOCCENT AC-130s from flying their missions, but a command MH-53 reconnoitered burning oil platforms, while a EC-130 harassed Iraqi radio operations. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 270731Z Jan 91, GWAPS, CSS #146)

27 January 1991
C+173 D+11

Intelligence: The fifty-eight Iraqi aircraft so far observed flying into Iran now include a number of Mirage F-1s capable of firing the Exocet antiship missile. While Iraq's command, control and communications (C3) capabilities in the KTO are only "moderately degraded," USCINCCENT believes that their air defense C3 capabilities are "sorely degraded." The Iraqi logistic effort seems focused on resupplying first- and second-echelon forces. Overall, the Iraqis are expected to continue defending in place. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Jan 91, GWAPS, CSS #30)

Scud War: USCENTAF A-10s continue daytime Scud hunts, while F-15s and F-16s maintain nightime ground and air alerts and fly quick reaction strikes in response to Scud launches. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Jan 91, GWAPS, CSS #30)

Ten packages strike Scud-related targets. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Jan 91, GWAPS, CSS #7)

Logistics: USCENTAF requests assistance in conducting an ongoing investigation aimed at improving bombing accuracy with M117 retarded bombs. The 1708 Bomb Wing (Provisional) requires 4632 MAU-103 conical fins, while 33 Tactical Fighter Wing (Provisional) MC-7 air compressor availability falls below critical level, requiring expeditious shipment of air regulator valves. The overall aircraft mission capable rate is 92.9 percent. An F-117 that sustained damage to the nose and wing sections engaging the web barrier is classified as a Class B mishap. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Jan 91, GWAPS, CSS #7)

Air Operations: USCINCCENT Sortie Recap (270100Z to 280100Z): USCENTAF-1471, USNAVCENT-502, USMARCENT (fixed-wing)-169, Allied-331. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Jan 91, GWAPS, CSS #30)

USCENTAF F-111Fs score a direct hit on the manifold controlling the flow of oil from the Al Ahmadi refinery into the Arabian Gulf. USNAVCENT aircraft continue attacks on Iraqi naval targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Jan 91, GWAPS, CSS #30)

In skys "dominated" by coalition air forces, attacks on Scud facilities and airfields continue, with increasing emphasis on the Republican Guards.

Twenty-two packages (two Proven Force) fly, with one cancelling for target weather and another for tanker unavailability. Two packages are added. Three packages and additional sorties hit bridges, while four packages, seven B-52 cells and hundreds of other sorties attack the Republican Guards. Four Iraqi aircraft were shot down by USAF F-15s. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force conducts two strike packages (89 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 280703Z Jan 91, GWAPS, CSS #46)

Five SOCCENT helicopters insert VII Corps Long Range Surveillance Units into tactical sectors. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Jan 91, GWAPS, CSS #30)

KC-10s fly air refueling missions into Iraq (up to 30 degrees North latitude) in support of combat air patrol aircraft over Iraq. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

The USMC cancels their night mission to Baghdad for fear that they will run out of bombs and wouldn't be able to support ground action, even though USCENTAF had offered them all the bombs they would need. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

28 January 1991
C+174 D+12

Background Events: US forces apparently succeed in cutting off Iraq's release of crude oil into the Gulf. (*New York Times*, 29 January, p A11)

Intelligence: Iraq continues to maintain a limited air defense posture and to deploy its ground forces in static defense. USCENTCOM observed nineteen more Iraqi fighters flying into Iran, bringing the total to eighty. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Jan 91, GWAPS, CSS #30)

Scud War: Four Patriot SAMs are fired to destroy a Scud launched at Riyadh, while another Scud is allowed to impact in an unpopulated area of Israel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Jan 91, GWAPS, CSS #30)

Air Order of Battle: Assessing that his psychological operations flights are going well, UCOMAPSOCCENT realigns his forces to support the ground

campaign, by moving four MH-60Gs back to King Fahd today, and five MH-53s and two HC-130s back there on 1 February. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 290655Z Jan 91, GWAPS, CSS #146)

Ground Order of Battle: USARCENT announces that "The 1st Armored Division became the first combat ready division in the VII Corps." The other major VII Corps units also are nearing fully-deployed and ready status. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Jan 91, GWAPS, CSS #30)

Planning: COMUSCENTAF assesses that the "air campaign remains on track." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Jan 91, GWAPS, CSS #7)

COMCENTAF's priorities are: 1. Defend from air/Scud attack; 2. Kill Republican Guard; 3. Continue strategic campaign; 4. Kill artillery, armor, stocks, command posts in KTO. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

AFSOCCENT (deployed) briefs USCINCCENT on the BLU-82, fuel-air bomb, and anticipates a requirement for eight. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 290655Z Jan 91, GWAPS, CSS #146)

Air Operations: USCINCCENT Sortie Recap (280100Z to 290100Z): USCENTAF-1670, USNAVCENT-300, USMARCENT (fixed-wing)-223, Allied-430. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Jan 91, GWAPS, CSS #30)

Three F-15 barrier patrols are established along the Iraqi-Iranian border, resulting in the shoot down of an Iraqi F-1 or MiG-23. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 282115Z Jan 91, GWAPS, CSS #30)

USNAVCENT aircraft conduct several strikes against naval targets in the northern Gulf. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF reports thirty-eight packages (two Proven Force) flown. Ten (seven included B-52s), two additional B-52 strikes, and hundreds of separate ground-attack sorties pound the Adnan Republican Guard division around the clock. Seven packages struck petroleum targets, and three packages augmented by F-117s hit bridges to cut off supplies to the KTO.

Proven Force F-15s shot down a suspected Flogger. One USMARCENT AV-8 is shot down over Kuwait with the pilot listed as missing. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 290800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force conducts two strike packages (88 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 290703Z Jan 91, GWAPS, CSS #46)

Other Activities: Combined MC- and EC-130 psyop campaign flights were assessed as having gone well. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep 290655Z Jan 91, GWAPS, CSS #146)

0747Z - MARCENT rescue coordination center reports a AV-8B missing over its target area 28 miles SSE of Kuwait City. The wingman reports no ejection, no emergency beacon, and no ground impact observed. Navy and Marine aircraft search the area with negative results. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 281400Z Jan 91, GWAPS, CSS #24)

A-10s and F-4Gs attack an SA-3 site NW of Ali Al Salem AB - signaling "the birth of the 'wart weasel'." (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

29 January 1991
C+175 D+13

Background Events: Baghdad reports that an allied pilot, apparently detained as a "human shield", is killed in an allied bombing raid. (*New York Times*, 30 January, p A8)

Intelligence: USCINCCENT reports that, in their efforts to preserve their air forces, the Iraqis have now flown 82 aircraft to Iran, and they are removing aircraft from hardened shelters and dispersing them to other points on their airfields, in some cases in close proximity to buildings housing civilians. He further expects Iraqi forces in Kuwait and southern Iraq to remain largely immobile, and that Saddam Hussein will employ chemical weapons, if he believes those forces are being rendered combat ineffective. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Jan 91, GWAPS, CSS #30).

Logistics: The USCENTAF overall aircraft mission capable rate is 93.3 percent. COMUSCENTAF requests delivery of 100 AGM-65G missiles to King Fahd Airport, not later than C+189, and expeditious shipping of 600

GBU-10 bombs and fuzes to Taif Air Base. He is also seeking an expeditious resolution of an F-16 wing flutter problem. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 300800Z Jan 91, GWAPS, CSS #7)

Air Operations: USCINCCENT Sortie Recap (280100Z to 290100Z): USCENTAF-1670, USNAVCENT-300, USMARCENT (fixed-wing)-223, Allied-430. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Jan 91, GWAPS, CSS #30)

Benefiting from good weather, Coalition air forces fly 28 strike packages (two Proven Force), with four packages containing B-52s. Seventeen packages and seven B-52 cells, and hundreds of individual sorties hit Republican Guards and related targets. Joint STARS aircraft provided targetting guidance for F-15Es. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 300800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force conducts 2 strike packages (97 sorties) against targets in northern Iraq, though poor weather prevented the first package (58 aircraft) from attacking facilities at the airfields at Mosul and Qayyarrah due to weather over the target. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 300703Z Jan 91, GWAPS, CSS #46)

APSOCCENT reports that one of its AC-130s finally "got to shoot" during the night. (Msg (S), APSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 300755Z Jan 91, GWAPS, CSS #146)

Other Activities: Exercise SEA SOLDIER IV begins to wind down, after over 6,500 marines are put ashore in Oman. Volant Solo psychological operations precede B-52 strikes against the Iraqi 20th Infantry Division with "personalized" leaflets warning division personnel of the coming strikes and advising them that, "If you want to live, leave now. Do not allow anyone to stop you. Save yourself by fleeing south. If you choose to stay, you choose death." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 292115Z Jan 91, GWAPS, CSS #30)

30 January 1991
C+176 D+14

Intelligence: USCINCCENT reassesses the Iraqi ground order of battle in the KTO as twenty-three committed, nine reinforcing, and eight theater-reserve divisions, though the actual strength or composition of those forces remained unchanged. Between late evening 29 January and the early morn-

ing of 30 January, the Iraqis launch at least four separate batallion-size attacks along the eastern Saudi-Kuwait border, including one that penetrated to Al Kafji. Tactical air strikes were important to containing or reducing all of the Iraqi attacks. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Jan 91, GWAPS, CSS #30)

Logistics: The overall aircraft mission capable rate is 93.4 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 310800Z Jan 91, GWAPS, CSS #7)

Due to forecast future requirements for CBU-87, USCENTAF recommends maximizing use of MK-20s on armored targets, CBU-52/58 on soft targets, and MK-82s on bunkered targets. No substitute is allowed for CBU-89. (Msg (S), TACC/DCO to All WOCS, subj: Conservation of CBU-87, 300549Z Jan 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Planning: COMCENTAF issues a directive that no bridges on the Kuwait City to Tri-border road are to be struck without Army coordination. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Air Operations: USCINCCENT Sortie Recap (300100Z to 310100Z): USCENTAF-1421, USNAVCENT-273, USMARCENT (fixed-wing)-262, Allied-401. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 312115Z Jan 91, GWAPS, CSS #30)

As USNAVCENT aircraft continue strikes against Iraqi naval targets, USCINCCENT claims that "coalition air forces continued to dominate the skies over Iraq." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 302115Z Jan 91, GWAPS, CSS #30)

COMUSCENTAF reports that twenty-eight packages are flown under clear skies, with nineteen packages and five B-52 strikes concentrating on the Republican Guard. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 310800Z Jan 91, GWAPS, CSS #7)

JTF Proven Force conducts two strike packages (93 sorties) against targets in northern Iraq. Poor weather prevented the first mission (50 aircraft) from attacking Kirkuk and Qayyarrah West airfields. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 310703Z Jan 91, GWAPS, CSS #46)

31 January 1991
C+177 D+15

Intelligence: USCINCCENT reports that "the Iraqi national command and control structure has been disrupted but is still functional." But, he also reports that Iraq is conducting a "nonexistent counterair campaign" and that elimination of its radar platoons would finish the most capable remnant of the Iraqi early warning radar system. Pressure from air attacks is such that Iraqi vehicles carry "diesel jugs," which are ignited to deceive attacking coalition pilots into believing that the vehicles are already burning. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 312115Z Jan 91, GWAPS, CSS #30)

Indeed, USCENTCOM observes no airborne Iraqi aircraft through the entire day. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Feb 91, GWAPS, CSS #29)

Ground Order of Battle: Final combat elements of the British 1st Armored Division arrive in forward tactical assembly areas. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Feb 91, GWAPS, CSS #29)

Logistics: COMUSCENTAF reports that 10 BLU-82 fuel air bombs are being prepared for shipment to the AOR, and he requests accelerated delivery of 772 BLU-109 and 3000 CBU-87 bombs. The overall aircraft mission capable rate is 91.9 percent. Three A-10s and an OA-10 that received battle damage are assessed as repairable. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 010800Z Feb 91, GWAPS, CSS #6)

MAC pallet recovery teams in the AOR begin collecting pallets, nets, straps, chains, devices and pallet couplers. (Msg (S), MACCAT to USTRANSCOM, subj: Sitrep, 021946Z Feb 91, GWAPS, CSS #105)

Planning: CJTF Proven Force priorities for conducting offensive air operations for the next 24 hours are air superiority and neutralization of airfields and communications. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 010703Z Feb 91, GWAPS, CSS #46)

COMUSCENTAF assesses that, although hampered by the weather, the air campaign remains on track. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 310800Z Jan 91, GWAPS, CSS #7)

Guidance from USCINCCENT: do not target TLAMs except as appropriate on a case by case basis, and you can begin Phase III - shaping the battlefield. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Air Operations: USCINCCENT Sortie Recap (310100Z to 010100Z): USCENTAF-1520, USNAVCENT-449, USMARCENT (fixed-wing)-237, Allied-403. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF reports thirty-three packages (two Proven Force) flown, with seventeen packages striking the Republican Guard and concentrating on the Hammurabi division. Five non-packaged B-52 strikes also hit RG-related targets, while two packages and one B-52 strike are diverted from RG targets to support the Coalition ground forces in the battles along the eastern Saudi-Kuwaiti border (Khafji). An AC-130 is shot down. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 010800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts 2 strike packages (102 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 010703Z Feb 91, GWAPS, CSS #46)

Other Activities: Following a B-52 strike on the 30th, leaflets are dropped again on the Iraqi 20th Infantry Division, this time stating, "We told you that you were to be bombed and you were. We are telling you again that you will be bombed tomorrow, leave now/flee south or die." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 312115Z Jan 91, GWAPS, CSS #30)

JTF Proven Force psychological operations consists of eleven hours of radio broadcast and one million leaflets printed encouraging Iraqi defection and support for downed coalition aircrews. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 010703Z Feb 91, GWAPS, CSS #46)

The USCENTAF Joint Rescue Coordination Center reports that an AC-130H (Spirit 03), located 14 nautical miles north of Ras Al Khafji, Saudi Arabia, issued a MAYDAY call at 0420Z. A search by USNAVCENT aircraft and vessels fails to provide any significant information on the missing aircraft. There was no emergency beacon or further contact with the aircraft. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 031400Z Feb 91, GWAPS, CSS #24)

1 February 1991
C+178 D+16

Background Events: France agrees to allow American B-52s based in Britain to enter its airspace for raids against Iraq, and to refuel at a French military base enroute. (*New York Times*, 2 February, p 6)

Intelligence: According to USCINCCENT, "Iraq continues a nonexistent air campaign against coalition air strikes in the Kuwait theater of operations (KTO) and over central Iraq." On the ground, air attacks held almost all of the 40 Iraqi divisions in the KTO in their defensive positions, with limited movement and resupply operations occurring only at night. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Feb 91, GWAPS, CSS #29)

Air Order of Battle: All 20 Patriot and 24 ARCENT Hawk SAM fire units in the theater are operational. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Feb 91, GWAPS, CSS #29)

The SECDEF directs the deployment of six RF-4C reconnaissance aircraft to JTF Proven Force. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 020703Z Feb 91, GWAPS, CSS #46)

Logistics: As the 18th Airborne Corps positions its units for offensive operations, it establishes a "field landing strip" at Logbase Charlie, planning to move 80 pallets of sustainment cargo per day there from Dhahran by C-130 airlift. [A C-130 can carry five pallets on its cargo deck and one partially-loaded pallet on the ramp portion of its rear ramp-and-door system, ed.] (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 010300Z Feb 91, GWAPS, NA- 523)

The USCENTAF overall mission capable rate is 92.1 percent. With the command's F-16s experiencing high failure rates with 13th stage engine bleed air valves, COMUSCENTAF requests expedited shipment of 11 valves to the AOR. Four more A-10s received battle damage and are evaluated as being repairable. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 020800Z Feb 91, GWAPS, CSS #6)

As of 010001Z February, MAC airlift forces have moved 3,686 noncombattant evacuees; offloaded 10,578 missions in the AOR, Turkey, and Israel; completed a total of 12,322 missions; moved 436,954 passengers and 421,194 tons of cargo; and aeromedically evacuated 676 litter and 1,787 ambulatory patients in theater, 1,390 and 2,462, respectively, to

Europe, and 267 litter and 642 ambulatory Desert Shield/ Storm patients from Europe to the CONUS. (Msg (S), MACCAT to USTRANSCOM, subj: Sitrep, 31 Jan 91, GWAPS, CSS #105)

As of 010300Z February, SAC B-52s have flown 457 strike sorties and SAC tankers have flown 3,699 sorties in support of Desert Storm. Since 2 August 91, SAC reconnaissance aircraft have flown 788 sorties (394 RC-135, 217 U-2, 177 TR-1). The current daily sortie rate for the B-52s exceeds the highest previously planned wartime rates. (Msg (S), CINCSAC to JCS, subj: Sitrep, 010400Z Feb 91, GWAPS, CSS #82)

Planning: CJTF Proven Force's priorities for conducting offensive air operations for the next 24 hours is to maintain air supremacy and deny Iraqi use of airfields and communications facilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 020703Z Feb 91, GWAPS, CSS #46)

The British government will allow the conduct of B-52 operations from RAF Fairford. (Msg (S), CINCSAC to JCS, subj: Sitrep, 010400Z Feb 91, GWAPS, CSS #82)

Air Operations: USCINCCENT Sortie Recap (010100Z to 020100Z): USCENTAF-1522, USNAVCENT-447, USMARCENT (fixed-wing)-238, Allied-398. USCINCCENT further reports that USNAVCENT aircraft continue their strikes against Iraqi naval targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Feb 91, GWAPS, CSS #29)

The coalition continues to dominate the air over Iraq and to hammer Republican Guard units. Forty packages (two Proven Force) and eighth B-52 strikes are flown, including twenty-four packages and hundreds of additional sorties against the Republican Guard and related targets. The use of J-STARS for targeting night missions continues and additional targets consist of airfields, Scud sites, command and control nodes, naval bases, CW bunkers and research facilities, power transfers, and bridges. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 020800Z Feb 91, GWAPS, CSS #6)

The US VII Corps fired an ATACMs missile at an Iraqi SA-6 SAM site. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 012115Z Feb 91, GWAPS, CSS #29)

JTF Proven Force conducts two strike packages (91 sorties) against targets in northern Iraq, one of which was a nuclear facility. (Msg (S),

USCINCEUR to AIG 7824, subj: Sitrep, 020703Z Feb 91, GWAPS, CSS #46)

An MC-130 flew a successful leaflet drop, while two AC-130 missions resulted in one air abort due to post refueling fumes and the other needed to fly over the range to correct fire control problems. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 020600Z Feb 91, GWAPS, CSS #145)

Other Activities: JTF Proven Force psychological operations consist of 8 hours of radio broadcasts and a new print run of leaflets comparing/ contrasting subsistence support between Iraqi and coalition forces. A leaflet drop is planned for 3-5 February. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 020703Z Feb 91, GWAPS, CSS #46)

USCINCCENT informs MARCENT that he intends to focus on the battlefield preparation phase and reiterates that they " . . . must continue to utilize the JFACC concept to integrate all available air assets . . . " To facilitate battlefield preparation, COMUSCENTAF is to transfer 1,400 GBU-12 components, 1,000 MK-82s, and 200 HARM missiles to the Marines. (Msg (S), USCINCCENT to CG I MEFMAIN, subj: Marine Aviation, 011330Z Feb 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

USCENTAF air campaign planners develop a concept for having F-111Fs use GBU-12s to pinpoint attack fixed armor, vehicle, artillery, etc. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

The Saudis announce that their F-15s will commence ground attack missions. (TACC Historian Transcripts (S), p 46, GWAPS, NA-200)

2 February 1991
C+ 179 D+17

Intelligence: Except for two helicopters detected in south-central Iraq, USCENTCOM noted no Iraqi Air Force operations. Further, USCINCCENT believes that Iraq's command, control, communications and intelligence infrastructure has been substantially disrupted, while the country's strategic SAMs were "rendered ineffective," mainly from destruction of sector operating centers. He also expected further Iraqi probing and reconnoitering activity to identify the coalition main effort and induce an early commitment of coalition ground forces (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Feb 91, GWAPS, CSS #29)

358-715 O—93——29 QL 3

Scud War: USCINCCENT reports that "F-15Es, F-16Cs and Navy A-6Es continue to show excellent results from nightly Scud CAP [combat air patrol, ed.] missions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Feb 91, GWAPS, CSS #29)

Two Scuds, fired at Israel at 021842Z and 022333Z, are allowed to impact in unpopulated areas east of Tel Aviv. Two Patriot SAMs destroy another Scud, fired at Riyadh at 022141Z, though the warhead impacts in a rural area and causes "minor casualties and property damage." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Feb 91, GWAPS, CSS #29)

The SECDEF directs the deployment of eight B-52s to RAF Fairford, UK for support of Desert Storm requirements. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 030703Z Feb 91, GWAPS, CSS #46)

Logistics: The overall aircraft mission capable rate is 92.4 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 030800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's priorities for conducting offensive air operations, during the next 24 hours, remain on air supremacy and denying Iraqi use of airfields and communications facilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 030703Z Feb 91, GWAPS, CSS #46)

COMUSCENTAF anticipates problems with weather over Iraq and the KTO over the next couple of days. His emphasis will remain on battlefield preparation, with focus on hitting the Republican Guard. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 020800Z Feb 91, GWAPS, CSS #6)

COMUSCENTAF asks intel to start looking at the Scud B threat to the forward areas, MARCENT, NAC, 18th AB Corps, VII Corps, and KKMC airfield. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Air Operations: USCINCCENT Sortie Recap (020100Z to 030100Z): USCENTAF-1492, USNAVCENT-398, USMARCENT (fixed-wing)-263, Allied-411. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that real-time targetting information from ABCCC and JSTARS aircraft allow coalition aircraft the flexibility to strike forming Iraqi troop concentrations and convoys before they can mass for any potential offensive operation. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that strategic targets are still being struck from the air, but at a lesser rate. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Feb 91, GWAPS, CSS #29)

Forty-six packages (three Proven Force), seven B-52 strikes, and hundreds of ground attack sorties are flown in the KTO, with twenty-six packages and six B-52 strikes concentrated on the Republican Guard. Other targets include bridges and strategic targets. Proven Force F-15s claim a probable kill on an aircraft in the traffic pattern at Qayyarah West. Three coalition aircraft were lost, an A-10 and Navy A-6E in Kuwait, and a B-52 15 NM NW of Diego Garcia on return from a combat mission but with no reported battle damage. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 030800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts 3 strike packages (109 sorties) against targets in northern Iraq. At Tuz Khurmatu, F-16s reported direct hits on dispersed fighter aircraft and an F-4G scored a direct IR Maverick hit on a parked IL-76 Candid. At Qayyarah West, F-16s reported direct hits on dispersed aircraft and POL storage areas. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 030703Z Feb 91, GWAPS, CSS #46)

Other Activities: Exercise SEA SOLDIER IV ends. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 022115Z Feb 91, GWAPS, CSS #29)

Ten C-130 sorties move advanced elements of the 82nd Airborne Division's 3rd Brigade to Rafha Air Base. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 030300Z Feb 91, GWAPS, NA- 523)

The USCENTAF Joint Rescue Coordination Center (JRCC) reports the following incidents: 0847Z, AWACS reports an A-6 downed by a SAM over the east end of Faylaka Island, with the crew missing; 0926Z, AWACS reports an A-10 down 30 nautical miles southwest of Kuwait City, with no indication that the pilot escaped; 2200Z, a B-52 crashes 15 nautical miles north of Diego Garcia and three survivors are rescued; 2334Z, The USMARCENT TACC reports a AH-1J missing during a medevac mission 51 miles west of Ras Al Khafji, Saudi Arabia, with the dead pilot recovered by a USMARCENT ground force. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 031400Z Feb 91, GWAPS, CSS #24)

3 February 1991
C+180 D+18

Intelligence: As in the Khafji action, USCENTCOM analyst expect future Iraqi incursions or large-scale attacks to involve Iraqi vehicles moving in small groups, designed to deceive intelligence gathering, until launching their actual attacks. USCINCCENT also reports that, while Iraqi leadership is still in control, "their flexibility in controlling military operations has probably been significantly disrupted." Iraqi ground forces continue their defense in depth with elements of forty divisions: twenty-four committed, eight reinforcing, and eight theater reserve. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 032115Z Feb 91, GWAPS, CSS #29)

Scud War: USCENTAF F-15Es report destruction of three Scuds and two mobile erector-launchers. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Feb 91, GWAPS, CSS #29)

Air Order of Battle: The SECDEF authorizes the deployment of twelve additional B-52s to Moron AB, Spain, to support Desert Storm requirements, while six RF-4Cs join JTF Proven Force at Incirlik. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 040703Z Feb 91, GWAPS, CSS #46)

Logistics: Faced by continued shortages in chemical defense overgarments, USARCENT plans to airlift 133,386 sets from USPACOM by 9 February, while another 502,312 will come later by sealift. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 030300Z Feb 91, GWAPS, NA-523)

The overall aircraft mission capable rate is 92.7 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 040800Z Feb 91, GWAPS, CSS #6)

The first two BLU-82, fuel-air bombs arrive in the AOR at King Faud Airport. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 040705Z Feb 91, GWAPS, CSS #145)

Planning: CJTF Proven Force's priorities for conducting offensive air operations for the next 24 hours are to maintain air supremacy and reduce Iraqi Scud missile and chemical warfare capabilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 040703Z Feb 91, GWAPS, CSS #46)

The Spanish government approves the deployment of twelve additional B-52Gs at Moron Air Base. (Msg (S), CINCSAC to JCS, subj: Sitrep, 040400Z Feb 91, GWAPS, CSS #82)

Air Operations: USCINCCENT Sortie Recap (030100Z to 040100Z): USCENTAF-1689, USNAVCENT-379, USMARCENT (fixed-wing)-301, Allied-407. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF reports that, as the size of the average strike package begins to decrease, while the sortie count remains essentially constant, the actual number of packages flown begins to increase. Thus sixty-three packages (three Proven Force) are flown, including thirty-nine against Republican Guard related targets, five against airfields, and five against bridges and CW, Scud, and naval facilities. Night attack aircraft continue to work with JSTARS with "notable success." Hundreds of additional sorties are flown against Iraqi army targets. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 040800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (101 sorties) against targets in northern Iraq. Strikes against the Al Mawsil transformer station are aborted due to weather. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 040703Z Feb 91, GWAPS, CSS #46)

Other Activities: Poor weather at Rafha grounds all 70 C-130 sorties planned in support of the 82nd Airborne Division's 3rd Brigade's movement. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 040300Z Feb 91, GWAPS, NA-523)

Elusive Force, in Turkey, receives 300 leaflet bombs in support of its psychological operations. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 040703Z Feb 91, GWAPS, CSS #46)

After a UH-1 crashes 20 miles west of Ras Al Mishab, at 1524Z, the wingman secures the site for recovery of the 4 dead crewmen. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 041400Z Feb 91, GWAPS, CSS #24)

4 February 1991
C+181 D+19

Intelligence: Reporting that "Iraqi naval and air forces pose no challenge to coalition operations," and that coalition air strikes have forced the Iraqis to bury their tanks under sand and sandbags for protection, and to drain their long-range external fuel tanks, USCINCCENT concludes that "more and more of Iraq's offensive mobility is being lost on a daily basis." Also noting that he expected the Iraqis to increase their efforts to locate the coalition's main effort and major logistical sites, USCINCCENT estimates that, "if the Iraqi General Headquarters can mount an offensive operation in the west, the attack will take place within the next week while moonlight is still available." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Feb 91, GWAPS, CSS #29)

Air Order of Battle: All 24 USCENTCOM Hawk SAM units (61 launchers) and 19 of ARCENT's Patriot SAM units (124 launchers) are operational. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 042115Z Feb 91, GWAPS, CSS #29)

Logistics: USCINCSAC requests continued support from Spanish Air Force C-130s for SAC intra-Spain airlift movements. (Msg (S), CINCSAC to JCS, subj: Sitrep, 050400Z Feb 91, GWAPS, CSS #82)

The overall aircraft mission capable rate is 93.1 percent. COMUSCENTAF requests priority airlift for 10,000 MK-339 fuzes and ADU-449 adapters to Jeddah New to ensure immediate combat employment capability of approximately 20,000 CBUs arriving by sea. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 050800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSCENTAF assesses that the air campaign is progressing well and on schedule with weather over Iraq and the KTO clearing out today. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 040800Z Feb 91, GWAPS, CSS #6)

Canadian CF-18s are cleared to fly offensive air-to-ground sorties. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Air Operations: USCINCCENT Sortie Recap (040100Z to 050100Z): USCENTAF-1734, USNAVCENT-420, USMARCENT (fixed-wing)-266, Allied-397. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 052115Z Feb 91, GWAPS, CSS #29)

Forty-five packages are flown. Twenty-five packages and six B-52 strikes and hundreds of additional ground attack sorties are targeted against the Republican Guards. Six other packages hit airfields, while others attacked naval targets, logistics sites, ammo dumps, fuel facilities, NBC targets, bridges and C3. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 050800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts two strike packages (73 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 050703Z Feb 91, GWAPS, CSS #46)

USCINCCENT wants a shift in the weight of effort from the southeastern to the southwestern border of Kuwait and Saudi Arabia and the tri-border area westward. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Aircrews are warned to adhere to safe passage procedures following "two serious, near disastrous" incidents. (Msg (S), USCENTAF/TACCS to ALL WOCS, 260249Z Jan 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Two Army ATACMS are fired at a SA-2 site. (TACC Historian Transcripts (S), p 56, GWAPS, NA-200)

5 February 1991
C+182 D+20

Background Events: Iraq announces the suspension of all fuel sales, bringing further deprivation to the wintry land where food, water, electricity and gasoline are all in short supply due to allied bombing. (*New York Times*, 6 February, p A11)

Intelligence: USCINCCENT reports that Iraqi forces continue to dig in and use deceptive measures in an effort to blunt the impact of coalition air attacks. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 052115Z Feb 91, GWAPS, CSS #29)

JTF Proven Force aircrews note a significant increase in Iraqi anti-aircraft artillery fire. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 060703Z Feb 91, GWAPS, CSS #46)

Air Order of Battle: Four AC-130s arrive at King Fahd Air Base. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 060800Z Feb 91, GWAPS, CSS #6)

Logistics: King Khalid Military City is now the primary aerial port of debarkation for USARCENT sustainment airlift. COMUSARCENT anticipates that the airfield's capacity and its relative nearness to his units will help reduce the over 4,000-ton backlog of cargo awaiting air shipment to the AOR. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 050300Z Feb 91, GWAPS, NA-523)

USCENTAF's overall aircraft mission capable rate is 92.4 percent. COMUSCENTAF's notes that engines and aircraft are accumulating time faster than normal, resulting in shorter lead time on requisitions for time change items. His top airlift priority is 400 CBU-87s and 200 Mk-20s each day starting on C+187 and continuing until sealift can meet their revised 60 day quantities (37,000 CBU-87 and 19,550 Mk-20). One A-10 received battle damage in the left wing and engine nacelle area and is being assessed for repair. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 060800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's priorities for offensive air operations during the next 24 hours are maintaining air supremacy and concurrently reducing Iraqi NBC capabilities, destroying munitions supplies, and neutralizing selected segments of the power grid. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 060703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (050100Z to 060100Z): USCENTAF-1729, USNAVCENT-231, USMARCENT (fixed-wing)-234, Allied-472. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Feb 91, GWAPS, CSS #29)

Contributing to the suppression of enemy air defenses, the USS *Missouri* destroys 2 Iraqi radar sites with 16-inch gun fire. (Msg (S), USCINCCENT to AIG 904, subj: Sitreps, 052115Z Feb 91 and 062115, GWAPS, CSS #29)

USCINCCENT reports that F-16s are being used as "fast FACs" to improve battlefield preparation mission effectiveness, and the F-15 border combat air patrol is reestablished after six Iraqi aircraft flee to Iran. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 052115Z Feb 91, GWAPS, CSS #29)

Fifty-two packages (three Proven Force) and six B-52 strikes are flown, including thirty-three packages against Republican Guard related targets, and others against airfield, bridge, CW, petroleum, power plant, naval base,

and C3 targets. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 060800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force RF-4C (Creek Storm) missions gather good imagery of Iraqi aircraft dispersed in residential areas adjacent to Kirkuk and K-1 airfields. (Msg, (S) JTF Proven Force to USCINCEUR, subj: Sitrep, 052203Z Feb 91, GWAPS, CSS #45).

JTF Proven Force conducts 3 strike packages (130 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 060703Z Feb 91, GWAPS, CSS #46)

Other Activities: With over 50 percent of the planned 230 C-130 sorties allocated to moving the 82nd Airborne Division's 3rd Brigade now completed, COMUSARCENT expects to close the movement on 6 Feb. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 050300Z Feb 91, GWAPS, NA-523)

USNAVCENT reports no contact with the pilot of an F-18, reported overdue, at 1900Z, 25 nautical miles southeast of Faylakah Island. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 061400Z Feb 91, GWAPS, CSS #24)

6 February 1991
C+183 D+21

Intelligence: USCINCCENT estimates that 118 Iraqi aircraft have fled to Iran, and he reports that, the Iraqi reconstitution effort had "not [been] able to duplicate an air defense network similar to the system that existed prior to the start of the coalition air offensive." He also saw, in prisoner of war reports of Iraqi soldiers having to buy food from Kuwaiti vendors, evidence that Iraq could not supply its forward troops with basic necessities. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Feb 91, GWAPS, CSS #29)

Scud War: F-15E "Scud Busters" claim kills on four Scuds and mobile erector launchers. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Feb 91, GWAPS, CSS #29)

Ground Order of Battle: With the closure of the 3rd Armored Division, all major USCENTCOM ground combat units are in theater, except for a brigade of artillery each for the VII and XVIII corps. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Feb 91, GWAPS, CSS #29)

The USCENTAF overall aircraft mission capable rate is 91.3 percent. COMUSCENTAF directs the substitution of AGM-88 HARMs by AGM-65/D missiles in the airlift flow. He also identifies a requirement for 12 MHU-110 trailers at King Fahd and 6 at King Khalid Military City to facilitate the handling of MK-82 bombs. A battle-damaged A-10 received a new wing, as COMUSCENTAF also requests 4 A-10 attrition filler aircraft by 9 February. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 070800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's priorities for conducting offensive air operations for the next 24 hours are air supremacy and supporting USCENTAF F-111F PGM attacks against hardened aircraft shelters, chemical storage sites, and nuclear research facilities at Qayyarah West, Kirkuk, and Al Mawsil. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 070703Z Feb 91, GWAPS, CSS #45)

With 71 B-52Gs and 299 tanker aircraft committed to Desert Storm, as of 061000Z, USCINCSAC plans to obtain additional tankers for deployment to Greece and France by "degrading" 9 "lines" from the strategic nuclear alert force in the CONUS. (Msg (S), CINCSAC to JCS, subj: Sitrep, 060400Z Feb 91, GWAPS, CSS #82)

Air Operations: USCINCCENT Sortie Recap (060100Z to 070100Z): USCENTAF-1537, USNAVCENT-167, USMARCENT (fixed-wing)-125, Allied-445. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that the USS *Missouri* destroys another air defense radar site at 060103Z. F-111s and F-117s carry the brunt of strategic and airfield attack missions, while the remaining tactical air forces concentrate on battlefield preparation. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 062115Z Feb 91, GWAPS, CSS #29)

Forty packages are flown, including fifteen packages, three B-52 strikes, and two MC-130s (dropping 15,000 lb, BLU-82 FAE bombs) against the Republican Guard and Iraqi infantry divisions in southern Kuwait. Hundreds of additional sorties supplemented the around-the-clock destruction of the Republican Guard divisions. Other packages struck weapons support facilities, bridges, airfields, navy bases, C3, and SAM sites. Coalition aircraft shoot down four Iraqi fixed-wing aircraft and two helicopters (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 070800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force aircraft struck their secondary target of Qayyarah West airfield after encountering adverse weather over their primary targets (missile facility and SA-3 sites). (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 070703Z, GWAPS, CSS #46)

UCOMAFSOCCENT deems the first BLU-82 fuel-air bomb drop a success. Indications are that the Iraqis thought the ground invasion had begun and turned on all their radars, exposing their locations. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 070745Z Feb 91, GWAPS, CSS #145)

The air movement of the 82nd Airborne Division's 3rd Brigade into Rafha is complete. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 070300Z Feb 91, GWAPS, NA-523)

Other Activities: To date, JTF Proven Force psychological operations have included, 313 news items, 162 psyop spots, 52 slogans, and 24 editorials aired; 1,000 language assistance cards printed for distribution to aircrews; and additional video and audio products under development. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 070703Z Feb 91, GWAPS, CSS #46)

At 2344Z, an AWACS reported that a UH-1 medevac helo had crashed 20 nautical miles east of Rafha. An XVIII Airborne Corps helicopter recovered four injured and one dead crewmen. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 071400Z Feb 91, GWAPS, CSS #24)

An A-10 engages an Iraqi helicopter in flight and destroys it with its 30 mm gun, claiming the first A-10 air-to-air kill. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

7 February 1991
C+184 D+22

Background Events: Convinced that the war with Iraq will be over by the summer, Pentagon planners abandon all plans to rotate troops out of the Middle East while fighting is under way. (Wall Street Journal, February 8, p 14)

Intelligence: As Iraqi aircraft continue fleeing to Iran, USCINCCENT raises the estimate of Iraqi divisions in the KTO to forty-two (twenty-five committed, nine reinforcing, and eight theater reserve.) In efforts to preserve themselves, small Iraqi units reposition on the battlefield, Republican Guard

heavy divisions remain in their prehostility defensive positions, and units continue to entrench and camouflage their fighting vehicles. In the first reported such case in either Iraq or Kuwait, USCINCCENT also reports that USCENTAF A-10s receive fire from 37mm and 57mm anti-aircraft guns sited in a residential area of Al Ahmadi, Kuwait. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Feb 91, GWAPS, CSS #29)

Scud War: A Scud launched against Riyadh is destroyed by 2 Patriot SAMs, bringing total Scud launches to 29 against Saudi Arabia and 29 against Israel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Feb 91, GWAPS, CSS #29)

Air Order of Battle: There are now 21 Patriot SAM units in the theater (132 launchers), of which 20 are operational. (Msg (S), USCINCCENT to AIG 904, subj: Sitreps, 072115Z Feb 91 and 082115, GWAPS, CSS #29)

Ground Order of Battle: The XVIII Airborne Corps reports all units ready for deep, cross-border operations, while the VII Corps is approaching that status quickly. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 91.7 percent. COMUSCENTAF notes that delivery dates for vehicles keep slipping and reiterates that they are essential to mission accomplishment and need to be delivered on time, and he requests that all Defense Logistics Agency mission critical parts be shipped as soon as possible via Desert Express. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 080800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's air operations priority for the next 24 hours is on maintaining air supremacy and on attacking chemical/ biological warfare production and storage facilities, nuclear research/ production facilities, CW/BW delivery systems, dispersed aircraft, airfields and C3 nodes. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 080703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (070100Z to 080100Z): USCENTAF-1543, USNAVCENT-405, USMARCENT (fixed-wing)-308, Allied-434. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Feb 91, GWAPS, CSS #29)

USNAVCENT aircraft continue attacks on remaining Iraqi naval targets. In an innovative development, weather problems prompt the diversion of forty F-111 sorties to complete strikes against revetted armor. Result: destruction of fifty tanks and twelve bunkers. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 072115Z Feb 91, GWAPS, CSS #29)

Forty-three packages (three Proven Force) were flown, with one aborting in flight due to target weather, and another added to hit Scud sites. Twenty packages, five B-52 strikes, and hundreds of additional sorties struck Republican Guard and related logistics and ammo sites. Six packages hit airfields, while others hit bridges, petroleum sites, C3, production facilities, and other targets. US F-15s shot down three Iraqi aircraft fleeing to Iran and a Proven Force F-15 shot down a helicopter. Entering severe wake turbulence during air refueling operations, a KC-135 lost its No. 2 engine, which struck the No. 1 engine, causing it to fall off also. The aircraft recovered safely [DELETED] and is being assessed for repair. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 080800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages. The first package was cancelled due to an AWACS abort. An F-15 engaged a helicopter northwest of Kirkuk with two AIM-7 missiles and the wingman confirmed a hit and fireball. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 080703Z Feb 91, GWAPS, CSS #46)

An airlift of French personnel and equipment from Istres, France to King Khalid Military City begins with closure estimated for 8 February. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 080530Z Feb 91, GWAPS, CSS #70)

The USMARCENT Tactical Air Control Center reports that an AV-8B went down at 1340Z and, while the pilot's parachute was observed deployed in good condition and later located on the ground, no further contact was made with the pilot. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 101400Z Feb91, GWAPS, CSS #24)

USCENTAF identifies a problem with missed air refuelings resulting in dumping of fuel and tankers flying missions that aren't required and resulting in inability to use the tankers for earlier or later add-on missions. (Msg (S), TACC/DO to ALL WOCS, subj: Missed Refueling, 070656Z Feb 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

8 February 1991
C+185 D+23

Background Events: In Saudi Arabia, Secretary of Defense Cheney tells American pilots and ground crews in Dhahran that they are part of the most successful air campaign in history, but that ground and amphibious assaults would be needed to flush out Saddam Hussein's dug in troops and expose them to more bombardment. (*New York Times*, 9 February, p 1)

Leaders: The Secretary of Defense and the CJCS arrive at Riyadh, where the SECDEF has an impromptu meeting with Saudi Prince Bandar. (Contingency Historical Report, 4409th OSW, Riyadh Air Base Master Chronology, 10 Jan 91, IRIS 00887752/K-WG-4409-SU-RE; Memo (U), 4409 OSW(P), subj: 4409 OSW Issues, 10 Feb 91, IRIS 00887752/K-WG-4409-SU-RE)

Intelligence: USCINCCENT reports that neither the Iraqi Air Force nor the Navy can conduct offensive operations. Iraqi aircraft remain openly dispersed around their airfields, though the lack of radar returns indicate that some are decoys. USCINCCENT also believes that eight of twelve Iraqi SA-6 SAM batteries previously identified in the KTO have been withdrawn to protect high value targets or lines of communications from coalition air attack. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Feb 91, GWAPS, CSS #29)

In an indirect assessment of the effects of the air campaign, COMUSARCENT acknowledges that the destruction of Iraqi transportation and command and control systems is "affecting all units in the KTO, though to varying degrees," and that "the attrition of battlefield systems continues to hamper [the] Iraqi commander's ability to conduct [a] coordinated combined arms defense." But he otherwise asserts that "Baghdad's ability to communicate with the KTO by secure means is only moderately degraded . . . [and] corps commanders retain command and control." (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 080300Z Feb 91, GWAPS, NA-523)

Logistics: The USCENTAF overall aircraft mission capable rate is 92.2 percent. COMUSCENTAF identifies a requirement for 52 F-16 main landing gear piston assemblies which are overdue a 2000-hour time change. A second Desert Express aircraft is added to the schedule to decrease the parts backlog. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 090800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours are air supremacy and striking petroleum refining and processing capabilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 090703Z Feb 91, GWAPS, CSS #46)

Judging that the air campaign has done an excellent job of taking out strategic targets and, although hampered by weather, of striking Republican Guard and other KTO targets, COMUSCENTAF intends to exploit improving weather conditions, by continuing the intensive campaign to "significantly attrit" the Iraqi forces. He also believes that battle damage assessment is improving. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 080800Z Feb 91, GWAPS, CSS #6)

Air Operations: USCINCCENT Sortie Recap (080100Z to 090100Z): USCENTAF-1547, USNAVCENT-379, USMARCENT (fixed-wing)-275, Allied-475. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Feb 91, GWAPS, CSS #29)

USARCENT fires an Army Tactical Missile System at an Iraqi SA-6 SAM site. Because of their success on 7 February in attacking revetted armor, F-111s began flying dedicated "tank plinking" missions in the KTO. Now able to operate safely at lower altitudes, allied aircraft increase their effectiveness against enemy armor. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 082115Z Feb 91, GWAPS, CSS #29)

Of forty packages scheduled, thirty-nine are flown (three Proven Force) and one is cancelled due to weather. Twelve packages, nine B-52 strikes and non-packaged aircraft strike Republican Guard related targets, while other packages hit bridges, airfields, C3, petroleum, and other targets. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 090800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts two strike packages against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 090703Z Feb 91, GWAPS, CSS #46)

Other Activities: Since 1 February, [DELETED] Pioneer unmanned aerial vehicle missions have located infantry fighting positions and other tactical targets for VII Corps. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 080300Z Feb 91, GWAPS, NA-523)

Recorded in the "duty log" of the Tactical Air Control Center is the comment that USCINCCENT has expressed displeasure with the term "tank plinking." Apparently unimpressed with the need for a dignified term of killing such vulnerable targets, other anonymous writers annotate the original entry with recommendations for terms like "tank warping", "tank tapping", and "tank popping." (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

9 February 1991
C+186 D+24

Intelligence: The Iraqi Air Force does not fly all day and USCINCCENT assesses that, while Iraqi forces in the KTO maintained sufficient combat assets to conduct multi-brigade reconnaissance-in-force and limited-objective operations, they lack the intelligence support, air cover and communications to mass for a large-scale offensive. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Feb 91, GWAPS, CSS #29)

Scud War: Three Patriot SAMs are launched at a Scud fired at Tel Aviv. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Feb 91, GWAPS, CSS #29)

Air Order of Battle: USCENTAF aircraft in the AOR, by base, as of this date are (number is primary authorized aircraft (PAA)): [King Fahd] 132 A-10, 12 OA-10, 8 AC-130, 2 EC-130 (VS), 16 C-130, 3 C-130 (JACC/CP); [Diego Garcia] [DELETED] B-52, 12 KC-135; [Jeddah New] [DELETED], 62 KC-135, 13 KC-10; [Moron] 22 B-52; [RAF Fairford] 8 B-52; [Taif] 64 F-111F, 18 EF-111, [DELETED]; [DELETED] 42 F-117; [Dhahran] 48 F-15C; [Tabuk] 24 F-15C; [Al Kharj] 24 F-15C, 48 F-15E, 24 F-16A, 18 F/A-16A, 16 C-130; [Doha] 24 F-16C; [Al Minhad] 72 F-16C; [Al Dhafra] 72 F-16C, 7 KC-135; [Shaikh Isa] 48 F-4G, 18 RF-4C; [Riyadh] 11 E-3, 2 E-8, 7 EC-130 (ABCCC), 8 C-21, 10 KC-135, 7 RC-135; [KKIA] 2 EC-135L, 46 KC-135; [Bateen] 6 EC-130 (CC), 16 C-130; [Al Ain] 40 C-130; [Masirah] 16 C-130, 10 KC-135; [Sharjah] 16 C-130; [Thumrait] 24 C-130; [Seeb] 15 KC-135, 10 KC-10; [Cairo West] 15 KC-135; [Abu Dhabi] 12 KC-135; [Dubai] 12 KC-135. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 100800Z Feb 91, GWAPS, CSS #6)

The USCENTAF overall aircraft mission capable rate is 91.8 percent. Among several pressing requirements, COMUSCENTAF requests 3 EF-111 aircraft for deployment to Taif, 6 QRC 80-01 ECM pods from Myrtle Beach AFB to King Fahd; accelerated delivery of wing sealant and six engine

airframe line rebuild kits to Tabuk; an Air Force member, knowledgeable in fuze problems and capable of evaluating and providing an AF position on contractor proposals, to accompany the FMU-139 fuze contractor technical representative; immediate shipment of 240 AGM-45 missiles to Shaikh Isa by C+196; and shipment of heat transfer fluid for use in AN/ALQ 119-15 ECM pod. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 100800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours are air supremacy and striking research facilities, power stations and petroleum production and storage sites to counter regeneration of Iraqi C3, electrical power generation and petroleum/chemical production capabilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 100703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (090100Z to 100100Z): USCENTAF-1619, USNAVCENT-393, USMARCENT (fixed-wing)-266, Allied-455. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that USNAVCENT aircraft continue their strikes against naval targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 092115Z Feb 91, GWAPS, CSS #29)

Eight of thirty packages and eleven of twelve B-52 strikes hit Republican Guard positions. Seven packages hit bridges in the continuing effort to cut off supplies, while four packages hit C3 sites, three packages hit petroleum facilities, two hit airfields, and three hit SAM sites and support facilities. Other aircraft continued around-the clock attacks on armor and artillery. A USMARCENT AV-8B is lost and the pilot missing. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 100800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (136 sorties) against the Bayji petroleum facility and troop concentrations. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 100703Z Feb 91, GWAPS, CSS #46)

10 February 1991
C+187 D+25

Background Events: Returning to the United States from Saudi Arabia, Secretary Cheney stated that the bombing campaign needed to continue before a ground attack opened against Iraqi forces occupying Kuwait.

(Michael R. Gordon, "Cheney Returning to Washington With the Call for More Bombing," *The New York Times*, 11 February 1991, p 1)

Intelligence: USCINCCENT assesses that Iraqi ground activity remains focused on force sustainment and survivability measures, while he reports that prisoner of war reports and other intelligence sources indicate that Iraqi III Corps is experiencing a desertion rate of at least 20 percent. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Feb 91, GWAPS, CSS #29)

COMUSARCENT assesses that Iraqi forces in the KTO have less than twenty days of supply on hand, and that the level of resupply is below sustainment level. Further, the attrition of Iraqi battlefield systems continues to degrade their ability to conduct a combined arms defense, particularly at or below the battalion level, though he also asserts that most Iraqi divisions remain mission capable. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 100300Z Feb 91, GWAPS, NA-523)

Scud War: USCENTAF F-15Es fly 49 Scud-hunting missions and report 3 Scuds and their launchers destroyed. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 91.9 percent. COMUSCENTAF requests priority airlift for 3 Spectroil Jr. oil analysis machines. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 110800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSCENTAF assesses good progress in the air campaign, and he expects to focus on "diminishing [the] threat our ground forces will face, particularly from the Republican Guard." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 100800Z Feb 91, GWAPS, CSS #6)

CJTF Proven Force's offensive air priorities for the next 24 hours are air supremacy and striking missile and nuclear facilities at Mosul. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 110703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (100100Z to 110100Z): USCENTAF-1600, USNAVCENT-430, USMARCENT (fixed-wing)-305, Allied-450. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Feb 91, GWAPS, CSS #29)

F-111s and F-117s continue to work strategic targets, while remaining Coalition tactical air units support the battlefield preparation mission. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 102115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that smoke reduces visibility in heavily-struck areas in the KTO to as little as 4 miles, though battlefield preparation missions continue. In one instance, 40 F-111s report the destruction of 79 tanks in one night. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Feb 91, GWAPS, CSS #29)

Coalition air forces fly twenty-eight packages and eleven B-52 strikes, of which nine and ten, respectively, along with hundreds of individual sorties, strike Republican Guard forces and related targets. Other packages hit bridges, airfields, petroleum, C3 facilities, power plants, weapons plants, and naval sites. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 110800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (135 sorties) against targets in northern Iraq. Primary target was the Ash Sharqat nuclear research facility. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 110703Z Feb 91, GWAPS, CSS #46)

A-6s drop fuel air explosives (FAE) munitions on AAA sites at AL Jaber airfield. (TACC Historian Transcripts (S), p 226, GWAPS, NA-200)

Other Activities: The VII Corps reports that an "air-ground vehicle recognition test was conducted during daylight hours using a stationary M1 and M2 with orange panels. [An] A-10 at 10,000' had no trouble discerning [the] panels. Future tests will [be] done at night and include moving vehicles." (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 100300Z Feb 91, GWAPS, NA-523)

11 February 1991
C+188 D+26

Intelligence: The Iraqi Air Force remains on the ground and the Iraqi Navy provides USCINCCENT with "nothing significant to report." Meanwhile, as the Iraqi Army continues its efforts to survive the coalition air onslaught, USCINCCENT estimates that air attacks have reduced its logistics levels from thirty down to twenty days of supplies on hand, and he reports the movements of certain decontamination units into southern Kuwait as one element of "increasing indications of Iraqi preparations for the conduct

of chemical warfare." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 112115Z Feb 91, GWAPS, CSS #29)

COMUSARCENT believes that "[Iraqi] forces in the KTO remain capable of conducting their defensive mission but their offensive capability is limited. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 110300Z Feb 91, GWAPS, NA-523)

Scud War: Israeli Patriot SAM batteries fired three missiles to achieve a "mission kill" of a Scud launched at Tel Aviv. Two USARCENT Patriots also achieve a "mission kill" of a Scud launched at Riyadh. Finally, a Scud fired at Israel was "mission killed" by two Israeli Patriots fired by one battery after the missiles of another "misfired." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Feb 91, GWAPS, CSS #29)

Medical: AFSOCCENT forward offers up 800 doses of anthrax vaccine to its personnel. (Msg (S), AFSOCCENT Deployed to COMSOCCENT, subj: Sitrep, 120705Z Feb 91, GWAPS, CSS #145)

Logistics: The USCENTAF overall aircraft mission capable rate is 90.8 percent. Three A-10s and one OA-10 arrive at King Fahd as attrition replacements, while earlier-requested EF-111s arrive at Taif. COMUSCENTAF requests an update on a personnel action to assign a senior transportation officer to USCENTAF to develop and execute the redeployment plan at cessation of hostilities. One A-10 sustained battle damage to the right engine and is being assessed for repair. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 120800Z Feb 91, GWAPS, CSS #6)

As of this date, 4,970,222 STONS of petroleum have been lifted in support of Desert Shield/Storm. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep, 150400Z Feb91, GWAPS, CSS #70)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours are air supremacy, and striking Iraqi C3 capability, petroleum and nuclear production facilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 120703Z Feb 91, GWAPS, CSS #46)

F-15Es are cleared to drop GBU-12 and will start night tank plinking. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Air Operations: USCINCCENT Sortie Recap (110100Z to 120100Z): USCENTAF-1543, USNAVCENT-450, USMARCENT (fixed-wing)-272, Allied-

446. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF reports that the weather is good and enemy forces are being caught in the open. Forty packages, eleven B-52 strikes, and hundreds of additional sorties struck Iraqi positions. Sixteen packages hit Republican Guard divisions, while eight packages and nine B-52 strikes hit RG logistic and ammo sites. Other packages struck key airfields, petroleum, bridges, SAM sites, communications nodes, and headquarters. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 120800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (137 sorties) against targets in northern Iraq. Primary targets were missile and nuclear facilities at Mosul. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 120703Z Feb 91, GWAPS, CSS #46)

12 February 1991
C+189 D+27

Intelligence: Two Iraqi MiG-21s are discovered among the ruins of the ancient city of Ur, a "no fire" zone for the Coalition. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Feb 91, GWAPS, CSS #29)

Otherwise, USCINCCENT finds "nothing to report" on the Iraqi Air Force and Navy, while he estimates that the Iraqis will continue to use urban civilian buildings [in Kuwait] as much as possible for billeting and command posts in order to avoid coalition air attacks." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 91.0 percent. COMUSCENTAF requests priority shipment of 10 LANTIRN targetting pod adaptors presently at Dover, priority airlift for an AJM-40 inertial navigation system dynamic test station from USAFE to Taif, and early release of 200 FMU-143 fuzes from February production to meet operational commitments. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 130800Z Feb 91, GWAPS, CSS #6)

USCINCSAC expresses concern over the movement of aircraft spares to and from Riyadh, and for the decline of the bomber and tanker mission capable rate from 89 to 83 percent. (Msg (S), CINCSAC to JCS, subj: Sitrep, 130400Z Feb 91, GWAPS, CSS #82)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours are air supremacy and striking Iraqi nuclear and missile research, development, and production capabilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 140703Z Feb 91, GWAPS, CSS #46)

USCINCCENT declares that "[E]ffective immediately, the emphasis of combat operations must shift to preparing the battlefield for a ground offensive." (Msg (S), USCINCCENT/CC to COMUSCENTAF/CC, subj: Preparing the battlefield for ground operations, 120655Z Feb 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Air Operations: USCINCCENT Sortie Recap (120100Z to 130100Z): USCENTAF-1616, USNAVCENT-299, USMARCENT (fixed-wing)-247, Allied-459. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that the day's strikes continued the focus on opening the way for a ground offensive, though they also included strategic strikes and USNAVCENT attacks on Iraqi naval targets. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Feb 91, GWAPS, CSS #29)

Confirming that "the brunt of [the air] effort continued to focus on battlefield preparation and attrition of Republican Guards," USCINCCENT reports that 24 of the previous day's 40 air strike packages, along with 9 of 11 B-52 strikes hundreds of "un-packaged" sorties, hit Republican Guard and other Iraqi positions in the KTO. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 122115Z Feb 91, GWAPS, CSS #29)

USCENTAF reports that Coalition forces "continue to destroy Iraqi physical ability and will to fight." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 130800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts two strike packages (85 sorties) against targets in northern Iraq. Primary target was the Al Mawsil gas turbine power plant. Enroute to Al Mawsil, F-16s destroyed two B-767/A300 transport aircraft on the ground at Mosul airfield, and two F-15s shot down a helicopter in the vicinity of Al Mawsil. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 130703Z Feb 91, GWAPS, CSS #46)

Other Activities: Four F-16s deliver one million leaflets via M-129 leaflet bombs (emphasizing the futility of the Iraqi war effort and encouraging

defection) in the vicinity of Kirkuk and Al Mawsil. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 140703Z Feb 91, GWAPS, CSS #46)

13 February 1991
C+190 D+28

Background Events: Two US laser-guided bombs kill hundreds of Iraqi civilians in an attack on what Iraqi authorities called a suburban air raid shelter, but which US officials insisted was a hardened bunker used as a military command center. (Rick Atkinson and Dan Baltz, "Bomb Strike Kills Scores of Civilians in Building Called Military Bunker by US, Shelter by Iraq," *The Washington Post*, 14 February 1991, p 1)

Intelligence: Other than the Iraqi Army's continued efforts to survive under the Coalition's air campaign, USCINCCENT finds little to report on Iraqi military activities. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Feb 91, GWAPS, CSS #29)

Scud War: To date, Iraq has launched 62 Scuds: 30 at Saudi Arabia and 32 at Israel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 132115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 90.9 percent. COMUSCENTAF requests accelerated delivery of J79-17 and GE-110 spare engines, immediate delivery of Coolanol 20 for AN/ALQ-119 electronic countermeasures pods, and priority airlift to move empty M-117 bomb pallets from [DELETED] to Guam to ensure movement of M-117 bombs back to AOR. An EF-111 aircraft was lost. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 140800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSCENTAF evaluates the air campaign as "progressing well with good results" and will shift bombing emphasis to Iraqi front-line units. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 130800Z Feb 91, GWAPS, CSS #6)

CJTF Proven Force's offensive air priorities are: maintaining air supremacy, and a shift to battlefield preparation, airfield interdiction and air defense attacks. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 130703Z Feb 91, GWAPS, CSS #46)

USTRANSCOM expands the Desert Express service to include a second daily mission. (Msg (S), USCINCTRANS to AIG 11812, subj: Sitrep 150400Z Feb 91, GWAPS, CSS #70)

Air Operations: USCINCCENT Sortie Recap (130100Z to 140100Z): USCENTAF-1542, USNAVCENT-416, USMARCENT (fixed-wing)-266, Allied-478. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Feb 91, GWAPS, CSS #29)

Twenty-seven packages, nine B-52 strikes, and hundreds of sorties hit Republican Guard forces, lines of communication, ammo and logistics storage, bridges, command and control, and other targets. Eight packages attack airfields and two MC-130s drop 15,000 lb, BLU-82 fuel-air bombs on Iraqi front line forces. Coalition losses were an EF-111, and a RSAF F-15 and F-5. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 140800Z Feb 91, GWAPS, CSS #6)

USCINCCENT reports that two BLU-82 fuel-air bombs dropped on Iraqi positions were a test of their effect on their defensive positions and mine fields. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Feb 91, GWAPS, CSS #29)

JTF Proven Force conducts 3 strike packages (125 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 140703Z Feb 91, GWAPS, CSS #46)

The USCENTAF Joint Rescue Coordination Center reports the following events: 0710Z, AWACS reports that a RSAF F-5 went down 60 nautical miles northeast of Badanah, Saudi Arabia, with the pilot missing; 1918Z, the Royal Saudi Air Force reports the crash of a RSAF F-15 25 nautical miles southeast of Khamis Mushait, with the pilot killed; 2239Z, an EF-111 is reported overdue, with the wreckage and deceased crewmen discovered later 26 nautical miles northwest of Badanah, Saudi Arabia. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 141405Z Feb 91, GWAPS, CSS #24)

A CJCS call to USCINCCENT results in a requirement to task a daily TARPS mission in the Western Scud area. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Intensifying Scud hunting operations, USCENTAF directs that "F-15E[s] will orbit launch containers until [B]ingo [only enough fuel left to return

to base, ed.] and then will expend 1 bomb each on 383 culverts from Tel Aviv to Tehran." (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

14 February 1991
C+191 D+29

Intelligence: According to USCINCCENT, Iraqi ground forces remain in defensive positions, with even their artillery units afraid to fire for fear of Coalition counterfire. Neither the Iraqi Army nor the Navy provide him with anything to report. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Feb 91, GWAPS, CSS #29)

Scud War: Two Scuds are fired at Hafr Al Batin, but they never pass into any Patriot SAM firing windows, and they apparently impact without causing any injuries or damage. Meanwhile, F-15Es on night anti-Scud patrols claim the destruction of two, maybe three, missiles. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 142115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 90.2 percent. COMUSCENTAF requests expedited delivery of the first increment of 25,000 Mk-82s to Al Dammam by 25 February in order to sustain combat operations. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 150800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSCENTAF shifts emphasis to Iraqi units that have not been attrited below 50 percent, with special emphasis on artillery. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 140800Z Feb 91, GWAPS, CSS #6)

CJTF Proven Force's offensive air priorities are on maintaining air supremacy, and on striking nuclear and missile research, development, and production capabilities, and destruction of airfield infrastructure. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 150703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (140100Z to 150100Z): USCENTAF-1468, USNAVCENT-396, USMARCENT (fixed-wing)-279, Allied-433. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that F-111s and F-15Es experienced "phenomenal success" in night tank plinking missions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF continues the emphasis on eliminating the Republican Guards and destroying frontline forces, with five of eighteen packages and six of ten B-52 strikes attacking ground force concentrations. Seven packages hit airfields while others hit arms plants, bridges, and depots. Other un-packaged attack aircraft concentrated on infantry, armor and artillery targets. Armed reconnaissance air patrols searched rivers to destroy new pontoon bridges and any bridges found functional. A RAF Tornado was shot down while attacking Al Taqaddum airfield and the crew is missing. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 150800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (87 sorties) against targets in northern Iraq. During the attacks, Wild Weasel aircraft engaged Tall King, Flat Face, and SA-3 sites at Erbil and Al Mawsil. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 150703Z Feb 91, GWAPS, CSS #46)

Other Activities: At 0606Z, an AWACS reports a downed RAF GR-1 20 nautical miles north of Al Taqaddum, Iraq, with no parachutes observed or contact with the crew. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 141405Z Feb 91, GWAPS, CSS #24)

15 February 1991
C+192 D+30

Background Events: While the Pentagon estimates that 30 percent of all Iraqi tanks have been destroyed, along with 35 percent of their artillery and 31 percent of their combat aircraft, a government official says "there is considerable turmoil within the intelligence community" as to the accuracy of the damage estimates. (*New York Times*, 16 February, p 8)

Intelligence: While prisoner of war reports indicate to USCINCCENT that conditions in southern Iraq, as well as in Kuwait, were leading to desertions and poor morale among deployed Iraqi ground units, he still assesses withdrawal as Iraq's least likely option, with defense and attack being the first and second most likely Iraqi actions over the next several days. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 152115Z Feb 91, GWAPS, CSS #29)

Scud War: An Iraqi Scud, fired at Saudi Arabia falls harmlessly into either the Persian Gulf or an "unpopulated area south of Al Jubayl." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Feb 91, GWAPS, CSS #29)

The USCENTAF overall aircraft mission capable rate is 91.8 percent. Declaring his munitions priorities as GBU-12, CBU-87, Mk-20, and Mk-82 bombs, in that order, COMUSCENTAF also requests 2 replacement A-10s and an F-16 for aircraft lost today. Additionally, one A-10 received battle damage to its tail and is being assessed for repair. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 160800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSCENTAF changes his operational priorities to: (1) counter-air, (2) interdiction, (3) strategic offense (striking unstruck targets and those requiring retargeting due to BDA or intelligence), and (4) CAS. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 150800Z Feb 91, GWAPS, CSS #6)

CJTF Proven Force's offensive air priorities remain on maintaining air supremacy, and on striking Iraqi nuclear and missile research, development, and production capabilities, and destruction of airfield infrastructure. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 160703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (150100Z to 160100Z): USCENTAF-1543, USNAVCENT-491, USMARCENT (fixed-wing)-284, Allied-451. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Feb 91, GWAPS, CSS #29)

Nineteen packages and ten B-52 strikes concentrated on Republican Guards, artillery, ammo and logistics sites, and weapons production facilities. Other aircraft searched waterways and attacked bridges, pontoon construction, and barge traffic. A-10 and F-15E aircraft patrolled for Scuds to deter launches and individual flights hammered Iraqi armor and artillery throughout the KTO. Two A-10s were lost, with both pilots missing, while an F-16 crashed 17 nautical miles from Al Dhafra, while returning from a mission, killing the pilot. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 160800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts two strike packages (96 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 160703Z Feb 91, GWAPS, CSS #46)

USCINCCENT guidance is to "keep hitting the Republican Guard, they may be the key to the overthrow of S.H." (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

COMUSCENTAF restricts A-10s to within 20 NM of the southern border within the KTO. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Other Activities: At 0730Z, the USCENTAF Joint Rescue Coordination Center reactivates the search for the Saudi F-5 pilot that went down near Badanah, Saudi Arabia on the 13th, following reports of radio calls on the emergency frequency. At 1335Z, AWACS reports two downed A-10s 50 nautical miles northwest of Kuwait City, but responding CSAR forces are unable to locate the crash sites. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 161430Z Feb 91, GWAPS, CSS #24)

16 February 1991
C+193 D+31

Intelligence: USCINCCENT assess Iraqi ground forces as still "focused on force sustainment and survivability measures," the Iraqi Navy as "not . . . capable of offensive operations," and the Air Force as posing "only a minimal threat to coalition air operations." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Feb 91, GWAPS, CSS #29)

Scud War: Night-hunting F-15Es claim probable destruction of three missiles and four launchers. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Feb 91, GWAPS, CSS #29)

Three Scuds are fired at Israel. One is destroyed by two Patriot SAMs, one is unaccounted for, and one impacts harmlessly in an unpopulated area. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 91.7 percent. COMUSCENTAF requests Desert Express priority airlift for disk drives from Bergstrom AFB to the AOR in support of the Computer Assisted Force Management System, and for critically short film and paper supplies required by tactical air reconnaissance units. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 170800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours remain unchanged. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 170703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (160100Z to 170100Z): USCENTAF-1382, USNAVCENT-309, USMARCENT (fixed-wing)-271, Allied-

416. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Feb 91, GWAPS, CSS #29)

USCINCCENT confirms that "battlefield preparations, to include mine breaching by B-52s, will remain the primary focus of the air war." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF reports that the air campaign continues its assault on the capability and will of Iraq to fight. Twenty-seven packages and ten B-52 strikes attack bridges, airfields, Republican Guards, artillery positions, SAM sites, weapons plants, logistics, and communications nodes. One package was cancelled because the target was no longer in the target area. Precision weapons were used successfully in night attacks on enemy armor and artillery. Scud patrols continue around-the-clock (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 170800Z Feb 91, GWAPS, CSS #6)

All JTF Proven Force strike packages are cancelled due to adverse weather conditions. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 170703Z Feb 91, GWAPS, CSS #46)

A-10 missions are restricted to kill boxes AD5, AE6, AG4, and AH4 east of the 46 10 E line - operational procedures to the west of the line are unchanged. (Msg (S), TACC/DCO to 354 TFW/DO, subj: A-10 AI Mission ROE, 162357Z Feb 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Other Activities: Eighteen AH-64 aircraft of the 11th Aviation Brigade contribute to the aerial attrition of Iraqi forces by destroying up to fourteen vehicles, and by damaging two towers and four buildings. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 170300Z Feb 91, GWAPS, NA-523)

At 1823Z the USARCENT Rescue Coordination Center reports a UH-60 down 60 nautical miles southeast of Rafha. A Army medevac helo recovered the uninjured personnel. (Msg (S), USCENTAF/JKCC to COMUSARCENT MAIN, subj: Sitrep, 171430Z Feb 91, GWAPS, CSS #24)

17 February 1991
C+194 D+32

Leaders: COMUSCENTAF emphatically directs that there be no more fratricide, and that no more "people" are to be brought into the AOR. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Intelligence: Believing that the Iraqi leadership still thought its theater forces could survive the coalition air campaign with sufficient combat power to achieve a battlefield stalemate, USCINCCENT estimates that they will continue to fire Scuds at Saudi Arabia and Israel (attempting to bring Israel into the war) and to manipulate the news media. In contrast, USCINCCENT confidently predicts that, as a result of his emphasis on the tactical preparation of the battlefield, "the Iraqi forces we will face on the battlefield will be attrited to our overall goal of 50 percent. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 172115Z Feb 91, GWAPS, CSS #29).

COMUSARCENT assesses that Iraqi units in the KTO "will have sufficient supplies for at least the next 75 days, provided that a ground campaign is not initiated. If a ground campaign is initiated, the availability of logistics will be greatly reduced and could run out within 10-13 days." Also, while reporting that "coalition air attacks continue to destroy Iraqi battlefield operating systems at all echelons," COMUSARCENT believes that "the decline in the battlefield operating systems has not substantially degraded the Iraqi ability to conduct a defense or delay, but Iraq's ability to conduct offensive operations has been degraded." (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 170300Z Feb 91, GWAPS, NA-523)

Scud War: One hundred and eleven Coalition sorties are flown against the Scud threat, and F-15Es report large secondary explosions during an attack against a Scud launch site in western Iraq. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 162115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 92.8 percent. USCENTAF requests that all MICAPs against ALQ-131 ECM pods at Taif and Shaikh Isa and QRC 80-01 and Pave Penny pods at King Fahd be aggressively worked. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 180800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSARCENT reiterates his concerns, first expressed in his 140300Z Feb 90 Sitrep, "over air apportionment priorities and the inability of ground commanders to shape the battlefield with available air support."

To support the continued validity of these concerns, he reports that "Army nominated targets on the ATO are frequently diverted without explanation, ARCENT cannot influence the selection of USAF target boxes, and CAS has been delayed for another day. Corps commanders are concerned over their inability to attrit high value targets (arty and chemical capable systems) which have the greatest potential to inflict friendly casualties." (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 170300Z Feb 91, GWAPS, NA-523)

CJTF Proven Force's offensive air priorities for the next 24 hours remain on maintaining air supremacy over northern Iraq, and on the destruction of nuclear and missile research, development and production facilities and command and control. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 180703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (170100Z to 180100Z): USCENTAF-1320, USNAVCENT-397, USMARCENT (fixed-wing)-146, Allied-280. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Feb 91, GWAPS, CSS #29)

The United Arab Emirates Air Force are scheduled to fly its first combat sorties of the war [weather cancelled - ed], while USCENTAF A-10s supported a two-battalion ARCENT probing attack, and three MC-130s each dropped one 15,000-lb, fuel/air BLU-82 bomb on Iraqi revetments, obstacles and entrenched Iraqi forces on Faylaka Island. (Msg (S), USCINCCENT to AIG 904, subj. Sitrep, 182115Z Feb 91, GWAPS, CSS #29)

Poor weather in the KTO hampers attacks against artillery and armor and forces the cancellation of eight of twenty-nine scheduled packages. However, over a thousand other sorties do attack targets in the KTO and Iraq, including eight B-52 attacks to breach enemy defenses in southwest Kuwait, and strikes by USNAVCENT aircraft and three MC-130s dropping BLU-82 bombs against Faylaka Island. An F-16 went down in southern Iraq due to an engine malfunction, but the pilot was rescued. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 180800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (134 sorties) against targets in northern Iraq. Bad weather forced the first package to divert to and strike their secondary target. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 180703Z Feb 91, GWAPS, CSS #46)

24th Infantry Division Apaches strike an early warning site located about 4 nautical miles across the Iraqi border. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 170300Z Feb 91, GWAPS, NA-523)

Late in the day, 82nd Airborne Division aircraft destroy six armored vehicles, three artillery pieces and a reinforced infantry platoon. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 190300Z Feb 91, GWAPS, NA-523)

At 1510Z an AWACS reports an F-16 down 10 nautical miles northeast of Al Ubaylo, Iraq. The wingman established contact with the pilot on the ground and determined the area safe enough to conduct a combat search and rescue mission. With overhead fighter support, an APSOCCENT MH-60 successfully recovered the pilot, with the mission "closed" at 1807Z. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 181430Z Feb 91, GWAPS, CSS #24)

18 February 1991
C+195 D+33

Ground Order of Battle: With the closure of its final artillery brigade, all of the VII Corps' combat units are in theater. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 92.9 percent. COMUSCENTAF removes vehicles from his top logistics priorities list. Two replacement A-10s arrive at King Fahd Airport. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Feb 91, GWAPS, CSS #6)

Planning: USCINCCENT's air operations priorities are (1) to maintain enough air superiority to protect the deployment and employment of friendly forces in the AOR, (2) isolate the Republican Guards and shape the battlefield for a ground offensive, (3) continue to strike Phase One (strategic) targets and, (4) to attrit Iraqi ground forces if friendly forces are engaged. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Feb 91, GWAPS, CSS #29)

CJTF Proven Force's offensive air priorities for the next 24 hours remain unchanged. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 190703Z Feb 91, GWAPS, CSS #46)

COMUSARCENT restates his concerns over the conduct of the air campaign: "Air support related issues continue to plague final preparations for offensive operations and raise doubts concerning our ability to effectively shape the battlefield prior to initiation of the ground campaign. Too few sorties are made available to VII and XVIII Abn Corps. And while air support missions are being flown against 1st echelon enemy divisions, Army nominated targets are not being serviced. Efforts must be taken now to align the objectives of the air and ground campaigns and ensure the success of our future operations." (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 180300Z Feb 91, GWAPS, NA-523)

Air Operations: USCINCCENT Sortie Recap (180100Z to 190100Z): USCENTAF-1718, USNAVCENT-575, USMARCENT (fixed-wing)-283, Allied-481. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Feb 91, GWAPS, CSS #29)

Improved weather allowed coalition air forces to apply full pressure on Iraqi capability to wage war. Forty-six packages, fifteen B-52 strikes, and hundreds of attack aircraft struck Republican Guards, armor, artillery, airfields, transportation, logistics, Scuds, and C3. The United Arab Emirites Air Force flew their first offensive combat sorties in southern Kuwait. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 190800Z Feb 91, GWAPS, CSS #6)

In contribution to the forty-six strike packages, fifteen B-52 strikes and over 800 dedicated battlefield preparation sorties were flown today. Some B-52s continued the effort to open lanes through Iraqi mine fields and other defensive systems. Also, seventy sorties armed with precision guided munitions were targeted specifically against tanks. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Feb 91, GWAPS, CSS #29)

JTF Proven Force conducts 3 strike packages (119 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 190703Z Feb 91, GWAPS, CSS #46)

USARCENT aircraft continue cross-border armed aerial reconnaissance and attack missions. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 190300Z Feb 91, GWAPS, NA-523)

Other activities: Two SOCCENT MH-60 helicopters rescue a downed F-16 pilot approximately 36 miles north of the Iraqi border. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 182115Z Feb 91, GWAPS, CSS #29)

858-715 O—93——30 QL 3

19 February 1991
C+196 D+34

Intelligence: After assessing prisoner of war reports of poor morale and indications of flagging Iraqi political will to stay in Kuwait, USCINCCENT reports that "Iraqi ground forces are incapable of conducting an operational level offensive" and estimates that likely Iraqi actions are, in descending order, defend, withdraw, attack. Further, he estimates that the affects of the Coalition air campaign and dispersal to Iran have reduced the Iraqi Air Force's combat capability to as low as 20 percent. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Feb 91, GWAPS, CSS #29)

Scud War: Israeli and US forces each launch a Patriot SAM at an inbound Scud, with the Israelis claiming a "warhead kill." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Feb 91, GWAPS, CSS #29)

Meanwhile, USCENTAF Scud hunters fly over 90 sorties, claim 6 probable Scuds destroyed, and begin laying mines near Scud launch sites. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 192115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 92.4 percent. Concerned by the lack of spare engines in the AOR, COMUSCENTAF makes them his second highest logistics priority, while simultaneously removing Harvest Falcon assets from the logistics top priority list. Also, he requests airlift through C+213 for 550 tons of Mk-82 bombs per day, until sufficient weapons begin to arrive by sea. Two replacement F-16s arrive at Al Dafra. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 200800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSARCENT believes that recent experience with coordinated air-ground operations, involving A-10s, F-111s, EF-111s and EC-130s, indicate both the importance of such operations, and that "preparations for effective air-ground operations are on track." (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 190300Z Feb 91, GWAPS, NA-523)

Air Operations: USCINCCENT Sortie Recap (190100Z to 200100Z): USCENTAF-1655, USNAVCENT-484, USMARCENT (fixed-wing)-303, Allied-440. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Feb 91, GWAPS, CSS #29)

Twenty-seven packages and nine B-52 strikes combined with unpackaged attack sorties to pound Iraqi forces. Seven packages attacked airfields, five attacked Republican Guards, four attacked artillery, four attacked arms plants, and four attacked ammo storage sites. Other packages went after bridges and C3 sites. B-52s concentrated on breaching Iraqi frontline defenses. One OA-10 was shot down and the pilot taken prisoner. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 200800Z Feb 91, GWAPS, CSS #6)

24th Infantry Division helicopters contributed to the theater air war, by destroying three Iraqi early-warning radars and five anti-aircraft artillery sites. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Feb 91, GWAPS, CSS #29)

Other Activities: At 0622Z an AWACS reports a downed OA-10 65 nautical miles west-northwest of Kuwait City. Another A-10 in the area established communications with the downed pilot who reported that enemy troops were 100 yards away and that he had to sign off. Arriving at the scene, the A-10 pilot saw vehicles and personnel on the ground, but could not contact the downed pilot. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 191430Z Feb 91, GWAPS, CSS #24)

20 February 1991
C+197 D+ 35

Intelligence: As USCINCCENT continues to assess the Iraqi Navy as incapable of conducting offensive operations, and the Iraqi Air Force as only a minimal threat to coalition air operations, hundreds of Iraqi soldiers surrender to ARCENT probing attacks and a captured do[illegible] indicates t[illegible] leaders in the KTO were being held personally res[illegible]ble for the defec[illegible] of subordinates. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 2021[illegible] Feb 91, GWAPS, CSS #29)

Scud War: USCENTAF A-10s report the destruction of two probable Scud transporter-erector-launcher vehicles. As of 201600Z, USCINCCENT reports thirty-three Scuds have been fired at Saudi Arabia and thirty-seven at Israel. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 202115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 92.4 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 210800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSCENTAF assess that bad weather will not prevent coalition air forces from applying maximum pressure on Iraqi forces, but the accuracy of their attacks will suffer as they resort to radar and the Global Positioning System for guidance. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 200800Z Feb 91, GWAPS, CSS #6)

CJTF Proven Force's offensive air priorities for the next 24 hours remain unchanged. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 210703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (200100Z to 210100Z): USCENTAF-1399, USNAVCENT-417, USMARCENT (fixed-wing)-164, Allied-405. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Feb 91, GWAPS, CSS #29)

Despite weather cancellations of over 500 sorties, USCINCCENT reports that coalition air forces continued to focus on battlefield preparation targets and to "restrike selected strategic targets." USMARCENT aircraft dropped napalm on three Iraqi fire trenches to test its effectiveness in burning off their oil, and two SOCCENT MC-130s each dropped a BLU-82 fuel/air bomb. Also, and for the first time ever in combat, Marine fixed-wing strike sorties are launched from a helicopter assault carrier (LHA). (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 212115Z Feb 91, GWAPS, CSS #29)

Weather hindered but did not stop operations. The day's major attack packages struck airfields, railroad yards, bridges, supply depots, and air defenses. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 210800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (135 sorties) against targets in northern Iraq. One F-16 is lost over Turkey due to mechanical failure. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 210703Z Feb 91, GWAPS, CSS #46)

COMUSARCENT reports that his aviation battalions continue their attacks on Iraqi forces. Elements of the 24th Attack Helicopter Battalion struck an early warning radar site near As Salman Air Base, 62 nautical miles inside Iraq, destroying 2 radar antennae, a van, 2 anti-aircraft guns and several vehicles. Two other raids, nearer the border, claimed 6 armored vehicles, 5 anti-aircraft systems, supplies and transportation assets destroyed. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 210300Z Feb 91, GWAPS, NA-523)

Other Activities: At 1610Z, AWACS and the USMARCENT Tactical Air Control Center report a USMARCENT CH-46E crash-landed 50 nautical miles northwest of Khafji, Saudi Arabia. Ground forces recovered all 4 personnel, with one injured. Also, at 1935Z, the 682 Air Support Operations Center reported a missing OH-58C 55 nautical miles south-southeast of AS Salman, Iraq. The USARCENT Rescue Coordination Center directed 4 helicopters to the wreckage, with both crew members found dead. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 211430Z Feb 91, GWAPS, CSS #24)

21 February 1991
C+198 D+36

Intelligence: A terrorist bomb does minimal damage to the US/Spanish pipeline providing jet fuel to Moron, Zaragoza, and Torrejon. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 220703Z Feb 91, GWAPS, CSS #46)

Scud War: ARCENT forces destroy three targets approaching King Khalid Military City (KKMC) with six Patriot SAMs. The targets were two Scuds. A third Scud launched at KKMC misses the city by 30 kilometers and is not engaged by the Patriots. A single Patriot later destroys a fourth Scud fired at Bahrain. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 91.5 percent. COMUSCENTAF reiterates the need for priority airlift of munitions in preparation for a possible ground campaign. He also requests expedited shipment for 119 500-gallon seal drums from USAFE to Riyadh, and for various pieces of communications and computer-connectivity equipment. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 220800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours remain unchanged. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 220703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (210100Z to 220100Z): USCENTAF-1511, USNAVCENT-435, USMARCENT (fixed-wing)-257, Allied-424. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports 89 percent of all coalition combat sorties target Iraqi forces and Republican Guards in southeast Iraq and Kuwait. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF reports that eleven of twenty-four packages, eleven of fourteen B-52 strikes, and hundreds of attack aircraft hunted and hit artillery, infantry, and armor positions. Other aircraft attacked airfields, Scud facilities, C3 nodes, and CW/BW bunkers and facilities. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 220800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (131 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 220703Z Feb 91, GWAPS, CSS #46)

22 February 1991
C+199 D+37

Scud War: USCENTAF and USMARCENT aircraft claim eight probable Scud mobile erector-launchers and four Scuds destroyed. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Feb 91, GWAPS, CSS #29)
Air Order of Battle: The first two of five South Korean C-130s enter the theater airlift effort. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Feb 91, GWAPS, CSS #29)

Ground Order of Battle: Noting that the closure of the XVIII Airborne Corps' 196th Artillery Brigade marks the arrival of the last USCENTCOM combat force in the AOR, General Schwarzkopf declares "we are now in position to attack and destroy the enemy and will do so when ordered." (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 91.9 percent. COMUSCENTAF requests that a Texas Instruments LGB technical representative be sent to the AOR to provide additional ballistics data for the GBU-24, and to help solve guidance problems experienced with the GBU-10 and -27. He also requests air shipment of GBU-10 and -12 Paveway II components from Europe to the AOR, and for 2 hard target penetrator munitions (GBU-28) with appropriate tech data from Eglin to Taif on C+203. An A-10 received battle damage to the aft section of the aircraft and collapsed a landing gear on landing. Damage assessment is pending.

(Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 230800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours remain unchanged. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 230703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (220100Z to 230100Z): USCENTAF-1614, USNAVCENT-445, USMARCENT (fixed-wing)-402, Allied-445. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Feb 91, GWAPS, CSS #29)

Good weather enabled coalition air forces to fly over 1300 sorties against the Iraqi forces, hitting armor, artillery, infantry, airfields, bridges, C3, Scud facilities, and CW targets. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 230800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts 3 strike packages (126 sorties) against targets in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 230703Z Feb 91, GWAPS, CSS #46)

USARCENT aviation units conduct reconnaissance missions and pre-battle preparations. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 230300Z Feb 91, GWAPS, NA-523)

Other activities: After a hiatus of several days, due to adverse winds, a SOCCENT MC-130 recommences the daily leaflet-drop program. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 222115Z Feb 91, GWAPS, CSS #29)

23 February 1991
C+200 D+38

Intelligence: Estimating that the Iraqis still have 2,669 tanks, 1,961 armored vehicles and 1,660 artillery pieces in the KTO, USCINCCENT expects Iraqi forces to "continue their defensive posture . . . conserve resources, conceal positions, and emphasize survivability in anticipation of an imminent coalition ground offensive." He expects these preparations to include reviewing and refining counterattack plans, positioning reliable fighting units—Republican Guard infantry or commandos—to block the retreat of the Iraqi first echelon, and deploying decontamination units and chemical munitions to forward positions. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Feb 91, GWAPS, CSS #29)

Scud War: USCENTAF flies almost ninety anti-Scud sorties, with one attack producing secondary explosions lasting for three minutes. Iraq launches a Scud toward Kfia, Saudi Arabia, but it posses no threat to coalition "assets" and is not engaged. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Feb 91, GWAPS, CSS #29)

A second Scud is fired at Tel Aviv, but it too misses its target and is not engaged by Patriots. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 92.2 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 240800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours remain unchanged. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 240703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (230100Z to 240100Z): USCENTAF-1643, USNAVCENT-436, USMARCENT (fixed-wing)-484, Allied-478. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that, as coalition ground forces begin moving to their final lines-of-departure for the invasion of Kuwait and Iraq, Coalition air forces "continue [their] devastating pressure on Iraqi forces in the KTO as well as [poise] for optimum support of a ground campaign." USCINCCENT's rough estimate of the day's battle damage assessment includes 178 tanks, 97 armored personnel carriers, 202 trucks/ vehicles, 201 artillery/multiple rocket launchers, 66 revetments/ buildings/bunkers, and 2 anti-aircraft artillery/surface-to-air missiles destroyed. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 232115Z Feb 91, GWAPS, CSS #29)

In an effort to exert maximum pressure on enemy forces, COMUSCENTAF schedules over 3,000 coalition sorties for the first time in Operation Desert Storm. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 230800Z Feb 91, GWAPS, CSS #6)

Coalition air forces continue to prepare the battlefield. Thirty-nine packages and fifteen B-52 strikes concentrated on airfields, artillery, armor, infantry, and breaching enemy defenses. Hundreds of un-packaged sorties

strike enemy artillery and armor. One USMC AV-8B was lost near Kuwait City and the pilot is missing. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 240800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts two strike packages (98 sorties) against the Taji tank repair buildings in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 240703Z Feb 91, GWAPS, CSS #46)

Other Activities: At 1700Z the USMARCENT Tactical Air Control Center reports a downed AV-8B 28 nautical miles west of Kuwait City. The wingman reported an explosion, but received no voice or beacon and observed no chute. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 241430Z Feb 91, GWAPS, CSS #24)

24 February 1991
C+201 D+39 G-Day

Background Events: The coalition invasion of Kuwait and Iraq begins at 240100Z (240400L)

Intelligence: Neither the Iraqi Air Force nor the Navy respond to the coalition ground assault. Resistance on the ground is light and uncoordinated, and USCINCCENT believes that prisoner-of-war reports that units would surrender in mass appear to have been accurate. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Feb 91, GWAPS, CSS #29).

Assessing the state of Iraqi forces just before the onset of the ground offensive, COMUSARCENT estimates that they have lost approximately 53 percent of their artillery, 42 percent of their armor and likely large numbers of personnel at all echelons. As a result, he believes that "Iraq's capability to maneuver and conduct multi-division offensive and counteroffensive operations is reduced. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 240300Z Feb 91, GWAPS, NA-523)

Scud War: Iraq fires individual Scuds at Riyadh and King Khalid Military City. Two Patriot SAMs destroy the first Scud and one destroys the second. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Feb 91, GWAPS, CSS #29)

Another Scud is launched at Riyadh and is destroyed by two Patriot SAMs. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 252115Z Feb 91, GWAPS, CSS #29)

From its anti-Scud experiences, the 4th Tactical Fighter Wing (Provisional) reports that the Iraqis often launched their Scuds under the protection of low cloud ceilings, which greatly restricted coalition quick-reaction air attacks. (Historical Report, 4 TFW(P), Executive Summary, 24 Feb-2 Mar 1991, IRIS 00881869/K-WG-4-HI)

Air Order of Battle: [The last] three Republic of Korea Air Force C-130s arrive at Al Ain. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 252115Z Feb 91, GWAPS, CSS #29)

Logistics: The USCENTAF overall aircraft mission capable rate is 94.3 percent. COMUSCENTAF's top logistics priorities are munitions, POL issues, and resupply/war readiness spares kits. He also requests the status of a shipment of computer systems needed to support Kuwaiti restoration. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 250800Z Feb 91, GWAPS, CSS #6)

Planning: After maintaining the "degree of air superiority necessary to protect deployment and employment of friendly forces in Saudi Arabia, Kuwait and Iraq," USCINCCENT's next highest air operational priority is now close air support, followed by interdiction and strategic offense. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF's operational priorities are changed to: (1) counterair, (2) close air support, (3) air interdiction, and (4) strategic offensive attack. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 240800Z Feb 91, GWAPS, CSS # 6)

With primary emphasis of the day's over 3,100 scheduled sorties placed on supporting friendly ground forces, COMUSCENTAF reports that "I have directed stringent target identification measures in [an] aggressive effort to ensure [that] munitions are delivered only on enemy forces." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 240800Z Feb 91, GWAPS, CSS #6)

CJTF Proven Force's offensive air priorities for the next 24 hours remain on maintaining air supremacy over northern Iraq and on the destruction of nuclear and missile research, development and production facilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 250703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (240100Z to 250100Z): USCENTAF-1648, USNAVCENT-442, USMARCENT (fixed-wing)-436, Allied-536. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 252115Z Feb 91, GWAPS, CSS #29)

The extent and importance of coalition air supremacy is obvious from the start of the ground campaign. SOCCENT helicopters penetrate deep into Iraq to infiltrate Special Forces reconnaissance teams. An entire brigade of the 101st Airborne Division (Air Assault) moves by helicopter to take forward operating base COBRA, located about 35 km southeast of As Salman, Iraq, securing it at 240740Z. Other units quickly penetrate Iraqi forward positions and drive deep into Iraq and Kuwait, always supported by a massive close-air-support (CAS) and combat-air-patrol (CAP) umbrella. Over 3,000 sorties were flown as a prelude to the start of offensive ground operations, including more than 1,200 against armor, artillery and infantry, and others against "selected" airfields, bridges, arms plants, nuclear-biological-chemical and command, control, and communications sites. Forty-three B-52s struck Iraqi defenses and infantry positions in the KTO, and more than 400 sorties were allocated to CAS. The Coalition also initiated a revised counterair plan to seal off the KTO from any reemergence of an Iraq air-to-ground threat, by maintaining continuous combat air patrols from the Red Sea to the Gulf and throughout Iraq. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 242115Z Feb 91, GWAPS, CSS #29)

USCINCCENT reports that low ceilings and rain showers over parts of the KTO hampered air operations early in the day. The rapid advance of ground troops into Iraq and Kuwait required retargeting of preplanned close-air support and battlefield air interdiction missions, including inbound B-52 strikes. Light resistance throughout the front relegated most air-to-ground sorties to "kill zone" targets well behind enemy lines. A rough estimate of the day's battle damage assessment from pilot reports indicated that 76 tanks, 66 armored personnel carriers, 151 trucks/vehicles, 98 artillery/multiple rocket launchers, 60 revetments/ buildings/bunkers, and 8 anti-aircraft artillery/surface-to-air missiles destroyed. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 252115Z Feb 91, GWAPS, CSS #29)

Coalition air forces flew the largest number of sorties to date with the majority in direct support of allied ground forces. Also struck were bridges, headquarters, storage depots, production facilities, and airfields. The Canadian Air Force flew its first offensive/interdiction missions of the air campaign. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 250800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducts three strike packages (127 sorties) against industrial sites and SAM training areas in northern Iraq. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 250703Z Feb 91, GWAPS, CSS #46)

Other Activities: Two JTF Proven Force F-16s dropped leaflet bombs (400,000 leaflets) in the vicinity of Kirkuk and Mosul. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 250703Z Feb 91, GWAPS, CSS #46)

Both the VII and XVIII Corps reported effective close air support in conjunction with their line breaching and air assault operations, respectively. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 250300Z Feb 91, GWAPS, NA-523)

USSOCCENT air units exfiltrate two USARCENT special forces teams from positions behind Iraqi lines. One team, under fire from Iraqi forces, employs close air support to break contact and cover its withdrawal. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 252115Z Feb 91, GWAPS, CSS #29)

USCENTAF directs that " . . . it is better to return with bombs than to risk hitting friendlies." (Msg DCO to All WOCs, subj: Fratricide, 241352Z Feb 91).

They also direct that " . . . close air support and air interdiction missions are not weather cancelled by some decision maker removed from the scene. The time has come for the flight lead to make every reasonable effort to attack the target and get his flight back home. Our ground guys are depending on every sortie. From now on, it is up to every aviator to make it happen." (Msg (S), DCO to All WOCs, 241827Z Feb 91) (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Following the escape of 2 MiG-23s and a possible VIP 737 to Iran during two periods of non-coverage as a result of Navy F-14s returning to the ship without notifying anyone, USCENTAF directs that F-15Cs will "orbit Baghdad" until the war ends. (CC/DO TACC Current Ops Log (S), GWAPS,NA-215)

25 February 1991
C+202 D+40 G+1

Intelligence: USCINCCENT finds nothing to report on Iraqi Air Force activities and, based on piecemeal Iraqi field operations, he assesses that the Iraqi corps commander could not execute a division-level counterattack

and is controlling only the movement of brigades. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 252115Z Feb 91, GWAPS, CSS #29)

Scud War: Two Scuds are launched, but they go too wide of any target area to be engaged by Patriot SAMs. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 252115Z Feb 91, GWAPS, CSS #29)

Iraq launches two more Scuds. The first, fired at Dhahran, is not engaged, while the second misses Qatar and is not engaged. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 262115Z Feb 91, GWAPS, CSS #29)

Support Activities: An Air Force weather forecaster, attached to the XVIII Airborne Corps, contributed importantly to the successful extraction of a USARCENT Long-Range Surveillance Team (LRST). The LRST called for an emergency extraction, just as increasing winds and dropping visibility associated with a passing front made the mission unlikely to succeed. But, heeding the timing estimates of the forecaster, the involved aviators delayed their takeoffs, so as to arrive at the pickup zone just as the passing of the front allowed the weather to improve enough for an immediate and safe extraction. (Air Weather Service, "Air Weather Service Contribution to Winning the War–The Value of Weather Support: Operation Desert Storm/Desert Shield Report 1," 23 May 1991, p 31, GWAPS, NA-531)

Logistics: The USCENTAF overall aircraft mission capable rate is 91.5 percent. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 260800Z Feb 91, GWAPS, CSS #6)

Planning: COMUSCENTAF places primary emphasis on "accurate and timely support for coalition ground forces. Stringent target identification requirements for CAS missions continue to be stressed." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 250800Z Feb 91, GWAPS, CSS #6)

CJTF Proven Force's priority for conducting offensive air operations for the next 24 hours is to maintain air supremacy over northern Iraq and strike nuclear and missile R&D and production facilities. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 260703Z Feb 91, GWAPS, CSS #46)
Air Operations: USCINCCENT Sortie Recap (250100Z to 260100Z): USCENTAF-1518, USNAVCENT-556, USMARCENT (fixed-wing)-382, Allied-425.

USCINCCENT's "rough" battle damage assessment for the day includes 170 tanks, 62 armored personnel carriers, 155 other vehicles and 103

artillery pieces destroyed by coalition air. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 262115Z Feb 91, GWAPS, CSS #29)

USCINCCENT also reports that coalition air forces continued their massive campaign of close air support, interdiction and strategic strikes against Iraq. Over 500 close air support sorties supported fast moving armored forces. Poor weather renders many British, French and Canadian sorties ineffective, though F-111 and F-15E precision strikes "again took a heavy toll on Iraqi armor and artillery." "As weather deteriorated," USCINCCENT reports, "increased reliance was placed on radar bombing by front line fighters." (Msg (S), USCINCCENT to JCS, subj: Sitrep, 262115Z Feb 91, GWAPS, CSS #29)

Coalition air forces continue to support rapidly advancing coalition ground forces. Lower ceilings in the KTO required coalition air forces to vary their tactics. A USMC AV-8B was shot down, with the pilot rescued, and a USMC OV-10 was lost, with the aircrew missing. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 260800Z Feb 91, GWAPS, CSS #6)

Bad weather cancels two of three planned JTF Proven Force strike packages, and it degrades the third. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 260703Z Feb 91, GWAPS, CSS #46)

2100Z, JSTARS reports movement north from Kuwait city. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

At 250702Z the 1st and 2nd brigades of the 101st Airborne Division (Air Assault) completed their 85 nautical-mile air assault into Landing Zone (LZ) Cobra, near As Salaman, Iraq. At 250702Z the 3rd Brigade flew 120 nautical miles, to take LZ Sand, just across the Euphrates River and southeast of Al Khidr, Iraq. Meanwhile, 110 CH-47D sorties are used in the logistic buildup of LZ Cobra. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 260300Z Feb 91, GWAPS, NA-523)

Other Activities: Support personnel and equipment for the C-130 Volant Solo propaganda broadcast aircraft arrive at Incirlik. The first mission is planned for 28 February. Meanwhile, planning continues for USCINCCENT directed leaflet drop to counter Iraqi collateral damage propaganda. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 260703Z Feb 91, GWAPS, CSS #46)

At 1025Z the USCENTAF Joint Rescue Coordination Center receives a report of a possible downed aircraft 30 nautical miles south of Kuwait City. Later confirmed to be a USMARCENT OV-10, the aircraft's wreckage is located, but no contact is made with the 2 crewmen. At 1156Z a Saudi Air Force helicopter is reported missing 30 nautical miles west of Dhahran, Saudi Arabia. A passing motorist located the crash site near King Fahd medical center with 3 deceased in the wreckage. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 251430Z Feb 91, GWAPS, CSS #24)

26 February 1991
C+203 D+41 G+2

Air Order of Battle: A Volant Solo aircraft arrives at Incirlik. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 270703Z Feb 91, GWAPS, CSS #46)

Medical: USCENTCOM now has 16,536 operational medical beds in the theater. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 262115Z Feb 91, GWAPS, CSS #29)

Logistics: Heavy rains and morning fog restricted USARCENT air unit movement and aerial resupply missions, while simultaneously water-logging several ground main supply routes. But, USARCENT does not anticipate any major supply problems in the immediate future. (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 270300Z Feb 91, GWAPS, NA-523)

The USCENTAF overall aircraft mission capable rate is 92.8 percent. COMUSCENTAF removes munitions and POL issues from his logistics top priority list, leaving only resupply/WRSK. A B-52 sustains battle damage to the aft section of the aircraft and a F-16 receives battle damage to the underside of the aircraft, both are being assessed for repair. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 270800Z Feb 91, GWAPS, CSS #6)

Planning: CJTF Proven Force's offensive air priorities for the next 24 hours are unchanged. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 270703Z Feb 91, GWAPS, CSS #46)

Air Operations: USCINCCENT Sortie Recap (260100Z to 270100Z): USCENTAF-1673, USNAVCENT-664, USMARCENT (fixed-wing)-405, Allied-417. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Feb 91, GWAPS, CSS #29)

USCINCCENT's "rough" battle damage estimate for the day includes 13 bridges, 128 tanks, 38 armored personnel carriers, 401 trucks and numerous other Iraqi targets destroyed from the air. (Msg (S), USCINCCENT to AIG 904, subj: Sitrep, 272115Z Feb 91, GWAPS, CSS #29)

With over 3,200 [illegible]led sorties, COMUSCENTAF continues to provide the maximum sup[illegible]e to coalition ground forces, in spite of problems caused by s[illegible]d weather yesterday and today. Utilizing a "push" CAS system, whe[illegible] CAS sorties are not used, they are diverted to air interdiction of Republican Guard forces south and west of Basrah. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 260800Z Feb 91, GWAPS, CSS #6)

Fifty-two packages and twenty-two B-52 strikes hit bridges, airfields, production and storage facilities, and command and control sites. Over 350 missions were flown in direct support of coalition ground forces destroying artillery and armor as Iraqi forces repositioned. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 270800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducted three strike packages (116 sorties) against missile research and development, and nuclear production facilities in the Mosul and Al Mawsil area. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 270703Z Feb 91, GWAPS, CSS #46)

COMUSARCENT also reports "integration of close air support into [the] corps fight continues with great success." (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 260300Z Feb 91, GWAPS, NA-523)

Other Activities: The daily psychological operations campaign continues as F-16s drop leaflet bombs over the Iraqi 49th Infantry Division. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 262115Z Feb 91, GWAPS, CSS #29)

27 February 1991
C+204 D+42 G+3

Background Events: President Bush, declaring that "Kuwait is liberated" and "Iraq's Army is defeated," orders the suspension of offensive military operations against President Saddam Hussein's battered army. The suspension begins at midnight eastern time, and will continue as long as Iraq does not attack allied forces or launch missile attacks on any other country. Iraq must honor all twelve U.N. resolutions on Kuwait, free all prisoners of war and detained Kuwaiti citizens, and give the allies the location of all land

and sea mines that Iraq had laid in the region. (*New York Times*, 28 February, p A1)

Scud War: USCENTAF A-10s and USMARCENT F/A-18s report destroying 10 and 4 Scud missiles on their launchers, respectively, with the USMARCENT aircraft also claiming 2 probables. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 272115Z Feb 91, GWAPS, CSS #29)

Air Order of Battle: All 21 Patriot and 24 HAWK SAM fire units present in the AOR are operational, but they find no targets to engage, though one HAWK battery does capture 120 enemy prisoners of war. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 272115Z Feb 91, GWAPS, CSS #29)

Logistics: The overall mission capable rate is 93.1 percent. USCENTAF instructs those munitions ships due to close in the AOR after 4 March to return to their ports of embarkation. Those ships scheduled to arrive by 4 March are being placed in safe haven. Vehicle shipments which are not underway are cancelled. Recommendation is made for home unit installation mobility teams to augment in-place specialist to manage redeployment activities. An F-16 sustained battle damage to the left wing and lower intake, preventing the nose gear from extending for landing. Damage assessment is in progress. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Feb 91, GWAPS, CSS #6)

USCENTAF reports that the total number of communicators in the theater is 2,148 and includes combat communications, ground Tactical Air Control System, Stratfor, Comalf, and air traffic controllers. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Planning: USCINCCENT estimates that "over the next 24 hours, the Iraqi Army in the Kuwait Theater of Operations will be destroyed." (Msg (S), USCINCCENT to JCS, subj: Sitrep, 272115Z Feb 91, GWAPS, CSS #29)

Air Operations: USCINCCENT Sortie Recap (270100Z to 280100Z): USCENTAF-1651, USNAVCENT-671, USMARCENT (fixed-wing)-147, Allied-471. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 282115Z Feb 91, GWAPS, CSS #29)

Despite poor weather and visibility in many parts of the AOR, over 450 close air support sorties support fast moving ground forces as Iraqi units crumbled under the combined air-ground assault. Interdiction sorties patrolled rivers and roads, took out bridges and causeways, and attacked

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bottled-up convoys of retreating Iraqi forces. Low ceilings and rain again caused reliance on aircraft radar delivery systems in much of the KTO. As USMARCENT forces reach their final objectives, their Air Combat Element reduces flight operations to the "sustained rate," while maintaining airborne combat air patrols and on-call close air support flights. With most of Kuwait in coalition hands, C-130 Airborne Command and Control aircraft move their orbits north to improve communications. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 272115Z Feb 91, GWAPS, CSS #29)

Coalition air forces concentrate on the close air support mission, though interdiction sorties are still flown against enemy hardware, airfields and ammunition facilities. An AV-8 and an F-16 are lost with both pilots. An OA-10 with battle damage crashed on landing killing the pilot. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Feb 91, GWAPS, CSS #6)

JTF Proven Force conducted three strike packages (119 sorties) against the Taji steel fabrication plant. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 280703Z Feb 91, GWAPS, CSS #46)

Deep attacks by USARCENT 11th, 12th and 101st Aviation brigades account for over 80 armored vehicles, 54 transport vehicles, several air-defense systems and other targets destroyed. The 101st Airborne Division's 2nd Brigade lifts 85 nautical miles almost due east from Landing Zone Cobra to take Objective Tim, where the 12th and 101st Aviation brigades immediately establish forward air refuelling points (FARPS). (Msg (S), COMUSARCENT MAIN to AIG 11743, subj: Sitrep, 280300Z Feb 91, GWAPS, NA-523)

GBU-28 is dropped on Taji bunker. (CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

Other Activities: Four JTF Proven Force F-16s dropped 14 M-129 leaflet (900,000 leaflets) bombs on elements of the Iraqi 38th and 2nd divisions. (Msg (S), USCINCEUR to AIG 7824, subj: Sitrep, 280703Z Feb 91, GWAPS, CSS #46)

The USSOCCENT mobile command post deploys to Kuwait Airport in nine helicopter sorties. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 272115Z Feb 91, GWAPS, CSS #29)

The USCENTAF Joint Rescue Coordination Center reports the following events: 0345Z, an AWACS reports a downed USMC AV-8B 25 nautical miles

north of Kuwait City, with no contact with the pilot; 1200Z, and AWACS reports a downed F-16 26 nautical miles west-southwest of Basra, with one of two Army helicopters making an unsuccessful rescue attempt shot down; 2133Z, two OV-1s attempted to land at Hafar al Batin when the lights went out, one ran off the runway and the other crew went five miles out and bailed out. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 281430Z Feb 91, GWAPS, CSS #24)

28 February 1991
C+205 D+43 G+4

Background Events: The ceasefire goes into effect at 280500Z.

Air Operations: USCINCCENT Sortie Recap (280100Z to 010100Z): USCENTAF-575, USNAVCENT-187, USMARCENT (fixed-wing)-30, Allied-200. (Msg (S), USCINCCENT to JCS, subj: Sitrep, 012115Z Mar 91, GWAPS, CSS #29)

At the direction of the President, offensive air operations cease at 0500Z. (Msg (S) USCINCCENT to COMUSARCENT MAIN, subj: Frago 028 to USCINCCENT Opord 91-001 for Operation Desert Storm, 280500Z Feb 91, CC/DO TACC Current Ops Log (S), GWAPS, NA-215)

USCINCCENT reports that "allied air forces concentrated on killing enemy hardware and supporting ground troops in the final battles before the cease fire went into effect." Using all-weather systems to overcome poor visibility and low ceilings, coalition aircraft "hit bridges and causeways to keep trapped Republican Guards and other remaining Iraqi ground units bottled up. Despite "often stiff resistance," other aircraft hit armor and vehicle movements, while deep strikes hit ammo storage, chemical/biological storage, railroad, missile production and "numerous" airfield targets. With the end of offensive ground operations, USCINCCENT plans to continue Scud suppression patrols over Iraq, maintain the air defense posture at "near full strength," and to hold a "healthy percentage" of his air assets in "various stages of alert." (Msg (S), USCINCCENT to JCS, subj: Sitrep, 282115Z Feb 91, GWAPS, CSS #29)

COMUSCENTAF reports that all combat operations scheduled after 0500Z are cancelled, but 25 percent of the ground attack aircraft are maintained on alert and surveillance, reconnaissance, air defense, and Scud-response missions continue. US AWACS surveillance flights continue. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Feb 91, GWAPS, CSS #6)

COMUSCENTAF also reports that air interdiction against military headquarters, airfields, and ammo/arms production facilities and close air support were flown until 280500Z when the cease fire went into effect. Defensive CAPs, reconnaissance, Scud response, and AWACS sorties continue to be flown. Remainder of ground attack aircraft are on 2-hour alert, with ten A-10s providing 30 minute alert capability. (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 010800Z Mar 91, GWAPS, CSS #5)

Evaluating coalition air operations, COMUSCENTAF reports "I am extremely pleased with [the] performance of coalition air forces. Never in [the] history of warfare have air forces of so many nations been as effectively integrated. Coalition air forces had spirit of cooperation that made this possible. Air forces played [the] central role in Operation Desert Storm, neutralizing [the] Iraqi Air Force; destroying integrated air defense system, command and control structure, nuclear, biological, and chemical production capability, and capability of producing long range missiles; and severely attriting Iraqi ground forces. We also stand ready to conduct follow-on operations, as needed." (Msg (S), USCENTAF to AIG 9671, subj: Sitrep, 280800Z Feb 91, GWAPS, CSS #6)

Other Activities: At 0540Z, the USARCENT Rescue Coordination Center reports a UH-1V missing 10 nautical miles south of Rumaylah, with a search in progress. (Msg (S), USCENTAF/JRCC to COMUSARCENT MAIN, subj: Sitrep, 281430Z Feb 91, GWAPS, CSS #24)

1 March 1991
C+206 D+44

Air Operations: USCINCCENT reports that surveillance orbits and defensive combat air patrols continue, while close air support assets "assumed a short fuse ground alert posture." Six A-10s were scrambled around mid-day due to the threat of a possible confrontation on the battlefield. Tensions subsided and the situation was under control by the time the aircraft arrived. Reconnaissance as well as A-10, F-15E, and F-16 Scud response missions continued. Summarizing the air campaign, he reports that, "in the 43 days of the airwar, coalition forces flew over 110,000 sorties, ending the period with an overall aircraft mission capable rate of 93.4 percent." (Msg (S), USCINCCENT to JCS, subj: Sitrep, 012115Z Mar 91, GWAPS, CSS #28)

As of 280000Z Feb, B-52s from all forward operating locations, except Andersen AFB, Guam, have flown 1,645 strike sorties against Iraq, while SAC tankers have flown 11,834 sorties, to offload 531 million pounds of

fuel in support of Desert Storm. Since 2 Aug 90, SAC reconnaissance aircraft have flown 1,083 sorties (516 RC-135, 296 U-2, and 271 TR-1). (Msg (S), CINCSAC to JCS, subj: Sitrep, 010400Z Mar 91, GWAPS, CSS #81)

As of 010001Z March MAC has moved 3,803 non-combattant evacuees; offloaded 12,945 missions in the AOR, Turkey, and Israel; completed a total of 15,317 missions; moved 482,997 passengers and 519,458 tons of cargo; and aeromedically evacuated 1,000 litter and 2,197 ambulatory patients in the theater, 2,115 and 3,352, respectively, to Europe, and 713 litter and 1,488 ambulatory Desert Shield/Storm patients from Europe to the CONUS. (Msg (S), MACCAT to USTRANSCOM, subj: Sitrep, 31 Jan 91, GWAPS, CSS #105)

Other Activities: The USCENTAF Joint Rescue Coordination Center tracked 56 combat incidents, launched 13 rescue missions to rescue 77 personnel, and ultimately recovered 3 individuals. (Msg (S), USCENTAF/JRCC to USCINCCENT, subj: Sitrep, 101900Z Jul 91, GWAPS, CSS #24)

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Glossary

AAA	Antiaircraft Artillery
AAAM	Advanced Air-to-Air Missile
AADC	Area Air Defense Commander
AAI	Air-to-Air Interrogator Set
AAV	Amphibious Assault Vehicle
AAR	After Action Report
AASLT Div	Air Assault Division (US)
AB	Air Base
ABCCC	Airborne Battlefield Command and Control Center
ABDR	Aircraft Battle Damage Repair
ABF	Advanced Bomb Family
ABFDS	Aerial Bulk Fuel Delivery System
Abn Corps	Airborne Corps (US)
AC	Active Component
ACA	Airspace Control Authority or Airlift Clearance Authorities
ACAS	Air Combat Assessment Summary
ACC	Air Component Commander or Airspace Coordination Center or Arab Cooperation Council
ACCS	Airborne Command and Control Squadron
ACE	Airborne Command Element (USAF) or Aviation Combat Element (USMC) or Air Combat Element (NATO) or Armored Combat Earthmover (US Army)
ACM	Air Combat Maneuvers

ACO	Airspace Coordination Order or Airspace Control Order
ACR	Armored Cavalry Regiment
ACV	Armored Combat Vehicle (US Army) or Air Cushion Vehicle (USN)
AD	Air Division
ADA	Air Defense Artillery
A/DACG	Arrival/Departure Airfield Control Group
ADOC	Air Defense Operations Center
ADX	Air Defense Exercise
AECC	Aeromedical Evacuation Control Center
Aegis	Ship based long-range air defense system.
AELT	Aeromedical Evacuation Liaison Team
AES	Aeromedical Evacuation Squadron
AEW	Airborne Early Warning
AFB	Air Force Base
AFCOMAC	Air Force Combat Ammunition Center
AFDIGS	Air Force Digital Graphics System
AFEWC	Air Force Electronic Warfare Center
AFGWC	Air Force Global Weather Center
AFHRA	Air Force Historical Research Agency
AFLC	Air Force Logistics Command
AFLIF	Air Force Logistics Information File
AFLMC	Air Force Logistics Management Center
AFMSS	Air Force Mission Support System
AFR	Air Force Reserve

AFSC	Air Force Systems Command or Air Force Specialty Code
AFSOC	Air Force Special Operations Command
AFSOUTH	Allied Forces, South (NATO)
AFWMPRT	Air Force Wartime Manpower and Personnel Readiness Team
AGE	Aerospace Ground Equipment
AGL	Above Ground Level
AI	Air Interdiction
AIF	Automated Installation File
AIR	Air Inflatable Retarder
AIWS	Advanced Interdiction Weapons System
ALARM	Air-Launched Anti-Radiation Missile
ALC	Air Logistics Center
ALCC	Airlift Control Center
ALCE	Airlift Control Element
ALCM	Air-Launched Cruise Missile
ALMSNSCD	Airlift Mission Schedule
ALO	Air Liaison Officer
AMI	Aeronautical Militare Italiana
AMRAAM	Advanced Medium-Range Air-to-Air Missile
AMU	Aircraft Maintenance Unit
ANG	Air National Guard
ANGLCO	Air and Naval Gunfire Liaison Company (USMC)
AO	Area of Operation
AOB	Air Order of Battle
AOR	Area of Responsibility
APC	Armored Personnel Carrier

APCC	Aerial Port Control Center
APOD	Aerial Port of Debarkation
APS	Afloat Prepositioning Ship
ARBS	Angle Rate Bombing Set (USMC)
ARC	Air Reserve Components
ARCENT	U.S. Army Forces, Central Command
AREFS	Air Refueling Squadron
ARM	Antiradiation Missiles
ARNG	U.S. Army National Guard
ARS	Air Rescue Service
ARW	Air Rescue Wing
ASARS	Advanced Synthetic Aperture Radar System
ASD(PA)	Assistant Secretary of Defense (Public Affairs)
ASD(SO-LIC)	Assistant Secretary of Defense (Special Operations and Low Intensity Conflict)
ASM	Air-to-Surface Missile
ASMA	Air Staff Management Aide (UK and Iraq)
ASOC	Air Support Operations Center (Army/USAF)
ASUWC	Anti-to-Surface Unit Warfare Commander (USN)
ATACMS	Army Tactical Missile System
ATAF	Allied Tactical Air Force (NATO)
ATC	Air Training Command (USAF)
ATGM	Anti-Tank Guided Munition
ATO	Air Tasking Order
ATTG	Automated Tactical Target Graphic

AUTODIN	Automatic Digital Network
AVCAL	Aviation Coordinated Allowance List (USN)
AVLB	Armored Vehicle-Launched Bridge
Avn Bde	Aviation Brigade (US)
AWACS	Airborne Warning and Control System
AWN	Automated Weather Network
AWS	Airborne Warning System
BAAF	Bahrain Amiri Air Force
BAI	Battlefield Air Interdiction
BARCAP	Barrier Combat Air Patrol
BAS	Basic Allowance for Subsistence
BBBG	Battleship Battle Group
BCE	Battlefield Coordination Element
BDA	Bomb Damage Assessment
Bde	Brigade (US)
BDU	Battle Dress Uniform
BE or BEN	Basic Encyclopedia (number)
BEEF	Base Engineer Emergency Force
BLT	Battalion Landing Team (USMC)
BMP	Soviet armored personnel carrier
BMS	Bombardment Squadron
BMW	Bombardment Wing
B/N	Bombardier/Navigator
BND	German Federal Intelligence Service
BTG	Basic Target Graphic
BVR	Beyond Visual Range
BW	Biological Warfare

C-Day	Deployment Day
C3	Command, Control, and Communications
C3CM	Command, Control, Communications Countermeasures
C3I	Command, Control, Communications, and Intelligence
C3IC	Coordination, Control, Communications, and Intelligence Center
C4	Command, Control, Communications, and Computers
CA	Civil Affairs
CADOB	Consolidated Air Defense Order of Battle
CAF	Canadian Air Force
CAFMS	Computer Aided Force Management System
CAFT	Center for Anti-Fratricide Technology
CALCM	Conventional Air Launched Cruise Missile
CAMS	Core Automated Maintenance System
CAP	Combat Air Patrol
CAS	Close Air Support or Combat Ammunition System
CASSUM	Close Air Support Summary
CAT	Crisis Action Team
CB	Chemical/Biological
CBU	Cluster Bomb Unit
CBW	Chemical/Biological Weapons
CCD	Camouflage, Concealment and Deception

CCIP	Continuously Computed Impact Point
CCRC	Combined Control and Reporting Center
CEM	Combined Effects Munition
CEMIRT	Civil Engineering Maintenance, Inspection, Repair, and Training
CENTAF	U.S. Air Force, Central Command
CENTCOM	U.S. Central Command
CEP	Circular Error Probable
CES	Civil Engineering Squadron
CEV	Combat Engineer Vehicle
CFT	Conformal Fuel Tank
CI	Civilian Internees
CIA	Central Intelligence Agency
CIFS	Close-In Fire Support (USMC)
CINC	Commander-in-Chief
CINCCENT	Commander-in-Chief U.S. Central Command
CINCMAC	Commander-in-Chief, Military Airlift Command
CINCSPACE	Commander-in-Chief U.S. Space Command
CINCTRANS	Commander-in-Chief, U.S. Transportation
CINCTRANSCOM	Commander-in-Chief U.S. Transportation Command
CJCS	Chairman, Joint Chiefs of Staff
CMMS	Congressionally Mandated Mobility Study
CNN	Cable News Network

COCOM	Combatant Command (Command Authority)
COMALF	Commander, Airlift Forces
COMAO	Composite Air Operation
COMMZ	Communications Zone
COMPES	Contingency Operations Mobility Planning and Execution System
COMSEC	Communications Security
COMTAC	Commander of Tactical Air Command
COMUSCENTAF	Commander, U.S. Air Force, Central Command
COMUSCENTCOM	Commander, U.S. Central Command
CNA	Center for Naval Analysis
CNO	Chief of Naval Operations
COMINT	Communications Intelligence
COMSAT	Communications Satellite
CONUS	Continental United States
COSCOM	Corps Support Command (US Army)
CPX	Command Post Exercise
CRAF	Civil Reserve Air Fleet
CRC	Control and Reporting Center
CS	Combat Support
CSAR	Combat Search and Rescue
CSG	Contingency Support Graphic
CSS	Combat Service Support
CSSA	CENTAF Supply Support Agency or Combat Service Support Area
CT	Counterterrorism
CTJTF	Counterterrorism Joint Task Force
CVBG	Aircraft Carrier Battle Group (USN)

CW	Chemical Warfare
CWEP	Conventional Weapons Enhanced Penetration
CWP	Contingency Weather Package
D&D	Decoy and Deception
DACT	Dissimilar Aerial Combat Tactics
DARPA	Defense Advanced Research Projects Agency
DAS	Deep Air Support (USMC)
DASC	Direct Air Support Center (USMC)
DCA	Defense Communications Agency
DCI	Director of Central Intelligence
D-Day	Unnamed day on which an operations begins
DDN	Defense Data Network
DF	Direction Fired or Direction Finding
DFR/ME	Defense Fuel Region, Middle East
DFSC	Defense Fuel Supply Center
DFSP	Defense Fuel Supply Point
DIA	Defense Intelligence Agency
DIS	Daily Intelligence Summary
DISA	Defense Information Systems Agency
Div	Division
DLA	Defense Logistics Agency
DLIR	Downward Looking Infrared
DMA	Defense Mapping Agency
DMDC	Defense Manpower Data Center
DMI	Directorate of Military Intelligence (Israel, Iraq, Egypt)

DMSP	Defense Meteorological Satellite Program
DMPI	Desired Mean Point of Impact
DNA	Defense Nuclear Agency
DOC	Designed Operational Capability
DOD	Department of D
DOE	Department of I
DOPMA	Defense Office ersonnel Management Act
DOS	Department of State
DOT	Department of Transportation
DOWSR	Directorate of Weather for Strategic Reconnaissance
DPA	Defense Production Act
DPG	Defense Planning Guidance
DSB	Defense Science Board
DSCS	Defense Satellite Communication System
DSFU	Desert Storm Forecast Unit
DSMAC	Digitized Scene Mapping and Correlation
DSP	Defense Support Program
EAC	Echelon Above Corps or Eastern Area Command
ECM	Electronic Countermeasures
ECS	Electronic Combat Squadron
EDS	European Distribution System
EDT	Eastern Daylight Time
ELINT	Electronic Intelligence
EMIS	Electro-Magnetic Isotope Separation

EOB	Electronic Order of Battle
EOD	Explosive Ordnance Disposal
EOGB	Electro-Optically Guided Bomb
EOTDAS	Electro-Optical Tactical Decision Aid Software
EPW	Enemy Prisoner of War
ESA	European Space Agency
EST	Eastern Standard Time
ETTF	European Tanker Task Force
EUCOM	European Command
EW	Electronic Warfare
EWO	Electronic Warfare Officer
EWWS	Electronic Warfare Warning System or Set
FAC	Forward Air Control
FAE	Fuel Air Explosive
FAF	French Air Force
FAPES	Force Augmentation Planning and Execution System
FEBA	Forward Edge of the Battle Area
FEWS	Follow-on Early Warning System
FHTV	Family of Heavy Tactical Vehicles
FID	Foreign Internal Defense
FLIR	Forward-Looking Infrared
FLOGEN	Flow Generation computer model
FLOT	Forward Line of Own Troops
FMC	Fully Mission Capable
FMF	Fleet Marine Force
FMS	Foreign Military Sales

FMSE	Fuels Management Support Equipment
FMTV	Family of Medium Tactical Vehicles
FNOC	Fleet Numerical Oceanography Center (USN)
FOL	Forward Operating Location
FORSCOM	U.S. Army Forces Command
FOSK	Follow-on Spares Kits
FOV	Field of View
FROG	Free Rocket Over Ground
FSCL	Fire Support Coordination Line
FSS	Fast Sealift Support
FTX	Field Training Exercise
G-Day	Day the ground war began
GAO	General Accounting Office
GC	Geneva Convention
GCC	Gulf Cooperation Committee
GCI	Ground Control Intercept
GCU	Guidance and Control Unit
GDSS	Global Decision Support System
GENA	Ground Air Navigation Aids radar (U.K./Saudi)
GHQ	General Headquarters (usually theater level)
GLO	Ground Liaison Officer
GMT	Greenwich Mean Time
GNA	Goldwater-Nichols DOD Reorganization Act
GOB	Ground Order of Battle
GOK	Government of Kuwait
GOSC	General Officer Steering Committee

GP	General Purpose bomb
GPS	Global Positioning System or Satellite
H-Hour	Specific time at which operations commence
HA	Heavy Armor
HARM	High Speed Antiradiation Missile
HAB	Hardened Aircraft Bunker
HAS	Hardened Aircraft Shelter
HEMTT	Heavy Expanded Mobility Tactical Truck
HET	Heavy Equipment Transporter
HF	High Frequency
HIDACZ	High Density Airspace Control Zone
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HNS	Host-nation Support
HTPM	Hard Target Penetrator Munitions
HUD	Heads-Up Display
HUMINT	Human Resources Intelligence
HVAA	High Value Airborne Assets
I&W	Indications and Warnings
IAADF	Iraqi Air and Air Defense Forces
IADF	Iraqi Air Defense Forces
IADS	Integrated Air Defense System
IAEC	International Atomic Energy Commission
IAF	Italian Air Force
ICAO	International Commercial Aviation Organization

ICRC	International Committee of the Red Cross
IDF	Israel Defense Force
IFF	Identification Friend or Foe
IFR	Instrument Flight Reference
IFV	Infantry Fighting Vehicle
IIR	Intelligence Information Report or Imaging Infrared
ILM	Intermediate-Level Maintenance
ILMC	Intermediate-Level Maintenance Center
IMA	Individual Mobilization Augmentee
IMET	International Military Education and Training
IMINT	Imagery Intelligence
IMQT	Initial Mission Qualification Training
INS	Inertial Navigation System
IOC	Intercept Operations Center or Integrated Operations Center
IOT&E	Initial Operational Test and Evaluation
IP	Initial Point
IPDS	Inland Petroleum Distribution System (US Army)
IR	Infrared
IRR	Individual Ready Reserve
ISW	Integrated Strike Warfare
ITAC	Intelligence and Threat Analysis Center (US Army)
ITF	Intelligence Task Force (DIA)
IZAF	Iraqi Air Force
J-1	Manpower & Personnel Directorate (Joint)

J-2	Intelligence Directorate (Joint)
J-3	Operations Directorate (Joint)
J-4	Logistics Directorate (Joint)
J-5	Strategic Plans & Policy Directorate (Joint)
J-6	Command, Control & Communications Systems Directorate (Joint)
J-7	Operational Plans & Interoperability Directorate (Joint)
J-8	Force Structure Resource & Assessment Directorate (Joint)
JAAT	Joint Air Attack Team
JAG	Judge Advocate General
JAIC	Joint Atomic Intelligence Committee
Jaguar	Land-based ground attack aircraft
JAMPS	Joint Automated Message Program
JCEOI	Joint Communications Electronics Operations Instructions
JCMEC	Joint Captured Material Exploitation Center
JCS	Joint Chiefs of Staff
JCSE	Joint Communications Support Element
JDOP	Joint U.S./Saudi Directorate of Planning
JDS	Joint Deployment System
JFACC	Joint Force Air Component Commander.
JFC	Joint Forces Commander
JFC-E	Joint Forces Command East
JFC-N	Joint Forces Command North

JFLCC	Joint Forces Land Component Commander
JFMCC	Joint Forces Maritime Component Commander
JFSOCC	Joint Forces Special Operations Component Commander
JIB	Joint Information Bureau
JIC	Joint Intelligence Center
JIPC	Joint Imagery Production Center
JIST	Joint Intelligence Survey Team
JMCC	Joint Movement Control Center
JMEM	Joint Munitions Effectiveness Manual
JOPES	Joint Operations Planning and Execution System
JPEC	Joint Planning and Execution Community
JPTS	Jet Propellant Thermally Stable
JRC	Joint Reconnaissance Center
JRCC	Joint Rescue Coordination Center
JS	Joint Staff
JSCP	Joint Strategic Capabilities Plan
JSEAD	Joint Suppression of Enemy Air Defenses
JSIPS	Joint Service Imagery Processing System
JSOTF	Joint Special Operations Task Force
JSPS	Joint Strategic Planning System
JSTARS	Joint Surveillance Target Attack Radar System (E-8)
JTACMS	Joint Tactical Missile System
JTCB	Joint Target Coordination Board

JTF	Joint Task Force
JTFME	Joint Task Force Middle East
JTIDS	Joint Tactical Information Distribution System
JTTP	Joint Tactics, Techniques and Procedures
JULL	Joint Uniform Lessons Learned
KAF	Kuwaiti Air Force
KCATF	Kuwait Civil Affairs Task Force
KHZ	Kilohertz
KKMC	King Khalid Military City
KIA	Killed In Action
KTO	Kuwait Theater of Operations
LAMPS	Light Airborne Multi-Purpose System (USN)
LANDSAT	Land Satellite, NASA/NOAA Satellite Program
LANTCOM	Atlantic Command
LANTIRN	Low Altitude Navigation and Targeting Infrared System for Night
LAV	Light Armored Vehicle
LCAC	Air Cushioned Landing Craft
LCC	Land Component Commander
LDGP	Low Drag General Purpose bomb
LENSCE	Limited Enemy Situation/Correlation Equipment
LG	Logistics
LGB	Laser Guided Bomb
LGGAIR	Logistics Airlift
LIATE	LANTIRIN Intermediate Automatic Test Equipment

LOC	Lines of Communication
LOS	Line of Sight
LOTS	Logistics Over the Shore
LRC	Logistics Readiness Center (USAF)
LRI	Long Range International
LVS	Logistics Vehicle System
MAC	Military Airlift Command
MACCS	Marine Air Command and Control System
MACG	Marine Air Control Group
MAG	Marine Airlift Group
MAGTF	Marine Air Ground Task Force
MAIRS	Military Airlift Integrated Reporting System
MAJCOMS	Major Commands
MAP	Master Attack Plan
MARCENT	U.S. Marine Corps, Central Command
MARDIV	Marine Division
MASF	Mobile Aeromedical Staging Facility
MASS	MICAP Asset Sourcing System
MAW	Marine Aircraft Wing
MCI	Ministry of Culture and Information (Iraq)
MCM	Mine Countermeasures or Multi-Command Manual
MEB	Marine Expeditionary Brigade
Mech Div	Mechanized Infantry Division
MEF	Marine Expeditionary Force
MEL	Mobile Erector-Launcher used for mobile missiles

METS	Mobile Electronic Test Set
METSAT	Meteorological Satellite
MEU	Marine Expeditionary Unit
MHE	Materiel Handling Equipment
MIA	Missing In Action
MIF	Maritime Interdiction Force
MICAP	Mission Critical Parts or Mission Capable or Mission Capability Limiting
MILCON	Military Construction
MILSATCOM	Military Satellite Communications
MILSTAR	Military Strategic and Tactical Relay System
MIO	Maritime Intercept Operations
MIPE	Mobile Intelligence Processing Element
MIS	Military Intelligence Study
MISREP	Mission Report
MLRS	Multiple Launch Rocket System
MLV	Memory Loader Verifier
MOBREP	Manpower Mobilization and Accession Status Report
MOD	Ministry of Defense
MODA	Ministry of Defense and Aviation (Saudi Arabia)
MOPP	Mission Oriented Protective Posture
MPES	Medical Planning and Execution System
MPF	Maritime Prepositioning Force
MPS	Maritime Prepositioning Ships
MRE	Meals Ready to Eat

MRR	Minimum Risk Route
MRS	Mobility Requirements Study
MSC	Military Sealift Command
MSE	Mobile Subscriber Equipment
MSI	Multi-Spectral Imagery
MSK	Mission Support Kits
MTACC	Marine Tactical Air Command Center
MTI	Moving Target Indicator
MTL	Master Target List
MTMC	Military Traffic Management Command
NAC	Northern Area Command
NALE	Naval Amphibious Liaison Element
NATO	North Atlantic Treaty Organization
NAVCENT	U.S. Navy, Central Command
NAVEUR	Naval Forces, Europe
NAVSTAR	Navigational Satellite Timing and Ranging
NBC	Nuclear, Biological, and Chemical
NCA	National Command Authorities
NCTR	Noncooperative Target Recognition
NDRF	National Defense Reserve Fleet
NDS	NPIC Data Systems
NF or NOFORN	Not Releasable to Foreign Nationals
NGB	National Guard Bureau
NGFS	Naval Gunfire Support
NIE	National Intelligence Estimate
NMAC	Near Mid-Air Collision
NMCS	Not Mission Capable Supplies

NMCM	Not Mission Capable Maintenance
NMIC	National Military Intelligence Center
NMIST	National Military Intelligence Support Teams
NOAA	National Oceanographic and Atmospheric Administration
NOB	Naval Order of Battle
NODDS	Naval Oceanographic Data Dissemination System
NPIC	National Photo Interpretation Center
NSA	National Security Agency
NSC	National Security Council
NTC	Night Targeting Cell (in GAT)
NVG	Night Vision Goggles
O&M	Operations and Maintenance
OAS	Offensive Avionics System
OASD/(DR&E)	Office of the Assistant Secretary of Defense (Defense Research & Engineering)
OASD/(SO/LIC)	Office of the Assistant Secretary of Defense (Special Operations/Low Intensity Conflict)
OB	Order of Battle
OCA	Offensive Counter Air
OCP	Observation Command Post
OICC	Operational Intelligence Crisis Center
OP	Observation Post
OPAIR	Opposing Air
OPCON	Operational Control
OPDS	Offshore Petroleum Distribution System (USN)

OPEC	Organization of Petroleum Exporting Countries
OPLAN	Operation Plan
OPORD	Operation Order
OPSEC	Operational Security
OSD	Office of the Secretary of Defense
OSI	Office of Special Investigations (USAF)
OSP	Operational Support Package
PACOM	Pacific Command
PA	Public Affairs
PAO	Public Affairs Officer
PCITF	Positive Combat Identification Task Force
PGM	Precision Guided Munitions
PIN	Primary Identification Number
PLO	Palestine Liberation Organization
PLS	Palletized Loading System
PLV	Program Loader Verifier
PMC	Partially Mission Capable
PMEL	Precision Measurement Equipment Laboratory
PMT	Pastoral Ministry Team
PNVS	Pilot Night Vision System
POG	Psychological Operations Group
POL	Petroleum, Oils and Lubricants
POMCUS	Pre-positioning of Material Configured to Unit Sets
POW	Prisoner of War
PREPO	Pre-positioned

PSYOP	Psychological Operation
PSYOPS	Psychological Operations
PTAS	Provisional Tactical Airlift Squadron
QEAF	Qatari Emiri Air Force
QRCT	Quick Reaction Communications Terminal
R&D	Research and Development
R&M	Reliability and Maintainability
RADIC	Rapidly Deployable Integrated Command and Control system
RAF	Royal Air Force (U.K.)
RAFVR	Royal Air Force Voluntary Reserve
RAM	Radar Absorptive Material
RC	Reserve Component
RCAF	Royal Canadian Air Force
RCC	Rescue Coordination Center or Revolutionary Command Council (Iraq)
RDAF	Royal Dutch Air Force
RDF	Rapid Deployment Force or Radio Direction Finding
RDIT	Rapid Deployment Imagery Terminal
RDJTF	Rapid Deployment Joint Task Force
Red Horse	Rapid Engineer Deployable, Heavy Operational Repair Squadron, Engineer
REMIS	Reliability and Maintainability Information System
RFI	Request for Information
RFMD	RED FLAG Measurement Debriefing
RGFC	Republican Guard Force Command (Iraq)
RIBS	Readiness in Base Services

RJAF	Royal Jordanian Air Force
RLT	Regimental Landing Team (USMC)
RO/RO	Roll On/Roll Off
ROE	Rules of Engagement
ROTHR	Relocatable Over-The-Horizon Radar
RPV	Remotely Piloted Vehicle
RRF	Ready Reserve Force or Ready Reserve Fleet
RSADF	Royal Saudi Air Defense Force
RSAF	Royal Saudi Air Force
RSLF	Royal Saudi Land Force
RTNEPH	Real-Time Nephanalysis
RW	Reconnaissance Wing
RWR	Radar Warning Receiver
S&TI	Scientific and Technical Intelligence
SA	Selective Availability
SAAF	Saudi Arabian Armed Forces
SAC	Strategic Air Command
SAG	Saudi Arabian Government or Surface Action Group (USN)
SAM	Surface-to-Air Missile
SAMAREC	Saudi Arabian Marketing and Refinir Company
SANG	Saudi Arabian National Guard
SAR	Search and Rescue
SAS	Special Air Service (U.K.)
SATCOM	Satellite Communications
SBS	Special Boat Service (U.K.)
SBSS	Standard Base Supply System

SCUD	Soviet surface-to-surface missile
SCI	Sensitive Compartmented Information
SCIF	Sensitive Compartmented Information Facility
SEAD	Suppression of Enemy Air Defenses
SEAL	Sea Air Land
SECDEF	Secretary of Defense
SFG	Special Forces Group
SFW	Sensor Fuzed Weapon
SHAPE	Supreme Headquarters, Allied Powers, Europe
SHF	Super High Frequency
SIDS	Secondary Imagery Dissemination System
SIGINT	Signals Intelligence
SINCGARS	Single Channel Ground/Airborne Radio Subsystem
SIOP	Single Integrated Operations Plan
SITREP	Situation Report
SLAM	Standoff Land Attack Missile
SLAR	Side-Looking Airborne Radar
SLOC	Sea Lines of Communications
SMESA	Special Middle East Shipping Agreement
SNIE	Special National Intelligence Estimate
SOAF	Sultanate of Oman Air Force
SOC	Sector Operations Center (Air Defense) or Special Operations Command
SOCCENT	Special Operations Command, Central Command

SOCOM	Special Operations Command
SOF	Special Operations Forces
SOFA	Status of Forces Agreement
SOG	Special Operations Group
SOS	Special Operations Squadron
SOW	Special Operations Wing
SPACC	U.S. SPACECOM Space Control Center
SPEAR	Strike Projection Evaluation and Anti-Air Warfare Research (USN)
SPINS	Special Instructions
SPOT	French Satellite Probatoire d'Observation de la Terre
SRBM	Short-range Ballistic Missile
SRP	Sealift Readiness Program
SRW	Surveillance and Reconnaissance Wing
SSA	Selective Service Act
SSM	Surface-to-Surface Missile
STAMP	Standard Air Munitions Package
STGP	Special Tactics Group (USAF)
STON	Short Ton (2,000 pounds or 0.9 metric tons)
STPJ	Special Tactic Paramedics (USAF)
STRAPP	Standard Tank, Rack, Adapter, and Pylon Package
STRATFOR	Strategic Forces Advisors
STU	Secure Telephone Unit
SURVIAC	Survivability and Vulnerability Information Analysis Center
SWA	Southwest Asia

SYERS	Senior Year Electro-Optical Reconnaissance System
TAC	Tactical Air Command
TACAIR	Tactical Air
TACC	Tactical Air Control Center
TACON	Tactical Control
TACP	Tactical Air Control Party
TACS	Tactical Air Control System
TACSAT	Tactical Satellite
TADIL	Tactical Digital Information Link or Tactical Data Interface Link
TAF	Tactical Aircraft Forces
TAG	Tactical Airlift Group
TAIRCW	Tactical Air Control Wing
TALD	Tactical Air-Launched Decoy
TALO	Theater Airlift Liaison Officer
TANKREP	Tank Killer Report
TAOC	Tactical Air Operations Center (USMC)
TARCAP	Target Combat Air Patrol
TARPS	Tactical Air Reconnaissance Pod System
TAW	Tactical Airlift Wing
TAWC	Tactical Air Warfare Center
TBM	Tactical Ballistic Missile
TCN	Transportation Control Number
TDA	Tactical Decision Aid
TEL	Transporter-Erector-Launcher
TEMPER	Tent Expendable Modular Personnel
TER	Triple Ejector Rack

TERCOM	Terrain Contour Matching
TFS	Tactical Fighter Squadron
TFW	Tactical Fighter Wing
TIALD	Thermal Imaging and Laser Designating
TIARA	Tactical Intelligence and Related Activities
TIBS	Tactical Information Broadcast System (USAF)
TIROS	Television and Infrared Observation Satellites
TIS	Tactical Intelligence Squadron
TLAM	Tomahawk Land-Attack Missile
TMD	Tactical Ballistic Missile Defense
TO	Technical Order
TO&E	Table of Organization and Equipment
TOAF	Tactical Operations Area Forecast
TOT	Time Over Target
TPFDD	Time-Phased Force Deployment Data
TPFDL	Time-Phased Force Deployment List
TR	Theater Reserves
TRADOC	Training and Doctrine Command (US Army)
TRAM	Target Recognition and Acquisition Multisensor (USN)
TRANSCOM	U.S. Transportation Command
TRAP	Tanks, Racks, Adapters, and Pylons
TRG	Tactical Reconnaissance Group
TTF	Tanker Task Force
TTM	Tactical Target Material

TTP	Tactics, Techniques, and Procedures
UAE	United Arab Emirates
UAEAF	United Arab Emirates Air Force
UAV	Unmanned Aerial Vehicle
UAWS	USAREUR Automated Weather System
UCMJ	Uniform Code of Military Justice
UHF	Ultra High Frequency
UK	United Kingdom
ULN	Unit Line Number
UMMIPS	Uniform Military Management and Movement Indicator System
UN	United Nations
UND	Urgency of Need Designator
UNSC	United Nations Security Council
USACE	U.S. Army Corps of Engineers
USAF	United States Air Force
USAFE	U.S. Air Force Europe
USAFR	United States Air Force Reserve
USAR	U.S. Army Reserve
USC	United States Code
USCENTCOM	Central Command
USCG	U. S. Coast Guard
USCINCCENT	Commander-in-Chief U.S. Central Command
USCINCCENT	U.S. Commander-in-Chief, Central Command
USDAO	U.S. Defense Attache Office
USEUCOM	U.S. European Command
USG	United States Government

USIA	U.S. Information Agency
USMC	U.S. Marine Corps
USN	U.S. Navy
USNAVCENT	U.S. Navy, U.S. Central Command
USNR	U.S. Navy Reserve
USPACCOM	U.S. Pacific Command
USSOCOM	U.S. Special Operations Command
USSOUTHCOM	U.S. Southern Command
USSPACECOM	U.S. Space Command
USTRANSCOM	U.S. Transportation Command
UTC	Unit Type Code
UTE	Utilization Rate
VA	Department of Veteran's Affairs
VCJCS	Vice Chairman, Joint Chiefs of Staff
VFR	Visual Flight Reference
WAM	Wide Area Mine
WATCHCON	Watch Condition
WCDC	War Crimes Documentation Center
WFOV	Wide Field of View
WHNS	Wartime Host-Nation Support
WIA	Wounded in Action
WIN	Worldwide Military Command and Control System Intercomputer Network
WN or WNINTEL	Warning Notice: Intelligence Sources and Methods Involved
WOC	Wing Operations Center
WRM	War Reserve Material
WRSK	War Readiness Spares Kits
WSO	Weapons System Operator

WWIMS	Worldwide Indicators and Monitoring System
WWMCCS	Worldwide Military Command and Control System
WXG	Weather Group

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