

**STRATEGY
RESEARCH
PROJECT**

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

**CONTRACTING, AN ALARMING TREND
IN AVIATION MAINTENANCE**

BY

**COLONEL J. LYNTON BROOKE
United States Army**

**DISTRIBUTION STATEMENT A:
Approved for public release.
Distribution is unlimited.**

19980522 012



USAWC CLASS OF 1998

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

DTIC QUALITY INSPECTED 3

USAWC STRATEGY RESEARCH PROJECT

Contracting, An Alarming Trend in Aviation Maintenance

by

COL J. Lynton Brooke

COL John T. Dillard
Project Advisor

The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

DISTRIBUTION STATEMENT A:
Approved for public release.
Distribution is unlimited.

DTIC QUALITY INSPECTED 3

ABSTRACT

AUTHOR: COL J. Lynton Brooke

TITLE: Contracting, An Alarming Trend in Aviation Maintenance

FORMAT: Strategy Research Project

DATE: 16 April 1998 PAGES: 44 CLASSIFICATION: Unclassified

Continuing pressure to reduce force structure competes with requirements for high aircraft readiness and operational tempo rates. Aviation operational and maintenance units struggle to balance peacetime requirements for general military and technical training, organization and installation support, training and operational flight missions, exercises, quality of life activities, and countless other requirements with direct aviation maintenance functions. In light of austere aviation maintenance structure and high operational tempo, aviation leaders have increasingly turned to contracted maintenance and logistics support. Unintended second and third order effects of civilian contractor support are explored in this paper. An examination of adverse impacts on aviation soldier technical skills, unit morale and cohesion, and the risks associated with the inappropriate employment of civilian contractors on the battlefield precede discussion on recommended solutions to optimize the employment of military and contracted civilian aviation maintenance capabilities while mitigating the negative impact of current practices.

TABLE OF CONTENTS

ABSTRACT	iii
PREFACE	vii
LIST OF ILLUSTRATIONS	ix
LIST OF TABLES	xi
BACKGROUND	1
AUTHOR'S PERSPECTIVE	9
ANALYSIS OF CURRENT AND EMERGING POLICY AND DOCTRINE	15
IMPACT ON TRAINING AND EXPERIENCE	19
CONCLUSIONS AND RECOMMENDATIONS	25
ENDNOTES	29
BIBLIOGRAPHY	31

PREFACE

Written in honor of CW4 Bill Nettles. CW4 Nettles was the Production Control Officer in the 121st Aviation Company (Assault Helicopter), "Soc Trang Tigers". In the author's first aviation assignment, CW4 Nettles served as a mentor and inspiration. CW4 Nettles was the consummate aviation maintenance officer, from whom the author first began to learn the importance of self sufficiency for aviation maintenance units.

LIST OF ILLUSTRATIONS

Figure 1USAREUR AIRCRAFT TO CONTRACTOR DENSITY, 4

LIST OF TABLES

Table 1.....MAINTAINER DENSITY VS READINESS, 2

Many of today's problems are yesterday's solutions.

— Norman Augustine

BACKGROUND

Army Aviation became a Branch of the United States Army 12 April 1983, signaling its emergence from relegation as a support element and the assumption of greater responsibilities for the design and direction of a premier fighting force of exceptional complexity, capability, and potential. Behind the employment of aviation units across the spectrum of military operations is an embedded aviation logistical capability more complex than the units they support. They are manned by a diverse mix of dynamic soldier technicians representing a broad range of skills requiring extensive training and experience in order to maintain sophisticated and technically complex aircraft.¹

Today, the utilization of civilian contractors to offset austere aviation maintenance structure and persistently short manning, while seemingly productive in the short term, has a negative impact on aviation maintenance soldier technical training and experience and may lead to the employment of civilians in inappropriate roles and locations. For many years, the challenge of producing maximum aviation combat power was made more difficult with increasingly more austere personnel resources. Heralded by the disintegration of

the Soviet Union, the end of the Cold War and the perceived loss of our only peer military competitor, the reduction of military budgets and structure posed a dilemma. Facing mandatory personnel reductions, architects of military systems and structure could cut entire units, with a corresponding reduction in combat capability, or redesign organizations to be smaller and more efficient while preserving capability. Army aviation organizations have continued to down size while attempting to maintain capability with limited personnel authorizations and increasingly more austere maintenance structures. Austere aviation unit structures place heavy demands on aviation personnel and seriously challenge their ability to maintain Department of the Army standards for aircraft readiness. In an article by Captains David Keller and Tom Ward, the comparative austerity of Army maintenance units is demonstrated by comparing the number of maintainers assigned per aircraft, by service, to the readiness rate achieved.²

Maintainer Density VS Readiness

	<u>Maintainers Per Aircraft</u>	<u>Mission Ready Rate</u>
<u>Air Force</u>	13.5	83.8%
<u>Army SOA</u>	7.5	81.2%
<u>Navy</u>	11.0	73.0%
<u>Army</u>	4.5	52.9%

Table 1

Aviation maintenance capability is further hampered by a myriad of competing requirements for soldiers' time. Mandatory training, operational requirements, and administrative functions combine with more discretionary activities to reduce the time soldiers are available for direct productive time in the hangar. Faced with more requirements than can be accomplished with available military personnel, commanders seek alternative solutions to accomplish their mission.

More and more, commanders turn to civilian contractor augmentation to overcome shortages in military personnel structure and manning. An existing world-wide contract for aviation maintenance augmentation makes the provisioning of contractor augmentation easy and responsive.³ The United States Army Europe (USAREUR) provides a good example of the escalating proliferation of contractors in the Army. Even though the number of aviation units and assigned aircraft have declined steadily in USAREUR, the number of contractors has continued to increase. The following two charts graphically depict the increasing reliance aviation maintenance units have developed for contractor support.⁴

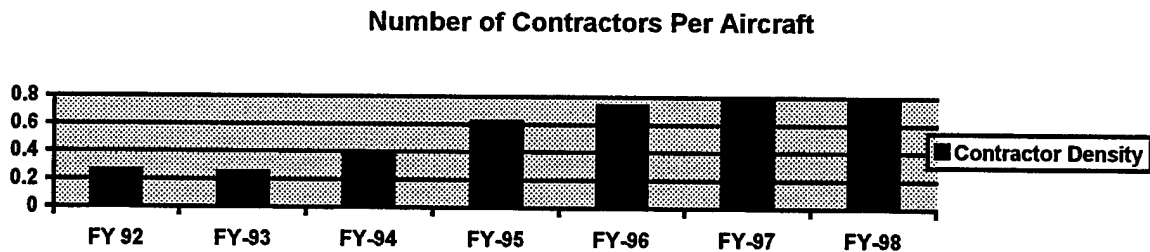
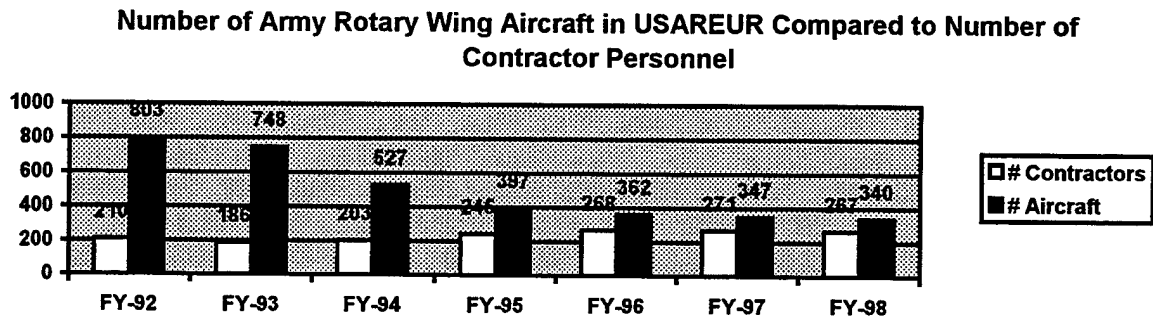


Figure 1

Civilian aviation technicians bring a wealth of experience and expertise on short notice and require limited support. They routinely provide eight hours of direct productive aircraft maintenance five days a week, with surge capability up to 12 hours a day, 7 days a week. The goal for soldier direct productive time is 4.5 hours a day, and many units are unable to achieve that level. Contractors can be deployed with aviation units and are generally very responsive to mission requirements. The supported unit is not required to train the contracted technician and they have their own tools. However, contractor support is not a panacea.

On the surface, contractor support appears to be an ideal solution to Army Aviation's lack of adequate personnel structure

and manning. In the long view, civilian contracting poses real problems that must be addressed effectively to mitigate the negative impact already occurring. There are two principal second order effects. First, there is a negative impact on soldier training and experience. This effect is largely the result of an improper employment of contractors; essentially displacing soldiers, rather than augmenting them. Second, the proliferation of contractors below the corps level at Aviation Unit Maintenance (AVUM) and divisional Aviation Intermediate Maintenance (AVIM) units places civilians on the battlefield where they are not trained or equipped to operate.⁵ To begin an examination of the impact of contracting on soldiers, a study of aviation soldier experience and attitude is essential.

The second principal second order effect is not as easy to measure. Unfortunately, the author's research failed to determine if a risk assessment was accomplished to weigh the risks of employing civilians on the battlefield, supporting the suspicion that one has not been completed.⁶ However, it is certain that emerging doctrine and policy will certainly put civilians on the battlefield. According to new Army policy, "Civilian contractors may be employed to Areas of Operations (AO), as required, to support U.S. Army operations and/or weapon systems. Generally, civilian contractors will be assigned duties at Echelons-Above-Division (EAD). Should the senior commander determine that their services are required at lower echelons,

contractors may be deployed as far forward as needed consistent with the terms of the contract."⁷ In fact, contractors are already routinely employed at AVUM units at the division level. Contractors deployed to Bosnia and Herzegovina with divisional aviation units in support of Operation Joint Endeavor.⁸ Although there is extensive experience with contractors supporting military operations, that experience does not include combat operations across the spectrum of conflict and cannot predict how civilian contractors will universally perform and behave. For that reason, the risks associated with relying on civilian contractors at organizational level across the spectrum of conflict must be predicted and weighed based on experience and common sense.

After a discussion to put the author's perspective relating to Army aviation maintenance on record, an analysis of current and emerging policy and doctrine relating to the utilization of civilian contractor personnel will demonstrate the potential for employing civilian contractors in an inappropriate manner. Next, an analysis of training related findings from a survey conducted at the U.S. Army Aviation Logistics School will explore the adverse effects of contractor support on aviation soldier training and experience. Additional findings from that survey will also be presented, to include an alarming and persistent problem of personnel shortages in aviation units. Finally, recommendations will be presented to minimize unintended negative

second and third order effects while optimizing the potential inherent in the utilization of civilian contractor support.

AUTHOR'S PERSPECTIVE

The following description of Army aviation maintenance capability will familiarize the reader with Army aviation maintenance and is intended to establish the fundamentals that the author believes made aviation units successful in the past, and remain sound for success in the future. At the heart of all systems, basic fundamentals exist that, if ignored, risk system failure.

Army aviation maintenance is a three level system: Aviation Unit Level (AVUM), Aviation Intermediate Level (AVIM), and Depot. At the AVUM level, crew maintenance is combined with organizational maintenance support required for the daily operation and maintenance of aircraft systems. Repair is generally characterized by component replacement, vice component repair, "...minor repairs, adjustments, cleaning, lubricating, and servicing."⁹ Limited structural, power train, power plant, prop and rotor, electronic, avionics, hydraulic/pneudraulic, and armament maintenance is performed by allied skill (back shop) maintenance technicians. AVUM units are located in close proximity to their supported operational aviation units, requiring great mobility and frequent moves.

AVIM units perform maintenance above the capability or capacity of supported AVUM units. Repairs are performed on aircraft and aircraft components for return to supported aviation unit customers. Repairs are generally more complex and time

consuming than those authorized at the AVUM level. However, there is no difference in the institutional training provided soldiers assigned to either level of maintenance. AVIM units also provide aviation repair parts supply support through management of a demand driven aviation Authorized Stockage Level (ASL) and a Repairable Exchange (RX) program. RX allows the AVIM unit to repair spare components to allow for a direct exchange of repaired components with supported units. Divisional AVIM units are located more to the rear than AVUM units, usually in the vicinity of the DISCOM area, and Corps AVIM units still further to the rear, in the Corps Support Area. The rearward location of AVIM units is critical to allow for greater security and stability.¹⁰

The authority to repair aircraft and aircraft systems is prescribed by a Maintenance Allocation Chart (MAC) for each system. Repair authority is based on the skill level of authorized (not assigned) technicians and tools available. When a unit has the experienced personnel and tools required to perform higher level maintenance, an authorization may be granted by the supporting maintenance unit to perform that level of maintenance.¹¹ Work that is beyond the capability or capacity of a unit to accomplish is passed back to its supporting AVIM unit. The more work a unit is capable of doing, the less dependent they are on support maintenance and the greater control they have on readiness rates, because, evacuation and administration times are

reduced, turnaround time is decreased, and they have a greater vested interest in the product.

A common fundamental for success at any level is to limit reliance on the next higher supporting maintenance unit. Aircraft owning units are responsible for reporting readiness rates and have a greater investment in the speed at which maintenance is accomplished. Therefore, it is in the interest of the operating unit to accomplish as much of the maintenance as possible and prevent time lost in evacuation/transit. Operating units resist sending work to supporting units to avoid losing control of aircraft readiness. In this atmosphere, unit maintenance personnel gain valuable experience and increase technical expertise. Leaders are forced to carefully manage the utilization of their maintenance personnel because when the work is not accomplished, readiness rates decline. Like the FRAM oil commercial says, "Pay me now, or pay me later."

The same fundamentals hold true for AVIM support units. Support units must try to accomplish all of the work they can to avoid passing work back to their supporting non-divisional AVIM or Depot unit. Even though they do not directly report readiness rates, they strive to improve responsiveness and quality in order to earn the trust and business of supported units. While they do not directly report readiness rates, they generally answer to the same chain of command as the units they support. Because

aircraft readiness is tracked by the hour, the entire chain of command learns who is doing the work, and how well.

Another important fundamental involves the training of enlisted crew chiefs. Crew chiefs are enlisted personnel that fly with Army aircraft in a crew status. They are responsible for crew level maintenance on the assigned aircraft and interface with production control to accomplish all work beyond their capability. Optimally, newly assigned personnel are assigned to the maintenance element (platoon, troop, or company). In the maintenance element, they are usually assigned to a scheduled maintenance team where they work directly for an experienced noncommissioned officer maintenance team chief conducting periodic or phased maintenance inspections. These comprehensive inspections provide an excellent training opportunity covering the entire aircraft system. Individuals desiring to perform as a crew chief are continuously evaluated and placed on an order of merit list.

When approaching the top of the list, the prospective crew chief is shifted to an unscheduled maintenance team to work with another experienced maintenance sergeant on aircraft requiring maintenance beyond the capability of assigned crew chiefs. Following maintenance, aircraft often require a maintenance test flight. The prospective crew chief prepares the aircraft for the flight and performs crew duties under the watchful eye of his supervisor and the maintenance test pilot. In this way, the

mechanic gains valuable experience in flight operations and familiarity with aircraft forms and records. When deemed ready by the unscheduled team chief, and approved by the maintenance officer and quality control officer, the fledgling crew chief is transferred to a flight platoon or company as a crew member.

ANALYSIS OF CURRENT AND EMERGING POLICY AND DOCTRINE

Current and emerging policy and doctrine portends the continued proliferation of civilian contractors in support of aviation maintenance at the AVUM and AVIM level. A review of Joint Vision 2010, Focused Logistics, A Joint Logistics Roadmap indicates a clear propensity to increase reliance on contractor personnel in the future.¹² Although the statement, "Future Military operations are likely to find a great many logistics functions privatized or outsourced." indicates a general trend, "...a substantially increased contractor presence throughout the spectrum of maintenance and logistics support operations..." clearly indicates that contractors will play a greater role in future operations.¹³ Emerging Army doctrine reflects the same direction prescribed in joint doctrine. The Army Strategic Logistics Plan includes the utilization of contractors in a fundamental called "Battlespace Logistics", and describes "...a logistics continuum consisting of soldiers, civilians (DOD and contractors)..." as a component embodied therein.¹⁴ Doctrine, being hierarchical, continues to reflect in lower level doctrinal publications.

Providing still clearer indication of the Department of the Army's (DA) intention to increase reliance on contractors, across the spectrum of conflict, is the Draft DA PAM 715-XX, Private Contractor Deployment Guide. It will serve as a guide for the deployment of contractor personnel in support of contingency

operations. It is important in that it clearly indicates DA's reliance on contractors to "provide a new source of supplies and services and bridge gaps in the deployed force structure".¹⁵ While doctrine describes desired outcomes, there are readily available tools to accomplish this vision of increased utilization of contractors.¹⁶

There are existing and proposed contracts that make the contracting of maintenance support easy in the aviation maintenance community. The Air Force manages a worldwide aviation logistics contract that is readily available for the support of Army aviation. Under that contract, contractor technicians are working almost everywhere Army aviation units are stationed.¹⁷ The amount of support available is only limited by the amount of money available. Contracts are easily modified and are very specific and comprehensive. More contracts are anticipated in the near future.

An unsolicited proposal for a program called Apache Prime Vendor Support (PVS), is being considered by the Army for near total wholesale supply support of the AH-64 Apache helicopter.¹⁸ While termed supply support, Apache PVS represents an incursion that will significantly impact aviation maintenance structure and training. It represents the next level of reliance on contractor maintenance. "The projected impacts on force structure are expected to be minimal initially... Initial force structure impacts are in AVIM supply sections, engine repair shops, and

elimination of the electronic equipment test facility (EETF)."¹⁹ Clearly the engine repair shops and the EETF represent impact on more than just "supply support".

If adopted, this initiative will have widespread implications for aviation maintenance training and structure. It will require an even greater presence of civilian contractors wherever attack helicopters are employed. Consequently, civilian contractors will be required to deploy to potentially hazardous locations. The Army invests a great deal of time and resources to train and equip aviation soldiers to be able to operate in such potentially hazardous environments. The risk of placing untrained and poorly equipped civilian technicians in the same environment must be seriously challenged.

Having demonstrated an increasing reliance on contractor support, and a potential for even greater reliance, an examination of the impact contracting is having on aviation maintenance soldiers is necessary.

IMPACT ON TRAINING AND EXPERIENCE

In order to determine if a measurable impact on soldier training has occurred, a survey of aviation maintenance soldiers at the U.S. Army Aviation Logistics School (USAALS) at Ft. Eustis, Virginia, was accomplished. Individual and small group interviews were conducted with 30 Basic Noncommissioned Officer Course (BNCOC) students and 5 instructors. The survey confirmed that a significant percentage of aviation maintenance soldiers felt that their training and experience was negatively impacted by the utilization of contractors at the AVUM and AVIM level, and raised other related issues that warrant discussion.

The first significant finding revealed by the survey was that 100% of the students and instructors have been in units that were directly supported by civilian contractors. The students came to BNCOC from 10 different CONUS installations and multiple locations in Alaska, Germany, Hawaii, Italy, and Korea. This data demonstrates the pervasive employment of contractors in the Army and indicates a potential that any positive or negative effects would have widespread impact. Therefore, it is important to understand all potential impacts of contracting for AVUM and AVIM level support.

Asked simply, "Did contractors impact your aviation training?", 90% of the students responded yes. Asked to explain, 66.6% of the respondents cited negative impacts.²⁰ The primary negative impact was the loss of training and experience.

Students explained that contractors were consistently available while soldiers had many other requirements that competed for time spent working on aircraft. In fact, 93.3% felt that there were too many distracters from the mission. Details and additional duties were the overwhelmingly (80%) cited distracters, while only 23.3% cited training as a contributing "distracter". Many responses indicated that because they were not consistently available for direct productive maintenance, contractors were selected to perform the most difficult, comprehensive, and time consuming work. Soldiers were relegated to those jobs requiring fewer technical skills that could be accomplished in a shorter period of time.

Performing only those tasks requiring limited technical skills degrades the experience and expertise level of soldiers. Only by doing maintenance that requires in-depth research of aircraft systems, applying complex troubleshooting skills, and the practice of skills that take years to perfect can soldiers gain and maintain the experience and knowledge required to maintain complex aircraft and aircraft systems. In the words of one respondent, "I feel very strongly that the soldiers are not getting the experience needed to be confident leaders that can teach this job to their subordinates." This impact is amplified when combined with a persistent shortage of personnel in aviation units, and deserves further discussion.

When asked if there were enough soldier mechanics assigned to their unit to adequately maintain aircraft, 83.3% answered no. 40% indicated that the authorization document for their unit (Modified Table of Equipment or Table of Distribution and Allowances) was too austere and did not authorize an adequate number of maintenance personnel. 63.6% indicated that a shortage of assigned personnel was responsible for having too few maintenance personnel. The persistent nature of these shortages is confirmed by a review of FY 91 - 94 DAPC-45 data, indicating that shortages in critical aviation maintenance skills have been occurring for at least the past 7 years.²¹ The Army's distribution policy further exacerbates this problem. By distributing shortages primarily among all Fill Priority 2 and 3 units, most aviation units have shortages. Because many aviation skills are allocated to aviation units in low density, the impact of any shortage is magnified.

Separately, the negative impact on training and shortage of authorized/assigned personnel are significant. In combination, they create an even greater problem. As noted earlier, mechanics are trained in maintenance units before advancing to perform as aircraft crew chiefs. When units are short mechanics, inexperienced mechanics advance to become crew chiefs too quickly. In fact, some BNCOC students indicated that soldiers coming directly from Advanced Individual Training (AIT) were being assigned as crew chiefs. The corresponding decrease in

training, because contractors are performing most of the meaningful work, further exacerbates the problem. Without adequate training, crew chiefs are incapable of properly diagnosing aircraft deficiencies, and increase the workload by performing maintenance actions that are unnecessary and do not lead to correcting maintenance deficiencies. This results in lower readiness and higher expenditures for unnecessary parts replacement.²² The cycle continues by producing inadequately trained technical inspectors and maintenance supervisors, further contributing to aviation's reliance on contractor support.

Reliance on contractor support impacts soldiers and units in other ways. An insidious impact of contractor support is a perceived negative impact on morale. When asked if contractor support had an impact on morale or cohesion, 73.3% answered yes. Of those responding in the affirmative, 63.6% cited positive impact while 63.6% also cited negative impact. On the positive side, respondents cited a reduction in soldier workload, offsets to a high operational tempo, and training opportunities created by working with experienced contractors. On the negative, loss of work, loss of training and experience, the existence of a double standard for treatment, and the disparity between the compensation for soldiers and contractors were cited.

Of the negative factors listed, the most troubling is loss of training and experience. Several soldiers indicated that contractors were being sent to schools instead of soldiers

because leadership thought that the investment in training was better spent on contractors who would remain in the unit longer than soldiers. Without training, soldiers become more dependent on contractors and the success of aviation units rests directly on personnel outside of the organizational chain of command.

When asked if contractors should deploy with aviation units into combat zones, 60% answered yes, although 83.3% of those qualified their answer. Half of those responding yes indicated that units had become dependent on contractor support and many felt that they could not accomplish the mission without them. The 40% that responded no indicated lack of military training, lack of appropriate equipment, security risks, higher costs, adverse morale impact, and disruption of operations. One perceptive respondent told of a soldier who was forced out of the Army for drug related offenses, and yet, was immediately hired by a contractor to work on Army aircraft in direct support of Army aviation units. Obviously, the respondent was concerned about operational security. Contractor personnel supporting aviation units are unavoidably exposed to operational intelligence that must be protected. Typically, contractor personnel are not required to be trained in this subject area, nor do they have the same relationship with the military chain of command. The Army's apparent appetite for greater use of contractors, as encouraged and facilitated by current and emerging doctrine, and the evidence of negative second and third order effects cited in the

survey detailed above, lead to some inescapable conclusions. However, first consider the words of one young professional aviation soldier:

"I don't have much of an opinion on how contract work affects most military aviation soldiers, but what I do know is how it affects me. I do not agree with how the system is being managed. I see a lot of my work going to contractors who are making a lot more money than I am. These contractors are getting paid by the military to attend schools that I can only wish I had under my belt. Not only do they get to attend these schools but they also attain civilian certifications that help them with career advancement. They get experience.... and leave for better paying jobs because the military paid for them to get certifications due to their 'extended retainability'. I have military training and 4 1/2 years experience and no certifications or diplomas that count for anything in the civilian world. I will not venture to guess what effect this has on unit morale nor will I speculate to how it affects production, but I will say I do not like the system no matter how much money someone has said that it saves."²³

This quote, from Sergeant Charles Argumaniz, should serve as a clarion call from the enlisted ranks to think carefully about the second and third order effects of the current and future utilization of civilian contractor augmentation in Army aviation.

CONCLUSIONS AND RECOMMENDATIONS

The most obvious conclusion is that Army aviation is overly dependent on civilian contractor support to accomplish its mission. This dependence is characterized by a lack of confidence among soldiers who, with more than 6 years of experience in the aviation field, should be at the peak of confidence, as well as, a continuing increase in the number of contractor personnel, despite a reduction of aircraft supported. Second, the Army is committed to the inappropriate employment of contractors in direct support of military operations across the spectrum of conflict, without having adequately assessed the associated risks. Those risks pose a threat to civilian contractors and ultimately to the units and missions they support. Third, the Army personnel system persistently fails to adequately fill authorizations in aviation units. Given an already austere aviation force structure, failure to fill authorized positions exerts great pressure on aviation personnel and units.

The first step to correct the over reliance on contractor support is to gain universal understanding that soldiers, when properly trained and utilized, are completely capable of performing all AVUM and AVIM level maintenance requirements. Second, require commanders of aviation units to justify requirements for contractor support. Only an extended shortage

of authorized military personnel should justify contractor augmentation. Once provided, contractor support should only be for a limited period of time and assigned to the highest level maintenance support unit capable of providing direct support beyond the capability or capacity of the requesting unit. Extension beyond a one year period would require approval by the first general officer in the requesting aviation unit's chain of command and require endorsement by the Director of Enlisted Personnel, U.S. Army Personnel Command. When provided, contractors must directly augment military maintenance capability under the direct supervision of military production control. In no case would contractors receive training that available military personnel are qualified to receive. Only by forcing contractors out of AVUM and divisional AVIM units and holding commanders responsible for the proper utilization of military maintenance personnel will the problem of over reliance on contractor support be solved.

The solution for the inappropriate employment of contractors is two fold. First, the Department of the Army, Office of the Deputy Chief of Staff for Logistics (ODCSLOG) should commission a risk assessment to address the risks associated with employing civilian personnel in a combat zone. That assessment must include not only the specter of civilian casualties on the battlefield, but also the operational risks and considerations inherent in tactical operations encumbered with untrained and

unarmed civilian personnel. Second, new doctrine prescribing where and how necessary contractor augmentation is accomplished in an area of operations. Essentially, contractor support should be provisioned at the highest level of maintenance possible to allow for stationing as far to the rear of the theater of operations (or preferably, in the communication zone), as possible, to reduce the risk of exposure to direct combat. Aircraft maintenance exceeding the capacity or capability of military forward deployed units would be evacuated to the rear.

The persistent failure to adequately fill authorizations in aviation units must be addressed by a fundamental change in personnel strategy. The authority to assess and maintain aviation maintenance personnel must be increased to 105% of authorized to reduce the number of shortages occurring. The cost of this increase would be financed by the reduction of funds required for contractor support. When shortages do occur, a different strategy of personnel distribution must be adopted. Instead of distributing shortages equally among Fill Priority 2 and 3 units, fill all AVUM and divisional AVIM units to 100% of authorized strength. Distribute the remaining shortages only to CONUS based Fill Priority 3 echelon above division units in single locations, where possible. Offset resulting shortages in Fill Priority 3 units with contractor support, as detailed above. Additionally, every position filled with contractor personnel must have an Individual Ready Reserve (IRR) soldier designated to

fill that vacancy in the event of actual deployment. This strategy will result in more aviation units capable of accomplishing their mission without contractor augmentation.

For the past 10 years, the culture of aviation units has changed to accept a growing reliance on civilian contractor personnel to accomplish operational aviation missions. As a result, the aviation maintenance community is more poorly trained, less capable, and lack spirit and pride borne of self reliance and professional excellence. It is time to address the difficult problems associated with inadequate aviation personnel and structure directly, instead of hiding behind the easy, short term solutions offered by contracted support. Failure to do so jeopardizes the Army's ability to sustain aviation readiness on the dirty, high intensity battlefield of the future. To borrow the words of General Peter Schoomaker, "It is important to remember that we are— first and foremost— warriors."

Word Count 4,730

ENDNOTES

¹ In a set of briefing slides entitled "Maintenance Is Not Maintenance", compiled by the U.S. Army Aviation Logistics School, Ft. Eustis, Virginia, a comparison of the AH-64 Helicopter and the M1 Main Battle Tank demonstrates the complexity of the Apache. For example, the Apache costs \$15.8M, the M1 costs \$3.5M. The Apache has 119 Line Replaceable Units (LRU), the M1 has 20. The Apache requires 10 MOS's, the M1 requires 5. The Apache has 73 technical manuals, the M1 has 23. The Apache requires 27 pieces of Test Measuring and Diagnostic Equipment (TMDE), the M1 only 2.

² CPT David Keller and CPT Tom Ward, "Suspensions Confirmed, Low Man-hours, Low Readiness," U.S. Army Aviation Digest (March/April 1993).

³ Personal experience of the author. Within one week of requesting, the author obtained contracts that provide aviation contractor support for aviation maintenance in USAREUR. The statement of work (SOW: F34601-97-D-0425, Raytheon, 27 Jan 97) is comprehensive and requires little effort and short notice to modify.

⁴ Data provided by Mr. Gunther Leger, Aviation and Missile Branch, Directorate for Materiel Management, 200th Theater Army Materiel Management Center, 21st Theater Army Area Command, Kaiserslautern, GE, (20 February 1998).

⁵ Personal experience of the author while serving as Battalion Commander, 70th Transportation Battalion (AVIM), Coleman AAF, GE. Contractors are hired directly from the civil market. Although some contractors have prior military experience, no military training is required. No time is provided in the contract for training and it is not included in the statement of work.

⁶ The author queried COL Fred Naigle, ODSCLOG, DALO-AV, and LTC Carl Wiley, USAALS, Ft. Eustis, VA, to determine if a risk assessment was accomplished. No knowledge of any such assessment was available.

⁷ Acting Assistant Secretary of the Army (Research, Development and Acquisition) Kenneth J. Oscar and Acting Assistant Secretary of the Army (Installations, Logistics and Environment) Alma B. Moore, "Policy Memorandum-Contractors on the Battlefield," SARD-SA memorandum for see distribution (all major commands), n.d.

⁸ Personal experience of the author while deployed to Bosnia and Herzegovina in support of Operation Joint Endeavor.

⁹ Headquarters, Department of the Army, Army Aviation Maintenance, FM 1-500 (Washington, D.C.: U.S. Department of the Army, 27 January 1995), 2-2.

¹⁰ Ibid., 2-7.

¹¹ The supporting maintenance unit must be authorized to perform the task being authorized. Although not required, the

authorizing unit usually retains responsibility for quality control.

¹² GEN John M. Shalikashvili, Chairman of the Joint Chiefs of Staff and LTG John J. Cusick, Director for Logistics, The Joint Staff, Joint Vision 2010, Focused Logistics, A Joint Logistics Roadmap. (Available from <<http://www.acq.osd.mil/log/mosaic>> n.d.).

¹³ Ibid., I & 40.

¹⁴ Department of the Army, Logistics Integration Agency, The Army Strategic Logistics Plan, Battlespace Logistics - The Vision, n.d., 6.

¹⁵ Department of the Army, Private Contractor Deployment Guide, DA PAM 751-XX (Washington, D.C.: U.S. Department of the Army, n.d.), 1.

¹⁶ Personal experience of the author. There are two primary contracts that provide contractor support for aviation maintenance in Europe. They are easily modified to accommodate new requirements.

¹⁷ 100% of 30 BNCOC students interviewed at USAALS, Ft. Eustis, Virginia, served in units directly supported by contractors.

¹⁸ Apache Prime Vendor Support (PVS) is a joint Boeing-Lockhead Martin, in partnership with General Electric, proposal to provide an essentially "nose to tail" warranty for the AH-64 Apache helicopter.

¹⁹ COL Alfred J. Naigle, "Apache Prime Vendor Support (PVS)," information paper, Office of the Deputy Chief of Staff, Logistics, DALO-AMV (Aviation), 9 January 1998.

²⁰ The survey was conducted in a small group interview format. The interviewer asked questions and responses were written by the respondents without discussion with other respondents. No leading or sample responses were provided. Respondents answered each question from their own experience.

²¹ DAPC-45 data was provided by LTC Gary Knapp, Chief of the Aviation and Transportation Branch, Enlisted Personnel Management Directorate, U.S. Army Personnel Command.

²² Personal experience of the author. Approximately 25-40% of the avionics components work ordered to AVIM maintenance units are returned with no faults noted, indicating that the deficient system was not correctly diagnosed.

²³ SGT (P) Charles Argumaniz <danger06@uno.com>, "Contractors," electronic mail message to the author <jlbrooke@aol.com>, 16 February 1998. SGT Argumaniz is a student at the Basic Noncommissioned Officer Course at the Aviation Logistics School, Fort Eustis, Virginia. After participating in an interview conducted at Ft. Eustis 4 February 1998, SGT Argumaniz took the initiative to provide comments he apparently felt strongly about.

BIBLIOGRAPHY

- Argumaniz, Charles <danger06@uno.com>. "Contractors." Electronic mail message to J. Lynton Brooke <jlbroke@aol.com>. 16 February 1998
- Keirse, Jim D., LTC. "Army Aviation Maintenance--What Is Needed?" USAWC Study Project, 19 January 1992
- Keller, David, CPT and Ward, Tom, CPT. "Suspicious Confirmed, Low Man-hours, Low Readiness," U.S. Army Aviation Digest (March/April 1993).
- Knapp, Gary, LTC, Enlisted Personnel Management Division. DAPC-45, Special Query. Available by request from the Aviation and Transportation Branch, Enlisted Personnel Management Directorate, U.S. Army Personnel Command. Leger, Gunther., Analyst, Aviation and Missile Branch, Directorate for Materiel Management, 200th Theater Army Materiel Management Center, 21st Theater Army Area Command, Kaiserslautern, GE, (20 February 1998) data provided by Powerpoint spreadsheet.
- Naigle, Alfred J., COL. "Apache Prime Vendor Support (PVS)." Information paper from Office of the Deputy Chief of Staff, Logistics, DALO-AMV (Aviation), 9 January 1998.
- Oscar, Kenneth J., Acting Assistant Secretary of the Army (Research, Development and Acquisition) and Moore, Alma B., Acting Assistant Secretary of the Army (Installations, Logistics and Environment). "Policy Memorandum-Contractors on the Battlefield." SARD-SA memorandum for see distribution (all major commands), n.d.
- Roos, John G. "In-House Or Outsource?" Armed Forces Journal, January 1998, 24.
- Schoomaker, Peter J., Gen. "The Special Operations," Armed Forces Journal International, February 1998, 33.
- Shalikashvili, John M., GEN, and John K. Cusick, LTG. Joint Vision 2010, Focused Logistics, A Joint Logistics Roadmap. Washington, D.C. n.p., n.d. (Available from <<http://www.acq.osd.mil/log/mosaic>> n.d.).
- U.S. Army Aviation Logistics School. Maintenance Is Not Maintenance. Briefing provided by LTC Carl Wiley, author unknown, n.d.
- U.S. Department of the Army. Army Aviation Maintenance. FM 1-500. Washington, D.C.: U.S. Department of the Army, 27 January 1995).

U.S. Department of the Army. Private Contractor Deployment Guide.
DA PAM 751-XX. Washington, D.C.: U.S. Department of the Army,
n.d.

U.S. Department of the Army, Logistics Integration Agency. The
Army Strategic Logistics Plan, Battlespace Logistics - The
Vision. n.p., n.d.