

TRAMEA



**UNITED STATES  
ARMY AVIATION CENTER  
1987  
ANNUAL  
HISTORICAL REVIEW**



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Fort Rucker, AL 36362-5163

UNITED STATES ARMY AVIATION CENTER

ANNUAL HISTORICAL REVIEW  
(RCS ATZQ-DAP-H)

1 January 1987 - 31 December 1987

By

John W. Kitchens

August 1988

Fort Rucker, Alabama

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Fort Rucker, AL 36362-5163



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## COMMANDER'S INTRODUCTION

The completion of the development of the Army Aviation modernization plan was unquestionably the single most important accomplishment of the U.S. Army Aviation Center (USAAVNC) and the Aviation Branch in 1987. Although work on the plan had begun much earlier, and final approval by the Department of Defense came after the end of the year, the final plan was essentially put together in 1987. Most of the Army aircraft in use in 1987 had been introduced during the era of the Vietnam War, and some pilot trainees were being trained to fly aircraft that were older than the trainees themselves. Furthermore, the average age of the fleet was increasing each year. The modernization plan provided for the eventual correction of this problem by establishing a schedule for the annual replacement of some of the obsolete aircraft with others of newer technology.

In addition to the modernization plan, three other plans were completed in 1987 to constitute a "family of plans." Of almost equal importance to the modernization plan for aircraft was the companion plan for people, the Army Aviation personnel plan. The other two plans completed in 1987 were a master plan for the acquisition of automation equipment and an installation master plan for construction and renovation on the post proper and at the training areas. The development of this family of plans has been cited by higher Army officials as an example for other branches to emulate.

Some other very important developments in 1987 which are described in detail at appropriate places herein include the completion of the aerial scout test by Task Force 1-112, the development of plans for a multitrack approach to flight training, the negotiation of contracts with Rand Corporation and the Institute for Defense Analysis for the validation of the LHX, the establishment of the Noncommissioned Officers Academy, and the decision for all warrant officer initial training to be moved to Fort Rucker. Three other events that were of considerable symbolic importance to the Aviation Branch were the implementation of the regimental system, the adoption of a branch song, and the completion of the fund raising for the construction of the new Army Aviation Museum. These are also described in more detail in this review. In summary, 1987 was a year of remarkable progress; it brought accomplishments and successes for which all center and branch personnel may be justly proud.

  
ELLIS D. PARKER  
Major General, U.S. Army  
Commanding Officer



## PREFACE

This historical review is divided into five chapters, reflecting the major missions and functions of the Army Aviation Center. Chapter I describes the functions of the command group and also, along with the Commander's Introduction, provides an overview of the major developments at the USAAVNC in 1987. Generally, the types of events mentioned in the parts of Chapter I dealing with the assistant commandant, the deputy assistant commandant, and the command sergeant major are described in detail in the chapters on training and combat developments and testing (Chapters II and III); those mentioned in relation to the chief of staff, in the chapter on center support (Chapter IV); and those mentioned in relation to the garrison commander, in the chapter on garrison support (Chapter V).

The historical reports submitted by nonorganic tenant activities at the USAAVNC are appended as Appendices A to I. Most of them are appended as submitted except for pagination. The reports of the Army Medical Department activities were consolidated and edited, however, to preserve space and enhance clarity, and a couple of other reports were shortened for space considerations.

Other appendices consist of an organization chart, a list of acronyms, and a short index. In addition to the acronym list, most acronyms are defined at least one time in each chapter and usually once in each section; very common or frequently used ones, however, may be defined only one or two times in the entire text. Time constraints precluded the preparation of a more complete and detailed index, but the one provided should be of some assistance to the reader. Time constraints also precluded more precise documentation in footnotes, but the sources indicated for each section are listed in the approximate order of their importance to the writing of that section. All documents cited are filed in the USAAVNC history office.

A great deal of the credit for the completion of this historical review must go to my part-time assistant, Ms. Sandy Yarberry. She provided invaluable support, counsel, and assistance in all phases of the project and often worked overtime with me in order to meet the suspense date. Appreciation is also expressed to the director and all other central office personnel of the Directorate of Aviation Proponency for their advice and counsel and for various other demonstrations of support. The commanding general and other members of the command group were also most cooperative in discussing 1987 developments with me so as to help me to be able to write Chapter I from a command perspective.

John W. Kitchens, Ph.D  
Command Historian



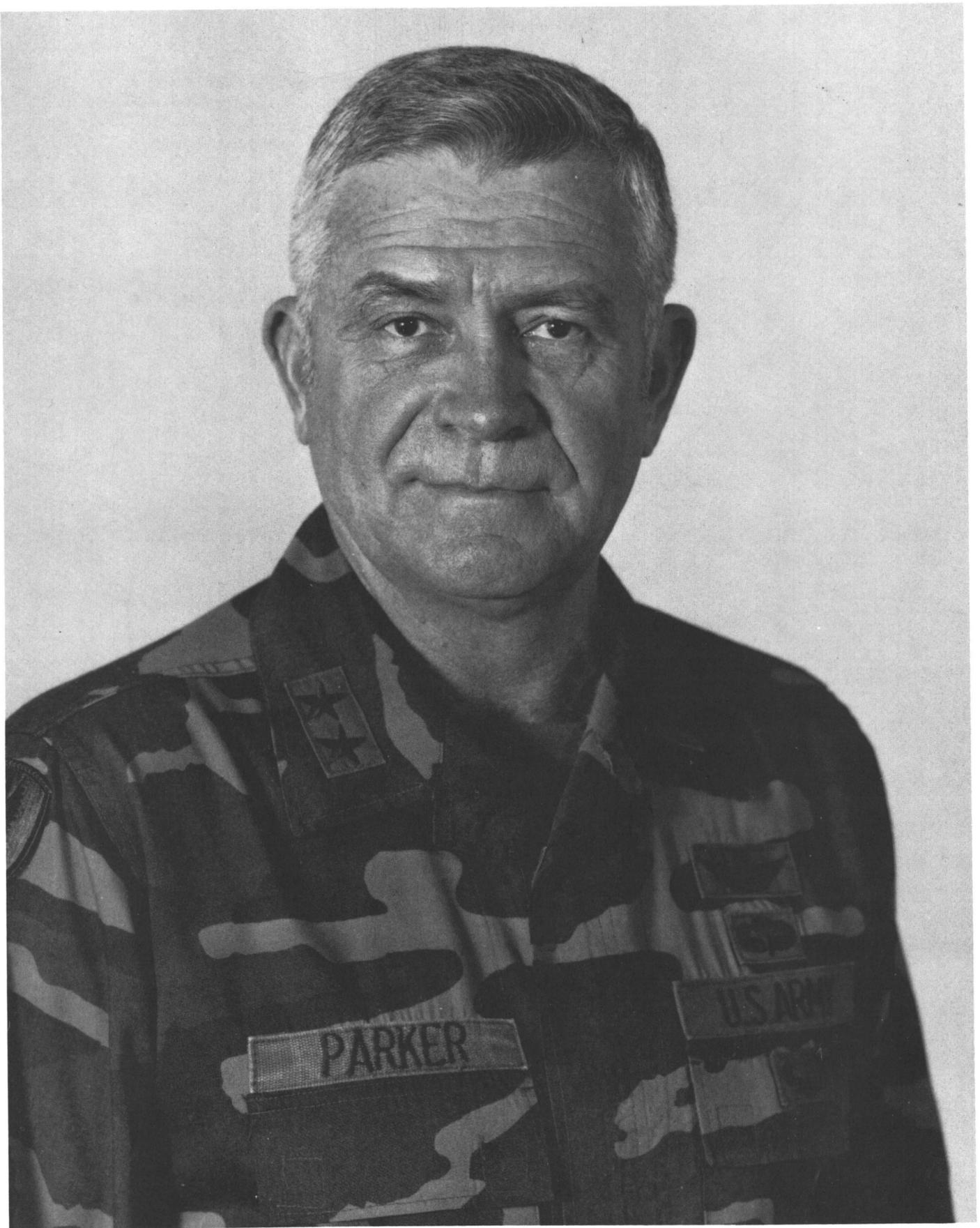
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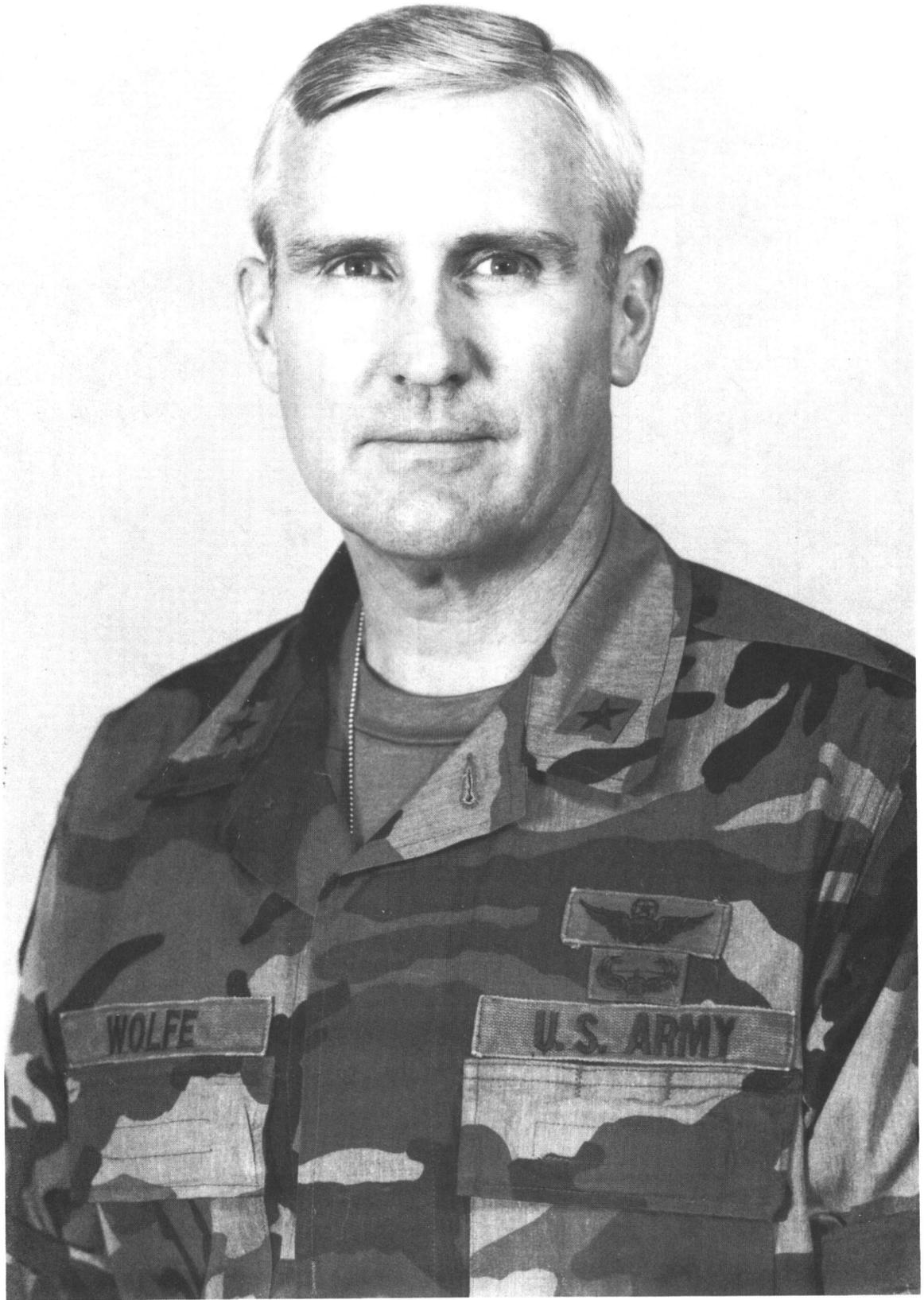
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**MAJOR GENERAL ELLIS D. PARKER  
COMMANDING GENERAL**



**BRIGADIER GENERAL RODNEY D. WOLFE**  
**ASSISTANT COMMANDANT**



COLONEL WILLIS R. BUNTING  
CHIEF OF STAFF



**COLONEL E. KIRBY LAWSON III  
GARRISON COMMANDER**



COMMAND SERGEANT MAJOR  
JOHN P. TRAYLOR

## CHAPTER I

### INTRODUCTION: MISSION AND COMMAND GROUP

#### A. Mission

The primary mission of the United States Army Aviation Center (USAAVNC) in 1987 was the command, operation, and administration of resources at Fort Rucker, Alabama. Specifically, the center was responsible for the training and instruction of officers, warrant officers, warrant officer candidates, enlisted personnel, and assigned civilian personnel in various phases of Army Aviation.

The USAAVNC was also the proponent for combat and training developments, training devices and literature, occupational specialties and career management fields, air traffic control, and Army Aviation flight standardization. As in previous years, the Aviation Center provided support to assigned, attached, or tenant activities on Fort Rucker and in assigned geographical areas.

#### B. Command Group<sup>1</sup>

##### Key Personnel

##### Commanding General

Maj. Gen. Ellis D. Parker

Jan-Dec

##### Assistant Commandant

Brig. Gen. Rodney D. Wolfe

Jan-Dec

---

<sup>1</sup>. Documentation for this section consists, for the most part, of notes and untranscribed tapes of interviews conducted at Fort Rucker by the author with the following persons on the indicated dates: Maj. Gen. Ellis D. Parker, 13 June and 26 August 1988; Brig. Gen. Rodney D. Wolfe, 25 August 1988; Col. Frank Estes, 25 August 1988; Col. William R. Bunting, 1 June and 24 August 1988; Col. E. Kirby Lawson III, 10 June and 25 August 1988; Cmd. Sgt. Maj. John P. Traylor, 24 August 1988; and (on Prime Chance) Lt. Col. Gus M. Meuli and Mr. James H. Hawkins, 29 August 1988. Other sources include short input statements from the secretary general staff and from the protocol officer. Except for Prime Chance, which is not further elaborated on herein because of its being classified, the developments mentioned in this section are described more fully in subsequent chapters of this work.

Deputy Assistant Commandant		
	Col. E. Kirby Lawson III	Jan-Aug
	Col. (P) Marvin E. Mitchiner	Aug-Oct
	Col. Jack E. Easton	Oct-Dec
Command Sergeant Major		
	C. Sgt. Maj. Tilden R. Kirkland	Jan-Apr
	C. Sgt. Maj. John P. Traylor	Apr-Dec
Chief of Staff		
	Col. Andrew J. Miller, Jr.	Jan-Nov
	Col. William R. Bunting	Nov-Dec
Deputy Chief of Staff		
	Lt. Col. Daniel J. Bocculucci	Jan-Jul
	Lt. Col. Edward D. Chandler	Jul-Dec
	Lt. Col. William O. Butler III	Jan-Oct
	Lt. Col. John C. Tallas	Oct-Dec
Garrison Commander		
	Col. Donald J. Marnon	Jan-May
	Col. Gilbert Fredrick	May-Aug
	Col. E. Kirby Lawson III	Aug-Dec
Deputy Garrison Commander		
	Lt. Col. Paul D. Spangler	Jan-Dec
Garrison Sergeant Major		
	Sgt. Maj. Charles Lewis	Jan-Feb
	M. Sgt. Larry B. Norsworthy	Feb-May
	M. Sgt. Thomas Campbell	May-Nov
	Sgt. Maj. Robert Dyer	Nov-Dec

#### Commanding General

During 1987, Maj. Gen. Ellis D. Parker continued to serve as the commanding general of the USAAVNC and as chief of the Army Aviation Branch. General Parker was responsible for the implementation of policies and directives of the Department of the Army (DA) and of the Training and Doctrine Command (TRADOC). He was also the principal adviser and representative of the commanding general of TRADOC for Army Aviation equipment, doctrine, training, tactics, and techniques. General Parker exercised direct supervision over the activities of the U.S. Army Aviation Board, and, through the assistant commandant of USAAVNC, established, maintained, and supervised such agencies and departments as were required for the efficient execution of assigned missions.

#### Assistant Commandant and Deputy Assistant Commandant

The assistant commandant of USAAVNC in 1987, Brig. Gen. Rodney D. Wolfe, served as the principal assistant to and

assumed command in the absence of the commanding general. General Wolfe was primarily responsible for all aspects of training conducted at Fort Rucker and played a major role in assisting the commanding general in directing combat developments and the activities of the TRADOC system managers (TSMs).

The deputy assistant commandant served as principal assistant to General Wolfe and as the primary point of contact for mission training activities. Among other specific duties, he monitored and integrated assigned training elements and effected coordination among training elements, higher headquarters, integrating centers, and other schools, installations, and activities.

One of the major developments in the area of training during 1987 included the implementation of small group instruction (SGI), which reduced the instructor to student ratio to about one to eleven in the Aviation Officer Advanced Course (AVOAC). Also in 1987, the multitrack approach to flight training was further developed, and plans were made for implementation in early 1988. This innovation would consist of the replacement of the TH-55 with the UH-1 Huey as the primary trainer and of more specialized flight training in three other types of aircraft. Furthermore, plans were formulated and the decision was made in 1987 for the inauguration of master warrant officer training to be implemented at the USAAVNC in 1988. Other significant training accomplishments in 1987 included the development of reserve component courseware for the AVOAC (so that the course could be taught in the reserve units as well as at the USAAVNC) and the rewriting of several key training manuals, including the basic doctrinal manual used in the Department of Combined Arms Tactics.

Another very important occurrence in 1987 that affected training, as well as other functions of USAAVNC, was Operation Prime Chance. This was the unclassified code name for a classified project that began in September of 1987 and continued on into 1988. In September, the commanding general of USAAVNC was directed by the joint chiefs of staff to begin working in conjunction with the U.S. Army Forces Command (FORSCOM) toward the training of selected individuals for a classified mission to be carried out in 1988. The planning cell formed in September was initially known as the Air-to-Air Combat II Joint Work Group and consisted of eight persons drawn from the Aviation Training Brigade and from the Directorates of Training and Doctrine and Evaluation and Standardization. The planning process consisted of: (1) the identification of the threat; (2) the identification of the concept of the operation; and (3) the development of a plan of operations. Another unclassified aspect of the operation consisted of the reconfiguration of the OH-58D helicopter to permit its being armed with advanced weapons systems. The nucleus of the required organization to run the mission was

selected from the personnel of Task Force 1-112, which had recently completed a test mission involving the use of the OH-58D in conjunction with the AH-64 Apache.

#### Chief of Staff

The chief of staff of USAAVNC in 1987, served as principal assistant to the commanding general and assistant commandant in the command and management of the USAAVNC, advising and acting for them as directed. He supervised and directed the staff to ensure coordinated action in accomplishing the assigned missions of the Aviation Branch and of the USAAVNC. The chief of staff exercised primary authority, under the commanding general, over center support activities at the USAAVNC. These included resource management, plans, mobilization and security, internal review, public affairs, legal affairs, and safety.

The deputies to the chief of staff assisted the chief of staff in the management of the installation by monitoring the operations of directorates, departments, and special staff sections. Among other duties, they reviewed staff papers and outgoing correspondence and ensured unity of action and compliance with general guidance from the chief of staff, assistant commandant, or the commanding general.

From the perspective of the chief of staff, the most significant developments during 1987 related to personnel management. Of these, the most important by far consisted of the completion and distribution of the Army Aviation personnel plan (A<sup>2</sup>P<sup>2</sup>), which used historical data and force modernization initiatives to accurately project future personnel requirements for Army Aviation. Colonel Bunting was largely responsible for the development of A<sup>2</sup>P<sup>2</sup> before becoming chief of staff and continued to maintain an enthusiastic interest in its implementation afterwards. Related to A<sup>2</sup>P<sup>2</sup> was the precedent-making exception made in 1987 to personnel management system guidelines. This exception permitted an Aviation Branch officer (15C) to hold a military intelligence area of concentration. The policy exception would ensure that aviation expertise would be available to accomplish intelligence missions. Also in the personnel management area, the center completed the enlisted aviator study begun in 1986, but this proposal was finally rejected by higher authority.

Finally, while Colonel Miller was chief of staff, he gave considerable attention to the search for an appropriate song for the Army Aviation Branch. The song finally selected and approved, "Above the Best," was written by a composer from Dothan, Alabama, Ms. Jo Johnston, but Colonel Miller played a major role in the whole process from the beginning of the search to the final adoption of the composition. The

song was first played in public on the post parade field at Fort Rucker on 4 July 1987.

#### Garrison Commander

The garrison commander in 1987 served as the principal assistant to the commanding general in the command and management of garrison activities of the USAAVNC. The garrison commander had primary responsibility in the areas of personnel and community activities, industrial operations, engineering and housing, medical plans and training, security, headquarters activities, contracting and procurement activities, chaplain activities, civilian personnel, equal employment activity, and reserve component support.

The major development in the areas under the purview of the garrison commander in 1987 related to the Army Aviation Museum. Not only did the Army Aviation Museum Foundation achieve its goal of raising \$2.5 million, but an additional \$2.5 million in federal matching funds was obtained through the efforts of Alabama Congressman William L. Dickinson. Plans were made in late 1987 for construction to begin in May of 1988. Other important 1987 developments in the areas of garrison support included the adoption of the General Services Administration (GSA) fleet management system for the USAAVNC motor pool, achievement of the most efficient organization (MEO) in the directorates of Engineering and Housing and of Logistics, establishment of an extension of the Red River Depot at Fort Rucker, and the construction of a new guest house. After winning the TRADOC Installation of Excellence Award in 1985 and 1986, Fort Rucker fell short in 1987, but several initiatives were taken during the year which were expected to bear fruit in 1988.

#### Command Sergeant Major

The command sergeant major in 1987 served as the principal enlisted assistant and adviser to the commanding general. He advised and assisted the command group and subordinate commanders on matters affecting utilization, training, morale, discipline, esprit de corps, and proficiency of the enlisted members of the command.

The single most important development in 1987 under the purview of the command sergeant major was the establishment at the USAAVNC of the U.S. Army Aviation Noncommissioned Officer (NCO) Academy. The concept had been under study since 1986, and early in 1987 TRADOC ordered USAAVNC to proceed. The academy began provisionally at Fort Rucker in June of 1987, and, in accordance with TRADOC orders, it formally opened on 1 October 1987. At the end of the year, it was expected that the NCO training for most or all

aviation-related career management fields would eventually be incorporated into the USAAVNC NCO Academy. In accordance with TRADOC guidelines, the USAAVNC command sergeant major exercised supervisory authority over the academy.

#### Secretary General Staff

An important position under the command group was the secretary general staff (SGS). The SGS acted as the principal assistant to the chief of staff in the management of USAAVNC headquarters on matters of administrative services. This involved the scheduling and maintenance of the USAAVNC conference room; supply activities, subject matter research, the maintenance of files, and the logging and routing of correspondence for the command group; and other functions. Captain Brian D. Healy was the SGS until 2 March 1987, at which time Captain Roger W. Buterbaugh succeeded him. At the beginning of the year the SGS staff consisted of two officers, three enlisted persons, and one civilian. At the end of the year there was one additional enlisted person.

#### Protocol Office

The major function of the Protocol Office of the USAAVNC in 1987 was to formulate and coordinate itineraries for important visitors to Fort Rucker. Another aspect of the mission was to provide assistance in the planning and execution of various conferences and social functions. This involved billeting, transportation, guest lists, seating arrangements, menus, reservations, planning of ceremonies, escort services, etc. Other functions included the maintenance and publication of a five-week social calendar and of a ninety-day planning calendar and the arrangement of itineraries and orientation briefings for certain new personnel.

The personnel of the Protocol Office in 1987 consisted of three officers, one warrant officer, five enlisted soldiers, two civilians, and one temporary employee. Captain William Parrish was chief of protocol from the beginning of the year until 12 March. He was succeeded by Captain Pamela Champion, who filled the position through the remainder of the year.

During 1987 the Protocol Office was involved in visits to Fort Rucker by some 120 generals; by Governor Guy Hunt, Senator Richard C. Shelby, and Congressman William L. Dickinson of Alabama; and by numerous other government officials and distinguished guests. The generals included Gen. Fernando Valente Pamplona, the Chief of the Army General Staff of Brazil; Gen. Maxwell R. Thurman, Vice Chief of Staff of the Army; Gen. Carl E. Vuono, Commanding General

of Training and Doctrine Command; and Lt. Gen. Johannes P. Verheijen, Inspector General of the Royal Netherlands Armed Forces. Also in 1987, the Sergeant Major of the Army, Glen E. Morrell, visited Fort Rucker.

Finally, the Protocol Office arranged and served as the primary point of contact for approximately fifty conferences, receptions, dinners, luncheons, and ceremonies. An example of these was the XIII EURO-NATO Helicopter Training Conference attended by pilots from the United States, the Federal Republic of Germany, the Netherlands, Denmark, and Norway. For this as well as for other such events, the Protocol Office scheduled all billeting and transportation requirements, developed the guest list, and made other arrangements.

## CHAPTER II

### TRAINING

#### A. Aviation Training Brigade (ATB)<sup>1</sup>

All formal flight instruction by military personnel at the USAAVNC in 1987 was conducted by the ATB. The brigade also served as contracting officer representative (COR) for all flight instruction performed by Pan Am Flight Services, the civilian contractor.

In 1987 the ATB was under the command of Col. Haspard R. Murphy, assisted by Maj. (P) Henry D. Lockhart through April, and of Col. Clinton B. Boyd, assisted by Lt. Col. Robert J. Scurzi through the remainder of the year. The brigade was divided into four battalions, each with its own unique mission. Also operating under the ATB commander in 1987 was the Shell Field Detachment and Task Force 1-112.

A notable development in the Army in 1987 that had major impact upon the ATB was the approval and implementation of the regimental system. The reason for the reinauguration of the regimental system in the Army was to promote a sense of unit pride and esprit-de-corps by the establishment of lineage with traditions, accomplishments, and glories of the past. In November of 1987, the four battalions of the ATB were redesignated under the regimental system. These changes, along with the respective missions and major accomplishments of these four battalions, have been described following the key personnel and strength charts.

#### Key Personnel

##### Commander

Col. Haspard R. Murphy	Jan-Apr
Col. Clinton B. Boyd	Apr-Dec

---

<sup>1</sup>. The major sources for this section consisted of the 1987 annual historical report submitted by ATB to History Office, [July 1988], including an undated and unsigned attachment describing the organization and activities of Task Force 1-112 in 1986 and 1987; notes on an interview by the author with the commander of the ATB, Col. Clinton Boyd, on 8 Jun 1988; and, "Aviation Branch Update," (a bimonthly memorandum sent to Army leaders by Maj. Gen. Ellis D. Parker, Commanding General of USAAVNC, hereinafter referred to as "Aviation Branch Update") 13 Feb, 15 Apr, 14 Aug, and 15 Dec 1987.

Deputy Commander		
	Maj. Henry D. Lockhart	Jan-Apr
	Maj. Gary T. Greening	May-Jun
	Capt. Richard J. Sherlock	Jun-Jul
	Lt. Col. Robert J. Scurzi	Jul-Dec
Command Sergeant Major		
	Cmd. Sgt. Maj. Joseph Davis	Jan-Dec
Commander, 1st Battalion, 11th Aviation Regiment/ATC Bn.		
	Lt. Col. David C. Gwin	Jan-Dec
Commander, 1st Battalion, 14th Aviation Regiment/7th Bn.		
	Lt. Col. Alvin B. Cobb	Jan-Jul
	Lt. Col. Daniel J. Boccolucci	Jul-Dec
Commander, 1st Battalion, 223d Aviation Regiment/8th Bn.		
	Lt. Col. Edward A. Just	Jan-Dec
Commander, 1st Battalion, 212th Aviation Regiment/9th Bn.		
	Lt. Col. James A. Orahoad	Jan-Dec
Commander, Shell Field Detachment		
	Maj. James L. Uttley	Jan-Jan
	Maj. Walter Hermsmeier	Jan-Dec
Commander, Task Force 1-112		
	Lt. Col. Michael D. Weaver	Jan-Dec

#### Strength Figures\*

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	170	566	454	241	1,431
31 Dec 87	167	511	466	270	1,414

\* These strength figures do not include the personnel in Task Force 1-112.

During 1987 a total of 1,420 initial entry rotary wing (IERW) students graduated and received their aviator wings. Of these graduates, 298 were National Guard, 95 were U.S. Army Reserve (USAR), 56 were Air Force, 66 were Europe-North Atlantic Treaty Organization (EURO-NATO), and 27 were allied officers. The advanced programs of instruction (POIs) graduated 3,500 students during the calendar year. The personnel of the brigade flew a total of 410,602.7 hours relative to their training support mission. During the year there were only two class A accidents, with a total of four fatalities. One broken wing was awarded--to CWO Thomas S. Cochran. The Order of the Daedalians flight safety award and the Army Aviation mishap prevention award of merit went to the 1-212th. Four soldiers of the 1-11th received

exceptional service awards, and that battalion also won the Fort Rucker bronze safety plaque.

#### 1st Battalion, 11th Aviation Regiment (1-11th)

On 20 November 1987 the 10th Air Traffic Control Battalion (Support) was redesignated the 1st Battalion, 11th Aviation Regiment. The 1-11th consisted of 31 facilities and 100 air traffic control (ATC) systems. The unit was divided into Company A (basefields), Company B (stagefields), and Headquarters Support Company.

Company A facilities logged 1,522,905 aircraft movements in 1987. Also, preparations began for stagefield realignments scheduled for 1988. The realignment would change Shell Army Heliport (AHP) from TH-55 support to an OH-58 mission. In October 1987, two Company A facilities, Blue Springs Flight Communications Center (FCC) and Runkle FCC, were transferred to Headquarters Support Company. By the end of the year two other facilities, Troy Detachment and Esto Ground Controlled Approach (GCA), were targeted for transfer.

Company B logged a total of 2,259,000 aircraft movements during the year. Wolfpit FCC (Pinball GCA) was readied and transferred to Headquarters Support Company in November. The unit also provided stagefield support for aviation instruction in the Spanish language.

The Headquarters Support Company added three flight coordination centers (a visual flight rules [VFR] GCA, an instrument flight rules [IFR] tower, and an IFR GCA) in addition to its staff sections in support of the Fort Rucker flight mission. On 15 November 1987 the Troy Detachment at Troy Municipal Airport became part of the Headquarters Support Company. This facility had an IFR tower and GCA to support fixed and rotary wing training.

In 1987 the 1-11th initiated a two-week training program for sister Army National Guard (ARNG) units. This program was intended to bring ATC ARNG units to Fort Rucker to train in towers side by side with Regular Army air traffic controllers. That would provide valuable training to air traffic controllers with no added cost.

#### 1st Battalion, 14th Aviation Regiment (1-14th)

On 17 November 1987, the 7th Aviation Training Battalion was redesignated 1st Battalion, 14th Aviation Regiment. The battalion had the responsibility for coordination of the personnel, administrative, and logistical support required to conduct flight instruction for IERW and advanced rotary wing flight training for officers, warrant officers, warrant officer candidates, allied officers and enlisted observers.

The training given these aviators emphasized individual, crew, and team skills in terrain flight, night fighting, gunnery, and AirLand battle tactics. The 1-14th was also responsible for the operation of Hanchey AHP.

The 1-14th trained aviators to fly the AH-1, the OH-58 A/C, the OH-58D, and the AH-64. The unit completed its mission by flying 89,130.9 hours and by qualifying 1,477 aviators, 251 instructor pilots, and 256 enlisted aerial observer/field artillery aerial observer crew members.

Company D of the 1-14th restructured the AH-64 Aircraft Qualification Course (AQC) from 14 to 10 weeks. This reduction was necessary to increase the student output. The reduction was accomplished by eliminating the combat mission simulator (CMS) combat skills phase and revamping the gunnery, pilot night vision sensor (PNVS), and contact phases. As a result of the restructuring, Company D taught an aircraft qualification course only--not tactics.

The personnel of the 1-14th continued to be the Army's leading experts in the training of aviators for the OH-58D and AH-64 aircraft. Additionally, they continued to serve as worldwide subject matter experts for the OH-58D and AH-64.

On 20 November 1987 the 9th Aviation Training Battalion became the 1st Battalion, 212th Aviation Regiment (1-212th). Located at Lowe Army Heliport (AHP), under the command of Lt. Col. James A. Orahood, the battalion trained students at the graduate and undergraduate levels in both the UH-1H and UH-60 aircraft. In October 1987, the Army contracted Pan Am Flight Services to teach the UH-1H "contact," or initial transition phase. In December the UH-60s were relocated to Cairns Army Airfield (AAF).

The 1-212th was responsible for directing and coordinating the activities of Lowe AHP and for the initial training and qualification of all Army aviators. The battalion's mission of training student pilots consisted of several phases: the initial transition or "contact" phase, the night and night vision goggle qualification phase, and the basic combat skills or "tactics" phase. Additionally, the 1-212th was responsible for training and qualifying instructor pilots (IPs) who taught all of the aforementioned skills both at Lowe AHP and Army-wide.

During 1987, personnel of the 1-212th flew 146,883 hours, of which the first 127,824 were accident free. A total of 1,662 students were trained at Lowe AHP in 1987. The UH-60 Blackhawk was added to the training fleet of over 250 UH-1H helicopters, making Lowe AHP the busiest heliport in the world. Over 207,758 take-offs and landings were logged at Lowe, a record number at any airfield.

The corps of training cadre of the 1-212th consisted of 219 military IPs and 46 DA civilians. The military IPs generally served a tour of three to four years at Lowe. The civilian force had a low turnover rate and served to establish continuity among the instructors.

#### 1st Battalion, 223d Aviation Regiment (1-223d)

In November of 1987 the 8th Aviation Training Battalion became the 1st Battalion, 223d Aviation Regiment. At the beginning of 1987 the battalion consisted of the Battalion Headquarters, Headquarters and Headquarters Detachment, and four flight line companies (A, B, C, and D). The U.S. Southern Command (SOUTHCOM) Training Detachment was activated as Company E in April 1987, and Company F was activated on 21 December. The 1-223d was commanded by Lt. Col. Edward A. Just, Jr., for the entire year.

The mission of the 1-223d was to plan, organize, conduct, and supervise all flight instruction courses located at Cairns AAF, to evaluate the flight contractors performance, to review and recommend changes in POIs and training literature, and to operate Cairns AAF.

Each of the individual companies had its own area of responsibility for training army aviators. Company A was responsible for overall evaluation of IERW and Foreign Military Instrument courses, Rotary Wing Qualification Course, Rotary Wing Instrument Course, Rotary Wing Instrument Flight Examiners Course, Fixed Wing Multi-Engine Qualification Course, and the OV-1 Qualification Course. Company B conducted the Rotary Wing Aviator Refresher Course and the Flight Examiner Course. The Flight Examiners Course, however, was turned over to the civilian flight contractor on 23 October 1987. Company C conducted all aviator and flight engineer qualification and instructor pilot courses for CH-47 C and D model aircraft. Company D worked to provide day and night airborne command and control support for aviation training. Regularly recurring missions included nap-of-earth (NOE) command and control, military and sport parachute operations, public relations aircraft display, Pathfinder insertions and extractions, downed-aircraft crew recovery and orientation, and training and evaluation of aircrew training manual (ATM) aviators. Company E provided IERW flight instruction to Latin American students in an all Spanish speaking environment. Company F conducted all aviator qualification and instructor pilot courses for the UH-60A Blackhawk.

Units of the 1-223d provided support for Fort Rucker's participation in the Alabama Air Fair in April 1987. The 1-223d personnel also conducted numerous VIP briefings and static displays throughout the year. All UH-60 aircraft and associated courses were relocated to Cairns AAF from Lowe AHP

in December 1987. During the accomplishment of their mission members of the 1-223d logged 71,149 hours of flight time with no class A, B, or C mishaps.

#### Shell Field Detachment

The mission of the Shell Field Detachment was to train primary IERW students in the TH-55 Osage. The mission included both ground and flight instruction and evaluation. The detachment was also responsible for all training facilities and the maintenance of aircraft and other equipment used in the training. At the beginning of 1987, the detachment was commanded by Maj. James L. Uttley. On 30 January a change of command took place, and Maj. Walter Hermsmeier assumed command. In 1987, 92,618.2 flight hours were flown with no class A or B accidents; two class C accidents occurred. A total of 1,680 students were trained in primary flight maneuvers, of which 857 were Army and Air Force commissioned officers, 764 were warrant officer candidates, and 59 were EURO-NATO students.

During 1987 groundwork was underway for the new multitrack training system. The Shell Detachment was instrumental in providing a smooth transition by preparing a new flight training guide and several other training materials, all of which would help the UH-1 instructor pilots teach in the new primary trainer.

#### Task Force 1-112

Task Force 1-112 was formally activated as a provisional battalion subordinate to the ATB on 17 April 1986 and was commanded by Lt. Col. Michael D. Weaver. It originally consisted of 120 soldiers, organized with four companies and a headquarters section. The mission of the task force was to produce a highly trained unit for the purpose of testing the OH-58 in the context of air cavalry and attack roles. It was tasked to evaluate and validate current tactics and, if necessary, to develop new air cavalry and attack helicopter tactics. It was also to certify the need for a scout helicopter and evaluate the relative worth of the OH-58D and to assess various scout/attack helicopter mixes to determine the best ratio(s) necessary to accomplish the full scope of the assigned mission.

Before the beginning of calendar year 1987, the task force had been organized, and almost all personnel had been given specialized training for their various functions and duties. Also, initial testing had been conducted at Fort Chaffee, Arkansas; this culminated in the successful completion of the Army training and evaluation program (ARTEP) in December of 1986.

In January of 1987 the task force personnel and aircraft were transported to Fort Hunter-Liggett, California. During the latter part of January and all of February the task force conducted exploratory trials and team and threat training and attended classes and briefings outlining the ground rules and technical aspects of the upcoming tests.

Record trials began on 11 March and continued through 13 May. The tests were conducted by sixteen teams and consisted of seven combinations of aircraft. The aircraft involved included the OH-58D, the OH-58C, the OH-58C+, the AH-1S(MC), the AH-64, and the AH-1C. The basic question to be answered from the results of the tests was: "In the scout/reconnaissance role, what is the capability of available alternatives (OH-58C, AH-64, AH-1S(MC), and OH-58C+) to perform Army aeroscout functions, compared to the baseline OH-58D?" As the tests came to an end in mid-May the task force had grown from its original 32 aircraft and 120 personnel to 45 aircraft and nearly 300 personnel, either assigned or under operational control of the unit; and the task force crews had flown over 7,400 accident and injury free hours. Most significantly, the task force had verified conclusively the need for a scout helicopter and had demonstrated that the OH-58D was far superior to any of the alternatives in filling that need.

B. Department of Gunnery and Flight Systems (DGFS)<sup>2</sup>

The DGFS consisted of four branches: Headquarters, Administrative, Supply, and Operations; and three training divisions: Aviation, Flight Simulator, and Weapons and Gunnery. DGFS was also heavily involved in formulating the multitrack training program for the IERW students. In the area of training, the DGFS provided aviation academic and systems training, cockpit procedural training, and flight simulator training for students, staff, faculty, and other Army aviators. The DGFS served as the proponent for helicopter gunnery, and also supported efforts to acquire the area scoring device (ASD) for accurate evaluation of aerial gunnery.

Key Personnel

Director	Col. Merwyn L. Nutt	Jan-Aug
	Col. George C. Hollwedel, Jr.	Aug-Dec
Deputy Director	Lt. Col. Robert E. Harry	Jan-Dec
Department Sgt. Maj.	Sgt. Maj. Frederick D. Haney	Jan-Dec
Chief, Aviation Division	Lt. Col. John W. Wall	Jan-Dec
Chief, Flight Simulator Division	Maj. Clement E. Wheeler	Jan-Dec
Chief, Weapons and Gunnery Division	Lt. Col. John H. Bonn	Jan-Dec

Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	20	11	112	112	255
31 Dec 87	22	14	89	115	240

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<sup>2</sup>. The major sources for this section were: the 1987 annual historical report, submitted by DGFS to History Office, 29 Jun 1988; notes on an interview by the author with the director of the DGFS, 2 Jun 1988; "Aviation Branch Update," 13 Feb and 14 Aug 1987.

During CY 87, the DGFS implemented academic training in support of thirty-seven POIs and was the proponent for thirteen of these POIs as well as for aviation weapons and gunnery doctrine. The department was actively involved with the integration of aviation into the combined arms training at the National Training Center (NTC). Also, mobile training teams (MTT) and new equipment training teams (NETT) were supported by DGFS personnel.

The Operations Branch served as the coordinating agency for the department in 1987. The branch continued to automate to improve efficiency. It was also the point of contact for the Army/Local Area Network (A/LAN) system of post-wide computer interface and automation of the automated instructional management system (AIMS). Throughout 1987, the Operations Branch coordinated external and internal academic training while refining DGFS standing operating procedures (SOP).

The Administrative and Supply branches provided support for the various functions and activities of the directorate. Budget and manpower functions in the Administrative Branch were automated, greatly enhancing administrative effectiveness.

#### Aviation Division

The mission of the Aviation Division was to provide professional academic instruction to graduate and undergraduate students in subjects associated with aviation science, aircraft systems, and basic instruments. The Aviation Division had a division headquarters and four academic training branches: Cargo/Utility branch, Graduate Branch, Scout Systems Branch, and Undergraduate Branch. The division served as initial proponent for the IERW multitrack program until the Multi-Track Division was created in April.

During 1987, the Aviation Division conducted academic training in support of twenty-seven POIs and was the DGFS proponent for the integration of Army aviation training at the NTC, and for the support given to the MTTs and NETTs. Interactive video disk (IVD) development continued throughout 1987. The OH-58D IVD aircraft systems training was fully implemented. The IVD training for instrument academics, UH-60, and CH-47D aircraft systems was in the developmental phase under a civilian contractor. The AIMS was an ongoing project throughout the year. New equipment development during 1987 included the external stores support system, the volcano mine dispensing system and the UH-60 cockpit procedures trainer. Also in 1987, The UH-60 training device, the DVC-107, was upgraded to a systems trainer, the DVC-139, and the associated hydraulic power supply was moved to a permanent outside location.

Professional and career development in 1987 included personnel from the division attending the Combined Arms Service and Staff School (CAS3) at Fort Leavenworth, participation in observer/controller duty at the NTC, and visits to San Francisco to attend briefings about aircrew communication and coordination. Also, experts from the Aviation Division provided assistance to the Directorate of Evaluation and Standardization during aviation standardization and training visits, to the Directorate of Combat Developments to develop the air to air combat concept, and to the USAAVNC ATM program. During the calendar year, Captain Wirth was nominated for the General Douglas A. MacArthur leadership award, and Captain Wirth and Captain Brockway were selected to be the Combined Federal Campaign (CFC) representatives for the USAAVNC.

The Aviation Division consisted of four branches. The Cargo/Utility Branch provided aircraft systems training to students attending seventeen different courses. The Graduate Branch provided aviation subject and professional development training to students attending twenty-two flight and professional development courses. The Scout Systems Branch provided aircraft systems training to students attending seven aeroscout courses. The Undergraduate Branch provided training in general aviation subjects and instrument academics, to students attending six different aviation courses. All branches also provided subject matter expert support on numerous aviation and non-aviation projects, papers, manuals, and issues.

#### Flight Simulator Division (FSD)

The FSD provided synthetic flight training system (SFTS) support and cockpit procedural training (CPT) support for all UH-1, UH-60, and CH-47 rotary wing training at the Aviation Center. It was also the proponent for configuration management and software support for all flight simulators worldwide. The FSD was divided into three branches: Flight Simulation Training Branch (FSTB), Procedural Training Branch (PTB), and World Wide Software Support Branch (WWSSB).

In 1987 the FSTB of the FSD coordinated baseline testing with Grumman Corporation on the research and development program for the UH-1 (2B24) simulator. This program was designed to update the computer systems and language, which would extend the life cycle of this system to parallel that of the aircraft. The FSTB also coordinated the UH-60/CH-47 visual upgrade to the digital imagery graphics (DIG) model. The flight simulators were extensively used in 1987--logging over 100,000 hours. Noteworthy was the fact that, compared to actual aircraft costs, simulator use represented a cost avoidance of over \$25 million.

The PTB of FSD wrote major revisions to the POIs and lesson plans incorporating multitrack common core into the UH-1 performance planning and cockpit procedural training courses. Additionally, FSD provided key personnel in the design and procurement of the UH-60A cockpit emergency procedural trainer (CEPT), to be used as a training device for the UH-60 course. The procurement of this device necessitated the FSD's development of all applicable lesson plans for the UH-60 program of instruction.

The World Wide Software Support Branch (WWSSB) of FSD provided the single focal point for software development, implementation, and configuration management for flight simulators. The WWSSB provided software support for thirty-seven flight simulator devices and twenty-four field sites; fifteen of the devices had visual systems at ten field sites other than Fort Rucker. Specific functions of the branch consisted of the establishment of software control immediately after acceptance and of the development of instrument training areas for the field sites. During the year, over twenty field trips were made for the purpose of updating the field sites. The success of this support was achieved through the standardization of software around the world and was characterized by no loss of training due to software inadequacies.

#### Weapons and Gunnery Division (WGD)

The WGD developed, conducted, and evaluated performance oriented instruction on aircraft and weapon systems for U.S. Army attack and advanced attack helicopters. Instruction was given in the AH-1 flight weapons simulator (FWS), the AH-64 CMS, the AH-64 cockpit and weapons emergency procedures trainer (CWEPT), as well as in the classroom environment. The Cobra simulator logged 5,112 hours and the AH-64, 5,888 hours. The division was also the Army-wide aviation proponent for aerial range and gunnery operations (FM 1-140), standards in training issues, and multipurpose range complex development.

During 1987, 294 AH-64 and 586 AH-1S students were trained by the Academic and Simulation Training branches. The Range and Gunnery Operations Branch (RGOB) prepared several briefings for the DA and the Office of the Secretary of Defense (OSD) levels in support of helicopter gunnery training ammunition requirements. Also the RGOB started several other initiatives that had far reaching impact on attack helicopter units worldwide. First, in conjunction with Army Research Institute (ARI), the branch prepared a worldwide ammunition survey that would provide empirical data for the new TC 1-140 (helicopter gunnery). The branch also hosted a worldwide user's conference of battalion S3s and IPs that would generate new gunnery tables for all the attack helicopters in the inventory. Lastly, the RGOB coordinated

several gunnery initiatives with the Standard Training Commission (STRAC) that would bear fruit in mid-1988. These had to do with area scoring devices to accurately measure marksmanship, larger firing ranges to accommodate new weapons systems, and a new ARI study on gunnery.

During 1987, the Weapons Simulation Training Branch (WSTB) began a program with the Directorate of Training Doctrine (DOTD) to upgrade all AH-1 weapons simulators with digital visionics. This was expected to result in an \$18 million project to prevent the Cobra simulators from becoming obsolete. Also in 1987, the WSTB started work on what will become an Army-wide attack helicopter competition called "Top Gun." The competition was scheduled to take place in 1989.

In addition to handling its academic programs, the Weapons and Gunnery Systems Branch (WGSB) worked several important projects. First it trained WSTB personnel on the three new AH-1 armament procedural trainers. These three new trainers would teach AH-1 students weapons and cockpit procedures. They were incorporated into the AH-1 program of instruction in March of 1987, and were expected eventually to save some \$7 million annually in training costs. In conjunction with the Directorate of Combat Developments (DCD), the personnel of WGSB worked diligently on an air-to-air ballistic and weapons package. This training package would be incorporated into a portable air-to-air training package. Late in 1987, the WGSB began work on an experimental project to arm OH-58D aircraft. In support of this, WGSB wrote all the lesson plans and taught all the pilots in this successful project.

#### Collective Training Center Division (CTCD).

The CTCD provided a central point of contact for any aviation related issue concerning the collective training centers, consisting of the NTC at Fort Irwin, California, the Joint Readiness Training Center at Fort Chaffee, Arkansas, the Combat Maneuver Training Complex at Hohenfels, Federal Republic of Germany, and the Battle Command Training Program, at Fort Leavenworth, Kansas. The CTCD also provided subject matter experts and observer/controllers for the training centers.

#### Multi-Track Division

The IERW multitrack proposal was approved by the Secretary of the Army in February 1987 for implementation in 1988. The DGFS formed a Multi-Track Implementation Division in March 1987 to coordinate and facilitate all the issues concerning multitrack implementation. Thirty-one issues were identified as critical for successful implementation. Of these, six were to be addressed primarily by the Aviation

Training Brigade, seven by the Directorate of Plans, Training, Mobilization, and Security, four by the Directorate of Aviation Proponency, one by the Directorate of Training and Doctrine, four by the Directorate of Gunnery and Flight Systems, one by the Directorate of Information Management, one by the Directorate of Resource Management, four by the Directorate of Logistics, two by the 1st Aviation Brigade, and one by the Public Affairs Office. Bimonthly in-process reviews were conducted for the USAAVNC chief of staff to keep the Command Group informed and for additional guidance to be given. All issues were being resolved successfully by the end of 1987.

The multitrack approach to training was to provide advanced tactical training in one of four advanced airframes, providing field commanders with more thoroughly trained aviators from the Aviation Center. Primary flight training was to be conducted in the UH-1 Iroquois helicopter, enhancing the turbine engine operating experience of flight students.

C. Department of Combined Arms Tactics (DCAT)<sup>4</sup>

The DCAT continued to exercise proponent responsibility for assigned professional development courses. In concert with the Directorate of Training and Doctrine (DOTD) and the Directorate of Enlisted Training (DOET), DCAT conducted design and development processes for individual training requirements for resident and extension training. The DCAT provided subject matter expertise (SME) to write, review and critique doctrine, lessons, exams, training circulars (TC), field manuals (FM), training manuals (TM), skill qualification tests (SQT), Army training and evaluation programs (ARTEPs), and ARTEP mission training plans (AMTP). DCAT also provided branch training teams (BTTs), doctrinal training teams (DTTs), and mobile training teams (MTTs) to support the instructional program. The DCAT was organized into three divisions: the Combined Arms Division, the Command Leadership Division, and the Doctrine Division.

Key Personnel

Director, DCAT	Col. George C. Hollwedel	Jan-Aug
	Col. Ernest F. Estes	Aug-Dec
Chief, Combined Arms Division	Maj. John J. Anton	Jan-Dec
Chief, Command Leadership Division	Lt. Col. George L. Doyle	Jan-Sep
	Maj. Malcolm T. Acree	Sep-Dec
Chief, Doctrine Division	Lt. Col. Dennis Carlin	Jan-Apr
	Lt. Col. James A. Mapes	Apr-Dec

Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	65	9	17	29	120
31 Dec 87	75	18	20	27	140

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<sup>4</sup>. Sources for this section include the 1987 annual historical report submitted to the History Office from DCAT, 29 Jun 1988; notes on interviews by the author with Col. Frank Estes, director of DCAT (and later deputy assistant commandant, 8 Jun and 25 Aug 1988; and "Aviation Branch Update," 14 Aug and 15 Dec 1987.

The numbers of courses and of students under the instructional responsibility of DCAT continued to increase during 1987. The proponency for the Aviation Officer Advanced Course (AVOAC) passed from DCAT to the 1st Aviation Brigade, however, with the initiation of small group instruction (SGI) in this course. In conjunction with this transfer and with the inauguration of SGI, DCAT conducted a series of two-week tactics-intensive train-the-trainer programs for the first teams of 1st Aviation Brigade SGI instructors.

In 1987 the DCAT participated in numerous command post and field exercises, including a BTT to U.S Army Europe (USAREUR) for the first phase of the air-to-air combat exercises (ATAC I) in January, the quick thrust joint exercise at Fort Stewart and the caravan guard exercise for the V (US) Corps. DCAT represented USAAVNC at redeployment of forces to Germany (REFORGER) and at the Republic of Korea-United States staff talks. Also in 1987, DCAT received the mission from the command group to host the Aviation Brigade Commanders' Conference.

In CY 87 DCAT developed and managed the Observer/Controller Certification Course for aviation observers and controllers at U.S. Army Collective Training Centers, and led the planning and coordination for the Aviation Council Emeritus Conference.

Another vital function performed by the DCAT in 1987 was SME support for the writing, review, and critique of doctrinal publications. The doctrinal literature of which DCAT led in the development included FM 1-109, "Aviation Self-Deployment Planning," FM 1-117, "Air Reconnaissance Squadron," FM 1-107, "Air Combat Operations," FM 1-100, "Aviation Combat Operations," TC 1-101, "Aviation Survivability," and numerous mission training plans, training evaluation outlines, and situational training exercises. The review of non-proponent doctrinal literature was intensified as TRADOC implemented doctrinal review approval groups (DRAGs). The DCAT prepared the commanding general of the USAAVNC for all TRADOC DRAGs chaired by the commanding general of either the U.S. Army Combined Arms Center (USACAC) or TRADOC.

D. Department of Enlisted Training (DOET)<sup>4</sup>

The DOET conducted academic training for the USAAVNC to support flight maintenance, flight operations, air traffic control, aeroscout observer, and officer air traffic control instruction. It provided administrative and logistical support of assigned elements and classroom support for all instructional purposes during duty hours. The DOET was composed of three branches: Administrative, Supply, and Operations; and two training divisions: Air Operations Training Division (AOTD) and Maintenance Training Division (MTD).

Key Personnel

Director	Cmd. Sgt. Maj. J. P. Traylor	Jan-Mar
	Cmd. Sgt. Maj. Hartwell B. Wilson	Apr-Dec
Deputy Director	Sgt. Maj. B. R. Smith	Jan-Dec
Chief, Operations Branch	M. Sgt. J. W. Sutton	Jan-Jun
	M. Sgt. R. A. Howard	Jul-Dec
Chief, Maintenance Training Division	Sgt. Maj. J. R. Scott	Jan-Dec
Chief, Air Operations Training Division	Sgt. Maj. S. A. Lewis	Jan-Dec
Chief, Supply Branch	Mr. G. B. Sayles (GS-5)	Oct-Dec
Administrative Officer	Ms. P. Kizziah (GS-7)	Jan-Jul
	Ms. C. Palo (GS-7)	Oct-Dec

Strength Figures

	Enl.	Civ.	Total
1 Jan 87	174	62	236
31 Dec 87	238	63	301

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<sup>4</sup>. Major sources consist of the 1987 annual historical report submitted to the History Office by DOET, 7 Jul 1988; notes on an interview by the author with the director of DOET, Cmd. Sgt. Maj. Hartwell Wilson, 13 Jun 1988; and "Aviation Branch Update," 13 Feb, 15 Apr, 15 Jun, and 15 Dec 1987.

The Operations Branch planned, coordinated, and scheduled academic instruction conducted by DOET; coordinated mobile training teams and instructional support; and assisted in curriculum development, evaluation, standardization, and in combat developments regarding training programs and policies. The branch also prepared statistical data and staff studies, and its personnel attended conferences relative to mission support.

The AOTD conducted advanced individual training (AIT) for military occupation specialties (MOSs) 93B, 93C, and 93P. In addition, ATC was provided to officers in the Officer ATC Course. The division also safeguarded and administered the Federal Aviation Administration (FAA) control tower operator (CTO) examinations. It designed, developed, and implemented training materials required for resident and nonresident technical courses related to MOSs 93B, 93C and 93P; and provided MTT support to National Guard ATC units and NETTs as requested.

In February of 1987 the first class of the new 93B Aeroscout Observer Course graduated, General Parker was the guest speaker at the ceremonies. The equipment training phase for the 93 series courses was moved to Yano Hall in July, saving approximately \$17,000 for the remainder of 1987 and \$94,000 annually thereafter. Split shift instruction was required during the latter part of the year for the AOTD to accommodate increased student load. In October, that division began teaching the new 93C POI (resulting from the consolidation of the 93H and 93J MOSs into the 93C. The AOTD began work on a new seven-part control tower operator examination near the end of the year. During the year the MTD trained 937 67N10 and 759 67V10 mechanics for worldwide aviation units.

The MTD conducted the AIT for MOSs 67N and 67V. It designed, developed, and implemented all associated technical material; and provided MTT support to National Guard ATC units and NETTs as requested.

There were several changes in 1987 with regard to the acquisition and more effective use of equipment. In January the final acceptance of the Telefile T-85 computer system for the data systems room was completed. In April, the Combat Support Training Branch of the AOTD relocated the AN/TCS-61B (snake radio) to a fixed antenna system in order to provide better radio coverage of the Vanguard area of helicopter operations. Also in 1987, the interactive video disc training system came on-line and into use. In December, the DOET headquarters moved from building 3507 into refurbished quarters in 3505 and 3506.

In April of 1987, S. Sgt. Garrett was named Fort Rucker NCO of the year, and in December, Sfc. Tierney was selected as the Aviation Center instructor of the year. During the

Christmas season, volunteers from AOTD manned "Santa's hot line" for the third consecutive year.

## E. Directorate of Training and Doctrine (DOTD)<sup>5</sup>

In 1987 the major functions of the DOTD included collective and individual training developments relative to aviation doctrine, job and task analysis, and staff management of design and development of resident and extension training and doctrinal literature. An equally important function was the representation of the trainer and user in the acquisition of new simulators and training devices for existing as well as emerging aviation systems. The DOTD also performed the resident training and development of the USAAVNC staff and faculty.

The directorate carried out these functions through the actions of its four divisions: the Program Management Division (PMD) (formerly the Doctrinal Literature Management Division [DLMD]), the Individual and Unit Training Division (IUTD), the New Systems Training and Simulator Acquisition Division (NSTSAD), and the Staff and Faculty Development Division (SFDD).

### Key Personnel

Director	Col. Jack E. Easton	Jan-Sep
	Lt. Col. Floyd E. Edwards	Sep-Dec
Deputy Director	Lt. Col. Ronald J. Wimberly	Jan-Sep
	Lt. Col. Raymond L. Schaefer	Sep-Dec
Chief, Program Management Division	Lt. Col. Louis McAdams	Jan-Mar
	Maj. Michael Brown	Mar-Dec
Chief, Individual and Unit Training Division	Lt. Col. Gus Martin Meuli II	Jan-Nov
	Maj. Gary G. Lynde	Nov-Dec
Chief, New Systems Training and Simulator Acquisitions Division	Lt. Col. Raymond L. Schaefer	Jan-Sep
	Maj. (P) Michael W. Cupples	Sep-Dec
Chief, Staff and Faculty Division	Mr. Charles A. Thomley (GS-12)	Jan-Dec

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<sup>5</sup>. Sources for this section consist of: 1987 annual historical report, submitted to historian by acting director of DOTD, 30 Jun 1988; notes on interview by author with Mr. Donald L. Teague, deputy for education management of DOTD, 2 Jun 1988; "Aviation Branch Update," 15 Jun and 14 Aug 1987.

### Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	33	7	42	108	190
31 Dec 87	36	6	45	109	196

The DOTD served as the facilitator of the Aviation Simulation Conference in January. This conference brought together key personnel from the entire aviation community to discuss important issues regarding the training developments in aviation and its expanded role as a member of the combined arms team. The major accomplishments of each division of the DOTD have been described below.

#### Program Management Division (PMD)

In 1987 the Doctrinal Literature Management Division was expanded to include training literature and also absorbed the Program Management Office and the Word Processing Center. The division was renamed Program Management Division and remained in that configuration throughout the year.

In addition to completing nine products as required by the installation contract, the division accomplished numerous unfunded and unprogrammed requirements. The first handbook for military spouses received high acclaim and led to the beginning of an information book on protocol.

As part of an effort by TRADOC to streamline operations and save resources, the division developed a basis of issue plan (BOIP) for doctrinal literature publications and defined and established a professional library for aviation soldiers E7 and above. These two actions were designed to ensure that aviation soldiers and units had the publications they needed to do their jobs without being deluged with unnecessary volumes of information unrelated to their mission.

To streamline the publications inventory and conform to TRADOC guidance, the PMD hosted a USAAVNC literature workshop in October. The three-day workshop was attended by representatives from all departments and directorates within USAAVNC. It was used as the baseline to formulate a strategy for development and production of doctrinal literature at USAAVNC in the future. The most significant results of the workshop were the recommendations to change all but two of the Army Aviation field manuals into training circulars and to reduce the doctrinal publications inventory from forty-five to twenty-seven products. The plan received the CG's approval in December 1987 and was forwarded through the USACAC to TRADOC headquarters for approval.

## Individual and Unit Training Division (IUTD)

As manager for all training programs during 1987, the IUTD was responsible for the many programs represented in this report. The division was divided into five major branches, the major accomplishments of which have been described individually.

The mission of the Officer Training Branch (OTB) was to oversee the application of the systems approach to training (SAT) to all commissioned and warrant officer training at the USAAVNC. The OTB was specifically charged with conducting front-end analyses (FEA) for all branch-specific officer professional development training. In addition OTB acted as the USAAVNC action agency for the coordination and management of all TRADOC, USACAC, and USAAVNC directed officer training initiatives. The OTB survived a reduction in officer positions with minimal repercussions in 1987. However, an ever-increasing special-projects workload could become a serious problem in view of this reduction.

In 1987 the POI for the Aviation Officer Basic Course (AVOBC) was revised and submitted to TRADOC for approval. The revision to the POI included integration of the maintenance quality specialist (MQS) II common core tasks.

Small group instruction (SGI) was implemented in the Aviation Officer Advanced Course (AVOAC) in May 1987. In preparation for SGI the AVOAC POI was completely restructured so as to enhance hands-on and scenario integrated training. An interim implementation document that delineated those subjects which were to be taught in the SGI mode and those that would continue to be taught by subject matter experts was prepared for a three-class validation phase. The revised POI under the SGI concept was rescheduled under the installation contract and submitted to TRADOC. Additionally, work on the design and development of a reserve component (RC) AVOAC course management plan (CMP) was begun in 1987. The RC AVOAC CMP included training support materials such as the POI, lesson plans, and Army correspondence course program (ACCP) subcourses.

In February of 1987, the USAAVNC chief of staff directed that a spouses enhanced education development program (SEEDP) for AVOAC spouses' be developed and implemented. The first AVOAC SEEDP class began in August.

With regard to warrant officer training, a standing proposal to consolidate the Warrant Officer Entry Course at USAAVNC was not acted upon in 1987. The analysis of aviation mid-level warrant officer training was completed. Armed with the results of this analysis, a Task/Site Selection Board convened in December and produced a critical task list for the Aviation Senior Warrant Officer Training Course (ASWOTC). The course was scheduled for implementation in late 1988.

An analysis of master-level warrant officer training was begun in 1987. The Master Warrant Officer Training Course (MWOTC) was scheduled to be implemented at USAAVNC in 1988. The course was to be conducted in the SGI mode, and TRADOC has assigned proponency for the course to USAAVNC.

In April of 1987 the TRADOC commander commissioned the leader development study (LDS). The LDS group published the results of its study in August. This "new look" at leader development resulted in a refocusing of officer training on conduct of war rather than preparation for war. The OTB spearheaded the development of branch-specific, "war-fighting" skills, knowledge, and attitudes (SKA) as a part of this refocusing. These "war-fighting" SKA were briefed to the Aviation Brigade Commanders' Conference on 3 December 1987. Further development of SKA-related initiatives was ongoing.

The OTB began the development of the USAAVNC horizontal and vertical integration (HVI) action plan in 1987. The preliminary action plan outlined the roles and functions of the center team to execute HVI considerations. Further consideration of this and other new concepts for training courses was continuing.

The Enlisted Training Branch (ETB) developed the implementation plan to relocate career management field (CMF) 28 and MOS 93D Advanced Noncommissioned Officer Course (ANCOC) and the AIT from the U.S. Army Signal Center (USASIGCEN) to the USAAVNC. The ETB provided the leadership for several meetings and joint work groups to develop the methodology, milestones, and resource requirements to move this Fort Gordon training mission to Fort Rucker.

The ETB also developed the training requirements analysis system (TRAS) documents required to establish a new MOS 68S10, Aircraft Integrated Electronics Repairer Course. Training for this MOS would consolidate portions of Avionics responsibilities currently performed by MOSs 68F, 68J, and 35K. The new MOS would provide the Army with avionics technicians to work on the Army's new family of high-tech aircraft.

Also in 1987 the ETB developed the first consolidated job and task analysis plan for CMF 28 MOSs, solved some problems that had developed with the CMF 28 and MOS 93D training programs, and, after determining that a delay in the starting of the 93B Basic NCO Course (BNCOC) would be detrimental to the MOS, located an instructor and started the course on schedule.

In 1987 the Unit Training Branch (UTB) of the IUTD managed the USAAVNC Army training and evaluation program (ARTEP). Significant progress continued to be made in the transition from the single volume ARTEP to the multi-echelon

mission training plan (MTP). The UTB revised the USAAVNC ARTEP production schedule based on guidance received from the Combined Arms Training Activity (CATA). Seven non-proponent platoons were identified for development. Detailed requests for non-proponent SME support was forwarded through CATA to the proponent TRADOC school prior to the scheduled start date of each product. The collective front-end analysis (CFEA) on ARTEP 1-100, aviation command and staff, MTP was begun. This comprehensive training document was to provide commanders with a training tool that would transcend all echelons for effective command and staff unit training.

The UTB also provided assistance to TRADOC schools, CATA, and DA through a variety of reports and studies, including the following: a TRADOC long-range plan for ARTEP development and battalion-level training model program; a unit effectiveness measurement report based on data gathered at the National Training Center; a nuclear management evaluation plan; and input to TRADOC in the development of coordinating draft training and doctrinal products.

The Extension Training Branch (ExtTB) managed the training extension course (TEC) program which consisted of three different civilian contractors completing all thirty-four contracted lessons. This was the last year for developing TEC lessons.

Interactive courseware development continued on the aeroscout observer program. The second contract for FY 86 was canceled due to increased cost requirements by the contractor. The FY 87 contract for the development of UH-60 aircraft systems, CH-47D aircraft systems, AH-1 armament, AH-64 armament, target identification, night vision goggles, secure voice, rotary wing instruments, automated flight records, and annual written examination was awarded to a civilian contractor in September 1987 for an estimated 118 lessons.

Management of the USAAVNC ACCP continued with the reviews of ninety-three subcourses, the in-house development of seven new subcourses, and the revision of thirty-four subcourses.

The ExtTB managed the DA audiovisual information programs with ten Army-wide programs, four joint optical information network programs for the Recruiting Command, the annual review of 120 fielded television programs, and review of the Aviation Learning Center audiovisual programs.

The management of CMF 28 extension training materials developed by the Signal School at Fort Gordon, Georgia, began in 1987. These programs consisted of sixty-seven Army correspondence course programs and 128 TEC lessons. A total of twelve ACCP subcourses and eight lessons were reviewed in the calendar year.

The mission of the Flight Systems Branch (FSB) was to perform the SAT phase I FEA for individual tasks for all aircraft systems. The FSB coordinated all flight related POIs, which included initial start-up of new courses, approval of course revisions, maintenance of audit trail files, maintenance of master POIs, and the staffing of special actions for flight systems. The Army Aviation annual written examination (AAWE) was also developed, produced, validated, and distributed (including the reporting of statistical data) by the FSB.

In 1987 a complete "scrub" was conducted on all scout and attack POIs. The scrubs resulted in tremendous savings in manpower and resources. The AH-64 AQC was restructured to accept initial entry graduates who were not AH-1 qualified. The program was very successful, with most honor graduates being the IERW turnaround students. A new AH-64 stand-alone IP course was developed and was scheduled to begin in October of 1988. Air-to-air (ATA) training development was ongoing. The portable training program for ATA training was completed and was scheduled for field use after validation.

The FSB also revised the course administrative data (CAD) for the IERW course in 1987. CADs for the CH-47D for FY 91 proposed track and for a Spanish language initial rotary wing course were submitted.

The FSB of the IUTD was requested to furnish AVSCOM with institutional training development requirements. POIs were developed for CH-47D Instructor Pilot Course (IPC), CH-47D AQC, and CH-47D Flight Examiner Instructor Course (FEIC). A briefing and slide presentation was also developed for special operations aviation (SOA), and the FSB hosted meetings on SOA at the USAAVNC. The meetings included air-to-air refueling, aircrew coordination training, and reflow of the new ten-week CH-47D AQC.

The 1987 AAWE, a standard written examination required by Army regulation, was developed for administration to all aviators in operational flying positions. Test control officers gave the AAWE to over 12,554 aviators from Active Army, USAR, and ARNG. The AAWE contains four versions for each of six aircraft categories: utility helicopter, observation helicopter, attack helicopter, cargo helicopter, utility airplane, and surveillance airplane. The AAWE examines four major areas: regulations and publications, aerodynamics, aeromedical factors, and tactics and special missions. The AAWE is a fifty-question multiple-choice open book exam. The vice chief of staff of the Army viewed the AAWE as a model for evaluating technical proficiency which other TRADOC schools might emulate.

New Systems Training and Simulator Acquisition Division  
(NSTSAD)

The mission of the NSTSAD was to provide technical advise on matters concerning the life cycle system management model as it pertained to training devices and simulators. The division also served as user representative to ensure that training device and simulator requirements were met and provided user interface with the program manager (PM) for aircraft survivability equipment (ASE).

In 1987 studies were conducted by the NSTSAD which led to better training for present and future Army aviators. The division advocated and outlined new equipment training which provided personnel in the field with the know-how to incorporate new equipment quickly and effectively into training programs. State-of-the-art flight simulators and training devices were fielded, and requirements documents initiated the development of future simulators and devices. The efforts of the division in the area of aircraft survivability were aimed at providing aviators with the tactical and technical skills required to perform as members of the combined arms team.

The NSTSAD was organized into four branches: New Equipment Training Development, Aviation Simulation Materiel Development, Aircraft Survivability Training Management, and Aviation Systems Training Research.

The New Equipment Training Development (NETD) Branch of NSTSAD completed 187 projects in 1987. The only major problem encountered was getting on-line with the Army modernization training automation system (AMTAS) of TRADOC to keep up-to-date on all USAAVNC projects. The NETD Branch's mission was to provide training development interface with TRADOC, AMC, FORSCOM, and other interested agencies for actions required by the life cycle system management model (LCSMM) for Army systems. The branch consisted of three sections: Cargo Utility and Fixed Wing, Scout and Attack, and Avionics/Electronic Warfare (AVEW).

In 1987 the Aviation Simulation Materiel Development (ASMD) Branch developed requirements documents and coordinated with Army agencies and civilian contractors in the development and fielding of flight simulators and training devices. The branch operation was restricted by personnel shortages and funding problems. In 1987 the ASMD was organized into three teams: Scout/Attack, Cargo/Utility, and Non-Systems.

The ASMD Branch hosted the worldwide Aviation Simulation Conference in January 1987. This conference was directed by the chief of staff of the Army, and problems and potential solutions were addressed. New and future developments were

discussed with emphasis on the use of simulation to solve Army Aviation training deficiencies.

In 1987 the following flight simulators and training devices were fielded: AH-64 combat mission simulator--Illesheim, FRG; three UH-60 flight simulators--two at Fort Rucker and one at Hanau, FRG; two CH-47D flight simulators--Fort Rucker and Fort Lewis, Washington; three AH-1 armament procedures trainers, Fort Rucker; UH-60 composite trainers--Fort Rucker; and five OH-58D cockpit procedures trainers--Fort Rucker. Also in 1987 the ASMD Branch developed requirements documents for a UH-60 cockpit emergency procedures trainer, special operations aircraft flight simulators, data automated tower simulator, radar identification display simulator, aviation combat team trainer, and Light Helicopter (LHX) training devices. The branch additionally provided user representative input to require operational capability documents, contract specifications, memorandums of understanding, organizational and operational plans, and reliability, availability, and maintainability documents.

During 1987 the Aviation Systems Training Research (ASTR) Branch focused much of its attention upon training systems companion to emerging aircraft. Branch members became intimately involved with requirements documentation associated with the LHX, the conduct of the advanced aerial scout test, and the formulation of an algorithm to support a planned revision of the IERW program. The branch's essential mission was to perform statistical analyses in support of new aviation system acquisition. Many of its studies satisfied documentary requirements outlined by the LCCMM, but the branch was occasionally tasked to perform research in fields unrelated to aircraft acquisition.

By the end of 1987 the preparation of the LHX cost and training effectiveness analysis was near completion. This analysis, a companion study to the cost and operational effectiveness analysis written by the DCD, compared and evaluated four competing aircraft alternatives and justified a single selection as the optimum. This project was significant in that the contractor was held responsible for training in addition to airframe production, and the proposed training program was an integral criterion for contract award.

In the context of the joint service acquisition of the Osprey aircraft, the studies and activities of the ASTR Branch led the USAAVNC to formulate a position and to formally endorse the support of joint service qualification training.

With regard to the multitrack algorithm development study, the algorithm was intended to identify student pilot traits which indicated an aptitude for one of four aircraft.

By the end of the calendar year data collection relative to the initial stage was essentially complete. During 1988 a validation was scheduled to corroborate initial findings.

The Aircraft Survivability Training Management (ASTM) Branch served as the USAAVNC representative for aircraft survivability training management and training development as delineated in appropriate Army and TRADOC regulations. In particular, the ASTM Branch ensured that the plans for ASE training, personnel, logistics, testing, organization, approved operational concepts, doctrine, and tactics were timely and fully integrated into the training development program. The ASTM Branch monitored integrated logistics support and ensured that requirements were based on the needs of the user throughout the materiel acquisition process.

In 1987 the ASTM Branch acted as the training management agency for USAAVNC to ensure that all training milestones, technical manual validations, and testing of training was completed for aircraft survivability equipment. The branch performed the first three phases of the SAT and managed the final two phases for resident training and unit/sustainment training.

The ASTM Branch created training support packages (TSP) consisting of development of POIs, lesson plans, student handouts, examinations, and supporting training media and aids for several ASE items. This initial TSP was developed for operational testing training support, and was an integral part of the TSP. The TSP was then validated, revised, and updated as required to become the teaching vehicle to support the NETT.

Additionally, the branch developed and provided exportable packages of DTT to inform commanders and their staffs of employment data for new ASE; provided training assessment input to required operational capability (ROC), letters of agreement, and similar documents; submitted input to qualitative/quantitative personnel requirements information (QQPRI) and BOIP; and provided pilot and aircrew training development and management for both new and improved aircraft survivability equipment for operational testing and materiel fielding.

#### Staff and Faculty Development Division (SFDD)

The SFDD developed policies and procedures relating to the operation and administration of instructional programs in support of the Army Aviation Center. In accordance with USAAVNC regulations, the division was the proponent for the training of instructors and the development of lesson plans and guides for instructors.

The division trained a total of 1,071 persons during 1987 in a variety of instructor training type courses. The SFDD also supported the ARNG and USAR training during 1987 by conducting one-week instructor training courses at Fort Indiantown Gap, Pennsylvania and Shreveport, Louisiana.

The SFDD developed and implemented five new instructor training courses during 1987. These included courses on small group instruction, NCO instruction, and other courses to support new developments in the training mission of the USAAVNC.

Among other accomplishments of the SFDD during 1987. A formal front-end analysis was completed for the USAAVNC Instructor Training Course. The division assisted in implementing the aviation officer spouses' enhanced educational development program; coordinated and hosted the successful Aviation Trainers' Conference; developed USAAVNC instructional evaluation forms for academic, flight simulator, air traffic control laboratory, and small group instructional settings; and conducted 601 USAAVNC instructional evaluations during the year. The division also managed the instructor awards program which recognized USAAVNC instructors of the quarter and of the year. The division awarded seven master instructor and fourteen senior instructor certificates for continued professional development during the year.

F. 1st Aviation Brigade (Air Assault)<sup>e</sup>

The primary mission of the 1st Aviation Brigade during 1987 was to provide training support to Fort Rucker and the surrounding communities. To accomplish this, the brigade exercised command and control over assigned and attached battalions. It provided administrative and logistical support to all subordinate units, and it directed the operations, training, intelligence, and security activities within the command. The secondary mission was to provide command and control for the mobilization of reserve component units. The brigade was responsible for determining the training status of reserve units, for facilitating essential training, and for providing training assistance to mobilized units.

During 1987 the 1st Aviation Brigade consisted of five battalions. These battalions, comprising of twenty-seven companies, two detachments, and an Army band, constituted a total permanent party and student population of approximately 6,900 soldiers.

The approval and implementation of the regimental system in 1987 had major impact upon the 1st Aviation Brigade. The 1st Battalion was redesignated as the 1st Battalion, 10th Aviation Regiment. This allowed the continuation of the lineage of a distinguished aviation unit formed during the Vietnam era. The motto of the battalion became "Soldiers of the Sky." Also, in a ceremony held on 20 November, the 4th Aviation Training Battalion became the 1st Battalion of the 13th Aviation Regiment. Also in November, the 6th Aviation Training Regiment became the 1st Battalion of the 145th Aviation Regiment. The major 1987 activities and accomplishments of each battalion have been described below.

Key Personnel

Brigade Commander

Col. Terry N. Rosser	Jan-Jul
Col. Moses Erkins	Jul-Dec

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<sup>e</sup>. Sources for this section consisted of: the 1987 annual historical report, submitted by 1st Aviation Brigade to historian, 29 Jun 1988; notes on interview conducted by author with the brigade commander, Col. Moses Erkins, 7 Jun 1988; "Aviation Branch Update," 15 Dec 1987; Army Flier, 29 Jan 1987; memorandum for record, Lt. Gen. Robert H. Forman, Deputy Commanding General for Training, sub: DCG-T visit to Fort Rucker, AL, 3-5 Mar 1987; after action reports, Lt. Col. Larry R. Sloan, Commander, 226th Attach Helicopter Bn., 9 & 10 Jun, 14 Jul, and 15 Oct, sub: exercises Penny Ante, Impatient Mermaid, Delta Dragon, and Desert Hammer.

Deputy Brigade Commander		
	Lt. Col. Lee A. Merchen	Jan-Jul
Brigade Sergeant Major		
	Cmd. Sgt. Maj. Birdell Sturgies	Jan-Dec
Commander, 1st Battalion, 10th Aviation Regiment/1st Bn		
	Lt. Col. Lawrence R. Retta	Jan-Dec
Commander, 1st Battalion, 13th Aviation Regiment/4th Bn.		
	Lt. Col. Herman S. Heath	Jan-Dec
Commander, 1st Battalion, 145th Aviation Regiment/6th Bn.		
	Lt. Col. Clyde P. Yates	Jan-Jun
	Lt. Col. Michael S. Byington	Jun-Dec
Commander, 46th Engineer Battalion (Combat) (Heavy)		
	Lt. Col. John F. Sheffey	Jan-Dec
Commander, 226th Attack Helicopter Battalion, 101st Airborne Div.		
	Lt. Col. Larry R. Sloan	Jan-Dec

#### Strength Figures\*

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	510	180	2025	70	2,785
31 Dec 87	391	184	1739	75	2,389

\* permanent party personnel only

In addition to the fulfillment of its major missions through the activities of its five battalions, the 1st Brigade was actively involved in general military skills development, various types of competitive events, athletic contests, and community service. Included among the activities of these types in 1987 were: the sponsorship of a competition to test soldiering skills in various areas; a rifle and drill competition for high school ROTC students; a sports competition in various types of events among teams from within the 1st Brigade; the hosting of the Alabama Special Olympics; and the sponsorship of regional body building and power lifting competitions.

#### 1st Battalion, 10th Aviation Regiment (1-10th)

The 1-10th was a general support unit within the brigade. In 1987 the 1-10th consisted of Headquarters and Headquarters Company; Companies A, B, C, and D; the 260th Field Artillery Detachment; the 98th Army Band; and the A Company, Military Police Activity. Personnel from all

companies participated in various competitions and community service activities.

A notable achievement of Company C, 509th Infantry, in 1987 was the rigging of the free world's largest helicopter (the Boeing XCH-62) to become the world's largest helicopter slingload. Staff Sergeant Phelps designed the rigging with over 1,000 feet of aerial delivery slings. Then on 6 December, after a month of preparation and testing, a CH-47D carried the XCH-62 from Panama City, Florida, to Fort Rucker, where it became a permanent display at the Army Aviation Museum.

Company D (Air Assault/Pathfinder) continued to operate the outstanding Air Assault School. TRADOC named the school the best of its type in the United States. In 1987 the company graduated 875 air assault soldiers.

The 260th Field Artillery Detachment continued its excellent support of the Aviation Center. The 260th fired 11,242 rounds of ammunition in support of training at the center in 1987.

The 98th Army Band remained one of the busiest units in the battalion. In 1987 it participated in a total of more than 365 engagements, including official ceremonies, concerts, parades, and other events on post, in Alabama, and in the southeastern United States.

The A Company, Military Police Activity, conducted a special reaction team course in July. This course was based on the one at Fort McClellan and dealt with special situations faced by military police. In late October and early November, the unit underwent an historic change. In four days the company transitioned from the M1911A1 .45 caliber pistol to the new sixteen-round 9mm Baretta. This changeover, part of an Army-wide program, provided the military police with their first new standard sidearm in many decades. At the end of the year, the company was formulating a new battalion training management system program for implementation in early 1988.

#### 1st Battalion, 13th Aviation Regiment (1-13th)

The mission of the 1-13th was to exercise command and control over all assigned and attached units and elements and to provide command and staff supervision of administrative functions, physical security, limited logistical support, quarters, and training of assigned personnel. In 1987 the 1-13th consisted of three AIT companies (A, B, and C) and of three aviation officer and warrant officer advanced training companies (D, E, and F). Also, Task Force 4 (TF-4) and Company F were activated on 12 May 1987. The mission of TF-4

was to provide training in the AVOAC using the SGI mode of instruction.

Major accomplishments of the 1-13th during 1987 included the completion of the new common task testing (CTT) site. This course provided a combination of challenging training, realism, and fun for the advanced individual training students taking the end-of-course common task tests. On 19 February, nine enlisted students from Company A graduated from the first class of 93B Enlisted Aeroscout Observer Course. In March, the deputy commanding general for training from TRADOC spent two days with the battalion viewing the AIT physical training, the tactical reaction course, and the facilities of the battalion. He subsequently singled out the 1-13th for special praise. New equipment obtained for the battalion in 1987 included four AIMS terminals and nine Leading Edge and seven Zenith IBM compatible PC systems with printers.

The average enlisted student strength in the 1-13th during 1987 was 747, and the average officer student strength was 912. During the year 2,511 enlisted students graduated, with numbers and MOSs as follows: 41--93B, 760--67V, 487--93P, 184--93H, 100--93J, 936--67N. The 93H and 93J MOSs were replaced in 1987 by the 93C (air traffic controller) MOS. The first 93C class started training in October 1987 and was scheduled to graduate in February 1988. There were 1,036 smart troop graduates in 1987 and 4,196 officer graduates. Of the latter, 3,398 graduated from advanced flight courses and from the Warrant Officer Advanced Course, and 798 graduated from the AVOAC.

Problems encountered by the battalion in 1987 resulted from the rapid increase in numbers of 93C and 93P MOS students, as a result of the Army program to reduce the shortage of air traffic controllers and flight operations specialists, and from the implementation of the AVOAC under the SGI mode of instruction. These changes strained the barracks space, dining facility, and personnel resources of the battalion, and the resulting problems had not been completely solved by the end of the year.

#### 1st Battalion, 145th Aviation Regiment (1-145th)

The 1-145th had a diversified training mission in 1987. It was responsible for the military development and soldierization training of technical service warrant officer candidates (WOCs), aviation warrant officer candidates, and newly accessed aviation lieutenants. Additionally, the battalion provided administrative and operational support for students enrolled in both the officer and warrant officer rotary wing aviator courses. The mission of the 1-145th was to command and control student officers and warrant officer candidates enrolled in AVOCB, IERW Course, Warrant Officer

Entry Course (WOEC), the Warrant Officer Rotary Wing Aviator Course (WORWAC), and the Training, Advising, and Counseling (TAC) Officer Training Course.

This training provided by the 1-145th was conducted by a professional cadre of commissioned officers, warrant officers, and NCOs. The battalion ensured that students who became warrant officers, aviation branch qualified lieutenants, aviators, and TAC officers met the Army's highest standards. Finally, the battalion provided a "chain of concern" for all battalion family members. For example, family members were sometimes included in classes and training, and frequently included in social functions.

The 1-145th consisted of six companies (A, B, C, D, E, and F) in 1987. The battalion maintained an average strength of 1900 soldiers during the year, and personnel from all companies participated in various competitions and fund raising and community projects.

The WOC training began in Company A with the WOEC. This tough and demanding six-week course provided a transition period out of the enlisted status. The program consisted of physical training, military leadership, counseling, situational training, and academics. A total of 1,207 students graduated from WOEC, of which 323 were technical service candidates and 884 were aviation candidates.

Upon completion of WOEC, the aviation candidates were in-processed into Company B where they continued the military development training and were introduced to aviation by learning to fly the TH-55 helicopter. Academic classes concentrated on the basic principles of flight, including aerodynamics, aeromedical, aircraft maintenance, navigation, and weather. Each candidate received approximately fifty hours of flight training in the TH-55. Approximately 750 candidates graduated from Company B to continue with the advanced phases of flight training. In addition, seventy-seven candidates completed Air Assault School while assigned to Company B.

As the student officers entered Company C, they began their final twenty-six weeks of training, which included contact, instruments, night vision goggles, tactics, academics, and graduation. Company C provided positive role models and dedicated counselors for the students during their final training phases. The cadre assisted in the professional and social development of candidates and their families prior to graduation from the IERW Course. Seven hundred and twenty Company C graduates were appointed to the rank of warrant officer one in 1987.

The young aviation commissioned officers were challenged by an arduous three-phase, forty-four week officer basic course which began in Company D. The first nine-week phase

dealt with soldierization skills, including physical training, weapons training, land navigation, leadership, small unit tactics, and nuclear, biological, and chemical (NBC) training. The academic subjects covered included military justice, field artillery, combined arms tactics, first aid, intelligence, counter-intelligence, and terrorist activities. It was during this phase that the officers were exposed to various leadership positions and had their leadership mettle tested. Company D graduated approximately 600 students from the AVOBC.

After completion of phase I, the aviation officers moved to Company E for phases II and III. Phase II consisted of thirty-four weeks of IERW, which included primary flight, contact flight, instruments, tactics, night navigation, and advanced tactics. Phase III included a two-week course emphasizing unit mission tasks and individual weapon qualification. There were 584 graduates from the Officer Rotary Wing Aviator Course in 1987. Some of these graduates received additional training in an advanced aircraft while the remainder were immediately assigned to their first unit. In addition, 195 students completed Air Assault School while assigned to Company E.

An integral part of the 1-145th mission was the family orientation programs. During 1987, the commanders, with the assistance of their spouses, conducted programs designed to help educate families. The cadre and their wives established activities for the spouses, such as socials, family briefings, and orientation trips in the local area.

226th Attack Helicopter Battalion, 101st Airborne Division (AASLT) (226th ATKHB)

The 226th was a 101st Airborne Division (AASLT) asset attached to the 1st Aviation Brigade to provide support to the Army Aviation Center at Fort Rucker. As a unit of the 101st Airborne Division (AASLT), it was prepared for worldwide deployment to destroy enemy armored and mechanized forces by using aerial firepower in combined arms operations.

During 1987, the 226th ATKHB participated in numerous training exercises highlighted by: a divisional exercise at Fort Campbell, Kentucky; a deployment to Virginia for Navy deck landing qualifications off the Atlantic coast; and a combined arms exercise at the National Training Center at Fort Irwin, California. A major problem for the battalion was its incomplete equipment fill for the modified table of organization and equipment (MTOE) that included a critical shortage of radios, trucks, and heavy expanded mobility tactical truck (HEMTT) vehicles.

After changing from an H-series table of organization and equipment (TOE) company to a J-series TOE battalion the

226th ATKHB was activated to fully operational status on 17 March 1987. The battalion improved its combat skills and readiness during training that included several exercises throughout the year. The 226th was organized into five companies. In addition to the Headquarters and Service Company and the Aviation Unit Maintenance Company (authorized in 1986) there were three attack helicopter companies capable of operating independently. These three companies contained the battalion's firepower with seven AH-1E (enhanced cobra armorment system) attack helicopters and four OH-58C observation helicopters per company.

For the 226th ATKHB, 1987 was a busy year that included numerous deployments, exercises and accomplishments for the unit and its soldiers. In their first field exercise since being converted to a battalion, the 226th ATKHB worked in coordination with the 3-75th Ranger Battalion at Fort Benning, Georgia. The week-long "Able Warrior" exercise in January confronted the 226th ATKHB with the task of defending an airfield against a hostile force. The 226th ATKHB performed night vision exercises and helped to test a new identification friend or foe system soon to be used in Fort Rucker aircraft. This exercise allowed the unit a chance to work out some of the problems encountered while transforming from a company to a battalion-sized unit.

In February and March, the 226th ATKHB spent three and a half rainy weeks at Fort Campbell, Kentucky, participating in flight training exercise (FTX) "Golden Eagle" with the 101st Airborne Division (AASLT). The battalion functioned under the 101st Aviation Brigade commander to ensure that it was fully integrated into the 101st Airborne Division (AASLT) training and was combat ready to perform its mission. The 226th ATKHB was involved in a wide array of missions and tactical movements and effectively completed the transition from company to battalion. On 17 March 1987, the 226th ATKHB was officially activated to fully operational status.

Return from field training offered the 226th ATKHB the opportunity to use many of the "lessons learned" in the writing of new tactical SOPs, which would undergo several revisions in the following months. An administrative SOP was also taking form and would be shaped during 1987 to be completed early in the following year.

The 226th ATKHB continued to support the 1st Aviation Brigade, the USAAVNC, and Fort Rucker throughout the year. It participated in numerous live fire exercises in support of the AVOBC, static displays for the school and surrounding communities, and in various tests for the Aviation Center. These tests included a threat capabilities test and a multitrack training test for the Army Research Institute; a voice interactive command test for the U.S. Army Development Test Activity; a transponder test for the U.S. Army Aviation

Board; and an atropine and contact lens test for the U.S. Army Aeromedical Research Laboratory.

During the month of May 226th ATKHB elements participated in a night vision goggle gunnery exercise in support of the 919th Special Operations Group at Duke Field, Eglin Air Force Base, Florida. Operation "Impatient Mermaid" took place on 18-20 May of 1987. In this operation, 226th ATKHB aviators exercised a deployment sequence to Pensacola Naval Air Station. There they underwent deep water emergency survival training and "helo-dunker" training to familiarize personnel with the fundamentals of water survival involved in a crash sequence at sea. They also conducted fixed pad qualification training at Pensacola in preparation for future deck landing qualifications.

On 1 June 1987, a surprise deployment kicked off operation "Penny Ante" with a self-deployment to Norfolk, Virginia. The 226th ATKHB conducted a week of carrier deck qualification training on the U.S.S. Trenton, a dual spot amphibious transport ship. Fifty aviators were qualified in this endeavor which would make the 226th ATKHB the Army's only attack helicopter battalion qualified to land on Naval vessels. The surprise nature of the deployment provided valuable feedback on how the families' "chain of concern" would work in the event the battalion should face a real-time deployment.

In June, the 226th ATKHB also exercised a deployment and redeployment sequence to Camp Blanding in central Florida. They spent six days there conducting aerial gunnery qualifications. In August, the 226th underwent a full-scale emergency deployment readiness exercise (EDRE) conducted by USAAVNC prior to and concurrent with its deployment to Fort Irwin. Operation "Desert Hammer" sent the 226th ATKHB to Fort Irwin, California, from 21 August to 12 September, for a highly successful National Training Center rotation. The battalion deployed twenty aircraft and thirty-five vehicles, flying a total of 1,445 incident-free hours and driving a total of 83,000 miles in support of the 197th Infantry Brigade.

During October and November, the battalion conducted extensive maintenance in recovery from Fort Irwin and conducted a series of internal inspections among its companies. The battalion participated in the Fall Sportsfest in November and underwent a command inspection by the 1st Aviation Brigade.

In December, the 226th ATKHB underwent a semiannual safety inspection and a FORSCOM aviation resource management survey inspection. The battalion maintained its tactical proficiency through the execution of a computer assisted (Janus simulation) command post exercise utilizing a realistic scenario involving a doctrinally employed threat

force. This exercise proved to be an invaluable tool in maintaining the battalion's tactical command and staff functions, in exercising the attack companies in battlefield survivability techniques, and in developing courses of action for various contingencies.

#### 46th Engineer Battalion (Combat) (Heavy)

The 46th Engr. Bn. was a FORSCOM unit with the mission of providing theater of operations construction in support of the U.S. armed forces. It was additionally tasked with providing post support to the USAAVNC. In 1987 the battalion performed several needed construction projects at Fort Rucker, which also greatly increased the unit's wartime construction capabilities. The battalion also conducted several field training exercises including an ARTEP exercise, during which it displayed its proficiency in various tasks and missions.

In 1987 the 46th Engr. Bn. underwent a significant change in its MTOE. In July it reorganized under an MTOE which changed the configuration of the battalion from four companies to three companies. As a result of this reorganization, the battalion lost around 100 personnel, including several heavy vehicle drivers, mechanics, and maintenance warrants. As a result of the MTOE change, the unit had a significant change in its ARTEP task list. The battalion came to be responsible for the rear area threat and base cluster operations, which permitted it to concentrate on a mission that it was much better equipped to handle.

Construction training projects accomplished in 1987 included construction at Cairns AAF and at Hanchey and Lowe AHPs; renovations of buildings 6602 and 6603, construction of rental horse stables at the equestrian center, shower and latrine facilities at the Lake Tholocco campground, and several other projects on Fort Rucker properties.

Notwithstanding the extensive construction schedule, the battalion managed to perform significant field training and support exercises, including exercises in Central America, Mobile, Alabama, Fort Benning, Georgia, the National Training Center, and other places.

The battalion's major problems continued to be the maintenance of a thirty-year-old fleet of dump trucks and generally inadequate training facilities.

## CHAPTER III

### COMBAT DEVELOPMENTS AND TESTING

#### A. United State Army Aviation Board (USAAVNBD)<sup>1</sup>

In meeting its broad based mission in 1987, the USAAVNBD planned, conducted, and reported on operational tests and other user-type tests involving aviation materiel; including concept evaluation programs, innovative tests, force development testing and experimentation, and operational feasibility tests. In addition, as part of its mission, the Aviation Board participated in flying developmental test mission profiles to support collocation of testing organizations with the United States Army Aviation Development Test Activity (USAADTA).

USAAVNBD was commanded by the president of the board, who served directly under the commanding general of USAAVNC. In addition to a headquarters company, the Aviation Board was organized into three operating divisions: Resource Management, Technical/Operations, and Test. The only significant organizational change during 1987 was that the total number of branches into which the three divisions were subdivided increased from eight to ten.

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<sup>1</sup>. The documentation for this section consisted of the 1987 annual historical report submitted by the commander and president of the USAAVNBD to the historian, 15 Jun 1988; "Aviation Branch Update," 15 Dec 1987; Follow-on Evaluation of the Attack Helicopter Company Field Evaluation, Final Report, 1 Feb 1987; Customer Test for the Helmet Suspension Evaluation of the Thermo Plastic Liner and V-Tec Liner, 1 Apr 1987; Customer Test of the Helmet Suspension Assemblies (Part II), Final Letter Report, 1 Jun 1987; Follow-on Operational Test and Evaluation of the Aviation Direct Current Generator Set, 10 KW, 28 Volt, Final Test Report, 1 Jun 1987; Force Development Test and Experimentation of Progressive Phased Maintenance, Final Test Report, 28 Aug 1987; Concept Evaluation Program of the Voice Interactive Avionics Technology, Final Test Report, 30 Oct 1987; Initial Operational Test and Evaluation of the Air-Multiple Delivery Mine System, Final Test Report, 20 Nov 1987; Customer Test of the HGU 25/P and HGU 24/P Helmet Assemblies for Rearming/Refueling Personnel, Final Letter Report, 15 Jan 1988; Initial Operational Test and Evaluation of the Aircrew Survival Armor Recovery Vest, Insert, and Packets (SARVIP), Final Test Report, 12 Apr 1988.

## Key Personnel

Commander and President of Aviation Board		
Col. Stanley E. Grett	Jan-Aug	
Col. Gilbert H. Fredrick	Aug-Dec	
Deputy Commander		
Lt. Col. John W. May	Jan-Jan	
Lt. Col. Michael B. Biddle	Jan-Dec	
Board Sergeant Major		
Sgt. Maj. Nicholas K. Smythe	Jan-Dec	
Chief, Test Division		
Lt. Col. Ronald R. Boykin	Jan-Dec	
Chief, Technical Operations		
Lt. Col. Leo N. Fanning, Jr.	Jan-Dec	
Chief, Resource Management		
Mr. Bobby Tindell (GS-12)	Jan-Dec	

### Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	16	3	25	48	92
31 Dec 87	16	3	33	47	99

During 1987, the USAAVNBD conducted and/or participated in the planning stages of 35 tests or test related projects. The voice interactive avionics technology demonstration served as a prime example of an early user test and experimentation concept evaluation program (CEP) completed by the Aviation Board in 1987. Conducted at Fort Rucker, using a variety of test players from the United States Army Aviation Center (USAAVNC), this CEP was conducted in three phases. Phase one of the CEP consisted of training crews on the system; phase two consisted of structured flights in a JOH-58C aircraft equipped with a Collins CMS-80 system, the voice technology testbed, and additional instrumentation; and phase three quantified the benefits and relative efficiencies of manual and voice activated controls and feedback modes for communications using tactical scenario.

In 1987, the board also became involved in an important field evaluation of an attack helicopter company to answer four major USAAVNC issues during the train-up period of Task Force (TF) 1-112 in preparation for the Army aerial scout test. Testing encompassed collecting data during TF 1-112 training to address social, training, tactical, doctrinal,

and hardware issues, while assisting the USAAVNC in validating ARTEP tasks.

Another test completed by the board in 1987 was the initial operational test and evaluation of the aircrew survival armor recovery vest environmental packets (SARVIP). The purpose of this test was to evaluate the interface of SARVIP with the cockpit flight environment and the aircrew. The SARVIP was a three-part system developed to provide crewmembers with essential survival components. It was intended for use in temperate, hot, and cold climates and over water. The SARVIP included survival, signal and communication devices, two environmental packets, life preserver units (LPUs), an emergency recovery capability, and increased ballistic protection. It could be worn over the standard Nomex flight suit with or without the armor or LPU.

The air-multiple delivery mine system was another significant test completed in 1987. Its purpose was to provide data needed to assess the capability of the multiple delivery mine system (VOLCANO) to deliver mines when the system was installed on the UH-60A Blackhawk. The VOLCANO system would give the maneuver commander (particularly in the rapid deployment joint task force) a rapid responsive mining capability. The ultimate objective of the VOLCANO was to provide a single, common mine and dispenser for air and ground applications.

Because the twenty-eight volt direct current (DC) power requirement to support aviation operations was currently being met by a family of aging 7.5 kilowatt, twenty-eight volt generator sets, a replacement generator capable of supporting Army aviation requirements was needed. Consequently, the USAAVNBD conducted a follow-on operational test and evaluation of the ten kilowatt, twenty-eight volt aviation direct current generator set (ADCGS). This turbine powered generator provided a continuous output of twenty-eight volt (DC amperes) for aircraft engine starting. The ADCGS was wheel-mounted with tires of appropriate size to facilitate manual relocation over relatively level, unprepared surfaces. The set was also towable by military trucks for relocation in aviation maintenance areas.

Also in 1987 a force development test and experimentation (FDTE) was conducted by the Aviation Board to provide user analyses of the progressive phased maintenance (PPM) concept for Army aircraft. The FDTE consisted of comparing a combat aviation battalion (CAB) with an attack helicopter battalion (AHB) utilizing the proposed PPM concept on the one hand, with a CAB and an AHB utilizing the current Army phased maintenance system on the other. The test included an examination of aircraft availability, inspection intervals, deferred maintenance, and the capability of representative soldiers to use the concept.

Two customer tests, both related to helmet assemblies, were also completed by the USAAVNBD in 1987. These were the helmet suspension evaluation of the thermo plastic liner (TPL) and the V-TEC liner. The HGU 25/P and the HGU 24/P helmet assemblies used for rearming and refueling personnel were also evaluated. The evaluation of the former was to assess the maintainability, aircrew acceptability, and aircraft flight equipment compatibility; the evaluation of the latter, to provide a user evaluation of the HGU 25/P and the HGU 24/P helmet assemblies.

In 1987, four board personnel were awarded Meritorious Service Medals; five, Army Commendation Medals; and six, Army Achievement Medals.

## B. Directorate of Combat Developments (DCD)<sup>a</sup>

The DCD served as program manager for actions encompassed by the force development/combat developments (CD) process for which the United States Army Aviation Center (USAAVNC) was the proponent. It ensured necessary and effective interface, handoffs, and integration with USAAVNC training developments; training, training analysis, and evaluation programs; and other related action. The director of CD advised the commanding general and the assistant commandant on matters relating to force developments and CD actions and special tasks. He also advised them on aviation-related scientific discoveries, engineering matters, operations research and systems analysis techniques, and research and development (R&D) activities. He provided technical direction for assigned CD actions, including formulation of plans, concepts, proposals, and schedules for meeting user needs; the establishment of special study groups; the conduct of simulations, multidisciplinary technical studies, trade-off analyses (TOA), effectiveness analyses, cost and operational effectiveness analyses, and risk analyses; and development of recommendations for initiation, continuation, or termination of materiel programs. He was also the program director for the CD and TRADOC system manager (TSM) activities.

During 1987 the DCD organization consisted of the Program Management Office and of the following seven operational divisions: Test and Evaluation Division, Air Traffic Services Division, Concepts and Studies Division, Organization/Force Development Division, Materiel and Logistics Systems Division, Air Combat Division, and Threat Division. As a result of a reorganization of the Concepts and Studies Division in 1987, the new V-22 Division was created in September. Some of the divisions (notably Concepts and Studies, Organization/Force Development, and Material and Logistics Systems) were subdivided into several major branches.

### Key Personnel

Director

Col. Frank H. Mayer

Jan-Dec

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<sup>a</sup>. Major sources for this section consisted of: the 1987 annual historical report submitted by the director of the DCD, Col. Theodore T. Sendak, to the historian, 14 Jul 1988; notes on interview by the author with the acting director of DCD, Lt. Col. Clyde P. Yates, 6 Jun 1988; transcription of exit interview by the author with the retired director of DCD, 19 Jul and 8 Aug 1988; and "Aviation Branch Update," 13 Feb, 15 Jun, 14 Aug, and 15 Dec.

Deputy Director	Lt. Col. Cook M. Waldran	Jan-Dec
Chief, Program Management Office	Mrs. Janice L. Treadaway (GS-11)	Jan-Dec
Chief, Test and Evaluation Division	Lt. Col. David W. Swank	Jan-Dec
Chief, Air Traffic Services Division	Lt. Col. Richard E. Ferguson	Jan-Sep
	Maj. John R. Buchanan	Sep-Dec
Chief, Concepts and Studies Division	Lt. Col. (P) Stephen S. MacWillie	Jan-Jun
	Lt. Col. (P) Clyde P. Yates	Jul-Dec
Chief, Organization/Force Development (ORG/FD) Division	Lt. Col. Tommy Wallace	Jan-Jan
	Maj. (P) Douglas B. Batson	Jan-Dec
Chief, Material and Logistics Systems Division (MLSD)	Lt. Col. (P) John M. Riggs	Jan-Dec
Chief, Air Combat Division	Maj. Loren D. Porr	Jan-Oct
	Capt. (P) Greg R. Hampton	Oct-Dec
Chief, Threat Division	Lt. Col. Gary Keown	Jan-May
	Capt. Dorian D'Aria	May-Dec

#### Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	60	2	14	86	162
31 Dec 87	68	4	10	101	183

#### Program Management Office (PMO)

The PMO served as program manager for the DCD and performed program and budget functions for the DCD and the TRADOC systems managers (TSMs). The PMO developed and coordinated personnel and monetary requirements in support of Department of Defense (DOD) and Department of the Army (DA) directed study groups and other special studies. The office developed and maintained the CD module, the TRADOC command management information system (TCMIS), and also provided internal administrative support for the DCD, including civilian personnel actions, preparation and maintenance of reports, records management of central files, and operation of the message center.

Also in 1987, the PMO developed manpower requirements and organizational structures in support of the assigned mission and served as the DCD security control manager. The office also served as the computer software management and information center (COSMIC) and as the North Atlantic Treaty Organization (NATO) control point for USAAVNC, and was the host activity and liaison office to the USAAVNC Special Security Office (SSO). For the TSMs, the PMO provided logistical support, conducted analyses of resource utilization, and performed extensive reprogramming.

#### Test and Evaluation (T&E) Division

The T&E Division structure consisted of a division unit until 1 October 1987, when the division was organized into two branches: the Aircraft Evaluation Branch and the Systems Evaluation Branch. In 1987 the T&E Division conducted independent evaluation of aviation materiel and aviation tactics, doctrine, and force structure. The division provided overall assessments of the readiness of systems to move into the next phase of material development or to be implemented as an organization or doctrinal change. The evaluations included a thorough review of information; user tests; and reports from throughout the Army, other services, industry, and foreign countries; and compared the demonstrated capabilities of systems against Army Aviation's stated requirements.

When user tests were deemed necessary, the division served as test manager in planning the schedule, scope, and conditions for the tests. Typical user tests which the division managed included operational tests (OT) I and II, follow-on evaluations (FOE), FDTE, product improvement proposal (PIP) verifications, CEP, and foreign material exploitations (FME). Inherent in such tests management was the coordination of issues and criteria, independent evaluation plans (IEP), test support packages (TSP), review of outline test plans (OTP) and detailed test plans (DTP), necessary waivers, OT readiness statements (OTRS), and independent evaluation reports (IER).

During 1987, the T&E Division conducted independent evaluations on the following: UH-60 skis, mini-boat flotation devices, 230-gallon fuel tanks for UH-60 helicopters, the Cobra C-NITE program, and the AH-64 initial operational capability (IOC). Also in 1987 considerable effort was expended planning and monitoring tests for the following systems: air-to-air combat II, aircraft survivability equipment FDTE, AH-64 transportability, SINGARS (single channel ground to air radio system), nap-of-the-earth communication, AN/ALQ-144A, AN/APR-39A (XE-2), air-to-air Stinger for AH-64 and OH-58, microwave landing system (multiservice), radio frequency interferometer, SARVIP, position location system, battle dress uniform (BDU),

AN/PRC-112 personnel radio (multiservice), and fifty to sixty PIPs.

### Air Traffic Services (ATS) Division

The mission of the ATS Division was to develop concepts, organizations, and materiel systems requirements for tactical air traffic services. The primary accomplishment of the ATS Division in 1987 was the completion of a draft interim operational concept, which was approved by the commanding general of USAAVNC on 26 November 1987. This accomplishment was fundamental to the mission of developing concepts, organizations, and materiel systems requirements for tactical ATS that incorporated the tenets of AirLand battle, Army of Excellence guidance, and concept based requirements system methodology.

Completion of the draft ATS interim operational concept established the foundation for developing ATS organizations, doctrine, materiel requirements, and training needs. An approved interim operational concept was the fundamental requirement for establishing needs and justification in the TRADOC's concept based requirement system. Approval would clear the way for developing new ATS organizations in accordance with Army of Excellence force design and documentation guidance. Additionally, ATS doctrine and training could be developed or revised as necessary to support the tenets of AirLand battle doctrine. Finally, ATS materiel systems' needs could be documented and could compete with other force modernization programs.

### Concepts and Studies (C&S) Division

During the early part of 1987, four branches of the C&S Division were constituted as the LHX (Light Helicopter) Special Study Group. The branches included were: Operational Requirements and Concepts Analysis (ORCA), Cost and Operational Effectiveness Analysis (COEA), Advanced Rotorcraft Technology Integration (ARTI), and Requirements. As a result of a reorganization effected in April and May, approximately one-half of the personnel assets was assigned to ORCA Branch (which absorbed ARTI Branch). All of the DCD responsibility for the LHX study was given to ORCA Branch. Then in September of 1987 the other half of the Special Study Group was reorganized into the V-22 Division under the direction of Col. Howard P. Blount. The new V-22 Division absorbed all the personnel who were in the COEA and Requirements Branches. After the reorganization, the C&S Division consisted of the following branches: Concepts, Mission Area Analysis, Operational Requirements and Concepts Analysis, Scenario-Oriented Recurring Evaluation System, and Space Technology.

The Concepts Branch of the C&S Division was involved in a wide variety of continuing and new projects throughout 1987. The most important conceptual efforts during the year were the completion of the Army Aviation mission area concept and of the functional area appendices for the close combat heavy and close combat light mission area concepts. With the cancellation of the aviation mission area analysis, the mission area concept was placed on hold throughout 1987. Other major efforts involved AirLand battle future, special operations aviation (SOA), air combat, communications data base, armor and antiarmor master plan, unmanned aerial vehicles (UAV), and the TRADOC conference series for industry.

Other concepts developed by the Concepts Branch in 1987 included: the C-17 concept for Army Aviation; lethal attack UAV concept; the SOA brigade concept; air traffic services concept; and aviation appendices to the air defense, engineer and mine warfare, intelligence and electronic warfare, and fire support mission area concepts. The branch also continued to participate in most major DCD actions and programs involving materiel acquisition, force development, and testing issues. The branch also worked with the Directorate of Training and Doctrine (DOTD) concerning training development and with the Directorate of Combined Arms Tactics (DCAT) for doctrine development.

During 1987, the Concepts Branch became heavily involved in determining the Air Force weather support requirements for the Aviation Brigade. This effort also led to defining the number of airfields and landing sites that would be located at each echelon. Support for all rationalization, standardization, and interoperability (RSI) programs continued. Due to the efforts of the branch, the Defense Mapping Agency produced a 1:100,000 prototype tactical map for Army Aviation. This map was tested at Fort Hood, Texas, and with some minor changes, was determined to be a great improvement over older 1:50,000 maps for day and night operations. The branch worked almost six months to complete the verification of over 40,000 needlines for the communications data base. This data base was to be used by the Combined Arms Combat Development Activity (CACDA) to support testing of the mobile subscriber equipment. The armor/antiarmor master plan was initiated by TRADOC to resolve the Army's increasing inability to kill enemy tanks. The Concepts Branch led the USAAVNC effort to define aviation requirements on the future battlefield and to determine whether the materiel acquisition process was supporting the rapid advances in threat armor capabilities. Three AirLand battle future concepts were written by CACDA during this period and sent to USAAVNC for review. The branch provided comments on each concept and sent CACDA a copy of each aviation-related concept developed to date. The communications automation study/tactical automation requirement was started by CACDA to determine tactical

automation requirements for Army software and hardware. The branch provided the Avionics/Electronic Warfare (AVEW) Branch with lists of automation tasks and functions from individual aircraft to battalion. The Concepts Branch reviewed the battalion-level comprehensive smoke study and attended numerous smoke/obscurant-related meetings. To support the directed energy utility analysis, the branch, in conjunction with AVEW, drafted an analysis of aviation's future requirements for laser systems and forwarded this information to CACDA. Additionally, the branch completed the battlefield development plan (BDP) for 1987.

The Concepts Branch supported the DCAT during the combat service support heavy brigade laydown by providing combat development expertise and assisting in adding realism to the aviation scenario and script. The branch also assisted the DOTD by identifying Army education requirements/review board (AERB) disciplines within the DCD that would require advanced technical training. Finally, the Concepts Branch was involved in over fifty other areas (including MEDEVAC, V-22, aeroscout operations, attack helicopter operations, mine warfare, robotics, and simulations) in 1987.

From January to September, the Cost and Operational Effectiveness Analysis (CORE) Branch operated under the C&D Division. In September, the branch became the V-22 Division.

During the first six months of 1987, the COEA Branch personnel helped to complete the LHX COEA and then published the LHX COEA report. The COEA Branch was responsible for the conduct of the LHX COEA cost subanalysis and the manpower/force structure subanalysis. Two of the primary goals of the LHX program were a substantial reduction in operating support costs and in manpower required to maintain the fleet. As a result, these two subanalyses received much attention from Headquarters, Department of the Army (HQDA) and Office of the Secretary of Defense (OSD), which required COEA Branch personnel to respond to many in-depth questions in a relatively short time. In addition, COEA Branch personnel provided data to and supported the Concepts Analysis Agency in the conduct of the LHX fleet study, an adjunct to the LHX COEA. The LHX manpower and personnel integration (MANPRINT) effort was supported by the COEA Branch. Contributions involved audience description, MANPRINT assessment for the LHX required operational capabilities (ROC), and providing data for and monitoring the LHX manpower integration.

In May of 1987, the COEA Branch completed the special operations forces aircraft abbreviated analysis, which was to support the ROC for the MH-47E and the MH-60X. This analysis compared alternative aircraft capable of performing the special operations role. The report was forwarded to higher headquarters in June 1987.

A secretary of defense decision memorandum (SDDM), dated 18 May 1987, requested that the Army complete a V-22 COEA by late 1987. The COEA study plan was presented to a TRADOC study advisory group (SAG) on 4 June 1987; however, this plan was not implemented because of subsequent events. On 20 July 1987, Headquarters, TRADOC, suspended the COEA and refocused the effort towards determining an operational need for a V-22 type aircraft. New guidance from the DA and tasking from TRADOC redesignated the COEA as a study with the purpose of determining the Army's requirement for V-22 aircraft. Results of the study were approved by TRADOC and presented to the deputy undersecretary of the Army for operations research and other key principals at HQDA in December 1987.

In 1987 the Scenario-Oriented Recurring Evaluation System (SCORES) Branch of the C&S Division concentrated on the development of aviation operational plans for two standard TRADOC scenarios. The branch formulated the corps aviation plan and reviewed divisional plans for low resolution scenario Europe 7.0 and detailed friendly aviation's role and usage for high resolution scenario 12 (heavy brigade, attack). Additionally, three general and specific scenarios were developed for inclusion in the air-to-air combat II study.

The SCORES Branch participated in a U.S. Army Aviation Logistics School study that sought to examine and assess the mobility requirements and capabilities of division and corps of aviation intermediate maintenance (AVIM) companies. Low resolution scenario Europe 6.0 was used to analyze the movement of aviation assets and their maintenance elements for a divisional and corps aviation brigade. Computer simulations revealed likely displacement distances and frequency of movements of aviation units. Data were provided to the Aviation Logistics School for inclusion in its study.

Computer combat simulation was provided for an OTEA test aimed at validating the role of the Army's scout aircraft and determining the best airframe suited for this role. SCORES Branch personnel traveled to White Sands Missile Range in March 1987, and developed MicroCAS input for Carmonette system modeling to replicate a real-life, on-going test at Fort Hunter-Liggett. Computer-driven results and Fort Hunter-Liggett test conclusions confirmed the continued need for a U.S. Army scout aircraft and identified the OH-58D as the system best suited for this mission.

During 1987 the SCORES Branch remained active in the on-going LHX program development. Initially, LHX technical were translated through MicroCAS for Carmonette system modeling. SCORES personnel spent two months training and wargaming at the White Sands Janus(T) facility in support of the LHX study. In May 1987, the branch provided mission profiles, operational mode summaries, and LHX scenarios to the Rand Corporation and the Institute for Defense Analysis

(IDA). Rand and IDA utilized the data to execute a five million dollar follow-on study of LHX. The fall of 1987 saw SCORES involved with intense wargaming for the continued follow-on study of the LHX program.

The SCORES Branch also developed a tactical scenario and translated technical data for use in computer simulation in support of the Hydra-70 study. The execution of wargaming that would validate the rocket's effectiveness was to occur in January of 1988.

In October 1987, the SCORES Branch developed a Middle East scenario to drive a 226th ATKHB command post exercise (CPX). In a first of its kind exercise, company commanders developed and modified operational plans for the CPX as dictated by their Janus(T) wargaming of the scenario. The 226th ATKHB was extremely pleased with the training value of such an exercise, and SCORES planned to do more of this type training assistance.

At the request of TSM-OH-58D, the SCORES Branch provided scenario, simulation, and analytical expertise to the McDonnell Douglas Helicopter Company to assist in the integration of combat aviation tactics and doctrine into real-time crew station hardware developed by the company. In December 1987, McDonnell Douglas demonstrated the capability to link three separate scout/attack cockpit trainers in real-time combat simulation. McDonnell Douglas was continuing to refine the scout/attack team training system (SATTs), and SCORES was prepared to support this effort through follow-on evaluations.

In November 1987, the branch provided Martin-Marietta Corporation scenario, mission profile, and tactics expertise to assist in the development of a dynamic air-to-air combat (ATAC) simulation module. Martin-Marietta representatives were thoroughly briefed on the capabilities and limitations of the Janus(T) interactive wargaming model. SCORES continued to be involved in the effort to produce an effective ATAC module capable of interfacing with Janus(T).

The Mission Area Analysis (MAA) Branch of the Concepts and Studies Division was responsible for the conduct of two special projects of Army-wide significance: the combined arms mission area analysis (CAMAA) and the close combat capability analysis (CCCA).

The commander of TRADOC initiated the CAMAA to develop a list of corps-level combined arms deficiencies and of solutions to those deficiencies and to validate high resolution scenarios to drive follow-on proponent MAAs. Originally the CAMAA was to determine the deficiencies through wargaming the Europe VI and Southwest Asia (SWA) I scenarios using the corps/division evaluation model (CORDIVEM) and vector-in-command (VIC) simulations. CAMAA

was supposed to deliver the following products: common corps scenario, a set of high resolution scenarios, a set of corps level combined arms deficiencies, and solution sets to focus proponent MAAs. The TRADOC Research and Analysis Command (TRAC) was unable to debug CORDIVEM; therefore, VIC alone provided the analytical modeling support for CAMAA. Additional analyses were conducted in a roundtable format. Functional proponents participated in analysis workshops which were conducted approximately every six weeks. The products generated consisted of subjective analyses of corps deficiencies and of potential solution sets, and the findings were published in a front end analysis report dated April 1987. At the end of 1987, CAMAA actions had been suspended, and follow-on analyses were being conducted within the context of the CCCA.

The general officer changes in TRADOC during the summer of 1987 resulted in changes in the way that the CCCA approach to MAA would be conducted. The orientations of the close combat heavy (CCH) and close combat light (CCL) mission areas were changed from a friendly force orientation (CCH looked at blue heavy forces versus any threat) to a threat force orientation (CCL looked at any blue force versus a threat heavy force). Also, the new TRADOC commander, General Thurman, decided that, because of limited analytical resources only the CCH and CCL MAAs would be done in FY 88. They would be done at the Combined Arms Center (CAC) as part of a CCCA. The CCCA would focus on the corps/division level, and the MAA would focus on the brigade and battalion level.

For the ORCA Branch, the LHX continued to be the major area of emphasis during 1987; the LHX COEA was completed, documented, and published. Major developments and modifications in the LHX program in 1987 impacted greatly upon the ORCA Branch and its activities. These developments included the changing of the LHX program from full scale engineering development phase to the demonstration and validation phase; a change in the primary mission of the LHX from antiarmor to armed reconnaissance; and an effort to reduce the estimated cost and weight of the LHX. The branch was required continually to update the LHX ROC; to coordinate with the LHX program executive office to assure that changes to the ROC were included in the draft LHX request for proposal (RFP); and to prepare briefings to advise and to gain decisions from TRADOC, DA, and OSD management on matters pertaining to these changes.

Other activities of the ORCA Branch in 1987 included some minor updating of the LHX COEA, LHX COEA follow-on analyses, and support to the V-22 program. The branch also monitored independent, separate analyses of the LHX program performed by the Rand Corporation and IDA. In 1987 also, the aircraft performance subanalysis for the LHX COEA was completed, and the survivability portion of the LHX COEA was completed and included in the report for publication. The

updating of the vulnerability sections was performed to reflect a two-man crew instead of the one-man crew that was originally envisioned for the LHX. Also the LHX armament carrying capability, in both numerical quantity and the number of physical launch stations, was evaluated as revisions to the aircraft design occurred. The change of the primary mission from antiarmor to armed reconnaissance had an effect on armament in both the type and quantity.

The mission of the Space Technology Branch of the Concepts and Studies Division was to develop operational and doctrinal concepts and studies in the near, mid, and far term for exploitation of space, space activities, and space technology to enhance the accomplishment of the missions of Army Aviation. The branch was created to prepare for the many conceptual and materiel studies that maintained a space application for future combat and was organized into four prominent space activities: intelligence and weather, communications and navigation, space support, and ballistic missile defense.

In 1987 the Space Technology Branch conducted quarterly space working group meetings. At these meetings, committee members from directorates throughout the post were updated on space activities and projects conducted by the Army Space Command. The branch was involved in numerous navigation system tracking and range (NAVSTAR) global positioning system (GPS) actions. These actions ranged from COEA to phase-in steering committee meetings to projects designed to incorporate the GPS into the notice to airmen (NOTAM) system. By helping to bring this system to fruition, the Army stood to gain a satellite system capable of providing navigation information to soldiers and aircraft in any weather and in any theater of operation. The Space Technology Branch was also instrumental in discovering several deficiencies noted in deep battle concept development and material integration.

#### Organization/Force Development (ORG/FD) Division

The ORG/FD Division's major efforts in 1987 were devoted to development of the Army Aviation modernization plan, to continued implementation of documentation and modernization initiatives, to the completion of the functional area assessment, to the design of theater defense and special operations aviation brigades, and to force structure analyses supporting the LHX and V-22 Osprey tilt rotor studies. In October 1987, after realignment of selected responsibilities, the three branches of the ORG/FD Division were redesignated as: Structure Analysis Branch, Force Development Branch, and Requirements/Modernization Branch.

Developmental update to the 1985 Army Aviation modernization plan (AAMP) began in January 1987 when the USAAVNC was tasked by HQDA to provide an AAMP update

highlighting the ramifications of DA level decisions on Army Aviation. This briefing was presented to HQDA and selected members of OSD in late February 1987. The drastic effects on Army Aviation of those decisions, highlighted in that February 1987 briefing, prompted HQDA to task USAAVNC to outline a plan to continue modernization of Army Aviation requirements, indicating numbers and types of aircraft required by year, with the dollars associated to achieve desired goals and also decision timeliness for both budget procurement and force programming. The plan was to compare levels of minimum and most economical procurement with minimum sustainment rates of procurement, and to express the relative value of each in terms of increased war fighting potential relative to investment costs. This briefing was presented to the chief of staff of the Army and selected general officers in a closed-door TRADOC briefing at HQDA on 21 October.

As a consequence of the high cost required to achieve the objectives defined for the 21 October 1987 AAMP briefing, and of an associated Army budget building process, USAAVNC was tasked to assist HQDA on further adjusting an AAMP constrained to \$3.5 billion FY 89 dollars, adjusted for inflation, through the year 2007. The plan was to buy aircraft intelligently, to maximize the dollars available, to continue modernization to the maximum extent possible, and modernize to achieve the greatest impact on war fighting potential.

In 1987 the ORG/FD Division continued to implement initiatives necessary to achieve full modernization of all Army aviation units. The ultimate purpose of this documentation/modernization was to provide major commands (MACOMs) a documented transition plan from current resourced modification table of organization and equipment (MTOE) positions to objective tables of organization and equipment (TOEs) as required to achieve force modernization.

With regard to aviation equipment documentation, the division developed requirements for approximately 145 basis of issue plans (BOIPs) during 1987. These plans covered all types of equipment, including aircraft, rifles, computers, radios, a family of tactical wheeled vehicles, digital multimeters, aircrew cooling systems, and night vision goggles. Some of the more significant actions accomplished in this area were development of a BOIP and qualitative and quantitative personnel requirements information (QQPRI) for the V-22 Osprey tilt rotor, the range finder laser, AN/PVS-6 and AN/PVS-7 night vision goggle, a system to mount the helicopter laser fire and forget (HELLFIRE) missile onto the UH-60 helicopter, and a four point aviation refueling system for forward area refueling. The division also participated in various other projects that included research and analyses for Allen Corporation BOIP updates, materiel fielding plans, test support plans, independent evaluation plans, manpower

assessments for reliability, availability, and maintainability (RAM) rationale reports, mobile subscriber equipment networking, and emerging technologies.

In 1987 the ORG/FD Division also provided support for the development of two MARC study documents (MSDs). The MSD for aircraft maintenance and technical inspection operations under career management field (CMF) 67 was developed by the Logistics Center through use of a computer simulation model. This MARC was the first of this magnitude to be developed using wartime computer simulation modeling, and was expected to provide wartime staffing criteria to determine minimum essential staffing for aircraft mechanics and technical inspectors. The MSD for air traffic control (ATC) tower operations and ATC radar operations was to provide staffing criteria to determine minimum essential wartime staffing for MOS 93C. Approval was expected in early 1988.

The division initiated the Aviation III functional area assessment (FAA) on 27 July 1987 and anticipated culmination in a briefing to the vice chief of the Army (VCSA) on 15 December 1987. The FAA was a management tool used in identifying problems in manning, training, equipping, and sustaining aviation forces. The time frame of consideration was 1987-1990. Additionally, the FAA proved to be of great assistance in managing the resolution of actions required to solve those problems identified. On a larger scale the VCSA utilized the information correlated in the Aviation FAA to ensure the successful modernization of the aviation force, to integrate Army staff and MACOM efforts, and to solve systemic problems and disconnects identified during the process.

#### Materiel and Logistics Systems Division (MLSD)

The MLSD supervised the initiation, development, evaluation, preparation, coordination, and recommendations of Army materiel requirements and materiel documentation actions for materiel items and systems. The division monitored and participated in all aspects of the materiel organization process for aviator and aviator-related systems and equipment. A significant reorganization of the MLSD took place during 1987 whereby the Systems Branch was split into Combat Aviation Branch and Combat Support Branch. Other branches of the MLSD included AVEW Branch, the Materiel Integration Branch (MIB), and the RAM Branch.

The mission of the AVEW Branch was to articulate Army Aviation user requirements and to recommend materiel and electronics systems to resolve identified aviation deficiencies with the fielding of AVEW systems. During 1987, the AVEW Branch was instrumental in the command and control (C<sup>2</sup>) of aircraft contract awards. The control was for eight C<sup>2</sup> systems to be installed on the UH-60 aircraft which would provide corps and division commanders with a mobile command

post and extend communication ranges and mobility. The draft operational and organization plan for an obstacle avoidance system was completed and forwarded for world-wide staffing. The AVEW Branch was also a key player in ensuring that the aircraft lighting system's deficiencies were corrected.

The RAM Branch assumed systems management responsibility for all aviation ground support equipment (AGSE), thereby significantly altering the typical work of a RAM Branch. The LHX RFP was released to industry with a requirement for a logistics computer based monitoring station in the USAAVNC RAM Branch office. This would give the combat developer, for the first time, the ability to influence the LHX support concept. The involvement of the branch in 1987 with the LHX, V-22 Osprey, and essentially every major aircraft system influenced the design for more operable and maintainable systems.

The Army aerial scout test (AAST) was completed in May 1987. As a result of the outstanding performance of the OH-58D in the AAST, the OH-58D program was restored and expanded. The Army Aviation modernization plan called for a total of 477 OH-58D aircraft to be procured through FY 95. In response to a special operational requirement, 15 OH-58Ds were modified to accept various weapon systems. The successful weaponization of these 15 aircraft led the army to reexamine the role of an unarmed scout. Thirty six OH-58D aircraft were delivered to the army in 1987.

The introduction in 1987 of the forward area air defense system (FAADS) aligned the fighting arms of the Army under a common doctrine, and thereby ensured combined arms coordination in future doctrine and systems development. Numerous joint working groups and test integration working groups were attended by USAAVNC representatives, to submit the USAAVNC position on issues, and to emphasize aviation doctrine in applicable areas.

Other activities and programs with which the Combat Aviation Branch of the MLSD was involved in 1987 included: the AH-1 aircraft and the C-Nite system program; the M-43 aircrew member protective mask; the aircrew microclimate conditioning system; and the aircrew uniform integrated battlefield.

Cutbacks resulting from the Gramm-Rudman-Hollings Act took their toll on programs within the Combat Support Branch. Many programs remained unfunded at the close of the year as the project officers worked to justify aviation programs. Due to the funding restrictions, program schedules slipped and the need for program developments was reassessed.

The ROC for the special operations aircraft (MH-60K and the MH-47E) was forwarded to and approved by TRADOC in January 1987. The RFP for both aircraft were released to the

aircraft contractors in March. IBM was selected to be the avionics integrator in August, and Boeing Helicopter signed a letter contract in December 1987.

The DCD incorporated TRADOC's recommended changes into the CH-47D ROC update and submitted the document for approval in July 1987. The ROC delineated the requirement for upgrading the "D" model to an "E" model. Fielding of the helicopter internal cargo handling system was scheduled for completion in January 1988.

The MLSD continued efforts in the conceptual development of the advanced cargo aircraft (ACA). Previous studies have not defined the intra-theater lift requirements which an ACA would be associated with, but further study and evaluations were expected in 1988.

The UH-60 Blackhawk continued to be the workhorse of Army Aviation. A users conference was held in St. Louis in February with excellent participation from UH-60 units. The UH-60 operational enhancement program commenced in February and continued throughout 1987. This program was to augment the mission equipment package of 15 UH-60 aircraft assigned to the 17th Aviation Group of the Eighth U.S. Army. In April the UH-60C operational and organizational plan was approved by TRADOC, and the UH-60C program subsequently became the UH-60 multistage improvement program. Seventy-two UH-60As were produced in FY 87 extending the inventory to over 800 aircraft. The Army acquisition objective for UH-60s was 1,775, and has since been changed to 2,253.

#### Air Combat Division

Organizationally, the Air Combat Division was placed under the control of the Materiel and Logistics System Division during FY 87 in order to provide for detailed guidance and to better coordinate near-term air combat materiel initiatives. Individual training continued to be the primary focus of the division during CY 87. The total package concept saw completion in December 1987 as the air combat maneuver commander's guide and the Directorate of Evaluation and Standardization standardization program were released and received worldwide staffing and approval for implementation.

Providing the Army with a realistic helicopter opposing forces (OPFOR) to use in training resulted in the Army rotary wing adversary aircraft (ARWAA) initiative operational and organizational plan that was released by General Parker on 26 October 1987. This initial plan was rejected by both TRADOC and the Army Training Support Center (ATSC) as being in the wrong format. Subsequent correspondence between USAAVNC and TRADOC attempted to resolve the issue; however, as of the end

of 1987, the acceptability and viability of the ARWAA program remained in question.

Simulation and simulator development for ATAC training remained stagnant during 1987. Due to budget constraints the planned networking of the AH-64 combat mission simulator (CMS) at Fort Rucker and other simulators was delayed into FY 89. Efforts to obtain funding priority for these cost effective and safety oriented training devices were major concerns of the division. Other concerns of the division in 1987 included ATAC test phase II planning and supporting the LHX studies by Rand Corporation and IDA.

#### Threat Division

The Threat Division was involved in a variety of actions and projects during 1987. Most of the activity was tied to several priority studies such as the LHX COEA, AAST, and ATAC II. But in the day-to-day business of threat, the division participated in a variety of efforts including conferences, meetings, and work sessions. Inputs to these efforts, apart from general threat dialogue, often took the form of briefings, threat assessments, projections, development of threat positions, guidance, and instructions.

For the COEA, two completely new scenarios were developed for "Europe-Close Battle" and for "Middle East-Deep Battle." In the former, a scenario for the Carmonette model based on "Europe V Critical, Incident 4" was developed. For the latter, using the Janus model, a second echelon division was attacked by an attack helicopter battalion. To prepare for the modeling, detailed target and firer matrices were developed, as were also extensive threat systems descriptions for the Army Materiel Systems Analysis Activity Ballistic Research Laboratory. With the required data, the division assisted in developing the model algorithms and in working out the quirks during shakedown runs. When the modeling was complete, the division briefed the deputy chief of staff for intelligence prior to the Defense Acquisition Board (DAB) meeting to inform him about the threat support provided during the LHX-COEA to ensure that there were no threat issues at the DAB meeting. This successful undertaking has set a precedent for other installations.

The Threat Division provided extensive documentation to Rand Corporation and IDA for COEA validation as well as detailed threat briefings to update them on the threat. Sample target and firer matrices and maps and other supporting material were provided. Regular visits were made to assist or clarify as required on any threat issues.

In preparation for the DAB scheduled for December 1987, the division revised and updated the LHX system threat assessment report, which was finished in November 1986. The

revalidation was approved by the Defense Intelligence Agency (DIA) and DA representatives. Also in 1987 the division rewrote the current Aviation mission area threat (MAT). Present and future weapon systems out to 2006 were identified and briefly described and threat assessments were made. The MAT was approved by CAC, TRADOC, deputy chief of staff for intelligence, and DIA. In 1987 the Threat Division was also involved in actions to update the AH-64 system threat assessment report (STAR); in Army aerial scout and ATAC tests, in V-22 STAR revision; and in air survivability equipment tests. At year's end work was still in progress on producing the threat to Army Aviation in modular form with modules on rear area threat, close battle threat, and deep battle threat.

C. TRADOC System Manager for Apache (TSM-Apache)<sup>3</sup>

The TSM-Apache was chartered with responsibility for conducting total system management for Apache helicopter systems to ensure that the user's total system efforts would be fully integrated throughout the development, production, and deployment of the assigned Apache helicopter systems. The AH-64A (Apache) is a dual-engine, single four-bladed rotor, dual pilot advanced attack helicopter with a mission design gross weight of 17,650 pounds. Its primary mission is antiarmor using the HELLFIRE missile system. Area weapons include the 2.75 folding fin aerial rocket (FFAR) and the turret mounted 30mm chain gun. Fielding in TRADOC began in April of 1985, with FORSCOM receiving its first six aircraft at Fort Hood in February 1986.

TSM-Apache spent 1987 busily involved with issues concerning fielding, maintaining the aircraft, training the aviators and crews, and evaluating and deploying the Apache battalions. Additionally, the office began planning to close its doors permanently on 31 September 1988. Col. John Kennedy continued as TSM-Apache throughout 1987 and Lt. Col. Brock Wells, as assistant TSM-Apache for training. Lt. Col. David Sale, the assistant TSM-Apache for logistics was replaced in June by Capt. Vincent Fields, who was in-turn replaced in October by Capt. Mike Cantor. The assistant TSM-Apache for personnel, Capt. John Leskovec left in March and was not replaced.

One of the main concerns of the TSM in 1987 was the fielding of the Apache. At the end of 1987, there were six fully fielded AH-64 attack helicopter battalions (AHBs) across the nation and in Europe, and one battalion was undergoing unit transition at Fort Hood, Texas. The 1-130th AHB of the North Carolina National Guard became the first reserve component unit to receive the AH-64. The success of the single-station fielding concept was due largely to the tremendous efforts of the personnel in the 6th Cavalry Brigade (Air Combat) and the Apache Training Brigade, both located at Fort Hood. TSM-Apache assisted them in solving unexpected problems so that the fielding could remain on schedule. Col. Kennedy and Lt. Col. Wells participated in Apache task force briefings, and fielded in-progress reviews (IPRs) for the vice chief and the chief of staff of the Army.

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<sup>3</sup>. Sources for this section consisted of: the TSM-Apache quarterly reports dated 6 Apr, 1 Jul, and 1 Oct 1987 and 8 Jan 1988; the USAAVNC monthly Significant Activity Report, 19 Feb, 5 Mar, 7 May, 6 Aug, 3 Sep, and 6 Nov; transcription of exit interview by the author with Col. John P. Kennedy, 6 Jul 1988; 1987 annual historical report, submitted by the assistant TSM-Apache to command historian, 7 Jun 1988; and "Aviation Branch Update," 13 Feb 1987.

By participating in these briefings and conferences, TSM-Apache was better able to represent the user and to provide adequate support for the units being fielded.

Maintenance was also an important issue in 1987. The TSM met monthly with the Apache program manager (PM) of the U.S. Army Aviation Systems Command and with USAAVNC agencies to resolve parts availability problems. Some of the difficulties encountered by units in the field included tail rotor swash plate and shaft driven compressor failures. Coordination was made between AVSCOM and the parts contractors to establish an inspection and replacement procedure for the defective parts. At quarterly integrated logistics support management team meetings, Col. Kennedy, Capt. Cantor, and the PM met with various support agencies to determine solutions to logistical issues. The TSM-Apache and other persons closely monitored Apache maintenance practices to solve problems rapidly and keep the AH-64 flying.

The TSM office was actively involved in the training of Apache pilots and repairmen as well as in the evaluation of fielding units. Throughout the year, the TSM and his staff worked to improve the training facilities at Fort Rucker and Fort Hood. A major accomplishment was obtaining the cockpit weapons and emergency procedures trainer (CWEPT). The CWEPT provided Apache student pilots and rated aviators the opportunity to practice critical fundamental skills in a low-cost, safe, and effective system. The trainers at Company D, 1-14th Aviation, ATB, continued to produce qualified Apache pilots, and the personnel at Fort Hood's Apache Training Brigade worked hard to produce fully deployable AH-64 battalions. During July, the 1-3d Aviation and 1-227th Aviation completed the Army training and evaluation program (ARTEP) evaluations at Fort Hood and became the fourth and fifth units to validate as fully trained Apache battalions. The training capstone of the year was REFORGER '87 in which the 6th Cavalry deployed to Europe and proved to everyone that the Apache, in the hands of a skilled crew, truly owned the battlefield.

In December 1987, a TRADOC study determined that TRADOC control of the Apache helicopter program was no longer necessary, indicating that the AH-64 has joined the list of systems that had successfully achieved a credible IOC. The DCD at Fort Rucker was scheduled to handle all Apache user issues effective 1 October 1988. By that time, the aircraft was expected to have flown more than 100,000 hours, proving the AH-64 Apache to be field-tested and ready to perform its mission as the most lethal tank-killer in the world.

D. TRADOC System Manager for OH-58D (TSM-OH-58D)<sup>4</sup>

The mission of the TSM-OH-58D, was to conduct total system management for the scout helicopter systems within the U.S. Army Training and Doctrine Command (TRADOC); to ensure that total system efforts were developed and fully integrated early and continuously throughout the development and deployment cycle; and to manage the total system approach for OH-58D helicopters. This charter from TRADOC remained unchanged in 1987.

The TSM-OH-58D, during 1987 was Col. James R. Cox. Other key personnel included Lt. Col. Robert P. Fallis from 1 January until 13 October (who was not replaced), Maj. (P) Clarence T. Ebbinga (Lt. Col. from 1 June), and Capt. Richard S. Clark (replaced by CWO Michael L. Davis on 28 August).

The OH-58D was the Army's first true scout helicopter. It was based on an OH-58A airframe that was modified to accept totally new dynamics consisting of a four bladed soft-in-plane main rotor, a 650 horsepower engine, a transmission rated for 455 horsepower, an improved tail rotor, a tail rotor gear box rated for 220 horsepower, and new drive shafting to accept the increased power capabilities. The new dynamics provided agility, high/hot performance and control margins in the nap-of-the-earth environment. A mission equipment package of a mast mounted sight system, a digital control display system, an improved communications suite with the digital data burst airborne target handover system, and Doppler navigation were fully integrated through a MIL-STD 1553B digital data bus. The mast mounted sight system provided stand-off target detection, location and designation during day or night and also during periods of reduced visibility with a day television, a thermal imaging system and a laser rangefinder/designator. The OH-58D was to be equipped with the air-to-air Stinger system. Although intended to work with attack aircraft in the antiarmor and cavalry missions, it was to be assigned only to aviation brigades in support of the field artillery aerial observer mission until the OSD withdraws the bar to such deployment. However, materiel testing of armament subsystems and improvements to existing subsystems continued in preparation for a possible expansion of fielding.

Production aircraft delivery began in December 1985. Eighty-four of the 135 aircraft that had been contracted by the end of 1987 had been delivered to the Army. All were on provisional DD250 status due to one or more discrepancies

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<sup>4</sup>. The documentation for this section included the TSM-OH-58D quarterly reports dated 6 Apr, 1 Jul, and 1 Oct 1987 and 8 Jan 1988; and a brief summary sent to the historian by the TSM-OH-58D, Col. James R. Cox, 8 Jun 1988.

with each aircraft found at the time of acceptance. Thirteen aircraft were stationed at Fort Rucker, seven at Fort Eustis, and four at Fort Sill to support training. By 1989, three aircraft from Fort Rucker, two from Fort Eustis, and one from Fort Sill were to be withdrawn from the training fleet and issued to an operational field unit.

Material testing of the OH-58D continued during 1987 with one aircraft from the second production lot devoted to the airworthiness and flight characteristics tests by the Army Engineering Flight Activity (AEFA). The electro-magnetic interference/electro-magnetic compatibility portion of the verification test was completed by Bell Helicopter with the assistance of the Electronic Proving Ground and the Army Material Systems Analysis Agency.

Climatic Chamber testing was satisfactorily completed during the latter part of 1987, but conflicting requirements for aircraft delayed the final airworthiness and flight characteristics tests until 1988. Exploratory and developmental testing of an armament subsystems was in progress at the end of 1987. The then current design included rapidly reconfigurable combinations of ballistic, laser guided, and infrared radiation seeking weapons to provide overlapping ranges and capabilities. This implementation included fixed .50 caliber machine gun, 2.75" Hydra-70 rockets with multipurpose submunition warheads, HELLFIRE, and air-to-air Stinger. The reconfigurable mixes included up to two machine guns, fourteen rockets, four HELLFIRE, or four air-to-air Stinger as well as any paired combination of them. Airworthiness validations demonstrated that the OH-58D had the capability to perform missions at increased gross weights up to 5,550 pounds, more than 1,000 pounds above the current gross weight. These validations also demonstrated the ability of the current powertrain and engine to achieve mission performance requirements with the increased payload. These armament capabilities, when combined with the visionics of the mast mounted sight, provided both day and night ability to employ these weapons at their maximum effective ranges with great precision. Demonstration firings proved the capability of the air vehicle and mission equipment to support these subsystems, but sufficient emphasis toward the effective integration of the subsystem controls and displays into the cockpit had not been made by the end of 1987.

The attack helicopter company field evaluation (AHCFE) concluded on 19 December 1986. The tactics and techniques of employment questions posed by the VCSA at the August 1985 OH-58D Army Systems Acquisition Review Council (ASARC) were to be answered in part when USAAVNC completed its evaluation of the AHCFE in phase II of the AAST. The AAST was scheduled as a two phase test; phase I (reconnaissance trials) record trials began on 11 March 1987, and concluded 13 May 1987. The original test trial matrix required 120

reconnaissance trials (60 during daytime and 60 at night) divided among the three alternative (OH-58C, AH-64, AH-1S) and the baseline OH-58D aircraft. In part as a result of the late inclusion of the OH-58C+, 131 trials were executed. Shortly after the start of trial execution, the decision was made to run all remaining trials at night. Of the 116 trials validated, 32 were day trials, and 84 were night trials. The tactical obscuration subtest (smoke trials) occurred immediately following the reconnaissance trials. The purpose of this subtest was to determine which of the scout alternatives was better able to detect, recognize, identify, and locate ground targets day or night in an obscured or benign tactical environment. One hundred and nineteen smoke trials were validated (28 during daytime and 91 at night); 135 benign trials were validated (86 daytime and 49 nighttime). Although the prototype AH-1S C-NITE (forward locking infrared radar [FLIR] equipped AH-1S) did not arrive at the test site in time for the reconnaissance trials, it did participate in the smoke trials. General trends emerging from the test indicated that smaller aircraft with updated navigation packages were more effective in the scout role than larger, similarly equipped aircraft (AH-64, AH-1S). Furthermore FLIR-equipped aircraft had no difficulty seeing through certain types of smoke and detecting targets.

The independent evaluation report of the AAST, phase I, established the OH-58D as clearly superior to the alternative aircraft (AH-64, OH-58C, and AH-1S) examined by the test. As a result, the AAMP was amended to reflect an immediate requirement for 585 OH-58Ds to support the field artillery aerial observer mission and to scout for the AH-64 in the attack helicopter battalion. The AAMP was approved by the commanding general of USAAVNC and the commanding general AVSCOM on 21 December 1987. It was to be reviewed by the DAB on 7 January 1988 as a prerequisite for the LHX DAB.

The aerial recoverability of the OH-58D was demonstrated at the U.S. Army Aviation Logistics School (USAALS) on 13 January 1987. The aircraft was carried on a specially designed sling by a UH-60 at airspeeds of up to 60 knots. The slingload remained stable. The USAALS was incorporating the procedures into FM 1-513. The OH-58D was the only modern aircraft for which this capability had been demonstrated.

The fielding of the OH-58D continued on schedule during the first three quarters of 1987. Five units--the 2nd Armored Division in CONUS and the 1st Armored, 3rd Armored, 3rd Infantry, and 8th Infantry Divisions in Europe--had been issued the systems with 100 percent fill of tools and spare parts. With very few exceptions, school trained personnel were provided to each command in adequate quantities. As a result of a personnel mistake, thirteen persons were assigned to a CONUS installation to fill a requirement for one individual. That problem was corrected so as to assure no

repetition, and additional personnel were being trained to fill USAREUR shortages.

During the fourth quarter of 1987 the fielding of the OH-58D was rescheduled to allow priority fielding of the XVIII Corps Target Acquisition and Reconnaissance Company. The resulting schedule was as follows:

Unit	Date
XVIII Corps	April 1988
2ID	May 1988
9MTZ	June 1988
24MX	August 1988
1 CAV	October 1988
1MX	November 1988
4MX	January 1989
5MX	March 1989
VII Corps	July 1989
V Corps	November 1989

This revised sequence disrupted the flow of personnel and equipment that had been relatively smooth. Institutionally trained personnel assigned to the 2ID, 9MTZ, and 24MX were expected to have a delay of up to ten months from completion of training to receipt of aircraft, which would require a refresher training program at those sites. The extent of the refresher training and source of funding remained to be defined at the end of 1987.

The training systems development was completed in 1986. Resident training had begun for maintenance personnel at Fort Eustis, Fort Rucker, and at Fort Gordon in 1986, and it began at Fort Sill on 9 March 1987.

The first unit equipped (FUE) was achieved in the 2d Armored Division on 16 February 1987. Personnel were institutionally trained and were on station by that time.

The unit completed a unit training program and an ARTEP to achieve IOC on 5 June 1987. Tool and spare part shortages existed but did not have an adverse impact on the unit training program. The shipment of aircraft to USAREUR was slipped from May to June to allow Army Materiel Command (AMC) time to assemble a complete fill of the unit materiel fielding package. However, the second USAREUR unit was shipped simultaneously, which brought the European fielding back on schedule. Aircraft, with a 100 percent fill of tools and spare parts, were issued to two USAREUR units during early June of 1987.

The first substantial maintenance data were collected during the nine months of operations of TF 1-112. The system manager and his staff analyzed the fault and maintenance action report (FAMAR) data and concluded that maintenance of

the mission equipment package (MEP), which included the mast mounted sight, cockpit display, main central processing units, lasers, etc., was the single most influential factor of availability.

Early analysis indicated that the training on the individual components of the system was adequate; however, in the opinion of the TSM, existing training did not sufficiently address the complexity of the subsystem integration to the OH-58D. The problem appeared to be limited to only two enlisted courses (35K and 35R) and the maintenance test pilot (MTP) course. First analysis indicated that an inordinant amount of maintenance time was being expended in diagnosis of MEP subsystems.

The DOTD, USAAVNC, scheduled a post-fielding training review for early 1988. The review was to focus on enlisted personnel in the 35K and 35R skill areas and the MTP. The results of the review, expected later in 1988 was expected to provide a documented basis for making adjustments to the separate training programs so as to improve the fielded units' ability to maintain the MEP.

At the end of 1987 the OH-58D was in the low rate initial production phase. All integrated logistics support (ILS) elements were in a green status with the exception of test equipment and design influence, which were amber. The Army continued to believe that phase II of the AAST would not be required. According to the TSM, the overall system assessment was green at the end of the year.

## E. TRADOC System Manager for V-22 and Air Launched Missile Systems (TSM-VM)<sup>o</sup>

In March 1987, the TRADOC System Manager (TSM) for Air Launched Missile Systems (ALMS) was redesignated as the TSM for V-22 Osprey and ALMS (TSM-VM). The TSM-VM was located at the USAAVNC, with attendant facilities and administrative support being provided by the center. The TSM operated under a charter signed by the commanding general of TRADOC and served the commanders of the Aviation Center and of TRADOC. In 1987 the TSM-VM discharged the user's responsibilities in the development, testing, training, and fielding of the V-22 and air launched missile systems. The TSM made certain that plans for training, personnel, logistics, testing, and doctrine were feasible and integrated fully into the materiel development program.

Lt. Col. Walter L. Hinman served as the TSM-VM for the entire year. He was assisted by three commissioned officers and one civilian secretary.

Since the TSM-VM managed three systems (V-22, HELLFIRE, and Stinger). Duties were assigned by system, with each TSM assistant responsible for the management of one system and all associated functional areas, i.e. personnel, training, and logistics. This approach facilitated greater integration of all functional areas into a synergistic system to better serve the user, but the future use of this management approach was dependent upon the continuation of the required staffing.

In 1987 primary emphasis was placed on ensuring that the ultimate user received supportable, trainable, and usable equipment designed for defeating the threat. Specific accomplishments with regard to each system have been described separately.

### V-22 Osprey

With the V-22 Osprey entering into full-scale development, it became apparent that management at the total integrated system level was required. Therefore, in March 1987, the TRADOC commander signed a new charter adding the V-22 Osprey to the list of those managed by the TSM. The V-22 program was a joint service program with the Navy as the executive service, Marine Corps as the lead service, and Air

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<sup>o</sup>. The sources for this section consisted of: the quarterly reports of the TSM-VM dated 30 Mar, 30 Jun, 30 Sep, and 31 Dec 1987; the 1987 annual historical report submitted by the TSM-VM to the historian, 24 Jun 1988; and "Aviation Branch Update," 13 Feb and 14 Aug 1987.

Force and Army as participants. The Army had a stated requirement for 231 V-22 Osprey aircraft; however, this requirement was unfunded. Limited funds were available for research and development within AVSCOM and TRADOC; but, because aircraft procurement was unfunded, there was great difficulty in ensuring that Army user concerns were considered during development. Even with this limitation, the TSM was making great strides in modifying the Marine Corps version to accommodate Army requirements. The TSM-VM was also successful in causing the creation of a separate data base and analysis of the Army unique logistics support data.

During the fourth quarter, the defense budget not only left procurement unfunded but also eliminated all funding for research and development. Without this minimal level of funding, Army participation in the development of the system was further constrained. It was anticipated that the AVSCOM CH-47 program management office would cease activities in the V-22 program other than caretaker level monitoring, and the Army participation would further diminish or be eliminated.

## HELLFIRE

Several key events occurred in the HELLFIRE program in 1987. The first unit equipped (FUE) in Europe occurred concurrently with AH-64 fielding in October 1987. At that time the 2d Battalion of the 6th Cavalry Squadron (2-6th) deployed to West Germany and was equipped with the HELLFIRE basic load. By the end of 1987 a total of six aviation battalions had been equipped with the Apache HELLFIRE missile system. The engineering development of an improved warhead began in December. The warhead improvement was intended to increase the lethality of HELLFIRE against threat armor (including reactive armor) through the year 2000.

In 1987 also, HELLFIRE was successfully integrated onto the UH-60A and the OH-58D. The UH-60A HELLFIRE missile system successfully completed developmental testing in October with the firing of three missiles at Yuma Proving Ground, Arizona. The OH-58D HELLFIRE integration was completed at Fort Eustis, Virginia, in December. Numerous HELLFIRE missiles were fired from the OH-58D in qualification testing.

Additionally, improvements in the autopilot electronics progressed with the successful flights of three preprogrammed digital autopilot missiles in September. In response to electro-optical countermeasures, the Army was considering developing alternate laser codes and improving the HELLFIRE laser seeker to maintain HELLFIRE effectiveness; however, funding problems delayed implementation. A fire-and-forget seeker was also being considered as an effective mix with laser munitions. The HELLFIRE unit procurement cost was

reduced by almost 50 percent to \$26,000 per unit as a result of the higher rate production of 5,000 missiles per year.

#### Air-to-Air Stinger

The Army recognized that air-to-air combat was inevitable because of chance encounters between the multitude of helicopters on the future battlefield and because the Soviets were rapidly developing air-to-air capabilities to destroy U.S. airborne tank killers. Consequently, the Aviation Center's air-to-air Stinger program was a high priority program to integrate the Stinger missile on to 2,100 airframes, including the OH-58, the AH-64, the AH-1 and the UH-60.

1987 witnessed the completion of the OH-58 air-to-air Stinger integration effort. The developmental and operational tests proved the capability and reliability of basic Stinger missile integration on the OH-58. Flight envelope expansion tests demonstrated that the missile could be launched from the OH-58 at any airspeed throughout the aircraft's flight envelope without endangering crew and aircraft or limiting aircraft performance. Unfortunately, congressional funding delays and a contractor employee strike slipped production schedules. Furthermore, funding delays and constraints resulted in the limited production urgent contracts being trimmed from seventy-four to forty-six installation kits. The contract was finally awarded to General Dynamics in December 1987 with the first kits scheduled for delivery in 1989. The FUE was expected to be the forward deployed Scouts working with Apaches.

The Apache air-to-air Stinger program began with the signing of a fifteen-month integration contract with McDonnell Douglas Helicopter Company in September 1987. McDonnell Douglas was to fully integrate the air-to-air Stinger into the AH-64 fire control computer, thus allowing the crew to acquire day or night targets through either the target acquisition designation system or the integrated helmet and display sighting system. Software changes were to provide the capability to slave the seeker head off axis to acquire targets.

F. TRADOC Systems Manager, Light Helicopter (TSM-LHX)<sup>e</sup>

The TSM-LHX conducted the total systems management for the LHX and the T800 engine within TRADOC during 1987. Acting for the commanders of USAAVNC and TRADOC, the TSM-LHX discharged the user's responsibilities in the development, testing, training, and (in coordination with the receiving commands) the fielding of the LHX. The TSM was also responsible for ensuring that plans for manpower and personnel integration (MANPRINT), logistics, testing, organizations, approved operational concepts, doctrine, and tactics were timely and fully integrated into the materiel development program.

Col. Wallace D. Gram served as the TSM-LHX during calendar year 1987. He was assisted by three commissioned officers, one NCO, and one civilian. The TSM and his staff were busy in 1987 preparing the LHX program for DA and DOD program reviews for.

During first quarter of 1987, the TSM participated in a number of LHX reviews in preparation for an April 1987 Army Systems Acquisition Review Council (ASARC). The TSM cochaired the LHX test integration work group that wrote the LHX test and evaluation master plan. The TSM also cochaired the MANPRINT joint working group that wrote the LHX system MANPRINT management plan. Also, the TSM participated in an ODCSPERS review of MANPRINT in the LHX program. This was a first for any new Army acquisition program. The TSM staff participated in the completion of the LHX cost and COEA and the LHX ROC documents which were required for the DA and OSD reviews. The TSM staff worked diligently to ensure that all TRADOC required documentation to support the ASARC was completed and that TRADOC input to required Army Materiel Command documentation was provided in a timely manner.

The LHX ASARC was held on 13 April 1987. This review approved the Army's acquisition strategy for LHX and recommended that the program proceed into a demonstration/validation phase with contract award in January 1988. Also in April, the LHX program was briefed to the DAB. Results of that meeting were documented in a 19 May 1987 secretary of defense decision memorandum (SDDM) and a 22 May 1987 supplement which:

a. stated that the need for LHX was strongly supported and acknowledged;

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<sup>e</sup>. The major sources for this section included: the 1987 annual historical report submitted to the historian by the acting TSM-LHX; the "Aviation Branch Update," 13 Feb, 14 Aug, and 15 Dec 1987; and the quarterly reports of the TSM-LHX dated 6 Apr, 1 Jul, and 1 Oct 1987 and 8 Jan 1988.

b. directed that a milestone I DAB be delayed until November or December 1987;

c. directed that independent assessments (by Rand Corporation and IDA) be made of the Army's airframe decision (rotary wing) and that the assessment results be briefed to the DAB; and

d. prohibited airframe work but allowed continued development of the mission equipment package for the eventual airframe.

During the 3rd and 4th quarters of CY 87, the TSM-LHX supported these two independent studies of the LHX airframe. These studies were conducted by the Rand Corporation and by the IDA. An Army cell was established at each study contractor's facility. The Aviation Center DCD provided the user representative at Rand, while the TSM office provided the user representative at IDA. Weekly written reports were given to the USAAVNC by each Army cell. These two studies looked at the following options for an LHX airframe:

- a. conventional helicopter with T800 engine (1200 SHP);
- b. tilt rotor, T800 engine;
- c. conventional helicopter, unconstrained engine;
- d. tilt rotor, unconstrained engine;
- e. AH-64 with LHX MEP;
- f. advancing blade concept (ABC); and
- g. X-wing.

The independent LHX studies were completed in early November 1987 with the following results:

a. Each study supported a new development helicopter as the best LHX technical approach to replace the Army's existing light scout and attack helicopters.

b. Development of a new helicopter would enable the Army to exploit the potential advances in survivability and kill potential.

c. Recommended fire-and-forget missiles be given more emphasis in the LHX program.

d. Supported the Army's COEA results presented to DA and OSD in April 1987.

These results were briefed to the Army and OSD on 9 and 10 November.

During the year the T800 engine program conducted maintainability demonstrations at each competitor's facility to demonstrate the simplicity of user maintenance on the T800 engine. These maintainability demonstrations were successfully completed using AIT graduates from Fort Eustis (MOS 68B and 67Y) and Fort Rucker (MOS 67N, V).

Calendar Year 1987 concluded with the TSM office preparing for a January 1988 combination LHX and AAMP DAB. This board would refocus the LHX program to develop and acquire a lightweight, low cost helicopter for the light attack/armed reconnaissance mission.

CHAPTER IV  
CENTER SUPPORT

A. Directorate of Aviation Proponency (DAP)<sup>1</sup>

The mission of the DAP was to manage the Army personnel system and act as a liaison between personnel and organizations of the Aviation Branch in the field on the one hand and the functional staff in the school on the other. The DAP mission also included responsibility for all school functions. There were eight divisions in the directorate: Administrative Support Division, Academic Records Division, Training Support Division, Office of Allied Military Training, Aviation Technical Library, Aviation Learning Center, Aviation Digest, and the Office of Personnel Systems. The functions and major 1987 accomplishments of each of these divisions have been described following the key personnel and strength charts.

Key Personnel

Director	Col. Willis R. Bunting	Jan-Nov
	Col. Joel H. Hinson	Nov-Dec
Deputy Director	Lt. Col. John Tallas	Jan-Oct
	Maj. (P) William Smith	Nov-Dec
Chief, Administrative Services Division	Capt. Ben Williams	Jan-May
	Mrs. Kathryn Cooper, GS-9	May-Jun
	Ms. Patricia Kizziah, GS-9	Jul-Dec
Chief, Office of Personnel Systems	Lt. Col. Immanuel Sieving	Jan-Apr
	Maj. (P) William Smith	Apr-Oct
	Maj. (P) Robert S. Tekell	Nov-Dec
Chief, Academic Records Division	Mrs. Betty Webb, GS-7	Jan-Dec
Chief, Training Support Division	Mr. Donald Johnson, GS-7	Jan-Dec

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<sup>1</sup>. Documentation for the introduction, key personnel, and Administrative Support Division parts of this section consisted of the 1987 annual historical report submitted to the historian from the Administrative Support Division, [Aug 1988].

Chief, Aviation Technical Library		
Mrs. Anne Foreman, GS-11		Jan-Jul
Mrs. Beverly Hall, GS-11		Oct-Dec
Chief, Aviation Learning Center		
CWO Joseph DeCurtis		Jan-Dec
Chief, Aviation Digest Division		
Mr. Richard K. Tierney, GM-13		Jan-Oct
Mrs. Patricia Kitchell, GM-13		Nov-Dec
Chief, Office of Allied Military Training		
Maj. Michael Jackson		Jan-Dec

#### Strength Figures

	Off.	WO	Enl.	Civ.	Total
Authorized	11	5	17	53	86
Assigned	14	8	17	56	95

#### Administrative Support Division (ASD)

The ASD coordinated and processed all administrative actions, correspondence, and student eliminations and evaluations. It was responsible for manpower control, budget, organizational structure, and civilian personnel actions of the directorate. There were three civilians and one NCO assigned to this division in 1987.

#### Aviation Technical Library (ATL)<sup>2</sup>

The ATL was a mission-support activity tasked with the responsibility of supplying information and research for combat developments, test and evaluation, research and development, legal services, training and education, and other programs. The resources were diverse and numerous, ranging from the only complete set of regulations on post to a large, complex collection of technical reports. Other sources of information included a journal collection of almost 500 titles, a book collection with in-depth coverage of subjects related to Army Aviation, and access to over 300 databases. Although the emphasis of the collection was aviation and military science, related sciences and disciplines were also covered. The library maintained an extensive network of military and civilian contacts all over the country and also had contracts with commercial suppliers.

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<sup>2</sup>. Documentation consisted of 1987 annual historical report submitted to historian by ATL, [Jun 1988].

both of which aided in supplying Fort Rucker with job-related information and research. The patron of the ATL was never limited to in-house resources.

Organizationally, 1987 was a significant year at the ATL. For the first time there were four full-time professional librarians. The increase in the professional staff represented the conversion of a technician position rather than an additional position. The permanent employee staffing level has remained at eight positions for many years. In 1987, however, the ATL lost two worker/trainee positions because of budget constraints. With these positions eliminated more clerical and typing duties had to be done by higher level staff personnel. The need for additional manpower was recognized when the TRADOC Management Engineering Activity (TRAMEA) survey validated the need for fifteen positions in the ATL. Notwithstanding the personnel shortages, the library continued to expand services in 1987. The ATL did more on-line literature searches in more databases than any other TRADOC library. The ATL personnel also began once again to catalog staff studies produced by students in advanced officer and warrant officer courses.

In accordance with TRADOC regulations, the library increased the use of automation in 1987. Microcomputers were in use in every department, and at least a part of every library function was computerized. The field of laser/optical technology was explored in 1987 with the determination that compact discs had great potential for library use. As a costs-savings move, communications software was purchased that enabled the library to give up a leased terminal without sacrifice of service to the patron.

Early in the year the library suffered a direct lightning strike that overcame the surge suppressors and damaged a number of terminals. All except one of the terminals were repaired, but the loss of the one terminal greatly handicapped reference services because it was a dedicated terminal for the Defense Technical Information Center, the DOD database. Dial-up access was still available, but that mode did not have many of the features that were most used by both the staff and the patrons. In addition, there was a per-hour line charge for the dial-up access.

The inadequacy of the physical plant was still a major problem in 1987. The operation of a state-of-the-art information center in World War II-era temporary buildings without adequate temperature and humidity controls was sometimes harmful to library materials and equipment, as well as uncomfortable for the staff and patrons.

## Academic Records Division (ARD)<sup>3</sup>

Mrs. Betty Webb was the chief of ARD in 1987. She and her staff were responsible for the maintenance of student records for academic and technical programs at Fort Rucker. In 1987 they maintained the records for approximately 10,000 individuals who graduated from courses at the USAAVNC. Of these, there were 1,418 Initial Entry Rotary Wing (IERW) graduates, 3,500 graduate flight students, 1,151 officer nonflight students, 2,775 enlisted soldiers, 1,202 graduates from the Warrant Officer Entry Course (WOEC), and 527 graduates from the Aviation Officer Advanced Course (AVOAC).

## Training Support Division (TSD)<sup>4</sup>

The TSD consisted of the Training Literature Branch (TLB) and the Text Issue Branch (TIB). The mission of the TLB was to provide instructional material to the resident instructional departments and other USAAVNC training organizations. To fulfill this mission, the branch was responsible for ordering, receiving, storing, and issuing the training material on a daily basis. Along with these responsibilities, the branch also assembled, packaged, and issued instructional material required by individual students and instructors, USAR schools, and ARNG, ROTC, USAR, and Active Army units worldwide.

The primary function of Text Issue Branch for 1987 was to provide the necessary text material to the approximately 10,000 students who attended the fifty or so courses at Fort Rucker. Approximately 400,000 books were issued to the students during the year. In 1987 several instances of shortages of publications occurred. Some of the reasons for these shortages were a major order for publications from Baltimore in May was not received and processed; budget cuts; and the failure of students to return books received for turn-in. New guidelines or regulations governing the return of books were needed to solve this problem. Guidelines were also needed to address the question of whom (if anyone, in addition to students) the TIB should support.

A significant accomplishment of the division in 1987 consisted of the coordination with the Software Branch of the Directorate of Information Management (DOIM) to program an inventory control for the division. However, the inventory control program was at a standstill at the end of the year, awaiting the correction of duplicated numbers assigned to the

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<sup>3</sup>. Documentation consisted of 1987 annual historical report submitted to historian by ARD [31 May 1988].

<sup>4</sup>. Documentation consisted of 1987 annual historical report submitted to historian by TSD [Aug 1988].

instructional material. The division's personnel strength in 1987 consisted of nine civilian employees.

#### Aviation Learning Center (ALC)<sup>5</sup>

The primary mission of the ALC was to provide remedial and supplemental instruction to reinforce in-resident training programs. In addition, the center provided guidance, assistance and instruction in a wide variety of subjects for both educational purposes and personal enjoyment. In 1987, a total of 55,599 students utilized the ALC. Of these, 8,253 were warrant officer candidates, 15,746 were rotary wing aviator course officers, 24,562 were enlisted students, 1,556 were permanent party personnel, and 5,482 were graduate students.

In January of 1987 remedial training courses to support the Advanced Noncommissioned Officer Course (ANCOC) were implemented. The USAAVNC 93H/J/P ANCOC course incorporated diagnostic tests to evaluate individual knowledge in various areas into its program of instruction (POI), and students who failed any portion of the test would be required to participate in remedial training. The ALC was tasked with administering this remedial training and received all required training courses from the U.S. Army Training Support Center, Fort Eustis, Virginia.

During February the USAAVNC implemented the 93B aeroscout observer advanced individual training (AIT) program. Since there was no established smart troop program to provide technical and tactical reinforcement comparable to that provided in other AIT smart troop programs, the ALC initiated and implemented the 93B smart troop program consisting of nine subcourses with a total of thirty seven credit hours. Since the ALC did not have a 93B aeroscout observer instructor a request was submitted for an augmentation position, which was approved by the chief of staff.

Also in 1987, the ALC had the Training Service Center (TSC) to fabricate ten non-radar instrument flight rule (IFR) tabletop training modules. The training modules were required to replace outdated equipment and facilitate increased student loads. The intercom capabilities of these modules substantially reduced the classroom noise level and allowed the instructor to deal with several problems simultaneously. In the past, only one air traffic control (ATC) student problem could be worked at a time.

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<sup>5</sup>. Documentation consisted of the 1987 annual historical report submitted to the historian by the ALC, 18 May 1988.

In late March, contractors with validated security clearances visited the ALC to evaluate version I of the aircraft survivability equipment trainer (ASET) system. Their task was to determine future programming needs for the purpose of developing version II ASET software programs.

In April the ALC received a request from the Threat Intelligence Branch of the Directorate of Combined Arms Tactics (DCAT) to provide IERW students with target identification training material. The ALC provided a seventy-three slide target identification practical exercise designed specifically for IERW students.

As a result of the decision to replace the TH-55 with the UH-1 as the Army's primary training helicopter, the ALC made arrangements to convert the TH-55 training tapes to UH-1 training tapes. Also, the ALC received twenty-eight much-needed CH-47D audiovisual tapes in 1987.

A team from the Office of the Inspector General (IG) inspected the ALC during the week of 28 July. The inspectors conducted random staff interviews; checked standing operating procedures (SOPs), safety, training, supply, and energy conservation; and observed day and night shift operations. As a result of this inspection the ALC received an overall superior rating and was cited at the commanding general's outbriefing.

All soldiers clearing the USAAVNC were required to view personal affairs and alcohol abuse tapes in the ALC. Those soldiers going to Germany also viewed an orientation tape. The ALC staff frequently received requests from soldiers traveling to other overseas areas about geographical or cultural information. In September, the ALC acquired recently released briefing tapes for the Middle East, the Far East, and Latin America. These excellent tapes explained the current political, social, and economic situations and described the anti-U.S. terrorist threat.

#### Aviation Digest (AD)<sup>e</sup>

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<sup>e</sup>. The major sources for this section included the 1987 annual historical report submitted to the historian by the AD, 13 Jul 1988; Msg #3331, commander TRADOC to commander USAAVNC, 3 Feb 1987, sub: Aviation Digest change in format; Ltr, Maj. Gen. Ellis D. Parker to HQDA (DAIM-APG), 8 Apr 1987, sub: request for publication as a monthly professional bulletin; Ltr, Brig. Gen. Thomas C. Foley, Deputy Chief of Staff for Doctrine to commander USAAVNC, 2 Jun 1987, sub: request to publish a professional bulletin; Ltr, George H. Harmeyer, Chief of Training Support Division to commander USAAVNC, 17 Jul 1987, sub: ODCSOPS review and support of Aviation Digest.

The publication of the United States Army Aviation Digest (AD) and most other official DA periodicals was canceled by an order dated 3 October 1986, to be effective as of 31 March 1987. Accordingly, the AD was published in January, February, and March of 1987, and then publication was suspended. When publication resumed in September, the status had been changed from a periodical to a professional bulletin, and the title had become United States Army Aviation Digest, Professional Bulletin (AD). Operating under professional bulletin guidelines affected the content and makeup of the AD, but its mission and function remained the same. After the transition, the AD provided professional information of an operational, functional nature concerning safety and aircraft accident prevention, air traffic control, training and doctrine, maintenance, operations, research and development, and aviation medicine and other aviation-related data to aviation units worldwide.

Making the necessary arrangements and adjustments to establish the AD as a professional bulletin and obtaining new funding sources were major problems faced by the AD staff in 1987. When professional bulletin status was finally approved, the proponency for the AD was transferred from the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) to TRADOC, but the funds that ODCSOPS had obligated for the publication were not transferred. This funding problem forced the AD staff to seek funding within USAAVNC and to negotiate contracts for printing on a monthly basis.

Another major problem faced by the AD staff in 1987 was personnel shortages. As a result of the cancellation of the AD as a periodical, the table of distribution and allowances (TDA) authorized slots were lost. Five of the original seven TDA spaces were restored on 2 February 1987, but the remaining two spaces were not restored until July. In the meantime, Mr. Richard K. Tierney, the long-time managing editor of AD, began sick leave on 13 February and remained in that status for the remainder of the year. The position of acting editor was filled temporarily by Mr. John Marusich until he also became ill and retired, and finally by Mr. Fredric Martin. The new permanent supervisory editor, Ms. Patricia S. Kitchell, arrived on 12 November. The position of writer-editor left vacant by the retirement of Mr. Marusich was filled by the promotion of Ms. Willie E. Garrett, but the position vacated by Ms. Garrett remained unfilled because of a hiring freeze.

Also in 1987, a team from the USAAVNC IG Office inspected the AD and a team from TRAMEA conducted a study to validate periodical workload units of the AD. Later in the year, TRAMEA conducted another study and was tasked to remeasure the workload of the entire AD work center. The latter study was completed in October.

Although the AD was not published for a five-month period, subscriptions increased from 40,958 in December of 1986 to 41,500 in December of 1987.

#### Office of Allied Military Training (OAMT)<sup>7</sup>

In 1987, the OAMT was led by Lt. Col. Garry M. Bass until his retirement from active service on 3 September. He was succeeded by Maj. Michael W. Jackson who was assigned on 14 August 1987. The assistant chief was Capt. Cecil W. Hester III, and the NCOIC was Sfc. Lane W. Hiltunen.

The mission of the OAMT was to provide and/or coordinate the support for the students from nations allied with the United States, who were undergoing training or enrolled in courses at Fort Rucker. More specifically, the OAMT assisted in promoting the effective professional training of these students in the courses that their countries sent them to attend, and at the same time, the office sought to create in the students a lasting positive attitude toward the United States and its citizens. The OAMT helped to provide the students with the opportunity to gain a general and balanced understanding of society in the United States. They learned about various aspects of American life; e.g., the monetary system, politics, economics, civil and human rights issues, the transportation systems, the legal system, and education. Students were also accorded opportunities to visit the local area, to attend cultural activities, and to take part in the host family sponsor programs. Administrative support provided by OAMT began with the reception of the students at the Dothan airport and terminated when they officially departed from the Army Aviation Center.

Fort Rucker had the third largest number of allied students training with the U.S. Army in 1987. Only Fort Bliss, Texas, and Fort Benning, Georgia, had larger foreign student enrollments. Fort Rucker trained approximately 367 allied students during the calendar year. These students represented approximately thirty different nations--including nations of Europe, the Middle East, Central and South America, Africa, and Asia.

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<sup>7</sup>. Documentation consisted of the 1987 annual historical report submitted to historian by the OAMT, [Jul 1988].

## Office of Personnel Systems (OPS)<sup>e</sup>

The OPS was organized under the DAP with the mission of administering the eight life-cycle personnel management functions for commissioned officers, warrant officers, and enlisted personnel of the Aviation Branch as outlined in AR 600-3. The OPS was headed by three persons during 1987: Lt. Col. Immanuel Sieving from the beginning of the year until April, Maj. William Smith until October, and Maj. Robert S. Tekell for the remainder of the year.

During 1987, the OPS completed and distributed the Army Aviation personnel plan (A<sup>2</sup>P<sup>2</sup>). A<sup>2</sup>P<sup>2</sup> complemented the Army Aviation modernization plan in that it enabled aviation proponent personnel to accurately project personnel requirements based on documented historical data and force modernization initiatives. It encompassed personnel considerations for the Army Aviation career fields of commissioned officers, warrant officers and enlisted personnel. The goal of the A<sup>2</sup>P<sup>2</sup> was to standardize personnel management models to better enable the Aviation Branch to access and train personnel in the proper numbers with the proper qualifications. Army Aviation was proactive rather than reactive in the development of the A<sup>2</sup>P<sup>2</sup>.

Another example of the proactive posture of the OPS in 1987 was the 15/35 exception to officer personnel management system II (OPMS II). This exception, which was approved by the Army chief of staff in May of 1987, permitted 15C, aviation tactical intelligence officers, to select military intelligence (35) as a functional area. This new option led to the development of a viable thirty-year career pattern for 15C35 officers. Another 1987 OPS action affecting commissioned officers consisted of the approval of a captain rotation plan. This plan was to ensure the branch qualification of all captains assigned to Fort Rucker and to provide the field with an officer corps more tactically and technically qualified. Also in 1987, OPS provided the Total Army Personnel Agency (TAPA) with the functional area (FA) accessions for year group 81 to ensure Aviation Branch

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<sup>e</sup>. Major sources for this part consisted of the 1987 annual historical report, 7 Jul 1988; Ltr from Dawson C. May to DA Deputy Chief of Staff for Personnel, 27 Mar 1987, sub: revision of CMF 28 and CMF 67; Ltr from Dawson C. May to DA Chief of Staff for Personnel, 1 Jun 1987, sub: revision of CMF 93; Memo (611-1a) from Dawson C. May for DA Deputy Chief of Staff for Personnel 19 Aug 1987, sub: revision of CMF 67; Ltr, Dawson C. May to Deputy Chief of Staff for Personnel, 17 Feb 1987, sub: revision of CMF 93; "Army Aviation Update," 14 Aug 1987; Army Aviation Personnel Plan (A<sup>2</sup>P<sup>2</sup>), 19 Nov 1987.

officer participation and distribution in the appropriate FAs.

For warrant officers, a change occurred in 1987 with the revision of master warrant officer positions. The rank coding table was returned to DAP in April for adjustments to be made; this had been accomplished by December when the DA selection board met and selected the individuals who would become master warrant officers. Also, in 1987 the OPS reviewed the table of distribution and allowance (TDA) and table of organization and equipment (TOE) to identify warrant officer immaterial codes and positions by branch and area of concentration.

The OPS was involved with several changes affecting the enlisted members of the branch in 1987. One was that additional skill identifier (ASI) Z4 training was incorporated in the AIT course of instruction, thereby eliminating the need to have the ASI. Also, phase II of the enlisted aviator study report was completed during 1987. This study explored the possibilities of utilizing aviators of enlisted rank for a period of time prior to their being commissioned as warrant officers.

During 1987 several military occupational specialties (MOSs) were consolidated. The first was 68J, aircraft fire control repairer, with the 68M, aircraft weapon systems repairer. This consolidation provided additional training for the 68M in the electronic portion of the armament systems. The 68J needed no additional training to perform the 68M job. As a result of this consolidation, there was a larger number of fully trained mechanics who could work the entire armament system. The reclassification of these soldiers was scheduled to be completed by September 1988. The second consolidation was that of 93H, air traffic control (ATC) tower operator, and 93J, ATC radar controller. The purpose of this consolidation was to provide the ATC commander with the flexibility to utilize all personnel wherever they were needed. When the MOSs were split the commander could not legally utilize a 93H in a 93J position. The consolidation changed the grading structure by eliminating many senior noncommissioned officer (NCO) positions that were redundant due to the dual MOS concept. The reclassification of all 93H and 93J soldiers was also scheduled to be complete by September 1988. The deletion of 66G, utility airplane technical inspector, and 67G, utility airplane repairer, occurred as a result of the signing of a contract with Beechcraft in September 1986. Since this contract provided for Beechcraft to provide maintenance on the Army's utility aircraft fleet (U-21 and C-12 aircraft), the need for 66G and 67G personnel was eliminated. These personnel were being reclassified into other aviation MOSs, with an estimated completion date of September 1989.

B. Directorate of Resource Management (DRM)<sup>o</sup>

The DRM served as the commanding general's principal staff office for overall financial management, manpower management, USAAVNC organization, and approved management programs. The DRM also planned, directed, and controlled the programming and budgeting, cost analyses, force management and manpower, management analyses and improvements, review and analysis, accounting policy, and accounting and disbursing activities of USAAVNC.

Other duties of the DRM in 1987 included control over the civilian hire program and management of the commercial activities (CA), internal controls, and USAAVNC manpower programs. Management of the manpower program included preparation and maintenance of TDAs and MTOEs needed in the review and assessment of current manpower and equipment utilization. The directorate also exercised supervision over the Nonappropriated Fund Central Accounting Branch (NAFCAB), and gave input to higher headquarters concerning the foreign military sales (FMS) program. The Army suggestion program was relocated from the Office of Civilian Personnel to the DRM on 1 July 1987 and consolidated with the newly approved model installation program for processing and administration.

Key Personnel

Director of Resource Management		
	Col. Cary E. Williams	Jan-Dec
Deputy Director of Resource Management		
	Mr. Danny L. Wright (GM-14)	Jan-Dec
Installation Accountant		
	Mr. Roy Locklar (GM-13)	Jan-Dec
Finance and Accounting Officer		
	Maj. Walter R. Beyer III	Jan-Dec

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<sup>o</sup>. Sources for this section consisted of the 1987 annual historical input to the historian from the DRM, 27 Jun 1988; notes on interview by author with deputy director of DRM, 3 Jun 1988; Ltr ATTG-I, Brig. Gen. Glynn C. Mallory, Jr., TRADOC Deputy Chief of Staff for Training to commandants of TRADOC service schools, et al., 5 Jan 1987, sub: basic and advanced NCO training; Msg #0841, commander TRADOC to commander USAAVNC, 28 Jun 1987, sub: Warrant Officer Entry Course training site; and Msg #1569, commander TRADOC to ATG 7573, 14 Jul 1987, sub: officer/WO reductions.

Deputy Finance and Accounting Officer	Mr. Donald B. Wilson (GS-12)	Jan-Dec
Chief, Cost Analysis Division	Mr. James S. Woodard (GS-12)	Jan-Dec
Chief, Program and Budget Division	Mr. Jerry Lindsey (GM-13)	Jan-Dec
Chief, Management Analysis Division	Mrs. Hazel J. Odom (GS-12)	Jan-Dec
Chief, Force Management Division	Mr. Howell Flowers (GM-13)	Jan-Dec
Head, Training Manpower Branch	Mrs. Sara Glover (GS-12)	Jan-Dec
Head, Support Manpower Branch	Mrs. Cathy Hudson (GS-12)	Jan-Dec
Head, Commercial Activities Branch	Mrs. Edith W. Stark (GS-12)	Jan-Dec

#### Strength Figures

	Off.	Enl.	Civ.*	Total
1 Jan 1987 (actual)	3	41	173	217
31 Dec 1987 (actual)	3	45	167	215
Dec 1987 (authorized)	3	41	176	220

\* Includes nonappropriated fund employees.

#### Finance and Accounting Division

Maj. Walter R. Beyer III, the finance officer during 1987, was assisted by Mr. Donald B. Wilson, deputy finance officer, and by Sgt. Maj. Otis N. Wilson, Jr., finance operations NCO. The Finance and Accounting Division consisted of five branches: Quality Assurance Branch, Pay and Examination Branch, Accounting Branch, Disbursing Branch, and Nonappropriated Fund Central Accounting Branch (NAFCAB).

The division exercised supervision and administrative control over public fund disbursements and appropriated and nonappropriated fund accounting functions. The division also provided staff supervision over the Fort Rucker savings bond program and operated a class B agent pay office at Camp Shelby, Mississippi, in support of Army reserve components' annual field training. The Finance and Accounting Division

averaged an assigned strength of 2 officers, 41 enlisted military and 120 civilian employees.

The class B agent pay office at Camp Shelby operated from April to August 1987. It made disbursements to approximately 25,000 USAR and ARNG personnel at the camp. In 1987, for the first time, payments were made by check in lieu of cash.

During CY 87, several significant projects were completed by the division. These included a successful savings bond campaign in May and June and new W-4 tax forms for all personnel. Also in 1987, military payday was changed from the end to the beginning of the month, military personal financial records were eliminated, a change in civilian payday cycles was implemented, and a test of a short-tour pay system (STOPS) for the U. S. Army Financial and Accounting Center was initiated.

The DRM had its fiscal year-end closeout in September and October 1987 with no difficulties encountered.

The average monthly workloads accomplished by the Finance and Accounting Division in 1987 included 4,887 travel vouchers processed; 33,695 military pay changes made; and 3,478 civilian personnel paid. Disbursements in CY 87 totaled \$456,290,000. A major problem during the year was that reduction in staffing of the Travel Section resulted in difficulties in processing travel payments.

#### Cost Analysis Division

During 1987, the Cost Analysis Division was under the supervision of Mr. James H. Woodard. The mission of the division consisted of the following three distinct functions: (1) the development of training cost estimates for the Aviation Center command group, TRADOC, and HQDA and resource programming submissions; (2) the preparation of the government in-house cost estimates for all commercial activities studies which had an impact on TRADOC units at the Aviation Center; and (3) the management of Project SPIRIT (systematic productivity improvement review in TRADOC), the umbrella under which TRADOC management and productivity improvement programs and the capital investment program (CIP) operated.

The Cost Analysis Division submitted to TRADOC reports which provided information for developing course costs and cost and manpower estimations for the USAAVNC. Resource programming submissions to TRADOC included the FY 90-94

installation program and the FY 89-94 modernization resource

installation program and the FY 89-94 modernization resource information submission.

During 1987, the USAAVNC received funding for three quick return on investment program (QRIP) projects through the capital investment program administered by the Cost Analysis Division. Two other projects were awaiting funding in 1987. One of these projects was an OSD-productivity investment fund request for the construction of a spatial disorientation trainer building.

The DRM, and especially the Cost Analysis Division, had the task in 1987 of finding means of reducing expenditures. Through the Project SPIRIT program, TRADOC issued a directive to Fort Rucker to save \$10 million. Fort Rucker, not only met this challenge in 1987, but exceeded it by saving a validated amount of \$20 million through effective management of its resources.

#### Program and Budget Division (PBD)

The PBD, under the leadership of Mr. Jerry M. Lindsey in 1987, exercised staff supervision over the formulation, presentation, execution, and policy development phases of the USAAVNC budget, which is funded through Headquarters, TRADOC, and Headquarters, Forces Command (FORSCOM). The PBD served as the focal point for the consolidation of funding requirements and the justification of all mission and base operations activities. Thus the PBD developed policy directives and exercised administrative financial management control over funding and workyear utilization for USAAVNC.

At the beginning of 1987, the PBD was evaluating the TRADOC reaction to the USAAVNC FY 87 draft budget contract submission. On 5 February 1987, the commanding general of USAAVNC signed the FY 87 installation contract. The contract, amounting to \$293.6 million, was the result of a mutual agreement between the commanding generals of TRADOC and of USAAVNC. The installation contract reflected both funding and manpower resources with which General Parker agreed to accomplish the FY 87 workload for USAAVNC and Fort Rucker.

The PBD's major effort during 1987 was programming, budgeting, executing, reviewing, and reporting of the last three quarters of FY 87 and the first quarter of FY 88. An example of these activities was the FY 87 budget execution review (BER) which was developed and submitted to HQ, TRADOC, during March 1987. The FY 87 BER presented OMA funding guidance of \$299.6 million. However, funding requirements were \$316.7 million, of which \$17.1 million were unfinanced. The FY 87 BER took into account the USAAVNC execution

experience for the first five months, plus a program for the remaining seven months.

In April and May 1987, the DRM Program Budget Division developed and transmitted the FY 88/89 TRADOC resource update (TRU) and the FORSCOM FY 88/89 command operating budget (COB). The TRU and the COB were comprehensive budget reports, which contained the USAAVNC's detailed FY 88 programs, provided data to support the Army's apportionment request and established the basis for developing annual funding programs.

Beginning in October 1987 and continuing through the end of 1987, HQ, TRADOC passed down a series of funding decrements which were driven by general austerity and congressional funding cuts. In October and November, DRM Program and Budget Division developed and submitted the FY 88 draft budget contract for USAAVNC, which presented OMA funding guidance of \$260.9 million. However, funding requirements were \$318.0 million, of which \$57.1 million were unfinanced.

On 17 December 1987, the commanding general of USAAVNC signed the FY 88 installation contract. The contract, amounting to \$273.6 million, was an agreement between the commanding generals of TRADOC and of USAAVNC. The contract included ten significant unfinanced issues totaling \$45.6 million and a statement of potential further reductions from the DA totaling \$3.6 million.

As 1987 ended, DRM Program and Budget Division was continuing planning with installation program directors to accomplish the most critical USAAVNC missions with the funds available.

#### Management Analysis Division (MAD)

Mrs. Hazel J. Odom was the chief of the MAD for the entire year of 1987. The MAD continued the management analysis portion of CA studies of logistics, engineering and housing, and food services activities. The food services study was completed and approved in August 1987. The logistics management study was approved, and the most efficient organization (MEO) was certified on 15 September 1987; the Engineering and Housing management study was approved, and the MEO was certified on 16 December. Additionally, a study of the Training Service Center, DPTMSEC, was started in January 1987, and the management study was approved and the MEO certified on 19 August 1987. The division also conducted an organizational effectiveness review of the Education Center, under the adjutant general. The study recommended changes to make the organization more

effective; it was accepted and implemented by the adjutant general. Also, a workforce profile management study (EEO statistics) was initiated, but had to be placed on hold due to the priority placed on CA studies.

The Division continued to administer installation programs such as command committee management, internal controls, value engineering, and review and analysis, along with coordinating analytical and support services for these programs. In July, the division assumed responsibility for implementing and administering the model installation program/Army suggestion program (MIP/ASP). The MIP was expanded from the charter model installations to all DA installations because of the past success at the test installations.

#### Force Management Division (FMD)

Mr. Howell Flowers served as chief of the FMD during 1987. Branch chiefs included Mrs. Sara Glover, Training Manpower, Mrs. Cathy Hudson, Support Manpower, and Mrs. Edith W. Stark, Commercial Activities. The division exercised staff responsibility for manpower, organization, equipment, force structure, and commercial activities. It was responsible for the development and execution of policies, plans, procedures, and directives affecting commercial activities and the allocation, control, and utilization of manpower and equipment resources. As of 31 December 1987, FMD had an assigned strength of nineteen civilian employees.

A selective civilian hiring freeze was implemented for all TRADOC units at Fort Rucker effective 22 October 1987. This action was necessary to minimize the impact of manpower and funding reductions imposed by the Gramm-Rudman-Hollings Act. In conjunction with the hiring freeze policy, sixty-four temporary employees were identified for release on 1 January 1988.

Under TRADOC guidance to conduct basic noncommissioned officer and advanced noncommissioned officer training in an NCO academy environment, the U. S. Army Aviation Center Noncommissioned Officer Academy was officially established at Fort Rucker on 1 October 1987. On 11 June 1987, General Vuono, the CG of TRADOC, approved the consolidation of the Warrant Officer Entry Course (WOEC) from three locations (Fort Sill, Fort Rucker, and Aberdeen) to a single site (Fort Rucker) beginning in mid-1988. The decision was made based on the cost and resource data submitted by each TRADOC school during the WOEC site consolidation study conducted by TRADOC. Upon consolidation, the WOEC was redesignated as the Warrant Officer Candidate School. The consolidation was

expected to result in a training increase of 300 WOEC students at Fort Rucker in FY 88 and of 761 students in FY 89.

As part of the reduction of officers and warrant officers directed by Congress, the USAAVNC was reduced thirty positions via TRADOC message 041334Z in July of 1987. The reduction was to be effective 1 October 1988. Fifteen enlisted and thirteen civilian positions were created as substitutes for these losses.

The Training Support Center (TSC) CA cost study began on 2 January 1987 with a scheduled completion date of 31 August 1989. Functions included in the study were audiovisual services, still photography, television, graphic art, audiovisual training aids and devices, and audiovisual libraries. Three military and fifty-nine civilian spaces were being reviewed.

C. Directorate of Plans, Training, Mobilization, and Security (DPTMSEC)<sup>10</sup>

The Directorate of Plans, Training Mobilization, and Security was composed of eight divisions: The Resource Management Division; Aviation Division, Resident Training Management Division; Training Division; Plans, Operations, and Mobilization Division; Security Division; Training Service Center; and Detachment 9, 5th Weather Squadron.

Key Personnel

Director	Col. James B. Sauer	Jan-Dec
Deputy Director	Lt. Col. John S. Clark	Jan-Mar
	Mr. Clyde S. Tullos (GM-13)	Mar-Dec
Chief, Resource Management Division	Mr. Charles A. Welch (GS-11)	Aug-Dec
Chief, Aviation Division	Maj. James S. Young	Jan-May
	Cpt. William J. Coughlin	Jun-Dec
Chief, Resident Training Management Division	Ms. Mary Brown (GS-12)	Jan-Dec
Chief, Training Division	Maj. Lloyd Carr	Jan-Dec
Chief, Plans, Operations, and Mobilization Division	Maj. Michael Krejci	Jan-Dec
Chief, Security Division	Mr. Marion Hill (GS-12)	Jan-Dec
Chief, Training Service Center	Mr. Clyde S. Tullos (GM-13)	Jan-Mar
	Ms. Jane Preston (GM-13)	Mar-Dec

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<sup>10</sup>. Sources for this section consisted of the 1987 annual historical report submitted to historian from DPTMSEC, 6 Jul 1988; notes on interview by author with the director of DPTMSEC, 9 Jun 1988; and an undated descriptive brochure entitled Directorate of Plans, Training, Mobilization, and Security.

### Resource Management Division

The Resource Management Division supervised the administrative functions for the directorate in 1987. The division was responsible for developing and managing the budget for the DPTMSEC, Department of Combined Arms Tactics, Department of Enlisted Training, Department of Gunnery and Flight Systems, Aviation Training Brigade, Directorate of Aviation Proponency, 1st Aviation Brigade, and 3588th Flying Training Squadron. The total budget managed by the division was \$46 million, which included TRADOC and FORSCOM funds.

### Aviation Division

The Aviation Division was composed of two branches: Aircrew Training Management Branch (ATMB) and Airfield/Airspace (AF/AS) Branch. The division planned, coordinated, and reviewed activities of the two branches and of the Flight Records Section that supported the Aviation Division. The division functioned as primary staff officer for the DPTMSEC, maintaining liaison with the FAA, U.S. Army Safety Center, and DES for aviation and ground resources. The division monitored and evaluated military and civilian contractor aviation and ground training activities. The division also served as the deputy command aviation officer (DCAO) for the installation, coordinating the garrison's aviation planning, training, flight records, airfield facilities, airspace, aviation safety, and noise mitigation. Additionally, the DCAO established and implemented policies, waivers, and procedures and evaluated safety programs for the Aviation Center.

The Aircrew Training Management Branch (ATMB) provided general and technical guidance to the DPTMSEC for the aircrew training program (ATP). The branch provided aviation logistic and personnel support to the Aviation Center, command group, schools, and tenant activities. An additional part of the branch's mission was providing ATM training to foreign liaison officers assigned to the secretary general staff (SGS) at USAAVNC and NASA pilots. The branch maintained approximately 400 ATM records and 3,600 individual flight records folders (IFRF). In May 1987, the ATP was reviewed to bring the Aviation Center on line with current Army directives (AR 95-1 and TC 1-210), which resulted in the revision of USAAVNC Reg 350-5. Implementation of the regulation necessitated the return of the ATM records to each commander or director for direct management of his own

personnel. The 3,600 IFRF records were still maintained by the ATMB.

The AF/AS Branch of the Aviation Division provided general and technical guidance to the DPTMSEC for the airspace management and fly neighborly programs. The branch was also the major proponent for the basefield realignment of 1987, which resulted in eliminating the conflicts in the route and corridor system and aligned the basefields with their respective areas of operations. This realignment consisted of the establishment and flight evaluation of numerous tactical landing areas, nap-of-the-earth routes, and obstacle clearance evaluations. The branch also developed and initiated the planning for three new six-lane stagefields, which were near completion by the end of 1987.

#### Resident Training Management Division

The Resident Training Management Division (RTMD) coordinated with the director of training and doctrine on the implementation of resident programs of instruction (POIs), plans for implementing changes, and future courses. The RTMD was composed of two branches: Training Management Branch and Training Resource Branch.

The Training Management Branch planned, coordinated, and monitored reserve component aviation training and other special training programs. The branch developed plans, prepared studies, and recommended policies to support resident training and nontraining actions. During 1987, the branch reviewed training literature, instructional material, documents, and studies. It provided aviation training data to TRADOC and FORSCOM as requested, processed requests for special actions, and performed liaison with instructional departments on matters pertaining to new equipment, training, and proposed resident POIs.

During 1987, the Training Management Branch developed automated models to manage all training and resources at the USAAVNC. The use of automated data processing provided more realistic projections and more efficient management of all resources. The branch implemented the changes in the POIs generated by budget constraints and POI reviews. The initial change was to the AH-64 POI, which altered the course by transferring much of the training to the combat mission simulator (CMS). The course length was shortened from fourteen weeks to ten weeks with ammunition expenditures cut to 45 percent of the original level. This permitted training to keep pace with the planned fielding on AH-64 battalions.

The Training Resources Branch of the RTMD developed course class schedules for all POIs that were taught at USAAVNC. The branch determined aircraft requirements, flight hours, ammunition requirements, and student training loads required to support the Aviation Center training programs. The branch also monitored student inputs to all courses and published the master course schedule ("White Book").

During 1987, the Training Resources Branch maintained the USAAVNC flying hour program at 100 percent. The branch assisted in obtaining additional aircraft and instructor pilot assets for USAAVNC, and managed IERW training through the officer and warrant officer reductions mandated by DA. The branch achieved 100 percent of management goal expenditures in authorizations for ammunition for TRADOC and FORSCOM. In 1987 also, the branch instituted procedures for the acquisition of a new practice rocket, the Hydra-70.

### Training Division

The Training Division (TD) was composed of five branches: Scheduling Branch, Aircraft Management Branch, Range Branch, Individual Training Branch, and NBC Branch.

The Individual Training Branch functioned as the installation proponent for all formal schools and training functions normally associated with G3 responsibilities for those areas not directly related to the aviation training conducted by DOTD. During 1987, the Individual Training Branch processed approximately 3,110 requests for various courses, including the Air Assault Course taught at Fort Rucker.

The Scheduling Branch of the TD directed and coordinated the preparation and distribution of training schedules for each resident class at the USAAVNC. Furthermore, it coordinated and scheduled demonstration areas, the post theater, cantonment area, landing zones, remote training sites, and troops and equipment support. During 1987, the Scheduling Branch scheduled transportation, classrooms, stagefields, and stagefield support for approximately 10,000 flight and nonflight students. Additionally, it distributed approximately 30,000 training schedules for over fifty in-resident courses and supporting activities and oversaw more than 130,000 flight simulator hours for USAAVNC.

The Aircraft Management Branch (AMB) of the TD coordinated USAAVNC fleet employment with all activities and agencies at Fort Rucker. This involved liaison between aircraft users, the Aviation Liaison Maintenance Division of the Directorate of Logistics, and the maintenance contractor.

When required, AMB acted as the USAAVNC central point of coordination for aviation search and rescue missions.

In executing its mission, the AMB scheduled more than 336,778 training flights, which accumulated 447,917 flight hours. Additionally, AMB coordinated aircraft support for some 423 special missions for the Public Affairs Office and the Army Recruiting Command.

The Range Branch of TD scheduled, maintained, and coordinated the use of the Fort Rucker range complex, which consisted of two aerial gunnery ranges, forty-seven training areas, and numerous other small arms ranges and firing points. It provided scheduling and support for the use of ranges and training areas by all Army units. The Range Branch was also responsible for the planning and development of the ranges.

During 1987, the construction phase of PN 268 aerial gunnery began with the Range Branch as the major coordination point for USAAVNC. The Alabama National Guard started construction of an observation tower with the assistance of the branch, which also accomplished the renumbering of all USAAVNC training areas.

The Nuclear, Biological, and Chemical Branch (NBC) of the TD monitored, inspected, and assisted FORSCOM, TRADOC, and reserve units in NBC readiness; and it also provided a nucleus for an operational NBC element during contingencies. It participated as an evaluator of NBC readiness during EDREs, and monitored the development and operational testing of NBC related equipment.

During 1987, the NBC Branch provided support to USAAVNC tenant activities and USAR units in Alabama, Mississippi, and Tennessee by assisting with training, briefings, and inspections. The branch also served as the area coordinator for Fort Rucker during NORAD exercises, and conducted training for Junior ROTC units.

#### Plans, Operations, and Mobilization Division

The Plans, Operations, and Mobilization (POM) Division had the responsibility for monitoring and coordinating: all installation-level activities dealing with operational security; all emergency planning and executional NBC defense activities; all operational activities involving two or more installation organizations; and all operational activities which involved Fort Rucker and other installations. The division was composed of two branches: the Operations Branch and the Plans and Mobilization Branch.

The Operations Branch was the Aviation Center's central tasking agency for mobile training teams, new equipment training teams, joint-command post exercises, and field training exercises. The branch was responsible for the coordination and monitoring of the installation's support to the Spanish language helicopter pilot training program. The branch provided the Aviation Center command brief to all VIPs and general officers visiting the installation and planned, coordinated, and supervised the various official ceremonies held on post. During the year, fifteen annual ceremonies, parades, or festivals and ten end of month review and retirement ceremonies were performed or coordinated; 1,203 taskings for support were coordinated with installation activities, MACOMs, and DA; five emergency deployment readiness exercises (EDRE) were evaluated; forty-eight memorandums of instruction (MOI) were developed or reviewed; and twenty-five major staff actions, including the development of the installation's long-range plan for FY 87-97, were performed.

The Plans and Mobilization Branch of the POM Division had the responsibility for the development and coordination of installation contingency plans. It also provided and operated the Emergency Operations Center (EOC) facility. During 1987, the branch published fifty-two operation documents and two contingency plans. The EOC was activated fifty-nine times during 1987 for severe weather and five times for EDREs. The branch participated in two command post exercises and one joint chiefs of staff exercise during the year. The installation emergency warning system (radio, television, preempt, and sirens) was tested monthly.

#### Security Division

The Security Division's mission was to plan, execute, and manage intelligence, counterintelligence, and security programs of the USAAVNC and its tenant activities. The division was organized under a supervisory chief and consisted of four unofficial branches.

During 1987, the division processed 378 requests for personnel security investigations; conducted 5,240 local records checks; validated or issued 5,308 security clearances; denied, suspended, or revoked security clearances of 58 military and civilian personnel; conducted 38 security inspections; cleared 23 classified and unclassified documents for release to U.S. industrial firms; submitted 20 reports UP AR 381-155(U); prepared 100 replies to foreign visit requests in clearing 498 foreign military and civilian representatives to visit Fort Rucker; presented threat/OPSEC briefings to 3,382 personnel; provided OPSEC reviews on a variety of documents and reports prepared by USAAVNC and the tenant

units; and cleared 80 automated systems for processing under the provisions of AR 380-380.

### Training Service Center

The Training Service Center (TSC) was a consolidated training aids/audiovisual support activity which provided a single point of contact for coordination of audiovisual and training aids requirements. The TSC was responsible for the recommendation, design, development, fabrication, purchase, issue, maintenance, and receipt of training aids and training equipment.

In 1987 the TSC produced and provided 1,915,132 visual information products and services to Fort Rucker, USAR, ARNG, and ROTC units within the Fort Rucker geographical support area. The TSC produced high quality graphic items, such as master art for charts, 35mm slides, overhead transparency masters and copies, black-and-white printing plant masters, embossed signs for academic instructors and class identification, and miscellaneous graphic services, for a total of 53,671 items. Some devices required exceptional skills in designing the mechanical and electronic components used to simulate actual operations. Some of the more noteworthy devices fabricated included: a cargo tie-down trainer, twelve non-radar IFR tabletop trainers, an OH-58 cockpit trainer, seven full-size tank mock-ups, a UH-60 HSI/VSI indicator mock-up, twenty-five .22 caliber bullet stops, eight terrain boards, and a UH-1 engine cut-a-way.

In 1987, the Photographic Section produced a total of 1,038,325 negative equivalents. The majority of the items produced were color prints, 35mm color slides, and black-and-white prints.

The TSC also processed audiovisual supply requests from all areas within the Fort Rucker geographic area and provided audiovisual hardware of various designs for use in presenting training messages. This hardware included 16mm projectors, 35mm projectors, overhead projectors, opaque projectors, Baseler cue see projectors, audio cassette players, sound reinforcement equipment, Sony television trainers, and one-half and three-quarter inch video cassette players. TSC provided requestors with software which consisted of 16mm films, cassette tapes, and DA-approved transparencies, processing a total of 153,618 audiovisual support items. The educational television section of TSC dubbed 1,625 video tapes for local and worldwide training use and completed 134 video tape productions. The locally produced programs included: "EURO-NATO Conference," "First 1,000 Days," and "Aviation Brigade Commanders Conference."

A media self-help facility was provided for customers to make their own visual aids such as slides, transparencies, charts, and embossographed signs. This facility served over 14,850 customers who produced over 467,150 items.

#### Detachment 9, 5th Weather Squadron, United States Air Force

Under the Command of Maj. William F. Markert, Detachment 9, provided operational support to the USAAVNC and other units assigned to or transiting Fort Rucker. The support included: forecasting and observing services twenty four hours per day, seven days per week; providing local area and cross-country weather briefings; and notifying resource managers, responsible for protecting over \$1 billion of aviation assets, of impending adverse weather. A subordinate observation site located at Troy Municipal Airport provided weather observations fifteen hours per day, five days per week. As the staff weather officer, Maj. Markert was responsible for advising the commanding general and chief of staff when environmental conditions would affect unique operations and highly visible demonstrations. He analyzed climatological information to help staff officers define environmental limitations affecting USAAVNC plans.

The Staff Weather Office was instrumental in updating a number of USAAVNC plans. The weather annex for the mobilization plan was completely rewritten and a separate annex highlighting climatological statistics for Fort Rucker was added. The staff weather officer drafted a revision for the severe weather plan. Changes to this plan in 1987 included standardizing terminology that is used by the National Weather Service to minimize confusion, aligning weather warning criteria to agree with the USAAVNC weather support plan, and revising warning dissemination procedures to capitalize on the Emergency Operation Center's new hotlines. Also, weather personnel updated the USAAVNC weather support plan, further explaining important aspects of weather service such as hurricane support.

During 1987, the Staff Weather Office actively supported the USAAVNC's flight safety program. During safety standdown days and organizational safety meetings, forecasters provided numerous briefings which emphasized weather hazards to flight operations. While the emphasis was on preventing mishaps, the staff weather officer regularly assisted mishap investigation teams in reconstructing prevailing weather during mishaps. This data, in conjunction with other information, was used to identify causes and contributing factors in aircraft mishaps. Weather reporting stations in the local flying area were limited, yet the low-level flying conducted at the Aviation School necessitated detailed weather information. Weather personnel trained over 500 air

traffic controllers to take and relay limited weather observations. Using ATC personnel, the density of observations was increased and significant information needed to plan nap-of-the-earth missions was disseminated to aviators over the closed circuit television system.

The Staff Weather Office vigorously pursued technological improvements to enhance weather service. In April, the weather station acquired a weather satellite image animation system. Watching cloud patterns in motion facilitated understanding of atmospheric processes and aided forecasters in conceptualizing future changes. The automated weather distribution system (AWDS) continued to modernize station operations by optimizing data communications, automating routine functions, and enhancing dissemination of essential information to selected organizations on post. Extensive plans were made to reconfigure and remodel the weather station prior to the installation of the AWDS.

D. Directorate of Evaluation and Standardization (DES)<sup>24</sup>

The DES represented USAAVNC as proponent for the U.S. Army Aviation standardization program and also served as an extension of the ODCSOPS, DA. The DES monitored and evaluated Army-wide implementation of the Aviation standardization program. The directorate also collected and analyzed training effectiveness data as related to unit, resident, and nonresident training programs. The directorate had three divisions, which consisted of the Flight Standardization Division, the Evaluation Division, and the Operations/Resource Management Division. The DES was authorized twenty-six commissioned officers, forty-five warrant officers, eight enlisted personnel, and twenty-seven civilians.

Key Personnel

Director	Col. John C. Shaw, Jr.	Jan-Dec
Deputy Director	Lt. Col. (P) William Bauer	Jan-Dec
Commander, Flight Standardization Division	Lt. Col. Immanuel C. Sieving III	Apr-Dec
Commander, Evaluation Division	Maj. (P) Robert J. Scurzi	Jan-Jul
	Capt. William J. Weber	Jul-Aug
	Capt. (P) William P. Gerhardt	Oct-Dec
Commander, Operations/Resource Management Division	Maj. (P) William B. Dixon	Jan-Dec

The mission of the Flight Standardization Division was to advise the director on all matters pertaining to the U.S. Army flight standardization program and to evaluate the effectiveness of individual aviator proficiency for resident and nonresident flight training programs. The division also provided flight standardization input to DA aviation-related publications and subject matter experts to directorates at Fort Rucker concerning the aviation standardization program.

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<sup>24</sup>. Sources for this section consisted of the 1987 annual historical report submitted to the historian by the director of DES, 6 Jul 1988; and notes on interview by author with the acting director of DES, Lt. Col. William Bauer, 13 Jun 1988.

In 1987 the Flight Standardization Division conducted ninety-seven evaluation/assistance visits and twenty-five instructor pilot/standardization instructor pilot seminars. The division provided subject matter experts to the DA Mohawk steering group, the CH-47 emergency descent evaluations, the AH-64 combat weapons training, and other investigative and training activities. The division's technical experts processed numerous comments and recommendations for changes to aircraft operators' manuals and checklists.

The mission of the Evaluation Division was to implement and conduct the internal and external evaluation programs of the Aviation Center in accordance with TRADOC Regulation 350-15. The Evaluation Division was also responsible for conducting the branch liaison team (BLT) program and the reserve forces school affiliation program. The division also provided staff supervision for Fort Rucker's Army Aviation standardization program.

The Evaluation Division conducted aviation standardization and training seminars (ASTS) and branch training team (BTT) visits, through the BLT program, to aviation units at Fort Stewart, Fort Riley, Fort Bliss, Fort Drum, Fort Polk, Fort Hood, Fort Bragg, Fort Knox, Korea, and Fort Kobbe (Panama). During November, HQs, TRADOC, withdrew all funds for the remainder of FY 88 for BLT visits. The division conducted two inactive duty training visits and one annual training visit to each of its affiliated schools in Louisiana, Texas, and Mississippi. The division also provided methodological and analytical support to the internal and external projects at the Aviation Center. The following major evaluations and surveys were developed and conducted during 1987: Warrant Officer Entry Course safety instruction training effectiveness analysis (TEA), OH-58 TEA, CH-47 Flight Engineer Course TEA, and spouses training TEA. Additionally, TEAs were conducted on numerous individual blocks of instruction at USAAVNC.

The Operations and Resource Management Division managed and controlled the organizational resources for six Army management structure accounts; disbursed TDY funds, and was responsible for the management of career-development and/or enhancement programs.

The Operations/Resource Management Division remained extremely busy throughout 1987. The resource side of the division managed and controlled the dispersal of organizational resources for various activities and purposes. In 1987, this division managed and dispersed \$622,000 in support of approximately 205 trips made by DES personnel. Over 750 TDY orders were processed for the directorate throughout the year.

The Literature Review Branch of the Operations/Resource Management Division, applied an in-depth knowledge of aircraft systems and flight operations to DES standardization and evaluation objectives and also monitored the adequacy of flight regulations and safety procedures. The branch's technical experts processed comments and recommendations to individual requests for changes to aircraft operators' manuals and checklists. An ancillary function of the branch was the chairing of numerous user review conferences concerning Army aircraft. The branch also provided input to various Army Aviation conferences and study groups. The Technical Support Branch was involved in a number of critical studies impacting Army Aviation. The most notable include the 1987 touchdown emergency procedure evaluation, the AH-64 seat specialization study, and the revision of the automated DA Form 759.

E. U.S. Army Air Traffic Control Activity (USAATCA)<sup>12</sup>

The USAATCA completed its first full year at Fort Rucker as an integral part of the USAAVNC and the Aviation Branch on 30 September 1987. As the proponent for Army air traffic control (ATC), the USAATCA represented the USAAVNC, TRADOC, and the DA in developing concepts, doctrine, tactics, materiel requirements, and training programs for Army ATC. The activity was organized with the following major offices and functions: the Air Traffic Control Development Office, the Air Traffic Control Management Office, the Systems Evaluation and Maintenance Office, and the Aeronautical Services Office.

Key Personnel

Director

Col. Melvin J. McLemore

Deputy Director

Mr. Douglas E. East (GM-14)

Activity Sergeant Major

Sgt. Maj. Paul D. Williams

Chief, Air Traffic Control Development Office

Mr. Alphonse A. Ayo (GM-14)

Chief, Air Traffic Control Management Office

Mr. Francis N. Anderson, (GM-14)

Chief, Systems Evaluation and Maintenance Office

Lt. Col. Robert E. Bell, Jr.

Aeronautical Services Office

Col. John A Guerin

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<sup>12</sup>. Sources for this section consisted of the 1987 annual historical report submitted to historian by director of USAATCA, 29 Jun 1988; notes on interview by author with the director of USAATCA, Col. Melvin J. McLemore, 2 Jun 1988; "Army Aviation Update," 13 Feb, 15 Jun 1987; Air Traffic Control Bulletin 87-1, May 1987; and Air Traffic Control Bulletin 87-2, Oct 1987.

Strength Figures\*

	Off.	WO	Enl.	Civ.	Total
Authorized	18	7	40	67	132
Assigned	15	12	35	63	125

\* As of 31 December 1987.

The Air Traffic Control Development Office provided guidance for the establishment, modernization, termination, and relocation of ATC/NAVAIDs (navigational aids) equipment. The Development Office had three divisions. The Airfield Plans and Standards Division was assigned a continuous assessment function monitoring fixed based facilities and NAVAIDs systems and equipment. The Programs Division monitored and provided recommendations to the engineering, acquisition, and installation phases of ATC systems design to satisfy both current and future requirements. It also functioned as the user representative for MACOMs worldwide and performed project management of fixed base air traffic control equipment. Project management was accomplished through coordination with USAISC DCSPLNS to update user requirements. The ATC Requirements Division completed survey actions worldwide during the past year. Also assigned to the Development Office were two representatives. The European field representative located at Heidelberg, Germany, served as an ATC functional area advisor to the commander of USAISEC-Europe, reviewing engineering and installation plans, interfacing with host governments and conducting field visits and site surveys. The positions of northeast field representative, located at Fort Monmouth, New Jersey, was vacant during 1987.

The ATC Management Office was comprised of an Operations and Procedures Division and a Resources Division which ensured proper staffing to meet the mission requirements. This office was the focal point for the requisition and recruiting of personnel for the entire organization. The Management Office developed policies for a totally new resource management office with responsibility for accountability and obligation of OMA funds for the USAATCA, USAAVNC, the 10th ATC Battalion, and the 256th Signal Support Company, FORSCOM. Accounts were established in a short time frame to manage OMA funds in support of worldwide ATC projects to include APA funds for worldwide equipment acquisition. Policies and procedures were established with other MACOMs, Army depots, procurement activities, other DOD services, and the Federal Aviation Administration.

Also assigned to the Management Office was an ATC representative at MILPERCEN who assisted in ATC assignments

and managed the Army doctrinal and training literature programs of CMFs 28 and 93 for the Army Aviation Branch. At the FAA Academy the activity was represented by a liaison NCO and DOD academic coordinator who coordinated Army and other DOD training requirements and quotas and acted as the POC for DOD personnel attending the academy. The LNO also participated with the FAA in development and execution of flight inspection procedures for Army ATC facilities.

The Systems Evaluation and Maintenance Office consisted of two separate divisions. The Systems Evaluation Division conducted worldwide flight inspection and assistance to Army ATC and navigation facilities using three U.S. Army aircraft modified and specially equipped by the FAA for performance of aerial flight inspection. Flight inspection teams and flight crews also certified by the FAA performed ATC facility evaluations and NAVAID restorals ensuring that navigation and landing aids operated safely and efficiently. The ATC Systems Maintenance Division was an area maintenance facility. The mobile maintenance contact team managed the ATC systems maintenance program for USAATCA. It provided an interface with the FAA for flight and ground evaluations for Army ATC facilities. The Repairable Exchange Maintenance Branch operated a repairable facility for modules and components of selected air traffic control equipment.

The Aeronautical Services Office, located at Cameron Station, Alexandria, Virginia, served as an extension of USAATC for matters pertaining to the national airspace system (NAS). This office also represented the DA at the national and international level on use of airspace; air traffic regulation, control, and procedures; joint use of Army airfields by other than DOD aircraft; violation of Federal Aviation Regulations (FARs) by Army personnel; flight procedures; aeronautical information; and aeronautical cartographic requirements. It also managed that airspace within the NAS as delegated to the Army by FAA and provided DA representation to the FAA regional headquarters by assigning DA regional representatives to the various FAA regions and a representative office to Europe in Heidelberg, Germany. The office validated Army Aviation requirements for flight information publications and charts worldwide; established criteria and policy for the development of terminal and en route instrument procedures; and approved authority for Army procedures published in DOD flight information publications.

The ATC Activity established a full-time Army aviator representative to serve on the staff of the DOD NAS Plan Office in Washington, D.C., because of the long-standing need to have the military services more involved with the FAA's national airspace system plan. The activity also established an Army aviator position at the Joint Procurement

Coordinating Office in Washington to coordinate the procurement of air traffic control equipment for DOD facilities. This representative consolidated the Army's requirements, initiated programming actions, and coordinated with the FAA for joint acquisition of equipment and software.

During 1987 USAATCA hosted the first ATC Commanders' Conference as part of USAAVNC. All major commands with ATC elements and all ATC battalions or higher were represented. The main theme was mission accomplishment under the restructured ATC organizations.

A significant personnel shortage occurred Army-wide for air traffic control MOS 93H and 93J. The USAATCA, working closely with TAPA, and the USAAVNC staff devised methods for recruiting, retaining, and reallocating controllers to ensure that all commands were able to meet their mission requirements. Placing a USAATCA representative at TAPA helped to alleviate this severe problem. Final coordination was accomplished for consolidation of MOS 93H and 93J into MOS 93C air traffic controller. The first reclassification to MOS 93C was made in December 1987. This consolidated ATC MOS provided a better qualified, more versatile soldier and was expected to allow commanders greater flexibility in utilizing ATC personnel.

An assessment of all Army-wide ATC assets was made during 1987, and the information collected was used for a variety of planning purposes including USAATCA's input to the TRADOC long range plan.

Budget restrictions were the primary hindrance to mission accomplishment in 1987. Numerous ATC equipment surveys and installation projects were postponed or not initiated because of lack of funds. ATC systems evaluation crews were limited due to funding constraints as were normal TDY trips by other members of USAATCA. The hiring and training of new personnel to fill highly technical positions was another continuous challenge throughout the year.

F. Internal Review and Audit Compliance Office (IRAC)<sup>13</sup>

The IRAC Office exercised staff supervision over the USAAVNC, Fort Rucker, and the Army Aviation Branch IRAC program. This involved performing comprehensive audits and internal reviews of all functions and activities. The IRAC maintained and refined an auditable entity inventory of all areas subject to audit coverage at the USAAVNC, Fort Rucker, and the Aviation Branch. The IRAC Office also exercised staff supervision over and negotiated and coordinated all visits by external audit agencies. Additionally, IRAC performed follow-up on all internal and external audits and prepared reports for headquarters regarding implementation of audit recommendations and other major audit and review activities.

Throughout 1987, the IRAC Office was aligned under the USAAVNC chief of staff. Mr. Kenneth D. Barrett, GM-13, was the internal review officer, and other key personnel consisted of Mr. Woodrow J. Farrington, GS-12, chief of the Internal Review Branch, and Mr. Don W. Phillips, GS-12, chief of the Audit Compliance Branch. All served in these positions the entire year. Throughout the year the IRAC Office was staffed with 14 civilians, including two DA interns.

During 1987 the IRAC Office performed sixty-two audits, seventeen follow-up audits, and fifty-seven audit-related administrative projects. It also provided audit liaison for sixteen external audit agency visits and/or contacts. A total of twenty-six audit and follow-up reports, containing fifty-one recommendations and expected future monetary benefits to the Army of \$3.351 billion, were issued.

During 1987, the IRAC Office received seven microcomputers and related software valued at \$36,000 under the quick return on investment program (QRIP). This was expected to enable the IRAC Office to reduce the eighteen-year backlog of audits by performing audits more effectively and efficiently.

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<sup>13</sup>. The documentation for this section consisted of the 1987 annual historical report submitted to historian by the internal review officer, Woodrow J. Farrington, 21 Jun 1988.

G. Office of the Inspector General (IG)<sup>14</sup>

The USAAVNC IG had the mission of inquiring into and reporting upon matters affecting the state of economy, efficiency, discipline, readiness, and morale of the command. The Office of the IG was organized into two branches, Assistance and Inspections.

Lt. Col. Wayne R. Shugart was the USAAVNC IG until June 1987; Maj. William F. Horn II served as IG from June until the arrival in September of Lt. Col. Wayne R. Hansom, who continued in that position through the remainder of the year. Maj. William F. Horn II served as chief of the Inspections Branch and Capt. Kevin R. Barreras served as the chief of the Assistance Branch for the entire year of 1987. Throughout the year the personnel strength of the Office of the IG consisted of three officers, four enlisted persons, and three civilians.

In 1987, the IG Office provided the commanding general with a continuing assessment of the operational and administrative effectiveness of directorates, commands, and activities at Fort Rucker. General inspections were conducted during the year of the following twelve units and activities:

- Directorate of Contracting
- Aviation Training Brigade
- Assistant Director for Military Personnel (Adjutant General)
- Directorate of Enlisted Training
- Assistant Director for Civilian Personnel (CPO)
- 1st Aviation Brigade
- Directorate of Aviation Proponency
- Directorate of Combined Arms Tactics
- Department of Gunnery and Flight Systems
- TRADOC System Managers
- Aviation Board
- Directorate of Personnel and Community Activities

There were also eleven follow-up inspections in 1987. These were conducted of the following units/activities:

- Directorate of Evaluation and Standardization
- Secretary General Staff
- Directorate of Engineering and Housing
- Military Police Activity

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<sup>14</sup>. The source for this section was the 1987 annual historical report submitted to historian by the inspector general, 26 May 1988.

1st Aviation Brigade  
Chaplain  
Directorate of Training and Doctrine  
Public Affairs Office  
Equal Employment Opportunity Office  
Office of Staff Judge Advocate  
Directorate of Enlisted Training

During 1987, eleven informal inquiries were completed, and 256 IG action requests were completed by the staff of the IG Office. Categorized by subject area, the numbers of action requests in each category were as follows:

2--resource management  
3--information systems & service  
5--supply  
5--engineering & facilities  
2--maintenance  
15--health care  
3--legal  
31--finance and accounting  
19--transportation  
1--manpower management  
70--personnel management, military  
24--personnel management, civilian  
2--operations  
10--community/installation support  
1--services  
10--training  
3--inspections/audits/assists/investigations  
1--public affairs  
3--law enforcement/security  
29--command/management of organizations  
17--personnel conduct

## H. Public Affairs Office (PAO)<sup>15</sup>

The PAO conducted an intensive program in 1987 to publicize activities of the Aviation Branch, the Army Aviation Center, and Fort Rucker, Alabama. This was accomplished through the PAO Public Information (PI), Command Information (CI) and Community Relations (CR) branches. Lt. Col. Steven R. Rausch was the public affairs officer in 1987, and Betty J. Goodson was deputy PAO. Section chiefs were William J. Hayes, PI; Christopher T. Greene, CI; and Sheryl W. Milum, CR. Sfc. David L. Malone was NCOIC. The personnel strength of the PAO in 1987 consisted of two officers, six enlisted personnel, and seven civilians.

External and internal audiences served by the PAO included active duty and retired military and their families, DOD and contractor employees, reserve component personnel, and other area residents. Information was also provided to Aviation Branch members worldwide.

In serving the external publics, the PI Branch responded to about 800 media queries and escorted more than 280 media visitors. The branch made 386 news releases to local and national media outlets, and extended 55 invitations to media representatives for special occasions. Major developments and events handled by PI personnel in 1987 included the trial of a soldier accused of tampering with helicopters, the grounding and subsequent return to flight of UH-60 and AH-64 aircraft, basefield realignment, budget decrements, announcement of a major change (multitrack) to the initial entry flight training program, updates on flight training and refueling contracts, fatal aircraft accidents, adoption of the regimental system, receipt of the XCH-62 heavy-lift helicopter by the Army Aviation Museum, and Alabama Governor Guy Hunt's speech to the local chapter of the AUSA.

The hometown news release program was also administered by the PI Branch, with 2,091 reports of achievements by Fort Rucker soldiers forwarded in 1987. The forms were sent to the Hometown News Center, Kelly Air Force Base, Texas; and 99 percent of them met the strict acceptance criteria.

The main tool used by the CI Branch to accomplish its mission of serving the internal public was the Army Flier. Published at no cost to the government by a civilian publisher who earned income from advertising sales, the Flier was issued fifty weeks in 1987--in accordance with contract

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<sup>15</sup>. The major source for this section was the 1987 annual historical report submitted to historian by the public affairs officer, 5 Aug 1988.

stipulations. All copy, photographs, and much of the layout was provided by PAO personnel. As proof of its excellent quality, the Army Flier won an honorable mention, and a staff member received two second-place awards in the 1987 TRADOC print and broadcast journalism competition.

Another CI Branch publication was the "Aviation Branch Update" that was mailed bimonthly to approximately 400 Army leaders worldwide. It was signed by Fort Rucker's commanding general and carried his message to the field on Army Aviation issues.

The CR Branch activities in 1987 centered on observance of the bicentennial of the U.S. Constitution in support of the Army's theme for the year, "The Constitution." CR initiatives led to the installation's selection as a bicentennial defense community by the National Bicentennial Commission. Those initiatives included dedication of a Constitution Park on post and preparation of four video public service announcements depicting Army Aviation's support of the Constitution. The announcements received extensive use by area television stations and won first place in the TRADOC-level of the Keith L. Ware Award competition and second place at the DA-level.

The CR Branch also hosted a reunion and memorial dedication for the 746th Tank Unit and coordinated a visit to Fort Rucker by the "Moving Wall," a mobile memorial to Vietnam veterans. The exhibition was on the installation for seven days and attracted about 15,000 visitors.

Additionally, 238 requests for support of various community events by Fort Rucker assets were handled by the CR Branch.

The Fort Rucker Public Affairs Office was, in essence, the Army Aviation PAO. The significance of that charter was fully accepted, and the PAO staff considered its mission to be to inform the world about the contributions Army Aviation made to the stature and role of the United States in the world of nations.

## I. Office of the Staff Judge Advocate (OSJA)<sup>1e</sup>

The OSJA was responsible for the legal services and assistance provided at Fort Rucker to the command as well as to soldiers, family members, and retirees. The diversity of its duties included handling courts-martial and minor criminal offenses; counseling; preparing legal documents; conducting legal research and preparing legal opinions; and handling claims for and against the government.

The OSJA was directed by Lt. Col. Joseph C. Fowler, Jr., in 1987. The deputy staff judge advocate was Maj. Steven R. Scholz. The OSJA consisted of five branches: the Administrative Law Branch, the Legal Assistance Branch, the Claims Branch, the Military Justice Branch, and the Administrative Branch. Throughout the year thirty-one personnel were assigned to the OSJA. These consisted of nine officers, one warrant officer, ten enlisted persons, and eleven civilians.

The OSJA furnished all legal services for the Aviation Center and was responsible for the prosecution and administration of courts-martial. The OSJA also administered the Federal Magistrate Court program, which handled minor criminal offenses occurring on the military reservation. Additionally, the OSJA provided legal assistance to eligible personnel and processed claims both for and against the government. Finally, the OSJA prepared legal opinions relative to interpretation and application of laws, regulations, statutes, and other directives which affected the administration of personnel, business, property, and financial operations of the installation.

In 1987 the Federal Magistrate Court handled 2,403 traffic tickets, tried 1,400 cases in 20 court sessions, and obtained restitution in the amount of \$14,120.49.

The Military Justice Branch successfully tried four general courts-martial, five bad conduct discharge (BCD) special courts-martial, one other special court-martial, and three summary courts-martial in 1987. The branch also assisted in the preparation of three commanding general Article 15 proceedings and 285 formal and 191 summarized Article 15 proceedings administered at lower command levels. The Military Justice Branch provided assistance as recorder or advisor in four administrative elimination boards and four flying evaluation boards during 1987. Finally, the branch

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<sup>1e</sup>. The major source for this section was the 1987 annual historical report submitted to the historian by the OSJA, 30 Jun 1988.

helped the youth assistance program resolve 41 juvenile offenses occurring on Fort Rucker in 1987.

The Claims Branch processed 1,384 claims in 1987, and paid claims amounting to \$809,135.18. Recovery from carriers amounted to \$15,401.49. A total of \$103,780.26 was collected in the third-party medical recovery program.

The Legal Assistance Branch assisted approximately 14,032 clients in 1987 and prepared 1,067 wills and 10,449 legal documents (e.g. powers of attorney and bills of sale) for Fort Rucker soldiers, family members and retirees. The Legal Assistance Branch continued its tax assistance program, and a volunteer income tax assistance course was held in conjunction with the Internal Revenue Service (IRS) and the Alabama Department of Revenue. In addition, the Legal Assistance Section began taking the necessary steps to become one of the first installations in CONUS to participate in the IRS electronic filing program. The groundwork laid in 1987 resulted in the successful procurement of hardware, software, and training, which allowed the section to become an electronic filing participant in 1988. The unit tax assistance program helped over 2,675 soldiers with federal and state income tax returns.

The Contract Section of the Administrative Law Branch reviewed and processed 497 contract actions involving approximately \$134 million. It also reviewed twenty-seven final decision letters, cure notices, and other administrative actions. Research was performed and briefs written to defend government action in numerous protests filed with the General Accounting Office, in suits filed in federal court, and in cases heard by the Armed Services Board of Contract Appeals.

The OSJA provided 432 hours of instruction to Fort Rucker units in support of the Aviation School and Center. The instruction covered various topics such as law of war, military justice, standards of conduct, administrative law, and legal assistance.

J. Aviation Center Safety Office<sup>17</sup>

The mission of the Safety Office was to promote the USAAVNC mission by implementing a safety program designed to reduce and keep to a minimum manpower and materiel losses due to accidents, thus ensuring more efficient utilization of personnel and equipment. There were no changes in its mission or function in 1987.

The organizational structure also remained unchanged in 1987. The Aviation Center Safety Office and its subordinate element, the Aircraft Accident Investigation Board, were under the staff supervision of the USAAVNC chief of staff. Mr. John T. Persch (GM-14) was the manager of the Aviation Center Safety Office, and Mr. Ronald Cox (GS-13) was president of the Aircraft Accident Investigation Board. The three air safety specialists assigned in 1987 were Walter M. Garner, Robert C. Conner, and George W. Baker (all GS-12s). At the beginning of the year, there were fifteen civilians and one warrant officer in the unit; at the end of the year there were fifteen civilians and no military personnel.

During 1987 standard army safety and occupational health inspections (SASOHI) were conducted of USAAVNC units, activities, and facilities; of tenant organizations; and of USAR and ROTC units within the Fort Rucker geographical area of responsibility.

Fort Rucker continued to excel in aircraft accident prevention performance in FY 87, achieving accident rates lower than the record lows in FY 86. This was accomplished while flying more than a quarter of the Army's total flying hours in a high risk (training) environment. As demonstrated in the table below, Fort Rucker's FY 87 accident rates were lower than Department of Army rates in all categories.

Accident Experience FY 87	DA	Ft Rucker
Class A aircraft accidents per 100,000 flying hours	2.22	0.46
Class B aircraft accidents per 100,000 flying hours	0.96	0.00
Class C aircraft accidents per 100,000 flying hours	4.36	1.38

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<sup>17</sup>. The source for this section was the 1987 annual historical report submitted to historian by the Safety Office, 8 Jun 1988.

Military disabling injuries per 200,000 manhours of exposure	0.24	0.15
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Army motor vehicle accidents per 1,000,000 miles driven	2.20	1.30
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## CHAPTER V

### GARRISON SUPPORT

#### A. Directorate of Engineering and Housing (DEH)<sup>1</sup>

The DEH either directly or indirectly affected everyone on post in 1987 through its engineering projects and services. Col. James A. Ward, Jr., served as the director of DEH until his reassignment in July 1987. Mr. Frank O. White, the deputy director, served as the director from July 1987 until Lt. Col. Bobby L. Holland became the director in October 1987. The DEH planned, directed, executed, managed, maintained, and administered its operations through the ten functional elements that were subordinate to it. The major activities of these ten elements have been described following the key personnel and strength charts below.

#### Key Personnel

Director	Col. James A. Ward, Jr. Lt. Col. Bobby L. Holland	Jan-Jul Jul-Dec
Deputy Director	Mr. Frank O. White (GM-13)	Jan-Dec
Commercial Activities	Mrs. Kathryn Cooper (GS-11)	Jul-Dec
Administrative Officer	Mrs. Kathryn Cooper (GS-11) Ms. Monty V. Tinch (GS-7)	Jan-Dec Oct-Dec
Environmental Office	Mr. James R. Swift (GS-11)	Jan-Dec
Engineering and Resource Management Division	Mr. Bobby H. Skipper (GS-12)	Jan-Dec
Supply and Storage Division	Mr. Myron J. Brown (GS-11)	Jan-Dec
Engineer Plans & Services Division	Mr. Julian F. Botts (GM-13)	Jan-Dec

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<sup>1</sup>. The major sources for this section consisted of the 1987 annual historical report submitted to historian by the director of DEH, 30 Jun 1988; and notes on interview by author with director of DEH, 6 Jun 1988.

Utilities Division

Mr. Joseph B. Hayes (GM-13) Jan-Apr  
Mr. Ronald Leatherwood (GM-13) Apr-Dec

Buildings & Grounds

Mr. T. K. Brantley (GM-13) Jan-Dec

Fire Protection Division

Mr. Jerry B. Grammont (GS-12) Jan-Dec

Housing Division

Miss Patricia Sales (GS-12) Jan-Dec

Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	2	0	2	544	548
31 Dec 87	2	0	3	543	548

Commercial Activities Office

The year 1987 found the DEH in its third year of a commercial activities (CA) study. The efforts of the previous two years had been directed primarily toward the development of the performance work statement and the conduct of a management study. During this third year the management study was refined and a "Most Efficient Organization (MEO)" was certified. The MEO was to become the basis for the government to bid against private contractors.

Also in 1987 the DEH completed a quality assurance plan (QASP). The QASP was a detailed description of the government's inspection procedures used for monitoring performance by both the government and private contractors.

Administrative Services Office

Ms. Monty V. Tinch was assigned to DEH as administrative officer for the Administrative Services Office in October 1987 replacing Mrs. Kathryn W. Cooper who departed the position in May 1987. The office exercised staff supervision over matters pertaining to manpower control, organizational structure, civilian personnel actions, and administrative functions. The office also maintained liaison with the Force Development Division, the Directorate of Resource Management, and Civilian Personnel with regard to the aforementioned matters.

## Environmental Office

During 1987, the DEH Environmental Office was under the supervision of Mr. James Swift. Its primary function was the protection and enhancement of the environment. During the year the environmental operation increased its emphasis on the management of hazardous waste and on noise studies of outlying stagefields. With regard to the former, a plastic media blasting facility was proposed for construction in the near future. At the end of 1987 the status of the facility was in the design stage. Operation of this facility was expected eventually to facilitate the overall reduction of hazardous waste generated at Fort Rucker. The office also continued conducting hazardous waste minimization studies. With regard to noise problems, noise contour studies of aircraft stagefield operations were 50 percent complete by the end of the year. This program was identified with incompatible use zone data programmed through the Corps of Engineers Research Laboratory. Program analysis was expected to be completed in the near future.

Ground water monitoring of closed landfills continued to produce preliminary evidence of contamination of heavy metals, thereby requiring constant surveillance and surface inspection in 1987. The office began monitoring nine additional water wells for possible contamination during the year. This program was expected to continue indefinitely.

Computer programming has become a significant management tool for environmental monitoring, reporting methods, graphic representations, and presentations. New data management systems introduced management controlling policies for polychlorinated biphenyl (PCB) inventories, fuel spilling operations, and hazardous materials.

## Engineering Resource Management Division

The DEH Engineering Resource Management Division under its chief, Mr. Bobby H. Skipper, had a wide range of functions in 1987. It planned, programmed, coordinated, estimated, scheduled and evaluated requests for accomplishment of work. The division also integrated the work management program with other engineering and installation programs and ensured overall compliance with basic policies. Finally all real estate actions for the installation were coordinated through the division.

By effective prior planning and preparatory work, the Engineering Resource Management Division was able to take advantage of migratory year-end funds to accomplish work by contract which could not be done within its funding program. The funded real property maintenance activity program was

around \$39 million; however, the amount expended for actual accomplishment of the program was over \$41 million.

#### Supply and Storage Division

Mr. Myron J. Brown was the chief of the Supply and Storage Division during 1987. The division planned, programmed and accomplished the supply function for the DEH workforce and also provided lumber and related wood products for all activities and organizations both at Fort Rucker and at satellite reserve and ROTC units.

In 1987 an Army Audit Agency audit revealed approximately \$300,000 worth of excess materials stored at various places at Fort Rucker under DEH control. These materials were turned in to the Defense Reutilization and Marketing Office.

#### Engineer Plans and Services Division

The Engineer Plans and Services Division consisted of three branches: Engineering Services, Master Plans, and Construction Services. Mr. Julian F. Botts was the division chief; Mr. Mike McLaney was the Engineering Services Branch chief; Mr. Roy Powell was the Contract Management Branch chief; and Mr. Delmer Owens was the master planner as well as the Master Planning Branch chief.

The Division was responsible for engineering services and design; master planning and military construction, Army (MCA) programming; and contract management for maintenance, repair, and minor construction contracts at Fort Rucker and USAR centers in Alabama and Mississippi.

The following construction contracts were either underway or completed during 1987:

Category	Number of Projects	Cost
OMA	151	\$ 9,250,000
Reimbursable	58	1,531,500
USAR	52	368,700
FH	19	1,508,500
MCA	4	35,688,818
TOTAL	284	\$48,347,518

#### Utilities Division

The Utilities Division performed the operation, maintenance, and repair of real property electrical and

mechanical systems. The major activities in 1987 and the corresponding systems included the following: production and distribution of steam for heating, air conditioning and other processes; production, treatment, and distribution of water; collection and treatment of waste water; and refuse collection and disposal. The division also managed the post energy conservation program and operated the energy monitoring and control system (EMCS) computer to reduce consumption. Mr. Joseph B. Hayes served as division chief until April 1987 and Mr. Ronald E. Leatherwood served as chief the remainder of the year.

The division conducted an experimental waste oil burning program that significantly reduced energy consumption and fuel costs. Used oil and other combustible liquids were collected postwide and shipped to Auburn University for filtering and processing. One hundred thousand gallons of waste oil were burned instead of natural gas, the fuel normally used. The Energy Management Branch achieved the energy goal established by TRADOC for FY 87. The total energy consumption was 0.6 percent below the target, and TRADOC presented USAAVNC \$26,000 in energy rebate funds as an energy conservation award.

#### Buildings and Grounds Division

During 1987 Mr. T. K. Brantley served as chief of the Buildings and Grounds Division. The division was responsible for maintenance of structures and grounds, land and timber management, fish and wildlife management, pest control, and the self-help/U-do-it operations.

The Land Management Branch of the division planted 2,200 trees and shrubs and placed 46,000 square yards of sod throughout the cantonment. The activities were accomplished as part of an all out installation beautification effort. Forest products that were made available for sale in 1987 generated a net profit of \$255,395. Of this total, \$80,000 were returned to the surrounding counties. Also in 1987, 8,900 hybrid striped bass were stocked in Lake Tholocco on an experimental basis. The installation also participated in a deer management program with the State of Alabama District of Conservation and Natural Resources.

A program called "U-do-it" was added to the self-help operation in March of 1987. It had a separate and distinct function, but enhanced self-help. In the short time that U-do-it was in operation, it saved the government over \$100,000 in labor cost that would have been contracted out or handled by the DEH workforce. U-do-it allowed occupants to do things that greatly improved their living and working areas by remodeling or performing small construction projects. The Buildings and Grounds Division provided planning, estimating,

technical assistance, and materials; and users provided the human resources.

#### Fire Protection Division

Mr. Jerry B. Grammont was the fire chief and head of the Fire Protection Division during 1987. The division provided around-the-clock fire protection and planned, directed, and coordinated active fire prevention and protection programs. Investigations of fires were done to determine the cause, and necessary corrective actions were taken to prevent similar occurrences. Comprehensive records of fire prevention and protection activities were kept, and fire reports were prepared and submitted along with the appropriate recommendations.

During 1987, 162 fires occurred, of which 41 were classified as reportable and were reported to higher headquarters. In addition, fire crews responded to 4,252 aircraft emergencies. The Fort Rucker Fire Department conducted 10,163 on-post fire inspections, inspected 1,444 sprinkler and alarm systems and serviced 12,600 fire extinguisher during the year. The department responded to twenty-nine mutual aid requests, fourteen fires, one hazardous condition standby, and fourteen emergency medical calls at the request of the cities of Daleville, Enterprise, Ozark, Newton, and Level Plains. This was an increase of eleven from 1986. In 1987, 2,215 personnel attended classes and demonstrations emphasizing actions to take in the event of fire, including preventive measures and the use of fire extinguishers. Major emphasis was placed on fire prevention during spring and fall clean-up weeks, national fire prevention week, and during the holiday season.

In 1987 six stagefields required construction in order to provide adequate housing facilities to accommodate two crash fire crews at each site. By year's end work orders had been submitted to eliminate overcrowded conditions at Ech, Toth, and Tac Runkle Stagefields. Three new stagefields, Brown, Lucas, and Stinson, were placed in service without adequate housing facilities to accommodate crash fire crews. Work orders were submitted to add barracks, training area, and showers to improve conditions at these stagefields.

#### Housing Division

Miss Patricia A. Sales was the chief of the Housing Division during 1987. This division was comprised of the Family Housing Branch (Mrs. Mary W. Kirkland, chief), the Billeting Branch (Mr. David C. Shoop, chief), and the Furnishings Management Branch (Mr. Paul C. Wheeler, chief). In 1987 the Housing Division supported 41 conferences/symposiums and 481 aviation related training classes.

Construction was completed on the Fort Rucker Guest House in November, and the grand opening was held and hosted by General Parker on 23 November 1987.

During 1987, the Family Housing Branch terminated 742 sets of on-post quarters representing a turnover rate of 49 percent. The average occupancy rate of all on-post family housing units was 99.2 percent for the year. The Housing Referral Office processed 1,511 soldiers, and 1,064 personnel were provided with housing through assistance from the office. The office listings in 1987 consisted of 5,746 units, 5,695 for rent and 51 for sale. Contracts during 1987 were awarded for improvements such as painting, refinishing floors, reroofing carports, grounds maintenance, and repairing fire damaged units.

The Billeting Branch accomplished a transient-quarters utilization rate of 91 percent--compared to a DA average of 75 percent. During 1987, a total of 6,510 statements of nonavailability of quarters were issued; this was an increase of 237 over the previous year.

The Furnishings Management Branch was responsible for the management of the installation's furnishings program for family housing and unaccompanied personnel housing, to include tenant activities. During 1987, the branch programmed and budgeted for initial issue and replacement furnishings in excess of \$365,000.

B. Directorate of Personnel and Community Activities (DPCA)<sup>2</sup>

The mission of the DPCA was to establish policies, procedures, and practices governing various aspects of personnel management and installation morale, welfare, and recreation activities. The directorate also exercised staff supervision over the Army and Air Force Exchange System (AAFES) and the dependent schools, exercised administrative control over private organizations, and served as program director for the installation.

The DPCA consisted of the following major divisions in 1987: Resource Management Office, Equal Opportunity Division, U.S. Army Aviation Museum, Community Operations Division, Financial Management Division, Community Recreation Division, Services Division, Family Support Division, Army Community Service, Alcohol and Drug Abuse Division, Adjutant General, Personnel Services Center, Education Center, and Office of Civilian Personnel. Some of these were in turn subdivided into several other divisions or branches, and some others were grouped together under the supervision of the assistant director for community and family activities.

Key Personnel

Director of Personnel and Community Activities Col. Frederick I. Steiner	Jan-Dec
Chief, Resource Management Office Hugh M. Weeks (GS-11)	Jan-Apr
Marianne G. Jackson (GS-9)	Apr-Aug
Glenda J. Himes (GS-11)	Aug-Dec
Noncommissioned Officer in Charge (NCOIC) M. Sgt. Alan F. Larson	Jan-Dec
NCOIC, Equal Opportunity Division M. Sgt. Jerry W. Barger	Jan-Dec
Supervisory Museum Curator/Director Thomas J. Sabiston (GS-12)	Jan-Dec

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<sup>2</sup>. Major sources for this section consisted of the 1987 annual historical report submitted to historian by the director of DPCA, 5 Jun 1988; a separate annual historical report submitted by the Office of Civilian Personnel, 29 Jun 1988; notes on interview by author with director of DPCA, Col. Frederick Steiner, 6 Jun 1988; and "Aviation Branch Update," 15 Apr, 14 Aug, and 15 Dec 1987.

Assistant Director for Community and Family Activities		
Evan E. Smith Jr. (UA-13)		Jan-Dec
Chief, Community Recreation Division		
J. Wade Henderson (GS-12)		Jan-Dec
Alcohol and Drug Control Officer		
Ronald R. Sorrells (GS-12)		Jan-Dec
Adjutant General		
Lt. Col. Leon B. Blackwell, Jr.		Jan-Dec
Clinical Director		
James H. Elmore (GS-12)		Jan-Dec
Superintendent, Fort Rucker Dependent Schools		
Dr. Linda C. Godsey (GS-14)		Jan-Dec
Assistant Director for Civilian Personnel		
Ms. Marjorie P. White (GM-14)		Jan-Dec

#### Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	12	4	80	676*	772
31 Dec 87	10	5	69	688*	772

\* Includes nonappropriated fund employees.

#### Equal Opportunity (EO) Division

The staff of the EO Division assisted the commander in achieving racial harmony and equal opportunity through education, affirmative action, and implementation of special activities. During CY 87, the division staff performed thirty-five installation facility checks of the PX, clubs, snack bars, commissary, etc. They also conducted staff assistance visits (SAV) to over thirty-nine units. The visits consisted primarily of discussions with unit commanders and/or first sergeants and of around 300 structured interviews with assigned personnel. The interviews concerned unit EO training, unit morale, promotions and awards, unit education and training programs, complaints of discrimination and sexual harassment, chain of command issues, commander's open-door policy, billeting, MOS utilization, and judicial and nonjudicial actions.

The EO staff conducted approximately 150 hours of personnel counseling and 240 hours of classroom instruction. Fifty hours of staff time were devoted to EO training for new arrivals. The EO Division also provided assistance and

major input in planning and conducting the various ethnic activities during 1987.

During 1987 there were two formal racial discrimination complaints, one formal sexual harassment complaint, and one formal gender discrimination complaint filed with the EO Office. Eighteen informal complaints of various types were filed during the year.

#### U.S. Army Aviation Museum

The mission of the U. S. Army Aviation Museum was to collect, restore, preserve, and exhibit Army Aviation aircraft and to serve as the DA repository for Army Aviation related artifacts, documents, and other items contributing to the heritage, traditions, and history of Army Aviation.

The Aviation Museum was visited in 1987 by two teams from the Army Center of Military History to assist in the preparation for becoming a certified Army museum. Results of the visits consisted of a reorganization of the museum structure with a full TDA complement authorized and of increased command emphasis on achieving certification.

By the end of 1987 the Army Aviation Museum Foundation had succeeded in raising \$2.5 million, and Alabama Congressman William Dickinson had obtained \$2.5 million in matching funds from reprogrammed money from the Military Construction Subcommittee.

The 1987 annual board meeting of the Army Aviation Museum Foundation, Inc., was held on 8 December, and the representatives from the Corps of Engineers, Mobile District, were in attendance. At this meeting, the following tentative schedule was established: (1) the Corps of Engineers' revised plans to be completed in December 1987; (2) the Museum Foundation's matching funds to be turned over to the Corps of Engineers in February of 1988; (3) construction contract to be awarded in March 1988; (4) construction to begin in May 1988.

During 1987, the museum hosted 106,180 visitors, including 289 groups. A T-42 and the XCH-62 aircraft were added to the collection during 1987. Four aircraft were completely refurbished by Sikorsky Support Services, and Three of these aircraft were placed on display. The major efforts of the museum staff were directed towards preparing for the certification inspection, scheduled for June 1988.

#### Assistant Director for Community and Family Activities (ADCFA)

The ADCFA exercised supervisory authority over the

following divisions: Community Recreation Division, Community Operations Division, Services Division, Financial Management Division, and Family Support Division. The major activities of each of these divisions has been described separately.

#### Community Operations Division (COD)

The Community Operations Division exercised supervision over the officers' and noncommissioned officers' clubs, the package beverage store, the golf course, and the bowling center. Both clubs were well-managed and financially stable during 1987. The NCO Club won the TRADOC Commanders' Award of Excellence for the best overall NCO club. The bowling center continued to provide modern, enjoyable, and economical family entertainment. During 1987, it hosted the women's, men's and youths' city association championship tournaments, as well as several special events. The golf course exceeded TRADOC goals and met post goals with appropriated fund support during CY 87. The golf course staff conducted twenty-one tournaments, four group clinics, and numerous unit function play days. The eighth annual Golden Hawk Pro-Am was played with 41 professional and 135 amateur golfers participating. Construction of a new cart building was started with a completion date targeted for April 1989. The package beverage store continued to be the main revenue provider of the single fund.

#### Community Recreation Division (CRD)

Programs were developed by CRD activity managers in the areas of: music and theater, tour and travel, sports, library, outdoor recreation, recreation center, and skills development. The music and theater personnel produced three plays and also provided technical consultation and support for concerts, talent shows, and command functions. The Information, Tour, and Travel Office sponsored a variety of group tours during 1987, which included trips to Hawaii, Disney World, Nashville, New Orleans, Blue Ridge Mountains, a seven-night western Caribbean Cruise, and numerous one-day trips. The Sports Branch added several new programs to gain the interest of soldiers and family members, thus improving their morale and physical well-being. Aerobics, aquatics, and a new ladies weight training class proved to be of great interest to the wives of the soldiers and the female military members as well. In the Center Library, a young adult reading section was established and given a special area in the library to allow for separation of their reading materials from more juvenile materials. The paperback section was expanded to a fourth set of shelves, and all paperback books were color-coded to allow for proper grouping according to genre. Also, instructional and educational videos were added to the large video collection.

In the area of outdoor recreation, three new camping trailers and six boats were added to the Thomas Mill Creek Park, which is a new thirty-four site campground located about sixty miles from Fort Rucker on the shore of Lake Eufaula. The Florida Recreation Area added three new three-bedroom trailers to provide facilities for larger families, and the boat basin was upgraded to provide safer mooring of boats. Two horse rental stalls were added at the riding stable, and six rental horses were acquired. The Skill Development Center offered many programs and classes in various arts and crafts and auto craft areas.

#### Family Support Division (FSD)

The Family Support Division consisted of the Child Development Services Branch, the Youth Activities Branch, and the Army Community Service. The Total Army Family Excellence Award was awarded to the FSD in 1987.

The mission of the Child Development Services Branch was to provide quality child development services to the families of the Fort Rucker military community. Innovations and improvements in 1987 included the expansion of the school-age latch key and family child care outreach programs, the hiring of an educational program specialist, and the opening of a child care facility for infants. A major problem area in 1987 was the lack of space--especially for child care services.

The Youth Activities Branch provided a wide variety of sports and youth center activities for Fort Rucker's youth. The major accomplishment for Youth Activities for 1987 was success in gaining approval for the construction of a new youth center. Also in 1987, the youth sports program was returned to Youth Activities from the Physical Fitness Center. More emphasis was placed on individual sports, which included offering instruction in tennis, skating, and racquetball.

#### Army Community Service (ACS)

An ACS classroom was constructed for use by all program areas. Painting interiors of ACS buildings, construction of additional office spaces, and other remodeling was done in progressive steps so as not to interfere with staff effectiveness or service to soldiers and family members. In the area of information and referral, an information guide was published, and a commander's referral guide was being developed. Information was being automated so as to provide an accurate and accessible data bank. In 1987 a new training instructor was hired for the consumer affairs and financial assistance program. The vacancy in the position of budget counselor severely limited this ACS service. The ACS

continued to sponsor and support the family advocacy program. More briefings than ever were conducted, thus reaching a larger number of soldiers, on the prevention of child and spouse abuse. In its exceptional family member program, ACS provided increased assistance to individual families and to Headquarters, DA, in locating and confirming local health and special education resources. A relocation program coordinator was hired in October 1987 to strengthen existing services and establish new ones according to regulations. The Army emergency relief campaign was conducted during May and June. The campaign's goal was \$70,000, and \$67,124.50 were collected. During the year, \$126,010.45 in loans and grants were given to soldiers and families on Fort Rucker.

### Services Division

The Services Division was developed to provide logistical support to all the divisions of the ADCFA. An automated inventory management and official stock records system was initiated and implemented for all perpetual inventories located in the consolidated warehouses. This system greatly facilitated the preparation of a management information system for activity managers. The division also initiated automated order forms for repetitive orders (subsistence, liquor, etc.) for use by the activities. This provided for uniform description of goods, thereby saving time and manpower in preparing purchase requests. Procurement was further improved by the development of an automated format to obtain pricing from all vendors.

### The Alcohol and Drug Abuse Division

The Alcohol and Drug Abuse Division was responsible for the administration of the alcohol and drug abuse prevention and control program (ADAPCP) at the USAAVNC. The program functioned to prevent the abuse of alcohol and drugs where possible, and to rehabilitate those personnel that had become dependent upon the substances. The ADAPCP provided education, information, bio-chemical testing, evaluation, counseling, rehabilitation, and referral services for military and civilian personnel at the installation.

During CY 87, the ADAPCP provided rehabilitative service for 150 military and civilian personnel. Educational awareness services covering a wide variety of alcohol and drug abuse issues were provided for 4,628 personnel. The ADAPCP processed 17,278 urinalysis samples which were seized in various units on the installation. This urinalysis testing effort represented 16,251 active duty military, 765 national guard military, and 213 DA civilian applicants. The installation maintained a static population of approximately 8,675 permanent party military; consequently, this urinalysis testing effort represented a penetration rate of

approximately 2.0 per soldier. The ADAPCP conducted the annual holiday campaign to combat DWI/DUI incidents and accidents during the months of November, December, and January. The efforts appeared to have been of benefit, as there were no serious incidents during the holiday period.

#### Office of the Adjutant General (AG)

The Office of the AG advised and assisted the command group on all personnel and administrative matters. The office consisted of the following divisions: Personnel Service Center (in-turn subdivided into several branches and sections); Personnel Services Branch; Administrative Support Branch, Strength Management Branch, Retention Services Branch, and Retirement Services Branch. The Office of the AG was reorganized under AR 600-8 during 1987.

The Personnel Service Center consisted of the Customer Service Section, the Personnel Plans and Actions Branch, the Personnel Automation Section, and the Personnel Processing Branch. The Customer Service Section served the Army and sister services in the area of southern Alabama, northwest Florida, and southern Mississippi during 1987 for defense eligibility enrollment reporting and issuing and reissuing identification cards for sponsors and family members. The personnel served included active duty sponsors as well as retired personnel and their family members. In addition, support was provided to ARNG and USAR in seventy-eight surrounding counties for issuance of identification cards and identification tags. Approximately 13,800 identification cards and 2,003 sets of identification tags were prepared during CY 87.

During 1987, the Personnel Plans and Actions Branch processed fifteen Legions of Merit, 242 Meritorious Service Medals, 372 Army Commendation Medals, and 529 Army Achievement Medals for a total of 1,158 awards. The branch processed 432 casualty cases, of which 309 included funeral detail support. On 1 October 1987, the Personnel Plans and Actions Branch assumed the responsibility for processing collateral and 15-6 investigations and flying evaluation board proceedings from DPCA/FSD. The branch received and processed 320 congressional inquiries in 1987.

The Personnel Automation Section maintained a processing and timeliness rate in excess of 98 percent for standard installation division personnel systems (SIDPERS) transactions. The update of the DA data base in less than four days after the event occurred was accomplished every month except March. The first phase of single source data was implemented in August. That meant that finance and personnel data bases were updated by the same source in lieu of separate input for each system.

During CY 87, the Trainee/Student Personnel Section was instrumental in screening flight students' records to identify soldiers who had erroneously signed a forty-eight month service obligation instead of a sixty month obligation for appointment upon completion of flight school. Once students were identified the students were required to sign a statement agreeing to the sixty month service obligation or submit a DA Form 4187 requesting a waiver for a forty-eight month service obligation. Also, during 1987, the automated instructional management system (AIMS) computer came on-line in the section. Class rosters could be pulled the day the class started in lieu of waiting approximately one week for the class rosters to be printed.

The Retention Branch of the Office of the AG met all established reenlistment objectives for the Active and Reserve components in 1987. TRADOC units at Fort Rucker reenlisted 112 initial term soldiers with an objective of 62 for 181 percent. The quality point average was 80.1. Sixty-five mid-career soldiers reenlisted with an objective of 39 for 167 percent. One hundred sixteen career soldiers reenlisted with an objective of 93 for 125 percent. FORSCOM units at Fort Rucker reenlisted 68 initial term soldiers with an objective of 55 for 124 percent. The quality point average was 71.4. Twenty-nine mid-career soldiers reenlisted with an objective of 27 for 107 percent. Thirty-one career soldiers reenlisted with an objective of 30 for 103 percent. The Fort Rucker Retention Office won the TRADOC and FORSOM commanding generals' reenlistment awards for 1987 for the third consecutive year. A total of 553 soldiers reenlisted during 1987--the highest number of reenlistments ever recorded at Fort Rucker.

The Strength Management Branch of the Office of the AG implemented changes in the permanent change of station (PCS) policy in 1987. In order to support Congressional desires to reduce the frequency of family moves, enhance unit cohesion, and conserve PCS funds, the following changes were implemented: (1) minimum time-on-station requirement for soldiers assigned to the continental United States (CONUS) was increased to forty-eight months; (2) reassignment to establish joint domicile with military spouse was facilitated; and (3) tour length for soldiers assigned to Alaska or Hawaii became forty eight-months.

In 1987, the Retirement Services Branch served an Army retiree population of over 14,000 in the area of southern Alabama, northwest Florida, and southern Mississippi. Additionally, services were provided to several thousand retired members of the sister services. Pre-retirement orientations were conducted in January and July for soldiers and their spouses with more than eighteen years of service. A total of 1,233 soldiers and their spouses were notified of the requirement to attend the pre-retirement orientation. Of this number, 495 soldiers and spouses attended the

orientation. A total of 213 soldiers were retired at Fort Rucker, including 39 retired because of disability. Survivor benefit plan protection for family members was elected by 158 of those retiring. The annual retiree open house was held 18-19 September 1987. Over 400 retirees and guests attended and participated in the various activities conducted during the two day event.

A DA message in January 1987 announced the early transition program for enlisted soldiers. In order to meet FY 87 budgetary constraints, enlisted soldiers of all grades whose expiration term of service (ETS) was 30 September 1987 or earlier could apply for an early release from the Army. They would be transitioned a minimum of thirty days to a maximum of ninety days prior to their original ETS dates. Two thousand six hundred seventy-two soldiers were transitioned from active duty during CY 87.

#### Fort Rucker Dependent Schools

The Fort Rucker Dependent Schools provided free public education to the dependent children in grades K-6, as well as preschool handicapped children of military personnel residing on Fort Rucker. The system consisted of a central office, a primary school, and an elementary school. The schools consisted a total of approximately 1,200 students, ninety professionals, and thirty-six support personnel.

Major accomplishments of the dependent school system in 1987 included the expansion of computer assisted instruction by placing computers in all classrooms; the establishment of self-contained classes in grades 3-6 for students who qualified for services for the gifted; and a comprehensive revision of the science curriculum. Also in 1987, a school-wide enrichment model for high achievers was approved for implementation in February 1988; services for the language-delayed, four-year-old child was approved for implementation in January 1988; and new playground equipment was installed at both schools. Student achievement scores at the dependent schools remained at or above the national averages in all areas. Due to The Military Construction Act of 1985, there was continued uncertainty about the maintenance of a school system funded by the DOD under the guidance of the DA. The uncertainty about this issue was a cause of considerable concern to soldiers, their families, and members of the schools' staff.

#### Assistant Director for Civilian Personnel (ADCP)

Commonly known as the Civilian Personnel Office (CPO), the ADCP was designated to act for the commander on the administration of the command's civilian personnel management program and was the principal advisor to commander and

managers concerning civilian personnel matters. The CPO supervised the functions pertaining to civilian personnel operations, which included but were not limited to: employee development, labor relations, position management, recruitment and placement, employee counseling, job classification, technical services, and incentive awards, for appropriated and nonappropriated fund personnel. The CPO also served as the activity career program manager for the Army civilian career program for civilian personnel management.

The ADCP in 1987 was Ms. Marjorie P. White, and the office was divided into the following major divisions under their respective chiefs: Training and Development, Mr. Arthur D. Capron; Position Management and Classification, Mr. C. Wayne Griffin; Management Employee Relations, Mr. James M. Ramer; Recruitment and Placement, Mr. Robert Jennings III; Technical Services, Mr. George M. Brawley; and Nonappropriated Fund, Mr. John F. Arnold. The CPO began the year with fifty permanent civilian employees and ended the year with forty permanent and one temporary civilian employees. The CPO was authorized fifty employees in 1987.

The Training and Development (T&D) Division of the CPO administered a comprehensive employee development program for more than 5,000 civilians and soldiers. The program provided advice and assistance to all levels of management and to non-supervisory employees regarding training and development, with emphasis on the special programs, including: management development, apprentice, cooperative education, federal junior fellowship, veterans' readjustment, career interns, and upward mobility. Also, classes on the prevention of sexual harassment were conducted on a quarterly basis for supervisors and employees. A total of 325 individuals attended these classes. A new course, Military Personnel for Civilian Supervisors was introduced. The course supplemented DA Pamphlet 690-12, Introduction to Military Personnel Management, and was designed to make civilian supervisors of military personnel more aware of military personnel policies and procedures. Continued emphasis was placed on computer literacy training, with approximately 1,250 employees receiving individual training on post. Emphasis was also placed on supervisory training, with 300 civilians and soldiers completing a supervisory development course. Equal employment opportunity training was conducted on a quarterly basis.

A major portion of the calendar year was spent preparing for and renegotiating the Wiregrass Metal Trades Council (WMTC) contract and the American Federation of Government Employees (AFGE), Local 1815 contract. Both unions had exclusive recognition. The WMTC contract was approved, and contract administration training for managers and supervisors was conducted. The AFGE contract was not completed during the calendar year, and the president of the AFGE requested

the services of the Federal Labor Relations Authority on certain issues.

The following actions were processed during 1987: forty-four grievances; sixteen unfair labor practice charges; three Merit Systems Protection Board appeals; five arbitrations; fifteen removals; thirteen suspensions; twenty reprimands; and two changes to lower grade. Incentive awards were processed as follows: 318 performance awards; 271 special acts or service awards, 48 on-the-spot cash awards; and 59 quality step increases. Total funds expended for awards was \$698,160. Responsibility for the Army suggestion program was transferred from ADCP to the Directorate of Resource Management on 1 August 1987.

The Spouse Preference Act was implemented during the year with a number of spouses of active duty military being employed or considered for employment. The military spouse employment preference (SEP) program began within the nonappropriated fund (NAF) system on 1 June 1987. External recruiting bulletins issued on or after 1 June included the basic requirements of the new program. In June, the first person recruited under the new program at the USAAVNC was placed in the NAF work force.

Changes to the application procedures for applying for vacancies at Fort Rucker were negotiated with the local unions. These changes simplified the process for employees and other applicants, thereby removing a burden of paperwork from the Recruitment and Placement (R&P) Division. The R&P Division was instrumental in having the GS-2181 qualifications standards changed so as to facilitate the recruitment and hiring of minorities. Also in 1987, the USAAVNC exceeded DA goals and received commendations for the hiring of the handicapped.

The new Federal Employees Retirement System (FERS) became effective on 1 January 1987. All new employees hired after 31 December 1983 were automatically covered by FERS. Other federal employees were given the option of transferring into FERS. The new retirement plan was a three-tiered plan consisting of Social Security benefits, a basic benefit plan, and a savings plan. In order to assist employees with Civil Service Retirement System (CSRS) coverage in making the transfer decision, it was necessary for the Technical Services Office to train 100 decision advisors from activities throughout Fort Rucker. Eighty employees elected to transfer from CSRS to FERS.

A full-scale locality wage survey was conducted during the summer of 1987. The survey, done in conjunction with the DOD Wage Fixing Authority, collected detailed wage and benefit data from selected private concerns in the Dothan wage area. The information was reported to DOD for processing and computation, and ultimately resulted in the

new yearly wage grade pay schedule for Dothan area federal employees.

The participation of the CPO in commercial activities (CA) studies intensified in 1987 as the CA studies of the Directorate of Logistics, the Directorate of Engineering and Housing, and Training Service Center neared completion. Numerous new job descriptions were required in order to effect changes in position structure included in the most efficient organization (MEO). Position classification specialists were involved in the CA studies during all stages, providing position management advice in the earlier stages and classification of job descriptions in the later stages.

### C. Directorate of Logistics (DOL)<sup>3</sup>

The DOL planned and directed the installation logistics support--including supply, transportation, equipment maintenance, aircraft maintenance quality assurance, laundry and dry cleaning, food services, and mortuary services--in support of Army aviation training and tenant activities. The directorate also planned and provided installation logistics support for mobilization and other contingencies.

The DOL was organized into the following divisions: Resource Management, Aircraft Logistics Management, Maintenance, Plans and Operations, Supply and Services, and Transportation. In 1987 the CA program was kept on track with the completion of the performance work statement and the approval of the MEO. Also, the Government Services Administration (GSA) non-tactical vehicle (NTV) program was implemented on 1 October. Other major accomplishments of the directorate have been described in the sections below dealing with the respective divisions.

#### Key Personnel

Director	Col. Danny A. Young	Jan-Dec
Deputy Director	Mr. Perry S. Grantham (GM-13)	Jan-Dec
NCOIC	Sgt. Maj. Clyde L. Floyd	Jul-Dec
Chief, Resource Management Division	Mr. Archie Fondren (GS-12)	Jan-Dec
Chief, Aircraft Logistics Maintenance Division	Lt. Col. Wayne L. Dandridge	Jan-Dec
Chief, Transportation Division	Mr. Daniel S. Tully, Jr. (GM-13)	Jan-Dec
Chief, Supply and Services Division	Mr. James Brackin (GM-13)	Jan-Dec
Chief, Maintenance Division	Mr. Carl E. Swanstrom, Jr. (GM-13)	Jan-Dec

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<sup>3</sup>. The major sources for this section consisted of the 1987 annual historical report submitted to historian by the director of logistics, 13 Jul 1988; and notes on interview by author with the director of logistics, Col. Danny A. Young, 1 Jun 1988.

Strength Figures

	Off.	WO	Enl.	Civ.	Total
1 Jan 87	5	10	47	387	449
31 Dec 87	5	8	44	382	439

Resource Management Division (RMD)

The RMD performed the duties of program director and major activity director for the DOL program. It managed all resources allocated to DOL by the Directorate of Resource Management (DRM) in the accomplishment of the assigned mission. The division developed the Fort Rucker flying hour cost-per-hour by type aircraft, based on the flying hour program. It also developed and monitored the stock fund program and negotiated and maintained interservice and intraservice support agreements.

For 1987 the DOL was allocated a total of \$156,518,300 in operation maintenance dollars to perform its assigned mission. Actual expenditures totaled \$153,515,000 for a 98.1 percent utilization rate. These funds were utilized for salaries, temporary duty (TDY), training, equipment rental, contractual services, and supplies and equipment required to accomplish the assigned mission. The stock fund program was \$73 million, and actual expenditures were \$72.219 million for a 99.0 percent accomplishment. A total of seventy-seven active support agreements were monitored in 1987, and there were validated savings in project SPIRIT (systematic productivity improvement review in TRADOC) in the amount of \$1,762,200 against a goal of \$2,034,300.

Aircraft Logistics Management Division (ALMD)

The ALMD monitored the operations of the aircraft maintenance contractor and aviation refuel and defuel contractor to ensure the quality of services and the accountability of government supplies and equipment. Through the DOL, the ALMD advised the commanding general on aviation supply and maintenance activities. The ALMD was organized into the following branches: Materiel and Systems Management, Maintenance Surveillance, and Supply Surveillance.

In 1987 there were several developments in the supply area designed to ensure that necessary parts would be on hand when required. Among these were the development of a new method of requisition objective computation, the organization

of a general officer steering committee for the establishment of an extension of Red River Army Depot (RRAD) at Fort Rucker, and the implementation of a program by RRAD to provide enhanced support to Fort Rucker, including expedited processing with five trucks per week with dual drivers.

During CY 87, 45,583 manhours were expended applying modification work orders (MWO) to 594 Fort Rucker aircraft. MWOs were applied by the aircraft maintenance contractor and funded by U.S. Army Aviation Systems Command.

The Aircraft Logistics Management Division coordinated the transfer of 162 aircraft onto and away from Fort Rucker during the calendar year. These transfers included aircraft reassigned to depots and other installations. At the beginning of 1987 there were 736 aircraft on the USAAVNC inventory, and at the end of the year, there were 773.

#### Transportation Division

The Transportation Division supervised and coordinated movement services, including administrative motor services; supervised the movement of material, personal property, and personnel by commercial carriers and military transportation; coordinated and supervised unit movements; supervised the operation of the terminal warehouse; and supervised the control and operation of NTV. The division consisted of the Movements Branch and the Transport Branch.

In 1987 a new management information system was obtained by the Movements Branch through the quick return on investment program (QRIP). Also, a rail switching agreement was negotiated and executed between the installation transportation officer and Wiregrass Central Railroad to maintain a railway connection between the post and the nation's railway system. The most significant development affecting the Transportation Branch was that Fort Rucker's transportation motor pool converted its vehicles to the GSA's fleet management system. This arrangement was projected to provide a newer and better fleet of vehicles at lower annual cost.

#### Supply and Services Division

The Supply and Services Division exercised staff supervision for the DOL over all the supply and services functions of the USAAVNC. The division also advised the DOL on and managed the Army food service, mortuary services, laundry and dry cleaning services, the Army oil analysis program, and the consolidated property book system.

In 1987 a CA study for a full food services function was completed. Following the decision to convert to a full food

service contract, funding constraints triggered a reexamination of the options. Based on the current and anticipated continuing availability of military cooks, a decision was made to cancel the action to convert to a full food service contract, phase out civilian cooks, staff dining facilities with excess military cooks, and continue the current method of contracting the dining facility attendant services. Substantial monetary benefits were expected to be realized as a result of selecting that option.

Also in 1987, centralized procedures were established for the requirements, documentation, issue, turn-in, and reporting of ammunition and explosives for aerial gunnery training. These procedures ensured accuracy in accountability and a simplified audit trail for these highly sensitive ammunition transactions.

Stockage objectives were streamlined and asset replenishment techniques were implemented at the central issue facility (CIF) during 1987. These procedures resulted in a one-time savings of more than \$2.900 million without any adverse impact on customer service. Plans were also finalized to revise the layout structure of the CIF to facilitate customer service and processing through the facility.

#### Maintenance Division

The Maintenance Division served as the installation support maintenance manager, performed long and short range planning of assigned work loads, served as contracting officer representative for the purpose of inspection and of accepting services, and determined the effectiveness and adequacy of organization maintenance performed on Army equipment utilized by supported units.

In 1987 the Allied Trades Section of the Maintenance Division assumed all scheduled and unscheduled maintenance on gas forklifts and outboard motors and reestablished the major component repair and rebuild mission. The Communications & Electronic Section received depot overhaul authority on AN/PRC-90 survival radios, resulting in \$108,500.00 savings to Communications and Electronics Command (CECOM). The General Support Equipment Section, the sole manufacturer of integrated helmet display sighting system (IHADSS) bags, completed 500 helmet bags during the year and also initiated the modification of crew member survival vests. The Organizational Maintenance Section was transferred from DEH to DOL in 1987 and also initiated the use of DA Form 2407 instead of DA Form 2404. This provided greater accountability of manpower and repair parts accountability. This section assumed the additional mission of providing all unit level maintenance for those organizations that did not have maintenance capabilities. The Quality Assurance Branch

performed safety checks and repairs of all DEH bucket trucks and of all 427th Medical Company equipment. The Simulator Maintenance Section initiated maintenance support on three AH-1S armament procedures and on one UH-60A component trainer, device 01-139. This section also remodeled the radar laboratory for improved utilization of equipment and to stabilize the heating and cooling system and began quality assurance activities on three nearby fielded flight simulators--two UH-60s and one CH-47.

#### Plans and Operations Division (POD)

The Plans and Operations Division developed, maintained, and coordinated logistical support planning actions and, in coordination with DOL, DEH, and DPTMSEC, developed the DOL portion of installation plans, including mobilization, emergencies, disaster, contingency, and other special plans. The division prepared and reviewed administrative actions pertaining to reports of survey, concurred with the surveying officer's recommendations or made new recommendations to the installation approving authority, and coordinated logistics aspects for the force modernization program.

In 1987 the unit movement coordination function, theretofore a responsibility of the POD was transferred to the Transportation Division. Also, the command supply inspection team function was transferred to the Supply and Services Division. Two on-post emergency deployment readiness exercises (EDREs), involving four units, were supported by POD personnel. The division also provided support to several working conferences on the installation.

D. Directorate of Contracting (DOC)<sup>4</sup>

In 1987, the DOC was responsible for planning, directing, and executing the procurement and contracting mission of USAAVNC and Fort Rucker. The DOC also provided procurement support to the tenant organizations at Fort Rucker and to USAR installations in the area.

In 1987 the DOC was organized into four divisions: Contracting, Contract Administration, Purchasing, and Support. Total personnel strength of the directorate was fifty-three at the beginning of 1987 and forty-seven at the end of the year; all were civilians.

Key Personnel

Director

Mr. Peter C. Polivka, GM-14

Chief, Contracting Division

Mrs. Gloria G. Wheeler, GM-13

Chief, Contract Administrative Division

Mr. Allen Wagstaff, Jr., GS-12

Chief, Purchasing Division

Mrs. Nelda B. Livesay, GS-9

Chief, Support Division

Mr. Lucius Toney, Jr., GS-6

During the absence of Mr. Polivka, from 19 October through 31 December 1987, Mrs. Wheeler served as acting director in a detailed status, and during that same period Mrs. Lennea Jennings (GS-12) served in a detailed status as chief of the Contracting Division.

For FY 87 the goal for competitive contracts was 89 percent, but the DOC achieved a competition rate of 97 percent. The assigned goal of \$2.750 million in contracts to woman-owned contractors was also exceeded during the fiscal year; the actual accomplishment in this category was \$4.148 million. The total value of contracts awarded during FY 87 was \$182,247,402.

During CY 87 the government exercised its option with Sikorsky Support Services, Inc. for aircraft maintenance and

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<sup>4</sup>. The source for this section was the 1987 annual historical report to historian by the director of contracting, Mr. Peter C. Polivka, 16 Jun 1988.

related services for FY 88. The final negotiated target amount, based on a 459,735 flight-hour program, was \$100,072,307. On 23 December 1987 the DOC also awarded an \$18.1 million nine-month contract for flight training services to Pan Am Support Services, Inc.

## E. Directorate of Reserve Component Support (DRCS)<sup>5</sup>

The DRCS served as the primary point of contact (POC) at Fort Rucker for coordination of training, administration, and logistical support for USAR, ARNG, and ROTC units.

Lt. Col. Geary W. Hancock, USAR Active Guard Reserve (AGR), served as the deputy director and USAR coordinator until the end of his tour on 8 July 1987. Lt. Col. Donald R. Byars, USAR AGR, who was assigned to the DRCS in May 1987, became the deputy director in July. Lt. Col. David H. Crawford, Regular Army (RA) was the director of DRCS until his retirement on 30 September 1987. Colonel Byars then became the director. Lt. Col. Charles E. Fern, ARNG AGR, the National Guard Bureau (NGB) advisor/liaison officer and training coordinator, Miss Wilkes, the budget analyst, Mr. Doggett, the plans and operations specialist, and Mr. Alberson, chief of the Supply Division, served in their respective positions for all of 1987.

During 1987, fifty-one ARNG and USAR units with a total strength of 18,700 personnel performed annual training at Fort Rucker. Over 52,000 reserve components (RC) mandays of training were supported by Fort Rucker. The DRCS was also responsible for coordinating mobilization and counterpart training tours of about 151 individual mobilization augmentee and individual Ready Reserve personnel.

The DRCS Supply Division was responsible for the planning and coordination for ongoing logistical support of USAR units in twenty-nine counties in Alabama and forty-one counties in Mississippi. The Supply Division also supported five senior and forty-three junior ROTC units in Alabama, Florida, and Mississippi. It conducted annual supply inspections at 108 USAR/ROTC units located in these three states. The DRCS Supply Division rendered invaluable customer assistance along with technical advice on administrative supply procedures. In the logistics area, the division maintained property book control over receipt, storage and issue of supplies, clothing and equipment for eighty-eight various units and activities throughout 1987. The DRCS Supply Division had the responsibility of being the redistribution point for extra clothing obtained from USAR and ROTC units. Requisitions for individual clothing were filled from supply sources, if available, before being forwarded to distribution depots. In 1987 \$57,616.62 in savings were realized from this current redistribution program.

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<sup>5</sup>. The source for this section consisted of the 1987 annual historical input submitted to historian by the DRC, 29 Jun 1988.

Fort Rucker was designated as the host installation for the Alabama Special Olympics held in May 1987. The DRCS Supply Division was given the responsibility of providing adequate billeting accommodations for a large portion of the Special Olympics personnel. A total of 522 personnel were billeted during this event.

The ARNG Liaison Office provided counseling and assistance daily throughout the year for ARNG officers and enlisted personnel who were trained at Fort Rucker.

## F. Office of the Chaplain<sup>e</sup>

The Office of the Center Chaplain was essential to the mission and well being of the soldiers and their families at Fort Rucker during 1987. The Chaplain's Office provided religious services, sacraments, ministrations, and pastoral care to all soldiers and families assigned to Fort Rucker, and to the retirees within the installation's designated support area of responsibility. The office also provided spiritual and family counseling to the Fort Rucker community and advised the commander on all matters pertaining to religion, morals, and morale as affected by religion.

The center chaplain during 1987 was Chaplain (Col.) John M. Allen. Chaplain (Lt. Col.) Alton W. Boulware served as pastoral coordinator. Chaplain (Maj.) Gustaf Steinhilber served as family life chaplain. There were eleven command chaplains and fifteen chaplain assistants during 1987. S. Sgt. Carl McComb was the NCOIC of the section. Sister Mary Kavanaugh was the Catholic religious education director for all of 1987, and Mr. Louie Reynolds was the Protestant religious director.

During 1987 the Chaplain Family Life Center conducted a program designed to meet the various needs of our soldiers and family members. Programs were conducted in parenting skills, marriage preparation, marriage enrichment, stress, and family preparations for togetherness. Family wellness and preventive activities were emphasized in those programs. The waiting spouses support group was expanded in 1987 and became a function of the Family Life Center. Also, crisis counseling continued at the center. Chaplain Steinhilber continued to serve as an adjunct to the other post support services by integrating the spiritual elements of his office with emotional support and therapy for those whom he counseled in 1987.

The installation continued to offer a variety of worship experiences including weekday masses and Saturday and Sunday services for Catholic, Protestant, Lutheran, Episcopal, and Jewish personnel and also to conduct memorial services and special holiday services as appropriate. Masses continued to be conducted in Spanish at the Fifth Avenue Chapel approximately once each month on Saturday mornings.

The Chaplain Section sponsored several special events during the year. The Easter drama, written by Mrs. Jewell Ellen Smith for the 25th year, was again enacted at Fort Rucker. The national prayer breakfast was held on the post,

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<sup>e</sup>. The source for this section was the 1987 annual historical report submitted to historian by the center chaplain, 2 Jun 1988.

and the speaker was Chaplain (Col.) Shirey (Ret.). Chaplain Shirey was the center chaplain at Fort Rucker from January 1964 to October 1968. The traditional Easter sunrise service was conducted at Lake Tholocco, and the former U.S. Army, Europe (USAEUR), Chaplain, Chaplain (Col.) Dick Martin, (Ret.), was the speaker. A three-day spiritual renewal was conducted by the former center chaplain, Chaplain (Col.) Leroy Johnson, (Ret.), who is now president of Miles College, Birmingham, Alabama.

G. Equal Employment Opportunity Office (EEOO)<sup>7</sup>

The mission of the EEOO was to promote equal opportunity for all persons employed or seeking employment at Fort Rucker. More specifically, it prevented discrimination in employment because of race, color, religion, sex, national origin, age, and mental or physical handicap; promoted the full realization of equal employment opportunity through a continuing affirmative action program in each organization at USAAVNC and Fort Rucker; ensured that equal opportunity applied to every aspect of personnel policy and practice in the employment, training, development, advancement, and treatment of civilian employees at Fort Rucker; advised and furnished guidance to the commanding general and supervisory personnel on matters pertaining to equal opportunity for civilian personnel.

The EEO officer during 1987 was Mr. Charles F. Auman (GS-12). He was assisted by Ms. Merle W. Wise (GS-11), manager of the federal women's program (FWP), and by James W. Harris (GS-11), manager of the affirmative employment program (AEP). All key personnel held these positions during the entire year. At the beginning and at the end of the year, the EEOO employed eight permanent civilians and one temporary civilian. During the year, in addition to the loss of one GS-9 position, another GS-9 position was downgraded to GS-6.

The EEOO operated under the direct supervision of the garrison commander. In addition to the full-time employees, approximately twenty to twenty-five EEO counselors and a Hispanic employment program manager serve in a collateral capacity to promote the mission of the EEOO and were guided and supported by the office staff.

During 1987 the EEOO provided personal briefings to all incoming directors, commanders, and activity heads; and the staff continued to train the workforce by participating in all new employee orientations and in the basic supervisory development courses given to all new supervisors. The EEOO also participated in and sponsored several special observances such as a black history luncheon and a women's career week. The EEOO staff was the driving force behind a very successful black history month in 1987. Additionally, the staff played a very active role in American heritage week by working on two of the subcommittees. The EEOO received another "excellent" rating during the TRADOC staff assistance visit in 1987. The EEO Newsletter improved in frequency and quality during the year. The EEOO staff also cooperated with

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<sup>7</sup>. Sources for this section consisted of the 1987 annual historical report submitted to historian by the EEOO, 30 Jun 1988; and Affirmative Action Program Working Plan, FY 87, 1 Oct 1986.

both the Wiregrass chapter of Blacks in Government (BIG) and the Wiregrass chapter of Federally Employed Women (FEW). Again in 1987 the number of complaints of discrimination filed with the EEEO declined, which indicated a continuing improvement in equal opportunity and human relations at Fort Rucker. Twenty-five new counselors were appointed and trained during the year.

In October of 1987 the name of the affirmative action program was changed to affirmative employment program. The working plan for affirmative action for FY 87 was extended indefinitely because the Equal Employment Opportunity Commission failed to publish guidance for the development of a new multiyear affirmative action plan prior to the expiration of the old guidance. The FY 87 affirmative action accomplishment reports were prepared for the U.S. Army Aviation Center and Health Services Command activities. The EEEO staff conducted the semiannual briefing to the command group and all directors on the affirmative action working plan. In 1987 the affirmative action program manager coordinated the quarterly EEO Committee meetings, revised the USAAVNC Regulation 600-4 pertaining to the EEO Committee, and restructured its membership. The EEEO staff also conducted routine staff assistance visits to various units and activities at Fort Rucker.

The FWP Committee conducted training for 1,278 women, reissued a career guide to be used in recruiting, and published a training information booklet. The FWP Committee also reached 458 people through the annual FWP sponsored employee-supervisor luncheon. The FWP developed the criteria for the first annual women of the year awards, honoring one woman in each of the following categories: professional, administrative, technical, clerical, wage grade, and nonappropriated funds. The program was publicized and nominations were accepted in 1987, but the awards were not scheduled to be made until women's history month in March, 1988. Fort Rucker hired a large number of civilian flight instructors because of the conversion of military spaces to civilian. In 1987 The FWP manager worked with the Office of the Assistant Director for Civilian Personnel in recruiting female candidates for these positions; two women were hired. Also in 1987, and with assistance from the FWP manager, three women from Fort Rucker were selected for long term training by the DA.

The Fort Rucker civilian labor force had 33 Hispanic employees as of the end of 1987. The Hispanic work force has increased threefold during the past few years. Community outreach efforts resulted in increased community involvement in, and awareness, of the Hispanic employment program.

Two major problems affected EEEO activities in 1987. First and most importantly, the hiring freeze imposed at Fort Rucker hindered progress toward the elimination of under-

representation of women and minorities in employment. Secondly, the budget cuts imposed on TDY for training prevented useful training opportunities for EEEO staff.

## APPENDIX A

### ARMY MEDICAL DEPARTMENT (AMEDD) ACTIVITIES

The U.S. Army Aeromedical Center at Fort Rucker consisted of the Lyster U.S. Army Community Hospital, the Preventive Medicine Activity, the Community Health Service, the Veterinary Service, and the Army Aeromedical Activity. The Aeromedical Center also provided administrative and logistical support to the other AMEDD activities, including the U.S. Army Dental Activity, the U.S. Army School of Aviation Medicine, and the Medical Evacuation Pronopency Division of the Academy of Health Sciences.

#### Key Personnel

Commander, Aeromedical Center		
	COL ElRay Jenkins	Jan-Jul
	COL N. Bruce Chase	Jul-Dec
Commmander, Dental Activity		
	COL Richard A. Nurnberg	Jan-Dec
Dep. Comm. for Clinical Services		
	LTC Wade D. Baldwin	Jan-Jul
	COL Thomas I. Clements	Jul-Dec
Dep. Comm. for Administrative Services		
	COL Charles L. Webb	Jan-Aug
	LTC(P) John E. Matt	Aug-Dec
Dep. Comm. for Veterinary Services		
	LTC Matti W. Palo	Jan-Oct
	MAJ Randale H. Levins	Aug-Dec
Director of Aeromedical Activity		
	COL Jose G Garcia	Jan-Jul
	LTC Robert E. Williams	Jul-Dec
Dean of School of Aviation Medicine		
	COL Jose G. Garcia	Jan-Jul
	LTC David J. Wehrly	Jul-Dec
Chief, Department of Surgery		
	COL Craig L. Urbauer	Aug-Dec
Chief, Hyperbaric Medicine		
	MAJ Thomas A. Woodward	Jul-Dec
Chief, Orthopaedic Clinic		
	CPT James P. DeHaven	Aug-Dec

### Strength Figures

	Off	WO	Enl	Civ	Temp	Total
1 Jan	131	4	295	220	9	659
31 Dec	124	3	270	224	16	637

The health care mission of Lyster Hospital became more fully staffed in 1987 with the addition of orthopaedic and urology services and of hyperbaric medicine. The hospital had not had urology and orthopaedic services since the late 1970s. Also in 1987, civilian contracts were approved for emergency room physicians, dermatologists, and nurse anesthetists.

Much of the health related training in 1987 related to nursing. A total of 34 contact hours were offered by Nursing Education and Staff Development Services (NESDS). There were a total of 40 in-service programs, with 10 programs specific to para-professional subject matter. Also, thirty students in health related fields affiliated with Lyster Hospital during the year. Finally, two ROTC nurses were given experiences, education, and training through a preceptorship program during alternative summer camp.

In 1987 the CPR training program was expanded, and around 100 persons attended training classes. A smoking cessation program was instituted by the community health nurse. It offered smoking cessation classes to all military, dependents, and DA civilians at Fort Rucker. Twelve series of four classes were offered, and the classes were taught at various units on post. The community health nurse was also the chairperson for the Great Army Smokeout held in November in conjunction with the Great American Smokeout. Community Mental Health (CMH) presented two seven-week parent training programs for parents with behavior problems and a two-day seminar for hospital personnel on death and dying. CMH also gave daily seminars on the "Recognition and Prevention of Self-Destructive Behavior." Approximately 3500 officers, senior NCOs and civilian supervisors attended these seminars.

Patient care at the Aeromedical Center was considerably enhanced by the addition of orthopaedic, urological, and hyperbaric services. These additions, however, strained the personnel resources of some other departments. For example, the Radiology Department experienced a 16.8% increase in patient workload in 1987, and the Department of Nursing required three additional persons. Also in 1987 the outpatient pharmacy experienced a 3.6% increase in prescription workload over the previous year, but this was at least in part a continuation of an already established trend. Lyster Hospital health care services exceeded the programmed expectations in all major categories. The actual daily averages for the various indicators were as follows: clinic visits--605, beds occupied--32,

admissions--9.4, live births--1.3, medical care composite units--321.

Hyperbaric medicine consists of administering 100% oxygen while the patient is exposed to greater than sea level pressure. Decompression sickness, gas gangrene, chronic refractory osteomyelitis, osteoradionecrosis, and acute crush injury were some of the conditions treated during 1987. Sixteen patients received a total of 288 treatment dives, and in addition seven persons were treated for decompression sickness. Although the chamber has been operational since March of 1986, the clinical hyperbaric medicine program was only started in July of 1987 with the arrival of a physician and physiologist trained at the United States Air Force School of Aerospace Medicine in the fundamentals of hyperbaric oxygen therapy.

In August of 1987 the Nutrition Clinic received a significant increase in demand for diet therapy counseling for hypercholesterolemia. This resulted from the implementation of a policy for the screening of all pilots annually for cholesterol levels. This policy has helped to identify and treat personnel at risk for heart disease.

During 1987 the Army Aeromedical Activity administered 35,010 physical examinations. Of these, 8,390 were class I, 5,030 were class IA, 21,208 were class II, and 336 were class III. Other activities of the Aeromedical Activity in 1987 included evaluating medically disqualified flight personnel brought to Fort Rucker for testing and consultation and providing assistance and information on aviation medicine for all aviation medical facilities in the Southeast region.

FLATIRON, the Aeromedical Center's air ambulance division based at Cairns Army Airfield had the primary mission of providing crash rescue and medical evacuation in support of aviation training. FLATIRON also used its UH-1 helicopters to provide aeromedical evacuation and hospital transfers, and participated in an active military assistance to safety and traffic (MAST) program. In September of 1987, FLATIRON completed its 1000th MAST mission. By the end of the year, it had logged over 2600 accident free hours.

The Dental Activity (DENTAC) very successfully conducted its first Field Training Exercise (FTX) in several years during the month of March. Support was provided by the 1st Aviation Brigade at Fort Rucker and the 131st Armor Battalion, Alabama National Guard. DENTAC also participated in several training and emergency deployment readiness exercises throughout the year. DENTAC has been short one general dentist since November of 1986, but in July of 1987, Dr. Aloysius G. Kelly became the first contract dentist at this installation. Acquisitions and improvements in 1987 included new office automation equipment, the installation of a panoramic radiography unit in one clinic, and new carpet in two others.

In 1987 the U.S. Army School of Aviation Medicine conducted

four classes for flight medical aidmen, three primary courses for flight surgeons, and one aeromedical problem course. The total number of instructional hours was 14,762 and the total number of students trained was 8,538. Significant revisions were made in the programs of instruction of the courses taught, and the school received approval for inaugurating another aviation-related medical training course at Fort Rucker in the near future.

In 1987 Fort Rucker had the third largest concentration of Medical Service Corps officers. In addition to the permanently assigned personnel, a large contingent of MS officers attended the aviation officers advanced course, flight school, and numerous aviation transitional courses. Consequently, the Aeromedical Center was established as the MS officers' "home" while at Fort Rucker, and the deputy commander for administration was available for career counseling and problem solving.

APPENDIX B

U.S. ARMY INFORMATION SYSTEMS COMMAND - FORT RUCKER

I. INTRODUCTION

A. Overview:

USAISC-Fort Rucker has made great progress during 1987 in all Information Mission Area (IMA) disciplines. Many new automated systems and directorate networks have been installed on the installation. The local area network (LAN) has been widely used to provide data communications connectivity to the directorates. Many advances have taken place within voice communications including improved telephone service and trunking. Merging of various missions and disciplines has caused shortfalls in personnel in different fields of the IMA, and remedies are slow to provide personnel authorization. The expansion of the Information Center services to small computer users has provided new and innovative IMA services to the installation personnel. USAISC-Fort Rucker experienced considerable budget constraints during CY 87. The lack of funding to expand the LAN, establishing a test and patch facility, expansion and the delay of voice/data switching and carrier facilities are considered to be major problems.

B. Mission Statement: Provide integrated sustaining base information services and products support to the US Army Aviation Center, including telecommunications, automation (including office automation), records management, publications, and printing. Determine installation information requirements; develop supporting information architecture, plans, programs and budgets, provide necessary logistical support and supervise operational activities that provide information services and products. Serve as principle advisor to the Commanding General for information management.

C. Strength Figures:

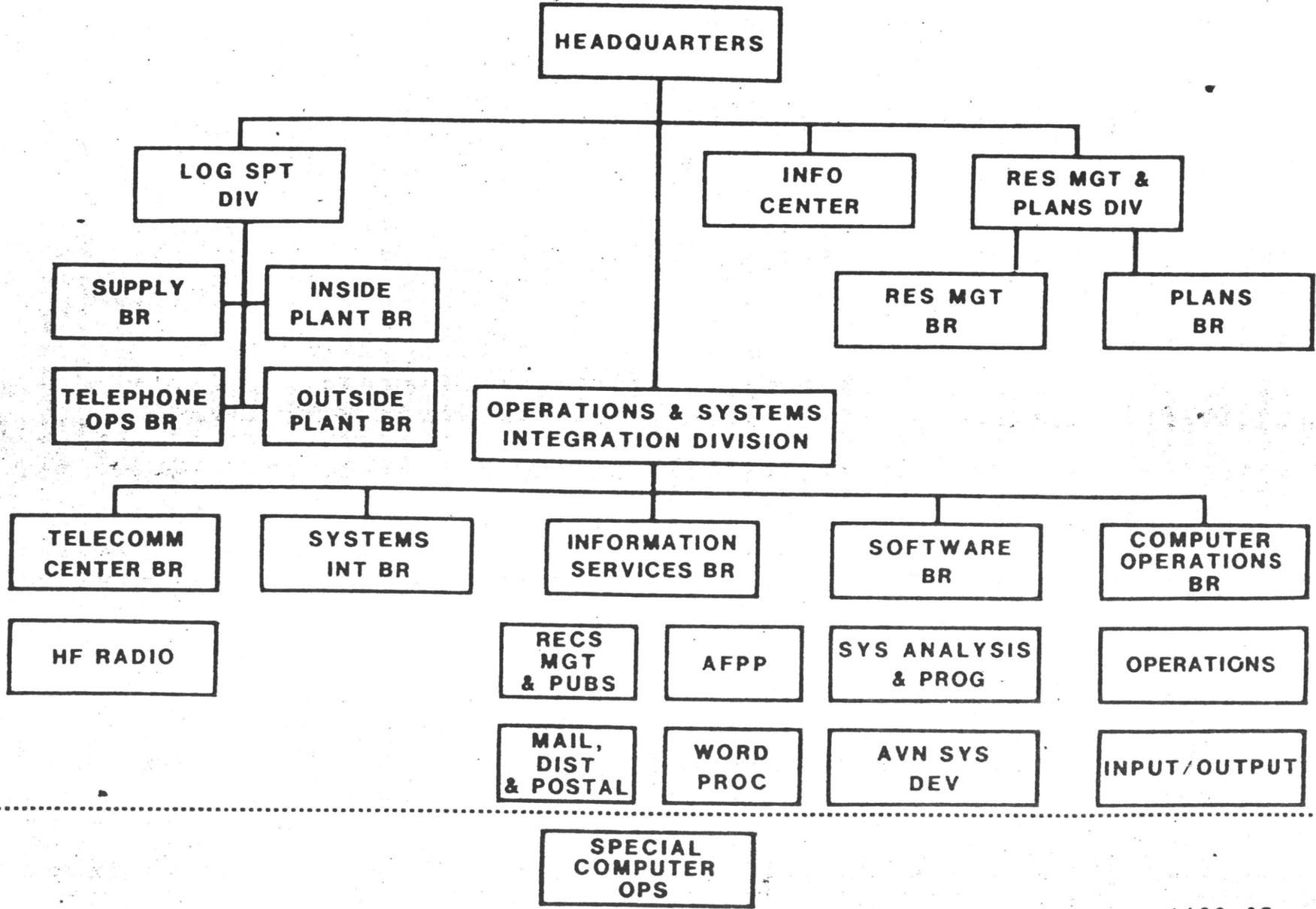
	OFF	WO	ENL	CIV	INTERN	OH	TOTAL
BEG CY87							
Auth	2	0	22	161	0	15	200
Req	2	0	22	189	0	0	213
Asg	1	0	31	142	0	10	185
END CY87							
Auth	2	0	21	161	0	15	199
Req	2	0	21	192	0	0	215
Asg	3	0	23	175	0	11	211

D. Key Personnel:

<u>TITLE/INCUMBENT</u>		<u>INCUMBENCY</u>
COMMANDER/DIRECTOR		
LTC Kirk M. Knight	(DIR)	12 Feb 86 - 31 Dec 87
	(CDR)	13 Jun 86 - 31 Dec 87
DEPUTY INFORMATION SYSTEMS MANAGER		
Mr. Terry N. Bowden		14 Dec 86 - 31 Dec 87
CHIEF, OPERATIONS & SYSTEMS INTEGRATION DIVISION		
Mr. James E. Clements		19 Apr 87 - 31 Dec 87
CHIEF, RESOURCE MANAGEMENT & PLANS DIVISION		
Mr. John G. Dyess		30 Jul 86 - 31 Dec 87
CHIEF, INFORMATION CENTER		
Mr. Harold E. Helms		2 Nov 86 - 31 Dec 87

E. ORGANIZATIONAL CHART: (attached to following page)

# U.S. ARMY INFORMATION SYSTEMS COMMAND-FORT RUCKER



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## II. ISSUES/TOPICS

A. Local Area Network (LAN) Expansion: The installation data communications. LAN (Aviation Local Area Network - A/LAN) was installed 1985 but due to funding restraints it only provided a portion of the total communication needs. With increased personal networking and mission tasks to the directorates, the need for connectivity both between the directorates and from directorates to mainframe (Tier III to Tier II) is an ever increasing necessity. The present LAN is provided by coaxial cable and expansion would require a wavier to avoid having to use fiber optic cable, which at this point is cost prohibitive. Expansion of the LAN would also provide access to the Defense Data Network, when it is fully installed, thereby providing worldwide connectivity to requiring directorates.

B. Fort Rucker Personal Computer Network: In an effort to integrate the growing automation requirements of the Aviation Center and Fort Rucker, the Information Center has designed and is implementing an installation-wide Personal Computer Network. The primary function of the network is to provide end-users single workstation capability for sharing resources and communicating with each other.

The Information Center, in conjunction with Systems Integration Branch, has identified and procured hardware and software that allow IBM-compatible personal computers to share files, databases, hard disks, printers and plotters on the network while performing office automation functions.

The flexibility of this network architecture has allowed the integration between protocols currently in use by navigating through a series of inexpensive gateways and bridges. This allowed connectivity to be established to any mainframe computer attached to the LAN such as the VAX 11/750 (AIMS) and IBM 4381 (TISI). It provides distributed databases to support the Aviation Center and TRADOC Decision Support Systems.

C. CONUS Telephone Modernization Program (TMP): This is a top driven project, designed to follow the Outside Cable Rehabilitation Program, to provide ISDN switching. The present DCO is equipped with outdated equipment and is responsible for many of the present telephone and data problems encountered on the installation. This program, as well as Outside Cable Rehabilitation was decremented from the FY88 program. Failure to upgrade or change out DCO equipment with new state-of-the-art equipment will cause even more problems in the future.

D. Automated Instructional Management System (AIMS): Installation of the TRADOC-directed Automated Instructional Management System (AIMS) was completed in April 1987. This system consists of a VAX 11/750 main frame computer which initially served 71 users. Several different terminal

configurations using personal computers, VT-100 terminals, and auxiliary equipment (printers, mark sense readers, and bar code readers) provided communications via a broadband coaxial system utilizing IEEE 802.4, token passing access method.

Project management for AIMS resides within the Directorate of Aviation Proponency. USAISC-Ft Rucker is responsible for maintaining and operating the communications system. Operation and maintenance of all associated equipment is contracted and requires minimal support.

E. TRADOC Information System Integration (TISI): TRADOC Information System Integration provides the installation with mainframe computer resources to support installation requirements.

An IBM 4381-M11 Central Processing Unit (CPU) and an IBM 3725 communications controller were installed in June 1987. Software provided by this effort were Network Control Program (NCP), Virtual Telecommunications Access Method (VTAM) and the Virtual Storage Extended/System Package (VSE/SP) operating system.

This equipment placement allowed for network enhancements to the current installation environment and for connectivity with other host systems such as TRADOC's Decision Support System. It also provided increased processing power and increased on-line storage capacity to over five billion bytes.

F. ADPE Upgrade: The existing equipment was obsolete and unreliable to provide ADP support as required to the aircraft maintenance contractor.

An equipment upgrade to the IBM 4341 Computer System used to support the contractor was accomplished during CY 87. One new card reader, one new card punch, two new high speed printers and five additional direct access storage devices were installed on the system. The new equipment enabled the government to provide better automatic data processing support to the aircraft maintenance contractor.

G. Administrative Telephone System (ATS): The ATS completed the first year of operation under a MEO dictated by the performance work statement generated during a Commercial Activities Study.

Since implementation of the MEO in October 1986, support of the administrative telephone system has continued to accumulate a backlog in local service requests. Several factors have contributed to this shortfall. Major issues are: (1) At the time the CA review was conducted, the administrative telephone system was part of the USAISC-Signal Battalion. This organization was used as the basis for developing the MEO. But separation of IMA assets and ATC assets and realignment into the

IMA concept was accomplished prior to MEO implementation and left the ATS without adequate supervisor and administrative personnel resources. This situation still exists and action to correct the problem has been initiated. (2) A significant increase in maintenance workload has occurred due to installation of the local area network (LAN), assumption of maintenance responsibilities for the Weathervision System, and increases in post population due to movement of the Air Traffic Control facility to this installation.

The MEO issue must be evaluated in the IMA environment in which it presently exists. Resource shortages are severely impacting areas of support that are critical to the mission of this installation. Equipment, training, and personnel must be made available to overcome backlogged work and also provide a more responsive voice and data communication network to the Aviation Center.

H. Aviation Local Area Network (A/LAN): Aviation Local Area Network, the installation LAN, is a digital transmission medium providing data processing for Fort Rucker and connection to other government facilities.

Currently, three systems operate on the network: Professional Office System (PROFS), Automated Instruction Management System (AIMS), and Personal Computer and Fileserver Configuration (PC-Net). A request for exception to the fiber-optic policy has been submitted to expand the A/LAN with coaxial cable in order to meet immediate needs.

I. Weathervision: This is a coaxial cable television system used to provide flight weather to the Aviation community and military training to subscribers throughout Fort Rucker. This system was transferred to USAISC-Fort Rucker when the Air Traffic Control functions were reassigned to the Army Aviation Center.

An upgrade of the emergency pre-empt system which was enhanced with state-of-the-art electronics was completed during 1987.

This system, although quite old, provides a much needed service to personnel flying aircraft in and around Fort Rucker as well as training to the military and civilian workforce. Future plans are to use the Aviation Local Area Network (ALAN), for weathervision data transmission.

J. Tier III IMA Property Accountability: The Supply Branch, Logistics Support Division has established property transfer/accountability for items associated with the Information Mission Area (IMA) from the installation Directorate of Logistics.

In addition to normal supply business, significant resources were expended in conducting the Tier III inventory, entering all items on the property book, and hand receipting to end-users

Tier III microcomputers, copiers, microfiche viewers/printers, records management equipment, and Tier II printing plant equipment.

Action taken in the area of supply accountability has resulted in better control of ADPE and computer software. This increased control over some 18,000 items of property with a dollar value in excess of 12 million was accomplished within personnel resources of the Supply Branch.

### III. SUMMARY

During 1987, U.S. Army Information Systems Command-Fort Rucker/Directorate of Information Management continued to reorganize to comply with the DOIM standard organization and to provide improved, efficient services to the installation. Innovation in the areas of communications, small computers, and printing has led to increased efficiency and improved services. The implementation of personal-computer networking has provided an economical base for information sharing and functionally distributed databases to support decision support systems. Consolidation of end-user information equipment on the USAISC property book is continuing. Improved soldier training and schooling has resulted in better soldiers.

## APPENDIX C

### U. S. ARMY RESEARCH INSTITUTE AVIATION RESEARCH AND DEVELOPMENT ACTIVITY CY87 HISTORY

#### MISSION

The mission of the US Army Research Institute Aviation R&D Activity (ARIARDA), Fort Rucker, Alabama, is to conduct aircrew training technology research and determine the training effectiveness of new technology; to provide technical expertise to the Army Aviation Center in the area of aircrew performance and training; and to provide manpower, personnel, and training (MANPRINT) research support to aviation system acquisitions. ARIARDA is the proponent for the development and fielding of the aviator selection and classification testing. The research is primarily performed at two locations, USAAVNC, Fort Rucker, AL, and AVSCCOM, St Louis, MO, with site visits to other MACOM locations for access to personnel and equipment. The research program sponsors a variety of critical issues from flight simulator design and effectiveness and aviator initial skill training and skill sustainment, to aviation weapons systems task analysis, including MANPRINT objectives. Aircrew selection research focuses on optimal selection and assignment using performance of the individual in the operational environment as the criteria. Selection efforts range from development of initial screening paper-and-pencil tests to performance-based tests of aptitude, in which aptitudes are classified by mission type. Flight simulator research emphasizes evaluation of skill sustainment and articulation of training device design requirements for future simulators. Combat unit training research produces stand-alone specialized training guidelines for aviators in the brigade, battalions, and companies. Efforts include training for reserve component aviators, aviation night operations, threat, navigation, training technology transfer, crew coordination, and helicopter aerial engagement. The system acquisition and MANPRINT work is primarily performed by the AVSCOM Element of ARIARDA and focuses on specific research to meet the needs of the aviator prior to and during the system acquisition cycle. The AVSCOM Element directly supports the Aviation Systems Command and has three primary objectives: to identify and conduct MANPRINT research needed to establish an effective data base, to provide direct participation with PMOs regarding MANPRINT for source selection, product improvement and ASARC reviews, and to ensure human factor issues are considered in the systems acquisition process.

KEY PERSONNEL

<u>Name</u>	<u>Position</u>
Mr. Charles A. Gainer, Chief	Supervisor
Mr. Thomas R. Metzler	Team Leader
Dr. Thomas M. Longridge	Technical Team Leader
Dr. Robert H. Wright	Aviation Requirements
Mr. Gabriel P. Intano	Technical Team Leader
MAJ Lynn Hansen	R&D Coordinator

U.S. Army Research Institute (ARD)  
Alexandria, VA

Anacapa Sciences, Inc.  
Universal Energy Systems, Inc.  
(Colocated Contractors)

ASI ----- 18  
UES ----- 6  
tot. personnel -- 24

ARI Aviation R&D Activity  
(ARIARDA) Ft Rucker, AL

1 Chief GM-188-15  
1 Admin Off GS-341-89  
1 Sec'y (typing) GS-318-85

Staff Support

2 R&D Coord MAJ  
1 Pers Psych Sp E5  
1 Comp Prog Anal GS-334-12  
1 Comp Prog Anal GS-334-11  
1 Rsch Spt Asst GS-303-07  
2 Psych Tech (T) GS-181-05  
1 Clerk-Steno GS-312-04  
2 Sec'y (Typing) GS-318-04  
1 Lib Tech (T) GS-1411-04

AVSCOM Element  
St. Louis, MO

1 Gen Engr GM-801-15  
1 Engr Rsch Psych GM-188-14  
1 Rsch Psych GS-188-12  
1 Sec'y (typing) GS-318-85

Aviation Safety Awareness

1 Rsch Psych GS-188-13

Simulation

1 Rsch Psych GM-188-14  
1 Rsch Psych GS-188-13  
2 Rsch Psych GS-188-12

Aviation Systems  
Requirements

1 Rsch Psych GM-188-14  
1 Rsch Psych GM-188-13  
2 Rsch Psych GS-188-12

Selection and  
Institutional/Unit Training

1 Rsch Psych GM-188-14  
3 Rsch Psych GS-188-12

## SIMULATION TECHNICAL TEAM

Simulator Complexity Testbed. A contract to design and fabricate a modular flight simulator, with dual fiber optic, helmet-mounted displays and an advanced tactical scenario software package, was awarded 1 October 1987. The contract is being administered under a US/Canada Cost Shared Development Program, in which 47.5% of its cost is being paid by the Canadian government. The target aircraft for the initially delivered system is the AH64 Apache. Target delivery timeframe is July 1990. During 1987 an engineering design study addressing alternative configurations and tradeoffs was completed.

UH-1 Training Research Simulator. A 2B24 cockpit and motion platform provided to ARIARDA by the USAAVNC was retrofitted with a low cost visual image generator, host computer system, and totally new system software, under a task ordered contract to the engineering department at the University of Alabama at Tuscaloosa. This device became operational 30 August 1987. During 1987 systematic pilot handling characteristics evaluations were completed, and system refinements were accomplished to increase flight fidelity as well as system reliability.

Emergency Touchdown Maneuver Transfer of Training. During 1987 a study of the training effectiveness of the AH-1 Cobra Flight Weapons Systems simulator was initiated for emergency autorotations at field locations. The work was conducted at Fort Campbell, KY, and at Fort Lewis, WA. The in-aircraft performance of a group trained to criterion in the simulator was compared to a control group which did not receive prior simulator training on those maneuvers. The simulator was found to exhibit differential effectiveness as a function of maneuver type.

## SELECTION & INSTITUTIONAL/UNIT TRAINING TEAM

Multi-Track. ARIARDA obtained and evaluated USAF and USN psychomotor and cognitive aviator candidate test batteries and equipment as well as ARI's own Complex Cognitive Abilities Battery (CCAB) and the NASA/Helmreich Aviator Attitudes and Traits Battery. These were given to over 200 aviators and aviator candidates. Simultaneously 6 Small-Group Analyses (SGAs) were conducted using a modified Delphi technique. These SGAs, using 10 high-time aviators per 4 day workshop, identified the psychomotor and cognitive abilities essential and/or specific to aviator success in the operational environment for each Multi-track aircraft. They also identified the personal attributes essential and specific for successful operational aviators, by individual aircraft. The SGA data was analyzed and refined using comparison to Fleishman's earlier work, as well as by logical methods. The SGA refined data was used to select those sub tests, in each Test Battery (USAF, USN, etc.) which should differentiate among aviator candidates, as well as predict success in the operational (unit) environment. A set of statistical analyses of the test battery was begun.

Night Vision Goggle Training. The Rusche-Intano near-infrared projection system for Night Vision Goggle training became operational at the U.S. Marine Corps Aviation and Weapons and Tactics Squadron One, Yuma Arizona. The U.S. Army Aviation Center is in the process of developing a similar facility at Fort Rucker, Alabama. Development of a prototype OH-58C Night Vision Goggles Experimental Training Program using the Rusche-Intano projection system has been completed.

AH-1F TOW Missile System Procedures Trainer. Development of a AH-1F TOW Missile System desk-top procedures trainer has been completed.

Development of the Basic Map Interpretation and Terrain Analysis Course (MITAC). Photographic slides of terrain features, topographical maps, and narrative sequences were compiled to use in a course on basic map interpretation. A series of lessons was developed that will integrate the instructional materials into an interactive videodisc tutorial, the Basic MITAC. The videodisc will be used in a program of research to investigate strategies of computer-based instructional design.

Advanced Map Interpretation and Terrain Analysis Course (MITAC) Training Effectiveness Analysis. A research study was designed and initiated to evaluate the training effectiveness of an interactive videodisc course on advanced map interpretation and terrain analysis. The in-flight navigation performance of aviators who have been trained on the Advanced MITAC will be compared with the performance of aviators receiving only conventional classroom and in-flight instruction. Once the data have been collected and analyzed, the results will be used to refine the design of the MITAC interactive instructional strategies. Advanced MITAC has been evaluated for incorporation in the OH-58 course.

AH-1S(MC) Preflight Walkaround Inspection. As a result of a successful preliminary evaluation, the AH-1S(MC) Preflight Walkaround Inspection was converted from interactive video-tape to interactive videodisc.

Threat Capability Training. The master video tape, Threat Capability Training for the AirLand Battle: European Scenario, was edited to produce a check laser disc for proofing. After approval, 100 videodiscs were replicated for training effectiveness evaluation. Two threat databases were refined for initial training using the Computer-Based Memorization System (CBMS), a module of the Computer-Based Educational Software System (CBESS). One database was designed to teach weapons systems identification; the other, to teach weapons systems capabilities. Threat subject matter experts (SMEs) from the Threat Intelligence Branch of the Directorate of Combined Arms Tactics (DCAT) and the Directorate of Combat Development (DCD) corrected and updated these databases. Volunteers from Task Force 1-112 participated in preliminary testing and evaluation of hardware and software for threat training, using Zenith 248

microcomputer systems with interactive videodiscs. Field testing with Army aviators was then conducted at Fort Campbell, KY, and Fort Bragg, NC. Utilizing information gained from these subjects and SMEs from DCAT and DCD, 9 additional visual databases, employing graphics overlay, were developed by ARIARDA personnel and two supporting casual officers.

#### AVIATION SAFETY AWARENESS

Aviation Safety and Accident Investigation. ARIARDA provided two research psychologists to serve as full US Army Safety Center (USASC) board members on 6 Class A aviation accidents. These efforts were part of ARI's commitment to providing a test of the use-value of an aviation human factors psychologist on USASC Aviation Accident Investigation Teams. ARIARDA hosted meetings to develop goals and procedures as well as prepare feedback on the experiences and recommendations of the ARI research psychologists who participated in accident investigations. These efforts led to a 1988 briefing to the new USASC Commander, as well as a Memorandum of Agreement (MOA) to continue such work. One research psychologist served as a Technical Consultant for FAA on a Rotorcraft Pilot Decision-Making Manual.

#### AVIATION SYSTEMS REQUIREMENTS

MANPRINT. Detailed MANPRINT analyses of Pilot's Night Vision System (PNVS) infrared imaging and symbology system were conducted to identify causes for high pilot workload and errors and to determine potential procedural, software or hardware, approaches for their resolution. An outline of issues for consideration in a R&D plan was prepared for addressing MANPRINT factors in PNVS and similar systems. A briefing on a R&D plan approach was prepared in response to a CG TRADOC tasking to address the MANPRINT issues in indirect imaging and symbology systems of existing (AH-64) and future (LHX) systems.

Consultation. One research psychologist served as an Army reviewer on an Air Force advanced development program on "Cockpit-Automation Technology (CAT) Development and Demonstration" intended to develop and demonstrate a process for designing and evaluating a totally integrated fighter aircraft crew system.

Flight Line Research System. The Flight Line Research System which consists of one MicroVax II host computer, six Zenith 248 microcomputers, 4 VT 325 terminals, and modems sufficient to interconnect these items into a loose network, was procured with software to permit research on flight training management techniques, student performance assessment, and course simulation. A more advanced approach to course design simulation was developed. This work within the 1st Battalion, 14th Aviation Regiment was concentrated on the automation of flight scheduling Form 325 and flight maintenance Form 168. Effective aircraft qualifications course execution is based on the most efficient

match of training resources to training requirements which remains a major challenge. "An Automated Method for Forecasting Daily Aviator/Training Resource Requirements" A project to automate the production of two key reports for the Aviation Logistics Management Division (ALMD) was completed. This project provides ALMD the capability to perform rapid searches of their aircraft maintenance database and reduces the workload required to produce their management reports.

Automated Performance Assessment and Readiness Training Systems (APARTS). APARTS, a tri-service project, was extended to the Army and tested in A Company, 1st Battalion, 14th Regiment AH-1S Aviator Qualification Course (AQC). Implementation of APARTS was revised to include the Multi-track Initial Entry Rotary Wing Aviator Training Course.

Reserve Aviator Training Requirements Survey. A questionnaire was developed and administered to First Army Reserve aviators to assess their opinions about current training requirements and to identify key military and civilian demographic characteristics. The results from the questionnaire were compared to data from a recent ARIARDA survey of Army National Guard aviators, and were summarized for the First Army Deputy Chief of Staff for Training.

DGFS Aviation Ammunition and Gunnery Survey. Two survey forms (one for individual aviators and one for unit commanders) were developed to assess ammunition requirements, range usage, simulator usage, and training manual usage in Army aviation gunnery training. The survey forms were disseminated to active Army and National Guard units worldwide. The collected data were analyzed and the results were briefed at an aviation gunnery users conference, included in the justification of unit ammunition allocations in Headquarters, Department of the Army level briefings, and used to revise the Helicopter Gunnery manual (FM 1-140).

Aviation Resource Management Survey (ARMS) Checklist. Research was designed and conducted to identify critical variables used to evaluate the management of U. S. Army Reserve and Army National Guard aviation training resources. Questionnaires were developed to evaluate the detection difficulty, importance, and criticality of 607 inspection checklist items.

UH-60 and CH-47 Mission/Task/Workload. Mission/task/workload analyses for all phases of the UH-60 and CH-47 tactical missions were conducted. The workload and time estimates derived from the analyses were used as data bases for developing models to predict workload for UH-60 and CH-47 crewmembers. These analyses were used to provide design guidance for the integration of the avionics subsystems.

AH-64A Workload Prediction Model. A microcomputer-based simulation model was developed to support AH-64 workload analyses. The baseline of AH-64A configuration was used to produce estimates of crew workload throughout the attack mission.

The computer model was exercised to assess the impact on crew workload under varying automation options and crew station configuration changes proposed for the AH-64B aircraft.

Validation of LHX Workload Prediction Model. A mission/task analysis was conducted for the new high technology research flight simulator being procured by the Army for the crew complement research in support of the LHX. The task analysis is highly specific for a two-crewmember configuration representing a pilot and battle captain in a "glass cockpit" LHX-type helicopter. Three different mission scenarios of varying difficulty and complexity were analyzed.

Design and Application of Flight Symbology. A literature review of research on the effectiveness of coding dimensions for symbols used in aircraft displays was completed. The complete research plan outlines the theoretical basis and experimental paradigms to be used in the research of selective visual attention. Initial experiments cover the display cuing procedure for the AH-64 Pilot's Night Vision System.

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- Sprunger, C.A.W. and Tremont, P.J. Research Product 87-30. Simulating the Army AH-1S Aviator Qualification Course: Resource Allocation Model.
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## PRESENTATIONS

Longridge, Thomas M. (27-29 April, 1987) Flight Simulator Training Effectiveness Research in U.S. Army Aviation. Paper presented at the Royal Aeronautical Society Symposium on The Acquisition and Use of Flight Simulation Technology in Aviation Training.

McAnulty, D. M. (1987, April). The Selection of Ability Test Constructs for Predicting Performance in Initial Helicopter Training. Paper presented at the 7th meeting of the EURO-NATO Aircrew Selection Working Group, Toronto, Canada.

## PRODUCTS

Basic MITAC Videodisc  
AH-1 Low Cost Visual System Testbed  
AH-1F TOW Missile System Procedures Trainer  
Threat Training Videodisc  
Flight Line Research System

## APPENDIX D

### United States Army Aviation Development Test Activity

The United States Army Aviation Development Test Activity (USAAVNDTA) was one of the busiest tenant activities at Fort Rucker in 1987. Under the direction of the U.S. Army Test and Evaluation Command (TECOM), USAAVNDTA was one of ten subordinate installations and field operating activities. However, it was the only solely aviation-oriented unit.

In 1987 USAAVNDTA consisted of 19 officers, 12 warrant officers, 103 enlisted, and 89 civilians for a total of 223 military and civilian personnel and was commanded by Colonel Lawrence Karjala. It had the responsibility of planning, conducting, and reporting on tests of aviation systems and aviation related support equipment for the Army. It also planned, conducted, and reported on tests of aviation systems and aviation related support equipment for non-Army government agencies and private industry.

The test activity had four divisions under its supervision. They consisted of the Aircraft Test Division, the Systems Test Division, Management and Plans Division and the Test Support and Logistics Division. These divisions performed numerous test plans and reports and monitored performance standards indigenous to aviation and Army aircraft.

In CY 1987, the Aircraft Test Division published 28 test plans and 21 test reports and was involved in conducting the following tests:

a. UH-1H.

(1) Logistics Evaluation of the UH-1H. This is an ongoing logistical evaluation which has accumulated 975.5 flight-hours since start of test. The helicopter is equipped with several product improvements such as composite main rotor blades (CMRB's), hub springs, and steel tail rotor grips.

(2) Technical Feasibility Test of the UH-1H CMRB's. This is an ongoing study of the reliability and wear characteristics of the CMRB's. Since test start, 2,390 flight-hours have been accumulated. No major problems have been encountered with the blades.

(3) Logistics Evaluation of the Hub Springs and Low "G" Warning System. During this evaluation, 3,280.3 flight-hours have been accumulated since test start. No significant problems have surfaced on either item.

(4) Technical Feasibility Test of a Solid-State Inverter. This test was conducted to provide data for evaluation of the installation, interchangeability, operation, and electrical performance of the solid-state inverter. The inverter was scheduled to be flown for 2 years, but the test was terminated due to an in-flight failure. No problems or anomalies were encountered prior to the failure. The inverter accumulated 407.1 operating hours, which included 404.6 flight-hours.

b. CH-47D.

(1) Logistics Evaluation, Lead-the-Fleet (LTF) Test. This test provided information to support continuous evaluation of safety, reliability,

and logistics aspects of aircraft operation and maintenance. USAAVNDA testing typically follows an accelerated schedule which causes the aircraft to lead the fleet in terms of flight time.

(2) Technical Feasibility Test of a Monopole Torquemeter System. During this test the aircraft was flown 197.4 hours with the monopole torquemeter kits installed. The monopole torquemeter system uses change in shaft displacement as compared to a reference inner shaft, whereas the standard torquemeter system uses change in magnetic flux of the permanent magnet attached to the output shaft. Pilots preferred the indicating needle stability of the monopole torquemeter system over that of the standard torque indicating system.

(3) Technical Feasibility Test of a Remote Topping Adjustment Device (RTAD) and Fuel Pressurization Valve (FPV). The RTAD consisted of a mechanical cable mounted in the No. 1 engine nacelle and routed through the fuselage allowing adjustment of the N<sub>1</sub> governor in flight. The FPV was designed to prevent fuel introduction after engine shutdown and reduce post-shutdown power turbine inlet temperature (PTIT) rise. The aircraft was flown 105.4 hours and accomplished 40 engine shutdowns with the FPV installed, 20 engine shutdowns with the FPV removed, and 2 turbine engine analysis checks (TEAC's) with the RTAD. TEAC's performed with the RTAD installed were easier than the previous method of landing the aircraft each time an adjustment was required. No conclusion could be made for the operational characteristics of the FPV.

c. UH-60.

(1) Lead-the-Fleet Test. This ongoing test consists of assessing expected removal rates for major dynamic components and the effect of high numbers of flight-hours on those components. Additionally, the test assessed time-related failure modes and the logistical support burden of the failure modes.

(2) Development Test (DT) II of the Multiple Delivery Mine (VOLCANO) Air System. Installation of the VOLCANO air system on the UH-60 helicopter began 1 May 87 and was completed in conjunction with Yuma Proving Ground, AZ, 28 Jun 87. The scope of the test included installation, mine field effectiveness, and firing passes at a variety of airspeeds and altitudes under both day and night conditions. The system proved rugged, simple, and placed no restrictions on the UH-60 flight envelope.

(3) Development Test (DT) II of the UH-60A BLACK HAWK HELLFIRE Missile System. Testing consisted of providing technical data as to the compatibility of this missile system with emphasis on mechanical/electrical interface; reliability, availability, and maintainability (RAM); mission performance; limited doppler evaluation; limited handling qualities evaluation; and human factors engineering. The UH-60A HELLFIRE missile system functioned as advertised with only minor problems in the area of human factors (i.e., pilot workload). With 95-percent satisfactory results, 316 simulated missions with 3 HELLFIRE missile launches were completed.

d. AH-1S.

First Article-Preproduction Test (FA-PPT) of the M260 Lightweight Launcher (LWL) for Hydra-70 Rocket Systems. The test involved assessment of preflight and post-flight inspection of the launcher, operability of the launcher, and rocket inventory. Two M260 LWL's were installed on the AH-1S and flown for 5.7 hours. One hundred and twenty Hydra-70 (2.75-inch) rockets equipped with MK66 rocket motors were fired in 11 runs. Four misfires occurred during three runs due to rocket exhaust build-up in the launch tubes. After the tubes were cleaned, the misfired rockets were refired with no problem. The following anomalies were observed during post-flight inspections: missing umbilical contacts, warping and displacement of launcher bulkhead, burring on rocket-stop and on launch tube, and buckling, bending, and corrosion of launch tube.

e. OV-1D.

Technical Feasibility Test of the OV-1 Fireseal/Infrared Suppressor Compatibility. USAAVNDDTA provided data on the fireseal during ground and flight tests of the T53-L-701 engine with the Louvered Scarfed Shroud Suppressor (LSSS) installed. Collected data revealed highest temperature on the fireseal structure at the 6-o'clock position, apparently due to minimal air cooling. No overheat was noted on the tadpole tape (heat seal mounted around the fireseal).

f. AH-64.

(1) Volume I (PV-13), Logistical Evaluation Test of the AH-64A Advanced Attack Helicopter with Effectiveness Determination of Fault Detection/Location System (FD/LS). USAAVNDDTA conducted this portion of the logistical evaluation test on the AH-64A at Fort Rucker, AL, from 7 Mar 85 to 19 Oct 87. Full RAM/Logistics data were collected on Production Vehicle (PV) 13 for 574.6 flight-hours. In May 86, PV-13 was put into the factory for retrofit to the lot 2 configuration, and modified RAM/Log data were collected for 286.9 additional flight-hours for the purpose of evaluating the effectiveness of the retrofit. PV-13 met all Secretary of Defense Memorandum criteria except for operational availability and FD/LS automatic and manual fault isolation.

(2) Volume II, Logistical Evaluation Test of the AH-64A Advanced Attack Helicopter Electronic Equipment Test Facility (EETF) and Fault Detection/Location System (FD/LS). USAAVNDDTA conducted this portion of the logistical evaluation test of the AH-64A Advanced Attack Helicopter at Fort Rucker, AL, from 5 Aug 85 to 31 May 87. During this test, the prototype EETF was operated for 12,675.9 hours. The four FD/LS-designated AH-64A training aircraft flew 1,886.3 hours during the FD/LS evaluation. The EETF self-test and calibration capabilities were adequate; however, three major safety hazards (e.g., uncontrolled noise hazards) and five human factors problems (e.g., lack of proper information display) were noted.

(3) Four customer tests were conducted for the Apache Program Manager Office (PMO): An evaluation of the Target Acquisition Designation System/Pilot Night Vision Sensor (TADS/PNVS) Automatic Low Frequency Gain Limiting (ALFGL) Improved Circuitry; the Hazards of Electromagnetic Radiation to Ordnance (HERO) portion of the electromagnetic vulnerability evaluation; hot-bench concept demonstration of the Hughes full-view visor system; and support to the contractor on an investigation of an improved automatic target hand-off system. USAAVNDA provided pilot, aircraft, and maintenance support for these tests.

During CY 87 the Systems Test Division was involved in developmental testing which resulted in the completion of 7 formal plans, 8 letter plans, 4 formal reports and 7 letter reports. There were 31 additional plans and reports submitted to include progress reports, monthly reports, safety releases, test records, and Activity plans.

Systems Test Division was involved in testing various types of equipment which included lead-the-fleet (LTF) and flight safety parts (FSP) tests, aircrew microclimatic cooling systems, aircraft modular survival system, aircrew uniform non-NBC, air-ground engagement systems, M43 protective masks, survival vests, and aircraft survivability equipment. A brief description of the major tests conducted in CY 87 is provided below.

a. The DT IIA (PQT-G XM43 Report, TECOM Project Number 8-EI-825-64M-013. The test consisted of a durability assessment and validation of previous problems identified. Results of the XM43 Aviator CB Protective Mask test indicated that some problems still have not been adequately corrected; however, we feel the system will mature if the shortcoming and deficiencies presented in the test report are properly corrected.

b. Logistical Evaluation of Aircraft Survivability Equipment (ASE), TECOM Project Numbers 4-ES-945-ASE-001, 4-AI-100-01S-055, and 4-ES-945-ASE-007. We began the year with logistical evaluation tests of ASE on CH-47, AH-1, and UH-1. During first quarter of CY 87 we closed out the UH-1 test and picked up an ASE lead-the-fleet test on the UH-60. The UH-1 and CH-47 tests were revised from logistical evaluation tests into lead-the-fleet type efforts. We closed out the year with 3 active ASE LTF suite customer tests, e.g., UH-60, AH-1F, and CH-47D.

c. Aircrew Survival Armor Recovery Vest, Inserts, and Packets (SARVIP), TECOM Project Number 4-EI-825-VST-009. Five sizes of vests (with four sizes of 12.7 mm ballistic armor inserts) were tested. More than 600 hours of flight wear and nonflight wear were accumulated on the test items. Testing included durability, cockpit compatibility, ingress/egress, logistic supportability, and safety. The SARVIP completed testing favorably, showing much improvement of the results of DT II. The bulkiness of the packets/armor caused problems in seeing and reaching controls and equipment. This resulted in reduced pilot efficiency and aircraft operational capability.

d. Technical Development Test of Aircrew Microclimatic Conditioning System (AMCS) for the AH-1 Helicopter, TECOM Project Number 4-ES-825-MCS-006. The system consists of a modified environmental control unit mounted in the aircraft and a cooling vest worn by the crewmember. Physical characteristics, logistic supportability, human factors, and safety were assessed. The equipment was safe to use and maintain and operated as designed without a failure.

e. Engineering Design Test of the AMCS for the UH-1H Helicopter, TECOM Project Number 4-ES-825-MCS-003. The system was similar to the AMCS tested in the AH-1 helicopter and tests conducted were generally the same. Five system failures occurred during 54.4 hours of operation. The human factors aspects were satisfactory; however, due to the limited test period, a detailed reliability/durability assessment was not performed.

The Management and Plans Division had a number of accomplishments in 1987:

Significant actions by Resource Management Branch for CY 87 include:

a. TDA establishment and revision for FY 88 for peacetime force structure.

b. USAAVNDTA Internal Control System completed 29 HQDA Internal Control Review Checklists.

c. USAAVNDTA Productivity Savings and Tracking program reported \$5.2M cost avoidances for our customers by piggybacking of tests; awarded 6 productivity awards; had 4 active Quality Circles; and productivity indexes earned showed a 15% increase above base years FY 82-85.

d. USAAVNDTA completed CY 87 with a productivity record of achieving 529,261 direct labor manhours which represented a ratio of 57 percent direct effort for the calendar year. Total productive labor produced (by both in-house and contract resource) was 934,453 manhours or a total of 537.4 productive manyears.

Significant actions by the Computer Support Branch for CY 87 include:

a. The operation of an HP 3000 computer with multiprogramming executive operating system was implemented for the automate data collection system (ADACS).

b. A local area network (LAN) was installed to enhance computer communications. The network provides interconnections for the IBM 4361, the HP 3000, laser printers, and personal computers.

c. Personal computers with word processing, spreadsheet, data base and telephone communications software were procured, installed and operations implemented.

d. A computer-aided design system was acquired for use in designing instrumentation packages to be used in testing.

e. An HP 1000 computer and data reduction system was procured for use in supporting telemetry applications and post-flight data reduction. The system components are currently being developed off-site by the VEDA Corporation.

Significant actions by the Plans Branch for CY 87.

During CY 87, the Activity averaged over 100 tests and test support projects in the planning, testing, and reporting phases. Testing was accomplished at Eglin AFB, FL; Yuma Proving Ground, Yuma, AZ; Electronic Proving Ground, Fort Huachuca, AZ; White Sands Missile Range, White Sands, NM; PAX River, MD; China Lake, CA; Hunter Liggett, CA; and Fort Rucker, AL. There were 10,537 flight hours flown in accomplishment of our test program during 1987.

#### Summary

As in previous years, the United States Army Aviation Development Test Activity (USAAVNDTA) was one of the busiest tenant activities at Fort Rucker. The activity was under the supervision of the U.S. Army Test and Evaluation Command (TECOM).

The USAAVNDTA's four divisions--Aircraft Test Division, Systems Test Division, Management and Plans Division, and the Test Support and Logistics Division performed a wide range of test and evaluation on aircraft, avionics, and aircraft survivability equipment (ASE). The Test Activity's personnel flew over 10,537 hours in 23 types of test aircraft.

## APPENDIX E

### U. S. AIR FORCE 3588TH FLYING TRAINING SQUADRON

Lieutenant Colonel Robert E. Fyre, USAF, was the Commander of the 3588th Flying Training Squadron through 14 May 1987. Lieutenant General John A. Shaud, Commander ATC, conducted the Change-of-Command ceremony. Colonel Frye relinquished command to Lieutenant Colonel Charles L. King. Colonel King was formerly assigned as Chief of Safety, 12th Flying Training Wing, Randolph AFB, TX. Major James J. Tanner, USAF, was the Operations Officer in 1987.

The 3588th Flying Training Squadron is a geographically separated unit (GSU) under operational control of Headquarters Air Training Command (HQ ATC), Randolph AFB, Texas. The squadron performed a four-fold mission. It monitored the overall training provided Air Force student officers attending the Initial Entry Rotary Wing (IERW) course and the Rotary Wing Qualification Course (RWQC), and provided Air Force Unique oriented flight and academic instruction to Air Force students. The squadron provided liaison between Air Force students, the Army, and the Air Force on matters pertaining to USAF rotary wing training. It also provided administrative assistance, counseling, and career guidance to Air Force students.

#### Accomplishments

In January, as a result of the projected reduction in UPT-H class entries due to the deactivation of a number of helicopter units in FY88, we proposed the loan of four K1025H instructor pilot positions to Hq ATC for the fiscal period 3-87 to 4-89, or until such time that UPT-H inputs increase again. These positions would be used to offset the demands of the fixed wing qualification increase in other ATC flying units expected during the same period. The proposal was approved by HQ ATC/XPMR in February 1987.

Also, due to the reduced manning requirements, and the fact that our flight examiner duties are performed by the squadron's 1485Y Staff Officers, two authorized M1025H positions were converted to K1025H positions in February.

Major General Charles R. Hamm, Vice Commander of ATC, visited our squadron 24 February. The purpose of the visit was to present the Air Force Outstanding Unit Award (AFOUA) for the period 1 February 1984 - 31 January 1986. This is the third AFOUA received by the squadron.

A Headquarters ATC (HQ ATC) Unit Effectiveness and Standardization/Evaluation Inspection was conducted the week of 9 March. The squadron's overall rating was "Excellent", and no answerable deficiencies were identified.

In April, we began following the Aviation Center's Flight Training Guide. Because it does not provide enough hours of Night Vision Goggle (NVG) Training for Air Force students to warrant a check-ride, the NVG check-ride was discontinued. Since our graduates do not use night vision goggles for several years after completion of UPT-H, we foresee no negative impact as a result of this action.

Due to small class sizes, resulting from unit closures, minimum scores were established for earning squadron awards upon graduation from UPT-H: Distinguished Graduate/Commander's Award for Excellence --92% overall average; Academic Achievement Award -- 97% overall academic average; Flying Achievement Award -- 91% overall flying average.

The Academics section obtained a VCR from Ft Rucker Training Aid Support Division for classroom and general purpose use.

Lieutenant James D. Clifton earned the ATC Master Instructor Certificate by achieving over 700 hours as an Instructor Pilot.

Major James J. Tanner was awarded the Meritorious Service Medal in February for his tour at Andrews AFB, Maryland.

During the month of February there were several improvements made to the squadron facility. New drapes and hardware were installed throughout the building, paint touch-ups were made, and Lieutenants Bill Nutt and Bob Lyhne volunteered to build cabinets for the flight planning room. The officers were later awarded Air Force Achievement Medals for their combined efforts.

LTC King was awarded the Meritorious Service Medal for Non-combat Meritorious Service for the period 4 Nov - 29 Apr 87.

The 3588th FTS received the 1986 National Safety Council Award of Commendation. 1986 was the third consecutive year that the squadron had no reported on-duty injuries or fatalities. The squadron was also awarded the ATC Achievement Citation for FY86 for Ground Safety in recognition of the Unit's achievement in preventing ground/explosives mishaps. The unit reduced its mishap rate by 32% from the three preceding fiscal years.

Captain (Maj Sel) Alphonso A. Howell received the ATC Master Instructor Certificate for achieving over 700 hours as an Instructor Pilot.

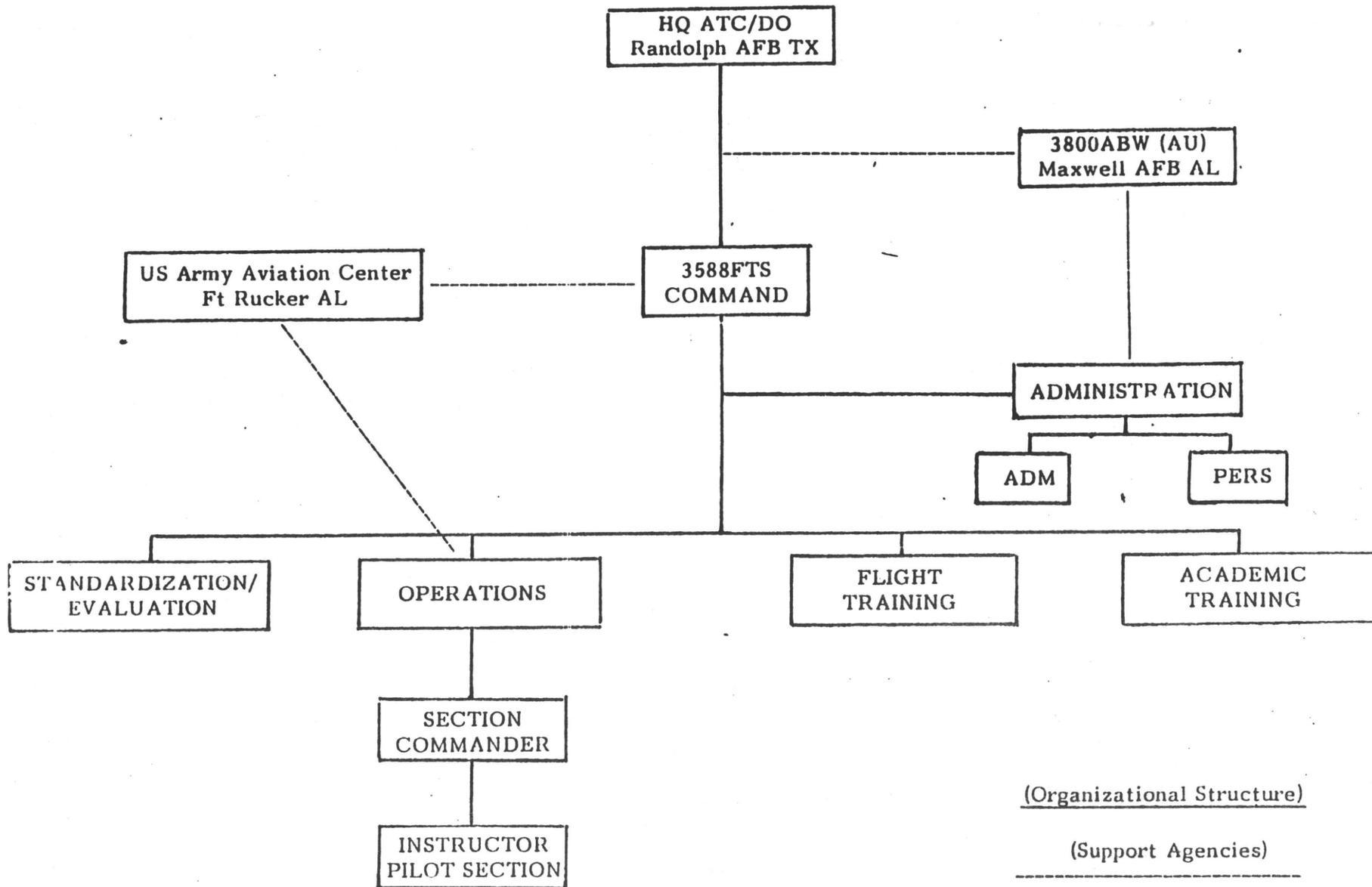
MSgt Luther J. Miller received the Air Force Meritorious Service Medal for his tour at Sembach AFB, GE.

Lieutenant Michael Polhemus received the Air Force Commendation Medal for his tour at Homestead AFB, FL

Lieutenant Matthew Valle received the Air Force Achievement Medal for his tour at Indian Springs AFAF, NV.

Captain Alan Babcock was honored as being chosen the Squadron Instructor Pilot of the Year.

Personnel from Det 8, 3314 MES (ATC) out of Columbus AFB conducted an Undergraduate Pilot Training - Helicopter Functional Review measurement and stan/eval familiarization visit to the squadron during the week of 7 Dec.



(Organizational Structure)

(Support Agencies)

## SQUADRON STAFF

Commander ..... Lt Col Charles L. King  
Secretary ..... Mrs. Annette Collins  
Operations Officer ..... Major James J. Tanner  
Chief, Standardization/Evaluation ..... Capt Alan E. Babcock  
Chief, Flight Training ..... Capt Thomas H. Couch  
Chief, Academic Training ..... Capt Richard R. Fontaine  
  
Squadron Section Commander ..... Capt (Maj Sel) Alphonso A. Howell  
Scheduling Officer/Asst DOV ..... Capt Richard M. Fraker  
Squadron Safety Officer/IP ..... Lt Gaines T. Johnston  
  
Instructor Pilot ..... Capt Robert H. Lyhne  
Instructor Pilot ..... Capt James D. Clifton  
Instructor Pilot ..... Lt Michael E. Polhemus  
Instructor Pilot ..... Lt John D. Harp  
Instructor Pilot ..... Lt Matthew Valle  
Operations Specialist ..... Sgt Karen A. Levi  
  
Executive Support Officer ..... Lt Jennifer McCalla  
Chief of Administration ..... MSgt Luther J. Miller Jr.  
NCOIC of Personnel ..... SSgt Neil White

**UPT-H  
FY87 SUMMARY**

<u>CLASS</u>	<u>ROTC</u>	<u>GRADUATES</u>			<u>TOTAL</u>	<u>ATTRITIONS</u>
		<u>OTS</u>	<u>AFA</u>	<u>ANG</u>		
87-01	7	1	1	1	10	0
87-02	7	1	0	0	8	0
87-03	3	3	0	0	6	0
87-04	6	1	0	0	7	1 (OTS/FTD)
87-05	0	0	12	0	12	0
87-06	0	0	12	0	12	0
87-07	5	1	0	0	6	2 (OTS/ATD; ROTC/FTD)
87-08	5	0	0	0	5	0
	<u>33</u> (50%)	<u>7</u> (10%)	<u>25</u> (38%)	<u>1</u> (2%)	<u>66</u>	<u>3</u> (4%)

<u>ATTRITIONS BY CAUSE/SOURCE:</u>	<u>ROTC</u>	<u>OTS</u>
FTD	1	1
ATD	0	1

STUDENTS ENTERED: 69  
GRADUATED: 66  
ELIMINATED: 3

**ASSIGNMENTS BY AIRCRAFT**

<u>CLASS</u>	<u>H-1H</u>	<u>H-1N</u>	<u>H-1F</u>	<u>H-1P</u>	<u>HH-3</u>	<u>HH-53</u>	<u>H-60</u>	<u>(ANG)</u>	<u>TOTAL</u>	<u>(OVERSEAS)</u>
87-01	0	4	2	0	2	0	1	1	10	3
87-02	3	2	1	0	2	0	0	0	8	3
87-03	1	2	0	0	3	0	0	0	6	4
87-04	2	2	0	0	3	0	0	0	7	4
87-05	4	2	0	1	4	0	1	0	12	4
87-06	4	4	0	0	4	0	0	0	12	4
87-07	1	1	0	0	2	0	2	0	6	1
87-08	3	2	0	0	0	0	0	0	5	0
	<u>18</u> (27%)	<u>19</u> (29%)	<u>3</u> (4%)	<u>1</u> (2%)	<u>20</u> (30%)	<u>0</u>	<u>4</u> (6%)	<u>1</u> (2%)	<u>66</u>	<u>23</u> (35%)

\* \* \* \* \*

**FY87 RWQC PRODUCTION**

ENTERED: 4  
GRADUATED: 4 (1 AD/3 AFRES)

## APPENDIX F

### FORT RUCKER RESIDENT AGENCY, THIRD REGION, USACIDC

#### MISSION STATEMENT \*

To provide criminal investigative support to elements of the U.S. Army Aviation Center and Fort Rucker. This includes the investigation of all serious crimes committed by U.S. Army personnel or offenses of which the U.S. Army is a victim with an Area of Responsibility (AOR) which encompasses twenty-seven counties in southern Alabama and ten counties in the Florida panhandle.

#### ORGANIZATION

The Fort Rucker Resident Agency, USACIDC, is subordinate to the Fort Benning District, Third Region, USACIDC, Fort Benning, Georgia; HQs, Third Region, USACIDC, Fort Gillem, Georgia; and HQs, USACIDC, Falls Church, Virginia. Key Personnel assigned during calendar year 1987 are as follows:

Special Agent in Charge James B. Boyd	Jan - Aug
Special Agent in Charge Tony R. Warrington	Aug - Oct
Special Agent in Charge Robert L. Beightol	Oct - Dec
Chief, General Crimes Tony R. Warrington	Jan - Dec
Chief, Drug Suppression Terry C. Crump	Oct - Dec
Chief, Investigative Support Antoinette R. Roman	Jan - May
Chief, Investigative Support Troy D. Richards	Jun - Dec
Chief, Admin Support Ms. Helen Frye	Jan - Dec

The Fort Rucker Resident Agency, is a TDA organization with an authorized strength of eight investigative (Special Agent) and three civilian support personnel. MTO & E conversion is expected to occur during the early 1990s.

## ACCOMPLISHMENTS

Statistically speaking, the workload of the Fort Rucker Resident Agency remained relatively constant when compared to 1986 totals. A 22% increase was seen in the area of drug suppression investigations and a 240% increase was experienced in the area of Economic Crimes (Fraud, Waste, and Abuse). A decrease of 17% occurred in the initiation of other investigative actions which did not result in CID Reports of Investigations (ROI).

## STRENGTH

During the entire year, the office was manned with nine Special Agent personnel and three civilian support personnel. Effective with a new TDA approved 1 Oct 87, one civilian support position was eliminated. In addition, the HQs, Third Region, USACIDC, Special Agent Distribution Plan (SADP) directed that the Special Agent manning level will be reduced from the eight authorized to six actual. The reduction will occur through attrition.

## ORGANIZATIONAL STRUCTURE

The Special Agent in Charge is the senior person assigned and is responsible for both the operational and administrative functions of the office. The Chief of Investigative Support, for all intents and purposes the unit First Sergeant, provides first line supervision for the civilian support personnel and is responsible for all administrative and logistical functions within the office as well as conducting criminal investigations. Operationally, the office is divided into three sections, those being Drug Suppression, General Crimes and Economic Crimes investigation, each being headed by the most senior Special Agent available. Remaining investigative personnel are divided up amongst the investigative teams pro rated according to workload in each specific area.

During 1987, two organization changes occurred:

a. On 1 Oct 87, one Special Agent was assigned full time to supervise a Drug Suppression Team with a goal of being proactive in the pursuit and identification of traffickers of illicit drugs, whether military or civilian, to U.S. Forces personnel.

b. In keeping with the U.S. Army emphasis on Fraud, Waste, and Abuse, the Economic Crime Team was increased from one to two Special Agents dedicated to the proactive pursuit of Economic Crimes.

The end result of the changes was a dedication of

approximately 40% of office assets to the two crime areas which have been the most detrimental to the success of the mission of the U.S. Army. It is anticipated that the workload in both areas will increase drastically during CY 88 due to the added emphasis.

#### IMPACT OF PERSONNEL SITUATION ON MISSION ACCOMPLISHMENT

The reduction of personnel by the SADP will drastically reduce the ability of the Fort Rucker Resident Agency to be proactive in the pursuit of drug suppression and economic crimes investigation, which is an essential element for success in both programs. The SADP is determined on experienced workload. An increase in workload will eventually result in an increased SADP for the Fort Rucker Resident Agency; however, an extended period of time with two few Special Agent personnel to maintain proactive efforts in both efforts is anticipated.

#### WORKLOAD SUMMARY

The workload of the Fort Rucker Resident Agency is separated into four distinct categories which are described as follows:

a. Reports of Investigation (ROI): The investigation and documentation of felony type crimes. ROIs have constituted approximately 20% of the total work units but approximately 90% of total manhours.

b. Crime Prevention Survey (CPS): Proactive investigative action utilized to identify internal systemic problems within an activity. If present, crime conducive conditions are identified and recommendations to the activity commander/director made.

c. Requests for Assistance (RFA): Assistance rendered to other USACIDC elements, Federal agencies or local police jurisdictions on incidents which did not occur within the AOR or investigative jurisdiction of the Fort Rucker Resident Agency.

d. Sequence Only: Those actions which the Fort Rucker Resident Agency must complete, however, which do not fall into any of the other three categories. These actions include but are not limited to: preliminary investigations subsequently referred to another agency; referrals of criminal information from one USACIDC element to another; Personnel Security Activities; and minor possession and use of nonnarcotic drugs. These type of activities consisted of approximately 55% of the 1987 total workload.

STATISTICAL COMPARISON 1986 TO 1987

	<u>1986</u>	<u>1987</u>
ROI	87	99
CPS	22	21
RFA	164	123
SEQ	363*	296
TOTAL	636	539

\*Includes actions conducted by MPI during Jan - Jun 86, when MPI was under operational control of CID.

APPENDIX G

MEDICAL EVACUATION PROPONENCY ACTION OFFICE

MISSION

Advise the commandant, U.S. Army Academy of Health Sciences and Department of the Army Surgeon General on all Medical Evacuation Proponency matters. Serves as liaison between the AHS, U.S. Army School of Aviation Medicine, U.S. Army Aeromedical Center, and field organizations for medical evacuation matters. Assist in the development and review of medical evacuation policy, guidance and regulation. Administer the Medical Evacuation Proponency programs through assisting in the management of branch specialties, and career management field sin all phases of the personnel life cycle management model. Monitor and facilitate action for all matters pertaining to doctrine, equipment, organizations, training and personnel related to medical evacuation. Coordinate with integrating centers, Academy of Health Sciences, U.S. Army Training and Doctrine Command, U.S. Army Personnel Command, Soldier Support Center, Office of the Surgeon General, Headquarters Department of the Army, on matters affecting medical evacuation.

The unit commander and key personnel in the Medevac Proacto for CY 87 were:

Chief	COL Eldon Ideus	Jan - Dec
Assistant Chief	LTC William Kruse	Jan - Dec
Aviation Staff Officer	MAJ Victor Geiger	Jul - Dec
	CPT Eugene Pfeiffer	Jan - Jun

The strength of the Medevac Proacto for CY 87 was:

	OFF	WO	ENL	CIV
On Hand	4	0	1	1
Authorized	4	0	1	0
Required	5	1	2	1

The Medevac Proponency Division in 1987 engaged in material, force structure, and personnel issues related to the medical evacuation mission. The office sponsored the 1987 annual AMEDD Aviation Safety and Standardization Conference along with an AMEDD Medical Evacuation Commander's Conference.

Material issues dealt with centered around the Light Helicopter Experimental (LHX) and V-22 programs. Additionally, it facilitated the development of a work group composed of Office of the Surgeon General (OTSG), Academy of Health Sciences (AHS), and Materiel Research and Development Command (MRDC) personnel to examine requirements for an AMEDD developed medical evacuation kit for the V-22. The Medical Evacuation Proponency Division successfully imputed AMEDD requirements into the design of the LHX as a medical evacuation aircraft. The requirements for the AMEDD to receive 64 V-22s as medical evacuation platforms was established and approval gained for these aircraft. Both the LHX and V-22 programs have suffered budgetary cuts which have eliminated the possibility of the Army receiving either a utility version of the LHX or any V-22 aircraft.

The Medical Evacuation Proponency Division facilitated multiple force structure work group sessions which helped solidify an AMEDD position as to what our force structure requirements actually are and how we might employ that structure, both in peacetime and wartime. Working in conjunction with Boeing Vertol in the V-22 program, the Medical Evacuation Proponency Division developed an evacuation model. This model enables the AMEDD to better analyze the requirements for evacuation organizations and the platform characteristics of the evacuation vehicles contained within those organizations with regard to numbers speed, range, and capacity.

Continued participation in joint services work groups such as the Joint Patient Evacuation Work Group, civilian sponsored conferences such as the American Helicopter Society, NASAR, and PATA, as well as Training and Doctrine Command, Logistics Center, and Combined Arms Center sponsored conferences have been key to the ability of this office to acquire the right information and provide appropriate input to ensure the success of the medical evacuation mission.

## APPENDIX H

### UNITED STATES ARMY SAFETY CENTER

The United States Army Safety Center (USASC) a Field Operating Agency under the Office of the Chief of Staff, Army, was one of the major tenant activities on Fort Rucker in 1987. Its mission was to support the Director of Army Safety and the Army Safety Program in conserving manpower and material resources to enhance combat effectiveness. With the reorganization of Headquarters, Department of the Army, effective 30 June 1987, the position of the commander of the Safety Center was upgraded to a Brigadier General position and the commander was appointed Director of Army Safety.

COL A. E. Hervey, Jr. was the Commander of the Safety Center from January to July. COL(P) Marvin E. Mitchiner, Jr. was the Commander for the remainder of 1987. SGM White was the USASC Sergeant Major.

The Safety Center had the following directorates in 1987: Directorate for Plans, Programs and Professional Development; Directorate for Research, Analysis and Investigation; Directorate for Systems Management; Directorate for Information Management; and Directorate for Media and Marketing. The major accomplishments of each directorate were:

#### Directorate of Plans, Programs and Professional Development

COL Sammie Harrison and LTC Victor M. Sathre were the directors for Plans, Programs and Professional Development in 1987. Col Harrison was the director from January to August when LTC Sathre assumed those duties for the remainder of the year.

During 1987, the directorate was instrumental in supporting the Army Safety Program. Missions included safety training, professional development, MACOM safety conferences and evaluations, development of regulations, explosive safety monitoring, and managing the Army's safety and health programs. This directorate also had direct responsibility for developing and monitoring a plan for implementing the recommendations made by the Department of the Army Inspector General (DAIG) from their inspection of the Total Army Safety Program.

The Plans Division developed a plan of action to ensure corrective actions to the DAIG recommendations. MACOMs and ARSTAF complied with 96% of the DAIG recommendations by year end. In addition, Plans were made for MACOM, Installation and Division Safety Directors and Army senior officials to

meet, identify and define key safety actions and priorities for FY 88-92. These efforts resulted in a planned five-year Safety Plan that will be fielded as a DA circular. The Division also conducted six MACOM Safety Program Evaluations; five in the Washington DC area and one in Europe.

The Programs Division worked with the U.S. Army Manpower Requirements and Documentation Agency to finalize a proposed safety staffing standard for use Armywide. The standard will reflect staffing that is commensurate with mission requirements. The Division also worked with the Civilian Personnel Center in reviewing and applying Office of Personnel safety staffing standards to Armywide safety positions. This will result in job standards that reflect current Army safety requirements. The Division planned The Army Divisional Accident Prevention test conducted at Ft. Hood, Texas from 1 July 1986 to November 1987. Six captains were placed at brigade/DIVARTY levels as full-time unit safety officers. Two civilian safety professionals were DISCOM safety officers while two other civilians were responsible as Division Safety Managers. The purpose of the test was to evaluate this concept as a model division accident prevention program, determine appropriate staffing levels, evaluate officer secondary specialty as safety, and to test tactical risk management techniques. The Division planned and received approval for an Explosives Safety Management Program. The program retains control of the Explosives Safety Program under Army Safety and provides an increased technical role within the Army Materiel Command.

During 1987 a number of major programs were completed by the Professional Development Division. These include design of a Comprehensive Safety Intern Training Program; the Safety Training, Education and Development System (SAFTEDS) plan; and revision of AR 672-74 establishing a comprehensive ground safety awards program. The Division also completed development and implemented a course in Risk Management; Resource Management for Safety Managers; and Executive Skills Program (ESP); a Safe Army Now Commanders Course, and a Unit Safety Officers Course. Expansion Of USASC courses from 19 to 37 nearly doubled the division weeks of instruction. In July 1987, an abbreviated risk management course was presented to 30 generals and 50 colonels at the FORSCOM Safety Seminar.

#### Directorate of Information Management

Mr. Harold M. Meyers was the Director of Information Management in 1987. The acquisition of advanced computer equipment greatly enhanced internal communications capability and eased the flow of the administrative workload for the Army Safety Center while enhancing computer support and output products to MACOMs.

To assist computer users worldwide, five Army Safety Management Information System (ASMIS) workshops were conducted and an 800 hotline service was installed. In addition, a new computer literacy packet was developed and distributed to enhance accident information retrieval. Also this office, field tested a newly developed computer application that will electronically transfer accident reports. The application is designed to conserve manpower, reduce lag time and minimize paperwork involving accident reports in the future.

More than 1200 ad hoc requests and 8300 reports were processed and provided to DOD and civilian customers worldwide. 14,749 ground accident reports and 4,923 preliminary reports of mishaps were also processed.

#### Directorate of Media and Marketing

Mr. William E. Carter was the Director of Media and Marketing for USASC in 1987. The directorate produced and managed a comprehensive multimedia safety communication system directed toward correcting accident-causing behavior and improving safety in Army operations. The directorate also sought out and evaluated safety successes from the field and industry and marketed these successes Armywide.

Accident prevention information, analyses of accident data, reviews of recent accident causes, and suggested countermeasures were highlighted in a variety of periodicals, reports, pamphlets and posters produced by the Media and Marketing Directorate. This office also used motion pictures, TV, and radio in coordinated safety awareness campaigns targeted at specific problems and audiences.

The Directorate produced and distributed 2,000 pages of safety promotional material in almost 3 million copies, 45 posters in 850,000 copies, 9 accident prevention support kits and campaigns, and 5 safety training films. Nine commercial audiovisual productions were also reviewed, adopted, and distributed Armywide. In addition, thirty-five safety presentations were prepared to be given to Army personnel worldwide, and numerous safety messages were prepared for the Chief of Staff, Army.

#### Directorate for Systems Management

COL Howard P. Blount and COL James Pongonis were the two directors for Systems Management during 1987. COL Pongonis became director in June and remained in that position for the remainder of the year.

The Systems Management Directorate continued targeting on reducing private motor vehicle accidents, developing an Army Driver Improvement Program, developing the Army Motorcycle Safety Course and developing Army motor vehicles and combat vehicles accident prevention programs.

The Directorate initiated two large-scale, multidimensional safety programs. The first was designed to reduce the number and severity of industrial workplace accidents while the second targeted accidents occurring off-duty and in the home. In the area of aviation, accident analysis indicated that night flying mishaps accidents were on the rise. The Directorate hosted a multi-service workshop; developed an accident awareness packet and videotape designed to emphasize night flying safety and the effective use of night vision goggles. Additionally, two major system evaluation review studies were completed on the Apache and Mohawk helicopters.

The Systems engineering Division supported the System Safety Coordinating Panel in developing policies for risk management and system safety interface. Ten independent system safety assessments on major materiel development systems were completed.

#### Directorate for Research, Analysis and Investigation

COL Alan F. Jones and LTC Joeseeph L. Zeller, Jr. were the directors for Research, Analysis and Investigation in 1987. COL Jones was the director until December when LTC Zeller took his place.

The Research and Analysis Division initiated two key safety initiatives. The first involved the design and fielding of monthly accident reduction goal matrices for use Army-wide. The second established the U.S. Army Safety Studies Program which requires the completion of nine safety studies during FY 88. Several research and analytical reports were developed and published to include an expanded annual safety report in two volumns, and technical aviation studies on AH-64 and OV-1 unit training deficiencies that could contribute to aviation accidents. Accident reporting was also researched in order to develop a new, more streamlined approach to information gathering.

The Investigation Division investigated 68 Army aviation and ground accidents in 1987 (44 aviation and 24 ground). The division assisted and supported: the FBI during an investigation of a UH-1 accident; the Phillipine government in the investigation of three UH-1H accidents; and the U.S. Air Force in investigating three Air Force aircraft accidents. In addition the Division's Centralized Accident Investigation team members conducted safety surveys overseas during major Army exercizes in Germany and Korea.

The Flight Operations element received a new C-12F aircraft and a C-12C replacement, both of which are equipped with the Area Navigation System. These additions now enable crews to reduce preflight planning, streamline the flight planning process, and add more flexibility in accident team deployment.

## APPENDIX I

### U.S. ARMY AEROMEDICAL RESEARCH LABORATORY (USAARL)

#### MISSION STATEMENT

Conduct research and development on health hazards of Army aviation, tactical combat vehicles, and selected weapons systems. Assesses the health hazards from noise, vibration, acceleration impact, and visual demands of such systems, and defines measures to offset hazards. Assesses stress and fatigue in personnel operating these systems and develops countermeasures. Assists in development of criteria upon which to base standards for entry and retention in Army aviation specialties. Assists other U.S. Army Medical Research and Development Command laboratories and institutes in research on the bioeffects of laser systems, medical defense against chemical agents, impact of continuous operations on individual and crew performance and development of improved means of patient evacuation. Assesses current life support equipment to identify causes of failure and devises improved design. Assists the combat developers and materiel developers of new Army aviation and tactical combat vehicle systems to recognize and eliminate health hazards as early as possible in the developmental cycle. Conducts collaborative research with other Department of Defense and federal agencies on medical research and development issues of common concern.

USAARL is one of 11 medical research laboratories and developmental activities of the U.S. Army Medical Research and Development Command (USAMRDC), a Field Operating Agency of The Office of the Surgeon General. USAMRDC has the responsibility for the administration and coordination of the research, development, and test and evaluation programs of the Army Medical Department.

Scientists and engineers assigned to USAARL are able to follow closely developments in the Army aviation field because of the proximity of the U.S. Army Aviation Center, and the other research activities located at Fort Rucker, Alabama.

As a member of the NATO Advisory Group for Aerospace Research and Development (AGARD), USAARL is able to maintain close coordination with foreign governments in matters pertaining to aviation medicine.

USAARL is organized under TDA MDW03YAA MD0287, effective 2 October 1986. USAARL continues to operate with three research divisions, two support divisions, and the headquarters command. The research divisions consisted of Biomedical Applications Research, Sensory Research, and Biodynamics Research; and the support divisions consisted of Research Systems and Technical and Logistical Services.

## PERSONNEL

Authorized personnel strength was 134. Actual strength as of 31 December 1987 was 147. For 1987 there was an average 25 officers, 1 warrant officer, 48 enlisted, and 76 civilians. Co-op students, student aides, and temporary hires were counted in the civilian position total. Key personnel assignments during CY 87 are shown in Figure II.

A series of professional conferences, seminars, and short courses were offered throughout the year for USAARL personnel. USAARL sponsored six scientific seminars at the Laboratory's facilities. These seminars were given by experts performing research in the areas that coincided with USAARL research efforts.

Personnel in the Laboratory hold 6 doctors of medicine, 1 doctor of veterinary medicine, 18 doctorates, 16 masters, and 30 bachelor degrees.

Mandatory training requirements were met by all military personnel in the skills qualification testing for CY 87.

Commander	COL Dudley R. Price	1 Jan - 31 Dec
Deputy Commander for Science	COL J.S. LaMothe	1 Jan - 31 Dec
Deputy Commander for Administration	LTC Edmond J. Enloe	1 Jan - 31 Dec
Research Liaison Officer, AVSCOM	MAJ Danny E. Lacy	1 Jan - 31 Dec
Adjutant/Detachment Commander	CPT David R. Brune	1 Jan - 31 Dec
Director, Programs and Plans	Kent A. Kimball, Ph.D.	1 Jan - 31 Dec
Chief, Scientific Information Center	Sybil S. Bullock	1 Jan - 3 Dec
Chief, Resource Management Branch	Maxine S. Middleton	1 Jan - 31 Dec
Detachment NCO	SFC Richard C. Carson	1 Jan - 31 Dec
Director, Biomedical Applications Research Division	Michael G. Sanders, Ph.D.	1 Jan - 28 Jun
	LTC Philip Taylor	29 Jun - 31 Dec
Director, Sensory Research Division		

LTC Bruce C. Leibrecht	1 Jan - 31 Dec
Director, Biodynamics Research Division MAJ Daniel W. Gower, Jr.	1 Jan - 31 Dec
Director, Research Systems Division LTC Terrance A. Muldoon	1 Jan - 30 Jun
LTC Williams S. Borders	1 Jul - 31 Dec
Director, Technical & Logistical Services Division Charles D. Williams	1 Jan - 31 Dec

#### PROGRAM FUNDING

	FY 86	FY 87
6.1 Research	\$ 492.0	\$ 388.0
6.2 Exploratory development	4,958.0	5,149.0
6.3 Advanced development	453.0	498.0
6.4 Reimbursable	125.7	85.5
6.5 Management & support	121.0	531.0
	<u>\$6,149.7</u>	<u>\$6,651.5</u>

#### FLIGHT ACTIVITIES

Aviation support was provided by assigned MSC research aviators flying research aircraft belonging to USAARL. Cockpit workload and crew fatigue, night vision techniques, testing of chemical defense ensembles, and evaluation of helicopter oxygen generating systems were among the research areas investigated. Assigned aerial research platforms (aircraft) were:

JU-21G	70-15901
JUH-1H	71-20033
JOH-58A	71-20778

Flight hours for CY 87

#### TECHNOLOGY TRANSFER

Provisions of the Stevenson-Wydler Technology Act of 1980 (PL 96-480) continued to be implemented during CY 87. Representatives were sent to Federal Laboratory Consortium meetings.

More than 2,600 requests were received by the Scientific Information Center for either information or copies of bibliographies or technical reports.

#### OTHER ACCOMPLISHMENTS

The Scientific Information Center (SIC) uses the OCLC LS2000 integrated library system. This system automates USAARL's

bibliographical records: books, technical reports, and journals. These records can be searched through names, key words, subjects, titles, phrases, and dates. Easy user access is through video display terminals located in the SIC and throughout the Laboratory.

Automated cataloging on the LS2000 is accomplished by accessing the OCLC bibliographical record, editing the record and downloading (through M300 workstation) the record into the LS2000 system.

The SIC has on-line access to over 250 databases through the DIALOG system. The databases used most frequently by the SIC's search specialists include MEDLINE (Index Medicus on-line), PSYCHINFO (Psychological Abstracts on-line), NTIS (National Technical Information Service), EMBASE (Excerpta Medica on-line), AEROSPACE (NASA), and BOISOS (Biological Abstracts on-line). Other available on-line systems include Defense Technical Information Center, Chemical Agent Retrieval Systems, NASA/Recon, and USNI Military Database.

The SIC continued to provide orientation classes to flight surgeon classes.

## SCIENTIFIC PROGRAMS

Scientific research at USAARL encompasses six major research areas. They are: Acoustics, vision, crew workload and stress, vibration, impact, and life support technology. Under each of these research programs, USAARL has an established scientific program or programs. Such scientific programs involve one or more individual projects documented by a DD Form 1498. This is a convenient system for grouping the work USAARL does, and it makes easier the tracing of compliance with USAMRDC guidelines.

## RESEARCH ACTIVITIES

The Life Support Equipment/Crew Injury and Epidemiology Branch of the Biodynamics Research Division had these significant accomplishments:

Testing of the Prototype Extra-Large Integrated helmet and Display Sighting System (IHADSS) took place during January and February 1987. A joint letter report was published in March 1987. This rapid response allowed the fielding of the helmet in May 1987.

Under the Aviation Life Support Equipment Retrieval Program (ALSERP), the branch participated with the U.S. Army Safety Center in the investigation of two AH-64 helicopter accidents at Fort Rucker. One of these accidents had a fatality. Using the expertise and facilities available at USAARL, branch personnel were able to determine the fatal injury mechanism.

In August, branch personnel were able to turn over the fitting of the IHADSS to the Hanchey Army Air Field aviation life support equipment (ALSE) personnel. They continued to provide technical advice as requested.

Health hazard assessments were completed on the Ram Air Parachute System, the Military Motorcycle Helmet, and M1 Tank.

In December, a fit test of crushable earcups was conducted in conjunction with Natick Laboratories as the final assessment of the aluminum crushable earcup for the SPH-4 helmet.

In July, a report was published on the Measurement of Gunner Head Acceleration During the Firing of High Impulse Guns on Lightweight Armored Vehicles and the Assessment of Gunner Tolerance to Such Impact.

The Triservice Standard Man Handbook was completed and delivered to the Triservice Aeromedical Research Panel. This handbook will allow researchers to have a standardized set of anthropometric criteria for use in testing of various types of aerospace equipment and systems.

Personnel from this laboratory were very involved in the activities of the Triservice Flight Environment Working Group (FEWG) and the Triservice Helmet Standardization Working Group (HSWG). These two groups are attempting to coordinate the effort of the triservice's research and development programs in ALSE so that unnecessary duplication does not take place.

MAJ Peter Vyrnwy-Jones, our first British Exchange Officer in the U.S. Army Medical Research and Development Command, arrived in April 1987. He immediately began work on a study of disorientation accidents and incidents in U.S. Army helicopters from 1980 to 1987 and is preparing a report on the subject.

MAJ Barson made a presentation at the 1987 Aerospace Medicine Association Annual Scientific Meeting on the need for ALSE in civilian aeromedical evacuation helicopters.

The Army's first study into the Simulator Sickness phenomenon was completed in July 1987 and the findings published in September 1987.

The Acoustical Sciences Branch of the Sensory Research Division submitted the method used to measure the physical attenuation of hearing protectors on humans to the ANSI standards committee.

Branch personnel completed a study of aural detectability of aircraft in support of the electro-optical survivability study.

Cortical mapping of midlatency responses of the auditory evoked response in chinchillas was completed.

Investigators measured real- and physical-ear attenuation of a number of hearing protective devices including the following: IHADSS X-large helmet, an interim device for the Communication Aural Protective System (CAPS), two improvements to the CVC helmet, and crushable earcups for the SPH-4.

A study to determine whether yohimbine would shorten the length of anesthesia induced by ketamine/xylazene was completed.

Visual Sciences Branch personnel completed a large field project at Fort Benning to measure visual and cognitive parameters affecting target acquisition performance.

The branch published reports on the use of contact lenses in an armor environment.

Compared night vision of smokers and nonsmokers and provided report to the CG, U.S. Army Aviation Center.

Measured effect on visual acuity of different visor tints and provided guidance to developer of laser protective visors.

Published field-of-view measurements of the AH-64 helmet-mounted display while wearing the M43 protective mask.

Provided spectroradiometric measurements on candidate ANVIS-compatible lighting systems.

Continued measurements on aviators wearing contact lenses to support USAARL research protocol.

Sensory Neurosciences Branch personnel published a paper describing the recovery of visual function following nerve agent stimulant exposure; they also published a paper describing neurochemical changes in brain, retina and blood following nerve agent stimulant exposure.

In the area of aviator performance effects of chemical warfare antidotes and pretreatment therapies, the Biomedical Applications Division, as a critical followup to the Phase I study of the effects of 2 mg and 4 mg of injected atropine on simulator flight performance, Phase II, the in-flight validation, started in March 1987. Twelve volunteer aviators completed a 2-week testing protocol. In addition to the real-time performance effects of atropine as measured during exacting flight profiles in a JUH-1H helicopter, other measures of psychomotor activity, body physiology and biochemistry, and psychophysiologic responses were monitored and recorded. A unique biotelemetry system was developed that allows real-time recording and visualization of EEG, EKG, and heart rate while at the same time allowing researchers to maintain continuous visual contact with the aviator.

The integrated concept for physiology, psychology and endurance (time to failure), developed by USAARL investigators

as a result of earlier P2NBC2 field tests continued to be widely accepted and used by field commanders. This concept was presented to NATO and was well received, resulting in a STANAG revision to reflect temperature zones. Prior to development of this concept, the disciplines of physiology and psychology had been applied separately to the analysis of limitations on unit endurance during combat tasks. This approach brings the two sets of results onto the same axes for graphic display of endurance limits. Consideration of endurance limit curve shapes reveals that a general solution has three zones of environmental effects in temperate to tropical areas. External factors such as workload, terrain, and weapons system establish predictions of endurance time for the environmental factors encountered and by shifting curve shape and position, permit prediction of the effects of various hardware, doctrinal, and tactical fixes.

This concept is being continuously updated as more data become available. A large scale DELPHI study of several groups of combat-arm Army personnel was conducted to better quantify the effects of multiple factors on combat endurance of the soldier and his unit.

The second phase of a combat emergency medical expert system (CEMES) was completed. CEMES is a closed-loop system for diagnosis and treatment of shock under ideal conditions. Exploratory development of DEMES expansion into the medical treatment of chemical injury continues with a goal of recognizing insufficient or excessive chemical defense antidote, administration of additional antidote if needed, recognizing a defined subset of other medically critical conditions, monitoring vital signs, and selection/administration of fluids and/or pressor agents as needed.

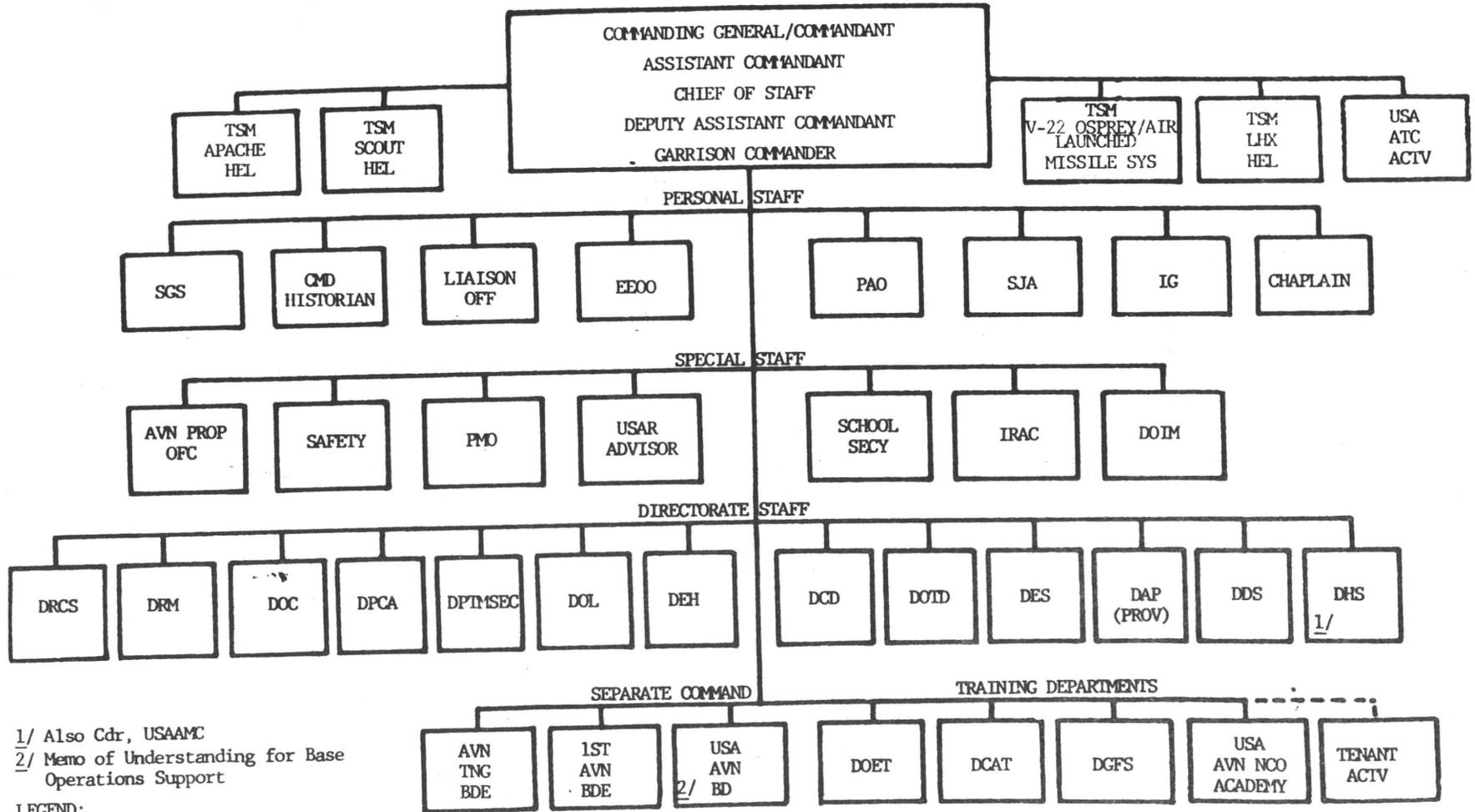
The Biomedical Applications Division also worked in the Army program for test and evaluation of aeromedical equipment. This program, designed to test and evaluate, and subsequently recommend approval or disapproval of various items of aeromedical equipment for use specifically on board Army aircraft, is now in place. The testing laboratory is complete, SOPs developed, and testing personnel hired. CY 88 will be this program's first full year of approved testing.

The aeromedical epidemiology data register program, designed to create a database system for Army aviator medical and health/safety related information in order to provide an accurate source of epidemiologic data for aviation medical selection/retention/waiver standards and efficient record access and medical monitoring, is now fully functional and is being increasingly used. Six data transcribers are working fulltime and field medical data now are entered into the database within 1 day of receipt. Archived data are being entered as time allows and almost is completed. Procedures for requesting information from the data base have been established and development of a system for coding disease and nondisease states is underway.

At the request of the Aviation Center, two studies were conducted and reported by the division. The first was a major review of stress factors and their impact on instructor pilots at Lowe Army Airfield. The second involved the effects of smoking on aviators.

DEPARTMENT OF THE ARMY  
 UNITED STATES ARMY AVIATION CENTER AND FORT RUCKER

ORGANIZATION CHART



1/ Also Cdr, USAAMC  
 2/ Memo of Understanding for Base Operations Support

LEGEND:  
 \_\_\_\_\_ Command  
 - - - - - Host Tenant Agreement

## APPENDIX K

### LIST OF ACRONYMS

A/LAN	Army/Local Area Network
A <sup>2</sup> P <sup>2</sup>	Army Aviation Personnel Plan
AAWE	Army Aviation Annual Written Examination
AAF	Army Airfield
AAFES	Army and Air Force Exchange System
AAMP	Army Aviation Modernization Plan
AASLT	Air Assault
AAST	Army Aerial Scout Test
ABC	Advancing Blade Concept
ACA	Advanced Cargo Aircraft
ACCP	Army Correspondence Course Program
ACS	Army Community Service
AD	Aviation Digest
ADAPCP	Alcohol and Drug Abuse Prevention and Control Program
ADCFA	Assistant Director for Community and Family Activities
ADCGS	Aviation Direct Current Generator Set
ADCP	Assistant Director for Civilian Personnel
AEFA	Army Engineering Flight Activity
AEP	Affirmative Employment Program
AERB	Army Educational Requirements/Review Board
AF/AS	Airfield/Airspace
AFGE	American Federation of Government Employees
AG	Adjutant General
AGR	Active Guard Reserve
AGSE	Aviation Ground Support Equipment
AHB	Attack Helicopter Battalion
AHCFE	Attack Helicopter Company Field Evaluation
AHP	Army Heliport
AIMS	Automated Information Management System
AIT	Advanced Individual Training
ALC	Aviation Learning Center
ALMD	Aircraft Logistics Management Division
ALMS	Air Launched Missile System
AMB	Aircraft Management Branch
AMC	Army Material Command
AMTAS	Army Modernization Training Automation System
AMTP	ARTEP Mission Training Plan
ANCOC	Advanced Noncommissioned Officer Course
AOTD	Air Operation Training Division
AQC	Aircraft Qualification Course
ARD	Academic Records Division
ARI	Army Research Institute
ARNG	Army National Guard
ARTEP	Army Training and Evaluation Program
ARTI	Advanced Rotorcraft Technology Integration
ARWAA	Army Rotary Wing Adversary Aircraft
ASARC	Army Systems Acquisition Review Council
ASD	Administrative Support Division

ASD	Area Scoring Device
ASE	Aircraft Survivability Equipment
ASET	Aircraft Survivability Equipment Trainer
ASI	Additional Skill Identifier
ASMD	Aviation Simulation Materiel Development
ASTM	Aircraft Survivability Training Management
ASTR	Aviation Systems Training Research
ASTS	Aviation Standardization and Training Seminar
ASWOTC	Aviation Senior Warrant Officer Training Course
ATA	Air-To-Air
ATAC	Air-To-Air Combat
ATB	Aviation Training Brigade
ATC	Air Traffic Control
ATKHB	Attack Helicopter Battalion
ATL	Aviation Technical Library
ATM	Aircrew Training Manual
ATMB	Aircrew Training Manual Branch
ATP	Aircrew Training Program
ATS	Air Traffic Services
ATSC	Army Training Support Center
AVEW	Avionics/Electronic Warefare
AVIM	Aviation Intermediate Maintenance
AVOAC	Aviation Officer Advanced Course
AVOBC	Aviation Officer Basic Course
AVSCOM	Aviation System Command
AWDS	Automated Weather Distribution System
BCD	Bad Conduct Discharge
BDP	Battlefield Development Plan
BDU	Battle Dress Uniform
BER	Budget Execution Review
BIG	Blacks in Government
BLT	Branch Liaison Team
BNCOC	Basic Noncommissioned Officer Course
BOIP	Basis of Issue Plan
BTT	Branch Training Team
C&S	Concepts and Studies
C <sup>2</sup>	Command and Control
CA	Commercial Activities
CAB	Combat Aviation Battalion
CAC	Combined Arms Center
CACDA	Combined Arms Combat Development Activity
CAD	Course Administrative Data
CAMAA	Combined Arms Mission Area Analysis
CAS <sup>3</sup>	Combined Arms Service and Staff School
CATA	Combined Arms Training Activity
CCCA	Close Combat Capability Analysis
CCH	Close Combat Heavy
CCL	Close Combat Light
CD	Combat Developments
CECOM	Communications and Electronics Command
CEP	Concept Evaluation Program
CEPT	Cockpit Emergency Procedures Trainer
CFC	Combined Federal Campaign
CFEA	Collective Front-End Analysis
CI	Command Information

CIF	Central Issue Facility
CIP	Capital Investment Program
CMF	Career Management Field
CMP	Course Management Plan
CMS	Combat Mission Simulator
COB	Command Operating Budget
COD	Community Operations Division
COEA	Cost and Operational Effectiveness Analysis
CONUS	Continental United States
COR	Contracting Officer Representative
CORDIVEM	Corps/Division Evaluation Model
CORE	Cost and Operational Effectiveness Analysis
COSMIC	Computer Software Management and Information
CPO	Civilian Personnel Office
CPT	Cockpit Procedures Trainer
CPX	Command Pilot Exercise
CR	Community Relations
CRD	Community Recreation Division
CSRS	Civil Service Retirement System
CTCD	Collective Training Center Division
CTO	Control Tower Operator
CTT	Common Task Testing
CWEPT	Cockpit Weapons Emergency Procedures Trainer
DA	Department of the Army
DAB	Defense Acquisition Board
DAP	Directorate of Aviation Proponency
DC	Direct Current
DCAO	Deputy Command Aviation Officer
DCAT	Department of Combined Arms Tactics
DCD	Directorate of Combat Developments
DEH	Directorate of Engineering and Housing
DES	Directorate of Evaluation and Standardization
DGFS	Department of Gunnery and Flight Systems
DIA	Defense Intelligence Agency
DIG	Digital Imagery Graphics
DLMD	Doctrinal Literature Management Division
DOC	Directorate of Contracting
DOD	Department of Defense
DOET	Department of Enlisted Training
DOIM	Directorate of Information Management
DOL	Directorate of Logistics
DOTD	Directorate of Training and Doctrine
DPCA	Directorate of Personnel and Community Activities
DPTMSEC	Directorate of Plans, Training, Mobilization, and Security
DRAG	Doctrinal Review Approval Groups
DRCS	Directorate of Reserve Components
DRM	Directorate of Resource Management
DTP	Detailed Test Plans
DTT	Doctrinal Training Team
EDRE	Emergency Deployment Readiness Exercise
EEOO	Equal Employment Opportunity Office
EMCS	Energy Monitoring and Control System
EO	Equal Opportunity
EOC	Emergency Operations Center

ETB	Enlisted Training Branch
ETS	Expiration Term of Service
EURO-NATO	Europe-North Atlantic Treaty Organization
ExtB	Extension Training Branch
FAA	Federal Aviation Administration
FAA	Functional Area Assessment
FAADS	Forward Area Air Defense System
FAMAR	Fault and Maintenance Action Report
FAR	Federal Aviation Regulation
FCC	Flight Communications Center
FDTE	Force Development Test and Experimentation
FEA	Front-End Analysis
FEIC	Flight Examiner Instructor Course
FERS	Federal Employees Retirement System
FEW	Federally Employed Women
FFAR	Folding Fin Aerial Rocket
FLIR	Forward Locking Infrared Radar
FM	Field Manual
FMD	Force Management Division
FME	Foreign Materials Exploitations
FMS	Foreign Military Sales
FOE	Follow-On Evaluation
FORSCOM	Forces Command
FSB	Flight Systems Branch
FSD	Flight Simulator Division
FSTB	Flight Simulator Training Branch
FTX	Flight Training Exercise
FUE	First Unit Equipped
FWP	Federal Women's Program
FWS	Flight Weapons Simulator
GCA	Ground Control Approach
GPS	Global Positioning System
GSA	Government Services Administration
HELLFIRE	Helicopter Laser Fire and Forget Missile
HEMTT	Heavy Expanded Mobility Tactical Truck
HQDA	Headquarters, Department of the Army
HVI	Horizontal and Vertical Integration
IDA	Institute for Defense Analysis
IEP	Independent Evaluation Plans
IER	Independent Evaluation Reports
IERW	Initial Entry Rotary Wing
IFR	Instrument Flight Rule
IFRF	Individual Flight Records Folder
IG	Inspector General
IHADSS	Integrated Helmet and Display Sighting System
ILS	Integrated Logistics Support
IOC	Initial Operational Capability
IP	Instructor Pilot
IPC	Instructor Pilot Course
IPR	In-Progress Review
IRAC	Internal Review and Audit Compliance
IRS	Internal Revenue Service
IUTD	Individual and Unit Training Division
IVD	Interactive Video Disk
LCSMM	Life Cycle System Management Model

LDS	Leader Development Study
LHX	Light Helicopter
LPU	Life Preserver Units
MAA	Mission Area Analysis
MACOM	Major Command
MAD	Management Analysis Division
MANPRINT	Manpower and Personnel Integration
MARC	Materiel Acquisition Resource Committee
MAT	Mission Area Threat
MCA	Military Construction, Army
MEO	Most Efficient Organization
MEP	Mission Equipment Package
MIB	Materiel Integration Branch
MIP/ASP	Model Installation Program/Army Suggestion Program
MLSD	Material and Logistics Systems Division
MOI	Military Occupational Information
MOS	Military Occupational Specialty
MQS	Maintenance Quality Specialist
MSD	MARC Study Documents
MTD	Maintenance Training Division
MTOE	Modified Table of Organization and Equipment
MTP	Maintenance Test Pilot
MTT	Mobile Training Team
MWO	Modification Work Orders
MWOTC	Master Warrant Officer Training Course
NAF	Nonappropriated Fund
NAFCAB	Nonappropriated Fund Control Acquisition Branch
NAS	National Airspace System
NATO	North Atlantic Treaty Organization
NAVSTAR	Navigation System Tracking and Range
NBC	Nuclear, Biological, and Chemical
NCO	Noncommissioned Officer
NCOIC	Noncommissioned Officer in Charge
NETD	New Equipment Training Division
NETT	New Equipment Training Team
NGB	National Guard Bureau
NOE	Nap-of-the-Earth
NOTAM	Notice to Airmen
NSTSAD	New Systems Training and Simulator Acquisition Division
NTC	National Training Center
NTV	Non-Tactical Vehicles
OAMT	Office of Allied Military Training
ODCSOPS	Office, Deputy Chief of Staff of Operations and Plans
OPFOR	Opposing Forces
OPMS	Officer Professional Management System
OPS	Office of Personnel Systems
ORCA	Operational Requirements and Concepts Analysis
ORG/FD	Organization/Force Development
OSD	Office of the Secretary of Defense
OSJA	Office of the Staff Judge Advocate
OT	Operational Tests
OTB	Officer Training Branch
OTEA	Operational Test and Evaluation Agency

OTP	Outline Test Plans
OTRS	OT Readiness Statements
PAO	Public Affairs Office
PBD	Program and Budget Division
PCB	Polychlorinated Biphenyl
PCS	Permanent Change of Station
PI	Public Information
PIP	Product Improvement Proposal
PM	Program Manager
PMD	Program Management Division
PMO	Program Management Office
PNVS	Pilot Night Vision Sensor
POC	Point of Contact
POD	Plans and Operations Division
POI	Program of Instruction
POM	Plans, Operations, and Mobilization
PPM	Progressive Phase and Maintenance
PTB	Procedural Training Branch
QASP	Quality Assurance Plan
QQPRI	Qualitative and Quantitative Personnel Requirements Information
QRIP	Quick Return on Investment Program
R&D	Research and Development
R&P	Recruitment and Placement
RA	Regular Army
RAM	Reliability, Availability, and Maintainability
RC	Reserve Component
REFORGER	Redeployment of Forces to Germany
RFP	Request for Proposal
RGOB	Range and Gunnery Operations Branch
RMD	Resource Management Division
ROC	Required Operational Capabilities
ROTC	Reserve Officer Training Corps
RRAD	Red River Army Depot
RSI	Rationalization, Standardization, and Interoperability
RTMD	Resident Training Management Division
SAG	Study Advisory Group
SARVIP	Survival Armor Recovery Vest Environmental Packets
SASOHI	Standard Army Safety and Occupational Health Inspections
SAT	Systems Approach to Training
SATTS	Scout/Attack Team Training System
SAV	Staff Assistance Visit
SCORES	Scenario-Oriented Recurring Evaluation System
SDDM	Secretary of Defense Decision Memorandum
SEEDP	Spouses' Enhanced Education Development Program
SEP	Spouse Employment Preference
SFDD	Staff and Faculty Development Division
SFTS	Synthetic Flight Training System
SGI	Small Group Instruction
SGS	Secretary General Staff
SIDPERS	Standard Installation Division Personnel System
SINGARS	Single Channel Ground to Air Radio System
SKA	Skills, Knowledge, and Attitudes

SME	Subject Matter Expert/Expertise
SOA	Special Operations Aviation
SOP	Standing Operating Procedure
SOUTHCOM	Southern Command
SPIRIT	Systematic Productivity Improvement Review in TRADOC
SQT	Skill Qualification Test
SSO	Special Security Office
STAR	System Threat Assessment Report
STOPS	Short-Tour Pay System
STRAC	Standard Training Commission
SWA	Southwest Asia
T&D	Training and Development
T&E	Test and Evaluation
TAC	Training, Advising, and Counseling
TAPA	Total Army Personnel Agency
TC	Training Circular
TCMIS	TRADOC Command Management Information System
TD	Training Division
TDA	Table of Distribution and Allowances
TDY	Temporary Duty
TEA	Training Effectiveness Analysis
TEC	Training Extension Course
TF	Task Force
TIB	Text Issue Branch
TLB	Training Literature Branch
TM	Training Manual
TOA	Trade-Off Analysis
TOE	Table of Organization and Equipment
TPL	Thermo Plastic Liner
TRAC	TRADOC Research and Analysis Command
TRADOC	Training and Doctrine Command
TRAMEA	TRADOC Management Engineering Activity
TRAS	Training Requirements Analysis System
TRU	TRADOC Resource Update
TSC	Training Service Center
TSD	Training Support Division
TSM	TRADOC System Manager
TSP	Training Support Package
UAV	Unmanned Aerial Vehicle
USAADTA	U.S. Army Aviation Development Test Activity
USAALS	U.S. Army Aviation Logistics School
USAATCA	U.S. Army Air Traffic Control Activity
USAAVNB	U.S. Army Aviation Board
USAAVNC	U.S. Army Aviation Center
USACAC	U.S. Army Combined Arms Center
USAEUR	U.S. Army, Europe
USAR	U.S. Army Reserve
USASIGCEN	U.S. Army Signal Center
UTB	Unit Training Branch
VCSA	Vice Chief of Staff of the Army
VFR	Visual Flight Rule
VIC	Vector-in-Command
VM	V-22 and Air Launched Missile System
WGD	Weapons and Gunnery Division

WGSB	Weapons and Gunnery Systems Branch
WMTC	Wiregrass Metal Trades Council
WOC	Warrant Officer Candidate
WOEC	Warrant Officer Entry Course
WORWAC	Warrant Officer Rotary Wing Aviator Course
WSTB	Weapons Simulation Training Branch
WSSB	World Wide Software Support Branch

## APPENDIX L

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