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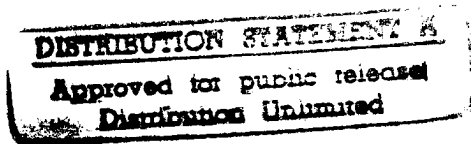
ACADEMIC YEAR 1996 AIR NATIONAL GUARD
TOOLBOOK

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- Lt Col Jose Sosa, Chief of Force Plans Branch, NGB/XOXF, Pentagon.
- Lt Col Warren Watkins, Chief of Force Plans Integration Branch, NGB/XOXI, Pentagon.

Abstract

The purpose of this project is to educate military commanders, appropriate staff officers, their civilian counterparts, active duty, and National Guard personnel on the Air National Guard (ANG). This project focuses on accurately describing the ANG, its capabilities and resources, why it is needed, and how it can be accessed. In developing the academic year (AY) ToolBook, the ANG ToolBook (AY95) was used as a starting point for our three-phased project.

Phase I included evaluating the existing ToolBook and developing a new streamlined architectural protocol that vastly improved ToolBook navigation and presentation format.

Phase II consisted of expanding the focus of the ToolBook from flying-only units to both flying and support units, while simultaneously updating information contained in the AY95 ToolBook.

Phase III was a consolidation of information available concerning the activation of the ANG. Information available on National Guard activation did not accurately reflect changes since the Gulf War. Information that was available was widely dispersed, confusing, and outdated. The heart of this project embodied researching, consolidating, and synthesizing accurate activation information. The result is a ToolBook chapter which is a single source record of the current activation policy and processes.

The summation of all three phases resulted in the AY96 ToolBook. It is a groundbreaking technology product that incorporates ANG history, unit descriptions and locations, roles and missions, and activation processes to include all pertinent US Title Codes.

Chapter 1

AY96 Air National Guard ToolBook

Among the oldest and most enduring of America's military traditions is the reliance for defense on citizen-soldiers.¹

Introduction

In the spirit of the total force environment, and the current focus on doing more with less, it is imperative that all military services become intimately familiar with the capabilities of the other branches as well as the reserve components. With this idea in mind, there is an overwhelming need to educate military commanders, planning staffs, their civilian counterparts, active duty as well as National Guard personnel concerning the essence of the Air National Guard (ANG). The focus of this project involved accurately describing the ANG, its capabilities and resources, why it is needed, and how it can be accessed.

With the downsizing of the active forces and budgetary constraints, utilizing the unique capabilities of the reserve components has become essential. Several missions such as aircraft control and warning and air defense are now the sole responsibility of the ANG.² In addition, other active flying and support missions are increasingly reliant on ANG assets. Due to the increased reliance on the National Guard as an integral element of the Total Force, a better understanding of the Air National Guard is necessary.

In concert with current political and fiscal realities we have developed a comprehensive multimedia ToolBook to answer the challenges outlined above. This ToolBook will not only provide a clear framework for a commander attempting to access the ANG for use in a military contingency, but will serve as an instructional tool for students and staff officers seeking a better understanding of the ANG.

Background

According to Major General Shepperd, USAF, Director of the Air National Guard:

The Persian Gulf crisis of 1990-1991 was a pivotal episode for the Air National Guard (ANG). Driven by the total force policy and the robust defense budgets of the 1980s, the ANG had developed into a true force in reserve that demonstrated a high degree of professionalism in the summer of 1990. Guardsmen had not waited to be called upon by the President after Iraq seized Kuwait in August. Instead they had 'leaned forward' to be included in the action. With the Cold War's end, the demise of the Soviet Union, and significant reductions in the active duty force, it was essential that the Air Guard validate its role as a first line reserve of the Air Force.³

In August of 1990, the President of the United States issued an order authorizing the call-up of units and personnel of the Selected Reserve. Desert Shield/Desert Storm was the first time the Presidential 200K call-up authority was used. The Gulf War resulted in the largest integration of active duty and reserve forces for a combat operation since World War II. The competency and capabilities of ANG flying units was widely accepted; however, availability and capability of ANG support units was questioned by planners during the Gulf War build-up.⁴ The performance of the ANG as a whole demonstrated that it was a readily available and highly capable member of the Total Force.⁵ The Desert Shield/Desert Storm experience identified an overwhelming need for a better understanding of the ANG.

As a result of the need to educate users on the ANG, an Air National Guard ToolBook was developed by an ACSC research team in AY95. The AY96 research team was tasked to update this existing ToolBook and develop an activation chapter. Our evaluation of the AY95 ToolBook found it cumbersome and difficult to use. The large (45 megabyte) size of the ToolBook made it difficult to operate on low end computer systems. The navigation architecture easily allowed the user to become lost. Incomplete documentation prevented the reader from finding source information. Due to these and other deficiencies in the AY95 product, the AY96 research team decided to retain only the historical content of the history chapter and build an entirely new ToolBook.

Methodology And Procedures

Several different methods and avenues were used in the course of the research and development of this project, including in-depth interviews, library and Internet research, and technology-based ToolBook training. The project was divided into three phases. Phase I included evaluating the existing ToolBook and developing a new streamlined architectural protocol that vastly improved ToolBook navigation and presentation. Phase II consisted of expanding the focus of the ToolBook from flying-only units to both flying and support units. Phase III of this project embodied the research into the activation of the reserve component process and the development of a chapter focusing on both the state and federal activation processes.

The objective of Phase I was to analyze the AY95 ANG ToolBook, look for areas of improvement and enhancements, and incorporate these into the AY96 ANG ToolBook. The strategy of the ToolBook team incorporated the following principles. First, use a

standard ToolBook template as a baseline to improve readability and consistency with other ACSC ToolBooks. Second, keep the ToolBook as user-friendly as possible by emulating Windows-style format and features. Third, build a product that runs quickly and efficiently using minimum computer resources. Student laptops were used as a minimum performance benchmark. The final principle was to develop and incorporate a navigation protocol that simplifies access to the information while avoiding common navigational pitfalls.

The ToolBook editing team evaluated the AY95 ToolBook using the above principles. Our evaluation found the earlier ToolBook cumbersome and difficult to use. The large (45 megabyte) size of the ToolBook made for lengthy loading and time consuming page transitions. Inefficient use of graphic resources was a main contributor to poor performance. Presentation and format of the information detracted from the overall ToolBook objective. The navigation architecture provided the reader with excessive and redundant options leading to frequent blind alleys. At this juncture, the team chose to create a new ToolBook for AY96 using only the historical content of the AY95 ToolBook.

The new ToolBook incorporated a standard ACSC ToolBook template to provide user compatibility with other ACSC products. The ToolBook was organized into five color coded chapters. The colors displayed in the table of contents were congruent with page backgrounds throughout the book, thus providing the reader situational awareness to their location in the ToolBook (see Figure 1).

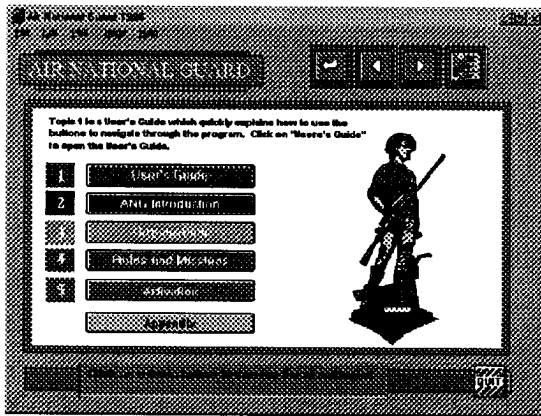


Figure 1. Color Choice Protocol Between Table of Contents and a ToolBook Page

To visually stimulate the reader, graphics were included on most pages to enhance the subject material. Biographies, incorporated from the old ToolBook, were enhanced to

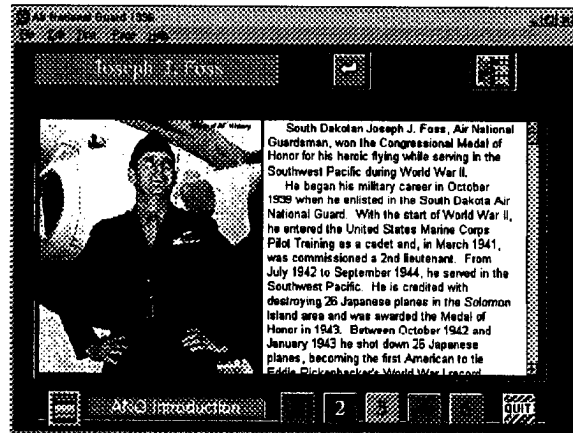
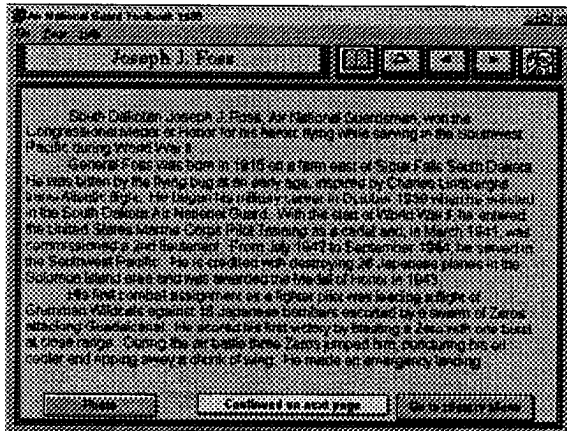


Figure 2. Contrast of AY95 and AY96 Biography Pages

include a picture on each page, and each entry was reduced from several pages to one page with the use of scrolling text fields (see Figure 2). Windows-style bubble help was used throughout the ToolBook to explain all of the functions and choices available to the reader on each page of the ToolBook (see Figure 3). Typical ToolBooks provide no feedback to the reader while transitions occur, leading to multiple mouse clicks. The

Windows-style hourglass symbol was incorporated, where appropriate, to give the reader immediate feedback that the processor is busy.

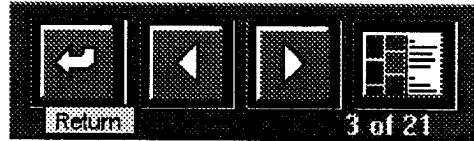


Figure 3. Windows Style Bubble Help

The overall navigation protocol was developed with the objective of preventing dead ends and other common navigational problems typical of entry level ToolBook developers. Another primary objective was to insure maximum flexibility for the user. The cornerstone of the navigation process was to provide easy access to detailed supporting information while furnishing a clear avenue of return. The team removed unnecessary and redundant buttons from the history section of the AY95 (see Figure 2). This was a major navigation improvement and greatly enhanced the usability of the ToolBook.

The results of Phase I was a ToolBook that from the opening page reflected a dynamic and well organized product. The AY96 ToolBook's concise format, efficient organization, and clean navigation have contributed to a product that is clearly user friendly. These improvements also served as the foundation for Phases II and III.

State	Wing	Location	Squadron	MAJCOM
AK	168 ARW	Eielson AFB	168 ARS	AMC
AK	176 WG	Kulis AGB	210 RGS	PACAF
AK	176 WG	Kulis AGB	210 RGS	PACAF
AK	176 WG	Kulis AGB	144 AS	ACC
AL	117 ARW	Birmingham Apt	106 ARS	AMC
AL	187 FW	Dannelly Fld	180 FS	ACC
AR	198 FW	Ft Smith Muni Apt	184 FS	ACC
AR	189 AW	Little Rock AFB (FTU)	154 AS	ACC
AZ	162 FW	Tucson IAP (FTU)	146 FS	AETC
AZ	162 FW	Tucson IAP (FTU)	162 FS	AETC
AZ	162 FW	Tucson IAP (FTU)	198 FS	AETC
AZ	161 ARW	Phoenix-Sky Harbor IAP	197 ARS	AMC
CA	129 RQW	Moffett Fld NAS	129 RGS	ACC
CA	144 FW	Fresno Air Term	194 FS	ACC
CA	146 AW	Channel Island	115 AS	ACC
CA	163 ARW	March AFB	198 ARS	AMC

Figure 4. AY96 ANG Unit Location Information

Phase II's objectives included creating chapters covering organization and roles and missions. Chapter three entitled Organization, was divided into State, Federal, Unit Locations, Unit Map, and Aircraft sections.

The Unit Location section was developed as a result of feedback sessions with NGB personnel utilizing an innovative data sort function. This section lists all of the ANG squadrons and wings (FY96) and can be sorted by squadron, wing, or state (see Figure 4).

The development of the Unit Map section provides a concise depiction of ANG units. The key to this section is the map of the United States and the information this one page contains. All ANG unit information, flying and mission support, can be accessed from this page using innovative navigation techniques. Additionally, a user can select any flying or support mission and have all applicable units appear on the US map. The use of color-coded buttons helps the user distinguish between A-10 and F-16 units, or between civil engineering and Red Horse units. Once the reader crosses the unit location 'button' using the mouse pointer, that unit's name appears in the title box at the bottom of the page (see Figure 5). In keeping with the high level of user friendliness, navigational techniques were developed so that once a unit is selected the appropriate state map is

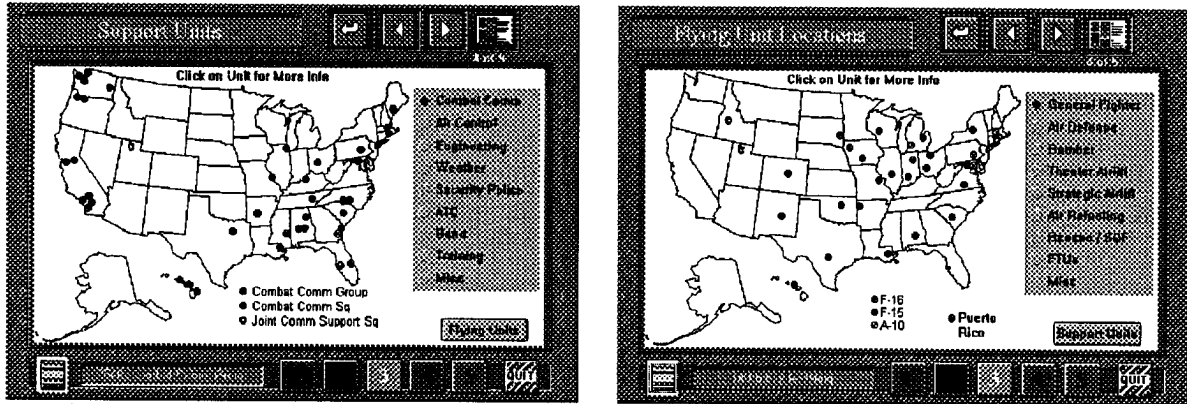


Figure 5. Flying And Support Unit Location

displayed as well as the selected unit. The unit description display includes a high quality aircraft clipart image and hotwords for applicable unit aircraft. This hotword hyperlinks the reader to an aircraft description page with a color photo and aircraft description. Other applicable ANG units on the state map can be viewed as well (see Figure 6).The last section of this chapter includes the aircraft description pages which are hyperlinked to the rest of the ToolBook and can be accessed directly.

The Roles and Missions chapter was structured to align ANG flying and support missions with current ANG and Air Force doctrine.⁶ On each mission page applicable aircraft are hotworded to the chosen aircraft's description page from the Units chapter.



Figure 6. State Unit Map And Aircraft Description Pages

The final two pages of this chapter show the contribution of ANG flying and support units as compared to Total Force figures in an innovative manner using animation techniques (see Figures 7).

In summary, Phase II's objectives included creating chapters covering organization and roles and missions. The AY96 ToolBook Team developed an innovative presentation method providing the information concerning unit, mission, and location, in a concise and consolidated manner. The next logical step was to determine how to access the ANG.

Phase III of the research centered on a thorough investigation of the activation of the National Guard, concentrating on the Air National Guard. This process has undergone many changes as the US military and the National Guard have evolved throughout the history of the United States. Most recently Desert Shield/Desert Storm highlighted many strengths and weaknesses of the process. Action taken over the last five years remedied



Figure 7. Total Force Contributions

many of the difficulties encountered during these operations. Information available on National Guard activation did not accurately reflect changes since the Gulf War.⁷ Available documentation was widely dispersed, confusing, as well as outdated. The heart

of this project embodied researching, consolidating, and synthesizing accurate activation information. Activation areas researched included the US Title Codes authorizing National Guard activation at the state and federal levels and a comprehensive review of literature, both conventional library and Internet sources. Research also included detailed personal interviews with College of Aerospace Doctrine, Research and Education (CADRE) instructor Mr. Hill and NGB personnel to add clarity to written information and additional insights into the actual processes, both formal and informal. NGB Chief of Force Plans, Lt Col Pace, summarized the results of the research by stating:

This Air National Guard ToolBook chapter on activation is well referenced, factually accurate and provides a comprehensive treatment of the activation process.⁸

This ToolBook chapter is the only accurate and complete single source record of the current activation policies and processes.

The ToolBook format presents a unique canvas to graphically paint an explanation of this process. This product is a self-paced instructional program providing the reader the opportunity to interact with activation decision models. Figure 8 depicts the Presidential Selective Reserve Call-Up (PSRC) decision process. The ToolBook enables the user the opportunity to interact with the process by answering a series of 'what if' questions. Interaction with the model enhances the reader's understanding of the PSRC decision process.

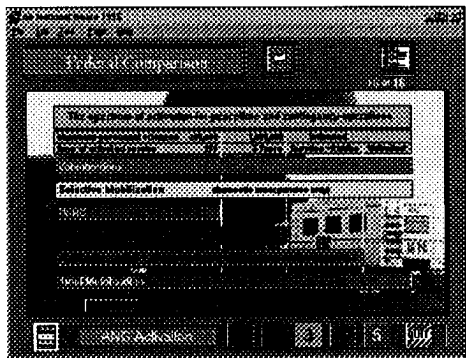


Figure 10. Federal Comparison—Summary

The activation section of the ToolBook, in conjunction with the others, is an excellent vehicle for active duty military members and civilians to learn more about the 'Guard' and the activation procedures for planning and operational purposes. Commanders and joint staff planners can use this information to enhance their knowledge of the activation process. In addition, an Air National Guard member can use this chapter to understand their contribution to the Total Force. This chapter provides an educational and reference guide for all military and civilian personnel that have any desire or requirement to interact with the Air National Guard.

Summary

The AY96 ANG ToolBook is a comprehensive presentation of the ANG history, organization, roles and missions, and activation processes. This information enhances the user's understanding of the ANG capabilities, resources, as well as how to access them.

According to Major General Shepperd, USAF, Director of the Air National Guard:

I endorse any product that will assist the Air National Guard and the Active Air Force in learning more about each other in an effort to provide the United States with a total fighting force. This ToolBook answers that requirement in the most creative and accurate manner that I can imagine. This resource will be one of limitless educational benefit far into the future.⁹

Phasing the project focused the research team resulting in a useful, user oriented, and professional product.

The result of Phase I was a ToolBook that from the opening page reflected a dynamic and well organized product. The AY96 ToolBook's concise format, efficient organization, and clean navigation contributed to a product that is clearly user friendly. These improvements also served as the foundation for Phases II and III.

Phase II's objectives included creating chapters covering organization, and roles and missions. The AY96 ToolBook contains an innovative presentation providing information concerning unit, mission, and location, in a concise and consolidated manner.

Phase III concentrated on a thorough investigation of the activation of the Air National Guard. This section of the ToolBook, provides the user with information on both state and federal activation of the Air National Guard. It is currently the only accurate and complete summary of information detailing the steps necessary to activate the Air National Guard. This portion of the ToolBook is an excellent educational tool for both military and civilian personnel.

In conclusion, the product of the team's research, is a single source presentation of information concerning all facets of the ANG. This ToolBook is indispensable for not only will it provide a clear framework for a commander accessing the ANG in a military contingency, but will also serve as an instructional tool for planners, students and staff officers seeking a better understanding of the Air National Guard.

Notes

¹ Charles Joseph Gross, *Prelude to the Total Force: The Air National Guard, 1943-1969*, (Office of Air Force History, United States Air Forces, Washington, DC), 1985, v.

² *ANG Facts and Figures Jan 96*. NGB/XO, Pentagon: NGB Program Integration Branch, 20 February 1996.

³ Charles Joseph Gross, *The Air National Guard and the Persian Gulf Crisis*, (NGB Historical Services Division), 1.

⁴ Charles Joseph Gross, *The Air National Guard and the Persian Gulf Crisis*, (NGB Historical Services Division), 40.

⁵ *Ibid.*

⁶ Air Force Manual 1-1, *Basic Aerospace Doctrine of the United States Air Force*, Vol 1, (Washington D.C., 1992), 9.

⁷ Lt Col Robert Pace and Lt Col Warren Watkins, Personal interviews at NGB/XOX, Pentagon: NGB Force Plans 25 October 1995.

⁸ Robert Pace, Lt Col, USAF, Chief of Force Plans, National Guard Bureau (NGB)/XOX, Pentagon, Memorandum for NGB/CF, 10 April 1996.

⁹ Donald W. Shepperd, Major General, USAF, Director, Air National Guard, Memorandum for ACSC/DR, 12 April 96, 1st Ind, NGB/CF.

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