

AVIATION COMMISSIONED OFFICER SKILL DEVELOPMENT:  
HOW CHANGES TO FORCE STRUCTURE AND KEY  
AVIATION PUBLICATIONS HAVE IMPACTED  
THE JUNIOR OFFICER'S SKILLS

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

## ABSTRACT

AVIATION COMMISSIONED OFFICER SKILL DEVELOPMENT: HOW CHANGES IN FORCE STRUCTURE AND KEY AVIATION PUBLICATIONS HAVE IMPACTED THE JUNIOR OFFICER'S SKILLS by MAJ Robert B. Quackenbush, USA, 115 pages.

Recent trends indicate that today's aviation commissioned officer lacks the requisite flight skills necessary to successfully lead aviation units.

This thesis examines the changes that have taken place in doctrinal aviation training manuals, aviation regulations, and career development guidelines for commissioned aviation officers. The intent is to determine how Aviation Branch, through the evolution of these key publications, has affected the skill development of commissioned officers. Additionally, this thesis compares current aviation tables of organization and equipment to past "H" series tables of organization and equipment organizations as well as current tables for the other combat arms branches. This comparison is to determine whether or not current force structures cause aviation officers to spend significantly more time in staff rather than line positions compared to their predecessors and their combat arms peers.

This study concludes that the capstone aviation regulations, training manuals, and career development guidelines have, over time, gradually de-emphasized the development of flight skills for the commissioned officer. Additionally, the study concludes that aviation officers have less, and in some cases, much less opportunity to serve in line positions than did their predecessors and current combat arms peers because today's aviation force structures have disproportionate staff to line officer ratios.

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## LIST OF ABBREVIATIONS

AR	Army Regulation
ATP	Aircrew Training Program
APART	Annual Proficiency and Readiness Test
CAC	Combined Arms Center
CAL	Center for Army Leadership
CATS	Combined Arms Training Strategy
CRF	Combat Readiness Flying Program
DA	Department of the Army
FA	Field Artillery
FAC	Flight Activity Category
FEB	Flight Evaluation Board
FLIR	Forward-Looking Infrared
FM	Field Manual
FY	Fiscal Year
GPS	Global Positioning System
LID	Light Infantry Division
METL	Mission Essential Task List
MOS	Military Occupational Specialty
NVG	Night Vision Goggles
OAC	Officer Advanced Course
OBC	Officer Basic Course

PC	Pilot-in-Command
RL	Readiness Level
TC	Technical Circular
TDA	Table of Distribution and Allowances
TM	Technical Manual
TOE	Table of Organization and Equipment

## CHAPTER 1

### INTRODUCTION

The pilot is alone in the sky with his sharp foe. . . . He is not fortified by his duty to his men which in the infantry keeps an officer on his feet; he must always rely on his own skill, on his own resolution. He is without the support of numbers. In an impersonal war of millions he remains an individual. . . .

. . . When I ask a station commander what strengthens the resolve of his pilots he answers always "leadership." . . . These pilots reach out instinctively to anything that increases their chances of survival. Just as the soldier in the line unit puts his faith in generals who win battles, so the pilot requires of his squadron-leader that he does the job in hand without unnecessary loss of aircraft. The personal attributes of his leader hardly count, the test is in the air, nothing else matters. If he sets a bad example by not wanting to fly, if he is inefficient the spirits of the squadron fall.<sup>1</sup>

The impetus for selecting this research question can best be summed up in the words of Brigadier General (Promotable) Dick Cody, Deputy Commander for Task Force Hawk, upon his redeployment from Kosovo. Commenting on the status of the aviation leadership in Kosovo, he noted that the young aviation officers there had "little aviation 'savvy' on what right looks like."<sup>2</sup> He illuminated that comment by addressing the fact that not one platoon leader or company commander in the task force had been designated a pilot-in-command (PC). Being designated a PC is a watershed event in any aviator's life. Essentially, it is the rite of passage when one becomes differentiated from a less-experienced copilot to one who must have the necessary technical and tactical skills, judgment, and aptitude to serve as aircraft commander entrusted with the lives of a crew and a multimillion dollar Army aircraft. Not one of the junior leaders in Task Force Hawk had achieved this distinction. His concern was not only for the junior officers. He was gravely concerned about the Army's more senior aviation leaders also noting that

“several young lieutenant colonels coming up into command who were never pilots-in-command, have less than 1,000 hours of flight time . . . and they do not know what right looks like either.”<sup>3</sup> The lack of flight time for these incoming battalion commanders is relevant because flight time has been an implied measure for the maturity, judgment, and experience necessary to lead a flight crew as well as aviation units. It is important to note that in 1989, lieutenant colonels were taking command of battalions with an average of over 2,000 flight hours. Today, lieutenant colonels are taking command with an average of only 1,000 hours and this figure is predicted to drop to approximately 700 hours in the next few years. Additionally, flight experience, in general, has decreased from 1,400+ hours per aviator in 1991, to 400-plus hours in 1998.<sup>4</sup>

A recent assessment conducted by the Center for Army Leadership at Fort Leavenworth, Kansas, indicated today's company grade aviation officers do not possess the requisite technical and tactical expertise required to be effective leaders in the Aviation Branch. Specifically, aviation officers are not obtaining the basic foundation of flight and tactical skills at the lieutenant and captain levels. In the assessment, a few of the contributing factors for this lack of proficiency were put forth:

1. Junior officers “spending insufficient time in operational unit assignments.”<sup>5</sup>
2. Current assignment policies conflict with *DA PAM 600-3, Commissioned Officer Development and Career Management* operational assignment length goals.<sup>6</sup>
3. There has not been any change to the aviation professional development methodology in spite of the significant increase in technical and skill complexity in aviation over the last twenty years.<sup>7</sup>

One of the many recommendations from the study was that the Army examine the implications of proposed “force structure” in Army Aviation to assist in overcoming this technical and tactical proficiency problem. This thesis will examine force structure for that purpose.

Brigadier General (P) Cody’s concerns for the aviation branch’s officer corps range from the lieutenants to new lieutenant colonels. This group of officers of whom he spoke reflects the entire spectrum of the officer population who have entered Army Aviation since it became a branch in 1983. This population of officers began to experience these tactical and technical skill deficiencies when aviation became a branch, a coincidence that cannot be hastily discarded. This thesis will look closely at trends in doctrinal manuals and the changes in force structure that occurred when aviation became a branch, to possibly establish root causes for the commissioned officers' technical and tactical deficiencies.

Examining force structure as a primary cause of leadership challenges in the Aviation Branch is not an arbitrary decision. The force structures of aviation brigades and battalions changed significantly when aviation became a separate arm of the combat arms branches. The structures of units prior to the inception of the branch were much different from the structures after the inception. The changes occurred during the transition from what was known as the H series tables of organization and equipment (TO&Es) to the “Army of Excellence” TO&Es. These conversions essentially took an H series aviation battalion-sized organization and converted it into a brigade without significantly changing the quantity of personnel or equipment in these organizations. These H series companies commanded by majors were augmented with staffs and

converted into battalions commanded by lieutenant colonels. The H series platoons led by captains were converted into small companies to allow captains to command. Finally, H series sections led by lieutenants remained essentially the same but were called platoons. But the division of one large battalion into a brigade with three or more battalions effectively quadrupled the number of staffs and staff officer positions within a same-sized organization as the previous H series battalion. This thesis will examine whether the increase of staff officer positions impacted officer flight proficiency.

Staff officers fill a vital role in the combat unit. However, while staff experience is important in an officer's career development, it must be balanced with adequate time in line units to develop the direct-leader skills needed later for command. For it is in line units at the company grade level that officers gain the critical technical and tactical skills. In aviation, these skills must be called upon throughout the aviator's career when leading as a company commander, staff officer, or senior commander. It is even more critical for the commissioned aviator to develop these skills early in his/her career because as the aviator becomes more senior and other responsibilities mount, time in the cockpit becomes limited, thereby eliminating the time to attain those skills.

Since becoming a branch, a shortage of captains and an excess of lieutenants have resulted in a trend in aviation battalions where lieutenants are placed on battalion staffs to fill captain vacancies. This captain shortage in TO&E units is caused by several factors. There is an Army-wide shortage of captains due to higher attrition rates. Additionally, the Army's requirements to fill other congressionally mandated positions, such as Active Component/Reserve Component (AC/RC), and to meet critical needs, such as Reserve Officer Training Corps (ROTC) and recruiting positions also draw from the available

pool of captains. Consequently, battalion commanders have been forced to utilize lieutenants to fill their captain vacancies. However, being assigned to a battalion staff requires the lieutenant to focus his efforts on the staff function rather than develop flight skills. The battalion S-1 becomes quickly inundated with the administrative burdens of the unit such as processing officer and noncommissioned officer proficiency reports, unit mail duties, leaves and passes, discipline actions, and numerous other functions. The battalion S-4's time becomes equally consumed with meeting the logistical needs of the unit. In essence, the sheer scope of learning and executing their new duties pulls a staff officer away from the cockpit. To further illustrate this point, the Army's Aviation Branch recognizes how committed staff officers are to tasks unrelated to flying when developing aviation battalion Modified Tables of Organization & Equipment (MTO&E). Staff officers in MTO&E units are typically assigned by commanders to positions requiring staff aviators to fly from 0 to 75 percent of the annual flight hours of their line unit peers depending on the type of aircraft and designated flight category.<sup>8</sup> Flying hour budgets in battalions are factored using these hourly requirements. Consequently, the combination of the staff officer's duties and the flight hours budgeted for him do not enable him to attain flight proficiency if he is not already proficient.

While serving on a battalion staff is useful and relevant for professional development as a generalist, the timing of when to assume such duties becomes all important when taken in the context that staff skills must only build upon an already established sound technical and tactical aviation foundation. The Center for Army Leadership study at Fort Leavenworth, Kansas, found that too often, lieutenants and

junior captains were being taken out of their platoon leader positions or company commands before they were technically and tactically proficient.<sup>9</sup>

This thesis will examine the possible unintended by-product of the post-1983 TO&Es: that of forcing more commissioned officers out of line units, and therefore cockpits, to accomplish the battalion and brigade staff functions. This thesis will test the hypothesis that force structure is a root cause of the aviation officer's lack of proficiency.

It will also examine changes to aviation training doctrine, regulations, and career development paths to determine if they have affected the commissioned officer's technical and tactical proficiency. Additionally, actual army requirements will be compared with accessions and assignment policies to determine if force structures are properly supported or if there is an imbalance between the supply of officers and the demand.

#### Primary Research Question

Compared to the pre-aviation branch era, does current aviation force structure, training doctrine, and regulations enable the junior aviation officer to attain technical and tactical skill proficiency?

#### Subordinate Questions

How does force structure impact a junior officer's ability to attain and maintain technical and tactical proficiency? In order to answer this question, the changes from aviation H series to J series (Army of Excellence) TO&Es must be scrutinized. These TO&Es must be compared with each other to see how their force structures differed in providing junior officers opportunities to obtain operational experience. Additionally, the current aviation TO&E structures and current TO&E structures from other combat arms

branches must be compared to provide a perspective of how the branches differ in providing junior officers with time to gain technical and tactical skills.

Do today's regulations, training doctrine, and career development patterns in aviation contribute to the junior aviation officer's lack of proficiency? To answer this subordinate question, the researcher will first look at how Army aircraft have changed in technical sophistication over the last twenty years. The next step will be to examine how the technical changes in the aircraft have changed the technical and tactical skills required of the Army's aviators. At that point the author can examine regulations, training doctrine, and career development holistically to determine if they collectively contribute to the decrement in skills noted by Brigadier General (P) Cody.

In order to determine if today's regulations, training doctrine, and career development patterns contribute to the junior aviation officer's lack of proficiency, a review of historical documents is required. Therefore, the author will review how aviation capstone manuals, regulations, and pamphlets have evolved from historical versions to discern changes in emphasis or methodologies that effect aviation officers from becoming technically proficient.

#### Assumptions

To accomplish this project it will be necessary to make several assumptions.

The first assumption is that conclusions drawn by the Center for Army Leadership study, Brigadier General (P) Cody, and other sources about the junior and midlevel aviation officers' lack of technical and tactical skills, are in fact true. Certainly, not all aviation officers in this population are lacking technical and tactical skills. Some officers continue to exhibit highly developed skills that are recognized in the Combat Maneuver

Training Center (CMTC) rotations and in other venues. However, these officers are considered the exception rather than the rule. As a branch, the bulk of the officers in this population are recognized by the Center for Army Leadership study and other sources as being deficient in these technical and tactical skills. The Center for Army Leadership study is able to support this assertion with the use of both quantitative data, such as reduced flight time figures, and qualitatively through the general consensus of aviation senior leaders. By making this assumption, the author will not have to go to great lengths to substantiate it; rather, it will free the remainder of the thesis to answer the primary and secondary research questions.

Another assumption is that the Aviation Branch will have to maintain some semblance of similarity to the other combat arms branches in an aviation officer's career development path. The Army's capstone manual for career professional development is DA Pam 600-3, *Commissioned Officer Development and Career Management*. The chapter devoted to the aviation officer's career development in DA Pam 600-3 is currently very similar to the chapters devoted to the other combat arms branches in the Army. Since aviation is a member of the combat arms, it is relevant for the branch to maintain a career timeline that resembles the rest of the combat arms branches. From an assignment perspective, maintaining similar career paths enables officers from each of these branches to serve at the same levels in units and in branch immaterial assignments throughout their careers. These branch immaterial assignments, include ROTC, recruiting, reserve component liaison (AC/RC), and serving as staff officers on Department of the Army, joint, and other major command staffs, and as instructors at the service academy. They are predicated on the philosophy that the commissioned officer is

not always a technician with specialized skills but is often a generalist that can be assigned almost anywhere. The generalist, while possessing special skills in his/her branch, has to have a broad understanding of how the Army operates, while familiar with the combat, combat support, and combat service support arms of the Army. Therefore, it makes sense for aviation officers to pass through the same comparable career milestones at the same points as the other combat arms officers. However, based on the results of this thesis it is entirely possible that certain minor changes to an aviation officer's career path might be recommended or considered in order to better enable junior commissioned officers to attain technical and tactical proficiency.

The final assumption is that all combat arms branches are currently experiencing and will continue to experience shortages in the manning of TO&E units due to attrition, due to mandated requirements branch immaterial assignments, such as Active Component/Reserve Component, Reserve Officer Training Corps, and a variety of staffs. Current information indicates Congress will not reduce the Active Component/Reserve Component requirement for the Army; requirements to fill other Army requirements, such as ROTC, will continue; and high captain attrition rates will continue in the face of a strong American economy and high personnel tempo and operational tempo within the Army.<sup>10</sup>

### Definitions

It is important to define several technical terms in order for the layman to understand this thesis.

Aircrew Training Program (ATP). The Aircrew Training Program is an individual and crew training program applying to all Army aviators in operational flying

positions and consists of qualification, refresher, mission, and continuation training. The ATP is divided into two semiannual periods for the purposes of establishing flight hour requirements and is implemented using TC 1-210, Army flight regulations and the aircrew training manuals for each respective aircraft.<sup>11</sup>

Annual Proficiency and Readiness Test (APART). “The APART measures a crew member's proficiency and readiness. It consists of a written examination and hands-on performance tests.<sup>12</sup> It is an annual requirement for aviators in operational flying positions to undergo an APART examination. The written exam is composed of fifty questions covering the aircraft operator's manual. The hands-on performance tests are both oral and flight evaluations covering standard mission and instrument tasks. The APART must be completed in the three-month period ending on the aviator's birth month.<sup>13</sup>

Flight Activity Categories (FAC). The current TC 1-210 defines flight activity categories as the following: “All operational aviation positions and other designated flying positions in the ATP are classified as one of three flight activity categories. Unit commanders designate each position FAC 1, FAC 2, or FAC 3. They base these designations on the proficiency required by the TO&E or TDA position.”<sup>14</sup> The three current FAC levels outlined in TC 1-210 are described below.

**FAC 1.** FAC 1 duty positions require a high degree of flight proficiency in the tactical employment of the assigned aircraft. The higher semiannual flying-hour minimums required of FAC 1 aviators reflects this need for increased flight proficiency. . . . **FAC 2.** FAC 2 duty positions require less tactical flight proficiency than FAC 1 duty positions. For example, executive officers, maintenance officers, and staff officers at battalion or higher levels may be designated FAC 2. **FAC 3.** Commanders may designate certain positions as FAC 3 based on METL requirements. Aviators assigned to FAC 3 operational flying positions must be qualified in their primary aircraft. However, they shall not

perform crew member duties in Army aircraft. They do not have aircraft flying-hour minimums or currency requirements, and they are not subject to readiness levels. Commanders would not expect to use these aviators in combat operations without providing refresher or mission training. FAC 3 aviators, however, must maintain their basic flying skills using a flight simulator.<sup>15</sup>

As with readiness levels, this author will conduct a more in-depth review in chapter 2 of the evolution of FAC levels by examining previous versions of TC 1-210 to reflect how changes have affected the branch.

Line Officer/Staff Officer. Defining line officer and staff officer is also important to this study. Both of these types of duties complement one another and are the two types most officers see during their first operational assignment in the Army. A line officer is one whose position is within the TO&E of a line company or whose principal duties are down in a line unit. For example, a field artillery lieutenant serving as a company fire support officer is considered in a line unit since his principal duties are performed down in the infantry or armor company supporting the company commander. In this thesis, where the officer is focusing his skill development is the relevant theme. Although the actual position for a company fire support officer may be in the division artillery headquarters, the officer is counted as being in a line unit because of where he is learning the technical and tactical skills on a daily basis. For this study, a staff officer is an officer who is assigned to a battalion or brigade primary or assistant staff officer position in a headquarters company/troop/battery as listed on the TO&E.

Proficiency Flight Evaluations (PFE). Aviators are also required to undergo proficiency flight evaluations as necessary to meet two separate requirements. The first is to reestablish currency in the aircraft if the aviator has not flown within the last 60 days. The second type of PFE is to demonstrate sustained proficiency in flight skills

under a commander's no-notice PFE program required in all aviation units.<sup>16</sup> The commander's no-notice program exists to ensure all aviators maintain their skills within the high band of excellence defined in FM 25-100.<sup>17</sup>

Readiness Level (RL). "Readiness levels identify the training phase in which crew members are participating and measure crew member readiness. They also provide a logical progression for individual and aircrew training based on task and mission proficiency."<sup>18</sup> An in-depth review of how readiness levels have evolved over time will be discussed in chapter 2 using previous versions of TC 1-210 and its follow-on manual, draft TC 1-200. However, there are currently RL 1, 2, and 3. The RL 1 aviators are those who have demonstrated proficiency in all individual and crew tasks assigned by the commander for a unit's mission and are in continuation training to sustain proficiency. This is the highest level of proficiency. The RL 2 aviators are those who have demonstrated proficiency in all base tasks and are currently undergoing training for their unit's special mission tasks in order to become an RL 1. The RL 3 aviators are those who are undergoing qualification training or refresher training after not having flown in at least 180 days.<sup>19</sup>

Technical Proficiency. For this thesis, it is important to equate or define technical competence as it relates to flight experience in the aviation realm. Draft TC 1-200, *The Aviation Commander's Guide*, tells lieutenants and captains what is expected of them as platoon leaders and company commanders, defining proficiency as becoming pilots-in-command (PC). Aviation platoon leaders are expected to "become proficient aviators, technically and tactically proficient aviation leaders, and to ensure crews are proficient in tactics, techniques and procedures outlined in the appropriate field manuals and Aircrew

Training Manual. They are expected to develop proficiency in the aircraft and to attain the designation as a pilot-in-command prior to leaving platoon command.”<sup>20</sup> The definition for company commanders is no less specific outlining similar leadership responsibilities and also stating the requirement to be “highly proficient as an aviation leader and a pilot-in-command.”<sup>21</sup>

Although the significance of being designated a PC was described in the beginning of this thesis, the defining of a PC’s responsibilities from TC 1-200 is worth citing to give further clarity. TC 1-200 outlines the responsibility of a PC as “.the unit’s primary aircrew coordination and crew trainer. The PC is responsible for not only the safe operation of the aircraft and all occupants on-board, but he is responsible to insure conduct of all operational and training aspects of a specific mission to a known standard.”<sup>22</sup>

#### Limitations

This study is limited to the force structures of Force XXI divisional mechanized, armored, artillery, and aviation brigades and current light infantry division infantry and aviation brigade TO&Es as well as the TO&Es of two 1979 aviation battalions. These TO&Es were selected because of their relative consistency in that they were of the same design (i.e., all Force XXI or light division units). The study was limited to looking at only these types of units because the sheer magnitude of the quantity of TO&Es that exist would have made the study too unwieldy.

Additionally, this study is limited to examining the ratios of line officer to staff officer positions. There are many other structural issues that could be examined in these TO&Es, but would simply dilute the effort of this research.

### Delimitations

**Excluding Force Structures Outside of TO&E Brigades.** The focus of this study will be bound to aviation commissioned officer force structures at brigade level and below. An option is to examine the structure across the branch at levels higher than brigade and in certain other aviation organizations, for example, at theater-level or for TDA units. However, because this research is focused on the lieutenant's and junior captain's technical and tactical proficiency, the author will remain at the battalion/brigade level, since this is the level where those skills are honed and is where most lieutenants and junior captains serve during their formative years.

**Other Personnel Force Structure Issues.** There is also a temptation to study all personnel force structure issues within the Aviation Branch, such as obtaining a second crewchief per AH-64 just as was done for the UH-60 a few years ago. While there are many issues worth examining, including them in this study would make the study too large in scope to be addressed adequately. The end result would be a thesis giving a broad brush stroke to several issues, with no depth of research in any issues.

**Excluded Aviation Units.** This thesis will exclude all corps, theater, and medium lift and fixed wing aviation units. While specifically excluded from this study, it should be acknowledged that corps and theater attack, assault, and general support aviation helicopter battalions do not differ greatly from their divisional counterparts regarding officer line and staff positions. Therefore, inferences made regarding one can be assumed to be valid for the other. This study also excludes special operations aviation forces, separate mechanized and ranger infantry brigades, corps artillery, and separate armored cavalry regiments (ACR). The structures in these organizations are considerably

different from the divisional aviation battalions, therefore, inferences made in this thesis cannot necessarily be applied to these types of organizations.

Additionally, when discussing tactical and technical proficiency of junior aviation officers, the author realizes that these are but two of the four skills the Army's capstone leadership manual recognizes as necessary for good leadership.<sup>23</sup> The other two skills, interpersonal and conceptual, are not addressed in this study.

Of the three pillars discussed in DA Pam 600-3, operational assignments, institutional development, and self-development, this study will be limited to examining the dynamics of leader development only in the operational assignment pillar.<sup>24</sup> The line officer to staff officer ratios that are at the core of this thesis are only found in the operational pillar of leader development.

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<sup>1</sup>Lord Moran, *The Anatomy of Courage* (Garden City Park, NY: Avery Publishing Group, Inc., 1966), 97-98.

<sup>2</sup>"They Weren't Ready: General says Task Force Hawk Aviators Unprepared for Challenges in Kosovo." *Army Times*, 5 July 1999, 8.

<sup>3</sup>Ibid.

<sup>4</sup>Center for Army Leadership, *Point Paper, Subject: Army Aviation Leader Development Study* (Fort Leavenworth, KS: CGSC, Center for Army Leadership, 24 August 1999), 2.

<sup>5</sup>Ibid., 1.

<sup>6</sup>Ibid., 2.

<sup>7</sup>Ibid.

<sup>8</sup>Headquarters, Department of the Army, TC 1-210, *Aircrew Training Program Commander's Guide to Individual and Crew Standardization* (Washington, DC: Headquarters, Department of the Army, 29 December 1995), 2-2.

<sup>9</sup>Ibid.

<sup>10</sup>Captain Attrition Statistics, provided by Officer Personnel Management Directorate, US Army Personnel Command to the Center for Army Leadership, Fort Leavenworth, KS.

<sup>11</sup>Ibid., 2-1.

<sup>12</sup>Ibid., 3-16.

<sup>13</sup>Ibid.

<sup>14</sup>Ibid., 2-2.

<sup>15</sup>Ibid., 2-2 thru 2-3.

<sup>16</sup>Ibid., 3-17-3-18.

<sup>17</sup>Headquarters, Department of the Army, FM 25-100, *Training the Force* (Washington, DC: Headquarters, Department of the Army, 15 November 1988), 1-5.

<sup>18</sup>TC 1-210, 2-4.

<sup>19</sup>Ibid.

<sup>20</sup>Headquarters, Department of the Army, TC 1-200, *Aviation Commander's Guide to Individual, Crew, and Collective Training and Standardization*, Draft (Fort Rucker, AL: Headquarters, U.S. Army Aviation Center, 25 October 1999), 2-3.

<sup>21</sup>Ibid.

<sup>22</sup>Ibid.

<sup>23</sup>Headquarters, Department of the Army, FM 22-100, *Army Leadership* (Washington, DC: Headquarters, Department of the Army, June 1999), 1-7.

<sup>24</sup>Headquarters, Department of the Army, DA Pam 600-3, *Commissioned Officer Development and Career Management* (Washington DC: Headquarters, Department of the Army, 1 October 1998), 1.

## CHAPTER 2

### LITERATURE REVIEW

There is adequate literature in the form of current and historical doctrine, regulations, technical manuals, and force structure documents to evaluate the trends in aviators' technical and tactical skill development. The challenge in developing this thesis is selecting the relevant and critical pieces of literature necessary to answer the primary and secondary research questions. This author's focus will be on examining the literature that has the greatest impact on aviation junior officer development. Therefore, a bulk of the literature will come from numerous historical Department of the Army doctrinal and regulatory sources concerning aviation officer leader development. The numerous military documents provide valuable data for analysis and review to assist in answering the secondary research questions. The remaining resources provide valuable insights into the research problem and combined with doctrinal and regulatory sources, should serve to answer the primary research question. Finally, the TO&Es will provide the data for the force structure analysis.

It is appropriate first to highlight the literature that substantiates the problem of poor tactical and technical proficiency on the part of junior aviation commissioned officers.

#### Center for Army Leadership Study

Most recently, the study conducted by the Center for Army Leadership (CAL), Fort Leavenworth, Kansas, represents an in-depth review and assessment of the state of aviation junior officer leader development. Although conducted by CAL, input to the study was provided from other key Army agencies to include the DA Staff and the U.S.

Army Aviation Center, Fort Rucker, Alabama. The final product was a reflection of a varied group of aviation and non-aviation key leaders rather than the ideas from one or two staff officers

The study was initiated by the Commanding General, Training and Doctrine Command, in the wake of problems encountered during Task Force Hawk's deployment to Albania and the resulting comments made by Brigadier General (P) Cody concerning aviation leader development.<sup>1</sup> Because of the venue in which the study was conducted and recorded (meetings, minutes, slide presentations, electronic messages, and point papers), the resulting conclusions and assessments are found in the final point paper presented to the Commandant, Combined Arms Center (CAC), Fort Leavenworth. The study focused very heavily on substantiating and addressing the technical deficiencies of junior aviation officers. To a lesser degree, it focused on the officer's aviation tactical deficiencies. Regarding the junior aviation officer's understanding of combined arms tactics, the study was largely silent other than in the recorded minutes from meetings.

In addressing the technical and tactical deficiencies, the study cites lieutenants and captains not serving enough time in line unit assignments to gain the crucial flight skills and leadership experience during the first eight years of their careers, the foundation years.<sup>2</sup> The study substantiates that although "there has been a significant increase in aviation technical and tactical skill complexity over the last 20 years . . . aviation professional development methodology has not significantly changed."<sup>3</sup>

The study also contained recommendations that if implemented, should make great strides in addressing the technical deficiencies. Eliminating simulator only (FAC 3) positions on brigade and battalion staffs, increasing flying hours to match numbers of

crews rather than aircraft, and implementing the Combined Arms Training Strategy (CATS) in Army Aviation were a few recommendations.<sup>4</sup>

Before the author reviews aviation training doctrine, it is important to examine current Army doctrine to define the importance the Army places on developing leadership skills.

#### FM 100-5

In reviewing the doctrinal literature, it is appropriate to first review FM 100-5, *Operations*. FM 100-5 serves as the Army's capstone war-fighting manual. As the capstone war-fighting manual it defines the foundation for strategic, operational, and tactical thinking and describes how the Army plans to fight to win the nation's wars. All other field manuals expand Army doctrine from this foundation manual.

Very early on, the manual defines the four dynamics of combat power: maneuver, firepower, protection, and leadership. Of these four dynamics, leadership is considered the most essential.<sup>5</sup> According to FM 100-5, the importance of leadership in war fighting is clear.

Leaders inspire soldiers with the will to win. They provide purpose, direction, and motivation in combat. Leaders determine how maneuver, firepower, and protection are used, ensuring these elements are effectively employed against the enemy. Thus, no peacetime duty is more important for leaders than studying their profession, understanding the human dimension of leadership, becoming tactically and technically proficient, and preparing for war.<sup>6</sup>

In the Army's view, the emphasis placed on leadership in FM 100-5, *Operations*, merits a field manual devoted to the subject of leadership.

FM 22-100

The Army's capstone manual on the subject of leadership is FM 22-100, *Army Leadership*. The manual outlines the Army's leadership framework shown in figure 1.

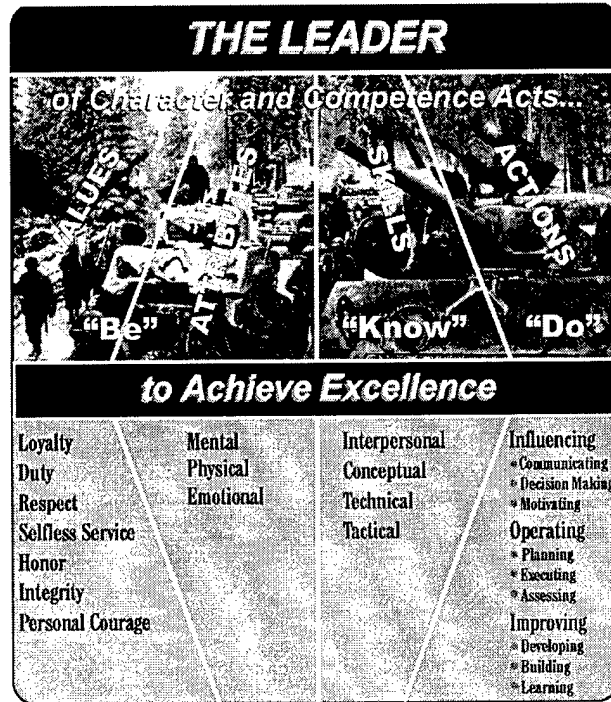


Figure 1. The Army Leadership Framework.  
Source: FM 22-100, June 1999, 1-3.

Leadership is defined as occurring at three levels: direct, organizational, and strategic.<sup>7</sup> Direct leaders are those leading smaller sized organizations, requiring more of a hands-on approach, and being most involved in the day-to-day operations and training of those units they lead. Organizational leaders manage larger organizations through more indirect contact by managing systems and setting policy for the organization. Strategic leaders provide vision, chart new direction for major organizations or

commands, and allocate resources.<sup>8</sup> Clearly, this thesis focuses on direct leadership and to a lesser degree, organizational leadership, because these are the types of organizations in which aviation junior officers are typically found.

The leadership framework shown above is epitomized by the words “Be, Know, Do” where values and attributes form the “Be,” skills form the “Know,” and actions are the “Do.”<sup>9</sup> Appropriate to this thesis, FM 22-100 defines skills in four broad areas, interpersonal, conceptual, technical, and tactical.<sup>10</sup> In introducing the broad subject of skills, FM 22-100 defines skills as “those things you KNOW how to do, your competence in everything from the technical side of your job to the people skills a leader requires.”<sup>11</sup> The manual becomes more specific when addressing the technical and tactical skills necessary for leaders.

You must learn technical skills, how to use your equipment. . . . [W]arrior leaders must master tactical skills, the ability to make the right decisions concerning employment of units in combat. Tactical skills include mastery of the art of tactics appropriate to the leader’s level of responsibility and unit type.<sup>12</sup>

When looking at direct leadership, the manual delves further into what is technically expected of a young aviation officer.

Direct leaders must know their equipment and how to operate it. . . . Direct leaders are closer to their equipment than organizational and strategic leaders. Thus they have a greater need to know how it works and how to use it. In addition, direct leaders are the experts who are called upon to solve problems with the equipment, the ones who figure out how to make it work better, how to apply it, how to fix it—even how to modify it. . . . junior officers . . . are the Army’s technical experts and best teachers. Subordinates expect their first-line leaders to know their equipment and be experts in all the applicable technical skills.”<sup>13</sup>

From this quote in FM 22-100, “knowing their equipment and how to operate it” for the junior aviation officer means learning how to fly, employ the weapon systems on the aircraft, and maintain the aircraft.

A direct leader's tactical skills build upon the other skills in the leadership framework. "Direct leaders are the Army's technical experts and best teachers . . . direct leaders combine those skills with the tactical skills of doctrine, fieldcraft, and training to accomplish tactical missions."<sup>14</sup> Therefore, in addition to knowing how to fly, Army leadership doctrine expects the junior aviation officer to know how to employ his aircraft and those from his platoon or company in accordance with Army doctrine and to be able to train his unit in the accomplishment of the same.

### Technical and Tactical Skills

The importance of a leader's technical and tactical skills was shown from FM 22-100. It is also important to address how aviators have been required to develop new technical skills as aircraft in the Army inventory have become more sophisticated. In order to understand how skills have changed, one must first understand how different today's aircraft are from the older generation aircraft.

Today's Army aircraft are much more sophisticated than the older Vietnam-era helicopters the Army flew twenty years ago. Their relative sophistication is apparent in all aspects of the helicopter: the airframe, weapon systems, avionics, and night-flying capabilities. These aircraft are not at all similar to their Vietnam era predecessors. For an appreciation of the differences, the AH-1 Cobra and AH-64 Apache helicopters offer stark contrasts. The AH-1 is a Vietnam-era attack helicopter which underwent many upgrades throughout the 1970s and 1980s in order to stay competitive with Soviet weaponry. In order to keep the comparison relevant, only the most modern version of the AH-1, the fully modernized Cobra will be discussed in this thesis. This model was gradually phased out of the active Army by 1997.

The Bell AH-1 Cobra is a single engine, two-bladed, tandem-seating, attack helicopter which typically cruises at approximately 120 knots and has a max gross weight of 10,000 pounds.<sup>15</sup> The AH-1 has undergone many upgrades since its original 1960s design. However, although the weapons and avionics systems have changed significantly over the years, the basic airframe is still the same. Still, the weapons and avionics systems on the Army's latest model AH-1 do not compare to the AH-64. The most current version of the AH-1 is equipped with a stabilization control augmentation system (SCAS) which assists the pilot in counteracting uncommanded pilot inputs due to such factors as wind gusts. The avionics package includes very high frequency, ultra high frequency, and frequency hopping FM radios as well as transponder, automatic direction finding (ADF) radios and mission avionics. These mission avionics include a radar warning detector, a Doppler radio for navigation and fire control targeting, and a radar altimeter.<sup>16</sup> The mission equipment on the AH-1 includes the tube launched, optically tracked, wire guided (TOW) missile system, the rocket management system (RMS), and a 20mm three barrel machine-gun.<sup>17</sup> The copilot is equipped with a telescopic sight unit (TSU) while the pilot has a heads-up display (HUD) to assist in managing the weapons systems.<sup>18</sup> Both pilots have the ability to mount a helmet sight subsystem on their helmets which allows them to slave and control the 20-mm machine gun to the line of sight of their head. For self-protection, the latest AH-1 is equipped with a radar countermeasure set and an infrared countermeasure set.<sup>19</sup>

By comparison, the AH-64A Apache is a twin-engine, four-bladed, tandem-seating, attack helicopter capable of cruising at approximately 150 knots and has a maximum gross weight of 21,000 pounds.<sup>20</sup> The four-bladed articulated rotor system and

a pressurized fuel and oil system make it fully aerobatic, a capability not found in the AH-1. Like the AH-1, the AH-64 has a stabilization system. However, the AH-64 includes a digitized automated stabilization equipment (DASE) system and a hover augmentation system which provides the pilot with a momentary hands-off flying capability.<sup>21</sup> Additional airframe systems found on the AH-64 but not the AH-1 include a fire suppression and management system, a fuel transfer and cross-feed system for internal and external fuel tanks, an engine and rotor blade deicer system, a rotor brake, and a braking system for the aircraft's wheels.<sup>22</sup> The AH-64's avionics package includes essentially the same radios found in the AH-1 with some significant additions. Instead of a just a Doppler radio, the AH-64 has an integrated navigation system (INS) which is composed of an enhanced doppler, a heading and attitude reference system (HARS), and a global positioning system (GPS) to provide navigation, targeting, and fire control functions.<sup>23</sup> Additionally, these systems work with the hover augmentation system to provide positioning input to give the pilot the momentary hands-off flying capability that was mentioned above.

The mission equipment on the AH-64 is also more sophisticated than the AH-1. Like the AH-1, the AH-64 carries the radar-warning detector, the infrared countermeasure set, and the radar countermeasure set. Unlike the AH-1, the primary weapon system on the Apache is the laser-guided Hellfire missile.<sup>24</sup> (The newer AH-64D has a radar-guided fire and forget Hellfire missile.) The Apache also has an improved version of the aerial rocket control system. Instead of a 20-mm machine gun, the AH-64 has a more powerful 30-mm machine gun with the ability to carry over 50 percent more rounds than the AH-1.<sup>25</sup> In weaponry, what distinguishes the AH-64 from the AH-1 are

the systems used to acquire and engage targets. While AH-1 pilots had a night capability using night vision goggles (NVGs), they provided limited visual range and were not integrated into the acquiring and targeting process. Consequently, the AH-1 was only a daytime fighting aircraft. The Apache has two forward-looking infrared night vision sensors, a pilot night-vision system (PNVS) for the pilot and the target acquisition designation system (TADS) for the copilot.<sup>26</sup> Both are fully integrated into the process of acquiring and engaging targets and for flying the aircraft in day or night. The TADS also has a daytime television and magnification capabilities which far exceed the 13-power magnification of the AH-1.<sup>27</sup> If desired the copilot can also fly with night-vision goggles as an added safety measure. An added advantage of the FLIR is that it gives the pilot a constant image through the use of an integrated helmet and display sight system (IHADSS) which projects both the FLIR image and a heads-up-display data onto a monocle worn by each pilot over his or her right eye.<sup>28</sup>

In addition to targeting using the IHADSS, the copilot can also control the weapons by looking through an optical relay tube (ORT) to acquire and engage targets. The ORT, which is similar to the AH-1's TSU, has several switches that control the laser designator and range finder, the day TV and FLIR, and switches necessary to boresight the targeting systems.<sup>29</sup> The pilot has a video display unit (VDU) which is able to project either the same image seen on his helmet mounted display unit or the image being viewed by the copilot for situational awareness.<sup>30</sup>

An additional feature now found on most tactical Army aircraft to include the AH-64, is the aviation mission planning system (AMPS). AMPS allows a pilot to plan a mission using a ground computer, then load the program or mission into the aircraft's

computer providing the crew with navigation way points, potential targeting information, military graphical information, and other.<sup>31</sup> The pilot can manually change and update the program throughout the mission. As a mission progresses, the crew can also tape for intelligence or after-action purposes, the events shown on the FLIR or day television using the video recorder system (VRS).<sup>32</sup>

The number and sophistication of systems found in the Apache are overwhelming in comparison to the AH-1. Backing up all of the systems mentioned above is a fault detection locating system (FDLS) which provides real-time assessment and feedback to the crew when one of the components in the labyrinth systems fails.<sup>33</sup> The feedback can be projected to the crew either through the ORT, VDU, helmet display unit, or if serious enough, through the master caution and segment light panels on the cockpit console.

While the weapons and FLIR systems are not factors in the UH-60, the technology and capabilities of the Blackhawk are just as much improved over the UH-1 as the AH-64 is to the AH-1. The Blackhawk possesses the same avionics suite as the AH-64 to include the integrated GPS navigation capability that is also linked in with the AMPS system. Like the AH-64, the significant improvements in the UH-60's technology and performance capabilities have also greatly expanded the missions given to the UH-60. While the UH-1 typically cruises at 90 knots and has a maximum gross weight of 9,500 pounds, the Blackhawk can easily cruise at 150 knots and operate at up to 22,000 pounds.<sup>34</sup> The additional fuel capacity and speed give the Blackhawk three times the range of a standard UH-1. Because of the load capabilities, the UH-60 is used in various forms where the UH-1 simply cannot operate. It can perform monumental slingload missions to include carrying HUMVEES, light artillery pieces, and can carry up to

twenty-two combat loaded soldiers. Expanded missions also include mine laying for the Volcano mine system.

The purpose of highlighting the technical differences of the AH-64 and the UH-60 from the AH-1 and the UH-1 is to illuminate how aviators today have many more systems to learn and manage. Aviators today are more than just pilots, they are system managers, too. These systems take time to learn. The development and honing of skills for these additional systems requires time both in the cockpit and on the ground in order to be able to tap into their capabilities.

It is also important to show how the increased capabilities of the newer airframes have changed their tactical employment on the modern battlefield. Because of their lower speeds, their inability to carry heavy weaponry or combat loads, their reduced night flying capabilities and the reduced stand-off ranges of their weapons, the AH-1 and UH-1 aircraft were much more limited in their scope of missions. The AH-1 was required to reduce either fuel or ammunition in order to accomplish many missions. This weight constraint limited the range of the AH-1. The UH-1 could not carry a fully combat loaded infantry squad.

The more sophisticated weaponry, the night flying and fighting capabilities, and the higher speeds and ranges of the AH-64 and UH-60 have greatly expanded these aircraft's range of missions and roles. The AH-64 is now utilized extensively at not only the tactical level of war, but in operational and strategic capacities and in the joint environment as well. Corps commanders utilize the Apache almost exclusively in deep operations to interdict enemy armored and mechanized forces. In Desert Storm, Apaches were used deep to destroy key enemy early warning radar sites on the first night of the air

armada thereby permitting the air operation to begin.<sup>35</sup> During the 1994 deployment to Haiti, the 82d Aviation Brigade was able to self-deploy eleven hundred miles from home station and over the Atlantic Ocean into the area of operations.<sup>36</sup> These are two examples to illustrate the many ways missions and roles of helicopters have increased.

They also serve to illuminate how aviator skill requirements have expanded with these more modern aircraft. Because of their increase in number as well as sophistication, the systems on newer aircraft demand aviators develop more and higher-level skills to be able to fly them. Additionally, the increased scope of missions and roles the newer helicopters are able to perform also serve to increase the technical and tactical skills aviators must possess in today's Army. Because the requisite number and sophistication of aviator skills have increased, it is important to review what must be accomplished to develop them.

#### Instructor Pilot Handbook and Instructing Fundamentals

Fort Rucker's *Instructor Pilot Handbook on Instructing Fundamentals* serves as an excellent reference on how skills are developed. Produced by the U.S. Army Aviation Center, Fort Rucker, Alabama, this handbook is used by the 1st Aviation Training Brigade in the training of the Army's instructor pilots who are charged with training the Army's aviators. The first chapter titled "The Learning Process" contains a condensed review of applied educational psychology. Specifically, it reviews the characteristics, laws, levels, and transfer of learning that takes place in the learning process as well as the topics of forgetting and retention.<sup>37</sup>

In discussing the characteristics of learning, the handbook emphasizes that learning is accomplished through experience. Specifically, if a person is to use sound

judgment and solve problems, that person has to have learning experiences “in which they have exercised judgment and applied their knowledge of general principles in the solving of realistic problems.”<sup>38</sup>

The handbook cites six laws of learning developed from educational psychologists. These are the laws of readiness, exercise, effect, primacy, intensity and recency.<sup>39</sup> The law of readiness means that one must be ready to learn and not be distracted by outside responsibilities, interests, overcrowded work schedules, or worries.<sup>40</sup> The law of exercise is concisely described as “those things most often repeated are best remembered. It is the basis of practice and drill.”<sup>41</sup> The law of intensity means one “will learn more from the real thing than from a substitute.”<sup>42</sup> Finally, the law of recency states that what was learned most recently is what is best remembered. The reverse is also true, that being the longer one goes without exercising newly attained knowledge, the more difficult it is to remember it.<sup>43</sup> The two laws of effect and primacy will not be discussed in this thesis because they are not as applicable to skill development.

According to the handbook, learning can also be accomplished at different levels, rote being the lowest level and proceeding up through understanding, application, and to the highest level, correlation.<sup>44</sup> At this level, one is “able to associate an element which has been learned with other segments or ‘blocks’ of learning or accomplishment.”<sup>45</sup>

How people forget previously learned skills is also important to discuss in that these flight skills are relevant to an aviator’s technical and tactical leadership skills. The handbook cites three theories on why people forget. The first theory is one of disuse; while not necessarily gone from memory, people experience difficulty summoning to

consciousness, skills or knowledge that they do not use.<sup>46</sup> The second theory is one of interference where people forget because some other experience overshadows it.<sup>47</sup> The handbook also notes that skills or knowledge that is “not well learned suffers most from interference.”<sup>48</sup> The last theory cited was one of repression but was considered not very applicable with regards to the development of aviation skills.

#### AR 95-1

The Army’s current most prominent regulation covering flight procedures is Army Regulation 95-1, *Army Aviation, General Provisions and Flight Regulations*. This author can trace the existence of AR 95-1 as far back as 1969. However, it is known that over the years, several regulations have been combined into the regulation. One of the precursor regulations AR 95-32, *Annual Minimums and Maximum Flight Requirements for Army Aviator*, was combined into AR 95-1 at some point in the 1960s. These regulations are relevant to this study in that they provide an historical context into how technical proficiency has changed in importance over the years.

AR 95-32, issued on 16 June 1955, imposed a mandatory requirement for aviators to obtain a minimum of 30 flight hours and maximum of 70 hours every six months and a minimum of 80 flight hours and maximum of 100 flight hours annually.<sup>49</sup> These minimums and maximums established the “flying time requirements for maintenance of individual flying proficiency for all Army aviators on active duty.”<sup>50</sup> It is important to stress that this requirement was imposed on all aviators regardless of whether or not an aviator was actually assigned in an aviation unit. All aviators posted to non-aviation billets were still attached to the nearest flight unit for the purpose of sustaining flight proficiency while simultaneously performing their nonaviation duties. Moreover, AR 95-

32 maintained that the responsibility for maintaining proficiency rested squarely on the shoulders of the individual aviator and the commander who resourced his flying hours.

The maintenance of flying proficiency is a military duty. It is the responsibility of commanders to assure that the time and equipment are made available for pilots assigned to their units or activities to meet minimum flight requirements and that the pilots meet the requirements. So far as practical, flying time requirements will be met during normal duty hours. Each unit or activity having pilots assigned or pilots attached for maintenance of flying proficiency will schedule the necessary training flights to assure that the minimum flight requirements are met by all pilots and that the flights are conducted under conditions that will produce the maximum training benefit.<sup>51</sup>

There is evidence that units and installations went to great lengths to ensure the flight training was accomplished. For instance, in 1959, there were a significant number of memorandums and notes between members of the command group at Fort Leavenworth addressing the fiscal year 1960 Fort Leavenworth flying hour program to sustain the flight proficiency of the aviators who were students, faculty, or staff members on the installation.<sup>52</sup> Unlike today, the staff, faculty, and students were expected to attain at least the minimum eighty hours of annual flight hours per year while they performed their duties unrelated to aviation while serving at Fort Leavenworth.

The emphasis for all aviators to maintain flight proficiency even while in nonaviation billets continued after AR 95-32 became integrated into AR 95-1. The 18 October 1973 version of AR 95-1 maintained a "Combat Readiness Flying Program" (CRF) which mandated certain flying requirements for aviators serving in both aviation and non-aviation billets. Furthermore, the regulation clearly targeted aviators without much flight experience to maintain flight proficiency and build up their flight experience. For those in nonaviation billets, the regulation specifically identified and mandated that all lieutenant colonels and below with less than 1,500 total flight hours be included in a

CRF program and attain a minimum and maximum of eighty hours per year.<sup>53</sup> Like AR 95-32, it required unit commanders to: “establish a unit training program appropriate to its mission and aircraft to insure the combat readiness of assigned aviators and the maintenance of basic flying skills of those aviators attached for proficiency flying.”<sup>54</sup> It is important to note that the emphasis for the non-aviation billet aviators was on sustaining basic flying skills.

The 30 November 1976 version of AR 95-1, which went into effect on 15 January 1977, made a significant departure on emphasizing technical flight proficiency for those in nonaviation billets. It prohibited all officers in nonaviation billets from performing aircrew duties and from participating in a unit’s CRF program regardless of rank or experience and left the aviator with the only requirements to pass a flight physical and written examination annually.<sup>55</sup> This change in mindset towards flight proficiency can be partly attributed to the advent of flight simulators that could finally approximate certain flight conditions. Equally important, the simulators reduced operational costs compared to flying actual aircraft due to the inflation of the 1970s and rising fuel costs of the post-Vietnam era, downsizing Army.<sup>56</sup> While prohibiting nonaviation billet aviators from flying aircraft, the 1976 version of AR 95-1 attempted to sustain some level of proficiency for the same low experience target group of commissioned officers with less than 1,500 hours by requiring them to fly 20 hours per year in a simulator.<sup>57</sup>

The 1 January 1980, version of AR 95-1 continued the prohibition on non-aviation billeted officers from flying aircraft and also eliminated the simulator requirement.<sup>58</sup> All subsequent versions and the current version of AR 95-1 have continued this basic approach towards flight proficiency. This approach maintains those

assigned to an aviation unit are expected to maintain proficiency. Those aviators not assigned to an aviation unit are only expected to remain medically qualified through the administration of an annual flight physical.<sup>59</sup>

AR 600-105 and AR 600-106

Army Regulation 600-105, *Aviation Service of Rated Army Officers*, is relevant in that the regulation establishes the standard for the awarding of the respective Army Aviation skill badges (in this case-Army Aviator, Senior Army Aviator, and Master Army Aviator). These skill badges, by their very nature, carry with them a certain connotation of a level of technical and tactical skill on behalf of the aviator who wears the badge. "A badge is awarded to an individual for identification purposes or for attaining a special skill or proficiency."<sup>60</sup> The requirements to earn these badges have changed in the last twenty years. These requirements are useful to review because they establish benchmarks to define certain levels of technical and tactical skill. How these benchmarks have changed is relevant to this study.

It should be noted that AR 600-105 did not always carry the same title. In the 1960s and early 1970s, the title of this regulation was *Army Aviation Officer Career Program* and did not concern itself with the awarding of skill badges. Rather, it was more a supplement to DA Pam 600-3 to provide career guidance for an aviation officer's professional development as an aviator. During this time, AR 600-106, *Aeronautical Designations and Flying Status for Army Personnel*, addressed the awarding of skill badges. Therefore, the changes in the requirements for the awarding of aviation skill badges must be reviewed by examining both regulations.

From 1967 through 1981, the critical requirements for attaining the Senior and Master Army Aviator Badges were as follows:

1. Senior Aviator Badge-1,500 flight hours and seven years of service as an aviator
2. Master Aviator Badge-3,000 flight hours and fifteen years of service as an aviator<sup>61</sup>

With the advent of the 1974 Aviation Career Incentive Act, the 1 May 1981 edition of AR 600-105 kept the seven and fifteen years of rated service requirements, but changed the critical requirements for attaining the Senior and Master Army Aviator Badges to those shown below:

1. Senior Aviator Badge-1,500 flight hours or 72 months of operational flying duty
2. Master Aviator Badge-3,000 flight hours or 108 months of operational flying duty<sup>62</sup>

The 1981 edition also stipulated that simulator time could not be added to the total flight to attain the skill badges.

The December 1983 edition of AR 600-105 (which became effective on 1 January 1984) changed these requirements slightly:

1. Senior Aviator Badge-1,500 flight hours or 1,000 flight hours and 72 months of operational flying duty
2. Master Aviator Badge-3,000 flight hours or 2,000 flight hours and 108 months of operational flying duty<sup>63</sup>

The current December 1994 regulation, also changed the standards for these skill badges by increasing the number of months of operational flying duty but also made a significant change in that it allowed aviator to add simulator hours to meet the flight time requirement:

1. Senior Aviator Badge-1,000 flight hours and 84 months of operational flying duty
2. Master Aviator Badge-2,000 flight hours and 108 months of operational flying duty<sup>64</sup>

In addition to setting the standards for attaining aviation skill badges, AR 600-105 also defines how an aviator may be disqualified from aviation for both medical and non-medical reasons. Disqualification for nonmedical reasons include failure to remain professionally qualified and exhibiting marginal potential for future aviation service.<sup>65</sup> Past editions of AR 600-105 held the same standards for nonmedical disqualification.

The determination of nonmedical disqualification is accomplished through the convening of a Flight Evaluation Board (FEB) composed of aviation officer board members. AR 600-105 specifies that:

An FEB will be convened for the following reasons--

(1) Lack of proficiency. Evidence that shows the officer--

(a) Lacked proficiency in flying duties.

(b) Failed to meet ATP requirements (proficiency, flying hour task iterations and APART) unless waived (AR 95-3).

(c) Failed to maintain a current instrument qualification unless exempt or waived under the proper regulation or aircrew training manual (does not apply to flight surgeons).<sup>66</sup>

The FEB conducts its proceedings in accordance with AR 15-6, *Procedure for Investigating Officers and Boards of Officers*, and makes administrative findings and

recommendations to an aviator's convening authority commander to disqualify from or retain the aviator for continued aviation service. While not punitive, the decisions can have grave career consequences for the aviator if removed from aviation service because he or she would have no basic branch within which to function.

### The Aviation Commander's Guide and Aircrew Training Manuals

Army Aviation's capstone circular for aviation training is currently *TC 1-210, Air Crew Training Program Commander's Guide to Individual and Crew Standardization*. This circular is commonly known as the commander's guide. Although the title indicates it is a guide, many requirements delineated in the circular become regulatory because AR 95-1 imposes many of the TC 1-210 measures as mandatory for commanders to follow. The document serves as a how-to manual for aviation leaders to develop and sustain a viable aircrew training program and to standardize aviation training across the Army. Supplementing but integral to this manual, which will be referred to as the commander's guide, are the aircrew training manuals which outline specific training tasks and requirements for each type of aircraft. Although the commander's guide has followed the same basic format since at least the late 1970s, there have been significant changes in regulatory requirements and training procedures. Many of these changes occurred in conjunction with and to complement the changes made in AR 95-1 as outlined earlier in this chapter.

The 1982 version of the commander's guide, then known as TC 1-134, *The Aircrew Training Manual Commander's Guide*, highlights significant differences from today's commander's guide. In the first chapter of this thesis, current TC 1-210 flight activity categories (FAC) and readiness levels (RL) were reviewed and defined. These

categories and readiness levels have not always been the same nor have they been defined in same way, however. The 1980 version of the commander's guide only recognized two flight activity category (FAC) levels. The FAC 1 aviators were those in positions designated by the commander needed to "perform combat, combat support, or combat service support missions . . . with varying tactical requirements."<sup>67</sup> The FAC 2 positions were for those aviators not designated FAC 1.<sup>68</sup> Unlike today, however, this edition had no provision for designating aviators in TO&E units as FAC 3 (simulator only). Therefore, all aviators flew if they were assigned to the unit.

The 1980 version also recognized five different readiness levels (RL). The RL 5 aviators were those aviators medically or administratively grounded and therefore, restricted from flying.<sup>69</sup> The RL 4 aviators were those assigned to nonoperational flying positions.<sup>70</sup> The RL 3 aviators were those "participating in qualification and/or refresher training."<sup>71</sup> The RL 2 aviators were those who had completed RL3 training and were in the mission training tailored for their specific unit.<sup>72</sup> An RL 1 aviator was a fully mission trained aviator capable of performing at a minimum, copilot duties on any mission and was in continuation training to sustain mission ready skills.<sup>73</sup>

The current version of the commander's guide defines FAC levels and RL levels as they were outlined in chapter one of this thesis. It also briefly defines limited responsibilities for platoon leaders and company commanders. Specifically, platoon leaders are given responsibility for team training while the company commander is given responsibility for integrating platoon training and executing company level training.<sup>74</sup>

All previous and current commander's guides have maintained the requirement for every aviator to meet the minimum requirements of a unit's aircrew training program.

These requirements include the aviator's appropriate progression through the respective readiness levels culminating with the continuation training as an RL 1 copilot. In order to meet the continuation training requirements, each aviator must complete the required number of iterations of individual base, mission, and special mission tasks designated on his or her commander's task list.<sup>75</sup> The aviator must also meet the semi-annual flying hour minimums for his or her particular aircraft. These semiannual minimums are shown in table 1.

Table 1. Minimum Semiannual Flying Hour Requirements

{PRIVATE} Aircraft	FAC 1 Hours	FAC 2 Hours
Observation Helicopter, OH-58D Aviator	70	50
Utility Helicopter, UH-1 Aviator	48	30
Utility Helicopter, UH-60 Aviator	48	30
Attack Helicopter, AH-1 Aviator	55	30
Attack Helicopter, AH-64 Aviator	70	50
Observation Helicopter, OH-58A/C		
Aviator (Observation)	40	30
Aviator (Aeroscout)	55	30
Cargo Helicopter, CH-47 Aviator	45	33

Source: TC1-210, 3 October 1995, Figure 3-2, p. 3-2.

The semiannual minimums for the older era aircraft have remained the same throughout the revisions of this circular. Newer aircraft, such as the AH-64 and OH-58D have kept the same minimum flying hour requirements since coming into the force.

In addition to meeting the ATP requirements, aviators must also complete the annual proficiency and readiness test (APART) as defined in chapter 1, while assigned in an operational flying position. Failure to complete the annual requirements of the ATP,

APART, and maintaining a current class two flight physical can result in an aviator losing his other rating under the proceedings of a Flight Evaluation Board (FEB) under the provisions of ARs 95-1, 15-6, 600-105, and TC 1-210.

The Army Aviation Center at Fort Rucker, Alabama, is currently revising the commander's guide. The fourth draft version dated 25 October 1999, which is tentatively renumbered as TC 1-200, is a major departure from the current commander's guide. This draft places much more emphasis on leader development and addresses deficiencies in previous versions. Specifically, this draft points out that the Army's capstone training manuals, FMs 25-100 and 101 "do not consider some unique aspects of aviation training."<sup>76</sup> While not yet approved, the latest draft acknowledges the fact that previous and current versions contributed to today's junior officer proficiency problems because it gave the commander too much latitude in designating certain officers FAC 3 resulting in officers who never flew. "The unexpected impact of this policy has been to create serious leader development challenges within the aviation force structure."<sup>77</sup> Responding to this deficiency, the draft version prohibits commanders from designating any officer FAC 3 at brigade level and below.<sup>78</sup>

Equally important, this draft addresses leader development and leader responsibilities in much more detail than previous versions. It was because of this detail, that this author chose the definition of technical proficiency from this draft commander's guide; namely junior officers attaining the designation of pilot in command. The draft goes on to link technical proficiency to the ability to effectively lead units.

Aviation leaders must be proficient aviators, capable of performing individual and crew duties as pilots, to insure they are capable of fighting their systems and units. A fundamental step in the leader development process for aviators is the selection

as a pilot in command. An ATP must provide for leader development and collective training (crew through brigade battle staff). Special attention to provide opportunities for the development and sustainment of junior commissioned and warrant officer professional flying skills is paramount. . . . PCs are required to be leaders in the cockpit, capable of making sound technical and tactical decisions.<sup>79</sup>

One of the major changes in the draft is the expansion of the circular from an individual and crew training manual to one that encompasses collective training by incorporating the Army's Combined Arms Training Strategy (CATS). Part of the incorporation of CATS includes adding a two-tiered RL 1 system. It re-defines RL 1 as being either RL 1(P) or RL 1(T). The RL 1(P) aviators are those fully qualified and proficient in individual and crew tasks and are undergoing collective training while RL 1(T) aviators are those fully qualified and proficient in all of the unit's METL tasks.<sup>80</sup>

The commander's guide has consistently been used in conjunction with AR 220-1, *Unit Status Reporting*, to determine an aviation unit's training readiness. Aviation commanders must enter the appropriate training-level rating on their monthly status report based on the percentage of required aviators in their units who are RL 1. The percentages for the respective T-ratings are shown in table 2.

Table 2. Aviator Training T-Level Ratings

T-1	Not less than 85 percent of full MTO&E-required aviators are RL 1 in their primary aircraft.
T-2	Not less than 75 percent of full MTO&E-required aviators are RL 1 in their primary aircraft.
T-3	Not less than 65 percent of full MTO&E-required aviators are RL 1 in their primary aircraft.
T-4	Does not meet minimum criteria for T-3.

Source: Headquarters, Department of the Army, TC 1-210, *Aircrew Training Program Commander's Guide to Individual and Crew Standardization* (Washington, DC: U.S. Government Printing Office, 3 October 1995), 7-2.

The draft TC 1-200 also makes major changes in the way commanders are required to report unit training readiness. “This TC includes some major changes in its guidance for readiness reporting. Emphasis placed on proficiency rather than currency as a new standard for individual aviators, crews and units.”<sup>81</sup> With the draft TC 1-200, in addition to reporting the unit’s individual aviator training status, a commander would have to report an assessment of the unit’s collective METL training based on having conducted a minimum number of collective training events on each METL task within the preceding 180 days.<sup>82</sup> With regards to individual training, the standard also is significantly different from current and past commander’s guides. Rather than reporting a percentage of aviators RL 1 in individual and crew tasks as is currently being reported, the commander would now report the same percentage of aviators RL 1(T) implying the percentage of individual aviators are also collectively trained.<sup>83</sup>

The Aircrew Training Manuals are specific to each aircraft and define the individual base and mission tasks in which the aviator must be proficient in that particular aircraft. The base tasks are those that relate to basic flying skills such as conducting take-offs, landings, before landing checks, and others. The mission tasks are those tasks related to the aircraft. For example, an AH-64 pilot must be able to engage targets using the Hellfire weapon system. The UH-60 pilot must be able to conduct a slingload operation. These manuals reemphasize the major themes from the commander’s guide and apply specific measures and training requirements for the peculiarities of each aircraft.

The aircrew training manuals also illustrate how technical skills have become more complex in today’s newer aircraft. Comparing the tasks for employing the

respective point target weapon systems in the AH-1 and the AH-64 provides a good example. In the AH-1 manual, the task detailing the operation of the missile system is outlined in one and one half pages and essentially limits the operation to daylight hours because of the lack of a night firing capability.<sup>84</sup> The AH-64 manual requires eight pages to accomplish the same detail for the equivalent task of operating the Hellfire missile system. The reasons for this level of detail are numerous. There are several different types of engagements both pilot and copilot can use to employ the weapon compared to only one type in the AH-1. Additionally, the Hellfire can be employed at night using the AH-64's FLIR technology which also adds to the skills required.<sup>85</sup>

#### DA Pamphlet 600-3

For over thirty years, DA Pam 600-3, *Commissioned Officer Development and Career Management*, has served as the Army's capstone manual on officer professional development. Historically, the pamphlet has outlined the career path model for all Army commissioned officers and devoted a chapter to each branch for more specific information pertaining to each branch. The pamphlet has served as a professional development guide assisting officers to effectively serve and contribute at each grade and as a roadmap for a successful career.<sup>86</sup> As a guide, it has served as a benchmark or a 'how to' manual to achieve the professional and leader development necessary for a successful career in each respective branch. In aviation, the roadmap to a successful career evolved along with the development of the aviation branch. Earlier editions of DA Pam 600-3 are important for what they emphasized to the junior aviation officer.

The 1970 edition of DA Pam 600-3, addressed an aviation officer's "Basic Military Development Period (0-8 years)."<sup>87</sup> During these first eight years, it emphasized

that assignments immediately following flight training were for the “development of flying skills in an operational environment.”<sup>88</sup>

The 1974 edition continued this general philosophy. “Initial assignments in aviation are designed primarily to develop flying skills required in aviation units in an operational environment.”<sup>89</sup>

The next update to the pamphlet was made in 1986. This edition was the first version published after aviation became a branch. In this edition, the professional development objectives outlined for the junior aviation officer was quite different. The only comment specifically addressing flying was in the lieutenant phase. “As a lieutenant, the officer is normally assigned at company level to gain troop and flight experience.”<sup>90</sup> It is interesting to note, however, that rather than addressing the attainment of skills it focuses on troop and flight experience. At the captain level, flying skills is never mentioned. There is only a reference to attaining technical and tactical skills which one must infer to mean flight skills.<sup>91</sup>

The Army’s current DA Pam 600-3, *Commissioned Officer Development and Career Management*, continues in the same format but contains differences from its predecessor pamphlets. There are some subtle and not so subtle differences in each branch due to the peculiarities of each branch. These differences are important to highlight in the course of this thesis in order to compare and contrast and to discern their influence on aviation force structure development.

The initial chapters are generic for all officers and discuss a model career that can apply to all branches. These chapters outline the Army's leader development process and document the three pillars of leader development-institutional training, operational

assignments, and self-development.<sup>92</sup> The pamphlet focuses more heavily on the first two pillars and in particular, the second, operational assignments. It defines operational assignments as constituting

the second pillar of leader development. Upon completion of most institutional training, leaders ideally are assigned to operational positions. This operational experience provides them the opportunity to use, hone and build on what they learned through the formal education process. Experience gained through on-the-job training in a variety of challenging assignments and additional duties prepares officers to lead and train soldiers, both in the field and in garrison. The commander or leader in the unit plays a significant and instrumental role in this area. Particularly, commanders and other senior leaders are responsible for an officer's vital initial mentoring . . . explain both unit and individual performance standards; and finally, provide periodic assessments and continual feedback to develop the officer. Beyond accomplishing the mission on a daily basis, developing subordinate leaders is a professional responsibility which must be carried-out to ensure the future leadership of our Army.<sup>93</sup>

For all lieutenants, regardless of branch, DA Pam 600-3 lists the overarching priority during their first assignments as seeking "leadership positions in troop units whenever possible. Such duty helps to more fully educate them on Army operations and military life and will build a solid foundation for future service."<sup>94</sup>

The chapter devoted to the infantry branch highlights the professionally-developing duty assignments an infantry lieutenant should obtain during his time in the operational pillar of leader development. It is interesting to note the existence of multiple duties with which an infantry lieutenant can gain this experience.

After completing IOBC and specialized schooling, officers are normally assigned at company level to gain leadership experience and to enhance technical and tactical competence. Officers should expect to serve in company level positions to develop leadership, infantry branch skills and, when appropriate, to complement their company level tour with staff experience at battalion level. Typical duty positions, at company level, include Infantry rifle platoon leader and company executive officer. Battalion level includes scout platoon, heavy mortar platoon leader and support platoon leader.<sup>95</sup>

The field artillery chapter also describes multiple duty positions for artillery lieutenants to gain operational experience. The emphasis for new officers is to serve their lieutenant years in battery or supported infantry/armor company units in a host of different assignments to round out their technical and tactical skills.

Officers are normally assigned at battery level to gain leadership experience and to enhance technical and tactical competence. Ideally, lieutenants will experience duty at battery level prior to serving in the company fire support officer positions. Officers should expect to serve in battery level positions to develop leadership, fire support and other artillery skills and when appropriate, to complement this with staff experience at battalion level. Typical duty positions include firing platoon leader, target acquisition platoon leader, battery executive officer, fire direction officer, battery operations officer, ammunition platoon leader, company fire support officer, reconnaissance and survey officer, battalion staff officer and executive officer or training officer in training center units.<sup>96</sup>

Although serving as a staff officer is mentioned in the above paragraph, clearly the emphasis is on serving in the more various lieutenant positions.

The armor branch chapter also outlines numerous duty positions for its lieutenant's professional development.

The critical assignment during this phase is serving as a platoon leader in a TO&E unit. Historically, all qualified Armor lieutenants have served as Armor or cavalry platoon leaders. Other typical assignments for lieutenants are battalion or squadron special platoon leader (support, scout or mortar), company or troop executive officer, battalion or squadron liaison officer (LNO), battalion or squadron adjutant (S1), S3 air or supply officer (S4), and battalion or squadron maintenance officer (BMO/SMO).<sup>97</sup>

In the chapter devoted to aviation, the pamphlet acknowledges the key difference of aviation officers from other combat arms officers. "The most unique feature about Aviation officers is the fact that they are all aviators and must develop technical proficiency in their aviator skills."<sup>98</sup> Later in the same chapter it discusses the priority for aviation lieutenants. "The single most important assignment consideration for personnel

managers and commanders is ensuring that the new lieutenant is assigned to a job which will allow him or her adequate opportunity to develop flight experience and to lead troops.”<sup>99</sup> The chapter cites the importance of successfully serving “as a section/platoon leader in an aviation assignment.”<sup>100</sup> However, unlike the other combat arms branch sections, this section of the aviation chapter lacks specificity on any other duty positions in which the lieutenant should serve in order to gain that experience.

Lieutenants normally serve at company level to gain troop leading and flight experience. An officer should concentrate on the methodology employed in planning and carrying out specific aviation operations. Aviation training is expensive, lengthy and complex. Aviation lieutenants spend a minimum of 47 weeks in schools or courses preparing for their initial assignment. Training times increase for those receiving advanced aircraft training or additional training in one of the Aviation AOCs. Aviation's increased training time and differing grade structure pushes its time line for professional development out further than that of other branches.<sup>101</sup>

The only mention of other duty positions available for lieutenants comes later in the chapter during a discussion of aviation assignment preferences and precedences.

Precedence. Assignment to developmental leadership positions will have a precedence, although there is flexibility on the sequence of assignments. Typically, officers should seek assignments in the following order: Officer Basic Course, platoon leader, battalion staff (preferably as an assistant S3/liaison officer), Captains Career Course, company command, brigade or division staff, nominative or branch/functional area generalist assignment, Command and Staff College, battalion S3 or executive officer, battalion level command, Senior Service College, and brigade level command.<sup>102</sup>

From this chapter it is apparent that a lieutenant in aviation can expect to serve in only two types of positions during his or her lieutenant years, platoon leader or staff officer.

In an interesting comparison, the Air Force's equivalent manual to DA Pam 600-3 (*The Air Force Officer Career Path Guide*), very succinctly sums up what is technically

expected of their officers in their initial assignments out of flight school; to become aircraft commanders and instructor pilots in their assigned aircraft.<sup>103</sup>

#### FM 25-100 and FM 25-101

The *FM 25-100, Training the Force* and *FM 25-101, Battle Focused Training*, are relevant to this study in that they define how the Army conducts training. FM 25-100, the capstone training manual, first identifies the importance of effective training, the principles of effective training, and then defines responsibilities for the training. It then addresses how the Army resources and conducts training by focusing on selected mission essential tasks (METL) as they relate to a unit's mission in order to maintain a battle focus. Key to the manual is the recognition that all units have limited time and resources. Therefore, all units must identify only the critical individual and collective tasks and train to become highly proficient in only those tasks.<sup>104</sup> With regards to leadership, the manual places the responsibility for leaders to be the unit's primary trainers with the ability to assess proficiency levels and develop subordinates. Additionally, leaders are charged with creating "leader development programs that develop a warfighter's professionalism--knowledge, attitudes, and skills."<sup>105</sup>

FM 25-101 serves as a doctrinal method for how to conduct training at battalion and lower level units. The manual describes how to implement the training management cycle. It also links collective to individual tasks and stresses the conditions and standards to which the tasks must be planned, executed, and assessed.<sup>106</sup> As in FM 25-100, leaders are primary trainers.

## Tables of Organization and Equipment

The necessary force structure data for current aviation, infantry, armor and artillery units was obtained through the U.S. Army Force Management Support Agency Requirements Documentation Directorate (USAFMSARRD) on line at <http://www.usafmsaridd.army.mil/>. Past tables of organization and equipments (TO&Es) for H series aviation battalions were obtained from historical TO&Es maintained in the Combined Arms Research Library, Fort Leavenworth. These sources provide the substantive data for the development of this thesis.

The vast numbers of TO&Es available for use, both on line and in historical records, represent an overwhelming amount of information for this author to extrapolate and present in a concise enough format for the scope of this thesis. Therefore, comparisons and analysis were limited to the following TO&Es.

1. The current TO&E for a Light Infantry Division's (LID) Infantry Brigade composed of three light infantry battalions and the brigade headquarters company.

2. The current TO&E for a Force XXI Mechanized or Armored Division's Mechanized Infantry Brigade (Mech Heavy Task Organization) composed of two mechanized infantry battalions, one armored battalion, and the brigade headquarters company.

3. The current TO&E for a Force XXI Mechanized or Armored Division's Armored Brigade composed of two mechanized infantry battalions, one armored battalion, and the brigade headquarters company.

4. The current TO&E for a Force XXI Mechanized or Armored Division's Divisional Artillery Brigade composed of three self-propelled 155 split operations artillery battalions, one MLRS battalion and the brigade headquarters battery.

5. The current TO&E for a LID Aviation Brigade composed of an assault battalion, an OH-58D attack battalion, a LID cavalry squadron, and the brigade headquarters company.

6. The current TO&E for a Force XXI Mechanized or Armored Division Aviation Brigade composed of a general support aviation battalion, an AH-64 attack battalion, a heavy division cavalry squadron and the brigade headquarters company.

7. A historical 1979 "H" series attack helicopter battalion composed of three attack helicopter companies and the battalion headquarters company.

8. A historical 1979 "H" series assault helicopter battalion composed of three assault helicopter companies and the battalion headquarters company.

The specific TO&Es extracted from on-line and historical records may be found in Appendix A to this thesis in order to present first-hand the organizations used for comparison and analysis. The extractions contain all of the officer authorizations regardless of military occupational specialty. For brevity, warrant officer and enlisted authorizations have been excluded from the enclosure.

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<sup>1</sup>"They Weren't Ready: General says Task Force Hawk Aviators Unprepared for Challenges in Kosovo," *Army Times*, 5 July 1999, 8.

<sup>2</sup>Center for Army Leadership *Point Paper, Subject: Army Aviation Leader Development Study* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 24 August 1999), 2.

<sup>3</sup>*Ibid.*

<sup>4</sup>Ibid.

<sup>5</sup>Headquarters, Department of the Army, FM 100-5, *Operations* (Washington, DC: U.S. Government Printing Office, 14 June 1993), 2-9--2-11.

<sup>6</sup>Ibid.

<sup>7</sup>Headquarters, Department of the Army, FM 22-100, *Army* (Washington, DC: U.S. Government Printing Office, June 1999), 1-3.

<sup>8</sup>Ibid., 1-10 through 1-12.

<sup>9</sup>Ibid.

<sup>10</sup>Ibid.

<sup>11</sup>Ibid., 1-4.

<sup>12</sup>Ibid., 1-7.

<sup>13</sup>Ibid., 4-11.

<sup>14</sup>Ibid., 4-14.

<sup>15</sup>Headquarters, Department of the Army, TM 55-1520-236-10, *Operator's Manual AH-1S(Prod) (ECAS) (FM)* (Washington, DC: U.S. Government Printing Office, 11 January 1980 with up to change 36 dated 11 August 1994), 5-1 thru 5-10.

<sup>16</sup>Ibid., 3-1 thru 3-34.

<sup>17</sup>Ibid.

<sup>18</sup>Ibid.

<sup>19</sup>Ibid.

<sup>20</sup>Paul Jackson, *Jane's, All the World's Aircraft* (London: Butler and Tannen, Limited, 1999), 579-582.

<sup>21</sup>Ibid.

<sup>22</sup>Ibid.

<sup>23</sup>Ibid.

<sup>24</sup>Ibid.

<sup>25</sup>TM 55-1520-236-10, p. 4-2.5; and Paul Jackson, *Jane's, All the World's Aircraft* (London: Butler and Tannen, Limited, 1999), 579-582

<sup>26</sup>Jackson, 579-582.

<sup>27</sup>Ibid.

<sup>28</sup>Ibid.

<sup>29</sup>Ibid.

<sup>30</sup>Ibid.

<sup>31</sup>Ibid.

<sup>32</sup>Ibid.

<sup>33</sup>Ibid.

<sup>34</sup>Headquarters, Department of the Army, TM 1-1520-237-10, *Operators Manual for the UH-60A, UH-60L, EH-60* (Washington, DC: U.S. Government Printing Office, 31 October 1996 with up to change 4, dated 29 January 1999), 5-1 thru 5-12.

<sup>35</sup>Michael R. Gordon and Bernard E. Trainor, *The General's War: The Inside Story of the Conflict in the Gulf* (Boston, MA: Little, Brown & Company, 1995), 209-210.

<sup>36</sup>Walter E. Kretchik, Robert F. Baumann, and John T. Fishel, *Invasion, Intervention, "Intervasion": A Concise History of the U.S. Army in Operation Uphold Democracy* (Fort Leavenworth, KS: U.S. Army Command and Staff College Press, 1998), 51.

<sup>37</sup>Headquarters, U.S. Army Aviation Center, Fort Rucker, AL, *Instructor Pilot Handbook on Instructing Fundamentals* (Washington, DC: U.S. Government Printing Office, July 1997), 1-13.

<sup>38</sup>Ibid., 2.

<sup>39</sup>Ibid., 3.

<sup>40</sup>Ibid.

<sup>41</sup>Ibid.

<sup>42</sup>Ibid., 4.

<sup>43</sup>Ibid.

<sup>44</sup>Ibid., 8.

<sup>45</sup>Ibid., 8-9.

<sup>46</sup>Ibid., 11.

<sup>47</sup>Ibid.

<sup>48</sup>Ibid.

<sup>49</sup>Headquarters, Department of the Army, AR 95-32, *Annual Minimum and Maximum Flight Requirements for Army Aviators* (Washington, DC: U.S. Government Printing Office, 16 June 1955), 1.

<sup>50</sup>Ibid.

<sup>51</sup>Ibid, 3.

<sup>52</sup>*Proficiency Flying Requirements for FY60* (Command Memoranda, Fort Leavenworth, KS, 1959).

<sup>53</sup>Headquarters, Department of the Army, AR 95-1, *Army Aviation: General Provisions and Flight Regulations* (Washington, DC: U.S. Government Printing Office, 18 October 1973), 2-4, 2-9.

<sup>54</sup>Ibid, 2-4.

<sup>55</sup>Headquarters, Department of the Army, AR 95-1, *Army Aviation: General Provisions and Flight Regulations* (Washington, DC: U.S. Government Printing Office, 30 November 1976), 1-8.

<sup>56</sup>U.S. Bureau of the Census, *Statistical Abstract of the United States: 1998* (Washington, DC: U.S. Government Printing Office, 30 September 1998), 489. In the United States, energy costs rose 29.6 percent in 1974 and 10.5 percent in 1975. These fuel prices certainly had an impact on operating costs for the U.S. Army.

<sup>57</sup>Ibid., 2-5.

<sup>58</sup>Headquarters, Department of the Army, AR 95-1, *Army Aviation: General Provisions and Flight Regulations* (Washington, DC: U.S. Government Printing Office, 1 January 1980), 1-2 – 1-3.

<sup>59</sup>Headquarters, Department of the Army, AR 95-1, *Army Aviation: General Provisions and Flight Regulations* (Washington, DC: U.S. Government Printing Office, 1 September 1997), 2.

<sup>60</sup>Headquarters, Department of the Army, AR 670-1, *Wear and Appearance of Army Uniforms and Insignia* (Washington, DC: U.S. Government Printing Office, 1 September 1992).

<sup>61</sup>Headquarters, Department of the Army, AR 600-106, *Aeronautical Designations and Flying Status for Army Personnel* (Washington, DC: U.S. Government Printing Office, 11 August 1967), 2-3.

<sup>62</sup>Headquarters, Department of the Army, AR 600-105, *Aviation Service of Rated Army Officers* (Washington, DC: U.S. Government Printing Office, 1 May 1981), 2-3.

<sup>63</sup>Department of the Army, AR 600-105, *Aviation Service of Rated Army Officers* (Washington, DC: U.S. Government Printing Office, 1 December 1983), 2-3.

<sup>64</sup>Headquarters, Department of the Army, AR 600-105, *Aviation Service of Rated Army Officers* (Washington, DC: U.S. Government Printing Office, 15 December 1994), 2.

<sup>65</sup>*Ibid.*, 11.

<sup>66</sup>*Ibid.*

<sup>67</sup>Headquarters, Department of the Army, TC 1-134, *Aircrew Training Manual Commander's Guide* (Washington, DC: U.S. Government Printing Office, 10 October 1980, with Change 1 dated 27 July 1982), 2-1--2-2.

<sup>68</sup>*Ibid.*

<sup>69</sup>*Ibid.*, 2-5.

<sup>70</sup>*Ibid.*

<sup>71</sup>*Ibid.*

<sup>72</sup>*Ibid.*

<sup>73</sup>Ibid., 2-6.

<sup>74</sup>Headquarters, Department of the Army, TC 1-210, *Aircrew Training Program Commander's Guide to Individual and Crew Standardization* (Washington, DC: U.S. Government Printing Office, 3 October 1995), 1-4.

<sup>75</sup>Ibid., 3-2.

<sup>76</sup>Headquarter, U.S. Army Aviation Center, TC 1-200 *Aviation Commander's Guide to Individual, Crew, and Collective Training and Standardization*, Draft (Fort Rucker, AL: Headquarter, U.S. Army Aviation Center, 25 October 1999), 2-6.

<sup>77</sup>Ibid., 1-2.

<sup>78</sup>Ibid., 2-6.

<sup>79</sup>Ibid., 1-2.

<sup>80</sup>Ibid., 2-4.

<sup>81</sup>Headquarters, U.S. Army Aviation Center, TC 1-200 *Aviation Commander's Guide to Individual, Crew, and Collective Training and Standardization*, Draft (Fort Rucker, AL: Headquarters, U.S. Army Aviation Center, 25 October 1999), 1-3.

<sup>82</sup>Ibid., 7-2.

<sup>83</sup>Ibid., 7-3.

<sup>84</sup>Headquarters, Department of the Army, TC 1-213, *Aircrew Training Manual – Attack Helicopter, AH-1* (Washington, DC: U.S. Government Printing Office, 9 December 1992), 6-147--6-148.

<sup>85</sup>Headquarters, Department of the Army, TC 1-214, *Aircrew Training Manual – Attack Helicopter, AH-64* (Washington, DC: U.S. Government Printing Office, 20 May 1992, with change 1 dated 10 August 1994), 6-145--6-152.

<sup>86</sup>Headquarters, Department of the Army, DA Pam 600-3, *Commissioned Officer Development and Career Management* (Washington, DC: U.S. Government Printing Office, 1 October 1998), 1.

<sup>87</sup>Headquarters, Department of the Army, DA Pam 600-3, *Career Planning for Army Commissioned Officers* (Washington, DC: U.S. Government Printing Office, 1 August 1970), 8-5.

<sup>88</sup>Ibid.

<sup>89</sup>Headquarters, Department of the Army, DA Pam 600-3, *Officer Professional Development and Utilization* (Washington, DC: U.S. Government Printing Office, 1 March 1974), 29-2.

<sup>90</sup>Headquarters, Department of the Army, DA Pam 600-3, *Commissioned Officer Professional Development and Utilization* (Washington, DC: U.S. Government Printing Office, 30 April 1986), 33.

<sup>91</sup>Ibid., 34.

<sup>92</sup>Headquarters, Department of the Army, DA Pam 600-3, *Commissioned Officer Development and Career Management* (Washington, DC: U.S. Government Printing Office, 1 October 1998), 3.

<sup>93</sup>Ibid.

<sup>94</sup>Ibid., 10.

<sup>95</sup>Ibid.

<sup>96</sup>Ibid., 49.

<sup>97</sup>Ibid., 41.

<sup>98</sup>Ibid., 62.

<sup>99</sup>Ibid., 66.

<sup>100</sup>Ibid.

<sup>101</sup>Ibid.

<sup>102</sup>Ibid., 69.

<sup>103</sup>U.S. Air Force, *Officer Career Path Guide*, available from <http://www.afpc.randolph.af.mil>, Internet.

<sup>104</sup>Headquarters, Department of the Army, FM 25-100, *Training the Force* (Washington, DC: U.S. Government Printing Office, 15 November 1988), 1-7.

<sup>105</sup>Ibid., 1-6.

<sup>106</sup>Headquarters, Department of the Army, FM 25-101, *Battle Focused Training*  
(Washington, DC: U.S. Government Printing Office, 30 September 1990), 1-9.

## CHAPTER 3

### RESEARCH METHODOLOGY

In order to begin analysis of structure and training doctrine, it was necessary in chapter 2, to first review how today's more modern aircraft require newer and more sophisticated technical and tactical skills to meet the challenges of the present aviation environment. Now this study will examine how structure and doctrine impact aviators attaining these skills. The research methodology for this study takes two approaches, one being a force structure comparison and the other approach being a doctrine comparison. First, the analysis will compare past aviation force structures to present structures. It will also compare past and present aviation force structures to the present structures of other combat arms branches. Finally, trends in aviation training doctrine and regulations will be reviewed to determine what emphasis the Army Aviation Branch currently places on technical and tactical proficiency as compared to past emphasis.

The ratios of line to staff officer positions will be compared in the force structures of the past and present TO&Es outlined in the literature review. The TO&Es will not only be examined for their ratios, but also looked at to discern what types of duties junior officers perform in each to ensure comparisons are valid. This applies to all TO&Es, both aviation and nonaviation.

The Army and Aviation Branch's regulatory and training doctrine publications will also be examined to determine trends in emphasis on technical and tactical skill proficiency. In this thesis, chapter 2 was devoted to reviewing the literature to establish how the Army and Army Aviation builds leaders and trains its aviation officer corps. It reviewed this doctrine from a historical perspective to give an idea how regulations and

training doctrine have changed during the last thirty years. From this historical perspective, the author should be able to conclude how much emphasis today's regulations and doctrine place on the commissioned aviator's technical and tactical proficiency when compared to past emphasis.

Using these two approaches, comparing force structure and training and regulatory doctrine, this author should be able to answer the two secondary questions, which together, form the primary research question.

## CHAPTER 4

### ANALYSIS

The initial research effort in examining forces structures was to extract the data from the Tables of Organization and Equipment (TO&Es) from the current battalion-sized organizations. The first task was to determine the number of staff and line positions in each type of battalion. In order to determine this information, the author had to define what constituted a staff and line position and apply that standard across the entire spectrum of TO&Es. As shown in the columns in the appendix to this thesis, a position was determined as a staff position if the primary or assistant staff function could be reasonably expected to be filled by the basic combat arms branch for that type of unit. For example, in the Light Infantry Battalion TO&E, the battalion XO, S3, S1, S4, and S3 Air positions all carry the primary military occupational specialty code (MOS) of 11A, meaning it must be filled by an infantry branch officer.<sup>1</sup> Consequently, these positions were carried in the staff officer column. Staff positions carrying the noncombat arms MOS specialty in the battalion TO&Es were not included in the count. These positions include the signal officers, chaplains, surgeons, physician assistants, chemical officers, and other similar positions. With respect to field artillery, fire support officer positions for lieutenants at the company level were included as line positions while fire support officer and targeting officer positions at battalion level and above were carried as staff positions. The logic used for this decision is that basic combat artillery skills are being developed in the artillery officer's military specialty while at the lieutenant level. Therefore, whether an artillery lieutenant is performing the duty of platoon leader, fire direction officer or fire support officer, he/she is gaining the critical technical and tactical

skills necessary for an artillery officer's professional development. This is an exception that applies only to the field artillery branch because of the unique nature of the branch.

Likewise, any positions that were designated as battalion commander, company commander, company executive officer, or platoon leader and carried the primary MOS of that type of battalion were carried as line officer positions. The logic for this determination is that the critical technical and tactical skills for combat arms officers are primarily developed in these positions.

The results of this data collection for today's units are shown in figure 2.

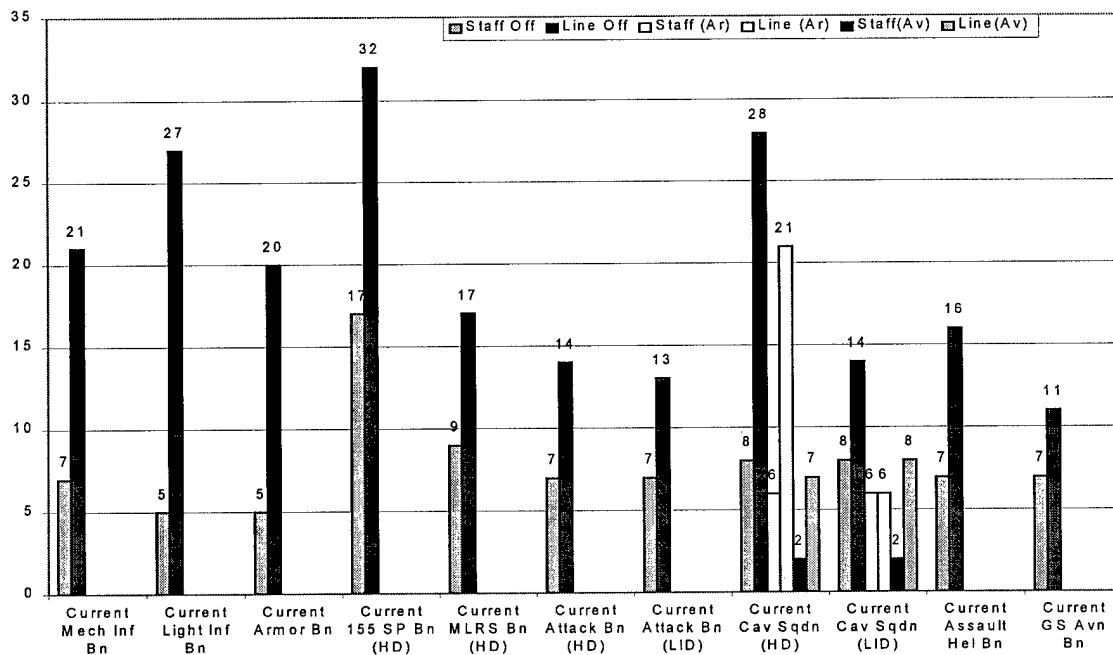


Figure 2. Battalion Staff to Line Officer Comparison

The staff and line offer columns for the light and heavy division cavalry squadrons have been divided to depict, first, the total number of staff and line officers, followed by the number of armor staff and line positions, and finally, the number of aviation staff and line positions. These squadrons are a mixture of the two branches and must be portrayed in this manner to accurately reflect their branch's contribution to the line and staff makeup.

In examining this data, every battalion other than the 155 Field Artillery (FA) Battalion has a fairly consistent number of staff officers (range of 5 to 9). In the case of the 155 FA battalion, eight of the seventeen staff officer positions are battalion and brigade fire support officer positions raising their figures substantially.<sup>2</sup> It is interesting to note that the lowest numbers of staff officers are in the light infantry and armored battalions, each with only five staff officers filling the basic XO, S3, S1, S4, and S3 air positions. The differences in the remaining battalion staff numbers consistently rest with what positions are authorized outside of these basic five positions. It should be noted that for generic purposes, the S3 air positions include captain level positions with titles such as assistant S3, S3 air, or operations officer which are all in a battalion S3 section. The additional staff positions required in the remaining battalions are highlighted below in table 3. The aviation and artillery battalions all require their basic branches to fill the battalion S2 position vice the military intelligence officer provided for in the infantry and armor battalions and cavalry squadrons. In fact, each of these infantry, armor, and cavalry units are also provided a military intelligence trained (35D MOS) officer to serve as the unit tactical intelligence officer or assistant S2.

Table 3. Additional Staff Positions

<u>Unit</u>	<u>Liaison Officer</u>	<u>Additional Asst S3</u>	<u>Battalion S2</u>	<u>Flight Ops Off</u>	<u>Fire Direction/ Fire Support or Targeting Officer</u>	<u>Maintenance Officer</u>
Inf Bn (LID)						
Armor Bn						
Inf Bn (M)	1	1				
155 FA Bn			1		10	1
MLRS Bn	1		1		1	1
Cav Sqdn (H)	1			1		1
Cav Sqdn (LID)	1			1		1
Atk Bn(AH-64)	1		1			
Atk Bn(OH-58D)	1		1			
Aslt Bn	1		1			
GS Avn Bn	1		1			

With respect to line positions, the infantry, armor, artillery, and heavy division cavalry squadrons have more line positions than the aviation battalions. These units each have specialty platoons; and each infantry, armor, and cavalry line company or troop has four platoon leaders compared to the two or three platoons found in aviation battalions and squadrons. Additionally, infantry and armor line companies each have an executive officer authorized which are absent in aviation line company TO&Es. The 155 FA Battalion's large number of line positions is due in part, to the large number of company level fire support officers (twelve) which the battalion provides to each supported infantry or armor company within its supported brigade. The other primary reason for the large number of line positions is each firing battery also has an additional fire direction officer for each platoon in order to run split operations, bringing the total number of lieutenants in firing batteries to four in each battery.

After reviewing the numbers of staff and line officers in each type of battalion in this study, it is appropriate to view these numbers in the form of a ratio of line to staff officers to get an appreciation of the differences between the units. These ratios are shown in figure 3.

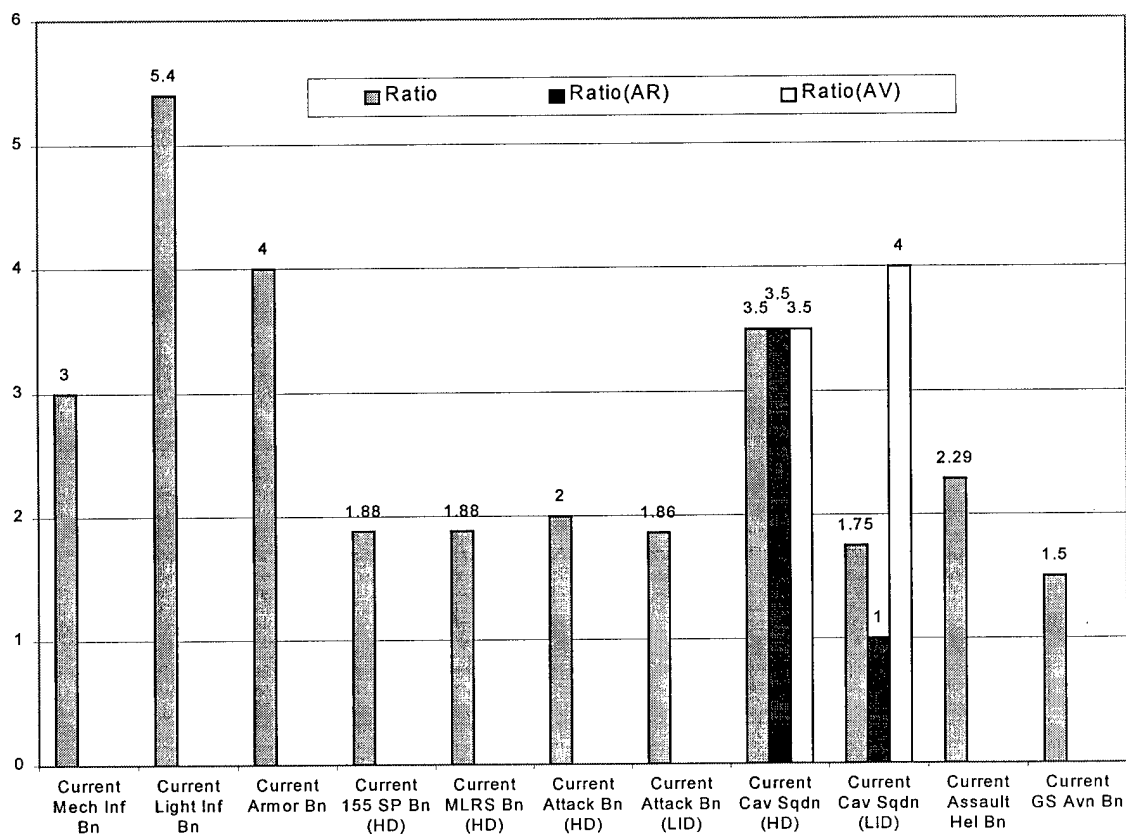


Figure 3. Battalion Ratios

It is apparent from the figure above that infantry, armor battalions, and heavy division cavalry squadrons enjoy a higher ratio of line to staff officers. This is to say that officers serving in these types of units have more opportunity to serve in line units than do officers in the other types of battalions. The artillery and aviation battalion ratios

are roughly comparable. Although the staff and line officer positions depicted earlier in this thesis are much greater in the artillery battalions, the ratios are about the same as in the aviation units.

After reviewing the individual battalion data, it is appropriate to include the brigade totals for the different brigades as they are structured including the brigade headquarters companies or batteries. This is relevant to the thesis because each brigade's headquarters company TO&Es are structured with junior officers filling the staff and line positions. These headquarters also must be filled and therefore, impact the ratios addressed above. The total numbers of staff officers and line officers in each brigade are shown in figure 4.

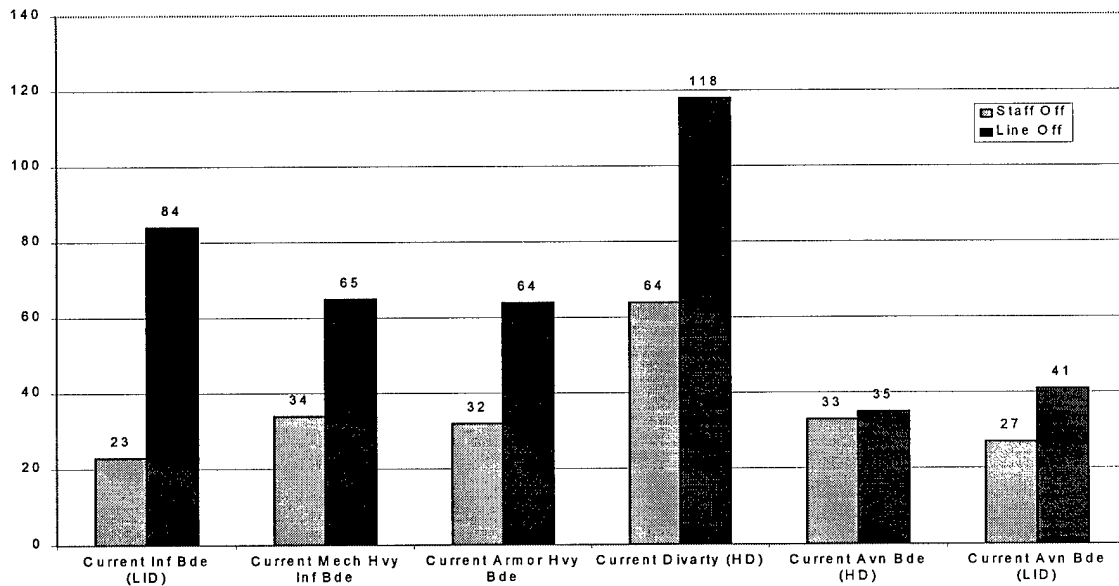


Figure 4. All Brigade Staff to Line Officer Comparison

In calculating the totals, the armor staff and line officers within the cavalry squadrons were not included in the aviation brigade totals. The logic behind this decision is that there are no armor positions in any aviation brigade headquarters. Furthermore, the armor officer's assignments and professional development are not typically managed within the aviation brigade. In other words, the armor officers assigned to a cavalry squadron are not able to rotate in and out of the various staff and line positions across the aviation brigade TO&Es. These officers are placed into the cavalry squadron to fill specific armor-coded positions and then are rotated out of the squadron or moved within the squadron to fill other specified armor-coded positions.

In both the mechanized infantry and armored brigades, each headquarters company contains a mixture of armor and infantry officers on brigade staffs; and each brigade is composed of a mixture of infantry and armor battalions. In this case, both types of officers are counted. Since each mechanized infantry brigade and each armored brigade are provided with two assistant brigade S3s and a liaison officer from the opposing combat arms branch, these differences negate each other. Furthermore, since each armored or mechanized brigade contained both infantry and armor battalions and the fact that there are multiple brigades in a division, an armor or infantry officer can receive the varied staff and line assignments regardless of the brigade in which the officer serves.

Since the differences in the battalion staffs were outlined earlier, it is important here to outline the differences in the brigade staff sections. Unlike the battalion staffs which had five core staff positions, at the brigade level, only the XO and S3 staff positions are comparably filled across the spectrum of the brigade headquarters companies. The differences in the staffs for each respective brigade are outlined in table

4. The S4 positions in the division artillery, mechanized infantry, and armored brigade headquarters were coded as 01A (combat arms officer, branch immaterial) positions but were included in the staff figures for the respective basic branches under the assumption that those branches would more than likely fill the position.

Table 4. Brigade Staff Differences

Unit	Asst				S3		S3	Air	LNO	Plans	A/Plans	Ops	FD	Dep/Ass	FSC,	FSO
	S1	S2	S4	S1	S2	S3										
HHC Inf Bde (LID)	1		1					1	2			1		FA Intell,		
HHC Mech Inf Bde (XXI)			1	1		6			3	1	1			Targ Anal,		
HHC Ar Bde (XXI)			1	1		6			3	1	1			R/S Off		
HHC, Divarty	1		1			1			1			2	1	8	4	
HHC, Avn Bde (XXI)	1	1	1			1	1	1	8							
HHC, Avn Bde (LID)	1	1	1			1	1	1	3							

In examining the table, two significant differences will be highlighted. First, all combat arms brigades, with the exception of aviation, have military intelligence branch officers (35D), for S2s. Aviation brigades do not. They fill the S2 positions with aviation officers. The second difference is the assistant S4 positions in the aviation brigades must also be filled by aviators rather than by the noncombat arms multifunctional logisticians (90A, 92A, 91B MOSs) found in the other combat arms brigade headquarters. All brigade headquarters require several staff officers in the respective S3 sections to serve as plans officers, S3 airs, assistant S3s, liaison officers, and operations officers. However, the division artillery headquarters requires the fill of numerous staff positions peculiar to artillery, such as fire support officers, FA intelligence officers, etc which tend to significantly increase its staff numbers.

Again, the ratios between the line and staff officers of these respective brigade organizations are relevant to compare against the actual numbers themselves. Shown in figure 5 are the brigade ratios.

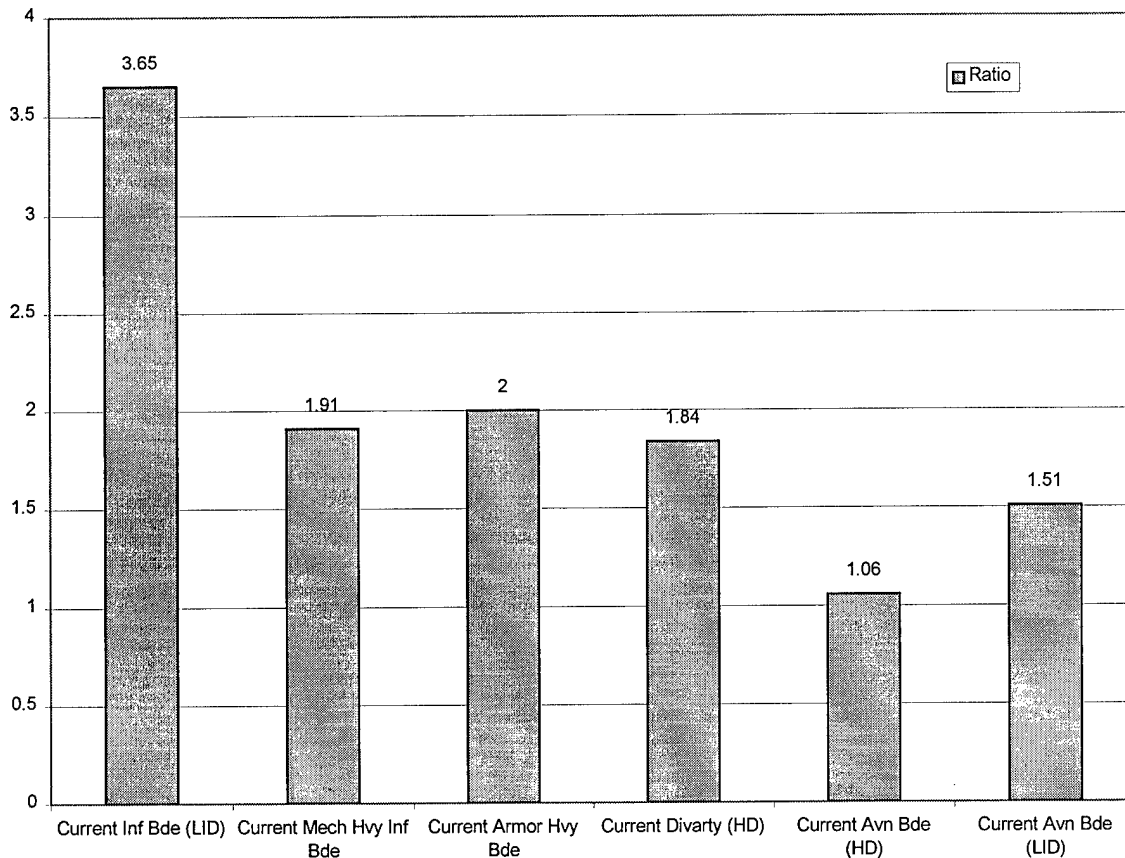


Figure 5. Line to Staff Ratios of All Brigades

As was the case in the comparison of the battalion ratios, the line to staff officer ratios in the respective brigades reflect that the infantry, armor, and artillery brigades enjoy a weighting of line positions over staff positions. In contrast, the aviation brigade ratios give evidence of a balanced weighing of line and staff positions. Strictly looking at

ratios, it is apparent that an aviation officer will spend roughly equal time in staff and line positions when serving in a heavy division and a little more time in line units in a light aviation brigade. Again, it appears that officers in the ground combat arms branches are able to gain more line unit opportunity than aviation officers simply because more line positions relative to staff positions are available to these officers than are available to the aviation officer.

To find out how the aviation line to staff ratios became much lower in comparison to their infantry, armor, and artillery peers, the author examined a snapshot of the aviation battalion force structure at a point just prior to the creation of the aviation branch. This snapshot will be analyzed and compared to today's aviation TO&Es in an attempt to discern a causal relationship for the balanced weighing of line to staff ratios in current organizations.

The TO&Es in effect just prior to the creation of the aviation branch were the H series TO&Es. An H series attack helicopter battalion TO&E and an H series assault helicopter battalion TO&E will be the focus of this historical analysis.<sup>3</sup> Extracts for these TO&Es reflecting the officer authorizations are shown in the appendix.

Before comparing statistical data it is important to note the differences between the H series battalion and today's aviation units. First, because aviation did not yet exist as a branch, all officers authorized in these two battalions were from other combat arms branches. Depending on the type of aviation battalion, different branches held proponency over certain types of aviation units. For example, the armor branch held proponency over all attack helicopter and air cavalry units while the infantry branch held proponency over all assault units. Consequently, the structures for these battalions were

authorized and filled by their proponent branches.<sup>4</sup> As is evident from these two TO&Es, the predominant branch of aviators in the assault battalion was infantry while the attack battalion was primarily filled with armor officers.

The exceptions for filling these units from these two basic branches were positions which required certain skills found in other branches. For example, the S2 positions in both battalions required an aviator from the basic branch of military intelligence.<sup>5</sup> The aircraft maintenance officer positions in both battalions were required to be aviators from the Transportation Corps (71A).<sup>6</sup> Likewise, the battalion S4 positions in both battalions were filled by aviators from the quartermaster corps branch (92).<sup>7</sup> And finally, the signal officer positions in both units were required to be filled by aviation-qualified signal officers.

There still exists one vestige from these historical TO&Es. Today's attack helicopter battalion, assault battalion, general support aviation battalion, and aviation brigade headquarters all require the primary staff S2 position to be filled by an Aviation Branch officer who is required to obtain military intelligence qualification. The major difference, however, is that the Aviation Branch is now the proponent for schooling and filling these positions in today's units. In the pre-Aviation Branch TO&Es, Military Intelligence Branch was the proponent for these positions and had to fill them.

Other changes from the historical H series TO&Es to today's aviation TO&Es are the relegation of the safety officer and aircraft maintenance officer positions from commissioned officer to warrant officer positions.<sup>8</sup> As can be seen on the TO&E extracts in the appendix, there are no more commissioned officer safety or aircraft maintenance officer positions in today's aviation structures. These positions still exist today, but have

all been transferred to aviation warrant officer positions in these units. This change is all the more interesting in view of the fact that the artillery battalions and cavalry squadrons highlighted in the appendix continue to fill maintenance officer positions from their respective artillery and armor commissioned officer ranks.

In comparing the historical H series units to today's aviation units, the thesis will first look at how the old battalions compare against the new aviation battalions. Shown in figure 6 are the battalion staff and line positions authorized in each aviation battalion in this study.

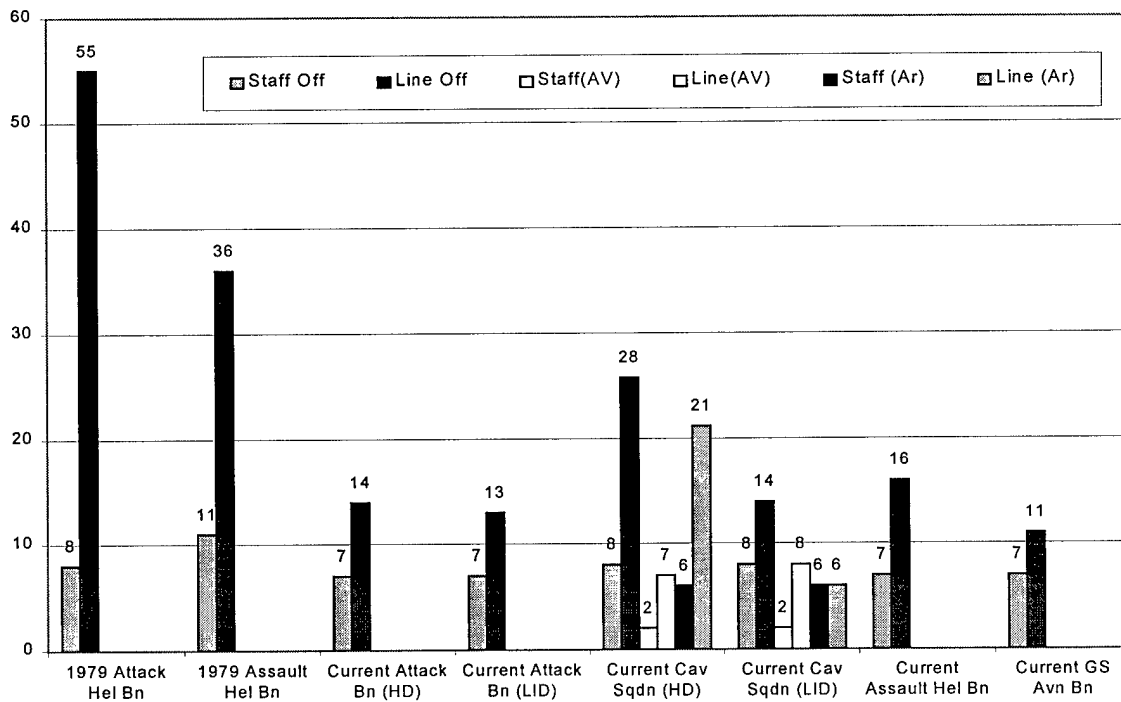


Figure 6. Staff and Line Officers in Aviation Battalions

While all the battalions have roughly the same number of staff officers, the number of line officers is vastly different. Only the heavy division cavalry squadron comes close to having the same number of line positions as the H series assault and attack battalion. However, the bulk of the line positions in the heavy division cavalry squadron are composed of armor officers in the ground cavalry troops. Looking only at the aviation positions in the cavalry squadron brings the number of line positions down dramatically.

The major reason why the H series battalions had such a larger number of line positions was because of the structure of the battalions. These battalions were considerably larger than today's aviation battalions. Critical positions were filled at different grades also. Majors commanded companies, platoon leader positions were structured for captains, and section leader positions were structured for lieutenants.<sup>9</sup>

As before, it is also appropriate to review the ratio of line officer to staff officer positions in these units. The ratios for these battalions are shown in figure 7.

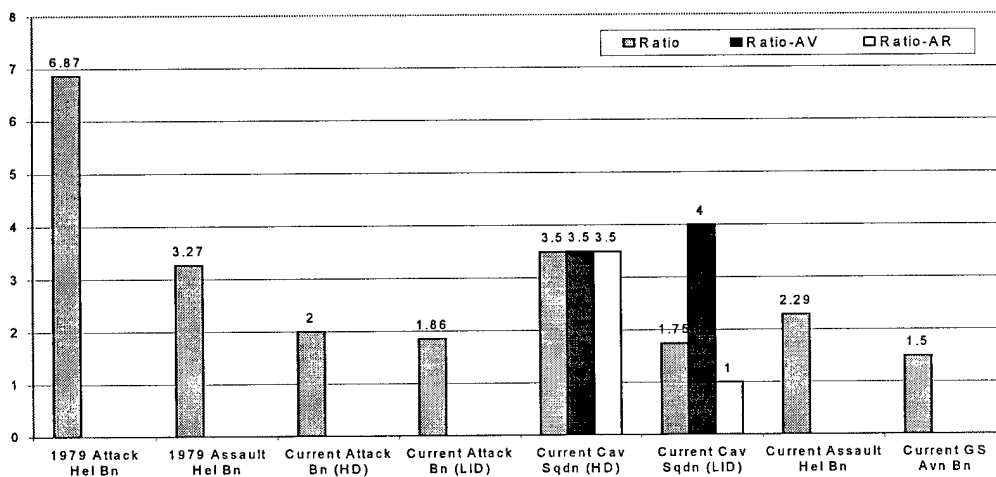


Figure 7. Ratio of Line to Staff Officers

The H series battalions enjoy a much higher ratio than do all the aviation battalions with the exception of the cavalry squadrons. However, the total cavalry squadron ratios should be viewed with some skepticism because they include both the armor and aviation authorizations. Additionally, the aviation ratios within both cavalry squadrons are high because the majority of the staff positions is filled by armor officers.<sup>10</sup>

These ratios of line to staff officer structures add confirmation that today's aviation officer is not given the same opportunity to serve in line positions as in the past.

A review of the historical aviation TO&Es would not be complete without a comparison to today's aviation brigade sized organizations. Shown in figure 8 is the number of staff and line officer positions in both the H series battalions and the composite heavy and light division aviation brigade organizations which include the headquarters companies. It should be noted, that this chart does not reflect the armor staff or line positions in the two cavalry squadrons.

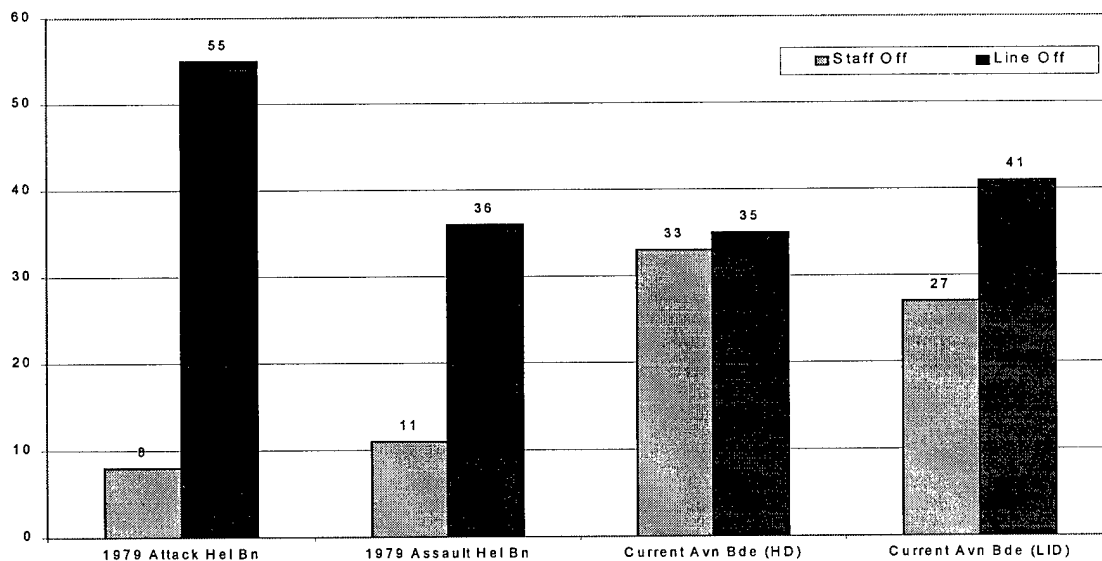


Figure 8. 1979 Aviation Battalion Versus Current Aviation Battalion

The current aviation brigades have very close to the same number of line officers as the 1979 H series assault battalion, but still do not come close the numbers of line officers in the 1979 H series attack battalion. More interesting is the fact that today's current aviation brigades have over three times the number of staff positions than do both of the H series attack and assault battalions, although the size of the two units in aircraft and personnel are not much different.

The line to staff officer ratio for these two units also merit examination. Shown in figure 9 are the ratios for the four organizations.

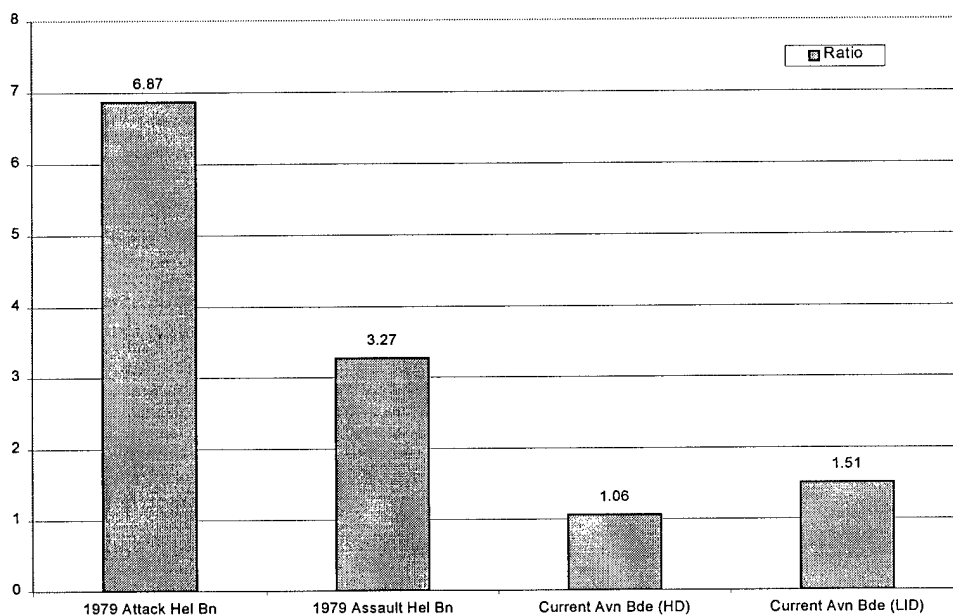


Figure 9. 1979 Battalion Versus Current Brigade Staff to Line Ratios

The line to staff officer ratio for the H series attack battalion is over six times greater than that of the two current aviation brigades and while the assault battalion is

over three times greater than both current aviation brigades. Again, there was much more of an opportunity for an officer to serve in a line in the H series units than in today's aviation brigades.

The statistics noted above all reveal the fact that today's aviation units have more, and in some cases, many more staff officer positions relative to line positions than do the rest of the combat arms branches and the preaviation branch battalions. The next point to consider is whether or not today's number of aviation staff positions in relation to line positions directly impacts the amount of time officers are serving in line positions. A recent survey conducted by the Army's Personnel Command indicates this is the case. This April 1999 survey reviewed all captains in their eleventh year of service as of January 1999 to determine how long they served in command. This survey primarily impacted year group 1988 officers although some officers from other cohort year groups fell into this survey because of the timing of the survey. The eleventh year of service was specifically selected because it was assumed that officers in that year group would have completed their company command tenures. The results from this survey are shown in figure 10.<sup>11</sup>

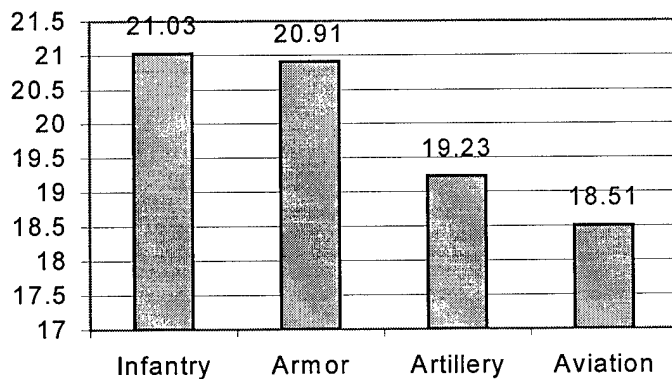


Figure 10. Number of Months in Command

Although unable to obtain similar data across the combat arms branches for platoon leader time, this author was able to obtain the figures for the Aviation Branch. In a yet to be published essay by a recent U.S. Army Personnel Command (PERSCOM) Aviation Branch assignment officer, statistics were cited that in Fiscal Year 1998, the “average pre-OAC officer spent approximately 12 months as a platoon leader.”<sup>12</sup> The essay also cited reasons for this relatively short amount of platoon leader time. The combination of Aviation Branch over-accessing lieutenants at 140 percent and a limited number of platoon leader jobs in the inventory force the influx of new lieutenants to push current platoon leaders onto staffs in order to provide each excess lieutenant some opportunity to lead.<sup>13</sup> This high turnover rate is further exacerbated by a demand for these pre-OAC officers to fill captain staff positions on battalion and brigade staffs because of a shortage of captains that continues to plague the branch.<sup>14</sup>

The net result of the average aviation officer’s line unit experience therefore shows that the officer only spends twenty eight months of his or her entire company grade years learning technical and tactical skills. With this limited experience, the newly promoted field grade officer at twelve to fourteen years of service is expected to assume key leadership positions as a battalion S3 or XO.

#### Analysis of Doctrine, Regulations, and Career Development Sources

The literature review of training doctrine, regulations, and career development provided a fairly thorough overview of what emphasis Aviation Branch has placed on gaining technical and tactical proficiency during the last twenty to thirty years. By

reviewing these sources for their changes over a period of time, they reveal a general trend towards de-emphasizing the gaining of flight experience.

As noted in chapter 2, Army regulations concerning aviation have lowered the requirements for flight proficiency in several ways. For instance, AR 95-1 has evolved from a position requiring all aviators to fly a minimum number of hours annually regardless of duty position to one today where only those on designated FAC 1 or 2 in an operational flying position may fly. During the last thirty years, AR 600-105 lowered the standard for the attainment of the Senior and Master Army Aviator Skill Badges from one requiring a minimum of 1,500 and 3,000 flight hours respectively, to today's current standard which now requires 1,000 and 2,000 hours which includes simulator hours.

Although the Army's capstone manuals for leadership and training (FM 22-100 and FM 25-100) place great emphasis on the development of technical and tactical skills, current aviation doctrine has also gradually departed from this emphasis for commissioned officers. TC 1-210, as the capstone aviation manual, provides the strongest example. Specifically, the addition of the FAC 3 position placed the commissioned officer at a great disadvantage compared to the aviation warrant officer. Because the FAC 3 position is based on the commander's assessment of METL requirements as they affect each TO&E or TDA position, it is more often the case that the commissioned officer is the one so designated. This is because the majority of the staff positions in battalions and brigades are commissioned officer positions. Most warrant officer positions are in line units and are highly unlikely to ever be designated as FAC 3 because the line units accomplish the aviation portion of the mission. The new draft edition of the commander's guide reflects the branch's realization that the impact of the

creation of the FAC 3 position hindered leader development on the part of commissioned officers. The new draft attempts to correct this deficiency by prohibiting any officer from being designated FAC 3 at brigade level and below.

This trend towards de-emphasizing flight skills for the commissioned officer is also reflected in the career development pamphlets published during the last 30 years. In outlining the professional development of commissioned aviators, preaviation branch versions of DA Pam 600-3, specifically established the priority for newly rated commissioned aviators for their first years as one of developing flight skills. Today's emphasis for the aviator's career development is to develop tactical and technical troop leading skills but offers no real means to obtain these skills because of a dearth of line positions in which to develop them. The other combat arms branches emphasize gaining critical leader skills and supplement their development with various other types of line positions such as special weapons platoon leader or fire direction officer. Yet, the current edition provides only one position for lieutenants to realistically gain these troop leading and flight skills (platoon leader) as well as only one for captains (company command). The lack of supplemental line positions following an aviation officer's time as a platoon leader to hone troop leading and flight skills starkly contrasts with the number of supplemental positions in preaviation branch units and in today's other combat arms branches. Furthermore, the statistics reflect today's aviation officers are getting only the minimum amount of time in the platoon leader and company commander positions.

In light of the sophistication of the newer aircraft, spending the minimum amount of time in these line positions does not bode well for the junior officer's skill development. The technical differences of these newer aircraft were discussed in the

literature review. As the technology improved, junior officers have had to increase their technical skills from basic pilot skills to encompass both pilot and systems manager skills. The procedural complexity of the advanced aircraft has significantly increased the skills required. Additional missions brought about by the increased capabilities of the newer aircraft have also expanded the repertoire of missions aviation officers must be able to execute. These additional missions and roles further increase the technical and tactical skills required of aviators.

Learning these additional systems and the new missions and devoting the time to sustain those skills along with basic flying skills have greatly added to the individual aviator's requirement for training time. These skills require substantially more time invested to attain and maintain the skills. Yet the Army's young officers today are spending only the minimum time in the critical jobs where they can learn these skills. Applying the levels of learning, as described in the literature review, to today's junior aviation officer, it is difficult to believe most officers are reaching the higher levels of application and correlation in their flight skills. Equally important, today's aviation force structures do not support the junior officer's skill development in concert with the laws of learning outlined earlier. Captains and lieutenants are spending substantially more of their critical development time on staffs and in FAC 3 positions. The honing of their skills while serving in these staff positions is not supportable because according to the learning laws, their skills are not exercised, are not intense, nor are they recent. Additionally, the responsibilities of their staff functions violate the law of readiness. A recent change in Army policy on promotions to captain has further aggravated skill development. Today, lieutenants are being promoted to captain at three and one-half

years of service. Spending an excess of one year in flight school leaves at most, a little over two years as a lieutenant in their first assignment. With first tour lengths typically being thirty-six months, most officers now typically spend their final first tour year as a new captain with no line position available to them since they are not advanced course graduates, a requirement to commanding a company. Finally, leaving line positions to fill FAC 3 staff positions results in aviators forgetting what skills they have learned because of disuse.

When the laws of learning are applied to the H series TO&E aviators, it is apparent that the greater amount of time spent in line units afforded aviators more time to continually exercise skills. When an aviator did have to serve on a staff, it was not as long, and it was not as a FAC 3 aviator. Therefore, the aviator's return to a line unit was made easier because his flying skills were still fairly recent and the intensity of his earlier flying enabled the aviator to more quickly get back up to speed.

The last point necessary to make in this analysis is the fact that although the skill requirements for today's aviators have risen substantially with the increased technology of the aircraft and their expanded missions, aviation doctrine and regulations have trended downward in their emphasis on flight proficiency. The net result is the fact that during the last twenty years, aviation commissioned officer flight experience has decreased. Essentially, the skill requirements and emphasis on skills contradict each other in today's Army. The by-product of this contradiction is the experience level of today's commissioned officer as shown in figure 11.

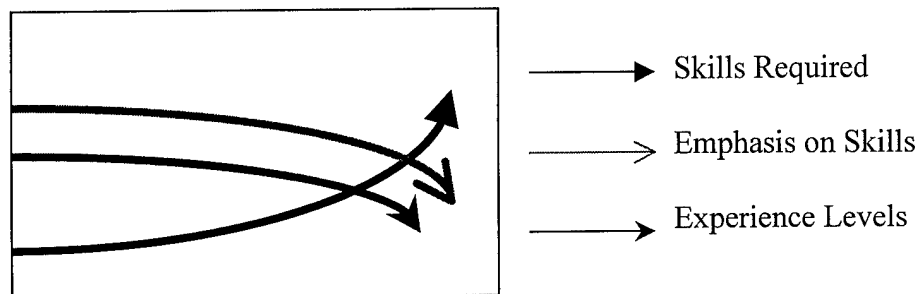


Figure 11. Trends

<sup>1</sup>United States Army, Force Management Support Agency (USAFMSA), Requirements Documentation Directorate (RDD), TO&E 07015L000 INF BN (LIGHT) [homepage on-line], available from <http://www.usafmsardd.army.mil/toe.cfm?toenumber=07015L000>; internet; accessed on 21 December 1999.

<sup>2</sup>United States Army, Force Management Support Agency (USAFMSA), Requirements Documentation Directorate (RDD), TO&E 06365A500 FA BN 155SP SPLIT OPS HD [homepage on-line]; available from <http://www.usafmsardd.army.mil/toe.cfm?toenumber=06365A500>; Internet; accessed on 21 December 1999.

<sup>3</sup>U.S. Department of the Army, TO&E 17-385H, Attack Helicopter Battalion (AH-1, OH-58, UH-1) (Washington, DC: Headquarters, Department of the Army, 20 October 1979), Chapter 10; and TO&E 7-255H, Assault Helicopter Battalion (OH-58, UH-1) (Washington, DC: Headquarters, Department of the Army, 20 October 1979), Chapter 15.

<sup>4</sup>Ibid.

<sup>5</sup>Ibid.

<sup>6</sup>Ibid.

<sup>7</sup>Ibid.

<sup>8</sup>In the 1979 battalion TO&Es, these positions are designated as captain positions. In all of today's TO&Es, these positions are now designated as warrant officer positions to include brigade safety officer and brigade maintenance officer positions.

<sup>9</sup>Headquarters, Department of the Army, TO&E 17-385H, Attack Helicopter Battalion (AH-1, OH-58, UH-1), Chapter 10, 20 October 1979; and TO&E 7-255H, Assault Helicopter Battalion (OH-58, UH-1), Chapter 15, 20 October 1979.

<sup>10</sup>United States Army, Force Management Support Agency (USAFMSA), Requirements Documentation Directorate (RDD), TO&E 17285L200 DIV CAV SQDN, [homepage on-line] available from <http://www.usafmsaridd.army.mil/toe.cfm?toenumber=17285L200>; Internet; accessed 21 December 1999; and TO&E 17185L400 CAVALRY SQDN INF DIV (LT), available from <http://www.usafmsaridd.army.mil/toe.cfm?toenumber=17185L400>; internet; accessed 21 December 1999.

<sup>11</sup>Statistics provided to the author on 28 October 1999 by Captain Dale Henderson, Distribution Development Branch, Officer Personnel Management Directorate, U.S. Army Personnel Command, Alexandria, VA.

<sup>12</sup>John J. Lindsay, "Slowing the Erosion of Aviator Skills and Maximizing Return on Investment: A Personnel Perspective" (Unpublished paper, 1 August 1999), 2.

<sup>13</sup>Ibid., 2-3.

<sup>14</sup>Ibid. At the time he wrote the article, Major Lindsay cited the Aviation Branch filling field units to only 92 percent of authorized captains due to captain shortages because of attrition and the need to fill other requirements. For example, in fiscal year 1999, as an assignment officer, Major Lindsay was required to send 10 percent of Aviation Branch qualified captains to serve as recruiters (pages 3-6).

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

In answering the primary research question, this author found that today's junior aviation officers are not able to achieve the same technical and tactical skill proficiency as were their pre-aviation branch peers. This is because current aviation force structure at battalion and brigade provides only a fraction of the opportunity for junior officers to serve in line units, when compared to the other combat arms branches and, as well as pre-aviation branch battalions. Additionally, today's commissioned officer's technical and tactical skill development are further hindered because the trend in aviation training doctrine, regulations, and career development guidelines is to reduce the emphasis for commissioned officers to gain technical and tactical skills.

Regarding force structure, the numbers of staff and line officers and their associated ratios in each aviation battalion and brigade, speak volumes about how today's junior officer has limited opportunity to develop and hone skills. The pre-aviation branch units provided several times more opportunity to hone skills because of their structures. First and foremost, there was only one battalion staff in 1983 compared to today's four staffs, that is, three battalion staffs and one brigade staff. More importantly, the numerous positions in the line companies afforded an officer the opportunity to gain operational flight and tactical experience throughout his company grade years. An aviator was able to sequentially assume a progression of jobs within a line company from lieutenant through major without much risk of having to serve as a staff officer. Each attack company had a captain operations officer, a lieutenant flight operations officer, a captain company executive officer, four captain level platoon leader positions, and six

lieutenant-level section leader positions. The H series assault company had almost as many positions: only one less platoon leader and two less section leaders per company. This robust company-level force structure allowed the commissioned officer to serve the bulk of his junior officer years at the company level when assigned to TO&E units. Any existing shortages would have been in the line companies rather than the staffs allowing lieutenants to fill those shortages and continue to develop their skills.

Today's aviation brigade has a staff-focused structure. A lieutenant in aviation today realistically has only one line position in which he can serve, platoon leader. There are no real career progression opportunities for lieutenants to hone their skills as there were in the H series units. There is an executive officer position and a rearm and refuel platoon leader position in battalion headquarters companies, but the odds are that a lieutenant will not serve in these jobs because there is only one position in heavy division battalions and only one in light division brigades. Regardless, these two positions provide limited aviation related training and are much more headquarters and logistics focused in support of the battalion. Because the balance between staff and line positions has tilted towards the staff, today's shortage of captains results in lieutenants filling the staff positions rather than the previous line positions as with the H series units. The lack of a lieutenant level career progression in today's aviation branch also holds true in comparison to the other combat arms branches. Infantry and Armor lieutenants can serve as platoon leaders and then progress to company executive officer positions or to specialty platoon leader positions. Yet in aviation, the structures have no executive officers at line company level. Field Artillery lieutenants can serve as platoon leaders, fire support officers and fire direction officers all prior to becoming captains.

The analysis of the various aviation doctrine manuals, flight regulations, and career development guidelines concluded that these documents have all gradually de-emphasized the commissioned officer's attainment of technical and tactical skill proficiency. The combined lowering of the standards for attaining aviator skill badges, the creation of FAC 3 nonflying positions for staff aviator's in operational units, and the elimination of flying for those aviators not assigned to aviation units have all contributed to the junior officer's difficulties in developing flight skills.

The author also concluded that although Aviation Branch recognizes both the skills required of today's aviators and how those skills are learned, within the branch, there is little opportunity to gain and hone those skills. The branch clearly outlines in its technical manuals and training circulars the conditions and standards for a task's accomplishment. Failure to maintain the skills in these tasks carry with it the threat of a flight evaluation board and being removed from aviation service. Yet, in spite of knowing the skills required and the high stakes involved for failure to maintain these skills, aviation is failing its junior officers because of the branch's current force structure, aviation training doctrine, and career guidance.

#### Recommendations

There are several recommendations resulting from this study.

First, the author strongly recommends the adoption as formal doctrine the provisions of the new draft TC 1-200. This revised commander's guide makes many corrections to the deficiencies found in the current TC 1-210. It eliminates the FAC 3 positions at brigade level and below. This alone should enable staff aviators to at least sustain the skills they have learned in line units. The draft also makes great strides in

addressing collective training proficiency for aviation units. The two-tiered RL 1 reporting status will force commander's to focus on collective proficiency rather than just line unit individual and crew proficiency. The provision for reporting collective proficiency on monthly unit status reports should also focus commanders on technical and tactical skill training and eliminate training distractions.

Another recommendation is for the Army to bring the standards for Senior and Master Aviator Skill Badges back up to previous levels. Specifically, bring the flight hour requirement for these wings back to 1,500 and 3,000 hours, respectively. Rather than maintain a lowered bar as has been done in the past, the standard should be raised back to emphasize to senior Army and Department of Defense leadership that to maintain levels of experience requires adequate resources.

The author also recommends the Army establish a formal and centralized system for tracking individual aviator flight hours. Additionally, this centralized system, in the form of an "aviation status report," should be incorporated into monthly readiness reporting requirements to give the Army's senior leadership an awareness of trends in each unit's level of aviator flight experience. A centralized system would enable commander's to see the average number of flight hours aviators have in each unit. With this information, standards or goals could be set for each type of aviation unit to raise the level of experience. Reporting individual aviator flight hours would also assist in reducing a unit commander's subjective opinions regarding readiness.

Additionally, the author recommends a minimum flying hour standard be established for commissioned officers before they assume command of aviation battalions. This standard would encompass both a standard for total flight hours and a

standard for pilot-in-command flight hours. With regards to the total flight hour figure, this author's recommendation is for potential battalion commanders to have the same minimum hours as is required to wear the Senior Aviator Badge. Today this figure is 1,000 flight hours. However, this author's goal would raise that figure to 1,500 hours commensurate with raising the standard for obtaining the badge in the earlier recommendation. A recommended minimum standard for pilot-in-command flying hours would be 200 hours. Given FAC 1 flying hour requirements, this figure was reached by equating an officer serving for at least one to two years as a pilot-in-command depending on the type of aircraft being flown. The author recommends the establishment of a minimum flight hour standard in order to foster a heightened aggressiveness on the part of commissioned officers to get out and fly. Additionally, by setting a standard such as this, it will force the Army to develop a solution to the dwindling experience levels currently existing in Aviation Branch's commissioned ranks. The adoption of this measure may require the exemption of several year groups of majors from this standard since they will not have the opportunity to obtain the flight hours necessary to achieve it. However, given time, the remainder of the aviation officer corps could be expected to achieve this standard.

Finally, the author recommends all flight companies be authorized executive officers. This would allow aviation lieutenants some measure of lieutenant level progression, provide more line unit opportunity, and allow lieutenants more time to enhance their technical and tactical skills before proceeding to staff positions. As a side note, the long flight school training period and the Army's current policy of promoting lieutenants to captain at three and one half years time in service will require commanders

to be willing to allow brand new captains to serve in these executive officer positions. To support this, the author recommends the executive officer positions be coded as captain positions.

### Recommendations for Further Study

The author also proposes several recommendations for further study.

First, Aviation Branch should undertake a thorough study to see how the number of staff positions can be reduced within aviation brigades. One conclusion from this study revealed current TO&Es play a large part in the junior officer's lack of technical and proficiency because they force the officer to serve a disproportionate amount of time on staffs. A study of this sort should first look at whether or not aviation brigades should resemble the hierarchy of infantry and armor brigades. Because of their small size in relation to the other combat arms brigades, the question must be asked whether or not aviation brigades need to have the same staff overhead? Could some staff functions within aviation battalions, such as the S-1 and S-4 duties, be accomplished in brigade level consolidated staff sections or by warrant officers in an administrative or logistics MOS? The study should center its focus on the type of organization that would best enhance an aviator's technical and tactical skills in order to accomplish the broad scope of missions now being conducted in Aviation Branch.

Another recommendation is for Aviation Branch to study the feasibility of re-opening branch transfers into aviation with the intent of funneling all branch transfer officers into the fixed-wing military intelligence aviation units.<sup>1</sup> Developing flight skills in these units has not proven to be as difficult as in rotary wing units. Furthermore, accessing branch transfer officers into the fixed wing units would reduce by a

corresponding amount, the number of trained aviators who leave the rotary wing community to fill the fixed wing positions. This would also improve the current captain shortages within Aviation Branch thereby reducing the demand for lieutenants to fill captain shortages.

The author also recommends a thorough study be conducted to examine how assignment and promotion policies could change to enhance a commissioned officer's technical and tactical skill development during the first six to eight years of service. Specifically, the study should examine the following options:

1. Extending the initial tour length from three to four years. Officers currently rotating out of their initial assignments after three years to attend the advanced course for six months causes their newly acquired but highly perishable flight skills to deteriorate while at the course. Furthermore, once they complete the advance course, it requires each officer to undergo time consuming refresher training at their next unit of assignment. A study examining the extension of initial tour lengths by one year might find it would better ingrain the newly acquired flight skills and allow officers to develop more flight hours as a pilot-in-command which should ultimately reduce the refresher training period following the advance course.

2. Given the sophistication of today's aircraft and the time required to progress from RL3 to RL1, recommend Aviation Branch consider reestablishing a centralized refresher course for commissioned officers who are rotating back into an aviation assignment from a non-flying assignment. A three-week, intensive flight refresher course would enable officers to focus exclusively on progressing from RL3 to RL2 without being encumbered with their leadership responsibilities. From that point, officers could

report to their next unit able to more quickly progress to RL1 thereby contributing to the unit's flight mission. Furthermore, they would be able to more quickly lead by example as a combat ready RL1 pilot.

3. Recommend Aviation Branch study the options of either shortening the advance course or breaking up the course into two modules to allow officers to attend it in a temporary duty status. The intent of both approaches would be minimize time away from the cockpit to eliminate the requirement for officers to undergo refresher training upon reporting to their subsequent assignments. Both of these approaches would better sustain the officer's technical and tactical flight skills and would allow officers to remain RL1 and pilots-in-command for longer periods of time, enhancing aviator proficiency and unit readiness.

4. The author recommends the Aviation Branch study the feasibility of moving Aviation officers back one cohort year group from their year of commissioning. This would delay an aviation officer's promotion to captain from three and one-half years time in service to four and one-half years time in service. This study is recommended because of the significantly longer period aviators spend in flight school and subsequent aircraft transitions prior to reporting to their first unit. Changing their cohort year group and delaying their promotion a year could provide aviation officers an extra year at the company grade level in which to obtain the critical flight skills in today's sophisticated aircraft.

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<sup>1</sup>This recommendation is from the ideas put forth by Major John Lindsay in his unpublished article, *Slowing the Erosion of Aviator Skills and Maximizing Return on Investment: A Personnel Perspective*, 1 August 1999, 7-8.

APPENDIX

BRIGADE AND BATTALION TABLES OF ORGANIZATION

AND EQUIPMENT EXTRACTS

77042L000 HHC INF DIV BDE (LID)

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=77042L000>

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
CPT	11A00 AAO	OPERATIONS OFFICER	1		1
CPT	30A35 MGQ	TACTICAL INTEL OFFICER	1		
COL	11A00 AAA 11	COMMANDER	1	1	
LTC	11A00 AAD 11	EXECUTIVE OFFICER	1		1
MAJ	35D00 AAH 11	S2	1		
MAJ	11A00 AAI 11 27	S3	1		1
CPT	11A00 AAK 3S 5U	S3 AIR	1		1
CPT	11A00 AAX	LIAISON OFFICER	2		2
CPT	74B00 GAE 5H	CHEMICAL OFFICER	1		
MAJ	25A00 AQH 11	S6	1		
CPT	02A00 AAA 11	COMMANDER	1	1	
LT	11A00 AAD	EXECUTIVE OFFICER	1	1	
MAJ	11A43 AAG 11	S1	1		1
MAJ	11A00 AAL 11	S4	1		1
CPT	92A00 ACO	ASSISTANT S4	1		
MAJ	56A00 VAH	CHAPLAIN	1		
			Total	3	8

87042F200 HHC INF (MECH)BDE (XXI)

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=87042F200>

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
CPT	11A00 ACL	ASSISTANT S3	1		1
CPT	35D00 MGQ	TACTICAL INTEL OFFICER	1		
COL	11A00 AAA 11	COMMANDER	1	1	
LTC	12A00 AAD 3X 11	EXECUTIVE OFFICER I006AA	1		1
MAJ	35D00 AAH 11	S2	1		
CPT	35D00 ACK	ASSISTANT S2	1		
MAJ	11A00 AAI 11 27	S3	1		1
CPT	12A00 AAN	PLANS OFFICER	1		1
CPT	12A00 ACL 3S 3X 5U	ASSISTANT S3 I006AA	2		2
CPT	11A00 ACL 3S 5U	ASSISTANT S3	3		3
CPT	11A00 ACU	ASST PLANS OFFICER	1		1
CPT	74B00 GAE	CHEMICAL OFFICER	1		
MAJ	25A00 AFF 11	C-E OFFICER	1		
CPT	53A00 AFB	AUTOMATION MGMT OFF	1		
CPT	02A00 AAA 11	COMMANDER	1	1	
LT	02A00 AAD	EXECUTIVE OFFICER	0	1	
CPT	12A00 AAX 3S	LIAISON OFFICER	1		1
CPT	11A00 AAX 3S	LIAISON OFFICER	2		2
MAJ	43A00 AAG 11	S1	1		
CPT	01A00 ACJ	ASSISTANT S1	1		1
MAJ	01A00 AAL 11	S4	1		1
CPT	90A00 ACO	ASSISTANT S4	1		
CPT	92A00 ACO	ASSISTANT S4	1		
LT	91B00 ACO	ASSISTANT S4	0		
MAJ	56A00 VAH	CHAPLAIN	1		
MAJ	62B00 SDS 11	FIELD SURGEON	1		
CPT	70H67 SFG	MEDICAL OPERATIONS OFF	1		
O4	39C00 AAM 11	S5	1		
			Total	3	15

## 87042F100 HHC ARMOR BDE (XXI)

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=87042F100>

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
CPT	12A00 ACL	ASSISTANT S3	1		1
CPT	35D00 MGQ	TACTICAL INTEL OFFICER	1		
COL	12A00 AAA 11	COMMANDER	1	1	
LTC	11A00 AAD 3X 11	EXECUTIVE OFFICER I006AA	1		1
MAJ	35D00 AAH 11	S2	1		
CPT	35D00 ACK	ASSISTANT S2	1		
MAJ	12A00 AAI 11 27	S3	1		1
CPT	11A00 AAN	PLANS OFFICER	1		1
CPT	11A00 ACL 3S 3X 5U	ASSISTANT S3 I006AA	2		2
CPT	12A00 ACL 3S 5U	ASSISTANT S3	3		3
CPT	12A00 ACU	ASST PLANS OFFICER	1		1
CPT	74B00 GAE	CHEMICAL OFFICER	1		
MAJ	25A00 AFF 11	C-E OFFICER	1		
CPT	53A00 AFB	AUTOMATION MGMT OFF	1		
CPT	02A00 AAA 11	COMMANDER	1	1	
LT	02A00 AAD	EXECUTIVE OFFICER	1	1	
CPT	11A00 AAX 3S	LIAISON OFFICER	1		1
CPT	12A00 AAX 3S	LIAISON OFFICER	2		2
MAJ	43A00 AAG 11	S1	1		
CPT	01A00 ACJ	ASSISTANT S1	1		1
MAJ	01A00 AAL 11	S4	1		1
CPT	90A00 ACO	ASSISTANT S4	1		
CPT	92A00 ACO	ASSISTANT S4	1		
LT	91B00 ACO	ASSISTANT S4	0		
MAJ	56A00 VAH	CHAPLAIN	1		
MAJ	62B00 SDS 11	FIELD SURGEON	1		
CPT	70H67 SFG	MEDICAL OPERATIONS OFF	1		
O4	39C00 AAM 11	S5	1		
		Total		3	15

01102A000 HHC, DIV AVN BDE (LID)

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=01102A000>

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
COL	15B00 AAA B2 11	COMMANDER	1	1	
LTC	15B00 AAD B2 11	EXECUTIVE OFFICER	1		1
LTC	15B00 AAI 5U B2 11 27	S3	1		1
MAJ	14A00 DAC 11	AD COORD/MGMT OFF	1		
MAJ	15C35 AAH B2 11	S2	1		1
MAJ	15D00 AAL B2 11	S4	1		1
MAJ	25A00 CBP 11	C-E STAFF OFFICER	1		
MAJ	43A15 AAG B2 11	S1	1		1
MAJ	56A00 VAH	CHAPLAIN	1		
MAJ	61N00 SDV 11 20 28	FLIGHT SURGEON	1		
CPT	35D00 ACK	ASSISTANT S2	1		
MAJ	15B00 ACL B2 11	ASSISTANT S3	1		1
CPT	15B00 AAK 3S 5U B2 11	S3 AIR	1		1
CPT	15B00 AAX B2 11	LIAISON OFFICER	3		3
CPT	74B00 GAE 5H	CHEMICAL OFFICER	1		
CPT	15B00 ACO B2 11	ASSISTANT S4	1		
CPT	15B00 AAA B2 11	COMMANDER	1	1	
LT	15A00 AAD B2 11	EXECUTIVE OFFICER	1	1	
CPT	15B00 AAT B2 11	PLATOON LEADER	1	1	
CPT	14A00 DAR	ASST ADA/AIRSPACE OFF	1		
			Total	4	10

01302F000 HHC, DIV AVN BDE

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=01302F000>

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
COL	15B00 AAA B2 11	COMMANDER	1	1	
LTC	15B00 AAD B2 11	EXECUTIVE OFFICER	1		1
LTC	15B00 AAI 5U B2 11 27	S3	1		1
MAJ	14A00 DAC 11	AD COORD/MGMT OFF	1		
MAJ	15C35 AAH B2 11	S2	1		1
MAJ	15D00 AAL B2 11	S4	1		1
MAJ	25A00 CBP 11	C-E STAFF OFFICER	1		
MAJ	43A15 AAG B2 11	S1	1		1
MAJ	56A00 VAH	CHAPLAIN	1		
MAJ	61N00 SDV 11 20 28	FLIGHT SURGEON	1		
CPT	35D00 ACK	ASSISTANT S2	1		
LT	35D00 ACK	ASSISTANT S2	1		
MAJ	15B00 ACL B2 11	ASSISTANT S3	1		1
CPT	15B00 AAK 3S 5U B2 11	S3 AIR	1		1
CPT	74B00 GAE 5H	CHEMICAL OFFICER	1		
CPT	15B00 ACO B2 11	ASSISTANT S4	1		1
CPT	15B00 AAA B2 11	COMMANDER	1	1	
LT	15A00 AAD B2 11	EXECUTIVE OFFICER	1	1	
CPT	53A00 AFB	AUTOMATION MGMT OFF	1		
CPT	15B00 HBE B2 11	AIRSPACE MGMT OFFICER	1		1
CPT	14A00 DAR	ASST ADA/AIRSPACE OFF	1		
CPT	15B00 AAX B2 11	BDE LIAISON OFFICER	3		3
LT	15A00 AAX B2 11	BDE LIAISON OFFICER	3		3
CPT	15B00 AAX B2 11	DTAC LIAISON OFFICER	1		1
CPT	15B00 AAX B2 11	DMAIN LIAISON OFFICER	1		1
		Total		3	17

17375F100 ARMOR BN (FXXI)  
 17376F100 HHC, TANK BN (XXI)  
 17377F000 TANK COMPANY, TK BN (XXI)  
<http://www.usafmsardd.army.mil/toe.cfm?toenumber=17375F100>

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	12B00 AAA 3J 11	COMMANDER F023AA	1	1	
MAJ	12B00 AAI 3J 11 27	S3 F023AA	1		1
MAJ	12B00 AAD 3J 11	EXECUTIVE OFFICER F023AA	1		1
CPT	12B00 AAG 3J	S1 F023AA	1		1
CPT	12B00 AAL 3J	S4 F023AA	1		1
CPT	25A00 AFF	C-E OFFICER	1		
CPT	35D00 AAH	S2	1		
CPT	56A00 VAH	CHAPLAIN	1		
LT	35D00 MGQ	TACTICAL INTEL OFFICER	1		
CPT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	12B00 AAK 3J 3S 5U	S3AIR F023AA	1		1
CPT	12B00 AAA 3J 11	COMMANDER F023AA	1	1	
LT	12B00 AAD 3J	EXECUTIVE OFFICER F023AA	1	1	
LT	12C00 AAT 5R	SCOUT PLT LEADER	1	1	
LT	12B00 AAT 3J	MORTAR PLT LEADER F023AA	1	1	
CPT	62B00 AAT 11 20 28 50	PLATOON LEADER	1		
LT	70B67 SDR	FIELD MEDICAL ASST	1		
CPT	62B00 SDS 11 28	FIELD SURGEON	1		
CPT	65D00 SJL 11 28	PHYSICIAN ASSISTANT	2		
CPT	12B00 AAA 3J 11	COMMANDER F023AA	3	3	
LT	12B00 AAD 3J 11	EXECUTIVE OFFICER F023AA	3	3	
LT	12B00 AAT 3J 11	PLATOON LEADER F023AA	9	9	
			Total	20	5

01305F000 GENERAL SPT AVN BN (UH-60)  
<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=01305F000>  
 01306F000 HHC, SUPPORT AVN BN  
 01307F000 SUPPORT AVN CO (UH-60)  
 01308F000 COMMAND AVIATION COMPANY  
 01309F000 AVIATION UNIT MAINT CO

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	15B00 AAA B2 11	COMMANDER	1	1	
MAJ	15B00 AAD B2 11	EXECUTIVE OFFICER	1		1
MAJ	15B00 AAI B2 11 27	S3	1		1
CPT	15B00 AAG B2 11	S1	1		1
CPT	15B00 AAL B2 11	S4	1		1
CPT	15C35 AAH A2 11	S2	1		1
CPT	25A00 CBP	C-E STAFF OFFICER	1		
CPT	56A00 VAH	CHAPLAIN	1		
CPT	61N00 SDV 11 20 28	FLIGHT SURGEON	1		
CPT	15B00 ACL 3S B2 11	ASSISTANT S3	1		1
LT	15A00 AAX B2 11	LIAISON OFFICER	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	15B00 AAA B2 11	COMMANDER	1	1	
LT	15A00 AAD B2 11	EXECUTIVE OFFICER	1	1	
CPT	15B00 AAA B2 11	SPT CO COMMANDER	1	1	
LT	15A00 AAT B2 11	PLATOON LEADER	2	2	
CPT	15B00 AAA B2 11	COMMANDER	1	1	
LT	15A00 AAT B2 11	C3 PLATOON LEADER	2	2	
LT	15A00 AAT B5 11	CEWI PLATOON LEADER	1	1	
CPT	15D00 AAA B2 11	COMMANDER	1	1	
			Total	11	7

17285L200 DIV CAV SQDN

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=17285L200>

17286L000 HHT DIV CAV

17287L000 CAV TRP, CAV SQDN

01367A200 AIR RECON TROOP (OH-58D)

01369A200 AVN SERVICE TROOP (OH-58D)

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
<b>AVIATION AND SPECIAL STAFF OFFICERS</b>					
MAJ	15B00 AAD D2 11	EXECUTIVE OFFICER	1		1
CPT	25A00 AFF	C-E OFFICER	1		
CPT	35D00 AAH	S2	1		
CPT	56A00 VAH	CHAPLAIN	1		
CPT	61N00 SDV 11 28 50	FLIGHT SURGEON	1		
LT	35D00 MGQ	TACTICAL INTEL OFFICER	1		
CPT	15B00 AGD 5U D2 11	FLIGHT OPERATIONS OFF	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
LT	70B67 SFG	MEDICAL OPERATIONS OFF	1		
CPT	61N00 SDV 11 28	FLIGHT SURGEON	1		
CPT	65D00 SJL 11 28	PHYSICIAN ASSISTANT	1		
CPT	15B00 AAA A4 11	COMMANDER	2	2	
LT	15A00 AAT A4 11	PLATOON LEADER	4	4	
CPT	15D00 AAA A4 11	COMMANDER	1	1	
			Total	7	2
<b><u>ARMOR OFFICERS</u></b>					
LTC	12C00 AAA 11	COMMANDER	1	1	
MAJ	12C00 AAI 11	S3	1		1
CPT	12C00 AAG	S1	1		1
CPT	12C00 AAL	S4	1		1
CPT	12C00 AGR	MAINTENANCE OFFICER	1		1
CPT	12C00 ACL 3S	ASSISTANT S3	1		1
LT	12C00 AAX	LIAISON OFFICER	1		1
CPT	12C00 AAA 11	COMMANDER	1	1	
LT	12C00 AAD	EXECUTIVE OFFICER	1	1	
LT	12C00 AAT 25	PLATOON LEADER	0		
CPT	12C00 AAA 11	COMMANDER	3	3	
LT	12C00 AAD 11	EXECUTIVE OFFICER	3	3	
LT	12C00 AAT 5R 11	SCOUT PLATOON LEADER	6	6	
LT	12B00 AAT 11	TANK PLATOON LEADER	6	6	
			Total	21	6

Attack Helicopter Battalion(AH-1,OH-58, UH-1) TOE #17-385H, 20 Feb 72, Ch 10-20  
 Oct 79

HHC, Attack Helicopter Battalion, TOE #17-386H

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	15B12	COMMANDER	1	1	
MAJ	15B12	EXECUTIVE OFFICER	1		1
MAJ	15B12	S3	1		1
CPT	15B41	S1	1		1
CPT	15D92	S4	1		1
CPT	71A(TC)	AIRCRAFT MAINT OFF	1		1
CPT	15B35	S2	1		1
CPT	13B	FSO	1		
CPT	15B25	C-E STAFF OFFICER	1		1
CPT	56A	CHAPLAIN	1		
CPT	61N	FLIGHT SURGEON	1		
CPT	15B12	ASSISTANT S3	1		1
LT	67B	MED PLT LDR	1		
CPT	15B12	COMMANDER	1	1	
LT	15A12	EXECUTIVE OFFICER	1	1	
LT	15B12	SECTION LEADER	1	1	

Attk Hel Co, Attk Hel Bn, 25 May 77, Ch #5 20 Oct 79(x3 per Bn)

MAJ	15B12	COMPANY COMMANDER	3	3	
CPT	15B12	EXECUTIVE OFFICER	3	3	
CPT	15B12	OPERATIONS OFFICER	3	3	
LT	15B12	FLIGHT OPERATIONS OFF	3	3	
CPT	15B12	ATTACK PLT LEADER	9	9	
LT	15B12	SECTION LEADER	18	18	
CPT	15B12	SCOUT PLT LEADER	3	3	
LT	15B12	SECTION LEADER	9	9	
			Total	55	8

Assault Helicopter Battalion(OH-58, UH-1) TOE #7-255H, Ch 15-20 Oct 79  
HHC, Assault Helicopter Battalion, TOE #7-256H

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	15B11	COMMANDER	1	1	
MAJ	15B11	EXECUTIVE OFFICER	1		1
MAJ	15B11	S3	1		1
CPT	15B41	S1	1		1
CPT	15D92	S4	1		1
CPT	71A(TC)	AIRCRAFT MAINT OFF	1		1
CPT	15B35	S2	1		1
CPT	15B00	SAFETY OFFICER	1		1
CPT	15B25	C-E STAFF OFFICER	1		1
CPT	61N	FLIGHT SURGEON	1		
CPT	15B11	LIAISON OFFICER	2		2
CPT	15B11	ASSISTANT S3/OPS OFF	1		1
CPT	15B11	COMMANDER	1	1	
LT	15B11	SECTION LEADER	1	1	

Assault Hel Co, Asst Hel Bn, 25 May 77, Ch #16-20 Oct 79(x3 per Bn)

MAJ	15B11	COMPANY COMMANDER	3	3	
CPT	15B11	EXECUTIVE OFFICER	3	3	
CPT	15B11	OPERATIONS OFFICER	3	3	
LT	15B11	FLIGHT OPERATIONS OFF	3	3	
CPT	15B11	PLT LEADER	6	6	
LT	15B11	SECTION LEADER	12	12	
CPT	71A	SVC PLATOON LDR	3	3	
			Total	36	11

07015L000 INF BN (LIGHT)

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=07015L000>

07016L000 HHC INFANTRY BN (LIGHT)

07017L000 RIFLE CO INF BN (LIGHT) (x 4)

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	11A00 AAA 11	COMMANDER	1	1	
MAJ	11A00 AAD 11	EXECUTIVE OFFICER	1		1
MAJ	11A00 AAI 11 27	S3	1		1
CPT	11A00 AAG	S1	1		1
CPT	11A00 AAL 12	S4 I028AA	1		1
CPT	25A00 AQH 12	S6 I028AA	1		
CPT	35D00 AAH 12	S2 I028AA	1		
CPT	56A00 VAH	CHAPLAIN	1		
LT	35D00 MGQ 12	TACTICAL INTEL OFFICER	1		
CPT	11A00 AAK 3S 5R 12	S3 AIR I028AA	1		1
LT	74B00 GAE 12	CHEMICAL OFFICER I028AA	1		
CPT	11A00 AAA 11	COMMANDER	1	1	
LT	11A00 AAD 12	EXECUTIVE OFFICER I028AA	1	1	
LT	11A00 AAT 5R 12	RECON PLATOON LEADER	1	1	
LT	11A00 AAT 12	MORTAR PLATOON LEADER	1	1	
LT	11A00 AAT 12	ANTIARMOR PLATOON LEADER	1	1	
LT	11A00 AAT 12 25	PLATOON LEADER I028AA	1	1	
LT	70B67 SDR	FIELD MEDICAL ASST	1		
CPT	62B00 AAT 11 28 50	PLATOON LEADER	1		
CPT	62B00 SDS 11 28	FIELD SURGEON	1		
CPT	65D00 SJL 11 28	PHYSICIAN ASSISTANT	1		
CPT	11A00 AAA 5R 11	COMMANDER	4	4	
LT	11A00 AAD 12	EXECUTIVE OFFICER I028AA	4	4	
LT	11A00 AAT 5R 12	PLATOON LEADER I028AA	8	8	
LT	11A00 AAT 12	PLATOON LEADER I028AA	4	4	
			Total	27	5

07245F100 INF BN MECH (FXXI)

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=07245F100>

07246F100 HHC MECH INF (XXI)

07247F000 RFL CO INF BN (MECH) (XXI)

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	11A00 AAA 3X 11	COMMANDER I006AA	1	1	
MAJ	11A00 AAD 3X 11	EXECUTIVE OFFICER I006AA	1		1
MAJ	11A00 AAI 3X 11 27	S3 I006AA	1		1
CPT	11A00 AAG 3X 12	S1 I028AA	1		1
CPT	11A00 AAL 3X	S4 I006AA	1		1
CPT	25A00 AFF	C-E OFFICER	1		
CPT	35D00 AAH	S2	1		
CPT	56A00 VAH	CHAPLAIN	1		
LT	35D00 MGQ 12	TACTICAL INTEL OFFICER	1		
CPT	11A00 AAK 3S 3X 5U	S3 AIR I006AA	1		1
LT	11A00 AAX 3X 12	LIAISON OFFICER I028AA	1		1
CPT	12B00 ACL 3J 12	ASSISTANT S3 F023AA	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	11A00 AAA 3X 11	COMMANDER I006AA	1	1	
LT	11A00 AAD 3X 12	EXECUTIVE OFFICER I028AA	1	1	
LT	11A00 AAT 3X 5R	PLATOON LEADER I006AA	1	1	
LT	11A00 AAT 3X 3Z	PLATOON LEADER I006AA	1	1	
CPT	62B00 AAT 11 28 50	PLATOON LEADER	1		
LT	70B67 SDR	FIELD MEDICAL ASST	1		
CPT	62B00 SDS 11 28	FIELD SURGEON	1		
CPT	65D00 SJL 11 28	PHYSICIAN ASSISTANT	2		
CPT	11A00 AAA 3X 11	COMMANDER I006AA 3	3	3	
LT	11A00 AAD 3X 12	EXECUTIVE OFFICER I028AA	3	3	
LT	11A00 AAT 3X 5R 12	PLATOON LEADER I028AA	6	6	
LT	11A00 AAT 3X 5Q 12	PLATOON LEADER I028AA	3	3	
			Total	20	7

## 06302L000 HHB DIV ARTY HVY DIV

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=06302L000>

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
COL	13A00 AAA 5H 11	COMMANDER	1	1	
LTC	13A00 AAD 11	EXECUTIVE OFFICER	1		1
LTC	13A00 AAI 5H 11 27	S3	1		1
MAJ	01A00 AAL 11	S4	1		1
MAJ	13A43 AAG 11 26	S1	1		1
MAJ	25A00 AFF 11	C-E OFFICER	1		
MAJ	35D00 AAH 11	S2	1		
MAJ	56A00 VAH	CHAPLAIN	1		
CPT	65D00 SJL 11 28	PHYSICIAN ASSISTANT	1		
CPT	13A00 AAA 11	COMMANDER	1	1	
MAJ	13A00 AAO 5H 11	OPERATIONS OFFICER	2		2
MAJ	13A00 ACL 5H 11	ASSISTANT S3	1		1
CPT	13A00 EBX 5H	FIRE DIRECTION OFFICER	1		1
CPT	74B00 GAE 5H	CHEMICAL OFFICER	1		
LTC	13A00 EBE 5H 11	DEPUTY FIRE SPT COORD	1		1
MAJ	13A00 EAR 5H 11	ASST FIRE SPT COORD	4		4
MAJ	13A00 EBM 5H 11	FA INTELLIGENCE OFF	1		1
CPT	13A00 EDX 5H 12	TARGET ANALYST I028AA	1		1
CPT	13A00 EDB	RECON-SURVEY OFFICER	1		1
LT	25A00 AAT	PLATOON LEADER	1		
CPT	65D00 SJL 11 28 50	PHYSICIAN ASSISTANT	1		
CPT	13A00 AAX	LIAISON OFFICER	1		1
MAJ	13A00 AGC 5H 5U 11	FIRE SUPPORT OFFICER	1		1
CPT	13A00 AGC 5U 12	FIRE SUPPORT OFFICER I028AA	2		2
CPT	13A00 AGC 12	FIRE SUPPORT OFFICER I028AA	1		1
LT	13A00 AGC 12	FIRE SUPPORT OFFICER I028AA	3	3	
			Total	5	21

06395A000 FA BN MLRS (HVY DIV)

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=06395A000>

06396A000 HHS FA BN MLRS HEAVY DIV

06397A000 FA BTRY FA BN MLRS HVY DIV (X 2)

06399A000 TAB FA BN MLRS HEAVY DIV

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	13A00 AAA 11	COMMANDER	1	1	
MAJ	13A00 AAD 11	EXECUTIVE OFFICER	1		1
MAJ	13A00 AAI 11 27	S3	1		1
CPT	13A00 AAG	S1	1		1
CPT	13A00 AAH	S2	1		1
CPT	13A00 AAL	S4	1		1
CPT	13A00 AGR	MAINTENANCE OFFICER	1		1
CPT	25A00 AFF	C-E OFFICER	1		
CPT	56A00 VAH	CHAPLAIN	1		
CPT	13A00 AAA 11	COMMANDER	1	1	
CPT	13A00 AAO	OPERATIONS OFFICER	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	13A00 EBX	FIRE DIRECTION OFFICER	1		1
LT	13A00 AAX	LIAISON OFFICER	1		1
LT	65D00 SJL 11 28	PHYSICIAN ASSISTANT	1		
CPT	13A00 AAA 11	COMMANDER	2	2	
LT	13A00 AAO	OPERATIONS OFFICER	2	2	
LT	13A00 AAT	PLATOON LEADER	6	6	
LT	13A00 AAT	PLATOON LEADER	2	2	
CPT	13A00 AAA 11	COMMANDER	1	1	
LT	13A00 EDB	RECON-SURVEY OFFICER	1	1	
LT	13A00 AAT	RADAR PLATOON LEADER	1	1	
			Total	17	9

06365A500 FA BN 155SP SPLIT OPS HD

<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=06365A500>

06366A500 HHB FA BN 155SP PLT OPS HD

06367A200 FA BTRY 155SP (1X6) PLT OP (X 3)

06369A200 SVC BTRY 155SP PLT OPS HD

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	13A00 AAA 11	COMMANDER	1	1	
MAJ	13A00 AAD 11	EXECUTIVE OFFICER	1		1
MAJ	13A00 AAI 11 27	S3	1		1
CPT	13A00 AAG	S1	1		1
CPT	13A00 AAH	S2	1		1
CPT	13A00 AAL	S4	1		1
CPT	13A00 AGR	MAINTENANCE OFFICER	1		1
CPT	25A00 AFF	C-E OFFICER	1		
CPT	56A00 VAH	CHAPLAIN	1		
CPT	13A00 AAA 11	COMMANDER	1	1	
CPT	13A00 AAO	OPERATIONS OFFICER	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	13A00 EBX	FIRE DIRECTION OFFICER	2		2
LT	13A00 EDB	RECON-SURVEY OFFICER	1	1	
LT	25A00 AAT	PLATOON LEADER	1		
LT	65D00 SJL 11 28	PHYSICIAN ASSISTANT	1		
MAJ	13A00 AGC 11	FIRE SUPPORT OFFICER	1		1
LT	13A00 EAS 12	ASST FIRE SUPPORT OFF	1		1
CPT	13A00 AGC 12	FIRE SUPPORT OFFICER I028AA	3		3
LT	13A00 EEA 12	TARGETING OFFICER I028AA	3		3
LT	13A00 AGC 12	FIRE SUPPORT OFFICER I028AA	4	4	
LT	13A00 AGC 12	FIRE SUPPORT OFFICER I028AA	8	8	
CPT	13A00 AAA 11	COMMANDER	3	3	
LT	13A00 AAT	PLATOON LEADER	6	6	
LT	13A00 EBX	FIRE DIRECTION OFFICER	6	6	
CPT	13A00 AAA 11	COMMANDER	1	1	
LT	13A00 ADY	AMMUNITION OFFICER	1	1	
			Total	32	17

01385A200 ATTACK BATTALION (AH-64)  
<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=01385A200>  
 01386A200 HHC, ATTACK BN (AH-64)  
 01387A200 ATTACK COMPANY (AH-64) (x3)  
 01389A200 AVN UNIT MAINT CO (AH-64)

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	15B00 AAA D7 11	COMMANDER H136AA	1	1	
MAJ	15B00 AAD D7 11	EXECUTIVE OFFICER H136AA	1		1
MAJ	15B00 AAI D7 11 27	S3 H136AA	1		1
CPT	15B00 AAG D7 11	S1 H136AA	1		1
CPT	15B00 AAL D7 11	S4 H136AA	1		1
CPT	15C35 AAH D7 11	S2 H136AA	1		1
CPT	25A00 CBP	C-E STAFF OFFICER	1		
CPT	56A00 VAH	CHAPLAIN	1		
CPT	61N00 SDV 11 20 28	FLIGHT SURGEON	1		
CPT	15B00 ACL 3S 5U D7 11	ASSISTANT S3 H136AA	1		1
LT	15A00 AAX D7 11	LIAISON OFFICER H136AA	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	15B00 AAA D7 11	COMMANDER H136AA	1	1	
LT	15A00 AAD D7 11	EXECUTIVE OFFICER H136AA	1	1	
LT	15A00 AAT D7 11	PLATOON LEADER H136AA	1	1	
CPT	15B00 AAA D7 11	COMMANDER H136AA	3	3	
LT	15A00 AAT D7 11	PLATOON LEADER H136AA	6	6	
CPT	15D00 AAA D7 11	COMMANDER H136AA	1	1	
			Total	14	7

01185A200 ATTACK BATTALION (OH-58D)

<http://www.usafmsaradd.army.mil/toeparentunits.cfm?toenumber=01185A200>

01186A000 HHC, ATTACK BATTALION

01187A200 ATTACK COMPANY (OH-58D) (X 3)

01189A200 AVN UNIT MAINT CO (OH-58D)

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
O5	15B00 AAA D2 11	COMMANDER	1	1	
O4	15B00 AAD D2 11	EXECUTIVE OFFICER	1		1
O4	15B00 AAI D2 11 27	S3	1		1
O3	15B00 AAG D2 11	S1	1		1
O3	15B00 AAL D2 11	S4	1		1
O3	15C35 AAH D2 11	S2	1		1
O3	25A00 CBP	C-E STAFF OFFICER	1		
O3	56A00 VAH	CHAPLAIN	1		
O3	61N00 SDV 11 20 28	FLIGHT SURGEON	1		
O3	15B00 ACL 3S 5U D2 11	ASSISTANT S3	1		1
O2	15A00 AAX D2 11	LIAISON OFFICER	1		1
O2	74B00 GAE	CHEMICAL OFFICER	1		
O3	15B00 AAA D2 11	COMMANDER	1	1	
O2	15A00 AAD D2 11	EXECUTIVE OFFICER	1	1	
O3	15B00 AAA A4 11	COMMANDER	3	3	
O2	15A00 AAT A4 11	PLATOON LEADER	6	6	
O3	15D00 AAA A4 11	COMMANDER	1	1	
			Total	13	7

01105A000 ASSAULT BN (UH-60)

<http://www.usafmsaridd.army.mil/toe.cfm?toenumber=01105A000>

01106A000 HHC, ASSAULT BATTALION

01207A200 ASSAULT COMPANY (UH-60) (X2)

01108A000 COMMAND AVN CO (EH/UH-60)

01109A000 AVIATION UNIT MAINT CO

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
LTC	15B00 AAA B2 11	COMMANDER	1	1	
MAJ	15B00 AAD B2 11	EXECUTIVE OFFICER	1		1
MAJ	15B00 AAI B2 11 27	S3	1		1
CPT	15B00 AAG B2 11	S1	1		1
CPT	15B00 AAL B2 11	S4	1		1
CPT	15C35 AAH B2 11	S2	1		1
CPT	25A00 CBP	C-E STAFF OFFICER	1		
CPT	56A00 VAH	CHAPLAIN	1		
CPT	61N00 SDV 11 20 28	FLIGHT SURGEON	1		
CPT	15B00 ACL 3S 5U B2 11	ASSISTANT S3	1		1
LT	15A00 AAX B2 11	LIAISON OFFICER	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	15B00 AAA B2 11	COMMANDER	1	1	
LT	15A00 AAD B2 11	EXECUTIVE OFFICER	1	1	
CPT	15B00 AAA B2 11	COMMANDER	2	2	
LT	15A00 AAT B2 11	PLATOON LEADER	6	6	
CPT	15B00 AAA B2 11	COMMANDER	1	1	
LT	15A00 AAT B2 11	PLATOON LEADER	2	2	
LT	15A00 AAT B5 11	PLATOON LEADER	1	1	
CPT	15D00 AAA B2 11	COMMANDER	1	1	
			Total	16	7

17185L400 CAVALRY SQDN INF DIV (LT)  
<http://www.usafmsaradd.army.mil/toe.cfm?toenumber=17185L400>  
 17186L000 HHT CAV SQDN (LID)  
 17187L000 CAV TRP (LID)  
 01167A200 AIR RECON TROOP (OH-58D) (X2)  
 01169A200 AVN UNIT MAINT TRP(OH-58D)

Rank	MOS/Remarks/ASI	Position	Auth	Line	Staff
<u>AVIATION AND SPECIAL STAFF</u>					
LTC	15B00 AAA A4 11	COMMANDER H026AA	1	1	
MAJ	15B00 AAI A4 11 27	S3 H026AA	1		1
CPT	25A00 AFF	C-E OFFICER	1		
CPT	35D00 AAH	S2	1		
CPT	56A00 VAH	CHAPLAIN	1		
CPT	61N00 SDV 11 28	FLIGHT SURGEON	1		
LT	35D00 MGQ	TACTICAL INTEL OFFICER	1		
CPT	15B00 AGD A4 11	FLIGHT OPERATIONS OFF	1		1
LT	74B00 GAE	CHEMICAL OFFICER	1		
CPT	65D00 SJL M3 11 28	PHYSICIAN ASSISTANT	1		
CPT	15B00 AAA A4 11	COMMANDER	2	2	
LT	15A00 AAT A4 11	PLATOON LEADER	4	4	
CPT	15D00 AAA A4 11	COMMANDER	1	1	
			Total	8	2
<u>ARMOR OFFICERS</u>					
MAJ	12C00 AAD 11	EXECUTIVE OFFICER	1		1
CPT	12C00 AAG	S1	1		1
CPT	12C00 AAL	S4	1		1
CPT	12C00 AGR	MAINTENANCE OFFICER	1		1
CPT	12C00 ACL 3S	ASSISTANT S3	1		1
LT	12C00 AAX	LIAISON OFFICER	1		1
CPT	12C00 AAA 11	COMMANDER	1	1	
CPT	12C00 AAA 11	COMMANDER	1	1	
LT	12C00 AAT 5R	PLATOON LEADER	4	4	
			Total	6	6

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