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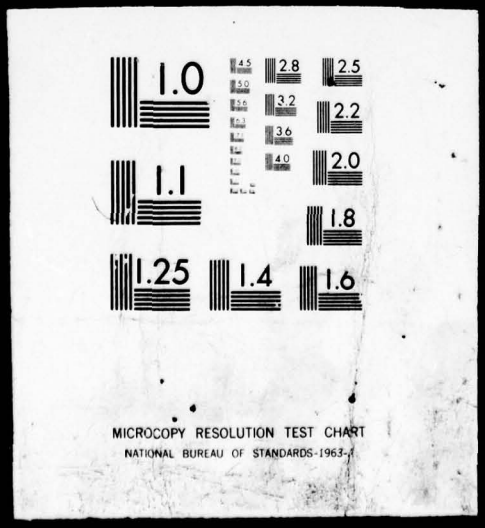

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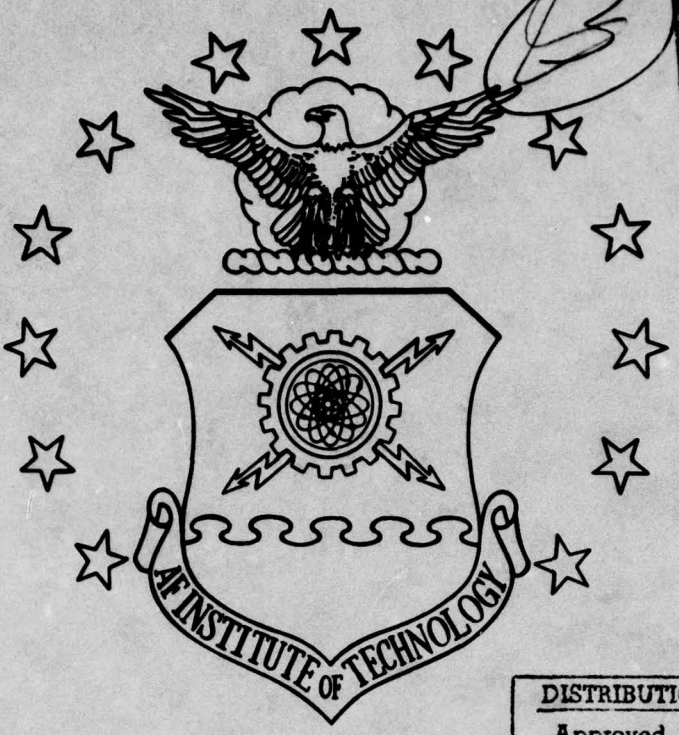








UNITED STATES AIR FORCE
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# AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

# A STUDY INTO THE RELATIONSHIPS BETWEEN AIR FORCE LOGISTICS DOCTRINE AND MAINTENANCE POSTURE IMPROVEMENT PROGRAM POLICIES

Byron M. Evans, Captain, USAF
Antonio Ferraro, Captain, USAF

LSSR 16-79A

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Implementation of the Maintenance Posture Improvement Program (MPIP) has had a significant impact on the structuring and functioning of the traditional aircraft maintenance organizations. Three of the initiatives undertaken as a result of MPIP implementation are: Production Oriented Maintenance Organization (POMO), Centralized Intermediate Logistics Concept (CILC), and Pacer Plus. Whether or not these initiatives are congruent and consistent with current logistics doctrine set forth in AFM 400-2 was heretofore not researched. This study has developed a structural framework which when used with the technique of content analysis facilitates such study of document compatibility. Although the approach was concluded to be useful for comparing documents of similar levels of organizational guidance, some deficiencies were experienced as levels of guidance differed significantly in document compatibility evaluations. Finally, some problem areas are identified and recommended actions are presented which should aid future research towards the development of, and refinement of a more comprehensive methodology.

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# A STUDY INTO THE RELATIONSHIPS BETWEEN AIR FORCE LOGISTICS DOCTRINE AND MAINTENANCE POSTURE IMPROVEMENT PROGRAM POLICIES

A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Logistics Management

By

Byron M. Evans, BS
Captain, USAF

Antonio Ferraro, BS
Captain, USAF

June 1979

This thesis, written by

Captain Byron M. Evans

and

Captain Antonio Ferraro

has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN LOGISTICS MANAGEMENT

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# CHAPTER I

## INTRODUCTION

Within the past twenty years, the natures of both the budget and mission of the United States Air Force have been drastically altered. Whereas in 1955 only 30% of the Department of Defense budget was spent on maintenance and operations, by 1976 the portion of the Defense budget allocated to these functions had risen to 70% (5:388). During the same time span, the national defense strategy evolved from a reliance upon massive retaliation to a concept of variable response as dictated by changes in the international arena. The pressures of budget-induced manpower constraints and flexible contingency capabilities have resulted in the development of innovative changes under the Maintenance Posture Improvement Program (MPIP), designed to increase both logistics efficiency and maintenance versatility (21).

The traditional aircraft maintenance organizational structure evolved during World War II and became standardized throughout the Air Force by 1958 (11:4-5). (See Figures 1 through 5.) Under MPIP, three major initiatives are presently being implemented which, <u>in toto</u>, completely restructure the aircraft maintenance organization. Designated operative and functional responsibilities between the depot, intermediate, and organizational levels have also been revised (21). The

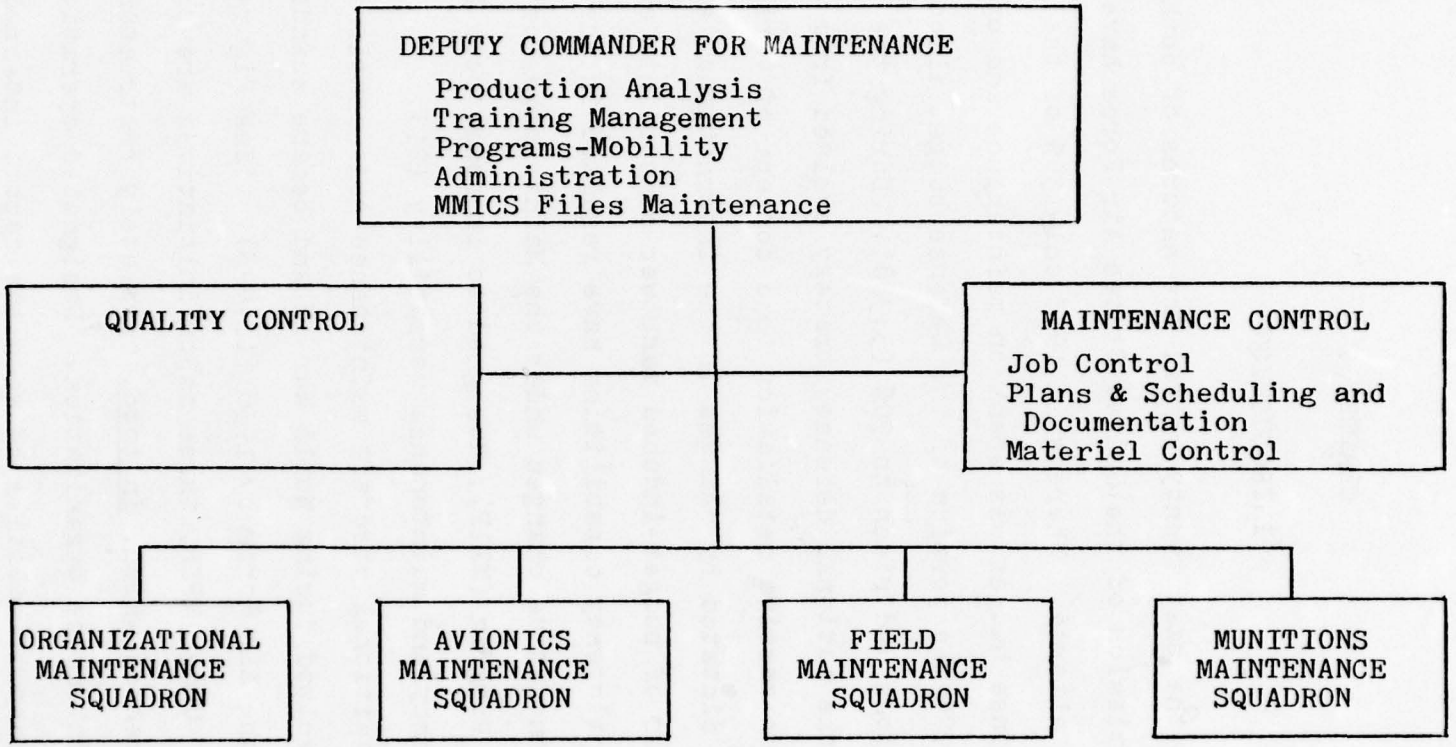


Fig. 1. Traditional Deputy Commander for Maintenance Staff Organization

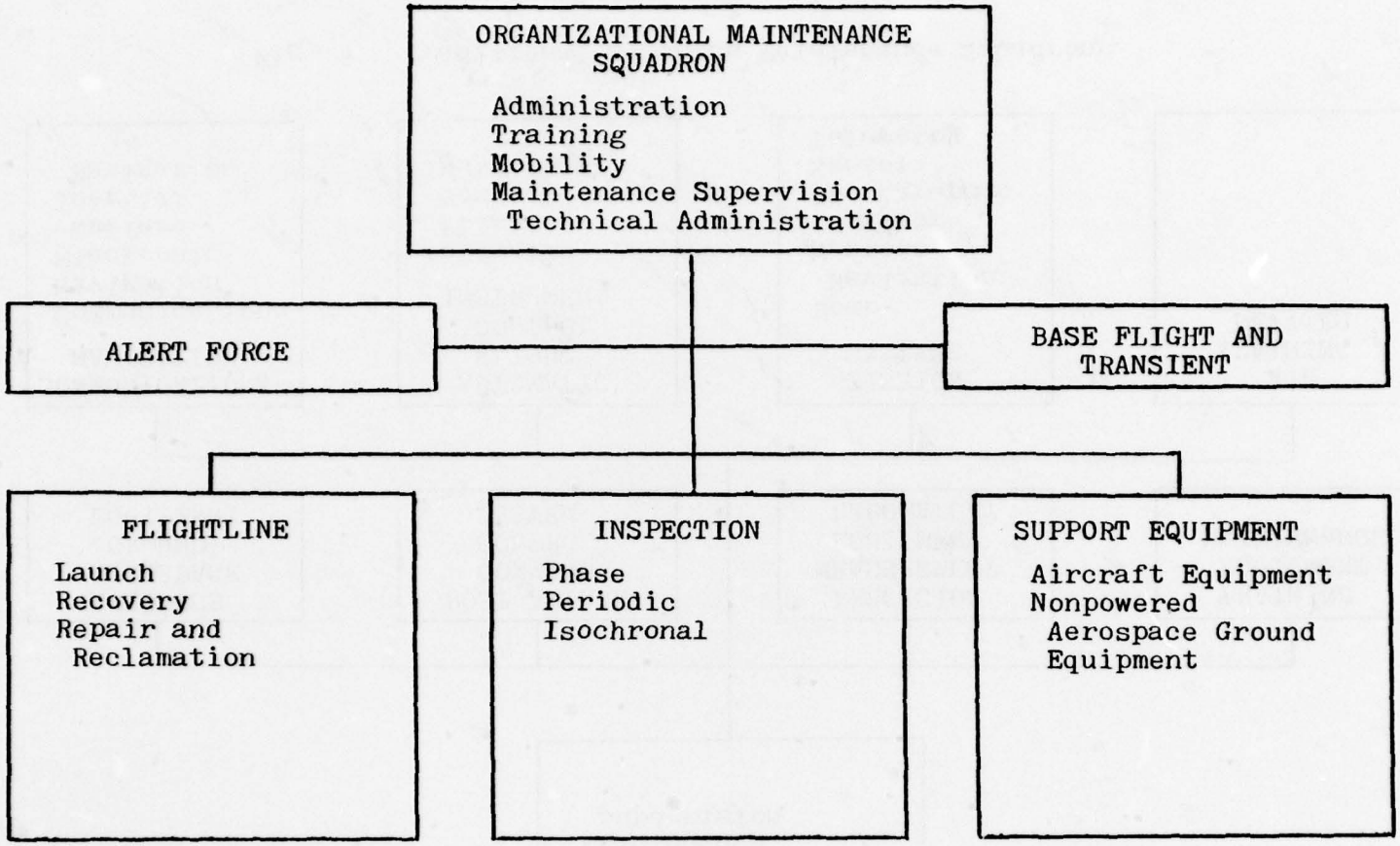


Fig. 2. Traditional Organizational Maintenance Squadron

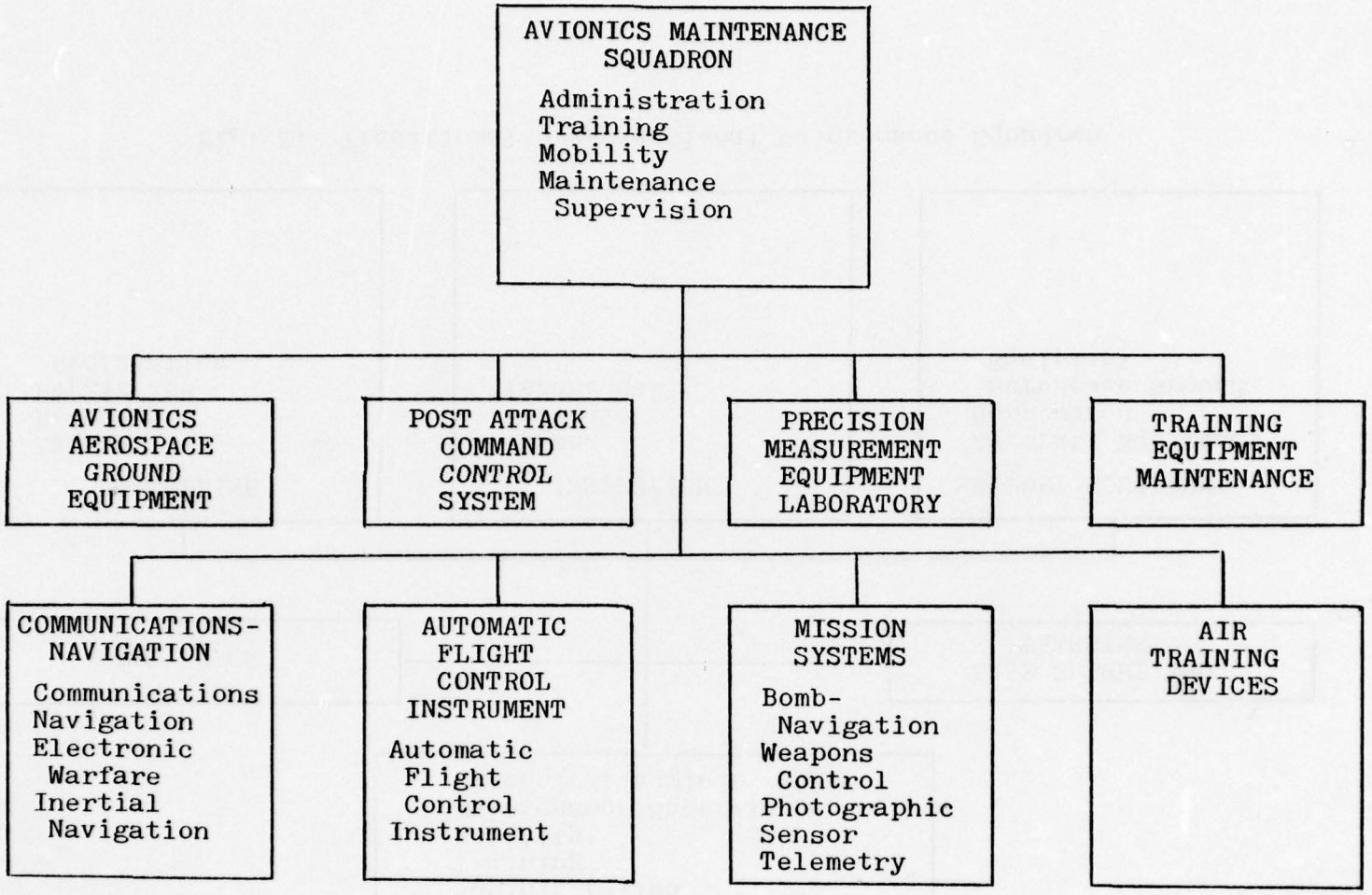


Fig. 3. Traditional Avionics Maintenance Squadron

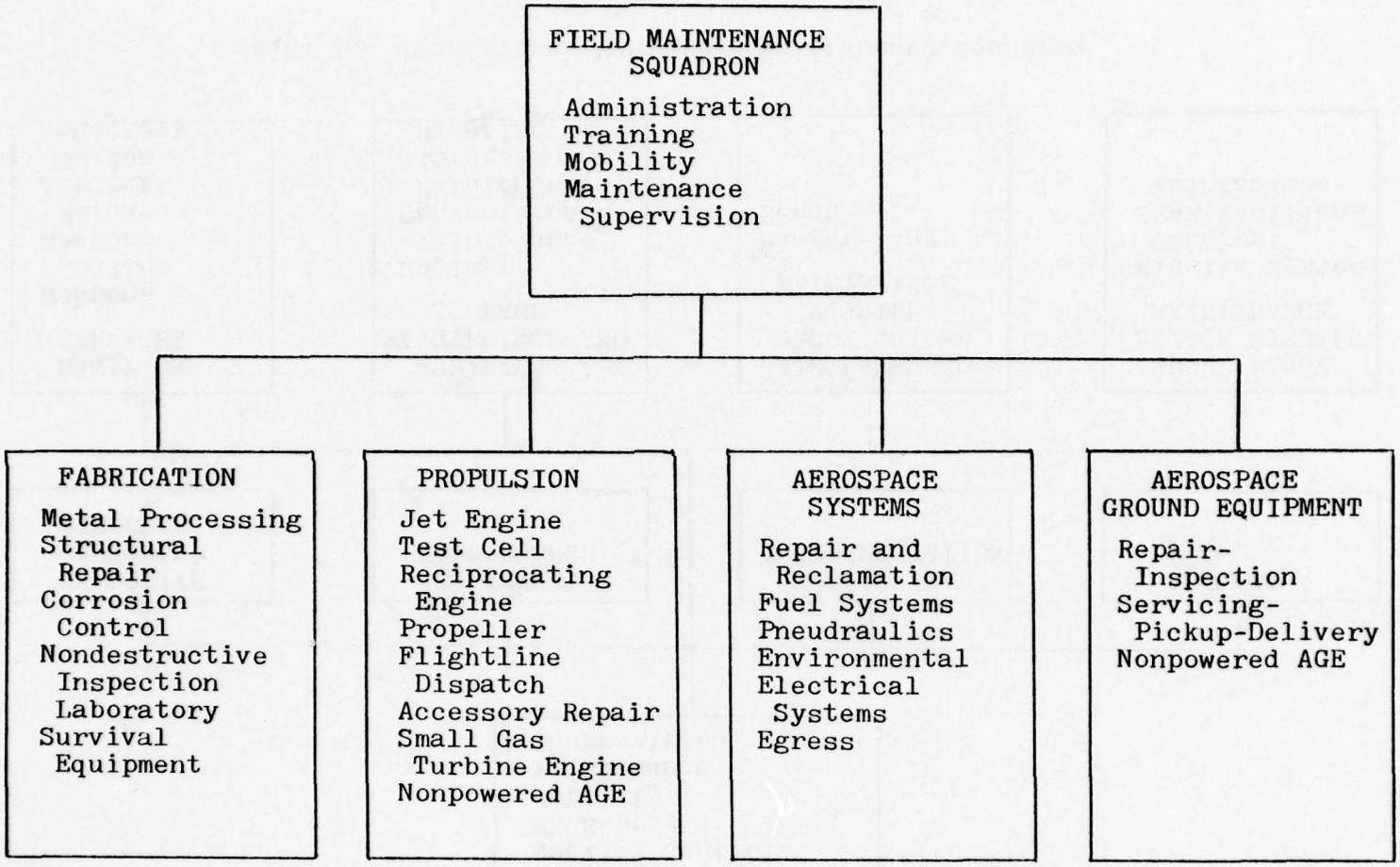


Fig. 4. Traditional Field Maintenance Squadron

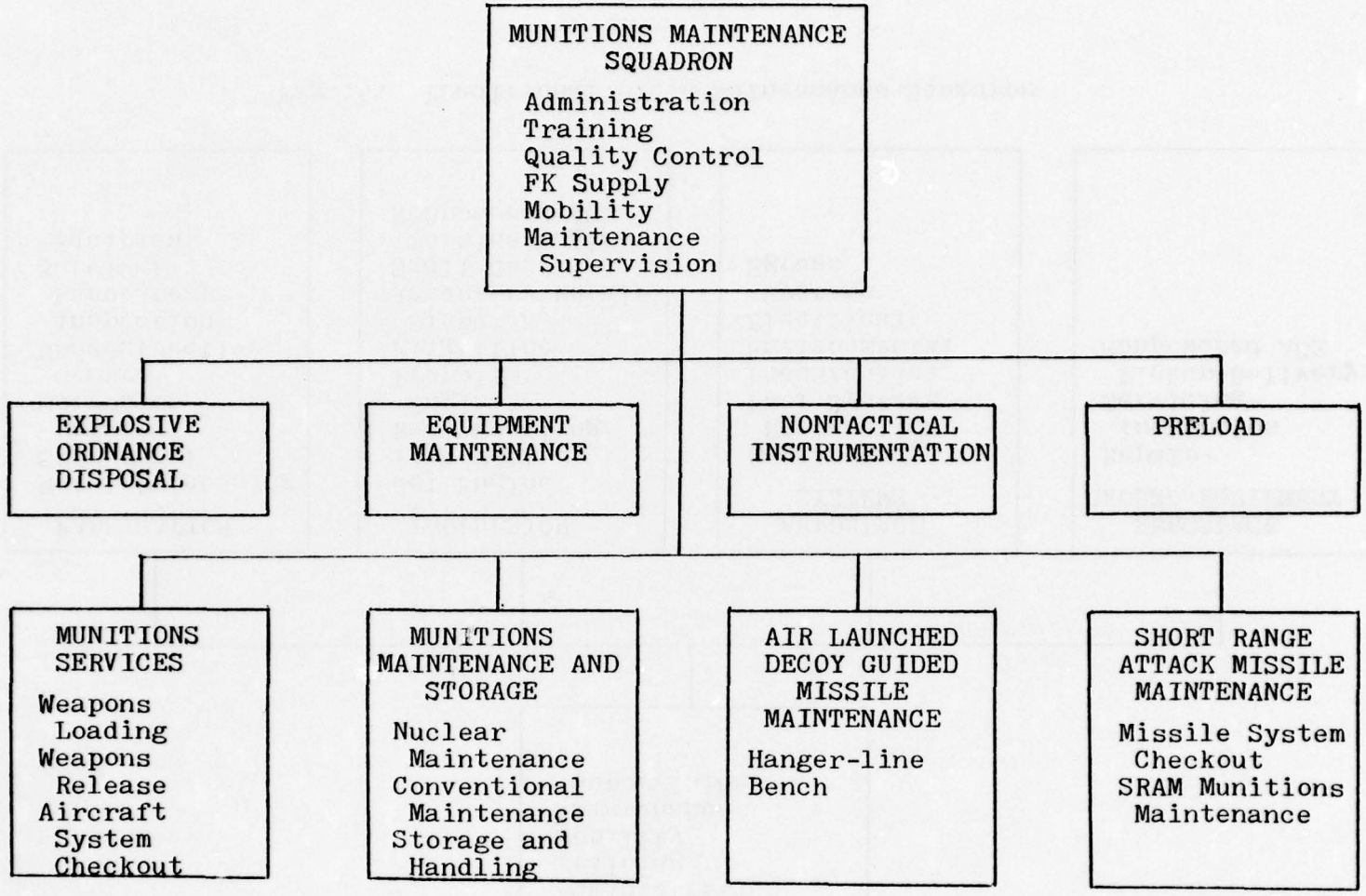


Fig. 5. Traditional Munitions Maintenance Squadron

result has been the evolution of a logistical system which appears to be very different from the system that existed in the past.

While the policies and procedures have been changed under MPIP, the logistics doctrine governing aircraft maintenance has not been altered. A conflict in purpose may have developed between the new maintenance initiatives and the formal logistics doctrine as published in Air Force Manual 400-2. Any such conflict should be identified and rectified as rapidly as possible. Harmony and unity of purpose is necessary between doctrine and subordinate principles and policies (9:165), and any conflict existent between Air Force Logistics doctrine and the MPIP initiatives would be detrimental to the overall Air Force mission accomplishment.

This study will analyze the relationships between doctrine and policy. First, the theoretical aspects of doctrine and policy will be surveyed. This survey will form the justification of the formal problem statement, and the subsequent objectives and research question. Further justification for the research question, as well as essential background knowledge, will be provided in Chapter II, where the functions, philosophies, and concepts behind the current Air Force doctrine and the maintenance policy initiatives will be explained. In Chapter III the basic methodological tools to be utilized in answering the research question will be described. Chapter IV will include the application of the methodological framework presented in the previous chapter.

Lastly, conclusions and recommendations will be presented in Chapter V.

## CONCEPTS

### Definition of Doctrine

In order to discuss the concept of doctrine, it is first necessary to explore its definitional meaning. The Random House Dictionary of the English Language defines doctrine as, "a particular principle, position, or policy taught or advocated, . . . teachings collectively . . . [30:390]." The United States Air Force Dictionary explains doctrine as,

> a rule, proposition, or teaching that has such official sanction or authority as to be used to guide and direct those who are bound by such sanction or authority, esp. a rule, proposition, or teaching that arises from a concept . . . collectively, a body of such rules or teachings . . . [1:173].

Although these are definitions in the literal sense of the word, the preceeding passages fail to convey the connotations associated with a conceptually broad term such as doctrine. A survey of material written by several different authors allows for the development of a more useful, conceptually-oriented perspective of doctrine.

### Concepts of Doctrine

The authors identified for inclusion in this study are Peppers, Eccles, and Rider. Their perceptions of doctrine are not identical, but neither are they widely divergent. While all three authors hold similar viewpoints concerning

the underlying premises of doctrine, they occasionally place emphasis on different aspects of doctrine. Therefore, by briefly examining the writings of all three authors, a composite overview can be developed which provides a solid conceptual foundation from which to begin.

In "An Overview of Logistics," Peppers implicitly refers to doctrine as " . . . a basis for reasoning about a concept or philosophy; guides for direction of effort towards goal accomplishment . . . [19:72]." Additionally, he models a hierarchy wherein doctrines form the bases for policies, all the while moving from generalities to specifics (19:72).

In contrast to Peppers' perspective, Eccles emphasizes the usages of the term "doctrine" as an operational tool. In Military Concepts and Philosophy, Eccles relates that the importance of doctrine to successful military operations lies in the ability of doctrine to function as a coordinating influence among otherwise-independent, isolated individuals. Through doctrine, the commander is provided a means of ensuring a "team approach" throughout his command. Sound doctrine increases predictability of actions throughout the organization (9:165).

Rider's perception of doctrine highlights another facet of doctrine which complements the positions held by Peppers and Eccles. To Rider, doctrine functions as a coordinator by guiding the activities of all individuals within an organization towards a common organizational goal (20:126). Additionally, he states that:

> Doctrine is basic guidance for the development of policy. Doctrine is derived from philosophy and science. It is a distillation of beliefs, knowledge, and fundamental truths . . . [20:125].

None of the concepts of doctrine derived by these authors retains the conciseness or rigidity of the dictionary definitions. However, the pliancy added by the three theorists results in advantages gained in applicability to real world situations. Each of the above authors adds to the "functionalism" of doctrine by expanding on the different roles and purposes which it plays in the activities of an organization.

Concepts of Policy

Just as it is beneficial to examine the theoretical underpinnings of doctrine before discussing the specifics of Air Force logistics doctrine, a discussion of the conceptual basis of policy will provide a broader understanding of applied Air Force policies. Whereas theorists differ to some degree on the meaning and role of doctrine, stated perceptions of policy approach consensus. The dictionary defines policy as a "a definite course of action adopted for the sake of expediency, facility, etc. [30:1027]." The working definitions put forth by writers within this field of study differ only slightly from the above definition.

In Organization and Management, Kast and Rosenzweig state that "a policy is a general plan of action that guides the members of the organization in the conduct of its operation [13:444]." In expanding on this basic definition,

Kast and Rosenzweig emphasize the role of policy in allowing the organization to cope, in a consistent manner, with repetitive situations as they arise, thereby insuring some degree of uniformity in operations and decision-making (13:445).

Other writers deviate little from the position taken by Kast and Rosenzweig. Rider says that policy "usually takes the form of statements that are general objectives for an organization," and that policy is derived from doctrine (20:13). Paine and Naumes, in Strategy and Policy Formulation, emphasize that a policy must be designed to achieve a specific basic objective (17:7), while the policies themselves are broad guidelines for managers, supervisors, and other employees (17:6). Lastly, Peppers states that "policy is a statement by management which sets an established course of action it wants followed [19:72]." It is important to note that, although the specific words and phrases differ, the overall concepts of policy are functionally similar among these authors. Hence, while areas of emphasis may differ, the basic definition of policy, as presented by Kast and Rosenzweig, is broadly applicable to the study of policy.

## PROBLEM STATEMENT

Working from the conceptual bases developed in the previous sections, it can be seen that policy is hierarchically (functionally) subordinate to doctrine. The exact make-up of the levels between doctrine and policy differs

among the various schools of thought, but all agree that doctrine and policy are differentiable bodies of guidance. Policy constitutes a form of management direction subordinate to doctrine, designed to carry out the ideas stated in that doctrine. Even though policy is subordinate to doctrine, the precise nature of their interactions is not always clear. No structural mechanisms exist to determine the consistency of a policy change with respect to doctrine. In order to accurately ascertain the resultant behavior of the Air Force system subsequent to a policy or doctrinal change, a predictive tool is required. Towards this end, the purpose of this undertaking is to develop a structural framework for the investigation and analysis of incongruency and inconsistency (these two terms are defined below), between USAF logistics doctrine and USAF aircraft maintenance policy initiatives.

The problem statement must be examined closely to focus the research effort upon the specific goal. First, a structural framework will be developed allowing replication of the researcher's efforts. The utilization of a systematic technique will provide body and form to the model. By seeking out relevant facts and examining them within a structured framework, any conclusions reached will be supported in the research methodology.

Next, incongruencies and inconsistencies will be investigated and analyzed. Denotationally, incongruency means "not harmonious in character; inconsonant; lacking

harmony of parts [30:674]," while inconsistency is

> lacking in harmony between the different parts or elements; self-contradictory . . . lacking agreement; . . . at variance; . . . not consistent in principles, conduct . . . [30:674].

By utilizing these precise terms, the researcher is able to concentrate on the explicit divergencies between doctrine and policy which he wishes to study.

The two variables being examined are USAF logistics doctrine and USAF aircraft maintenance policy initiatives. In theory, the latter should be dependent upon the former. This research project proposes to construct a research methodology with which to test the relationship between these two variables, and supply the decision maker a tool through which he can detect inconsistencies and incompatibilities between logistics doctrine and policy. Lastly, only USAF logistical doctrine and aircraft maintenance policies will be examined. This delimitation allows the researcher to narrow the scope of the study to a manageable level.

## RESEARCH QUESTION

The research question provides dynamic guidance by directing the researcher's effort towards those avenues which will explore the relationship between the variables specified in the problem statement. Even though limited to a degree, the variables of USAF logistics doctrine and USAF aircraft maintenance policy initiatives are sufficiently

complex so as to prevent analysis as single units. Therefore, the purpose of the research question is to break doctrine and policy down into manageable units permitting analysis; the research question becomes, "What are the relationships between the key elements of doctrine and policy critical to attainment of consistency and congruency in doctrine/policy formulation?" As before, the research question consists of several discernable portions, each of which contributes to the question's totality.

In addressing the problem, it was first necessary to identify relationships between doctrine and policy. Both doctrine and policy can be divided into specific key elements. These elements, which are presently unknown, will enable the researcher to examine essential aspects of both doctrine and policy, thereby ascertaining each specific elements' impact on overall congruency and consistency. In this way, consistency and congruency are the criterion by which doctrine and policy compatibility will be measured, and those paired elements found lacking in common purpose will be identified. Lastly, each set of key elements must be evaluated so as to place its relative level of importance into perspective. It is presumed that not all elements, if incongruent, will affect policy and doctrine compatibility in similar ways to similar degrees.

## RESEARCH OBJECTIVES

The final set of guidance utilized by the researcher is the research objective. Just as the research question allows the researcher to move towards establishing knowledge concerning the problem statement, the research objectives provide the short term goals focusing progress towards the research question. For the study under consideration here, there are three objectives designed to channel research.

First a structural framework for analysis must be developed, thereby providing substance and form to the investigative process. Secondly, the key elements of doctrine and policy must be identified and specified. When joined with the framework developed in the previous objective, the elemental relationships between doctrine and policy should emerge, enabling research analysis. Lastly, the three MPIP initiatives of Production Oriented Maintenance Organizations, Centralized Intermediate Logistics Concept, and Pacer Plus, will be applied to the developed framework. Through application, the researchers will test research methodology validity. In order to achieve successful methodology application, the researcher must be able to isolate the elements embodied within doctrine and each of the three new policies. It is necessary, therefore, to examine the makeup of Air Force doctrine and the three MPIP programs which will be applied to the framework.

## CHAPTER II

## DOCTRINE AND POLICY REVIEW

In this chapter, a review of United States Air Force Basic and Logistics Doctrine is provided. Immediately following the doctrinal review, a description and review of the policy initiatives of the Maintenance Posture Improvement Program (MPIP) will be presented. The specific orientation of the latter MPIP discussion will focus on the Production Oriented Maintenance Organization (POMO), Centralized Intermediate Logistics Concept (CILC), and Pacer Plus programs in relation to this study.

### AIR FORCE DOCTRINE

Air Force Manual 1-1, United States Air Force Basic Doctrine, outlines the fundamental doctrines used by the Air Force. Prior to delving into the specific doctrines employed by the Air Force, AFM 1-1 explicitly defines the meaning conveyed through the term doctrine: "Aerospace doctrine is an authoritative statement of principles for the employment of United States Air Force resources [29:ii]." Acknowledging the complexity and variability of missions and responsibilities, AFM 1-1 subdivides aerospace doctrine into five categories: basic doctrine, operational doctrine, functional doctrine, joint operations doctrine, and combined

(or allied forces) operations doctrine. A hierarchical system exists with principles being derived from doctrine (29:ii). A revision of AFM 1-1, retitled Functions and Basic Doctrine of the United States Air Force, is currently in progress. With the exception of the elimination of functional doctrine as a separate category, the draft of the AFM 1-1 revision contains no changes with regards to the concept of doctrine and its hierarchical relationship to principles. AFM 1-1 currently classifies logistics doctrine as a specific type of doctrine within the functional doctrine category, but a proposed AFM 1-1 revision would make logistics doctrine a supplemental part (separate annex) to AFM 1-1 (26:viii). In either case, a specific logistics doctrine is required due to the general orientation of AFM 1-1.

Air Force Manual 400-2, Air Force Logistics Doctrine, is designed to furnish the required doctrinal guidance necessary for the attainment of logistics objectives. AFM 400-2 defines logistics doctrine as

> a body of principles applicable to the determination of requirements for, the acquisition, distribution, and maintenance of, the resources and services integral to a military capability [23:2-1].

Logistics doctrine is divided into two segments: command and management. The principles expounded in AFM 400-2 fall within one of these two segments (23:1-1).

As with AFM 1-1, there is also a proposed revision to AFM 400-2. The AFM 400-2 revision draft, however, has

eliminated the definition of logistics doctrine. In fact, there is not a definition of the term doctrine anywhere within the proposed manual. Nevertheless, the concept of doctrine is referred to as guidance that " . . . has been distilled into a set of officially sanctioned principals [Sic] which are basic truths derived from experience and reasoned projections [24:237]." As in all previous manuals discussed relating to doctrine, the hierarchy of principles developed from doctrine continues to contain a thread of continuity through the Air Force concept of doctrine.

## POLICY INITIATIVES

### Production Oriented Maintenance Organizations

Recent initiatives that have been implemented under MPIP are drastic departures from past logistical, and and specifically maintenance, policy. The POMO concept is a response to a new maintenance philosophy particularly prevalent in the Tactical Air Forces. Colonel Wayne Rosholt, AFLC/LOL, states that there are several major factors behind the development of POMO. The initial impetus was provided by the modernization of the tactical air fleet (21). With the acquisition of the A-10, F-15, and F-16, Tactical Air Command had, for the first time, an entire generation of aircraft designed around the on/off equipment maintenance concept. The on/off equipment maintenance concept relies upon the designed-in capabilities

of an aircraft to be repaired through the removal and replacement of system components. This, in turn, allows aircraft to be repaired on the flightline in a minimum of time without extensive test equipment.

Several additional factors joined forces to further pressure the drive towards POMO. The tactical aircraft inventory is forecast to increase by 200 to a total force of 1800 aircraft. Simultaneously, contingency operations sortie rate requirements have risen from 1.2 to 3.0 sorties per day per aircraft (21). However, while both the number of aircraft available and the sortie generation per aircraft have increased, manpower resources have remained constant. In other words, the same number of assigned personnel must now generate a much larger number of sorties. Lastly, for the first time in several years, the maintenance requirements for spare parts and equipment has been fully funded by the Congress. The logistics manager now has much more flexibility in supporting operational requirements because greater spare part availability has eased the constraint of hardware shortages (21).

The orientation of POMO relies heavily upon the flight chief and his abilities (16:1), whereas in the previous system maintenance control "ran the show." The regulation directing the implementation of POMO is AFR 66-5, Production Oriented Maintenance Organization (POMO). Many of the policies under POMO are radically different from those of the past.

POMO has one major deviation from the prior standard established in AFM 66-1. Under POMO, Maintenance Control is no longer charged with directing and controlling the entire maintenance effort. Instead, Maintenance Control is now " . . . responsible for scheduling and directing all scheduled on-equipment maintenance, and monitoring pertinent unscheduled maintenance [27:2-2]." Note that Maintenance Control is now only responsible for monitoring, not directing, unscheduled maintenance actions. The responsibility for the application " . . . of organic resources . . . against the maintenance workload [27:1-1]" has been shifted to the branch chief. The resulting decentralization of authority and responsibility away from Maintenance Control and towards the Flightline Expediter has ramifications upon flexibility and adaptability that will be discussed later (21). In any case, the decentralization of POMO runs contrary to many of the centralization efforts prevalent in AFM 66-1.

In implementing POMO, the entire aircraft maintenance organization had to be restructured as illustrated in Figures 6 through 9. Three squadrons, in place of the previous four, now comprise the aircraft maintenance complex. The Aircraft Generation Squadron (AGS) is comprised of crew chiefs and specialists committed to flightline and on-equipment maintenance (27:3-1). The Component Repair Squadron (CRS) consists primarily of those in-shop functions previously aligned with the Field Maintenance

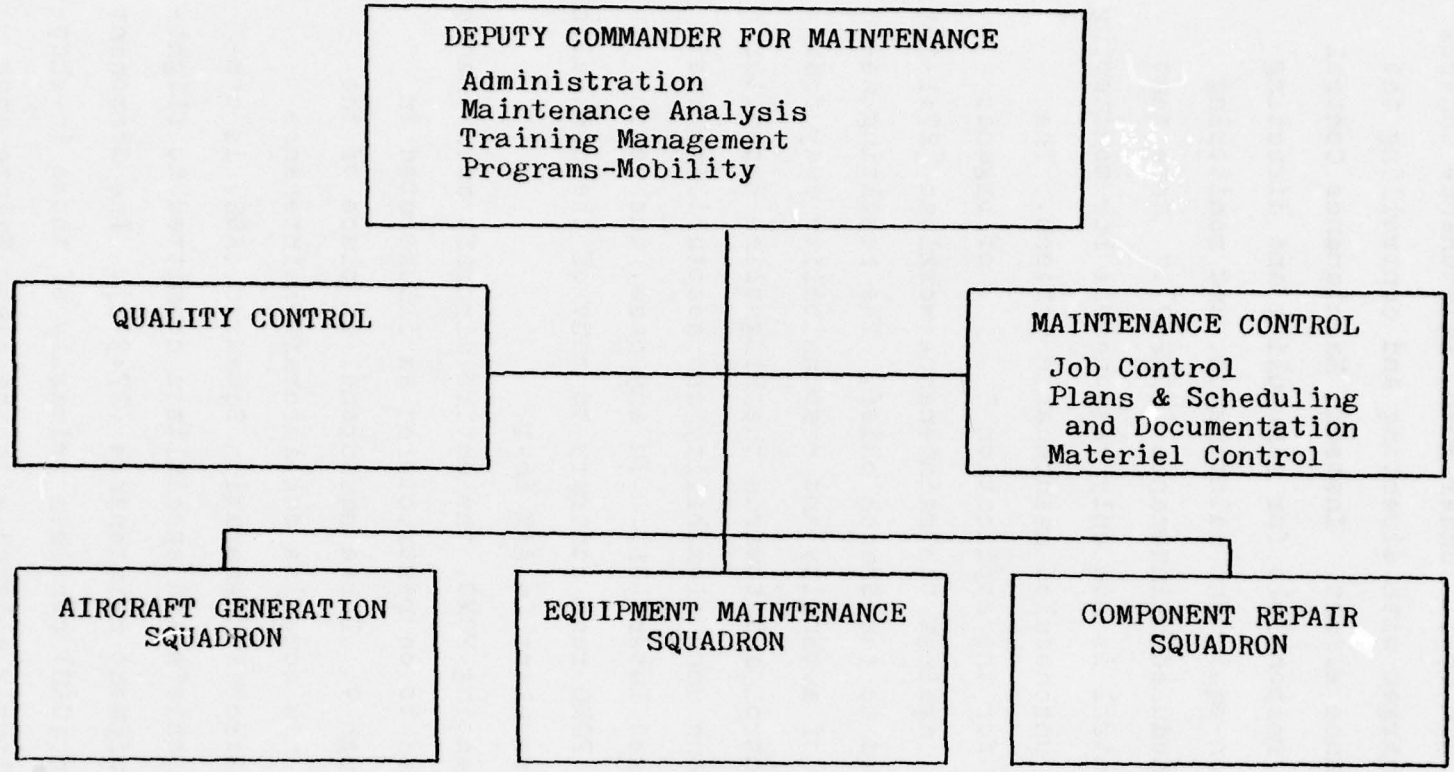


Fig. 6. POMO Deputy Commander for Maintenance Staff

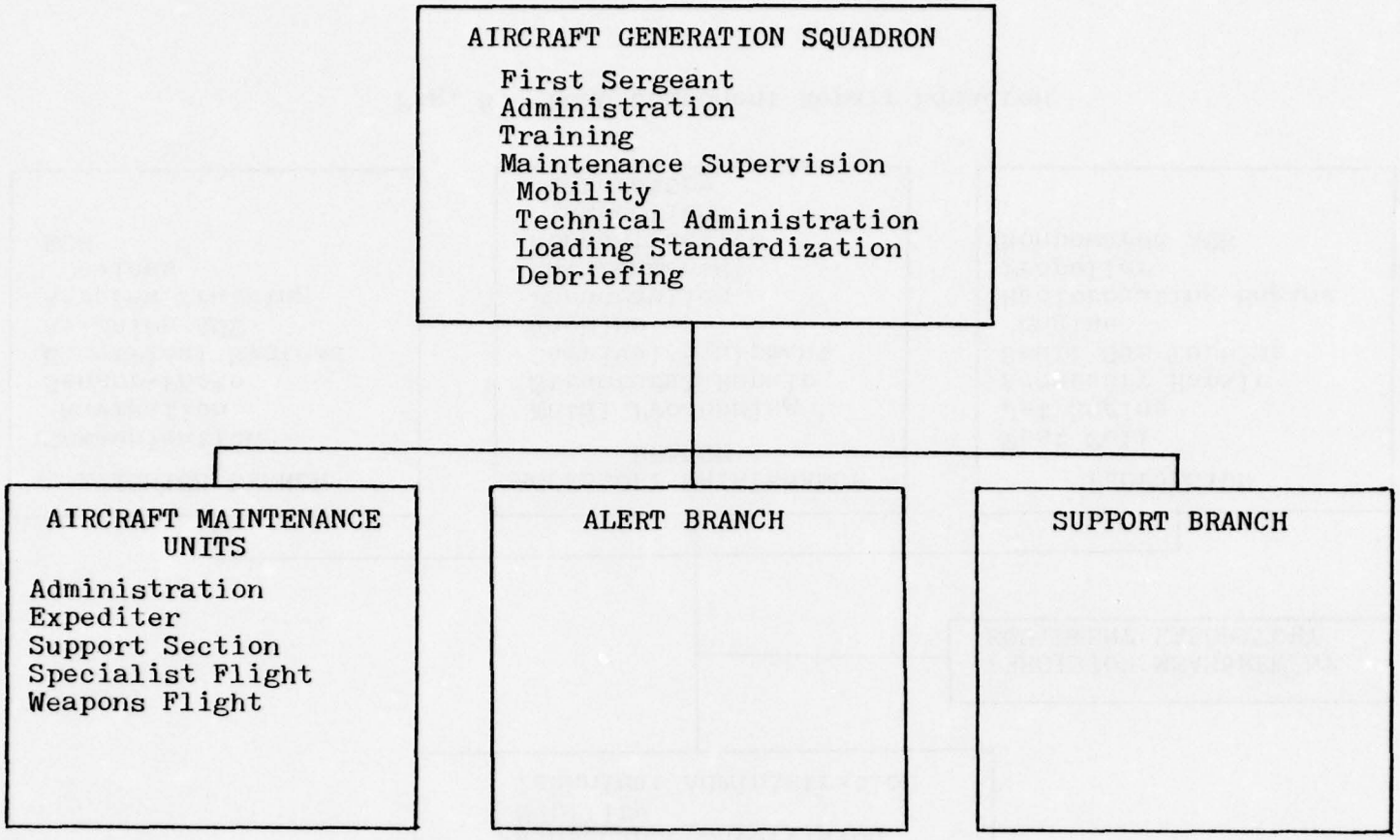


Fig. 7. POMO Aircraft Generation Squadron

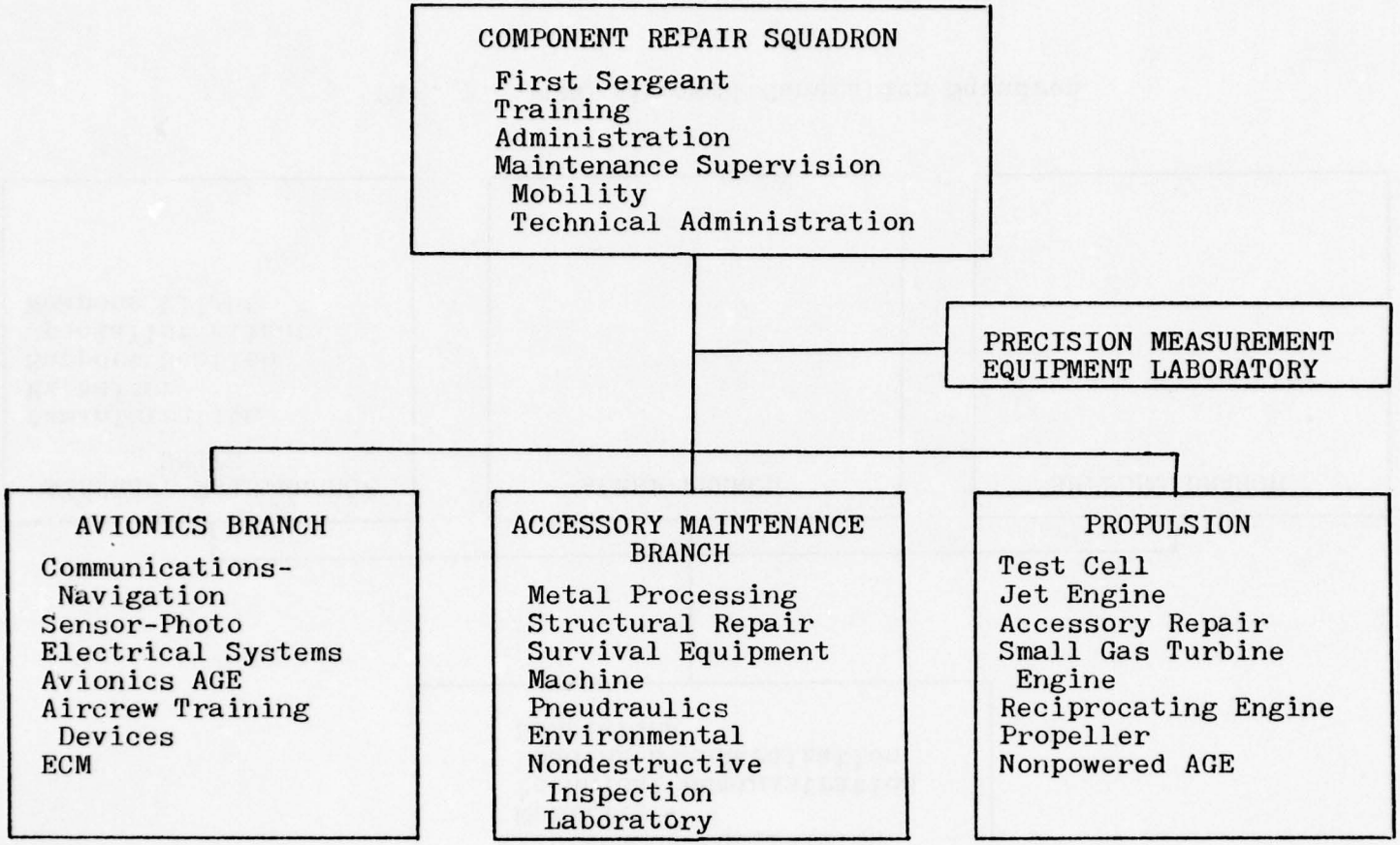


Fig. 8. POMO Component Repair Squadron

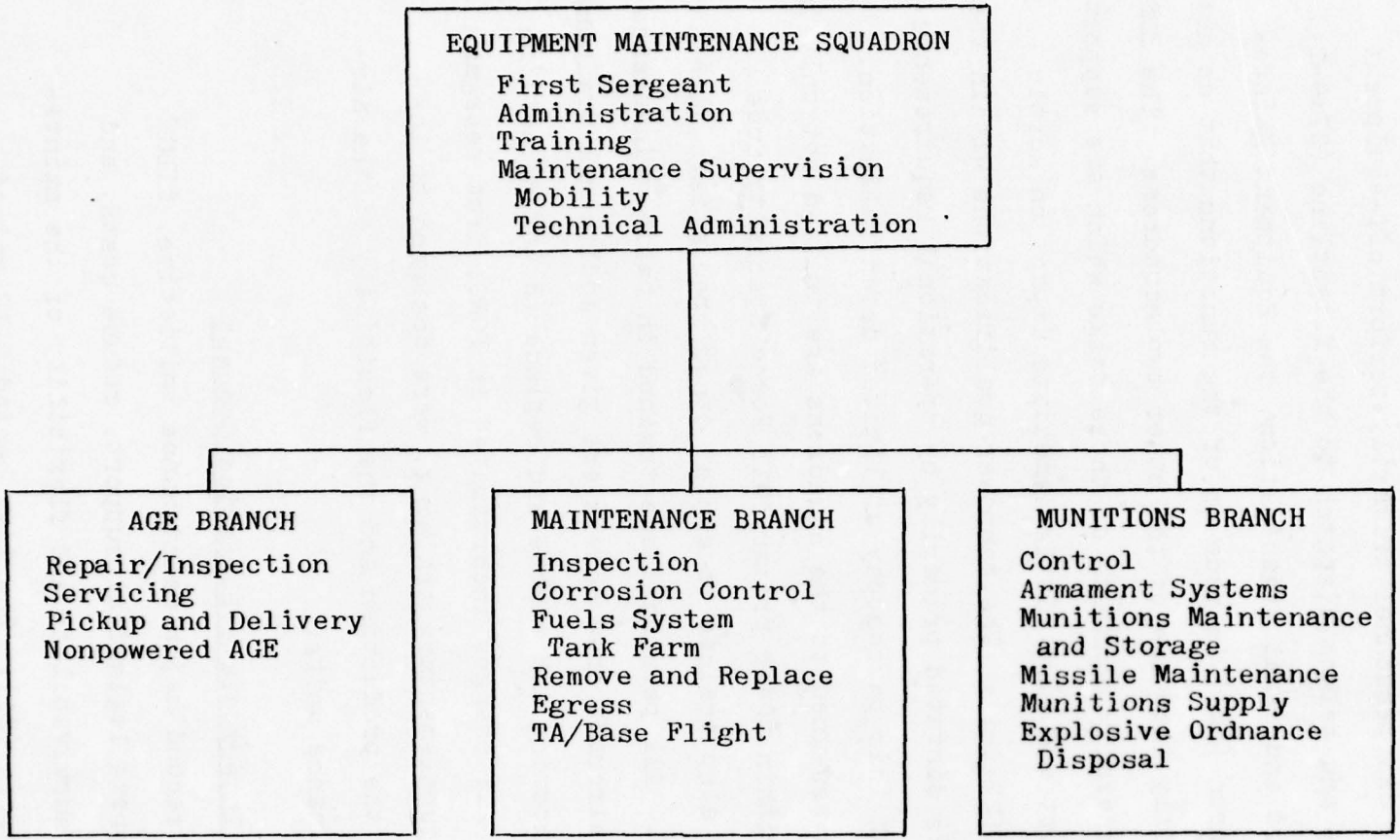


Fig. 9. POMO Equipment Maintenance Squadron

Squadron and the Avionics Maintenance Squadron. In contrast to the AGS, CRS personnel primarily perform off-equipment maintenance and seldom dispatch to the flightline (27:4-1). As the third and final organization, the Equipment Maintenance Squadron (EMS) is made up of the functions that do not fit explicitly into one of the other two squadrons. The EMS workload generally consists of those tasks which are supporting in effort and have little immediate impact on sortie generation (27:5-1). The manpower qualifications within the squadrons is dictated primarily by operational requirements. In line with this philosophy of limited decentralization, specialists assigned to the squadrons are trained not only in the tasks within their primary Air Force Specialty Code (AFSC), but also trained to assist other specialists within other AFSCs. All personnel are trained in basic maintenance tasks, and aircraft crew chiefs are given additional training in troubleshooting and remove and replace (R and R) actions (27:1-27). All changes incorporated in POMO, from reorganization to supplementary training, were designed to increase both the production and the flexibility of the aircraft maintenance units.

Centralized Intermediate Logistics Concept

As the second major maintenance initiative, CILC seeks to improve logistical support, reduce costs, and improve the survivability and flexibility of the maintenance structures (21). The idea behind CILC gained

momentum when several Rand Corporation reports were issued in 1973 and 1974 which demonstrated the need for benefits to be derived from a CILC-type organization. Specifically, the Analogs 80s Project: Reallocation of Activities Alternative recommended

> . . . a reallocation of activities performed at bases so that . . . there is more collocation of logistics and training activities at some bases and more specialization of combat-mission-oriented activities at other bases [6:2].

In Analogs, Cohen and Drezner were tasked to develop new concepts that would enhance mission support, increase resource utilization rates, and reduce costs. Cohen and Drezner proposed a plan which called for the creation of Combat Mission Bases (CMBs) and Support Mission Bases (SMBs). The CMB may be compared to a forward operating base, performing " . . . predominantly flightline, combat-oriented activities [6:12]." CMBs have a very limited intermediate level maintenance capability and are dependent upon the SMB for most spares and all replenishment of stocks (6:12). At present, combat units are required to be self-sufficient (25:2). As described in Analogs, CMBs would not be self-sufficient but instead would depend almost entirely upon their host SMB for all types of support (6:12).

As the supportive base for one or several CMBs, the SMB would be larger than normal as measured by present standards. All extensive maintenance would be performed at the SMB, and better utilization of resources could

be realized through the centralization of special test and repair equipment. Additionally, by performing all component repair at the SMB level, the amount of equipment required at the CMB-level could be significantly reduced. Spares and supplies, including airframes, would be centralized at the SMB, allowing better management of assets, lower inventory levels, and increased theater commander control of critical items. Cohen and Drezner suggest that SMBs be located in relatively secure and safe havens, away from the front lines, where survivability would increase. Support functions, such as finance and personnel, for all individuals assigned to both the CMBs and SMBs would be consolidated at the SMBs. The majority of training would be performed at the SMB, both for operations and maintenance personnel. Lastly, Cohen and Drezner state that the SMBs should be located in desirable places to live, allowing personnel to rotate between the favorably located SMBs and the more remote CMBs with some degree of equity (6:11).

Many of the proposals developed in Analogs have been incorporated into CILC and implemented by the Pacific Air Forces (PACAF). In incorporating CILC, PACAF established a Centralized Intermediate Repair Facility (CIRF) at Kadena AFB on Okinawa which performs all intermediate level maintenance for several tactical fighter squadrons located in the Far East. Although the terminology is different, Kadena AFB, under CILC, assumes a role very similar to the SMB's function within the Analogs study. Likewise, satellite

bases in forward locations such as South Korea, are maintained with a minimum of logistical support and correspond to Analogs' CMBs. At this point, it is useful to attempt to tie the concepts of POMO and CILC together with a thread of continuity.

The decentralization of POMO and the increased centralization of CILC appear to be working at cross-purposes. However, the POMO and CILC initiatives are actually closely united and mutually reinforcing. A primary feature of POMO was a decrease in the scope of authority and responsibility exercised by Maintenance Control and the establishment of Aircraft Generation Squadrons, whose primary function is sortie generation, coordinated and directed by flightline expediters. At a CMB, with only a minimum of available support facilities and personnel, the flightline expediter would be able to utilize his broadly-trained technicians to efficiently coordinate all available resources and generate the maximum number of sorties. It is within the bare-based environment of the CMB that POMO with its flightline expediter should most efficiently function. With all component repair and collateral maintenance activities centralized at Kadena AFB, away from the CMB, the entire organization should be able to focus on the goal of sortie generation.

Pacer Plus

The third and final maintenance initiative to be reviewed is Pacer Plus. The desire to concentrate operational base resources upon the goal of increased sortie generation rates has been the driving factor behind the implementation of Pacer Plus, an initiative concerned with aircraft inspection policies. Like CILC, Pacer Plus has been addressed in several Rand Corporation studies. In Background Studies, Alternatives, and Framework for Addressing Maintenance Posture Improvement, Cohen, et al., examined numerous programs then in progress in an attempt to evaluate and consolidate those concepts which appeared to be attaining success. The overall objectives of the group were to reduce inspection content and redundancy, extend inspection intervals, and improve inspection scheduling--all without compromising safety or mission requirements (7:II-1).

The study group looked at inspection intervals, the problems in establishing an optimum inspection interval, and the difficulties associated with attempting to extend an already-existent interval. The costs of performing inspections in terms of manhours and materials required, as a factor of changes in aircraft reliability, and with respect to the non-availability of the airframe for sortie generation, were also examined (7:II-3). Finally the study group looked at the "uniqueness" and redundancy of depot level inspections and capabilities, and several advantages

and disadvantages to the phased and periodic inspection concepts (7:II-34).

In a related study titled Depot Inspection and Repair Capability: Unique or Redundant? Donaldson and Poggio found that almost all defects found at the depot could have been found and corrected at the base level. Additionally, both base level and depot level personnel felt that the depot had very few unique capabilities that, technologically, could not be performed at the base level (8:19). In concert with the Donaldson and Poggio study, Background Studies concluded that 80% of the work required for phased inspections for the F-4 aircraft was already being done at the depot (7:II-43).

The final aspect examined by the study group was a concept labeled "threshold teardown levels." Normally, whenever an airframe is subjected to a rigorous inspection, a non-monetary cost is incurred in that the aircraft's reliability is reduced. This is due to the required dismantling of various portions of the aircraft in order to perform a thorough inspection. It was found that if the threshold teardown level was not reached during an inspection, then the cost of reduced reliability might not be incurred (7:II-32). In other words, if the inspector did not dismantle an airframe past or through the threshold teardown level, there was a distinct possibility that the reduced reliability cost would not be incurred upon the return of that specific aircraft to the flying unit.

Therefore, the study group recommended that airframes be dismantled as little as possible consistent with specific requirements, but that if the threshold teardown level was to be reached or exceeded during an inspection, then as much maintenance as possible should be performed on the aircraft before it is reassembled and "buttoned up."

The Air Force concepts related to these findings are embodied in the Pacer Plus program. Under the present Air Force inspection procedures, depot performs IRAN inspections on aircraft during which the aircraft is disassembled to facilitate inspection. With the implementation of Pacer Plus, the depot in conjunction with its IRAN inspection, also performs the next due scheduled inspection, accomplishes an optimum number of Time Compliance Technical Order (TCTO) changes, and clears as many delayed discrepancies as possible. As the depot has accomplished these tasks, the organizational maintenance unit is able to further concentrate its resources, increasing the sortie generation rate (21).

As before, a common thread emerges which unites some of the goals of POMO, CILC, and Pacer Plus. Extensive and off-equipment repair is being centralized either at depot under Pacer Plus or at CIRF under CILC. Simultaneously, the operational base, or CMB-equivalent, is freed from the burdens of extensive repair at the base level, allowing POMO to decentralize guidance and concentrate all available resources of sortie generation. However,

difficulties have been encountered. Each of these maintenance initiatives have run directly counter to maintenance policies and procedures that have become firmly established through the years, and may be incongruent and inconsistent with current doctrine (14).

# CHAPTER III

## METHODOLOGY

The purpose of this chapter is four-fold. First, a description of the technique of content analysis and relevant terminology as applicable to this study is presented. This, in turn, is succeeded by a presentation and discussion of the structural framework within which the method of content analysis is applied for systematic study of logistics doctrine and policy documents. Third, a brief discussion of method application is presented. Lastly, an identification and classification of research documents pertinent to the study objectives and used in support of the research effort is provided.

## CONTENT ANALYSIS

As defined by Holsti, "Content analysis is any technique for making references by objectively and systematically identifying specified characteristics of messages [12:14]." Within this study, content analysis is used to analyze Air Force regulations and manuals pertaining to logistics doctrine and policy. As a technique, content analysis functions by examining the material being studied for "recording units." "Context units" are then searched in order to reliably determine the meaning of the "recording

unit." The results of this examination procedure are then annotated within the proper "category." Conclusions concerning the studied material can then be based upon the contents and distribution of the categories. Through the use of this technique, it may be possible to extract those items from within established doctrine and policy directives which identify the key elements critical to doctrine/policy congruency and consistency.

In order to maintain research validity, the technique of content analysis must be systematic and objective. The requirement of objectivity is fulfilled by defining the recording units and categories with a high degree of precision and clarity, such that another analyst would reach identical conclusions given the same data base and category listings (4:16). The requirement for a systematic methodology is met by ensuring that all content relevant to the problem may be placed within a specific category in accordance with constantly applied values. The initial category selection must be sufficiently broad so that no information is excluded from the study for lack of a category. By examining the system as a whole, the bias resulting from omission of some data is avoided (10:24).

In addition to the previous requirements, content analysis within this study will have the characteristic of inference. The capability to infer takes context analysis beyond simple phrase or word tabulation. Hence, while only recording units actually in the text may be

coded and categorized, conclusions concerning the latent meanings behind the actual text may be inferred. In this way the versatility of the study is expanded while the validity of the analytical techniques remains high (12:14).

Recording Units

Once the broad structure of content analysis is understood, the specific tools of recording units, context units, and categories must be developed. The five common types of recording units are the single word, the theme or assertion, the character, the sentence or paragraph, and the entire item, article, or book. The recording unit most applicable to this study is the theme or assertion. When using the theme as the recording unit, a category assignment is encountered within the text of the material being analyzed (12:116). The theme was selected as most appropriate because the primary purpose of this study is to determine the meanings (or assertions) within a given document. Reliance upon a different recording unit, such as a single word, would result in categorization being triggered by the appearance of a specific word in the text being analyzed, regardless of whether or not a unique meaning is being conveyed by that single word which can be reliably categorized. At the opposite spectrum, sentences, paragraphs, and entire items under analysis may contain more than one idea deserving of categorization, and may force the respective sentence, paragraph, or

article to be classified as a single unit, even if multiple messages are present (12:116-117). For this reason, the theme or assertion was selected as the recording unit most appropriate for this study because it is specific enough to be workable yet broad enough to be meaningful. It will allow the breakout, identification, and classification of each idea present within the document being studied. Therefore, the text being analyzed will be scanned for each theme or assertion, and every time an assertion is encountered, a category assignment will be made. Hence, a single sentence may contain multiple assertions, resulting in multiple category assignments.

Context Unit

The next analytical tool requiring specification is the context unit. A context unit is the largest body of text that can be examined for meaning once a recording unit is found. For the purpose of this study, the context unit is the paragraph. This means that once a recording unit has been identified (a theme or assertion), the text, up to a maximum of the one paragraph which contains the recording unit, will be searched to determine the actual meaning of the assertion. Additionally, when evaluating the relevance or intended meaning of recording units which reference figures or charts, the referenced figure will be used to assist in determining the meaning of the assertion. Often the recording unit will provide sufficient information,

contained within itself, to allow the determination of the meaning of the assertion, and facilitate subsequent categorization (12:118). Specification of the maximum context unit at the level of the paragraph is primarily designed to place a structural limit on the analytical process. The meaning of any assertion should be identified in the near vicinity (i.e. paragraph), and it is essential to hold each body of text being analyzed to as narrow a scope as practical so as to identify any incongruencies or inconsistencies. Essentially, incompatibilities may exist at the paragraph level which are not discernable at the chapter or document level. Restricting the context unit to a maximum of one paragraph will enable the identification of inconsistencies not perceptible at a higher level of analysis.

Before moving on to category identification, it would be beneficial to restate what has been done with context analysis to this point so as to better understand the upcoming step. When the researcher begins to analyze the documents selected for study, he proceeds through the document until he comes across a recording unit. Within this study, that has been defined as a theme or assertion. It should be clarified that, for the purposes of this study, a theme may be a very short specific assertion, such as, "The plan should be flexible." The term "theme" is not meant to imply the broad, all-encompassing purpose behind the document. A theme is any assertion. Once an assertion has

been identified, the researcher knows that a categorization will follow. By definition, the identification of a recording unit leads to categorization. In order to determine which category the recording unit should be placed in, the context unit, which within the study is a maximum of one paragraph, is searched to determine the meaning behind the assertion. The use of the context unit ensures that any assertion will be categorized on the basis of their written message, and not misplaced by being taken out of context. Generally a recording unit will be categorized at the lowest level of sub-category present within a major category. Occasionally, however, an assertion will fall within a major category but not fit within one of the lower-level sub-categories. In this case, the assertion will be placed in the lowest level possible within the major category. To this point the recording unit and context unit have been specified. The final step in the construction of the methodological framework is category specification.

Categories

While the recording units, context units, and categories are all closely interrelated, it is the category selection which most readily determines the success or failure of content analysis (4:147). There are five principles which apply to the selection of categories:

1. They should be relevant and reflect the purpose

of the research (12:95).

2. They must be exhaustive in that all relevant items in the material being studied must be able to be placed within a category (12:99).
3. The categories must be mutually exclusive so that no relevant item may fall within more than one category (12:99). Please note, however, that portions of some recording units may be used more than once in order to retain the proper context of a related phrase, but each assertion, as a unit, is unique and will be used only once.
4. The categories must be independent such that one recording unit's category assignment is not affected or determined by the category assignment of previous recording units.
5. Categories which are conceptually different must be kept separated. Care must be taken to carefully specify categories so that conceptually dissimilar comparisons are not made (12:100).

By carefully specifying categories in accordance with the above principles, the analyst will have a solid foundation on which to conduct research. In light of these principles, six broad categories have been developed for this study. These categories are drawn from the precepts set forth in AFM 400-2. Some of the principles within AFM 400-2 have been merged, but all of the major doctrinal ideas contained within that document fall in one of the specified

categories. Please note that AFM 400-2 has not yet been subjected to a rigorous context analysis; the general material contained in 400-2 was merely used as a guideline in developing the study categories.

As stated previously, there are six broad categories. Each of these broad categories will be briefly described, and then the sub-structure will be expanded later in the text. The first category is Goal Setting. This category will contain those recording units expounding ideas associated with the setting of goals. Under the second category, Resource Utilization Management, those assertions dealing with resource allocations and requirements will be listed. Operational Methods, the third category, deals with the methods and characteristics of the functioning unit. Those assertions dealing with composition are included under the fourth category, Organization, while Material Design, the fifth category, contains those items pertaining to equipment design. The last category, Miscellaneous, is used for documenting recording units that do not fit any of the previously identified categories.

In order to more fully understand the categorization, it is necessary to expand each of the general categories into its more specific components into which the recording units will eventually be placed. In accomplishing this task, an outline form will be used to clarify the relative hierarchical position of each sub-category.

I. Goal Setting--deals with all of those assertions pertaining to the setting of organizational or policy goals. Any assertions which establish guidelines to be utilized in the development of goals will fall into one of three sub-categories.

A. Strategic--deals with long-term, broadly focused goals.

B. Tactical--includes those themes associated with short-term, narrowly focused goals.

C. Non-Specific--goals are those which do not deal exclusively with either of the tactical or strategic goals as identified above.

II. Resource Utilization Management--contains those assertions dealing with the guidelines used in assigning resources. These guidelines are tools to be used by the manager in making decisions concerning resource allocation.

A. Personnel--consists of those themes which pertain to the management of people.

1. Availability--assertions deal with the allocation and accessability of the personnel resources required for task accomplishment.

2. Usage--statements are guidelines relating to the employment of personnel resources.

B. Material--assertions pertain to the guidelines used in the utilization of material resources.

1. Availability
2. Usage

} categories are the same as for personnel, except they relate to material, not personnel resources.

C. Composite--themes jointly address personnel and material.

1. Availability
2. Usage

} are identical to the preceeding definitions as used for personnel and material.

III. Operational Methods--are those themes which define the methods of or characteristics which allow task accomplishment. Under operational methods, concentration is placed on how an assigned responsibility is accomplished.

A. Functions--are the repetitive tasks which an organization performs in accomplishing its goal.

1. Security--could also be defined as defensively-oriented operations. The purpose of security is to ensure the non-hostility of the organizational environment so that the desired goals might be sought.
2. Offensive Operations--are those logistical efforts which are designed to maintain the offensive action for friendly forces.
3. Preparedness--assertions refer to functions designed to insure organizational readiness.

In the short range, this means that the logistics system can respond rapidly to support operational contingencies. In a broader sense, the logistics system must forecast future requirements, and take actions to insure that the proper resources and systems will be ready when required.

4. Interaction Between Mission Elements--are the assertions dealing with the directives which determine the ways in which organizational units deal with other organizational units.
   a. Organic--cooperation is concerned with interaction between any United States Air Force organizational units or elements, while,
   b. Interagency--cooperation deals with the relationships between United States Air Force organizational units and other services, governmental agencies, and civilian contractors.
   c. Allied--cooperation guidelines prescribe the relationships between United States Air Force organizational units and Allied forces.
5. Standard Operating Procedures--are those functions carried out by an organization concerned

with the accomplishment of goals which are neither offensive, defensive, preparatory, nor cooperation-fostering in nature. Tasks listed within this category are those which are required in order for the organization to carry out its "self-perpetuating" functions and maintain a relatively stable organizational environment.

B. Characteristics--of an organization are system attributes specifically inbred into the organization by design.

1. Adaptability--refers to long term, generally permanent, changes in the organization's activities, while

2. Flexibility--is the organization's ability to modify existing activities in accordance with changing conditions.

3. Preparedness--attributes contribute to the organization's ability to be ready to support operation, both in the narrow and broad sense, similar to the "preparedness" category above.

4. Survivability--allows the organization to persist through time.

IV. Organization--describes the composition of the organizational unit, and how it is defined in accomplishing

its mission goals. Within this category, concentration is on the allocation of responsibilities.

A. Structure--contains those themes which focus upon the manner in which elements of an organization are interrelated.
   1. Hierarchical--relationships may be specified, or the
   2. Horizontal--interactions between elements may be defined, and
   3. Matrix--organizations may be described, wherein both vertical and horizontal relationships exist.
   4. Centralization/Decentralization--may be covered by some themes.

B. Functions--of an organization may be specified instead of structure. Under function, an organization is defined by the activities it accomplishes or the purposes for which it was designed. Furthermore, in order to be placed within this category, an organization/individual must be specifically tasked with some identified function.
   1. Direct Operational Support--contains those assertions associated with explicating functions or actions directly in support of primary Air Force missions. The action must have a direct effect upon or be in direct contact with sortie

or mission generation or recovery. The action must also follow an unbroken line of descent from the issuing authority, and take immediate effect without intervening agencies altering or modifying the impact of the directive.

2. Indirect System Support--comprises those activities not in direct operational support of primary Air Force missions.

V. Material Design--consists of those characteristics which are taken or integrated into the design of equipment. The goal is to enhance mission capabilities by ensuring the material resources available are capable and effective, through their design, of accomplishing required tasks.

A. Maintainability--is the aspect of material design concerned with ensuring the required equipment can be maintained properly. This includes:

1. Training Required--for the personnel maintaining the equipment, the
2. Support Equipment Required--to maintain the equipment, and the
3. Work Effort Required--on the part of the personnel accomplishing maintenance.

B. Simplicity--of material design is concerned with the levels of complexity built into equipment. Included in this sub-category are:

1. Design for Manufacture--consists of assertions relevant to the consideration of simplicity when designing equipment to be manufactured.
2. Operation--simplicity, or human engineering, is also a factor relevant to design.
3. Support Equipment Required--contains themes expounding the role of simplicity in the support equipment that is needed to maintain a system.

C. Technology--levels must be considered in material design.
   1. Development--themes are concerned with advancing technological innovations within research and development, while
   2. Utilization--is concerned with the implementation of current technology in design efforts.

D. Reliability--of equipment, and designing in factors of reliability, is the final category under Material Design.
   1. Cost Tradeoffs--are of concern in reliability design, as the cost of equipment is often dependent, to some degree, upon its reliability. This sub-category contains assertions concerned with these cost tradeoffs.
   2. Readiness Rates--consists of those themes which focus upon reliability and equipment operational rates.

VI. Miscellaneous--assertions are those which do not fall into any of the preceeding categories.

A. Background--themes cover general or historical information which the manager may find to be of indirect benefit to task accomplishment.

B. Purpose of the Regulation--items are those which state the reasons for issuance of the regulation or manual.

C. Administrative--themes are those statements which direct the administrative procedures pertinent to the regulation being analyzed, such as routing or distribution of the regulation.

D. Definition--statements define terms or phrases.

E. Other--assertions are those which do not fit in any other category. This category includes illustrative examples and statements which furnish the manager with little in the way of usable information pertinent to task accomplishment.

## METHOD APPLICATION

With the completion of the category delineation, the framework for accomplishing context analysis is complete. A brief description of the procedure to be followed in analysis will provide clarification and guidance for the steps to follow. Specific Air Force documents will be

selected, read, and analyzed by the researchers, as containing the doctrine and policy directives relevant to accomplishing desired comparisons. As each document is read, each assertion found will result in a categorization of the triggering recording unit, based upon the meaning uncovered within the appropriate context unit. This procedure will be followed for both doctrine and policy documents. At the completion of the categorization of all of the documents, there will be a multitude of assertions listed under the categories and sub-categories. Some of these assertions will have been derived from policy documents while others come from doctrine documents. The researchers should then be able to make comparisons of the various assertions, concentrating upon comparing policy assertions with doctrine assertions. In this way, content analysis will be utilized as a tool to break each of the complicated documents down into simplified categorized assertions, thereby facilitating meaningful comparisons between doctrine and policy.

## DOCUMENT IDENTIFICATION

Following the developments of the structural framework, the specific documents for analysis were identified. Since the overall objective is to compare logistics doctrine to MPIP policy initiatives, the two types of documents selected for analysis were: 1) those relating to logistics doctrine,

and 2) those relating to MPIP policy. A concise presentation of the documents to be analyzed is presented in Table 1.

TABLE 1

LISTING OF SELECTED DOCUMENTS

| | DOCUMENTS |
|---|---|
| DOCTRINE | |
| CURRENT DOCTRINE<br>PROPOSED DOCTRINE | AFM 400-2<br>AFM 400-2 (DRAFT) |
| POLICY | |
| POMO | AFR 66-5<br>TAC SUP 1 to AFR 66-5 |
| CILC | PACAFR 400-50, VOLUME 1 |
| PACER PLUS | IMPLEMENTATION MESSAGE<br>LETTER from HQ USAF |

As stated previously in Chapter II, current Air Force Logistics Doctrine is contained in AFM 400-2. Due to the broad nature of logistics doctrinal statements, a comprehensive review of its contents was performed. In addition to the current version of AFM 400-2, the proposed AFM 400-2 revision was also examined. This enabled the researchers to compare the current doctrine to the proposed doctrine, and assist in determining the shifts in emphasis, if any, generated in the revision.

While it is possible to extract Air Force Logistics Doctrine from a single document, the implementing documents

for MPIP policies are not so unified. A study of the policy statements concerning the MPIP initiatives required the study of separate documents pertaining to each specific policy initiative. Therefore, in order to look at the three separate policy initiatives of POMO, CILC, and Pacer Plus, three different sets of documents were analyzed.

As stated previously, the Air Force policy for POMO is outlined in AFR 66-5. The entire contents of this document were not analyzed, but only specific, pre-determined sections. That is, much of AFR 66-5 is concerned with specific instructions, such as the proper method for completing required forms. Assertions of this nature are not a major consideration in this study, and were purposely excluded to minimize the assimilation of extraneous material. A brief overview of AFR 66-5 revealed that Chapter 1, "Maintenance Management Policy," contained broad policy directives relevant to the entire regulation. Therefore, all of Chapter 1 was analyzed. Chapters 2 through 6 contain information and responsibilities of a more specific nature. Analyses within these chapters was therefore limited to those paragraphs titled "General," such as paragraphs 2-14 and 4-31 of AFR 66-5. Although some extraneous material may be absorbed into the study, the analysis of every "General" paragraph allows retention of the systematic characteristics of content analysis. In addition, Tactical Air Command's (TAC) SUPPLEMENT 1, which added specific TAC directives to

AFR 66-5, was examined (28:1). The sections selected for analysis followed the same procedures used for AFR 66-5. Specifically, those elements within the TAC SUPPLEMENT falling within Chapter 1 or the "General" paragraphs of Chapters 2 through 6 were analyzed.

The only command to have implemented CILC is the Pacific Air Force (PACAF), and the CILC management procedures are contained in PACAF Regulation 400-50. This regulation consists of four volumes. Volume I is entitled Centralized Intermediate Logistics Concept Policy and contains the broad policy guidelines for implementing CILC. The remaining three volumes "contain specific guidance tailored to each functional area [18:1]." For the study, only Volume 1 was analyzed, and all of the assertions were categorized. As previously noted, this approach was used in order to minimize the omission of important elements.

The third policy initiative analyzed is Pacer Plus. The researchers were unable to find any formal regulations or manuals which direct the implementation or functioning of the Pacer Plus program. Instead, the program functions primarily through a series of mutual understandings precipitated through letters and telephone conversations. The only materials found suitable for framework analysis are samples of the written correspondence dealing with the Pacer Plus program. Specific letters and messages have been

selected for analysis based on the researchers' evaluation of the document's policy guidelines. The correspondence selected for analysis is identified in Table 1.

Within this chapter, the methodology utilized in determining the presence or absence of incongruencies and inconsistencies between logistics doctrine and the MPIP policies has been presented. This was followed by a brief discussion of methodological application and document identification. In Chapter IV, the analysis and findings of this application will be discussed.

# CHAPTER IV

## FINDINGS AND ANALYSIS

In this chapter, the results of the analytical framework application are presented. Each document, after being categorized as discussed in Chapter III, is individually analyzed. Additionally, the policies and proposed logistics doctrine are compared to the current logistics doctrine, and any incongruencies and inconsistencies detected are identified. The analysis of the current Air Force Logistics Doctrine is discussed first, followed by the analysis of POMO, CILC, Pacer Plus, and the proposed logistics doctrine revision.

As a means to assist in the presentation and understanding of the content analysis results, two aids have been compiled. First, Table 2 summarizes the results by showing, for each document, the number of assertions placed within each category. Second, the appendix contains the categorized assertions identified by the researchers from AFM 400-2 (Logistics Doctrine) and PACAFR 400-50 (CILC Policy). While Table 2 details aggregate numbers for each category, the appendix identifies each specific assertion from within AFM 400-2 and PACAFR 400-50 and the resulting categorizations.

## LOGISTICS DOCTRINE

When applied to AFM 400-2, the methodological framework developed in Chapter III was able to break logistics doctrine into its component assertions. The researchers

TABLE 2

SUMMARY OF ASSERTION ASSIGNMENT BY CATEGORY

| CATEGORIES | DOCTRINE | | POLICIES | | | | |
|---|---|---|---|---|---|---|---|
| | | | POMO | | CILC | PACER PLUS | |
| | AFM 400-2 | DRAFT | AFR 66-5 | TAC SUP 1 | PACAFR 400-50 | LETTER | MESSAGE |
| I. Goal Setting | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A. Strategic | 10 | 10 | 4 | 0 | 0 | 1 | 0 |
| B. Tactical | 18 | 10 | 11 | 0 | 0 | 1 | 3 |
| C. Non-Specific | 35 | 10 | 18 | 0 | 0 | 7 | 1 |
| II. Resource Utilization Management | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A. Personnel | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1. Availability | 1 | 1 | 15 | 8 | 0 | 0 | 0 |
| 2. Usage | 2 | 0 | 29 | 8 | 0 | 0 | 0 |
| B. Material | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1. Availability | 3 | 13 | 13 | 6 | 6 | 1 | 0 |
| 2. Usage | 2 | 4 | 12 | 1 | 0 | 1 | 0 |
| C. Composite | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. Availability | 25 | 4 | 4 | 0 | 0 | 1 | 3 |
| 2. Usage | 15 | 3 | 10 | 3 | 0 | 0 | 3 |

TABLE 2--Continued

| CATEGORIES | DOCTRINE | | POLICIES | | | | |
|---|---|---|---|---|---|---|---|
| | | | POMO | | CILC | PACER PLUS | |
| | AFM 400-2 | DRAFT | AFR 66-5 | TAC SUP 1 | PACAFR 400-50 | LETTER | MESSAGE |
| III. Operating Methods | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A. Functions | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. Security | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2. Offensive Operations | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3. Preparedness | 9 | 6 | 26 | 17 | 0 | 0 | 1 |
| 4. Interactions Between Mission Elements | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| a. Organic | 5 | 2 | 18 | 3 | 4 | 0 | 1 |
| b. Interagency | 29 | 1 | 3 | 0 | 0 | 0 | 0 |
| c. Allied | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. Standard Operating Procedures | 61 | 3 | 152 | 63 | 19 | 4 | 11 |
| B. Characteristics | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. Adaptability | 4 | 1 | 6 | 4 | 3 | 0 | 0 |
| 2. Flexibility | 16 | 1 | 8 | 0 | 5 | 0 | 5 |
| 3. Preparedness | 7 | 2 | 0 | 0 | 0 | 0 | 0 |
| 4. Survivability | 2 | 1 | 0 | 0 | 1 | 0 | 0 |

TABLE 2--Continued

| CATEGORIES | DOCTRINE | | POLICIES | | | | |
|---|---|---|---|---|---|---|---|
| | | | POMO | | CILC | PACER PLUS | |
| | AFM 400-2 | DRAFT | AFR 66-5 | TAC SUP 1 | PACAFR 400-50 | LETTER | MESSAGE |
| IV. Organization | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| A. Structure | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. Hierarchical | 4 | 1 | 55 | 12 | 0 | 0 | 0 |
| 2. Horizontal | 2 | 1 | 3 | 0 | 5 | 0 | 0 |
| 3. Matrix | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. Centralization/ Decentralization | 5 | 1 | 13 | 4 | 4 | 0 | 0 |
| B. Functions | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. Direct Operational Support | 2 | 0 | 111 | 3 | 9 | 0 | 0 |
| 2. Indirect System Support | 13 | 0 | 149 | 10 | 12 | 0 | 1 |
| V. Material Design | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| A. Maintainability | 2 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1. Training Required | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2. Support Equipment Required | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Work Effort Required | 3 | 2 | 0 | 0 | 0 | 0 | 0 |

TABLE 2--Continued

| CATEGORIES | DOCTRINE | | POLICIES | | | | |
|---|---|---|---|---|---|---|---|
| | | | POMO | | CILC | PACER PLUS | |
| V. Material Design (cont.) | AFM 400-2 | DRAFT | AFR 66-5 | TAC SUP 1 | PACAFR 400-50 | LETTER | MESSAGE |
| B. Simplicity | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1. Design for Manufacture | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2. Operation | 2 | 3 | 0 | 1 | 0 | 0 | 0 |
| 3. Support Equipment Required | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| C. Technology | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. Development | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2. Utilization | 4 | 2 | 0 | 0 | 1 | 0 | 0 |
| D. Reliability | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1. Cost Tradeoffs | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. Readiness Rates | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| VI. Miscellaneous | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A. Background | 94 | 32 | 68 | 7 | 5 | 15 | 7 |
| B. Purpose of the Regulation | 9 | 2 | 10 | 0 | 1 | 0 | 0 |
| C. Administrative | 1 | 0 | 6 | 5 | 20 | 2 | 6 |
| D. Definition | 49 | 0 | 28 | 1 | 13 | 0 | 0 |
| E. Other | 52 | 8 | 20 | 3 | 4 | 3 | 0 |

found that concentrating assertions dealing with common themes into homogeneous groups aided understanding of the material content. For example, since assertions dealing with goal setting were gathered together without any other themes present, the likelihood of misinterpretation of goal establishment was minimized. Additionally, the exclusion of material extraneous to goal setting helps the analyst maintain a more consistent thought pattern.

As revealed in Table 2, the Background sub-category contains the most assertions with 94, followed by Standard Operating Procedures with 61. These two sub-categories, comprising only 3% of the total number of categories available, accounted for 31% of all assertions categorized. The sub-category of Background contains 18% of all assertions and was designed to contain those themes which could furnish useful information to the decision maker, even though they may not fit into one of the other, more narrowly defined sub-categories. Assertions falling within the sub-category of Standard Operating Procedures are concerned with the methods of attaining specific task accomplishment. The sub-categories of Background and Standard Operating Procedures, while containing a disproportionate number of assertions, are diverse in that they touch on many areas, and do not focus upon a single area or task, as do the other sub-categories.

The distribution of assertions falling within the major categories of Goal Setting, Resource Utilization Management,

and Organization are fairly equal, each respectively containing 11%, 9%, and 6% of the total assertions. Due largely to the high number of themes within the Standard Operating Procedures sub-category, the Operating Methods category contains 24% of the assertions examined. The category of Material Design is addressed in only a few assertions within logistics doctrine, as shown by only 3% of the total assertions recorded. Overall, the assertions are distributed throughout all of the sub-categories with only a few exceptions. The result is that AFM 400-2 touches upon and provides guidance on a broad range of issues.

In applying the methodological framework to AFM 400-2, some problems were encountered. Although the majority of the assertions examined were categorized quite readily, there were themes which required extensive analysis and discussion on the part of the researchers. Three general types of situations were found to cause problems. First, some of the assertions were exceedingly broad and vague, and it was difficult to determine what, if anything, was being stated by the assertion. In these cases, the context unit was reviewed to attempt to discern what the authors of the logistics doctrine had intended to say. If, after this process, the assertion still could not be categorized, it was placed in the major category of Miscellaneous under the sub-category of Other. Second, the meaning and purpose

of some assertions were clear, but there were no categories into which the assertions fit smoothly. In this case, a category may not have been included to accomodate a particular assertion. Assertions of this type were usually placed in the Background sub-category. Third, some assertions were neither vague nor contained material not covered by the specified categories. Instead, a single assertion had the potential of being placed within more than one category. However, multiple-categorization would violate one of the rules of content analysis as outlined in the previous chapter. As a result, the researchers were required, with the assistance of the context unit, to determine where the primary emphasis of the assertion lay, and make a category assignment accordingly. As will be seen later, each of these three problems occurred in making category assignments for the policy documents. However, the general and broad nature of many of the logistics doctrinal assertions resulted in a greater proportion of problems of this nature arising when the current logistics doctrine was analyzed.

Another type of problem arose as a result of the dissection of logistics doctrine during analysis. By focusing on a recording unit as limited as the assertion, some of the broad meanings conveyed were overlooked. A series of assertions, validly assigned in accordance with methodological criteria, may fall within certain categories.

However, the assertions taken together, may have carried a meaning different from the individual assertions. Essentially, some of the synergistic meaning within the document was lost when the assertions were separated from the original body.

Overall, the content analysis technique developed in the previous chapter was found to be a very effective tool in breaking down logistics doctrine into its component assertions. However, some problems were encountered. In the upcoming sections, the methodological framework is applied to the other documents which were analyzed, and comparisons are made between the assertions from the current logistics doctrine, and those found within the policies and the proposed logistics doctrine revision.

## POMO

The first policy documents analyzed were AFR 66-5 and Tactical Air Command's Supplement 1. The distribution of assertions follows similar patterns within these documents, so the numbers of assertions have been aggregated within categories for this discussion. The results of the content analysis of the POMO documents will first be discussed, and then a comparison between doctrine and POMO will be made.

As before, a very small number of categories contained a high proportion of the assertions. The three sub-categories

of Standard Operating Procedures, Direct Operational Support, and Indirect System Support contained 51% of the assertions. This concentration of emphasis is not unexpected considering the purpose of a policy document such as AFR 66-5. Policies are designed to implement programs. The Direct Operational Support and Indirect System Support sub-categories assign specific tasks to organizations, and assertions within the Standard Operating Procedures sub-category assist the manager in accomplishing the required tasks. Essentially, these three categories contain assertions which assign responsibilities within the organization and explain how those responsibilities are to be accomplished.

When the three sub-categories, namely Standard Operating Procedures, Direct Operational Support, and Indirect System Support, are removed the distribution of assertions between the remaining major categories follows a logical pattern. That is, the categories of Resource Utilization Management, Operational Methods, and Organizations had 11%, 9%, and 9% of the assertions, respectively. On the other hand, the category of Goal Setting contained fewer assertions, having only 3% of the total assertions. On the whole, the POMO documents contain assertions placed within almost every sub-category, reflecting the broad range of areas covered. The primary exception to this statement is the Material Design category, which had almost all null sub-category entries.

The distribution patterns of assertions throughout the categories reflects the role of policy. The categories of Resource Utilization Management, Operational Methods, and Organization contain directives which will assist the organization in attaining its objectives. The objectives themselves are often established at higher levels of the organization, as reflected by the presence of fewer assertions in the Goal Setting category. The design of equipment is almost totally beyond the responsibilities of the POMO organization, as reflected by the presence of only two assertions within the Material Design category. From the basis of content analysis, therefore, POMO document assertions were appropriately distributed.

As with doctrine, some problems did arise in regard to the application of the methodology. Few difficulties arose during categorization, as most of the assertions were precisely phrased and the ambiguities were minimal. However, considerable meaning was lost during the assertion breakdown of the POMO document. For example, a major goal of implementing the POMO organization was increased flexibility. However, only eight assertions were placed in flexibility, comprising less than 1% of the total number of assertions categorized. The researchers feel that there are entire paragraphs and sections in AFR 66-5 included solely to establish flexibility in the system.

However, when the individual assertions were categorized they fell into sub-categories other than Flexibility. This problem was noted in analyzing AFM 400-2 in the previous section; the breakout of the POMO documents destroyed much of the intended meaning.

The results of comparing POMO to logistics doctrine through the medium of content analysis categorizations provided mixed results. In accomplishing the comparison, a POMO assertion placed within a specific category was compared with the assertions from logistics doctrine falling within the same specific category. If the POMO assertion was found incongruent or inconsistent with the doctrinal assertion, the conflict was noted and the process continued until all assertions had been compared.

The result of the comparative analysis was that only one POMO assertion was found to be incongruent with the logistics doctrine assertions. The second assertion in paragraph 1-17a in AFR 66-5 is incongruent with the doctrine assertions concerning flexibility. It states that, "Under no circumstances will changes be implemented [to this regulation] without written consent [27:1-3]." This assertion forbids deviation from the regulation, while doctrinal assertions stress the importance of retaining flexibility throughout the organization. This incongruency is actually rather insignificant, as the primary purpose of the POMO assertion is to ensure compliance

with the regulation. AFR 66-5 actually contains a number of characteristics designed specifically to insure flexibility within the maintenance system, and the incongruent assertion is not as crucial, when taken in context, as it appears standing apart.

Although one instance of incongruency was identified, the results of the comparison between POMO and doctrine were inconclusive. POMO assertions could not be accurately compared with doctrine assertions. The latter are broad and general in nature, and the former specific; their levels are so different that the comparisons, as attempted, were meaningless. Conceptually, the idea of comparing policy assertions to doctrine assertions was promising. In practice, for the POMO documents at least, the comparison proved inconclusive.

## CILC

In applying the content analysis methodology to Volume I of PACAFR 400-50, a total of 112 assertions were identified and categorized. 36% of the assertions fell within the sub-categories of Standard Operating Procedures, Direct Operational Support, or Indirect System Support. Another 38% were distributed between the Administrative and Definition sub-categories. These five sub-categories therefore contained 74% of all the assertions in the analyzed document.

As discussed in the previous section, assertions recorded within the Standard Operating Procedures, Direct Operational Support, or Indirect System Support sub-categories are concerned with the implementation and operation of a policy. The CILC program affects many organizations, and Volume I of PACAFR 400-50 establishes "the management policy and procedures [18:1]" required to accomplish the many functions of the new program. The high percentage of assertions falling within the above three categories reflects the emphasis in PACAFR 400-50 on the assignment of functional responsibility and designation of task accomplishment methods.

While the above sub-categories are concerned with the functioning of the CILC system, the high number of assertions in the Administrative and Definition sub-categories illustrates the role of Volume I in unifying the CILC policy directives that are encompassed in the additional three volumes. Primarily, the Administrative sub-category discusses the applicability of PACAFR 400-50 and the procedures to be used in requesting a change to the regulation. The assertions within the Definition sub-category seek to ensure that the entire system operates with common terminology.

The remainder of the assertions are scattered, with no significant concentrations, among the other sub-categories. However, there are no assertions within the

major category of Goal Setting and only one assertion is listed under the Material Design category. As before, the distribution of assertions within these categories reflects the emphasis of the document. The design of material and equipment is normally beyond the scope of the CILC organizations, and an absence of goal setting assertions further demonstrates that Volume I is primarily interested in establishing the mechanism for CILC.

The breakdown and analysis of the assertions within PACAFR 400-50 was considerably easier than in the preceeding documents. Through application of the methodology, assertions were readily identified and categorized, revealing an accurate picture of the content of the regulation. Problems of categorization were few, as inference was rarely required. Some of the meaning of the regulation was lost during the content breakdown, but the majority of the assertions were self-contained, relying little on the support of surrounding statements. Overall, the content analysis technique was effective for structurally examining PACAFR 400-50 and identifying the areas of emphasis or neglect.

No inconsistencies or incongruencies were found in the comparison of PACAFR 400-50 to AFM 400-2, but, as with AFR 66-5, the results were inconclusive. Even in those sub-categories which contained a high number of assertions from the CILC document, the levels at which the statements

within the two documents are being made are so distant as to inhibit effective comparison. Doctrine deals with assertions of a very broad, general nature while Volume I of PACAFR 400-50 contains primarily assertions addressing specific issues.

## PACER PLUS

As stated in Chapter III, the researchers were unable to uncover any formal policy documents specifically addressing the Pacer Plus program. Air Force Logistics Command (AFLC) Regulation 66-268, Depot Maintenance Programming Policies, does not mention the Pacer Plus program (2). Several people assigned to HQ AFLC, as well as individuals at the Ogden Air Logistics Center, have stated that such documents are not in existence. Nevertheless, the researchers were able to obtain copies of the implementing message for the program that became known as Pacer Plus (31). Additionally, the researchers obtained a letter from HQ USAF which does discuss a broad range of MPIP issues (14:1). Furthermore, as an attachment to the HQ USAF letter, portions of minutes which discuss the Pacer Plus program were also made available for analysis. Although other items of correspondence were also obtained and are addressed later, the application of the methodology is limited solely to the above identified message and letter.

The assertions in the message were found to gather in five areas. Four assertions (9%) were documented to the major category of Goal Setting. Six assertions (14%) dealt with the category of Resource Utilization Management, all in the Composite sub-category. Eleven assertions (26%) gave detailed instructions and were placed in the sub-category of Standard Operating Procedures. Five assertions (12%) were assigned to the sub-category of Flexibility. Finally, under the category of Miscellaneous, seven assertions (16%) were Background classified and six more (14%), in the Administrative sub-category, identified the applicability of each of the six parts of the message.

The HQ USAF letter and minutes, on the other hand, showed a very different distribution. There were nine assertions (24%) placed in the Goal Setting category, only four (10%) in Standard Operating Procedures sub-category under Operational Methods, and fifteen assertions (40%) were recorded in the Background sub-category under Miscellaneous.

These results were not totally unanticipated, however. In an implementing message, emphasis is generally placed on the establishment of operating procedures. The guidelines established under the major category of Resource Utilization Management dealt primarily with how to manage, without supplemental funding, the additional workload precipitated by the Pacer Plus program. The concentration on flexibility

is necessitated to allow the Air Logistics Centers (ALCs) to negotiate the amount of work they could undertake. The lack of funding, along with varying possible tasks that could be accomplished at the Depots on the different weapon systems, managed by different ALCs, made this an essential characteristic of the system. The goals that were communicated in the message were of a very specific nature.

The HQ USAF letter, since it addressed MPIP in general, and Pacer Plus only as one aspect of a more comprehensive program, dealt with issues at a higher level than the AFLC message. It was addressed to the Major Command Directors of Logistics and its principle message was to convey to the logistics community the goals and desires of the Air Staff. The heavy concentration on background material was to set the stage prior to presenting goals. The standard operating procedures in the letter dealt primarily with the mechanics of the conference. Other standard operating procedures, detailing implementation actions for the program, were found in the minutes.

When the assertions in these correspondences were compared to those in the logistics doctrine, no incongruencies or inconsistencies were found. However, the problem identified earlier was again encountered. The doctrinal statements were at such a high level of guidance

that comparisons of one assertion from doctrine with one assertion from the correspondence were often inconclusive, if not meaningless.

Other findings, although not found be the strict application of the structural method developed, are of interest. Even though the Pacer Plus program has not been formally funded, the concept is in operation, and the hoped for results are being achieved. AFLC requested imputs from the other Major Commands to justify the continuance of the program. The responses, particularly from the Tactical Air Forces, were strongly in support of the program. USAFE claims that the program avoided 250 F-4 aircraft down days in ten months (15:1); PACAF claimed an additional 19 F-4 aircraft sorties per month command wide, plus other "non-quantifiable savings" and other "intangible benefits [22:1];" the TAC response was that they projected 838 additional F-4 sorties per year, and 300 additional sorties each for the A-7, A-10, and the F-15 aircraft fleets (3:1). But a problem identified on many occasions by people at AFLC and at the ALCs was that supplemental funding for the program had not been provided. The implementation message stated that the intent was to seek additives to cover the program, but such funding is still lacking.

## REVISED LOGISTICS DOCTRINE

The final application of the methodology was to the proposed revision to the Logistics Doctrine. The developed methodology proved to be much more useful with this document than with all the others. The seemingly conscious tendency to brevity, on the part of the drafters of the revision, kept this document concise and more nearly fulfilling as to what is needed in a doctrinal document.

This logistics doctrine proposal heavily emphasized goal setting as thirty assertions (21%) were classified to contain this sort of message. Interestingly, these same thirty assertions were evenly spread among the three sub-categories of Goal Setting; this indicates a balanced approach towards providing goal setting principles. The goals were, in the majority of cases, easy to identify as goals, and easy to sub-categorize into each area.

The draft also contained numerous assertions in the Resource Utilization Management category. This, combined with the absence of detailed standard operating procedures, indicates that the writers are not trying to provide solutions to all problems, but rather providing the foundation for and presenting the principles from which consistent and reasoned decisions may be made. Finally, there were many assertions that could only fit in the Miscellaneous category under Background; many of these had a very important, relevant message and/or principle to convey, but

the structural framework, as developed, did not have the appropriate categories in which to place those assertions.

The assertions in the proposed doctrine were then compared with those in the current AFM 400-2 document. Several areas were found to be inconsistent. The stated goal of logistics, in the proposal, is to support operational requirements. The supremacy of the operational commander and operational requirements, and the logistics responsibility to support operations, is unequivocally stated. In the current logistics doctrine, logistics' role is to develop and maintain a capability, and to make decisions regarding the functioning of the logistics system. While the current logistics doctrine does emphasize the functioning of the logistics system, it does so without sufficiently integrating the requirements of the operational environment.

A second area of inconsistency is the awareness in the proposed version that military systems are developed and maintained to be useful and effective in war, not just cost-efficient in peace. While the current logistics doctrine does emphasize economy in operation, it does not adequately emphasize the requirements that wartime places on the operational forces. The proposed revision further emphasizes that the systems used by the military should not have to be drastically altered in order to operate in wartime.

The current logistics doctrine seems to place high value in the development and use of new technology. On the other hand, the proposed version advises that maximum use of existing spares and commonality of items can bring economies, and increase readiness due to economies of scale. Whereby, if maximum use of commercial designs is made, further savings can be realized. The revised draft, in other words, is not so enamored of new gadgetry and technology, but instead would strike a more rational balance between economy, effectiveness, and technological advancement.

An area emphasized in the proposed draft that was mentioned only in passing in the current logistics doctrine, is that the logistics system should avoid excessive concentration of maintenance capability. Of immediate concern at this point is that CILC is dependent on a single, large, intermediate maintenance facility. The CILC calls for the CIRF to be located in a "Safe Haven," but in these days of long range and sophisticated weaponry, can any operating location be considered safe? This particular problem is, however, beyond the scope of this study and will not be discussed further.

A final area where the draft and current logistics doctrine differ is in their emphasis on the priority of missions. The current doctrine emphasizes "optimization." However, the use of the word optimization in and of itself

is rather vague and subject to misinterpretation. The proposal, on the other hand, states that priorities must be established between missions, and resources must be allocated based on those priorities. The vagueness in the current doctrine has the virtue that it allows flexibility. However, the draft retains flexibility, yet provides a more useful, comprehensive system with which to make resource allocation decisions.

## SUMMARY

In this chapter, the results of the analysis and the findings have been presented. Table 2 presents, in summary form, the results of the application of the structural framework to the selected documents. In the appendix the actual category assignments made for AFM 400-2 and PACAFR 400-50 are presented. It was found that the methodology was, in all cases examined, an effective tool with which to separate the guidance into more easily comprehensible components. However, some deficiencies were also isolated. The synergistic effects of whole sections from doctrine and policy documents were often lost when the guidance was partitioned to the assertion levels for analysis. Furthermore, when the assertions from policy documents were compared to assertions from the current logistics doctrine, it was discovered that they addressed such completely different levels of guidance as to make meaningful

comparisons impossible. However, the methodology was found to be very effective in comparing the present USAF Logistics Doctrine with a proposed revision, and five inconsistencies were identified and documented. The following, and final, chapter summarizes the research effort, presents conclusions, identifies several problem areas, and offers recommendations for further research.

# CHAPTER V

## SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter V, the final chapter of this study, will initially provide a brief review of the research purpose, delineation of research scope, and study methodology. These discussions will, in turn, be succeeded by the conclusions which were derived as a result of methodology application to selected logistics doctrine and policy documents. Lastly, the chapter presents some potential problem areas and provides some recommendations which may be of assistance to future research efforts.

## SUMMARY

The volatile and dynamic nature of our present international environment necessitates a requirement for military forces which are flexible and adaptable to constantly changing situations. In order to meet its changing requirements, the United States Air Force has instituted the Maintenance Posture Improvement Program (MPIP), a program designed to introduce and implement new maintenance policies for keeping pace with the changing environment. Three of the maintenance initiatives which have been implemented as a result of the MPIP program

are Production Oriented Maintenance Organization (POMO), Centralized Intermediate Logistics Concept (CILC), and Pacer Plus. However, while these initiatives supplemented or replaced traditional policies, the Air Force Logistics Doctrine has, for the most part, remained unchanged. As a result, it is possible that conflict may exist between the new maintenance initiatives and the logistics doctrine.

As a first step in examining a possible conflict between doctrine and policy, a brief review of logistics doctrinal and policy writings was undertaken. Doctrine, it was found, is a high level of broad guidance used to guide and coordinate actions of the organization. In contrast, policy, albeit in itself a form of guidance, is more specifically a plan of action which seeks to attain some predetermined organizational goal.

Although doctrine and policy need to harmoniously complement one another, no structural mechanisms were found to ascertain the compatability of doctrine to policy. Consequently, the purpose of this study was to develop a structural framework for the investigation and analysis of incongruency and inconsistency between the USAF Logistics Doctrine and the previously identified USAF aircraft maintenance policy initiatives. The structural framework developed required identification of the key elements of doctrine and policy and the research question was: "What are the relationships between the key elements of doctrine

and policy critical to the attainment of consistency and congruency in doctrine/policy formulation?" To address the research question, three study objectives were specified: 1) identification and specification of the key elements of doctrine and policy, 2) development of a structural framework for analysis, and 3) application of the structural framework to the three MPIP initiatives of POMO, CILC, and Pacer Plus, and Air Force Logistics Doctrine.

The technique of content analysis was selected and used for conducting the study. Content analysis is a systematic analytical method of "identifying specified characteristics of messages [12:24]." In practice, a document is selected for analysis and searched for "recording units." When found, recording units trigger a categorization based on the meaning of the recording unit as determined within the span of the "context unit." Based upon the adjudged meaning, the recording unit is placed in one of several categories which are specified by the researcher prior to document analysis. Conclusions can be based on the contents of the categories and the distribution pattern of the recording units. For this study, the recording unit utilized was the theme or assertion, while the context unit employed was the paragraph.

Methodological application was restricted to specific documentation. Both the current Air Force Logistics

Doctrine (AFM 400-2) and its proposed revision were analyzed. AFR 66-5, Production Oriented Maintenance Organization(POMO), was used to examine the POMO policy, and PACAFR 400-50, Volume I, Centralized Intermediate Logistics Concept Policy, was selected for the CILC analysis as it contained the management policy for that established maintenance initiative. Although no formal regulations or manuals were found for the Pacer Plus initiative, methodology was applied to the Pacer Plus implementation message and accompanying letter correspondence from Headquarters USAF.

## CONCLUSIONS

In general, it may be concluded that the major objectives of the research have been satisifed. The identification and specification of key elements pertinent to the study of doctrine and policy formulation were presented in Chapters II and III. These same elements, in turn, were later used to develop a structural framework which was provided in Chapter III in concert with a second objective of the study. Finally, Chapter IV presented a discussion of the results which were achieved through methodology application to selected documents in accordance with the third of the research objectives. The degree of objective attainment, however, warrants additional explanation.

The structural framework was found to be suitable and effective for partitioning and promoting an increased understanding of both the logistics doctrine and the individual maintenance policy initiatives. That is, when assertions from a document were assembled by area of emphasis, and isolated from statements dealing with other topical concerns, it became possible to quickly focus upon, and more easily understand, the guidance presented in each of the documents.

In addition to the benefits presented in the preceeding paragraph, the methodology was also useful in identifying and highlighting some areas of disagreement between the existing logistics doctrine and its proposed revision. Some areas emphasized in the proposed revision were found to be neglected in the current AFM 400-2. For example, the principle found in the revision that maintenance capability should not be concentrated at one location is, for the most part, largely ignored in the present logistics doctrine. Other statements from the proposed revision were found to be inconsistent with guidance set forth by current doctrine, as shown by the emphasis, in the revision, that logistics must support operational requirements by advising and supporting the operations commander. AFM 400-2, on the other hand, states that the logistics system must develop and maintain a military capability, while guidance on the interactions with operations is minimized.

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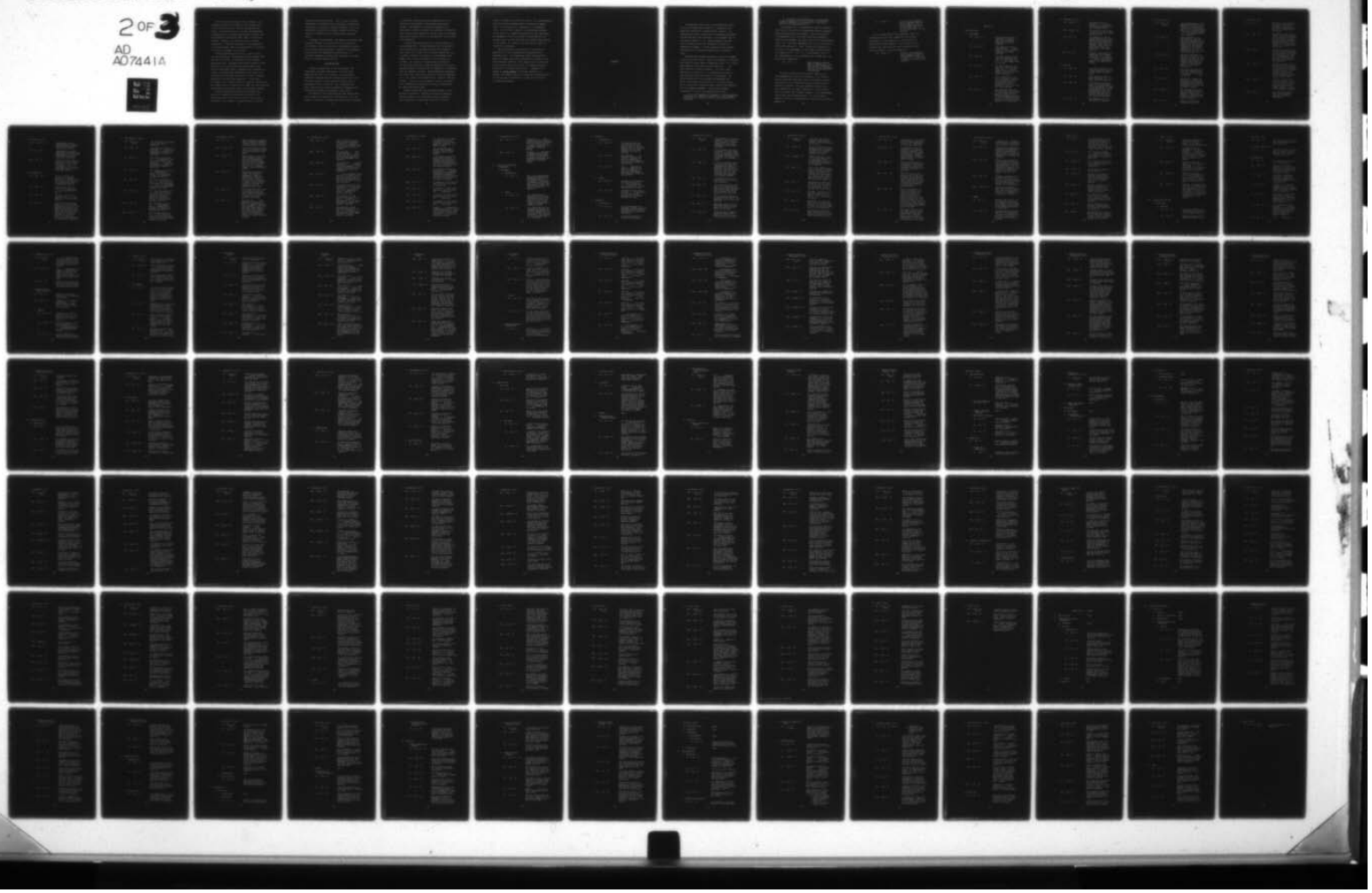

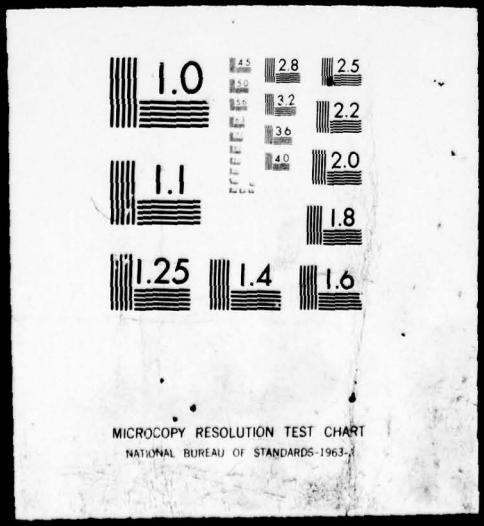

When the policy initiatives were compared to the logistics doctrine to determine if any incongruencies or inconsistencies exist, only one incongruency was found. The analysis failed to uncover any significant incongruencies or inconsistencies between AFM 400-2 and the documents directing the POMO, CILC, or Pacer Plus programs. However, the results can only be called inconclusive. Problems encountered in the application of the methodology, which are presented below, prevented a definitive statement on the problem.

During methodology application, a major problem area was encountered. When assertions were removed from the body of the text, at least part of the intended meaning was lost. Although every effort was made to keep assertions in context during methodology application, when the assertions within a paragraph were considered as a whole, the purpose and meaning were often found to be much greater and perhaps very different from the meaning conveyed by the individual assertions. It was found, for example, that complete sections of AFR 66-5 established the characteristic of flexibility in POMO, yet each assertion, when examined individually, had a very different meaning.

Another problem was discovered when assertions in policy were compared to assertions in doctrine. The statements were at such distant levels in the hierarchy of guidance that attempts to compare doctrine to policy

became futile efforts at best. That is, while doctrine established or delineated basic principles, the policies were aimed at carrying out specific programs. Hence, the researchers discovered the distance between the two far too wide to address with the methodology as developed herein.

Although the methodology, when applied, did reveal some invaluable insight to doctrine and policy formulation, on the whole it failed to provide a comprehensive vehicle for definitive problem analysis. However, the researchers conclude that with appropriate modifications, the structural framework developed here may prove to be beneficial to further research efforts.

## RECOMMENDATIONS

During the application of the methodology, the researchers discovered weaknesses in the structural framework that made it not possible to unequivocally state that incongruencies and inconsistencies did or did not exist between the USAF Logistics Doctrine and the maintenance policy initiatives. The recommendations which follow may aid future researchers in improving the methodology developed and employed in this study.

One problem in the methodology was that difficulties arose during the categorization of assertions due to the absence of categories to assign particular areas of guidance.

If different or additional major categories were to be identified and delineated, this problem area may be reduced. Furthermore, if additional categories are established, it may also reduce the occurence of instances where an assertion's meaning is unclear, since the category itself would quickly aid in the determination of the intent of an assertion.

A second problem area existed in the delineation of the recording unit. It was found that when an assertion (the recording unit) was separated from the paragraph (the context unit), part of the intended message was lost. In order to resolve this problem, the researchers would suggest that a two-tier approach to the recording unit be taken. In addition to categorizing and comparing the individual assertions, complete paragraphs from policy documents should be categorized and compared with paragraphs from the logistics doctrine. When categorizing paragraphs the context unit should then become the Numbered Paragraph (i.e. "1-2. Scope:" from PACAFR 400-50, Volume I) from the document. This multi-level approach retains the benefits of the framework as developed, and better substantiates an identified problem area.

Another problem area was discovered during the comparison of documents. Logistics Doctrine and Logistics Policies operate at such different levels of guidance that comparisons of assertions from one to the other

within a category were difficult at best. The recommendations from the previous paragraph should increase the comparability of recording units, especially at the paragraph level. An additional change to the methodology employed herein would be to compare recording units (both assertions and paragraphs) from the policies to recording units (at the same level) in more than just one category from doctrine. In this manner, the intent of the doctrine as a whole is considered in analysis.

The final problem area noted was in consistency in application of the methodology and categorization of recording units. The researchers found that assertions where the categorization was questionable decreased in the later documents examined. This implies that at least part of this problem was eliminated as the researchers gained proficiency in technique application. A suggestion to change the modus operandi for further research is to maintain and update charts with categorized recording units so that they may be referred to in case of difficulties in category assignment.

# APPENDIX

This appendix contains all of the assertions identified by the researchers in AFM 400-2, followed by the assertions identified in PACAFR 400-50, Volume I. All assertions are taken verbatum from the specified documents. Any material which has been added to the original text is enclosed in brackets ( [ ] ) and any material excluded from the assertion that was included in the text is replaced by ellipses. A brief discussion of the methods of annotation for categorized assertions is presented below.

Assertions are grouped according to the major category in which they were placed. Within sub-categories, assertions were listed in their order of appearance within the document. Each assertion listed has a unique identification code which consists of three components. The first number, preceeded by an asterisk ( * ), represents the number of that assertion within that specific sub-category. The second number identifies the Numbered Paragraph from which the assertion was extracted, and the third number, which is enclosed by quotation marks, denotes the assertion from the Numbered Paragraph. The following example illustrates the use of the classification scheme.

> 3-12. The Principle of Flexibility. Every logistics system must be capable of adjustment to meet changes in the objectives, strategy, tactics, and availability of resources.

a. No matter how comprehensive a logistics plan or system appears to be, if it lacks the characteristics of capability or flexibility it has little value in the long run [23:3-3].

In paragraph 3-12, the researchers found one assertion which should be placed in the Operational Methods category, under the Flexibility sub-category. Since the assertion from paragraph 3-12 is the third flexibility assertion found in this document, the first digit of the identification code is *3. The source paragraph is 3-12, so the identification code becomes *3. 3-12. Finally this assertion is the first of the paragraph, so the complete identification code appears as *3. 3-12 "1". The paragraph title is not categorized as it is considered only a format aid. The actual entry appears as:

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| *3. 3-12 "1" | Every logistics system must be capable of adjustment to meet changes in the objectives, strategies, tactics, and availability of resources. |

The next statement from the example begins a new sub-paragraph and contains two assertions. The identification of multiple assertions within one sentence requires the sentence to be divided and ellipses entered wherever material is removed. The first assertion includes the word "capability" but omits "flexibility," and is listed within the Operational Methods category, in the Preparedness sub-category under Characteristics. It is the second assertion within the Preparedness sub-category and therefore appears as:

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| *2. | 3-12a "1" | No matter how comprehensive a logistics plan or system appears to be, if it lacks the characteristic of capability . . . it has little value in the long run. |

For the second assertion in paragraph 3-12a, the researchers omit the word "capability" but include "flexibility." This assertion is listed within the Operational Methods category in the Flexibility sub-category, and constitutes the fourth assertion within that sub-category. The entry appears as:

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| *4. | 3-12a "2" | No matter how comprehensive a logistics plan or system appears to be, if it lacks . . . flexibility it has little value in the long run. |

I. Goal Setting

A. Strategic

| | | | |
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| *1. | 1-2a | "4" | Its [logistics] basic tasks are to create . . . the total capability required by a given strategy. |
| *2. | 1-2a | "5" | Its [logistics] basic tasks are to . . . maintain the total capability required by a given strategy. |
| *3. | 4-4e | "6" | Air Force directed policies for commercial airlift must be responsive to . . . long range needs of the DOD. |
| *4. | 4-4e | "7" | Air Force directed policies for commercial airlift must . . . foster sound economic conditions within the civil air carrier industry. |
| *5. | 4-4h | "5" | Full cooperation in the use of material, whether it be of paper clips or aero engines, must be obtained if supply discipline is to have any practical meaning. |
| *6. | 4-5d | "1" | [An objective that will increase the effectiveness of the receipt and storage activities is] to develop systems designated to provide feedback information on availability and capability of resources. |

A. Strategic (cont.)

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| *7. | 4-7b(1) "1" | Maintenance must be planned . . . to assure optimum effectiveness of each weapons system. |
| *8. | 4-7b(2) "1" | Every effort must be made to reduce life-cycle maintenance costs. |
| *9. | 5-1 "1" | The emphasis in the national security policy on maintaining options means that the USAF logistics support concept must, in broadest terms, continually improve mobility, flexibility, and adaptability. |
| *10. | 5-2 "2" | Greater effectiveness of resources, with optimum efficiency, is a logistics goal in the creation . . . of all systems that support the operational mission. |

B. Tactical

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| *1. | 1-2a "6" | This total capability will be tactically utilized to conduct military operations. |
| *2. | 3-5a "2" | Each logistics operation must contribute to . . . [the] military objective. |
| *3. | 3-5a "4" | This purpose [the objective of the operation] must be achieved efficiently and accurately, having due regard to total resource limitations, area of operation, and the state of the art for the time period considered. |
| *4. | 3-24 "1" | The management of the functions of logistics |

B. Tactical (cont.)

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| *4. | 3-24 "1" (cont.) | and the management of the organizations performing these functions must be directed to the accomplishment of the program established for the development . . . of a specific military capability. |
| *5. | 3-24 "2" | The management of the functions of logistics and the management of the organizations performing these functions must be directed to the accomplishment of the program established for the . . . maintenance of a specific military capability. |
| *6. | 4-4d "2" | Its [the transportation system's] objective is to provide the means of conveyance that insures the timely dispatch and arrival of cargo and personnel at its mission destination. |
| *7. | 4-4e "5" | Air Force directed policies for commercial airlift must be responsive to immediate . . . needs of the DOD. |
| *8. | 4-4f "1" | The method of materials handling in loading and unloading operations must be simplified to prevent unnecessary tie-up of the transport carrier. |
| *9. | 4-4g "3" | The information [within the distribution system] must be current with respect to stocks at many locations including production centers. |
| *10. | 4-5 "5" | Its [the receipt and storage function's] |

B. Tactical (cont.)

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| *10. | 4-5 | "5" | objective is to preserve and have available the equipment, end items, and spares needed in support of the operational inventory. |
| *11. | 4-5a | "1" | [Objectives that will increase the effectiveness of the receipt and storage activities are] to maintain current performance standards tailored to the mix of the workload performed in the warehousing activities. |
| *12. | 4-5b | "1" | [Objectives that will increase the effectiveness of the receipt and storage activities are] to keep the organizational structure in balance with the workload as measured by the standards. |
| *13. | 4-5c | "1" | [Objectives that will increase the effectiveness of the receipt and storage activities are] to manage the data flow so that requisitions are processed in minimum time and discrepancies are adjusted without delay. |
| *14. | 4-6a | "2" | Its [the disposal function's] objective is to rid the system of inventories no longer considered necessary or no longer usable in support of the logistics mission. |
| *15. | 4-7b | "1" | Air Force maintenance must provide maximum equipment readiness/ availability. |

B. Tactical (cont.)

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| *16. | 4-7b(1) "2" | Maintenance must be . . . accomplished to assure optimum effectiveness of each weapon system. |
| *17. | 5-1 "2" | Improvements in rapid deployment techniques and availability of war readiness material become principal objectives. |
| *18. | 5-2 "3" | Greater effectiveness of resources, with optimum efficiency, is a logistics goal in the . . . maintenance of all systems that support the operational mission. |

C. Non-Specific

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| *1. | 1-2a "10" | In this context, the exercise of command authority is essential to the conduct of logistics in the environment of strategy and tactics. |
| *2. | 1-3a "1" | The end objective of logistics is supporting . . . a military capability. |
| *3. | 1-3a "2" | The end objective of logistics is . . . maintaining a military capability. |
| *4. | 3-1a "2" | Since logistics extends deeply into the civilian economy at one end of its spectrum and deeply into combat operations at the other end, the principles which govern the entire spectrum of logistics must be a mixture of those which are essentially economically oriented |

C. Non-Specific (cont.)

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| *4. | 3-1a (cont.) | "2" | and those which are essentially military in character. |
| *5. | 3-4a | "1" | The logistics function of planning . . . should be performed to further the operational program objectives. |
| *6. | 3-4a | "2" | The logistics function of . . . programming (the use of men, money, and material) . . . should be performed to further the operational program objectives. |
| *7. | 3-4a | "3" | The logistics function of . . . budgeting . . . should be performed to further the operational program objectives. |
| *8. | 3-4a | "4" | The logistics function of the . . . computation of requirement for resources . . . should be performed to further the operational program objectives. |
| *9. | 3-4a | "5" | The logistics function of . . . the exercising of inventory control over available resources . . . should be performed to further the operational program objectives. |
| *10. | 3-4a | "6" | The logistics function of . . . engineering should be performed to further the operational program objectives. |
| *11. | 3-4a | "7" | The logistics function of . . . the control of funds should be performed to further the operational program objectives. |

C. Non-Specific (cont.)

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| *12. | 3-5 "1" | Every logistics operation must be directed toward a clearly defined, decisive and attainable objective. |
| *13. | 3-16b "6" | The logistician's problem, then, is to achieve effective and sufficient support. |
| *14. | 3-20b "5" | Nevertheless, a good Air Force support system is one that approximates these three conditions [of cost benefit measurement] to the limits of our ability to measure support effectiveness and costs. |
| *15. | 3-22f "3" | Each planning function within the logistics organization must be responsive, communicative, timely, valid, effective and efficient in terms of the objective for which the plan was created at a given organizational level. |
| *16. | 4-2e "3" | Since data from the field is extensively used in requirements determination it must be accurate in terms of quality, quantity, and time. |
| *17. | 4-3c "3" | Industry has . . . [a] practical obligation to make its talents available in support of national military objectives--in the sense that industry must earn a fair profit if the free enterprise system is to maintain a strong and viable national economy. |

C. Non-Specific (cont.)

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| *18. | 4-3d | "1" | The Air Force, for its part, has an obligation to define its requirements and so present them as to enable industry to respond . . . |
| *19. | 4-3d | "2" | The Air Force . . . has an obligation . . . to relate the profit factor to the mutual benefit of both the Government and industry . . . |
| *20. | 4-3d | "3" | The Air Force . . . has an obligation . . . to maintain the integrity of the contractual relationship between itself and its suppliers. |
| *21. | 4-3e | "4" | . . . It is incumbent upon both the Air Force and industry to insure that, in any conflict between the two, the national interest shall prevail. |
| *22. | 4-4b | "1" | The objective of the distribution function is the efficient . . . distribution of the means procured to support the needs of the user. |
| *23. | 4-4b | "2" | The objective of the distribution function is the . . . effective . . . distribution of the means procured to support the needs of the user. |
| *24. | 4-4b | "3" | The objective of the distribution function is the . . . economical . . . distribution of the means procured to support the needs of the user. |

C. Non-Specific (cont.)

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| *25. | 4-4c | "1" | The distribution element in logistics must be tailored to provide responsive, flexible, and mobile support. |
| *26. | 4-4c | "4" | The procedures used to effect this [forward] movement must be made simple. |
| *27. | 4-4g | "1" | An integrated reporting system must expedite . . . accurate and dependable information required to optimize effectiveness of the total elements of the distribution system. |
| *28. | 4-4g | "2" | An integrated reporting system must . . . process accurate and dependable information required to optimize effectiveness of the total elements of the distribution system. |
| *29. | 4-4j | "7" | In support of MAP requirements the Air Force must be responsive. |
| *30. | 4-4j | "8" | In support of MAP requirements the Air Force must be . . . compatible. |
| *31. | 4-4j | "9" | In support of MAP requirements the Air Force must be . . . effective. |
| *32. | 4-4j | "10" | In support of MAP requirements the Air Force must be . . . efficient. |
| *33. | 4-6c | "2" | Simple . . . procedures of administration must therefore be developed to clear inventories of disposable materials in a rapid yet economical manner. |

C. Non-Specific (cont.)

*34. 4-6c "3" — Streamlined . . . procedures of administration must therefore be developed to clear inventories of disposable materials in a rapid yet economical manner.

*35. 4-6c "4" — Flexible . . . procedures of administration must therefore be developed to clear inventories of disposable materials in a rapid yet economical manner.

II. Resource Utilization Management

A. Personnel

1. Availability

*1. 4-7h "1" — Part of the maintenance management function is *the responsibility* to coordinate training requirements so that each type of maintenance unit possesses the skill and mix to support its mission.

2. Usage

*1. 4-4d "7" — The transportation specialist must possess professional skill and ability to direct and administer the entire scope of transportation responsibilities.

*2. 4-6b "1" — The responsibility for disposal is placed with trained specialists who know the market and can accomplish this function to the best advantage of the Government.

B. Material

1. Availability

| | | |
|---|---|---|
| *1. 4-4c "6" | The emphasis must be further shifted from stock piling to direct support with sufficiency assured for all users wherever they may be located. |
| *2. 4-7h "2" | The creation . . . of technical manuals and data is companion to efficient maintenance and training (formal and on-the-job). |
| *3. 4-7h "3" | The . . . updating of technical manuals and data is companion to efficient maintenance and training (formal and on-the-job). |

2. Usage

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|---|---|
| *1. 4-4f "2" | Transport vehicles must be used productively . . . by striving for full utilization, including payload both ways. |
| *2. 4-4f "3" | Transport vehicles must be used . . . economically by striving for full utilization, including payload both ways. |

C. Composite

1. Availability

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| *1. 3-2b "1" | In an environment of a shortage of total resources, decisions must be made on the priority of resource allocation. |
| *2. 3-2b "2" | To insure priority of mission consideration, |

1. Availability (cont.)

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| *2. | 3-2b (cont.) | "2" | the planning for strategy, logistics, and tactics must be placed in proper prospective, with the tradeoffs being command decisions. |
| *3. | 3-4c | "2" | The Air Force must take advantage of every opportunity to economize while retaining adequate control to insure the required response to its military needs. |
| *4. | 3-5a | "3" | It [each logistics operation] must produce the appropriately phased requirement for personnel, materiel, facilities, and services that will most directly, quickly, and economically accomplish its intended purpose. |
| *5. | 3-17 | "1" | Resources must be allocated where they will do the most good. |
| *6. | 3-17 | "2" | The logistician must also search out opportunities for reallocating resources when such a reallocation will increase the total benefits to be achieved. |
| *7. | 3-17 | "3" | This principle [resource allocation] applies to all resources--men, money, and materiel. |
| *8. | 3-19 | "1" | Resources should not be procured beyond the point where the benefits are equal to the cost. |
| *9. | 3-19a | "2" | This principle [marginal benefit] asserts that additional units of a resource should be bought |

1. Availability (cont.)

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| *9. | 3-19a "2" (cont.) | only when the benefit derived equals and preferably, exceeds the cost of the unit. |
| *10. | 3-19b "4" | Equal cost-benefit can be tolerated when necessary to preserve an essential resource which would otherwise be lost. |
| *11. | 3-21g(3) "3" | Logisticians must, [due to the long-term effects of operating costs] . . . be exceedingly careful in committing new systems to the inventory. |
| *12. | 3-25 "1" | All of the separate elements required to perform a given military mission must be provided in accordance with the quantity, quality, and timeliness requirements for a total military capability. |
| *13. | 4-2c "1" | Requirements limitations recognize that the need for a military capability is constrained by the availabilty of resources. |
| *14. | 4-2c "2" | The basic limitation on a military capability relates to that which the nation can or is willing to afford. |
| *15. | 4-2c "4" | Statements of a requirement for a military capability must, at some point in time, be fixed in relation to total resources. |
| *16. | 4-2c "5" | This decision [requirements determination versus resource availability] is then constraining on the |

1. Availability (cont.)

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| *16. | 4-2c | "5" | quantitative, qualitative and timeliness specifications of all statements of military capability. |
| *17. | 4-2c | "6" | As progress is made in acquiring the specified military capability and resources are allocated and consumed, feedback systems permit continuous readjustments in statements of need. |
| *18. | 4-2c | "7" | Such readjustments [in statements of need] must be applied in the same constraining manner which attended the initial decision. |
| *19. | 4-2c | "10" | Both the value of the need and the worth of resources used to satisfy the need may change with time, resulting in a continuous decision process of balancing needs and resources available to satisfy needs. |
| *20. | 4-2d | "2" | Since the quantity of dollars is rarely sufficient to permit the total computed buy, a carefully worked out priority system is necessary to ensure that the available budget is spent on critical items that will provide continuous support to the strategic and other prime missions. |
| *21. | 4-2e | "1" | Electronic Data Processing (EDP) assists in the requirements determination of end items and spare parts through the simplification of follow-on procedures, more rapid |

1. Availability (cont.)

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| *21. | 4-2e "1" (cont.) | communication, increased effectiveness, efficiency and economy of operation. |
| *22. | 4-3a "1" | Statutory and regulatory guidance and proscription define the parameters within which the materiel and services required to support the Air Force are procured. |
| *23. | 4-3a "2" | Within those parameters [of statutory and regulatory guidance], and under the discipline of sound procurement practice, the paramount considerations are quality, quantity, timely delivery, and cost. |
| *24. | 4-3a "3" | [Quality, quantity, timely delivery, and cost are] all co-equal factors in the single over-riding objective of meeting operational requirements. |
| *25. | 4-7f(2) "1" | [Contract maintenance can] reduce [the] requirement for investment in facilities, equipment and training of personnel. |

2. Usage

| | | |
|---|---|---|
| *1. | 3-7 "1" | Skillful and prudent use of logistics resources will enable the Air Force to accomplish its mission with minimum expenditure of resources. |
| *2. | 3-7a "1" | This principle [economy] requires the measured allocation of available resources on the basis of an established priority system. |

2. Usage (cont.)

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| *3. | 3-7a "2" | In establishing a priority system, primary attention must be given to the factors which are limiting, significant, or essential to the solution of the objective involved. |
| *4. | 3-14 "1" | The Principle of Mass . . . can be described as concentration of combat power where it can do the most good. |
| *5. | 3-14a "1" | Do not waste resources of time, manpower, materiel, or dollars on non-essentials. |
| *6. | 3-14a "2" | Concentrate [resources] on key factors. |
| *7. | 3-14a "3" | Logistics in support of adequate combat power must be concentrated at the critical time and place for a decisive purpose. |
| *8. | 3-14a "4" | When the elements of combat power receive the proper combination of support the net result is combat superiority. |
| *9. | 3-16b "7" | The effective and efficient level of support can be achieved with many different combinations of resources. |
| *10. | 3-18 "1" | Most objectives can be achieved through using more than one combination of resources. |
| *11. | 3-18d "1" | The application of Integrated Logistics Support--the cost benefit tradeoffs through use of varying amounts of differing |

2. Usage (cont.)

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| *11. | 3-18d (cont.) | "1" | resources--represents a lucrative area for increased savings in total resource expenditure. |
| *12. | 3-18d | "2" | The application of Integrated Logistics Support . . . represents a lucrative area for . . . increasing the effectiveness of logistics support without added use of assets. |
| *13. | 3-22d | "2" | Logistics planning . . . serves as the basis for directing . . . the resources of an organization toward the attainment of its objective. |
| *14. | 3-22d | "3" | Logistics planning . . . serves as the basis for . . . coordinating the resources of an organization toward the attainment of its objective. |
| *15. | 4-2b | "1" | Balanced requirements dictate that the requirement for any category of military capability must be developed in context with the existing or potential availability of any related category of military capability. |

III. Operational Methods

A. Functions

1. Security

| | | | |
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| *1. | 3-9 | "1" | Security is essential to the preservation of sustained combat capability. |
| *2. | 3-9a | "1" | Scarce resources must be protected against loss. |

1. Security (cont.)

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| *3. | 3-9a "2" | The total logistics system must be secured against any disruption. |

2. Offensive Operations

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| *1. | 3-6 "1" | Offensive action is necessary to achieve desired results and to maintain freedom of action. |

3. Preparedness

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|---|---|---|
| *1. | 3-11 "1" | The logistics system must not be surprised. |
| *2. | 3-11a "1" | Logistics planning in support of the Air Force objectives includes frequent review and testing of approved plans. |
| *3. | 3-11a "3" | Contingency planning . . . provides a vehicle for continuous updating by introducing plans for new contingencies. |
| *4. | 4-4c "2" | Movement to a bare base complex must be accomplished to meet the operational deployment schedule without exception. |
| *5. | 4-4c "5" | More direct support must be planned if limited quantities of high speed weapon systems are to be maintained at 100 per cent readiness. |
| *6. | 4-4e "1" | The requirement determination . . . of organic transportation resources must be consistent with mission needs which include strategic and tactical airlift. |
| *7. | 4-4e "2" | The . . . acquisition |

3. Preparedness (cont.)

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|---|---|---|
| *7. | 4-4e "2" (cont.) | . . . of organic transportation resources must be consistent with mission needs which include strategic and tactical airlift. |
| *8. | 4-4e "3" | The . . . maintenance of organic transportation resources must be consistent with mission needs which include strategic and tactical airlift. |
| *9. | 5-1 "3" | Mobility and flexibility must be scrutinized periodically through deployment planning exercises. |

4. Interactions between Functions

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| *1. | 3-13 "1" | Logistics functional tasks cannot be performed in isolation. |
| *2. | 3-13a "1" | Teamwork is a constant requirement . . . directed toward common, joint, and even individual objectives. |

a. Organic

| | | |
|---|---|---|
| *1. | 3-13a "4" | Teamwork is a primary consideration . . . between the civilian and military man within a service. |
| *2. | 3-22e "2" | The USAF logistics planning encompasses . . . the thinking included in . . . integrating plans for USAF logistics activities. |
| *3. | 3-23c "5" | In this manner [i.e. through planning] organizations coordinate their |

a. Organic (cont.)

| | | |
|---|---|---|
| *3. | 3-23c "5" (cont.) | effort jointly to produce the required unit of military capability. |
| *4. | 3-23d "3" | Formal techniques include . . . continuous interfacing and interrelationships among the commands involved. |
| *5. | 4-4i "1" | The distribution elements of the logistics system i.e., stock control, will be in constant touch with the customer. |

b. Interagency

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|---|---|---|
| *1. | 3-1c "1" | The OSD and JCS encourage the use of outside agencies . . . so long as such actions do not deprive the operational units of the support essential to operational mobility and effectiveness. |
| *2. | 3-3 "1" | Compatibility of policies, procedures, and support in systems design is prerequisite to maximum effectiveness and economy of interservice logistics. |
| *3. | 3-3 "2" | Optimum interservicing is achieved when standardization . . . of terms, definitions, and procedures provide the means by which materiel and/or workload can be transferred. |
| *4. | 3-3 "3" | Optimum interservicing is achieved when . . . compatibility of terms, definitions, and procedures provide the means by which |

b. Interagency (cont.)

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| *4. | 3-3 "3" (cont.) | materiel and/or workload can be transferred. |
| *5. | 3-3 "4" | Optimum interservicing is achieved . . . when management systems are so aligned that separate responsibility and accountability are maintained. |
| *6. | 3-4 "1" | Logistics functions that are vital to the operational program objectives should be retained by the Air Force. |
| *7. | 3-4a "8" | Decisions which directly affect such [operational program] objectives should not be candidates for interservicing. |
| *8. | 3-4b "1" | The function of cataloging . . . need not be managed in direct context with the operational program objectives. |
| *9. | 3-4b "2" | The function of . . . procurement . . . need not be managed in direct context with the operational program objectives. |
| *10. | 3-4b "3" | The function of . . . warehousing . . . need not be managed in direct context with the operational program objectives. |
| *11. | 3-4b "4" | The function of . . . packaging . . . need not be managed in direct context with the operational program objectives. |
| *12. | 3-4b "5" | The function of . . . packing . . . need not be |

b. Interagency (cont.)

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|---|---|---|---|
| *12. | 3-4b (cont.) | "5" | managed in direct context with the operational program objectives. |
| *13. | 3-4b | "6" | The function of . . . depot level maintenance . . . need not be managed in direct context with the operational program objectives. |
| *14. | 3-4b | "7" | The function of . . . accounting . . . need not be managed in direct context with the operational program objectives. |
| *15. | 3-4b | "8" | The function of . . . data processing . . . need not be managed in direct context with the operational program objectives. |
| *16. | 3-4b | "9" | The function of . . . training . . . need not be managed in direct context with the operational program objectives. |
| *17. | 3-4b | "10" | The function of . . . communications . . . need not be managed in direct context with the operational program objectives. |
| *18. | 3-4b | "11" | The function of . . . transportation need not be managed in direct context with the operational program objectives. |
| *19. | 3-4b | "12" | These functional activities [see above assertions, *8 through *18] could be subjected to interservice, OSD management, and contract management as well as retention by the Air Force. |

b. Interagency
(cont.)

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| *20. | 3-4c | "1" | Since the Air Force is responsible for its mission results, a decision involving reassignment of logistics functions to an outside agency should be made by the Air Force. |
| *21. | 3-13a | "2" | Teamwork is a primary consideration between the military and industry. |
| *22. | 3-13a | "3" | Teamwork is a primary consideration . . . among the services. |
| *23. | 3-23d | "4" | Formal [acquisition] techniques include integrated Logistics Support with . . . industrial contractors. |
| *24. | 5-4 | "1" | The Air Force subscribes to the concept of interservice support and DOD support when the use of services, facilities, supplies, and equipment increases effectiveness and economy of resources. |
| *25. | 5-4a | "1" | Logistics support from other than Air Force resources will be enhanced by developing uniform policies consistent with the specialized needs of each service. |
| *26. | 5-4b | "1" | Logistics support from other than Air Force resources will be enhanced by . . . standardization of procedures for procurement, requisition, storage, transportation, distribution, issuance, and maintenance of supplies and equipment. |

b. Interagency (cont.)

| | | | |
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| *27. | 5-4c | "1" | Logistics support from other than Air Force resources will be enhanced by . . . establishing uniform standards. |
| *28. | 5-4d | "1" | Logistics support from other than Air Force resources will be enhanced by . . . creating a common terminology and criteria. |
| *29. | 5-4d | "2" | Caution: "Any consolidation of facilities and/or services must not extend to the point where it deprives operational units of the support essential to their operational mobility and effectiveness" (JCS PUB 3). |

c. Allied

| | | | |
|---|---|---|---|
| *1. | 4-4j | "3" | The MAP [Military Assistance Program] is limited to the provisioning of equipment, training, and related support to the Armed Forces of Allied and friendly nations. |
| *2. | 4-4j | "4" | The Air Force implements its MAP responsibilities by providing materiel and services required to equip and support MAP forces as directed by Public Law and National Policy. |

5. Standard Operating Procedures

| | | | |
|---|---|---|---|
| *1. | 1-2b | "1" | Creation . . . of a military capability requires the continuous application of the planning . . . functions of management. |

5. Standard Operating Procedures (cont.)

| | | | |
|---|---|---|---|
| *2. | 1-2b | "2" | Creation . . . of a military capability requires the continuous application of the . . . organizing . . . functions of management. |
| *3. | 1-2b | "3" | Creation . . . of a military capability requires the continuous application of the . . . controlling . . . functions of management. |
| *4. | 1-2b | "4" | Creation . . . of a military capability requires the continuous application of the . . . directing . . . functions of management. |
| *5. | 1-2b | "5" | Creation . . . of a military capability requires the continuous application of the . . . coordinating . . . functions of management. |
| *6. | 1-2b | "6" | Creation . . . of a military capability requires the continuous application of the . . . evaluating functions of management. |
| *7. | 1-2b | "7" | . . . maintenance of a military capability requires the continuous application of the planning . . . functions of management. |
| *8. | 1-2b | "8" | . . . maintenance of a military capability requires the continuous application of the . . . organizing . . . functions of management. |

5. Standard Operating Procedures (cont.)

| | | | |
|---|---|---|---|
| *9. | 1-2b | "9" | . . . maintenance of a military capability requires the continuous application of the . . . controlling . . . functions of management. |
| *10. | 1-2b | "10" | . . . maintenance of a military capability requires the continuous application of the . . . directing . . . functions of management. |
| *11. | 1-2b | "11" | . . . maintenance of a military capability requires the continuous application of the . . . coordinating . . . functions of management. |
| *12. | 1-2b | "12" | . . . maintenance of a military capability requires the continuous application of the . . . evaluating functions of management. |
| *13. | 1-4 | "1" | This manual is to be used within the Air Force as a source of doctrine covering fundamental Air Force logistics principles and concepts. |
| *14. | 3-1a | "1" | Principles of Command govern the application of military concepts to the management of a military organization. |
| *15. | 3-1b | "1" | Responsibility for achievement of an objective must be matched by authority over every task required to attain that objective. |
| *16. | 3-2 | "1" | Certain logistics processes are so related to strategic/ |

5. Standard Operating Procedures (cont.)

| | | |
|---|---|---|
| *16. | 3-2 "1" (cont.) | tactical capability that logistics capability influences strategic/ tactical decisions. |
| *17. | 3-5a "5" | [Logistics] computations must provide for the desired strategic and tactical application, and as such, must be based on sound plans, programs, and accurate data. |
| *18. | 3-15 "1" | Planning and control of logistics are based on the knowledge obtained through logistics and various other information systems. |
| *19. | 3-15a "2" | Accurate and timely submission [of information] is paramount. |
| *20. | 3-15a(1) "1" | It must never be an objective to cover-up problems or deficiencies reflected in informational reports. |
| *21. | 3-15a(1) "2" | Corrective action should be taken [to correct identified problems], but not actions designed merely to cover-up deficiencies. |
| *22. | 3-15a(2) "1" | Managers must resist the temptation of evaluating subordinates solely on reports generated through information systems. |
| *23. | 3-16a "1" | Decision making is the key activity in a logisticians's effort to provide support to operating forces. |

5. Standard Operating Procedures (cont.)

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| *24. | 3-16a "2" | In order to make sound decisions, the logistician should be provided with some uniform frame of reference to guide him in his comparison of alternative courses of action. |
| *25. | 3-16b "9" | It is at . . . [the] point [of decision making] that well founded economic principles guide the logistician in making decisions which support his objectives. |
| *26. | 3-17 "4" | At the highest level, it [the principle of resource allocation] must be the guiding principle in allocating forces between major missions (such as strategic and tactical) and between theatres (such as Europe and the Pacific). |
| *27. | 3-17 "5" | At a lower level it [resource allocation] must determine the aircraft a mechanic will fix first. |
| *28. | 3-17 "6" | In systems acquisition this principle [resource allocation] is applied in the decision making process at Department of Defense and Air Force levels in authorizing a program (allocating R&D funds and personnel). |
| *29. | 3-17 "7" | It [the principle of resource allocation] is a consideration at Air Force Systems Command in deciding the optimum method of maintenance support for the chosen system. |

5. Standard Operating Procedures (cont.)

| | | | |
|---|---|---|---|
| *30. | 3-17 | "8" | It [the principle of resource allocation] is a consideration at AFLC in deciding requirements for repair versus replacement type of item support. |
| *31. | 3-18 | "2" | The process of arriving at the optimum combination involves a close examination of total cost and total benefit to achieve their most effective and efficient mix. |
| *32. | 3-19b | "2" | At depot level it normally does not pay to use maintenance/supply resources to repair spares which are excess worldwide. |
| *33. | 3-19b | "3" | At base level, under normal conditions, repair to spares should only be made if they are not excess at that base, and if the aggregate cost of repairing the item is less than the cost of requisitioning and transporting a serviceable item from the nearest excess location. |
| *34. | 3-20a | "4" | While these questions present many problems, an attempt should be made to make some judgmental decision as to the benefits gained versus the cost expended. |
| *35. | 3-22a | "2" | One medium for achieving improvement is through a long range planning concept with a projection of realistic capability needs. |

5. Standard Operating Procedures (cont.)

| | | | |
|---|---|---|---|
| *36. | 3-22a | "4" | This [the planning process] requires interaction between the Air Force and government and other agencies which assess future trends. |
| *37. | 3-22a | "5" | Planning cannot be tied exclusively to projections of the political and technological world ahead of us. |
| *38. | 3-22a | "6" | Planning must also relate to the current operational environment. |
| *39. | 3-22b | "1" | Concepts which start with a broad perspective and are defined and refined by the interaction process will provide the Air Force with a projection of realistic capability needs. |
| *40. | 3-22c | "1" | Capability needs which reflect imaginative concepts, substantiated requirements and forward looking solutions, which are geared to clear national needs will receive adequate elements of the military budget. |
| *41. | 3-22e | "1" | The USAF logistics planning encompasses people, administrative systems and procedures, formal and informal practices, computerized data, and the thinking included in developing . . . plans for USAF logistics activities. |
| *42. | 3-22e | "3" | Types of plans are identified and classified according to the level of |

5. Standard Operating Procedures (cont.)

| | | |
|---|---|---|
| *42. | 3-22e "3" (cont.) | organization for which activities are planned. |
| *43. | 3-23c "1" | Planning for new systems must specify the concurrent and sequential events necessary to create . . . a military capability. |
| *44. | 3-23c "2" | Planning for new systems must specify the concurrent and sequential events necessary to . . . maintain a military capability. |
| *45. | 3-23c "4" | Functional organizations . . . must respond in accordance with the approved program documentation. |
| *46. | 4-2a "3" | In arriving at a definition of specific needs, the logistics capability must be subdivided or categorized into mutually exclusive segments. |
| *47. | 4-2a "6" | A requirement for a military capability can consist of either a statement of the gross requirement which would define a need over and above that which already exists. |
| *48. | 4-2a "7" | A requirement for logistics capability is that the need must be specified in terms of quantity, quality, and time. |
| *49. | 4-2b "2" | This specification [balanced requirements] applies to each of the basic characteristics of quantity, quality, and time. |

5. Standard Operating Procedures (cont.)

| | | |
|---|---|---|
| *50. | 4-2e "4" | Supply discipline is needed at the user levels, so that management can confidently use base level supply statistics as a basis for computing requirements. |
| *51. | 4-4d "6" | Land, sea or air transportation will be used exclusively or in combination to achieve each assigned objective. |
| *52. | 4-5d "2" | The management of the receipt and storage activities must consider the principles of measurement, comparison, evaluation and correction. |
| *53. | 4-5d.a "1" | Measurement--Establish a base line so that the most effective control system can operate, and long range planning can be instituted. |
| *54. | 4-5d.a "2" | The basic planning and control information will be based on established performance standards for accomplishing standard tasks. |
| *55. | 4-5d.a "3" | Tasks now considered to be non-standard must be reevaluated to create optimum standardization. |
| *56. | 4-5d.b "1" | Comparison--Performance information must be collected to compare actual performance with planned performance. |
| *57. | 4-6d "1" | National, state, and local Government agencies provide a sound workable, |

5. Standard Operating Procedures (cont.)

| | | |
|---|---|---|
| *57. | 4-6d "1" (cont.) | continuous channel for disposal. |
| *58. | 4-6d "2" | Other means of disposal include sale in bid lots, and other sales techniques. |
| *59. | 4-7c "3" | Once [base level] maintenance is accomplished on the materiel, it is returned to service. |
| *60. | 4-7c "5" | Once [depot level] maintenance has been completed on the materiel, it is returned to stock for reissue or returned to the user. |
| *61. | 4-7g "2" | Development of control systems such as the system in AFM 66-1 requires review of current processes to determine the changes required to conform to new techniques. |

B. Characteristics

1. Adaptability

| | | |
|---|---|---|
| *1. | 3-2a "4" | On the contrary the technology which created these [new] weapons provided the opportunity to develop or adapt strategy and tactics around their utilization. |
| *2. | 3-22a "3" | The planning process must include the capability to continually anticipate changes in those environments which will impact on future operations. |
| *3. | 4-7a "4" | Maintenance concepts must be tailored to the operational concepts for the |

1. Adaptability (cont.)

| | | | |
|---|---|---|---|
| *3. | 4-7a (cont.) | "4" | employment of the weapons systems and specific mission of each major command. |
| *4. | 5-3b | "3" | Logistics information systems must be . . . changed as often as required to insure an accurate flow of data directed toward . . . a responsive production procurement system. |

2. Flexibility

| | | | |
|---|---|---|---|
| *1. | 3-6a | "2" | Logistics capability requirements must aim at systems that will permit the commander to . . . exploit enemy weaknesses. |
| *2. | 3-6a | "3" | Logistics capability requirements must aim at systems that will permit the commander to . . . meet unexpected developments. |
| *3. | 3-12 | "1" | Every logistics system must be capable of adjustment to meet changes in the objectives, strategies, tactics, and availability or resources. |
| *4. | 3-12a | "2" | No matter how comprehensive a logistics plan or system appears to be, if it lacks . . . flexibility it has little value in the long run. |
| *5. | 3-12a | "4" | Flexibility involves . . . the ability to keep moving toward a goal despite changes in environment. |
| *6. | 3-12a | "5" | Flexibility involves . . . the ability to keep moving |

2. Flexibility (cont.)

| | | |
|---|---|---|
| *6. | 3-12a "5" (cont.) | toward a goal despite . . . [the] invalidity of assumptions on which the plan was based. |
| *7. | 4-4e "4" | In addition the Air Force will augment its military airlift capability with commercial air carriers to satisfy the total airlift requirements imposed by the DOD. |
| *8. | 4-7b(4) "1" | Air Force maintenance systems and concepts must be responsive to changing operational requirements. |
| *9. | 4-7f "2" | Military maintenance provides a commander with close control and assures a capability for sustained operations under all conditions. |
| *10. | 4-7f "3" | Contract maintenance provides a means for augmenting the military capability. |
| *11. | 4-7f(1) "1" | Contract maintenance can release military maintenance capability and capacity for more essential work. |
| *12. | 4-7f(3) "1" | Contract maintenance . . . provides a cushion of flexibility to maintenance programs. |
| *13. | 5-3b "2" | Logistics information systems must be . . . combined . . . as often as required to insure an accurate flow of data directed toward . . . a responsive production procurement system. |

2. Flexibility (cont.)

| | | |
|---|---|---|
| *14. | 5-3c "1" | Logistics information systems must be integrated . . . as often as required to insure an accurate flow of data directed toward . . . the augmentation of efficient peace time systems capable of providing effective wartime support. |
| *15. | 5-3c "2" | Logistics information systems must be . . . combined . . . as often as required to insure an accurate flow of data directed toward . . . the augmentation of efficient peace time systems capable of providing effective wartime support. |
| *16. | 5-3c "3" | Logistics information systems must be . . . changed as often as required to insure an accurate flow of data directed toward . . . the augmentation of efficient peace time systems capable of providing effective wartime support. |

3. Preparedness

| | | |
|---|---|---|
| *1. | 3-6a "1" | Logistics capability requirements must aim at systems that will permit the commander to exercise initiative and impose his will on the enemy. |
| *2. | 3-12a "1" | No matter how comprehensive a logistics plan or system appears to be, if it lacks the characteristic of capability . . . it has little value in the long run. |

3. Preparedness (cont.)

| | | |
|---|---|---|
| *3. | 4-4i "2" | The distribution elements of the logistic system . . . must, if men and machines are to complete their mission, be fully capable of around-the-clock support. |
| *4. | 5-3a "1" | Logistics information systems must be combined as often as required to insure an accurate flow of data directed toward the rapid support of various missions. |
| *5. | 5-3a "2" | Logistics information systems must be integrated . . . as often as required to insure an accurate flow of data directed toward the rapid support of various missions. |
| *6. | 5-3a "3" | Logistics information systems must be . . . changed . . . as required to insure an accurate flow of data directed toward the rapid support of various missions. |
| *7. | 5-3b "1" | Logistics information systems must be integrated . . . as often as required to insure an accurate flow of data directed toward . . . a responsive production procurement system. |

4. Survivability

| | | |
|---|---|---|
| *1. | 3-9a "3" | Dispersion, alternate plans, and procedures, and emergency planning are factors that enhance security. |

4. Survivability (cont.)

| | | |
|---|---|---|
| *2. | 4-7f(4) "1" | In addition, contract maintenance can . . . increase the dispersal of maintenance capability. |

IV. Organization

A. Structure

| | | |
|---|---|---|
| *1. | 3-1b "4" | Selection of the appropriate relationship to be employed in a given case is dependent upon the nature of the task and the organization. |
| *2. | 3-1b "5" | Selection of the appropriate relationship to be employed in a given case is dependent upon . . . the advantage to be gained. |
| *3. | 3-1b "6" | Selection of the appropriate relationship to be employed in a given case is dependent upon . . . the risks involved. |

1. Vertical

| | | |
|---|---|---|
| *1. | 3-1b "2" | Authority can be exercised . . . through the superior-subordinate command relationship. |
| *2. | 3-1b "7" | In general, the superior-subordinate command relationship has the advantages of direct communication, rapid response, and immediate reward for performance or punishment for failure. |
| *3. | 3-25a "2" | The integrated unit is identified under a Systems Program organizational concept. |

| | | |
|---|---|---|
| 1. Vertical (cont.) | | |
| *4. 4-7c "1" | | Maintenance is categorized into two groups: base level and depot level maintenance support. |
| 2. Horizontal | | |
| *1. 3-1b "3" | | Authority can be exercised . . . indirectly through agreements with a non-subordinate agency. |
| *2. 3-1b "8" | | The advantages of the non-subordinate relationship consist primarily of economic benefits of consolidation of similar tasks, the use of infrequently required specialized skills, and prompt use of resources and skills not otherwise readily available to command. |
| 3. Matrix | | None. |
| 4. Centralization/ Decentralization | | |
| *1. 3-1c "2" | | The OSD and JCS encourage . . . consolidation of facilities, funding, and so forth, so long as such actions do not deprive the operational units of the support essential to operational mobility and effectiveness. |
| *2. 3-24a "1" | | This principle [of program supremacy] recognizes that performance . . . of functional tasks under one single command authority is the most efficient method for creating and producing a military capability. |
| *3. 3-24a "2" | | This principle [of program supremacy] recognizes |

4. Centralization/ Decentralization (cont.)

| | | |
|---|---|---|
| *3. | 3-24a "2" (cont.) | that . . . management of functional tasks under one single command authority is the most efficient method for creating and producing a military capability. |
| *4. | 3-24a "3" | The commander responsible for production of a weapon system must have the authority and responsibility for all decisions relating to its production, testing and operational availability. |
| *5. | 3-25a "1" | The principle [of systems capability] recognizes that several separate elements of logistics must be integrated under a single authority to create a military capability. |

B. Function

1. Direct Operational Support

| | | |
|---|---|---|
| *1. | 4-7d "1" | Base level support is usually accomplished through a military (organic) capability by personnel assigned to the using command. |
| *2. | 4-7d "2" | There are conditions, however, when this level of maintenance [base] is performed through a contractual arrangement. |

2. Indirect System Support

| | | | |
|---|---|---|---|
| *1. | 3-23b | "2" | It [Figure 3] depicts the support tasks that must be accomplished in the conceptual, definition, acquisition, and operational time phases under the authority and responsibility of Air Force Systems Command and Air Force Logistics Command respectively. |
| *2. | 3-23b | "3" | The operating command, training command, and other appropriate commands and agencies actively participate with the AF Systems Command and AF Logistics Command in the creation and testing of each new system. |
| *3. | 3-24a | "4" | In this process, he [the SPO commander] will create the interfaces necessary to produce a system that complies with the capability specification. |
| *4. | 3-24b | "1" | Concurrent with the contractual actions, the Program Office is engaged in a series of military coordinations that result in completion of the system being produced. |
| *5. | 3-25a | "3" | The Program Office develops quality, quantity and time specifications which are provided to industry in a formal manner. |
| *6. | 4-4h | "1" | In the distribution field, supply discipline flows |

2. Indirect System Support (cont.)

| | | |
|---|---|---|
| *6. | 4-4h "1" (cont.) | from top level and permeates the whole military structure. |
| *7. | 4-4h "3" | A commander has the important and vital task of instilling and developing in his personnel this sense of value in regard to resources. |
| *8. | 4-4j "1" | The Air Force participates in International Logistics as directed by DOD. |
| *9. | 4-5 "1" | Within the distribution function receipt and storage includes the duty of receiving that which has been procured. |
| *10. | 4-5 "2" | Within the distribution function receipt and storage includes the duty of . . . recording of precise location and intended use. |
| *11. | 4-5 "3" | Within the distribution function receipt and storage includes the duty of . . . inspection for quality assurance. |
| *12. | 4-5 "4" | Within the distribution function receipt and storage includes the duty of . . . shipment to a destination. |
| *13. | 4-7e "1" | Depot level maintenance is performed at an Air Materiel Area (AMA) facility or through a contractual arrangement. |

V. Material Design

A. Maintainability

*1. 3-8 "7" — Materiel easy to . . . maintain . . . conserves physical and monetary resources.

*2. 4-7b(3) "1" — Maintenance concepts must be developed for each new weapons system in parallel with design (reliability, maintainability, etc.) to insure full maintenance benefits during the system's operational use.

1. Training Required
*1. 3-8 "8" — Materiel easy to . . . maintain . . . minimizes time and effort required for training.

2. Support Equipment Required — None.

3. Work Effort Required

*1. 3-8 "4" — Materiel easy to operate . . . minimizes maintenance problems.

*2. 3-8 "6" — Materiel easy to . . . maintain lessens personnel requirements.

*3. 3-8 "9" — Materiel easy to . . . maintain . . .minimizes maintenance problems.

B. Simplicity

*1. 3-8 "2" — Materiel easy to operate . . . conserves physical and monetary resources.

1. Design for Manufacture

*1. 3-8a "1" — Simplicity can be derived from maintainability.

| | | |
|---|---|---|
| 1. Design for Manufacture (cont.) | | |
| | *1. 3-8a "1" (cont.) | and reliability specifications that enhance mission capability. |
| 2. Operation (Human Engineering) | | |
| | *1. 3-8 "1" | Materiel easy to operate . . . lessens personnel requirements. |
| | *2. 3-8 "3" | Materiel easy to operate . . . minimizes time and effort required for training. |
| 3. Support Equipment Required | | None. |
| C. Technology | | |
| 1. Development | | None. |
| 2. Utilization (Implementation) | | |
| | *1. 3-10 "1" | Exploitation of technological and scientific advances for potential Air Force purpose contributes to combat capability. |
| | *2. 3-10a "1" | Useful materiel innovations provide the commander with a potential advantage over the enemy. |
| | *3. 3-10a "2" | Materiel should be designated to exploit technological advances and scientific resources. |
| | *4. 5-2 "1" | Development of new weapon systems with technological and tactical improvements must be influenced by logistics decisions. |

D. Reliability

1. Cost Tradeoffs — None.

2. Readiness Rates

*1. 3-8 "5" — Materiel easy to operate . . . increases the probability of successful operations.

*2. 3-8 "10" — Materiel easy to . . . maintain . . . increases the probability of successful operations.

VI. Miscellaneous

A. Background

*1. 1-1 "4" — AFM 1-1, Basic Aerospace Doctrine, establishes three types of doctrine: basic, operational, and unified, which are defined in paragraphs 2-4c, d, and e of Chapter 2, this manual.

*2. 1-1a "1" — Basic logistics doctrine relates to both command decisions and management of resources which are required to support the strategic or tactical operational mission.

*3. 1-2a "2" — This chart [Figure 1] illustrates the premise that military operations required to support national objectives consist of three basic elements, namely, strategy, logistics, and tactics.

*4. 1-2a "3" — Under this concept logistics is an essential element in relating strategy to tactics.

A. Background (cont.)

| | | | |
|---|---|---|---|
| *5. | 1-3a | "3" | Establishment of a "doctrine" of logistics requires that a framework exist which describes the scope of logistics. |
| *6. | 1-3b | "1" | The logistics task, in its broadest context, consists of several functions. |
| *7. | 1-3b | "2" | In order to discuss logistics in a meaningful manner these numerous functions have been identified under four general headings: (1) Requirements Determination, (2) Acquisition, (3) Distribution, and (4) Maintenance. |
| *8. | 1-3b | "3" | This [categorization of logistics functions] is an arbitrary assignment. |
| *9. | 1-3b | "4" | These four functions accomodate the flow of any needed resource. |
| *10. | 3-2a | "1" | The status of technology and industrial capacity influences strategy and tactics. |
| *11. | 3-2a | "2" | The development and refining of strategy often adapts to hardware evolution. |
| *12. | 3-2a | "3" | Strategy and tactics were not necessarily the sole motivating source for developing the nuclear bomb, the machine gun, the tank, the airplane, etc. |
| *13. | 3-5b | "2" | The logistics principles developed herein are |

A. Background (cont.)

| | | |
|---|---|---|
| *13. | 3-5b "1" (cont.) | more or less of equal importance, but all are subordinate to the principles of the objective. |
| *14. | 3-5b "2" | Adherence to all other principles, yet failing to achieve the objectives, will result in failure. |
| *15. | 3-5b "3" | Conversely, when the objective is achieved, although the other principles are ignored or bent, the result is at least a qualified success. |
| *16. | 3-15a "1" | Many decisions are based on source data including information generated from operation and tactical employments. |
| *17. | 3-15a "3" | In order to achieve accuracy, logisticians must be guided by two rules. |
| *18. | 3-15a(2) "2" | Such evaluation [of subordinates solely on information system reports] could only encourage cover-up action where corrective action could not be taken. |
| *19. | 3-16a "3" | This frame of reference [utilized to compare alternative courses of action] is a body of guiding principles. |
| *20. | 3-16a "4" | A few of the guiding principles are concerned with cost effectiveness. |
| *21. | 3-16b "2" | Support is effective if an operational unit is |

A. Background (cont.)

| | | | |
|---|---|---|---|
| *21. | 3-16b (cont.) | "2" | provided all the resources it requires to accomplish its objective. |
| *22. | 3-16b | "3" | Support is efficient if it is accomplished through the optimum use of support resources. |
| *23. | 3-16b | "4" | Support can be effective and at the same time be very inefficient and wasteful of resources. |
| *24. | 3-16b | "5" | It [support] can also be very efficient at the sacrifice of effectiveness. |
| *25. | 3-16b | "8" | Thus, the logistician is faced with alternative courses of action--the basis of decision making. |
| *26. | 3-18b | "2" | The increasing trend of substituting highly complex automatic checkout test equipment for manpower at depot repair activities is a common practice. |
| *27. | 3-18b | "3" | This practice is a result of numerous cost/benefit tradeoffs. |
| *28. | 3-18c | "1" | The tradeoff between prepositioning of war reserve materiel at selected overseas locations and buying the transport aircraft required to move similar quantities of materiel overseas during contingencies has been the subject of considerable discussion. |
| *29. | 3-19a | "1" | The logistician must be aware of the faulty |

A. Background (cont.)

| | | |
|---|---|---|
| *29. | 3-19a "1" (cont.) | assumption that more weapons necessarily mean more defense or that more assets necessarily mean more support. |
| *30. | 3-20a "1" | One of the most difficult tasks in determining resource allocation and mix is how to determine the cost of the resource and how to assess the value of the benefits received. |
| *31. | 3-20b "1" | It is important to recognize that the theoretically optimum support system envisioned by the above principles has never been achieved. |
| *32. | 3-20b "2" | Unforeseen program changes . . . will result in actual support that differs in varying degree from the optimum. |
| *33. | 3-20b "3" | Error in estimating requirements will result in actual support that differs in varying degrees from the optimum. |
| *34. | 3-20b "4" | Further, at a practical level, our ability to measure support effectiveness and marginal costs is too gross to allow application of the above principles with great precision. |
| *35. | 3-21a "1" | A process that has a strong influence on logistics management is the Department of Defense Planning--Programming--Budgeting process. |

A. Background (cont.)

| | | |
|---|---|---|
| *36. | 3-21b "1" | The Department of Defense budget process encourages logistics planning to a most thorough degree. |
| *37. | 3-21b "2" | The budget system relates national security objectives to strategy, strategy to forces, forces to resources, and resources to costs. |
| *38. | 3-21b "3" | Within this conceptual framework the budget is projected five or more years into the future. |
| *39. | 3-21b(1) "1" | Budgets are compiled . . . to permit analysis of the total force structure for all the services in terms of common missions. |
| *40. | 3-21b(1) "2" | Budgets are compiled . . . to permit analysis of the total force structure for all the services in terms of . . . national objectives. |
| *41. | 3-21b(2) "1" | Budgets are compiled in this manner . . . to project the resource impact (financial requirement) of the proposed force structure over an extended period of years. |
| *42. | 3-21c "1" | The planning-programming, budgeting process starts with the Joint Strategic Objectives Plan (JSOP) which is prepared by the Joint Chiefs of Staff (PCS) with the assistance of the military planners from the services. |

A. Background (cont.)

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|---|---|---|---|
| *43. | 3-21c | "2" | The JSOP includes the complete range of capabilities desired by the Joint Chiefs of Staff. |
| *44. | 3-21c | "3" | The JSOP is measured against the perceived threat and our industrial and technological capacity. |
| *45. | 3-21c | "4" | The major programs that emerge are budgeted in the Five Year Defense Program (FYDP). |
| *46. | 3-21c | "5" | The JSOP is completely reviewed once a year and can be changed at any time to meet unforeseen circumstances. |
| *47. | 3-21d | "1" | All requirements submitted by the Air Force are subjected to economic studies which compare alternative ways to achieve the objectives. |
| *48. | 3-21d | "2" | The [economic] studies consist of cost effectiveness techniques (operational analysis or operational research) to identify the alternative which contributes the most for a given cost, or achieves the objective at the least cost. |
| *49. | 3-21e | "1" | The cost effectiveness analysis is concerned primarily with the strategy that offers the greatest amount of military effectiveness for a given outlay of limited resources. |

A. Background (cont.)

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|---|---|---|---|
| *50. | 3-21f | "1" | Programming, under this system, consists of an 8-year force structure and a 5-year financial program in terms of major program dollar costs and manpower. |
| *51. | 3-21g | "1" | The budget system establishes three program elements vital to logistics planning. |
| *52. | 3-21g(3) | "2" | Often these [operating] costs exceed all other costs over the lifetime of the system. |
| *53. | 3-22a | "1" | Our present environment demands improved communication among the planning, operations, and logistics personnel at all levels of the Air Force. |
| *54. | 3-22c | "2" | The Air Force logistics doctrine is a strong factor in channeling command and management decisions into effective and efficient logistics support. |
| *55. | 3-22d | "1" | The function of logistics planning is a key element of the management process. |
| *56. | 3-22d | "4" | At any Air Force level, the plan is the guide for action. |
| *57. | 3-22f | "1" | Logistics planning takes many forms. |
| *58. | 3-23a | "1" | The Air Force method for creating military capability is through systems management techniques. |

A. Background (cont.)

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| *59. | 3-23b | "1" | Figure 3 is a matrix illustration of logistics interfaces that occur in systems management. |
| *60. | 3-23c | "3" | Planning places demands upon functional organizations. |
| *61. | 3-23d | "1" | The logistics of systems acquisition consists of techniques that insure an effective and efficient system. |
| *62. | 3-23d | "2" | Formal techniques [in systems acquisition] include integrated Logistics Support. |
| *63. | 3-24b | "2" | The principle [program supremacy], from a military viewpoint, illustrates the dependency of military elements to each other in acquiring a capability. |
| *64. | 4-1a | "1" | Logistics is the link between the national economy and the overall military capability, figure 4. |
| *65. | 4-1a | "2" | The numerous tasks which compose logistics can be categorized within four major functions. |
| *66. | 4-2a | "4" | Each of these categories can be further subdivided, i.e. materiel can be categorized into end items and spare parts. |
| *67. | 4-2b | "4" | Under ideal conditions the balance of qualitative requirements would result |

A. Background (cont.)

| | | | |
|---|---|---|---|
| *67. | 4-2b (cont.) | "4" | in all related components of an item wearing out at the same time. |
| *68. | 4-2b | "5" | An ideal result is the last requirement being satisfied by the last resource. |
| *69. | 4-2c | "3" | Resources are limited in comparison to total needs. |
| *70. | 4-2e | "2" | EDP [Electronic Data Processing] has the advantage of greater capacity, range, and quantity of detail. |
| *71. | 4-3b | "1" | Procurement doctrine recognizes the free enterprise system as the keystone of the national economy from which the Air Force derives its materiel strength. |
| *72. | 4-3b | "2" | Procurement doctrine . . . acknowledges the technological and production capability of industry as the foundation of effective military power. |
| *73. | 4-3e | "2" | The very substantial sums disbursed under Government contracts generate economic and political pressures which if not recognized and dealt with objectively, tend to warp the form and substance of the procurement system. |
| *74. | 4-3e | "3" | In this environment, the line of demarcation between national and |

A. Background (cont.)

| | | | |
|---|---|---|---|
| *74. | 4-3e (cont.) | "3" | parochial interest may become very fine indeed. |
| *75. | 4-4c | "3" | Movement forward is to progressively smaller installations. |
| *76. | 4-4d | "1" | The transportation system is made up of human and materiel resources. |
| *77. | 4-4g | "4" | This [current information] is very significant particularly since it has a bearing on reallocation capability which is a key factor to mobility, flexibility, and rapid distribution. |
| *78. | 4-4h | "4" | To talk about effectiveness and efficiency at one organization level is pointless if the principle [supply discipline] is not practiced at all subordinate levels. |
| *79. | 4-4j | "2" | Various arrangements and pacts provide the framework in which the Military Assistance Program (MAP) operates. |
| *80. | 4-4j | "5" | MAP logistics requirements are integrated into the total Air Force logistics system in much the same manner as any using commands requirements. |
| *81. | 4-4j | "6" | The logistics concepts of MAP are synonymous with those of the USAF. |
| *82. | 4-5d | "3" | These principles [measurement, comparison, evaluation, and correction] |

A. Background (cont.)

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|---|---|---|
| *82. | 4-5d "3" (cont.) | apply to any function in either the receipt or storage activities. |
| *83. | 4-fd.b "2" | This analysis [actual versus planned performance] will assit management in identifying a need for corrective action. |
| *84. | 4-5d.b "3" | This analysis [comparison] will assist management . . . [by providing] guidelines for the development of future planning. |
| *85. | 4-5d.d "2" | The results of the corrective action will provide information to adjust results as needed. |
| *86. | 4-5e "1" | The management of receipt and storage is a lucrative source for savings through efficient management of resources. |
| *87. | 4-5e "2" | It is also a link in support of the operational mission that extends into the Requirements Determination, Acquisition, Distribution, Maintenance and Disposal functions. |
| *88. | 4-6a "3" | Disposal is a most necessary function because there are significant economies to be realized in this area. |
| *89. | 4-6c "1" | The aero-space age with its rapid technological changes results in increased activities in the disposal area. |

A. Background (cont.)

| | | |
|---|---|---|
| *90. | 4-7a "3" | Maintenance is dependent upon the optimum blending and utilization of supply, transportation, training and available maintenance resources. |
| *91. | 4-7a "5" | These [maintenance] concepts are tailored to meet the military objectives directed by national policy. |
| *92. | 4-7f "4" | Contract maintenance . . . may be more efficient from a dollar cost consideration. |
| *93. | 4-7g "1" | Maintenance management bears a heavy burden in developing systems that insure operational effectiveness. |
| *94. | 5-5 "3" | Logistics doctrine is the instrument through which an intelligent approach to interservicing and contracting can be achieved. |

B. Purpose of Regulation

| | | |
|---|---|---|
| *1. | 1-1a "2" | The purpose of this manual is to identify logistics command and management doctrine. |
| *2. | 1-1a(1) "1" | This doctrine provides a base line for an integrated structure of Air Force logistics principles, concepts, policies, plans, and action. |
| *3. | 1-1a(2) "1" | This doctrine . . . provides the basis for continuous research, review, and development of logistics principles and |

B. Purpose of Regulation (cont.)

| | | |
|---|---|---|
| *3. | 1-1a(2) "1" (cont.) | concepts that improve mission performance commensurate with the changing environment in which the Air Force operates. |
| *4. | 1-3f "1" | In summary, the development of this framework is intended to lead to progress in better defining Air Force logistics doctrine. |
| *5. | 1-4 "2" | It [AFM 400-2] is intended to be used at all levels of command and management. |
| *6. | 1-4 "3" | It [AFM 400-2] should be particularly useful to newly assigned logisticians, military, and civilian. |
| *7. | 5-5 "1" | The principles of logistics doctrine, when properly employed, will serve to improve the decision making process. |
| *8. | 5-5 "2" | Logistics principles will cause the development of a consistent pattern of logic in implementing regulations, and developing procedures. |
| *9. | 5-5 "4" | Use of this manual should greatly assist in making the right decision. |

C. Administration

| | | |
|---|---|---|
| *1. | 1-5 "1" | Air Force Logistics Doctrine is the responsibility of the Office of the Assistant for Logistics Planning, Deputy Chief of |

C. Administration (cont.)

| | | |
|---|---|---|
| *1. | 1-5 "1" (cont.) | Staff, System and Logistics, HQ USAF (AFSLP), Washington D.C. 20330. |

D. Definition

| | | |
|---|---|---|
| *1. | 1-1 "1" | Air Force Manual 11-1 defines logistics as the science of planning and carrying out the movement and maintenance of forces. |
| *2. | 1-1 "3" | It [AFM 11-1] defines doctrine as a body of principles and concepts which have official acceptance. |
| *3. | 1-2a "9" | The command portion [of logistics doctrine] recognizes the nature of logistics as directly associated with strategy and tactics and the exercise of authority over military forces. |
| *4. | 1-3b "5" | For example, the identification of any needed resource is the requirement. |
| *5. | 1-3b "6" | Obtaining that which is needed is acquisition. |
| *6. | 1-3b "7" | Providing that which is needed to those who need it is distribution. |
| *7. | 1-3b "8" | The continued support of that which has been acquired and is being distributed is maintenance. |
| *8. | 1-3b "9" | The disposal of property is part of the distribution function. |
| *9. | 1-3c "1" | The management task is categorized into the |

D. Definition (cont.)

| | | | |
|---|---|---|---|
| *9. | 1-3c | "1" (cont.) | functions of planning, organizing, directing, coordinating, controlling, and evaluation. |
| *10. | 1-3c | "2" | The function of directing . . . [is] considered a technique of control. |
| *11. | 1-3c | "3" | The function of . . . coordinating [is] . . . considered a technique of control. |
| *12. | 1-3c | "4" | The function of . . . evaluation [is] considered a technique of control. |
| *13. | 1-3c | "5" | The function of directing [is] . . . combined with the function of control. |
| *14. | 1-3c | "6" | The function of . . . coordinating [is] . . . combined with the function of control. |
| *15. | 1-3c | "7" | The function of . . . evaluation [is] . . . combined with the function of control. |
| *16. | 1-3d | "1" | In the creation . . . of an effective military force, logistics management includes the exercise of command. |
| *17. | 1-3d | "2" | In the . . . maintenance of an effective military force, logistics management includes the exercise of command. |
| *18. | 1-3d | "3" | From this framework Air Force logistics doctrine consists of those principles and concepts which govern management. |

D. Definition (cont.)

| | | | |
|---|---|---|---|
| *19. | 1-3d | "4" | From this framework Air Force logistics doctrine consists of . . . the execution of logistics tasks. |
| *20. | 1-3d | "5" | The statement of principles is defined in terms of Principles of Command. |
| *21. | 1-3d | "6" | The statement of principles is defined in terms of . . . Principles of Management. |
| *22. | 1-3d | "7" | The statement of principles is defined in terms of . . . Identification of Logistics Functions. |
| *23. | Chapter 2 | | All of Chapter 2 is Definition. |
| *24. | 3-5a | "1" | The military objective is to support the national policy and advance or protect the interests of the nation. |
| *25. | 3-11a | "2" | Contingency planning is part of combat support capability. |
| *26. | 3-12a | "3" | Flexibility involves the ability to change a plan without undue cost or friction. |
| *27. | 3-16b | "1" | Cost effectiveness is one term that describes the effectiveness and efficiency of logistic support. |
| *28. | 3-18a | "1" | This principle [of optimum combinations] refers to the tradeoffs between different combinations of |

D. Definition (cont.)

| | | |
|---|---|---|
| *28. | 3-18a "1" (cont.) | resources to achieve the greatest value from expending all resources. |
| *29. | 3-21g(1) "1" | Research and Development Cost. The cost of bringing a new weapon system or capability to the point of operational readiness. |
| *30. | 3-21g(2) "1" | Investment Cost. Cost beyond the development phase required to introduce a new capability into operational use. |
| *31. | 3-21g(3) "1" | Operating Cost. The annual recurring costs required to man, operate, and maintain the capability. |
| *32. | 4-1a(1) "1" | The Requirements Determination function--identifies the resources needed to accomplish assigned missions. |
| *33. | 4-1a(2) "1" | The Acquisition function--the obtaining that which is needed. |
| *34. | 4-1a(3) "1" | The Distribution function--the providing of that which is needed to those who need it. |
| *35. | 4-1a(4) "1" | The Maintenance function--the continued support of that which has been acquired and distributed. |
| *36. | 4-2a "1" | Necessary requirements are statements of needs. |
| *37. | 4-2a "2" | In the context of military logistics, a requirement is the statement of a need for a military capability. |

D. Definition (cont.)

| | | |
|---|---|---|
| *38. | 4-2a "5" | Each of these categories can be further subdivided, i.e., materiel can be categorized into end items and spare parts. |
| *39. | 4-4a "1" | Distribution includes inventory control, stock control, receipt, storage, issue, warehousing, transportation, movement, materiel handling, packaging, utilization, performance and disposal. |
| *40. | 4-4a "2" | Included within this function [distribution] is the support of Military Assistance Programs (MAP). |
| *41. | 4-4d "3" | The transportation process includes planning . . . all technical, operational and administrative tasks concerned with cargo and personnel movement through military and commercial resources. |
| *42. | 4-4d "4" | The transportation process includes . . . organizing . . . all technical, operational and administrative tasks concerned with cargo and personnel movement through military and commercial resources. |
| *43. | 4-4d "5" | The transportation process includes . . . controlling . . . all technical, operational and administrative tasks concerned with cargo and personnel movement through military and commercial resources. |
| *44. | 4-5d.c "1" | Evaluation--An orderly analysis of the variations |

D. Definition (cont.)

| | | | |
|---|---|---|---|
| *44. | 4-5d.c (cont.) | "1" | between actual and placed performance. |
| *45. | 4-5d.d | "1" | Correction--The correction phase starts with the recommendation of corrective action and continues through the decision to correct, the assignment of specific responsibility to correct, and, the feedback of information to management that the corrective action has been accomplished. |
| *46. | 4-6a | "1" | Within the distribution function, disposal is the elimination from the system of surplus, excess, waste, scrap, obsolescent and obsolete inventories. |
| *47. | 4-7a | "1" | Maintenance includes all actions taken to retain materiel in a serviceable condition or to restore it to serviceability. |
| *48. | 4-7a | "2" | It [maintenance] includes inspections, testing, servicing, classification as to serviceability, repair, modification, and reclamation. |
| *49. | 4-7c | "4" | Depot level maintenance support is accomplished after the withdrawal of the materiel from the custody of the using command. |

E. Other

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|---|---|---|---|
| *1. | 1-1 | "2" | The complete definition [of logistics] is provided in paragraph 2-8. |

E. Other (cont.)

| | | | |
|---|---|---|---|
| *2. | 1-2a | "1" | Figure 1 illustrates the basic concept which identifies the two major segments of logistics doctrine. |
| *3. | 1-2a | "7" | As indicated in figure 1, logistics doctrine is divided into two major segments, command and management. |
| *4. | 1-2a | "8" | This segregation recognizes peculiar characteristics of military operations as differentiated from other types of operations. |
| *5. | 1-2a | "11" | The commander commands and he also manages. |
| *6. | 1-2a | "12" | The manager manages but does not necessarily command. |
| *7. | 1-2b | "13" | These functions may extend into the civilian economy . . . to perform logistics operations. |
| *8. | 1-2b | "14" | These functions may . . . involve research and development . . . to perform logistics operations. |
| *9. | 1-2b | "15" | These functions may . . . involve . . . the allocation of available resources to military objectives . . . to perform logistics operations. |
| *10. | 1-2b | "16" | These functions may . . . involve . . . [the] employment of non-military agencies to perform logistics operations. |

E. Other (cont.)

| | | | |
|---|---|---|---|
| *11. | 1-2c | "1" | The basic principles of physics, chemistry, economics, mathematics, and other disciplines which are within the scope of logistics are applicable when such disciplines are used in the logistics area. |
| *12. | 1-3e | "1" | Stating principles in this manner permits the development of subordinate principles to a given logistics task. |
| *13. | 1-3f | "2" | While the application of the principles may reveal a need for different concepts the framework used herein will have served a useful purpose in that it prepared the way for a better one. |
| *14. | 1-5 | "2" | Evaluation of this doctrine is a responsibility of all personnel. |
| *15. | 3-1a | "3" | It is not always possible to isolate principles which are peculiar to logistics in the civilian economy. |
| *16. | 3-1a | "4" | It is not possible to isolate the principles peculiar to logistics in the conduct of combat operations. |
| *17. | 3-1a | "5" | For example, the principles of aerodynamics employed in the design of civilian aircraft are equally applicable to the design of military aircraft. |
| *18. | 3-1a | "6" | Within the military, the principle of economy |

E. Other (cont.)

| | | |
|---|---|---|
| *18. | 3-1a "6" (cont.) | of force used in tactical maneuvers must include the logistics elements of the force and are therefore equally applicable to logistics. |
| *19. | 3-1c "3" | In the application of these concepts the following principles apply. |
| *20. | 3-8a "2" | The continuous effort to streamline procedures, simplify forms, etc. are additional examples of this principle. |
| *21. | 3-10a "3" | For example, modular construction, remove and replace designs, etc. permit expansion of capability at minimum cost. |
| *22. | 3-13 "2" | It is the integration and interface that provides for a successful mission. |
| *23. | 2-16b "10" | These principles are listed below. |
| *24. | 3-16b "11" | Examples are used to illustrate their use in the decision making process. |
| *25. | 3-18b "1" | For example, it might be more efficient to produce the exact same result if more machines and fewer people are employed when all costs of both the equipment and the people are computed. |
| *26. | 3-19b "1" | A simple application of this principle is the repair of spares which |

E. Other (cont.)

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|---|---|---|---|
| *26. | 3-19b (cont.) | "1" | are in an excess inventory condition. |
| *27. | 3-20a | "2" | For example, what is the dollar value of avoiding a backorder at a base? |
| *28. | 3-20a | "3" | Or what is the price of acquiring an additional operationally ready aircraft by cannibalizing parts? |
| *29. | 3-21a | "2" | This process can be summarized in the following paragraphs and the relationships illustrated in figure 2. |
| *30. | 3-21b | "4" | Budgets are compiled in this manner. |
| *31. | 3-22f | "2" | Logistics takes . . . [the] forms of planning in support of strategic plans, planning in support of tactical plans, requirements forecasts, budget planning, various types of functional planning, policies, procedures, estimates, etc. |
| *32. | 3-24b | "3" | An example would be the necessity to have trained aircrews available to fly a newly produced aircraft at a specified time to achieve a mission. |
| *33. | 3-24b | "4" | Less evident, but equally important is the timely availability of technical data for maintenance of the aircraft, training data to teach the mechanic repair techniques, etc. |
| *34. | 3-25a | "4" | Industry's response results in an award with |

E. Other (cont.)

| | | |
|---|---|---|
| *34. | 3-25a "4" (cont.) | the assurance that the specified capability can be achieved. |
| *35. | 3-25a "5" | Various management techniques are employed throughout the production cycle that prove the validity of the specifications. |
| *36. | 4-2b "3" | An example of the application of this principle is the need to relate the number of pilots, maintenance personnel, etc., possessing identified skills at a given time, to the number of specific aircraft of a specific configuration which must be flown at a specific time. |
| *37. | 4-2c "8" | The requirements process thus exists in a continuum of time. |
| *38. | 4-2c "9" | Availability of resources exists in the same continuum of time [as the requirements process]. |
| *39. | 4-2d "1" | The requirement may exceed the approved and allocated dollar amount. |
| *40. | 4-3c "1" | Industry has both a moral and a practical obligation to make its talents available in support of national military objectives. |
| *41. | 4-3c "2" | [Industry is] moral in the sense that effective military power is an instrument of national policy essential to |

E. Other (cont.)

| | | | |
|---|---|---|---|
| *41. | 4-3c (cont.) | "2" | preservation of a free enterprise system. |
| *42. | 4-3e | "1" | The joint responsibilities of the Air Force and industry in the national interest run deep. |
| *43. | 4-4b | "4" | To illustrate the wide variety of activities, the sub-functions of receipt and storage are provided separate coverage in paragraph 4-5. |
| *44. | 4-4b | "5" | To illustrate the wide variety of activities, . . . the sub-function of disposal [is provided] in paragraph 4-6. |
| *45. | 4-4b | "6" | It is the distribution function that places the operator face to face with the logistician. |
| *46. | 4-4b | "7" | This is where the logistics support function must stand or fall. |
| *47. | 4-4h | "2" | Supply discipline is not only applicable to logisticians. |
| *48. | 4-5e | "3" | Coordination with other activities in the chain will result in effective and efficient mission support. |
| *49. | 4-6a | "4" | For example, a rapid turnover of materials to be disposed of can result in the release of costly and often premium storage space. |
| *50. | 4-6c | "5" | Efficient elimination of unnecessary material |

E. Other (cont.)

| | | |
|---|---|---|
| *50. | 4-6c "5" (cont.) | requires planned guidance from the highest level. |
| *51. | 4-7f "1" | Both sources of maintenance, military and contract, serve important objectives. |
| *52. | 4-7f(5) "1" | Contract maintenance can . . . result in net benefits to the government without compromising vital military mission responsibilities. |

| | | |
|---|---|---|
| I. | Goal Setting | None. |
| II. | Resource Utilization Management | |
| | A. Personnel | None. |
| | B. Material | |
| | 1. Availability | |
| | *1. 1-8f "3" | LRUs [line replacement units] are normally stocked at the OLs [Operating Locations]. |
| | *2. 1-8f "4" | LRUs are normally . . . not [stocked] at the CIRF [Centralized Intermediate Repair Facility]. |
| | *3. 1-8j "3" | These [shared] spares qualify for split leveling, that is, a fixed number of spares may be stocked by both the CIRF and OLs. |
| | *4. 1-8k "2" | SRUs [shop replacement units] are normally stocked only at the CIRF. |
| | *5. 1-8k "3" | SRUs are normally . . . not [stocked] at the OLs. |
| | *6. 2-12 "2" | [CIRF] requests for F or G-NORS Support will be handled with a priority commensurate with 18 TFW F or G-NORS conditions. |
| | 2. Usage | None. |
| | C. Composite | None. |

III. Operational Methods

A. Functions

1. Security — None.

2. Offensive Operations — None.

3. Preparedness — None.

4. Interactions Between Functions

a) Organic

| | | | |
|---|---|---|---|
| *1. | 2-1 | "4" | Necessary coordination with appropriate agencies to maintain compatibility in host-tenant operating schedules will be effected. |
| *2. | 2-4 | "3" | The CIRF TCTO monitor will place consolidated requirements where appropriate on FB5270 who will, in turn, fill or requisition for these requirements. |
| *3. | 2-8 | "4" | The satellite [chief of supply] . . . will assist in preparation of initial and revised operating program. |
| *4. | 2-12 | "1" | When a valid NORS condition exists within the CIRF and the CIRF requires the services of 18 TFW support personnel such as machinists, welders, or sheet metal specialists/ technicians, the CIRF will request appropriate maintenance service to eliminate the NORS condition. |

b) Interagency — None.

c) Allied — None.

5. Standard Operating Procedures

| | | |
|---|---|---|
| *1. | 1-6c "1" | Refer procedural conflicts through command channels with information copies to remaining CILC activities. |
| *2. | 2-1 "5" | The CIRF will maintain close communications with the CSB. |
| *3. | 2-1 "6" | The CIRF . . . will insure that required management and operations plans are provided to assure effective and efficient CILC support. |
| *4. | 2-2 "2" | The CIRF will provide FB5270 with required input/output processing requirements. |
| *5. | 2-2a "1" | Incoming CILC related transceiver traffic batch integrity must be maintained. |
| *6. | 2-2a "2" | When Tex header and EOT cards are marked for FB5222, CIRF, etc., will be forwarded to the CIRF for further action. |
| *7. | 2-2a "3" | Remaining decks/batches received by the host PCAM unit will be processed in accordance with AFM 67-1, volume II, part Four, chapter 20, as supplemented. |
| *8. | 2-2b "1" | Computer output products (cards, notices, listings, reports, etc.) will be sorted/distributed in accordance with AFM 67-1, volume II, part Two, chapter 23, and part Four, chapter 20, as supplemented. |

5. Standard Operating Procedures (cont.)

| | | | |
|---|---|---|---|
| *9. | 2-2c | "1" | CIRF requirements for scheduling, production, and distribution of "as required," local CSB, and CILC peculiar products will be submitted to FB5270 by use of AF form 2011 or as determined by CSB management. |
| *10. | 2-4 | "1" | All CILC TCTO requirements for installed or in-stock assets will be placed on the CIRF for procurement and installation actions. |
| *11. | 2-4 | "2" | TCTO requirements for CIRF mock-ups and test stations will also be included. |
| *12. | 2-8 | "3" | The satellite [chief of supply] will comply with the CSB [funds management] operating program. |
| *13. | 2-9 | "1" | These reports [CILC Asset Visibility Reports] are run on the Burroughs B3500 computer. |
| *14. | 2-9 | "2" | However, should the B3500 computer become inoperative for a period of 72 hours or more, the CIRF commander will request production of asset visibility reports by the CSB. |
| *15. | 2-9 | "3" | The CILC C05 program will be utilized for production of these [CILC Asset Visibility] reports. |
| *16. | 2-9 | "5" | The CIRF commander will advise the CSB when production of the C05 report is no longer required. |

5. Standard Operating Procedures (cont.)

| | | |
|---|---|---|
| *17. | 2-11a "1" | Outbound [shipments]: Project Code 380 cargo will be given priority handling by all functional activities within the traffic management office and airlift clearance authority. |
| *18. | 2-11b "1" | Inbound [shipments]: Project Code 380 cargo will not be physically handled by the TMO. |
| *19. | 2-11b "2" | The ACA will notify the CIRF pickup and delivery unit that terminating 380 cargo is ready for pickup at the aerial port. |

B. Characteristics

1. Adaptability

| | | |
|---|---|---|
| *1. | 1-5b "1" | This regulation is published in loose-leaf form to facilitate revision of various paragraphs and chapters. |
| *2. | 1-6a "2" | CILC activities and other interested agencies are encouraged to recommend improved methods or additional procedures not presently covered. |
| *3. | 1-7a "8" | HQ PACAF/LGSSI will be provided with a copy of each message to allow for revision action. |

2. Flexibility

| | | |
|---|---|---|
| *1. | 1-6a "5" | If change action is within jurisdiction of the 6100 LOGSS and is approved, 6100 LOGSS will advise initiator and remaining |

2. Flexibility (cont.)

| | | |
|---|---|---|
| *1. | 1-6a "5" (cont.) | CILC activities of change action. |
| *2. | 1-6a "7" | If change action is not within jurisdiction of the 6100 LOGSS, change proposal will be forwarded to 5 AF/LG who will, in turn, forward approved proposals to the appropriate HQ PACAF staff agency for final action. |
| *3. | 1-7a "5" | PACAF staff agencies will submit additions, changes, or deletions . . . for revision action. |
| *4. | 1-7a "6" | Emergency changes, as deemed appropriate by the 6100 LOGSS, 5 AF/LG, or PACAF OPR may be included in the CILC directive after telephone coordination with interested agencies. |
| *5. | 1-7a "7" | PACAF OPR will transmit emergency changes to all concerned. |

3. Preparedness — None.

4. Survivability

| | | |
|---|---|---|
| *1. | 1-8a "3" | This strategy [CILC] provides the basis for wartime survivability in the PACAF environment. |

IV. Organization

A. Structure

1. Hierarchical — None.

2. Horizontal

| | | |
|---|---|---|
| *1. | 2-1 "1" | FB5270 is designated the host base supply account |

| | | | |
|---|---|---|---|
| 2. | Horizontal (cont.) | | |
| | *1. | 2-1 "1" (cont.) | for the CIRF satellite supply account (FB5222). |
| | *2. | 2-3 "1" | The 18 TFW Engine Manager will also serve as the CILC engine manager for J79/T76 engines. |
| | *3. | 2-8 "1" | While the CIRF operates a category IIIA satellite supply account, the account is included in the CSB stock fund operating program. |
| | *4. | 2-10 "1" | The 18 TFW/LGTT is designated the host base traffic management activity for the CIRF. |
| | *5. | 2-10 "4" | The transportation coordinating function (TCF), established within 18 TFW/LGTT, will serve as an interface between the TMO, ACA, and CIRF. |
| 3. | Matrix | | None. |
| 4. | Centralization/ Decentralization | | |
| | *1. | 1-8a "2" | [CILC provides] improved logistics support through centralization of off-equipment component repair of selected weapons systems. |
| | *2. | 1-8b "3" | [The CIRF supports] aircraft assigned at designated bases. |
| | *3. | 2-3 "3" | This function [the 18 TFW engine manager] also has authority to direct redistribution of J79/T76 engines between CILC OLs and the CIRF. |

4. Centralization/ Decentralization (cont.)

| | | |
|---|---|---|
| *4. | 2-3 "4" | CILC engine management responsibilities and authority will be expanded to include the 3 TFW when they transfer JEIM repair capability to the CIRF. |

B. Function

1. Direct Operational Support

| | | |
|---|---|---|
| *1. | 1-2a (2) "2" | The 6100 Logistics Support Squadron . . . functions as the CILC Centralized Intermediate Repair Facility (CIRF). |
| *2. | 1-8b "2" | [The CIRF] performs intermediate level maintenance on selected off-equipment components. |
| *3. | 1-8b "4" | The CIRF also provides for aircraft component replacement. |
| *4. | 1-8b "5" | The CIRF provides for . . . supply stock replenishment actions. |
| *5. | 1-8d "2" | The CIRF chief of maintenance determines which items are or are not to be CILC managed. |
| *6. | 2-3 "2" | Responsibilities [of the 18 TFW engine manager] include management of QEC kits, afterburners, and engine shipping devices. |
| *7. | 2-5 "1" | The host CSB supplies management officer is responsible for maintaining bench stocks in support of CIRF operations |

| | | |
|---|---|---|
| 1. Direct Operational Support (cont.) | | |
| *7. 2-5 "1" (cont.) | | in accordance with existing directives. |
| *8. 2-10 "2" | | Normal transportation functions such as packing and crating, processing, and drayage to the aerial port for outbound shipments will be performed by the 18 LGTT. |
| *9. 2-10 "3" | | Airlift clearance functions will be performed by the 18 Transportation Squadron (ACA). |
| 2. Indirect System Support | | |
| *1. 1-2a (1) "2" | | The 5AF/LG acts as the intermediate headquarters office of primary interest [for procedures in PACAFR 400-50]. |
| *2. 1-6b "1" | | When procedural additions or changes are required for operation of the CIRF only, the 6100 LOGSS may publish operating instructions (OI). |
| *3. 1-6b "2" | | One copy of the OI will be submitted through command channels to HQ PACAF OPR with recommendation for inclusion in this regulation. |
| *4. 2-1 "2" | | FB5270 . . . becomes the CIRF's computer support base (CSB). |
| *5. 2-1 "3" | | The host item accounting office is responsible for providing computer support to the CIRF. |

2. Indirect System Support (cont.)

| | | | |
|---|---|---|---|
| *6. | 2-2 | "1" | FB5270 will provide PCAM distribution support to the CIRF for all U1050-II related input/output products. |
| *7. | 2-2 | "3" | FB5270 will publish local operating procedures where necessary to insure that processing and distribution requirements are met. |
| *8. | 2-6 | "1" | The host CSB will provide the CIRF with a block of requisition numbers for preparation of manual (off-line) CIRF satellite requisitions during periods of CSB ADPM downtime. |
| *9. | 2-7 | "2" | The CSB research selection will provide research and item record load services when requested by the CIRF. |
| *10. | 2-7 | "3" | The CIRF research function is responsible for maintenance and update of the satellite systems designator A1 stock number directory. |
| *11. | 2-8 | "2" | The satellite chief of supply is responsible for management of the general and systems support division of the stock fund. |
| *12. | 2-9 | "4" | The CSB will assure that the same priority for production of the D19 AWP Validation and R26 DIFM reports is assigned to the C05 Asset Visibility Report. |

V. Material Design

A. Maintainability — None.

B. Simplicity — None.

C. Technology

1. Development — None.

2. Utilization

*1. 1-8f "2" — These units [LRUs] are characterized by modular constructed plug-in units.

D. Reliability — None.

VI. Miscellaneous

A. Background

*1. 1-2b "2" — These procedures . . . are in sufficient detail to allow for a nonparticipating base or major air command to implement or expand the PACAF CILC.

*2. 1-4 "1" — (Entire section included)

*3. 1-6a "1" — Since CILC is a relatively new concept, procedures specified in this regulation are expected to change rapidly.

*4. 2-7 "1" — As a satellite of FB5270, the CIRF supply account does not have sufficient scope and depth to operate a complete research function.

*5. 2-10 "5" — TCF responsibilities are provided in volume II, part Three.

B. Purpose of Regulation

*1. 1-1 "1" — The purpose of this regulation is to provide CILC

B. Purpose of Regulation (cont.)

| | | |
|---|---|---|
| *1. | 1-1 "1" (cont.) | participating maintenance, supply, transportation, and comptroller activities with comprehensive procedures for operation of the PACAF Centralized Intermediate Logistics (CILC). |

C. Administration

| | | |
|---|---|---|
| *1. | 1-2a "1" | Procedures prescribed herein are effective upon publication. |
| *2. | 1-2a(1) "1" | Procedures prescribed herein . . . are applicable to the 5AF/LG. |
| *3. | 1-2a(2) "1" | Procedures prescribed herein . . . are applicable to . . . the 6100 Logistics Support Squadron. |
| *4. | 1-2a(3) "1" | Procedures prescribed herein . . . are applicable to . . . selected PACAF bases possessing aircraft for which evaluation of off-equipment reparable assets to the CIRF for repair takes place. |
| *5. | 1-2b "1" | These procedures apply to the evacuation and replenishment of off-equipment aircraft assets. |
| *6. | 1-5a "1" | This regulation is published in four volumes which are as follows:<br>1) Volume I--Policy<br>2) Volume II--Centralized Intermediate Repair Facility Operations<br>3) Volume III--Operating Location |

C. Administration (cont.)

| | | | |
|---|---|---|---|
| *6. | 1-5a | "1" (cont.) | Operations<br>4) Volume IV--CILC Automated Functional User's Guide |
| *7. | 1-5b | "2" | As revisions become necessary and are made, they will be made by page, section, chapter, or volume to facilitate insertion into its proper place within the regulation. |
| *8. | 1-6a | "3" | System change proposals will be submitted to 6100 Logistics Support Squadron (LOGSS) by written communication. |
| *9. | 1-6a | "4" | The 6100 LOGSS OPR will evaluate each proposal and will provide a timely response to the initiator. |
| *10. | 1-6a | "6" | The 6100 LOGSS will also submit the change through 5AF/LG to PACAF staff agency for input to this regulation. |
| *11. | 1-6a | "8" | HQ PACAF will advise all addressees of approval/disapproval actions and will publish appropriate changes to this regulation. |
| *12. | 1-6a | "9" | Proposals submitted above numbered air force (NAF) level will be coordinated with 5AF/LG and CILC activities prior to implementation. |
| *13. | 1-6b | "3" | If contents of the OI are incorporated in PACAFR 400-50 (TEST), 6100 LOGSS will take appropriate OI rescission action. |

C. Administration (cont.)

| | | | |
|---|---|---|---|
| *14. | 1-7a | "1" | HQ PACAF/LGS is responsible for publication . . . of this regulation [PACAFR 400-50]. |
| *15. | 1-7a | "2" | HQ PACAF/LGS is responsible for . . . maintenance . . . of this publication [PACAFR 400-50]. |
| *16. | 1-7a | "3" | HQ PACAF/LGS is responsible for . . . distribution of this regulation [PACAFR 400-50]. |
| *17. | 1-7a | "4" | PACAF staff agencies will submit additions, changes, or deletions in draft format to LGSSI. |
| *18. | 1-7b | "1" | Distribution of this regulation to the users and interested agencies is automatic. |
| *19. | 1-7b | "2" | Since Volume IV (B3500 computer input, records, output formats) applies to only those personnel involved in the CILC performance data base and CIRF automated production scheduling systems, limited distribution is made. |
| *20. | 1-7b | "3" | Requests for changes to distribution of this regulation will be submitted to HQ PACAF/LGSSI. |

D. Definition

| | | | |
|---|---|---|---|
| *1. | 1-8a | "1" | Centralized Intermediate Logistics Concept (CILC). A concept which provides the basis for a PACAF logistics strategy. |

D. Definition (cont.)

| | | | |
|---|---|---|---|
| *2. | 1-8b | "1" | Centralized Intermediate Repair Facility (CIRF). A repair facility under the CILC. |
| *3. | 1-8c | "1" | CIRFable. Off-equipment repair cycle items which qualify for CILC management. |
| *4. | 1-8d | "1" | CILC managed item. Off-equipment repair cycle items which are normally repaired in an in-shop environment for which the CIRF has or can develop a repair capability. |
| *5. | 1-8e | "1" | Computer support base (CSB). A base in possession of a UNIVAC 1050-II computer that is designated to provide computer support for the CIRF. |
| *6. | 1-8f | "1" | Line replacement unit (LRU). Generally high cost electronic, electromechanical, or optical assemblies that perform an integrated communications, navigation, or warmaking (offensive/defensive) function. |
| *7. | 1-8g | "1" | Off-equipment maintenance. That maintenance performed by the CIRF (in-shop environment) to manufacture, repair, or calibrate components. |
| *8. | 1-8h | "1" | On-equipment maintenance. That maintenance performed by the organization possessing the aircraft. |
| *9. | 1-8i | "1" | Operating location (OL). Selected base(s) possessing aircraft for which |

D. Definition (cont.)

| | | | |
|---|---|---|---|
| *9. | 1-8i (cont.) | "1" | off-equipment components are shipped to the CIRF for repair. |
| *10. | 1-8j | "1" | Shared spare (SS). Off-equipment SRU spares which are subject to repair at the CIRF. |
| *11. | 1-8j | "2" | [Shared] spares can also be installed on the flightline. |
| *12. | 1-8k | "1" | Shop replacement unit (SRU). Sub-assemblies of LRUs that are the principal components of the CIRF repair cycle. |
| *13. | 1-8l | "1" | Workable asset. A reparable carcass awaiting maintenance, in work, or AWP where cross-cannibalization is possible. |

E. Other

| | | | |
|---|---|---|---|
| *1. | 1-3a | "1" | Headquarters PACAF Program Management Plan (PMP) 76-1, CILC, 5 September 1975. |
| *2. | 1-3b | "1" | Headquarters USAF, DCS/S&L PMD 1-Y5028(2), Maintenance Posture Improvement Program, 30 June 1975. |
| *3. | 1-3c | "1" | CSAF/LGYP 082008Z Sep 75 message, Subject: Approval of PACAF Centralized Intermediate Logistics Concept (CILC) under MPIP. |
| *4. | 1-8 | "1" | Abbreviations and definitions listed below are frequently used with the CILC and supplement those |

E. Other (cont.)

| | | | |
|---|---|---|---|
| *4. | 1-8 | "1" (cont.) | listed in AFMs 66-1, 67-1, and 75-1. |

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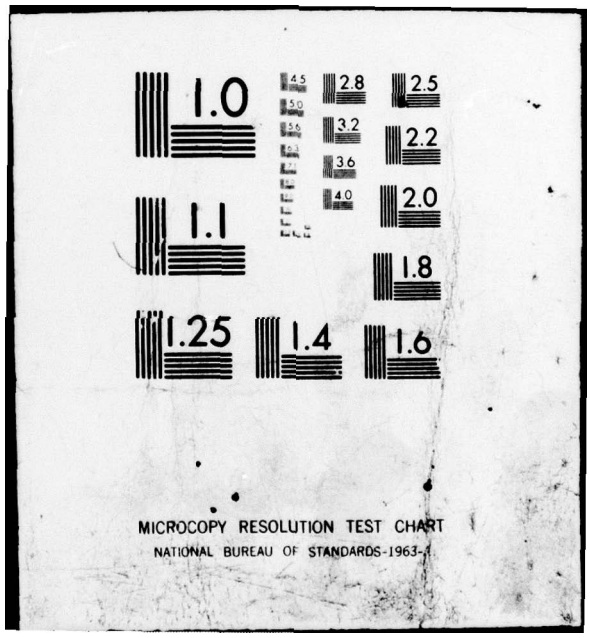
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# SELECTED BIBLIOGRAPHY

## A. REFERENCES CITED


1. Agee, Woodford H., ed. The United States Air Force Dictionary. Washington: Government Printing Office, 1956.

2. Air Force Logistics Command. Depot Maintenance Programming Policies. AFLC Regulation 66-268. Wright-Patterson AFB OH, 14 July 1978.

3. Bacon, Brigadier General Walter J. Deputy Chief of Staff, Logistics, HQ TAC. Letter, subject: Pacer Plus, to HQ AFLC/LO, 1 June 1978.

4. Berelson, Bernard. Content Analysis in Communication Research. New York: The MacMillan Co., 1971.

5. Borklund, C.W. "The Unsung Art of Sharing Shortages," in Readings in Contemporary Military Logistics Policy and Planning. Wright-Patterson AFB OH: Air Force Institute of Technology, 1977.

6. Cohen, I. K., and Stephen M. Drezner. The Analogs 80s Project: Reallocation of Activities Alternative. Santa Monica CA: The Rand Corporation, 1974.

7. _____ and others. Background Studies, Alternatives, and Framework for Addressing Maintenance Posture Improvement. Santa Monica CA: The Rand Corporation, 1974.

8. Donaldson, T. S., and E. C. Poggio. Depot Inspection and Repair Capability: Unique or Redundant? Santa Monica CA: The Rand Corporation, 1974.

9. Eccles, Rear Admiral (ret.) Henry E. Military Concepts and Philosophy. Rahway NJ: Rutgers University Press, 1965.

10. FitzGerald, John M., and Ardra F. FitzGerald. Fundamentals of System Analysis. New York: John Wiley and Sons, 1973.

11. Foster, Captain Dwight J., USAF, and Captain John C. Olson, USAF. "A Comparative Evaluation of the Effects of the Implementation of the Production Oriented Maintenance Organization (POMO) on Aircraft Maintenance." Unpublished research report, unnumbered, AFIT/SL, Whight-Patterson AFB OH, March 1978.

12. Holsti, Ole R. Content Analysis for the Social Sciences and Humanities. Menlo Park CA: Addison-Wesley Publishing Co., 1969.

13. Kast, Fremont E., and James E. Rosenzweig. Organization and Management. New York: McGraw-Hill, Inc., 1974.

14. Kelly, Lieutenant General John W., Jr., Deputy Chief of Staff, Systems and Logistics, HQ USAF. Letter, subject: Combined MPIP/LG Conference, to HQ AFLC/LO, 14 March 1978.

15. McCampbell, Colonel Leroy L. Assistant Deputy Chief of Staff, Logistics, HQ USAFE/LG. Letter, subject: Pacer Plus, to HQ AFLC/LO, 25 May 1978.

16. Minter, Major General Charles F., Sr. Assistant Deputy Chief of Staff, Systems and Logistics, HQ USAF. Letter, subject: Maintenance and Supply Improvement Programs, to HQ USAF/CC, 18 June 1976.

17. Naumes, William, and Frank T. Paine. Strategy and Policy Formulation. Philadelphia PA: W. B. Saunders Co., 1974.

18. Pacific Air Forces. Centralized Intermediate Logistics Concept Policy. PACAF Regulation 400-50. Volume I. Hickam AFB HI, 18 May 1977.

19. Peppers, Jerome G., Jr. "An Overview of Logistics," in Readings in Contemporary Military Logistics Policy and Planning. Wright-Patterson AFB OH: Air Force Institute of Technology, 1977.

20. Rider, Brigadier General Graham W. Defense Logistics Management: Sources and Applications of Policy. Wright-Patterson AFB OH: Air Force Institute of Technology, 1973.

21. Rosholt, Colonel Wayne, USAF, HQ AFLC/LOL. "Introductory Briefing to Pacer Fixer Conference." Undated briefing guide.

22. Sandrock, Brigadier General Vernon H. Deputy Chief of Staff, Logistics, HQ PACAF/LG. Letter, subject: Pacer Plus, to HQ AFLC/LO, 22 May 1978.

23. U. S. Department of the Air Force. Air Force Logistics Doctrine. AFM 400-2. Washington: Government Printing Office, 1968.

24. _____. Air Force Logistics Doctrine. AFM 400-2 (Draft), in Readings in Contemporary Military Logistics Policy and Planning. Wright-Patterson AFB OH: Air Force Institute of Technology, 1977.

25. _____. Equipment Maintenance Policies, Objectives, and Responsibilities. AFR 66-14. Washington: Government Printing Office, 1975.

26. _____. Functions and Basic Doctrine of the United States Air Force. AFM 1-1 (Draft). Washington: Government Printing Office, 1978.

27. _____. Production Oriented Maintenance Organization (POMO). AFR 66-5. Washington: Government Printing Office, 1977.

28. _____. Production Oriented Maintenance Organization (POMO). TAC SUPPLEMENT 1, AFR 66-5. Langley VA, 20 April 1979.

29. _____. United States Air Force Basic Doctrine. AFM 1-1. Washington: Government Printing Office, 1975.

30. Urdang, Laurence, ed., and others. The Random House Dictionary of the English Language. New York: Random House, Inc., 1968.

31. Waters, Brigadier General Jack D. Deputy Chief of Staff, Logistics Operations, HQ AFLC. Message, subject: New Maintenance Concept. Message number 031230Z MAR 77.

## B. RELATED SOURCES

Aronovsky, Lieutenant Colonel Alvin J., USAF, and Major James G. Cole, USAF. "A Study for the Development of an Air Force Basic Logistic Doctrine." Unpublished master's thesis. SLSR 46-67, AFIT/SL, Wright-Patterson AFB OH, August 1967.

Bass, Colonel Donald C. Deputy Chief of Staff, Logistics, HQ AFSC. Letter, subject: Pacer Plus, to HQ AFLC/LOA, 19 May 1978.

Budd, Richard W., Lewis Donohew, and Robert K. Thorp. Content Analysis of Communications. New York: The Macmillan Co., 1967.

Casty, Alan. Mass Media and Mass Man. New York: Holt, Rinehart and Winston, Inc., 1968.

Cohen, I. K., and others. Background Studies, Alternatives and Framework for Addressing Maintenance Posture Improvement (Appendices). Santa Monica CA: The Rand Corporation, 1974.

Dunphy, Dexter C., Daniel M. Ogilvie, Marshall S. Smith, and Philip J. Stone. The General Inquirer: A Computer Approach to Content Analysis. Cambridge, MA: The M.I.T. Press, 1967.

Garrison, Colonel Lawrence D. Deputy Chief of Staff, Logistics, HQ ATC. Letter, subject: Pacer Plus, to HQ AFLC/LOA, 15 May 1978.

Gerbner, George, Ole R. Holsti, Klaus Krippendorff, William J. Paisley, and Philip J. Stone. The Analysis of Communications Content. New York: John Wiley & Sons, Inc., 1969.

Goodart, Captain James W., USAF, and Captain David L. Thomas, USAF. "An Exploratory Study of Conflict Resolution Strategies Employed by Project Managers." Unpublished master's thesis. LSSR 27-77B, AFIT/SL, Whight-Patterson AFB OH, September 1977. ADA 047521.

Harrah, David. Communication: A Logical Model. Cambridge, MA: The M.I.T. Press, 1963.

Heuer, Major Gerald R. J., USAF, Captain John C. Kingston, USAF. "A Proposed Definition and Taxonomy for Procurement Research in the Department of Defense." Unpublished master's thesis. LSSR 12-77B, AFIT/SL, Wright-Patterson AFB OH, September 1977. ADA 047281.

Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1973.

Minter, Major General Charles F., Sr. Assistant Deputy Chief of Staff, Systems and Logistics, HQ USAF. Letter, subject: Maintenance and Supply Improvement Programs, to HQ USAF/CC, 13 October 1976.

Mohney, Brigadier General Russell E. Assistant Deputy Chief of Staff, Logistics Operations, HQ AFLC. Letter, subject: Pacer Plus, to HQ AFLC/CC, 5 May 1978.

_____. Letter, subject: Pacer Plus, to HQ ADCOM/LG, 8 May 1978.

Nelson, Major General William R. Director of Maintenance, Engineering, and Supply. Letter, subject: Maintenance Posture Improvement Program (MPIP), to HQ AFLC/LO, 1 July 1977.

Palmerton, Brigadier General Leighton R. Vice Commander, HQ OCALC. Letter, subject: New Maintenance Concept, to HQ AFLC/LO, 8 December 1976.

Pool, Ithiel de Sola. The Prestige Press: A Comparative Study of Political Symbols. Cambridge MA: The M.I.T. Press, 1970.

Rice, Donald B. Defense Resource Management Study. Washington: Government Printing Office, February 1979.

Smith, Raymond G. The Message Measurement Inventory. Bloomington IN: Indiana University Press, 1978.