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FORCE XXI

ARMY AVIATION

OFFICIAL PUBLICATION OF THE ARMY AVIATION ASSOCIATION OF AMERICA • FEBRUARY 29, 1996

**THERE'S
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IN THE AIR.**



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ARMY AVIATION is the official journal of the Army Aviation Association of America (AAAA). The views expressed in this publication are those of the individual authors, not the Department of Defense or its elements. The content does not necessarily reflect the official U.S. Army position nor the position of the Army Aviation Association of America (AAAA) or the staff of Army Aviation Publications, Inc. (AAPI). Title reg. ® in U.S. Patent Office. Registration Number 1,533,053.

SUBSCRIPTION DATA

ARMY AVIATION (ISSN 0004-248X) is published monthly, except April and September by AAPI, 49 Richmondville Avenue, Westport, CT 06880-2000. Tel: (203) 226-8184, FAX: (203) 222-9863, E-Mail: 74023.3400@compuserve.com. Subscription rates for non-AAAA members: \$25, one year; \$48, two years; add \$10 per year for foreign addresses other than military APOs. Single copy price: \$3.00.

POSTAL

Second class postage paid at Westport, CT and other offices.

POSTMASTER

Send address changes to AAPI, 49 Richmondville Avenue, Westport, CT 06880-2000.

FORTHCOMING ISSUES

March-April 1996 — AAAA Annual Convention Issue.

May 1996 — Air Traffic Services and Post-Convention Issue.

Briefings

According to Fort Rucker's December 1995 **Army Aviation Warfighting Bulletin**, Army Aviation's participation in Advanced Warfighting Experiments (AWEs) during FY95 provided lessons learned which will be incorporated in continuing efforts toward Force XXI. Among these lessons are that ARI is about right, digitization efforts are on track, and that core programs are effective. Army Aviation will participate in the following experiments in FY96: Survivable Armed Reconnaissance on the Digital Battlefield (SARDB); Prairie Warrior 96; Intrepid Vision Battle Lab Experiment; and the Brigade Task Force XXI AWE. POC is MAJ Carter, DSN 558-9731.

Also at Ft. Rucker, DOTDS has reorganized and established a new branch, **Gunnery and Training Aids Devices Simulators and Simulation (TADSS)**. TADSS is responsible for Army Aviation gunnery management and training requirements; Attack, Reconnaissance, Utility, and CTC simulator and training device life cycle management; user representative for simulators and training devices; quality assurance for TADSS; and software support and configuration management.

LTG Henry H. Shelton, Commanding General, XVIII Airborne Corps, Ft. Bragg, NC, has been nominated for promotion to General and assignment as Commander-in-Chief, U.S. Special Operations Command, MacDill AFB, FL. **MG John M. Keane**, Commanding General, 101st Airborne Division (Air Assault), Ft. Campbell, KY, has been nominated for promotion to Lieutenant General, and is slated to take command of the XVIII Airborne Corps. **MG William F. Kernan**, currently serving as J-5, USSOCOM, will become CG, 101st Airborne Division. No reporting dates have been announced.

Trimble Navigation Limited, Sunnyvale, CA announced on 11 September 1995 that it had been awarded an upgrade contract from the U.S. Army Communications-Electronic Command (CECOM) to provide 800 Stand-alone Airborne GPS Receivers (SAGRs) for U.S. Army helicopters. The contract also calls for an option to purchase 200 additional units. Trimble will supply its Centurion™ GPS receivers, replacing Trimpacks which have been in use since DESERT STORM.

Kent F. Smith, an aerospace engineer assigned to the Safety and Survivability Division, Aviation Applied Technology Directorate (AATD), Aviation Research, Development, and Engineering Center (AVRDEC), Ft. Eustis, VA recently received the Secretary of the Army's 1994 Award for Outstanding Achievement in Materiel Acquisition. Mr. Smith was recognized for his dedicated commitment to the development of the Cockpit Air Bag Systems for helicopters, and for the instrumental role he played in assuring rapid and effective transition of the concept to multiservice operational and development helicopters. Robert V. Kennedy, associate director for technology, AVRDEC, U.S. Army ATCOM, St. Louis, MO, presented the award.



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FRONT COVER

Paid Advertisement: Boeing Sikorsky. Successful first flight for the RAH-66 Comanche is a major step forward for the Army's 21st century modernization plans. When fielded, the stealthy and highly survivable combat helicopter will feature break-through targeting capabilities along with the ability to rapidly exchange data with all member of the Combined Arms Team through a digitally-linked network. Caption provided by the advertiser.

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When it comes to the most versatile armed reconnaissance helicopter in the world, only one offers air transportability, survivability, weapons capability and marinization. It is the OH-58D Kiowa Warrior. ♦ Famed for its combat-proven long-range day and night target acquisition, the Kiowa Warrior can deliver an array of ordnance from selected combinations of HELLFIRE and STINGER missiles, Hydra 70 mm rockets and a 50 caliber machine gun. Its low maintenance demands give the OH-58D the highest readiness rate of any Army warfighting helicopter. The Kiowa Warrior's low acoustic and IR signature, coupled with its ability to be masked and still acquire targets, significantly reduces its vulnerability to hostile fire. What's more, two armed Warriors can be ready to fight less than 10 minutes after being off-loaded from a C-130. ♦ Projecting the Kiowa Warrior into the 21st century are improvements including increased engine performance, GPS, inertial navigation, high-rate processors, additional situational awareness features and multi-service digital communications. So for the combat power, versatility and preparedness needed in today's potential conflicts, nothing else compares to the OH-58D.

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EUROPEAN SECURITY

In my two and a half years as Supreme Allied Commander Europe (SACEUR), I have addressed numerous groups, and my articles have appeared in several publications. No matter the form, however, my message hasn't changed much. This is because whenever a question is raised on security and defense matters in Europe, the answer can be found in the New NATO and its role in the New Europe.

Momentous events are taking place in Europe and the NATO Alliance. As you read this article, U.S., NATO, and partner forces — including critical U.S. Army Aviation units — are in Bosnia executing the first winter campaign in NATO's history.

Despite a departure from what NATO has trained to do for over 40 years, Operation JOINT ENDEAVOR directly fulfills NATO's unchanging mission of defending peace and stability in Europe. What's more, our success in Bosnia may well define the future of U.S., NATO, and European security affairs into the next century.

The roles and missions of the New NATO.

Eight years ago, no one could have imagined that U.S. and NATO would be working side-by-side with Russia and other former adversaries, let alone be conducting out-of-area peace enforcement operations. But, Europe changed dramatically with the fall of the Berlin Wall and the collapse of Communism. The Soviet Union and the Warsaw

Pact disappeared almost overnight. Where totalitarianism once ruled, democratic governments quickly formed. Responding appropriately, NATO's heavy forces — for years arrayed in echelon from Norway to Turkey — were greatly reduced in size and structure. The established rules of confrontation were gone.

Far-sighted diplomats, political strategists, and defense planners scrambled to catch up with these unforeseen events. They soon developed a new security structure to replace the one that had kept peace in Europe for over a generation. The result has been an historic opportunity to expand the democratic and economic successes of western Europe to all of Europe, with the

RAH-66 Comanche

The next generation warrior

Like Comanche warriors of the past, 21st century Army aviators will face battlefield challenges demanding agility, survivability and combat effectiveness.

The RAH-66 Comanche will provide these capabilities and more, enabling U.S. Army aviators to win on tomorrow's digital battlefield.

Hughes Training, long a contributor to Army aviation training, will develop an integrated training system that complements the advanced technologies being employed on the Comanche.

State-of-the-art training devices will ensure that tomorrow's Comanche warrior can identify, prioritize and attack targets while exchanging information over a digital communication network.

This 21st century battlefield environment will be challenging. But Comanche warriors, backed by superior training, will be ready to lead the charge.



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NATO alliance playing a major role.

Two years ago, in my early months as SACEUR, it was obvious to everyone that the threat of attack on members of the Alliance was low. But, I recognized as well that NATO's ability to provide collective defense must remain the basis of a strong and stable Europe.

The reason was that the European theater was still a dangerous place. Long repressed ethnic unrest was fomenting anew in areas such as the Balkans. Fragile democracies in their countries impoverished by Communism struggled to maintain stability within their borders. Tens of thousands of nuclear weapons still were stored in some of these fragile democracies. To counter these evolving threats, Europe must still take advantage of the proven and capable security architecture that NATO had provided for over a generation.

To put this theory into practice, the New NATO has adopted its forces, streamlined its command and control, and assumed new missions that accurately counter the new threats.

The static, heavy NATO force structure designed to defend against a massive offensive is gone. It is a smaller, more agile NATO now, but still a very capable one. One of the best examples of New NATO forces is the ACE Rapid Reaction Corps — the ARRC. Operational since 1994, its headquarters recently deployed to Bosnia, and its commander leads the ground component of NATO's Implementation Force (IFOR). They are now directing the difficult operations of marking areas of separation agreed upon at the Dayton Peace Accords; monitoring, and if necessary, enforcing the withdrawal of forces within the specific time periods; and manning the zones of separation. What was only a line diagram on paper

three years ago is now a well-trained and capable force ensuring peace in a troubled land.

With well-trained, mobile forces and rapidly deployable command and control structures, NATO has proven it can respond robustly and quickly to its new mission of peace enforcement. NATO forces can now go North, South, East, or West — anywhere needed to perform missions from the low end to the high end of the conflict spectrum.

NATO's force capabilities and crisis management mission are essential to fostering peace and stability in the New Europe. If NATO forces can be used to resolve the differences before they fester into crises, defuse crises before they explode into open conflict, or rapidly confront conflict before it destroys fragile democracies, then NATO's basic mission of deterrence will also be fulfilled.

Present and future Army Aviation is ideally structured, trained, and equipped to support the New NATO. As the modern battlefield or operations area expands, Army Aviation's flexibility and versatility are essential to accomplishing the mission. In all of NATO's missions from collective defense under Article Five of the NATO Charter to non-Article Five missions such as peacekeeping, humanitarian assistance and disaster relief, Army Aviation is proving to be the vanguard of the force.

As NATO has evolved in structure to meet the threat, so has Army Aviation. Through the Aviation Restructure Initiative (ARI), U.S. Army Aviation forces have consolidated to better sustain themselves on the modern battlefield; but, like NATO, their basic missions remain unchanged. Operational success comes when versatile forces adapt quickly to accomplish the assigned mission.

Joint STARS

A milestone in the integration of large, complex ground surveillance technology.

JSTARS played a pivotal role in the Gulf War.

Today, a greatly enhanced system is available to U.S. allies. It detects, locates and tracks moving vehicles in real time while providing high-resolution, near-real-time Synthetic Aperture Radar images. This unprecedented level of situational awareness is as critical in combat as in peace-

time and crisis. And JSTARS' compatibility with all other space, airborne and ground-based surveillance and reconnaissance assets makes it the optimum choice for our allies. Northrop Grumman. The right technologies. Right now.

NORTHROP GRUMMAN



Initial reporting on TASK FORCE EAGLE's movement into Bosnia clearly indicated that the 12th Aviation Brigade and the 1st Armored Division's 4th Aviation Brigade have been vital to the success of this difficult deployment.

Operating independently, UH-60 Black Hawks, CH-47D Chinooks, and venerable UH-1 Hueys have been able to bypass clogged ground lines of communication. They are prepositioning critical combat support and combat service support assets and thereby enabling the main force to arrive on time and ready. Without such adaptability and mobility, the entire operation could have stalled with disastrous effects on the establishment of peace and on NATO's future credibility.

I visited the Sava River bridge site on 30 December and personally saw the flexibility of Army Aviation. When more pontoon bridge sections were needed and could not get to the rivers, CH-47s brought them forward and dropped them in the river! What a sight! It uplifted troops and, I might add, it had a significant impact on the warring factions. The U.S. engineers had a mission: build a bridge over the Sava in the worst weather and flooding condition in 100 years, and they did it to standard. It was a combined arms effort, and Army Aviation played a key role. Clearly, we were *one team with one mission!*

Operating as an integral part of the combat team on the move, AH-64 Apache attack helicopters have provided essential force protection to the engineers building bridges across the Sava River and to the main body of the 1st Brigade Combat

Team as it crossed the Sava River into Bosnia. It was a great feeling watching the men and equipment of the 1st Armored Division move across the pontoon bridge and hearing the sounds of Apache rotors overhead. Equally as satisfying was knowing that OH-58 Kiowa scouts were reconnoitering the marshaling areas on both sides of the river and routes to the final operating areas in Bosnia. Ensuring safety of the force, whether in a conventional military operation or in peace enforcement, is critical to mission success.

Maneuverable and lethal attack and assault helicopters are now prepared to suppress rogue elements in Bosnia who would want to disrupt the peace process. In response to isolated, violent incidents around Sarajevo and elsewhere, helicopters are now flying regular patrols, sending a lethal warning that such activity will not be tolerated. Some Apaches are now equipped with the near-real time

Phototelesis image transmission system, increasing their capability to detect, identify, and, if necessary, neutralize the threat.

Even during peace enforcement, such robust operations would fall under the aviation concept of dominating maneuver. Army Aviation in Bosnia is compelling the enemy to abandon his aim or risk destruction. This, in turn, accomplishes the overall campaign objectives of maintaining peace and allowing other agencies to rebuild this war-torn country. Strategic missions may differ in scope, intensity of conflict or duration, but to the troops, military operations are military operations. And, nobody operates better

*“Army Aviation
in Bosnia
is compelling
the enemy
to abandon
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destruction.”*

in the New NATO than U.S. Army Aviation.

Operation JOINT ENDEAVOR is just starting. The force is moving into position according to a well-conceived plan. The long process of creating the conditions for peace to take hold has already begun. Many more operations lie ahead for the troops of the IFOR. They will face routine situations. They will confront unforeseen circumstances requiring them to adapt and be flexible in order to succeed. I am confident, however, that we have the proper force mix that will ensure eventual success. That force mix includes the well-trained, dedicated professional of U.S. Army Aviation.

The results to date on compliance by the former warring factions have been impressive: voluntary movement by all sides from the zones of separation; voluntary identification and removal of minefields; joint military commission meetings; and more freedom of movement than Bosnia has seen in four years. I do not want to sound too optimistic; much more remains to be done, and there will be bumps in the road. But NATO and U.S. forces are deploying in a professional manner to the most difficult terrain in Europe at the most difficult time of the year, thereby sending a clear signal that a well-equipped, well trained, well-led, multi-national force is now in Bosnia.

For over a generation of peace in Europe, NATO and U.S. forces have relied heavily on continuing improvements in forces, doctrine, and strategic vision. The New NATO will continue to do so as it moves into the next century. It is no surprise, therefore, that

NATO is better and stronger today than what it was in the past. We preached theory in the past; we now practice real world operations. Over the years, we have finely honed our procedures and have built a force that achieves high results in a multinational environment. Operation JOINT ENDEAVOR shows clearly that the force in Europe is trained, ready, and capable of operating at all points along the conflict spectrum. The forward deployed U.S. force in Europe again has demonstrated its relevance to the national strategy of the United States.

Let me say in summary that NATO is as relevant today as it was in the past. Our mission in Europe didn't end with the collapse of the Wall, the fall of the Iron Curtain, or the defeat of an ideology. To use an old infantryman term: We have yet to consolidate on the objective. That will come with a Europe whole and free from the Atlantic to the Urals; a Europe with stable, democratic institutions based on mutual trust and confidence and solidarity.

That was our theory two years ago. We're much closer to making it a reality today. With Russia and others willing to participate in IFOR, we have a real opportunity to help achieve a lasting peace in the Balkans and thereby take one step closer to a stable and democratic Europe. The bottom line is that the mission continues, and we are ONE TEAM involved in ONE MISSION — with Army Aviation as an essential member of the team!

★ ★

GEN Joulwan is the Supreme Allied Commander Europe (SACEUR) and Commander-in-Chief, U.S. European Command, Brussels, Belgium.

BRIGADE COMMANDERS CONFERENCE OVERVIEW

Aviation brigade commanders from worldwide active and reserve components gathered at Fort Rucker to discuss and share ideas, experiences and concerns the second week of January. The focus of this annual conference was to bring brigade commanders, senior aviation leaders, and members of the Aviation Center Team together "face to face," and give them the opportunity to discuss changes and issues effecting our branch and the aviation community at large.

During the conference, the participants were given presentations pertaining to six topic areas: **Training the Force**, which highlighted total force training and CTC observations; **Sustaining the Force**, which highlighted aviation maintenance; **Equipping the Force**, which highlighted PEO Aviation, the OH-58D Kiowa Warrior, and the Longbow Apache; **Manning and Protecting the Force**, which included a Safety Center update, current soldier issues, an aviation medicine update, and a Flight School 2001 overview; **Aviation XXI**, which

*A review
of the
annual
gathering
of senior
aviation
leaders.*

highlighted the EXFOR and the Aviation XXI Campaign Plan; and **Fighting the Force**, which highlighted doctrine, special operations, combined operations and deep maneuver. Our keynote speaker, General William W. Hartzog, TRADOC Commander, was going to address Force XXI, but the "Blizzard of '96" prevented him and

many others from the mid-Atlantic area from being with us.

As our Army moves into the future, the need to speak with one voice is imperative, perhaps especially so for Army Aviation. This conference allowed for the building of consensus to allow us to do just that. In July 1995, we conducted a worldwide aviation video teleconference and queried the brigade commanders for concerns and issues applicable to the evolving missions of Army Aviation. Upon receiving those items, we arranged the agenda for the conference around the most relevant issues affecting our branch. Other questions and issues were answered through information papers that were



Attendees of the 1966 Aviation Brigade Commanders Conference assemble at Ft. Rucker, AL.

provided for all participants at the conference. These information papers were made for dissemination at the unit level.

Although the Aviation Brigade Commanders' Conference happens only once a year, the Center Team is working throughout the calendar year to provide you with up-to-date information and analysis. Our intent is to be responsive to the commanders and soldiers in the field. Your questions and concerns cannot and should not wait until next year. As issues arise, let your chain of command know. We at Fort Rucker are leaning forward, prepared to help you find the answers.

Today, the Aviation Center Team is building the "Fort Rucker Homepage". Soon you will be able to gather current information 24 hours a day, about our branch, our schools, and new technology. One of the areas of this homepage will be

a DOTDS "Deficiency Analysis Section" or DAS. DOTDS has developed and organized this section to capture Army Aviation "lessons learned" and training deficiencies. The outcome will be training solutions to performance deficiencies, and improved training efficiency and effectiveness.

With new and exciting achievements happening in aviation today, we cannot afford to wait until tomorrow to look forward. What you think about the future, frames what you think about the future, which drives what you do about the future.

This year's Brigade Commanders Conference confirmed our theme ... "The Future is Now!"

★ ★

MG Adams is the Aviation Branch Chief and Commanding General, USAAVNC and Ft. Rucker, AL, and Commandant, U.S. Army Aviation Logistics School, Ft. Eustis, VA.

FORCE XXI: VISION AND GOALS

To achieve the vision and goals of Force XXI, all battle command systems must be flexible and interoperable and must integrate information from sensor to shooter in a near real time mode. The supporting battle command information infrastructure must support the ability to tailor a force rapidly and efficiently to meet any future contingency.

The capability to seamlessly transfer information across all the tactical Battlefield Operating Systems and from the lowest to highest echelon of command is dependent on having in place well defined standards and protocols-based set of architectures. This is especially crucial in capturing the capabilities of modernized aviation systems such as the AH-64D Longbow Apache, OH-58D Kiowa Warrior, the A²C²S, AVTOC, and the Aviation Mission Planning System (AMPS) and in the future, the RAH-66 Comanche.

To capture and apply the information available on the battlefield, an overall integrated architectural framework for the digital battlefield is being developed and is based on three separate and distinct

*How to
capture
the promise
of
digitization.*

architectures.

These three architectures, as defined by the Army Science Board, are the Technical, Operational, and System Architectures. The Operational Architecture states what to build, the System Architecture states how to build it, and the Technical Architecture states the rules and standards.

The Army's Command and Control procedures have not changed significantly since World War II. Maps mounted on acetate covered sheets of plywood are still widely used, however, systems such as the AMPS will go a long way in allowing for rapid planning, rehearsing, and visualizing the battle. To maximize the use of information technologies we must change our Tactics, Techniques, and Procedures (TTP) and not simply automate existing functions. Changing the way we do business is more challenging than the development and acquisition of this technology. The Army will use an experimental process to evolve Digital TTPs, as well as to measure the effectiveness of various technologies.

The assessment strategy for forces

equipped with digitization technologies will be a continuous evaluation based on modeling, simulations and Advanced Warfighting Experiments (AWEs). Experiments in early FY96 will not have a full suite of digitized equipment, but through the use of surrogates and simulation, they will produce the initial TTP that will be used in the Brigade level Task Force AWE.

The Brigade through Corps AWEs will be organized around a live Brigade TF while additional brigades will be simulated to replicate the "live brigade." Headquarters (Div and Corps), support "slices," Sister Services and Joint organizations will be integrated at each level. Following the Corps AWE in FY99, decisions will be made concerning acquisition of systems to support Force XXI. Current plans call for digitizing approximately 1-1/3 Divisions per year beginning in FY00. The Army Modernization Plan has set in motion the Aviation operating systems for Force XXI, but the challenges for Aviation include making the A2C2S a "seamless" TOC, inherently the same functionality as a ground TOC — allowing the Commander the ability to move from one to the other without significant change in operations. Challenges for Aviation also include capturing the information from the AH-64D Longbow MMW Radar and providing it to the Intel/Ops nets, and ensuring that development of the Comanche allows for its smooth integration into the digital battlefield.

To achieve the required integration on the battlefield, an Army Digitization Campaign Plan has been developed. The execution of this campaign plan will be conducted in four thrusts:

- Acquisition,
- Development of the "Tactical Internet",
- Integration of all operating systems,

● and Evolution of the Battlefield Information Transmission System (BITS).

These thrusts will be conducted in accordance with the technical, operational, and system architectures and comply with DoD guidance.

The first thrust and a key aspect in providing digital capability to Force XXI is the acquisition of a digital capability for lower echelon forces. This effort will equip platforms which lack an embedded digital capability with a laptop-sized computer — the "appliqué" — and provide the common software to link them together as well as to the C² systems at echelons Brigade through Corps.

The second thrust is integrating the various battlefield communication systems through the use of common Internet protocols and routers. This integration will provide the battlefield users with a seamless Internet-like communications capability and permit data transfers that will access all available communications systems.

Thrust three focuses on assuring that the digital capabilities provided via the appliqué hardware and software are integrated with other information and weapons systems on the battlefield. It entails assuring that data elements, message standards, and communication protocols are common across all digitized platforms. In some cases, this will require upgrading embedded systems so they can implement these common elements. This requires changes to all of the modernized Aviation platforms.

Thrust four is concerned with the Battlefield Information Transmission System (BITS). While the "Tactical Internet" will substantially improve communications connectivity, the digital data load of the future is expected to exceed the capacity of this network. Experiments will be conducted with commercial technologies

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but eventually, a new data radio will be developed. Until a data radio is developed, a Near Term Data Radio (NTDR) is being solicited from industry, which is expected to provide the increased data capability that will be required for the division sized experiment in 1998.

The Army's digitization efforts also fully embrace and support the Joint Staff's "C4I for the Warrior" concept. To accomplish the goals of this concept, each Service has implemented a framework to achieve Joint interoperability within DoD guidelines. The Army's framework is called "The Enterprise Strategy." Battlefield digitization is one of the ten principles of this strategy and will ensure that the Warfighter will have information superiority over any opponent. The Army Digitization Master Plan guides Army efforts in support of this principle and reinforces the overall Army "Enterprise

Vision".

Army Aviation's multi-faceted missions pose unique challenges but its inherent flexibility, capability, and advanced technologies must be integrated into the Combined Arms Team, allowing all elements of the Army to benefit from its achievements. Tomorrow's smaller Army will be an effective and lethal force with every decision maker deciding, every shooter shooting, and every supporter supporting in a synchronized manner, enabled by rapid, complete, and interoperable (Army, Joint, and Allied) digital information systems. We must capture these capabilities and integrate them to be successful on the future digital battlefield.

★ ★

MG Ripley is the Director, Army Digitization Office, Pentagon, Washington, D.C.

AVIATION VISION FOR FORCE XXI OPERATIONS

The Aviation Branch vision states that Aviation is the relevant force for the 21st century providing *combat, combat support, and combat service support* capabilities across the spectrum of full-dimensional operations.

Its inherent versatility, maneuver advantage, and warfighting effectiveness will influence all dimensions of the future battlespace. Highly motivated Aviation soldiers, equipped with modern systems and trained to world class proficiency, will provide commanders at all levels an exponential increase in lethality, the leadership to harness the technological revolution of the digital battlefield and the ability to achieve decisive victory.

Army Aviation will contribute to Force XXI Operations and will fight as a member of the Army's combined arms in joint, combined arms, multinational operations. These operations will be conducted in a changing military environment which has demonstrated, in the period following the end of the cold war, how rapidly threats can emerge and how volatile the world situation is. Force

*Aviation is capable
of enhancing
combat
effectiveness
across all
battlefield
operating
systems.*

XXI will be characterized by the following general principles.

The U.S. will maintain a smaller standing armed force, with fewer forces stationed in Europe and other forward deployed locations. Limited war and other military operations will be the main concern of war planners. Future operations will seldom if ever be conducted by a

single service.

Future aviation operational principles evolve from innovations in battlefield digitization, battle command, extensions of battle space, the quest for simultaneity, the need for spectrum supremacy and political/military rules of war. Information operations and improved intelligence capabilities will improve situational awareness coming from multilateral sources, driving further the need for increases in the speed of assimilating, tracking, processing and distributing information products.

Aviation operational principles will remain as follows:

Aviation performs combat, combat support and combat service support

battlefield functions. Aviation provides the commander the ability to rapidly mass firepower at critical times, anywhere on the battlefield. It also provides support missions directed toward ground combat operations, including air movement, aeromedical evacuation, and air assault capabilities and can serve as a primary means of providing combat service support, thereby epitomizing versatility.

- The role of combat aviation is to locate and destroy enemy ground forces and support elements. In response to today's increasingly dangerous battlefield environment, including a proliferation of high tech, low dwell, lethal weapons systems, Aviation must be able to respond to tactical requirements rapidly, providing effective precision fires.

- Aviation operates in the ground environment. This cardinal principle defines aviation's role as an element of landpower. Aviation greatly multiplies the commander's ability to apply four fundamental principles of war: mass, surprise, maneuver and economy of force.

- Aviation expands the battlespace in space and time by extending the commander's reconnaissance and surveillance envelope beyond the effective range of other systems. Aviation expands battle space at each echelon to which it is assigned or attached, providing unique capabilities where none exists or adding to existing capabilities.

- Aviation units are integrated into the combined arms team down to the level at which they will be employed. The aviation brigade is the primary level of integration.

To achieve Force XXI objectives, technology must be integrated across the force. Aviation systems are evolving rapidly, increasing the capability of the force through the application of information age technologies. Enhancements in

the information component of aviation systems will allow aviation to tap this information and provide significant contributions to Force XXI patterns of operation. The following paragraphs briefly describe Army Aviation's contributions to Force XXI patterns of operations.

Project the Force. FORCE XXI will be predominantly CONUS-based. In response to future crises, forces with an appropriate, precise blend of capabilities for combat will rapidly assemble and prepare for deployment. Modularity in design will allow the Joint Task Force (JTF) commander to rapidly tailor a force to accomplish a variety of missions. Aviation forces conduct full dimensional operations in support of force projection: rapid/self deployment, recon/security, attack and air movement operations, and aerial resupply. The mobility and lethality of aviation units on the battlefield, relative to the efficiency with which they are deployed, result in a high demand for aviation in early entry operations.

Protect the Force. Force XXI will conduct operations across an expanded battlespace. Maneuver elements must be able to operate dispersed, to concentrate their combat power at the decisive time and place, and then to disperse again. Protection of Force XXI units is enhanced by dispersed operations, enabled by the digitally supported enhanced battle command system, in which the need for close proximity is greatly reduced for planning, rehearsal, command and control. Army Aviation is capable of conducting force protection missions for operations of this kind, due to its superior mobility, the precision firepower of its direct fire and standoff weapons systems, enhanced situational awareness, digital mission planning capability and the connectivity provided by its digital communications systems. Aviation expands space and time

by extending the commander's reconnaissance and surveillance envelope beyond the effective range of other systems.

Win the Information War. Army Aviation in Force XXI operations will conduct operations to support all four components of information operations: gathering intelligence, attacking enemy command and control, protecting friendly command and control and construction of the information battlespace.

- Armed reconnaissance helicopters will operate up to hundreds of kilometers ahead of the main body, transmit intelligence in the form of images, digital messages or voice to the commander in real time, take direct action against threats and report real time Battle Damage Assessment (BDA).

- Using millimeter wave radar and the Radar Frequency Interferometer (RFI), the Longbow Apache (LBA) will detect radars at up to six kilometers through battlefield obscurants. They will destroy critical enemy communications, artillery and radar assets. Army Aviation will search generally defined sectors and destroy critical enemy air defense and early warning radars to clear air avenues of approach for follow-on Air Force or attack helicopter operations.

- The most effective means of protecting command and control is speed of execution. Army Aviation clearly enhances speed of execution. The Army Airborne Command and Control System (A²C²S) will communicate with ground Tactical Operations Centers (TOCs) and with LBA and Comanche using secure digital messages to prevent both jamming and interception.

- The limits of a commander's battlespace are defined by his ability to acquire and engage targets. By protecting our sensors and communications, and destroying or degrading the enemy's C² and

target acquisition capabilities, Army Aviation expands our battlespace while shrinking the enemy's battlespace. The A²C²S provides aviation and maneuver commanders secure, jam resistant voice and digital communications to see the battlefield and control aviation assets operating in depth to ranges of 200 kilometers or more.

Shape the Battlespace. Army Aviation will make significant contributions to shaping the battlespace in Force XXI operations. Comanche with its stealthy characteristics will conduct armed reconnaissance to gather information and to counter enemy reconnaissance operations. This provides the commander the reaction time and maneuver space required to maneuver and concentrate forces to meet the enemy. LBA maintains our attack superiority. Deep operations by attack helicopters destroy entire enemy formations, providing the commander the capability for simultaneity of operations throughout the battlespace.

Conduct decisive operations. Army Aviation conducts decisive operations to destroy moving armored or infantry formations, stationary or moving artillery or air defense, key command and control nodes and logistics assets; to contain or destroy enemy reserves; to deny approaches into friendly areas of operation; and through the conduct of air assault operations.

Improving the capabilities of our aviation systems will provide the stimulus for change in our doctrine, force structure and training. Technology integration is formalized in Army Aviation's seven digitization programs; Army Airborne Command and Control System (A²C²S), Aviation Mission Planning System (AMPS), the Aviation Tactical Operations Center (AVTOC), Global Positioning System (GPS), Improved Data Modem

WHAT ARMY AVIATION BRINGS TO FORCE XXI

RELEVANCE



(IDM), High Frequency (HF) radio, and Have-Quick II radio.

The A²C²S is a UH-60 based system that will provide the corps, division, maneuver brigade and attack helicopter battalion commanders C² while on the move with real time situational awareness and mission planning capabilities. The Aviation Mission Planning System (AMPS) is an automated mission planning, rehearsal, synchronization tool designed specifically for the aviation commander. The Aviation Tactical Operations Center (AVTOC) is Army Aviation's automated digital TOC. The Improved Data Modem (IDM) is a digital data transfer system that will allow both air and ground forces to exchange complex battlefield information in short coded bursts. The AN/ARC-220 radio is designed to permit Non Line-of-Sight High Frequency Nap-of-the-Earth commu-

nication. The HAVEQUICK radio provides joint, secure communication for Army Aviation.

Army Aviation in Force XXI will occupy a smaller "footprint" on the battlefield. Initiatives which will reduce the size of the aviation footprint include: the Aviation Restructure Initiative (ARI); the Aviation Modularity Concept; the Aviation Intermediate Maintenance Containerization and Modernization Plan (AVIM-CAMP); and the previously mentioned AVTOC and A²C²S.

The flexibility provided by Army Aviation assets in military operations in Force XXI is enormous. The agility, mobility and versatility that Aviation provides will ensure U.S. military dominance in the twenty-first century.

★ ★

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COMMANDER'S CRITICAL INFORMATION REQUIREMENTS

In the age of the Digitized Battlefield and Information Warfare it is very likely to "drown" in our own "water" if we are not careful.

By that I mean we have made tremendous developments in our "information gathering" abilities, but have created a new dilemma for the commander. The commander now has to "process and interpret" all this information in a timely fashion in order to optimize its value on the battlefield before this advantage is lost.

Until the advent of an "artificial intelligence" system, what can a commander use to process and interpret all this information? How then can the commander "separate the wheat from the chaff" in terms of gathering and processing? I propose that the best way is to clearly and deliberately define exactly what the information requirements are that the commander seeks.

This method already happens to exist under the title of "Commander's Critical Information Requirements" (CCIR). The questions then are, "What exactly is

How to avoid information overload and manage what you need to know.

CCIR?" and "How does a commander (and staff) use CCIR?"

CCIR is information of significant importance that must be brought to the attention of the commander because of its potential impact on the decisions that he must make in order to be successful during an operation. The commander must focus the information collection effort and then

prioritize what specific bits of information he wants.

The commander should begin to define this at the conclusion of mission analysis and begin a dialog with the staff during issuance of "commander's guidance" prior to developing courses of action. To begin to issue CCIR at a later stage in the decision making process would only waste time and cause confusion among the staff. Stating CCIR prior to developing courses of action is imperative because it will affect many events such as the collection plan, scheme of maneuver, fire support plan, and the deception plan.

CCIR consists of three separate, but related, sub-categories: Priority Intelligence Requirements (PIR), Essential

Elements of Friendly Information (EEFI), and Friendly Force Information Requirements (FFIR).

PIR. PIR are unknown bits of information about the enemy that the commander deems necessary to find out because they significantly influence his decision making. PIRs are usually identified in order to help the commander determine exactly which course of action the enemy is adopting. A PIR should be specific in what it asks and should have a way of being "observed and measured."

PIR should not be "ambiguous" or "broad" in what it is attempting to answer. Example: "Where is the enemy's *main effort*?" This is not answerable for several reasons. Assuming the enemy is attacking, it would be very difficult to answer because only the enemy commander can tell you "where" his main effort is. How would a "main effort" be located anyway? What can be observed and measured to confirm that the "main effort" has been located? What the commander is probably trying to articulate is "Where is the *axis of the enemy's main attack*?" This would still have to be defined in terms of something that is "observable and measurable" that would clearly indicate the force that is conducting the main attack.

A technique for developing PIRs begins with the commander clearly articulating what "tactical decision" he seeks on the battlefield.

Example Tactical Decision: "Defeat the enemy's main attack."

Unknown information that is critical to this event: How to determine which unit is conducting the main attack and what route will they probably follow into the MBA? At this point, the staff officer subject matter expert (S2 in this situation) may need to define the "observable and measurable" part of this event.

Example Observable and Measurable: "The unit that is likely to conduct the main attack, according to their doctrine, is their second echelon tank regiment. According to their Order of Battle, (OB) that unit is the 25th Tank Regiment. They are equipped with T-72, BMP-2, and 2S6 weapons systems. According to the enemy situation template, once the regiment passes south of Highway 8, they will have to commit to one of the avenues of approach into the MBA." (Highway 8 serves as a Named Area of Interest in this situation.)

Example PIR: "What direction (avenue of approach) do the lead echelon battalions of the second echelon regiment (25 TR) follow after crossing Highway 8?"

Other PIRs to avoid are ones that do not significantly affect the commander's decisions one way or another. Example: "Will the enemy employ chemicals in our AO? If so, where and when?" This can be answered according to his doctrine or recent activities summaries. More importantly, how will this be answered, and what does the answer tell you? It will probably be answered when it occurs, and what difference on your decision making did the threat of a chemical attack make?

The key element to remember in developing a PIR is that it is *critical* information about the enemy that is *currently unknown*, but the commander *needs to know* in order to make a decision that involves the employment of his forces.

EEFI. EEFI is information that the commander needs protected from the enemy. This information could likely be equated to "the enemy commander's PIR against our friendly forces." This information is vital to the commander's operation and needs to be safeguarded. Likely EEFI could include such items as

"the location of our assembly area," "primary and alternate FARP sites", or "location of the FLOT passage points." The unit's deception plan and OPSEC measures should support protecting the EEFI.

FFIR. FFIR are those critical bits of information about *his own force* that the commander needs to be kept updated and informed of because they potentially impact on his decisions. These are the things that the commander wants "to be woken up in the middle of the night for." Likely FFIR might include "when the number of available crews drops below X%," "when the unit has less than X gallons of fuel on hand," or "X number rounds of ammo available." FFIRs generally focus on the unit's ability to "move, shoot, and communicate" in a timely manner.

As with PIR, EEFI and FFIR begin with the *commander* when he issues his initial planning guidance to the staff at the conclusion of the mission analysis briefing. As the staff develops courses of action, now they have a framework of what is critical in terms of information about the enemy, friendly information that needs protecting, and information issues that are critical to the friendly force's capability. This should allow the staff to begin developing courses of action that are well within the commander's concept.

Clearly defined and prioritized information requirements also allow sensor platforms to focus on specific areas or even specific units, thus maximizing their potential. These clearly defined information requirements also allow for ease of interpretation of all this

information, thus separating the "wheat from the chaff" in terms of what is important and what can wait.

As the operation develops, the CCIR are likely to change because the enemy, terrain, weather, and/or friendly situation could change. Any of these variables could cause the commander to suddenly re-prioritize what information is necessary for him to make those crucial decisions on the battlefield. Therefore units might want to consider including "Update/Status of CCIR" in their TOC shift-change briefings.

The key points to remember are that the

CCIR (PIR, EEFI, and FFIR) begin with *the commander*. He must articulate to the staff the information that is important to his decision making. From there, the staff officers may further refine the CCIR. The CCIR must be relative to *the critical decisions* that the commander faces, otherwise he winds up in "information overload"

with a lot of "good-to-know" information and little of "got-to-know" information, thus possibly resulting in haphazard application of his resources in a battle in which he is completely reactive and never proactive. Lastly, CCIR must be specific (observable and measurable). Remember that *someone else* will probably be tasked to collect the information that supports *your* CCIR. Therefore, the information the commander seeks must be clearly and concisely expressed. Lives depend on it.

★ ★

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*"The CCIR
must be
relative to
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commander
faces..."*

THE AVIATION WARRANT OFFICER: NOT JUST A TECHNICIAN

The Army's enormous draw-down has been felt for several years now, and at times it seemed as if it was never going to stop. Fortunately, we have nearly accomplished the mission of streamlining our Army.

How have we survived the reduction in forces/budget, and the simultaneous increase in OP-TEMPO? Simple, as soldiers we are trained to adapt and overcome adversity, and this standard is especially true in the aviation branch.

Today the aviation warrant officer (AWO) is, now more than ever before, a combined arms warfighter who directly employs and commands an array of weapon systems against the enemy. Recently the word technician has been replaced by the word officer, when describing the duties of the AWO, which implies that the duty of the AWO is leadership.

Perhaps more out of necessity than anything else, the aviation branch has started utilizing the leadership skills of the AWOs to the fullest extent. The AWO is now more than just a pilot or technician, he is an irreplaceable leader. This has

"The AWO is now more than just a pilot or technician — he is an irreplaceable leader."

helped to strengthen the bond between the AWO and the commissioned officer. The modern day AWO is no longer restricted to aviation flight operations, maintenance or other technical duties. Today's AWO is a leader of soldiers, deeply involved in planning, developing, and executing the commander's intent.

The warrant officer ranks recently underwent a major rank structuring change as a result of the Warrant Officer Management Act (WOMA) of 1991. Specifically, this act established the rank of CW5. More importantly, it changed the traditional employment of the warrant officer. Today the warrant officers must possess leadership abilities far above what was previously required from them. The motive behind this change was that today's warrant officers may find themselves thrust into situations where their decisions can determine the outcome of the battle. Therefore, the Aviation Branch now requires AWOs to not only have the technical knowledge and ability to pilot advanced aircraft, but also possess the education, experience, and ability to

understand and accomplish the commander's intent.

The WOMA has changed the way we employ the AWO. Today, an AWO's primary job is to be the technical expert for a particular aircraft, and typically the AWOs will spend the first 15 years of their careers at the company level. This gives the AWO a tremendous amount of company level institutional knowledge and experience from which the commander can tap into. One of the AWOs' greatest contributions to the aviation unit is their skill qualification identifiers. The courses which award these additional skill identifiers are normally allocated exclusively for the AWO, and are attained through a schooling and extensive education process. These courses are the Maintenance Test Pilot, the Instructor Pilot, Safety, and the Tactical Operations courses. Currently, all these courses are taught at the United States Army Aviation Center (USAAVNC), Ft. Rucker, AL.

The duties and assignments for today's AWOs have been programmed to develop, not only leadership skills, but also the opportunities for leadership. Several factors are facilitating leadership development and opportunities for the AWO. One factor is the positions, duties, and responsibilities the AWOs are given. Throughout their careers they are provided opportunities to command sections, be unit trainers, command aircraft as the Pilot-in-Charge (PIC), and be the primary Officer in Charge (OIC) in a broad range of additional duties.

Another factor is the maintenance test pilot course is no longer training commissioned officer test pilots. A recent change in policy no longer allows commissioned officers to attend Phase II (Maintenance Test Pilot portion) of the Aviation Maintenance Officer's Course. This policy, in effect, guarantees that AWOs will soon be

the only pilots within the unit, authorized to conduct actual hands on maintenance management. This change in policy has allowed the AWO the opportunities for new leadership roles. Positions once filled exclusively by commissioned officers, such as the Maintenance company executive officer, maintenance platoon leader, and even company command, are now available to the AWO.

The last factor to be discussed, and maybe the most significant, is the shrinking military budget. Army Aviation has been compelled to change the way it did business in the past. The aviation branch has learned how to produce more from less, and as General Reimer said at the AAAA Annual Convention on 1 April 1995, "...we've made reengineering and reinventing more than just buzz words; they are the way we do business, the way we make things more efficient." Take a close look at today's aviation units, and you will find that the AWOs are in front leading troops, and probably doing so as platoon leaders, executive officers, or even as commanders.

Although the Army has lost some of its senior leadership to the RIF, the future for the aviation branch is bright. The aviation branch has a bountiful reserve of educated, experienced, and capable leaders from which to draw from. Today the AWO is, now more than ever before, a combined arms warfighter who not only flies, but also commands weapon systems and troops against the enemy. The aviation branch warrant officers are no longer just technicians, they are leaders!

★ ★

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MOUT: AVIATION PLANNING CONSIDERATIONS FOR OOTW

Without argument military planners concede that most future conflicts, be they War, or Operations Other Than War (OOTW), will involve Military Operations in Urbanized Terrain (MOUT). History is one reason why most authoritative sources claim MOUT is "inevitable".

Forty percent of WW II combat operations were fought in urbanized areas and estimates predict percentages higher than that for any future conflict. Furthermore, past OOTW such as non-combatant evacuation (Hanoi, Grenada), abduction (Panama), peacemaking (Somalia), or nation building (Haiti) demonstrate the necessity of successful MOUT for mission accomplishment. Often, the control of population centers in OOTW facilitates success. As long as the U.S. and its allies seek to further regional stability throughout the world with military intervention, commanders must be proficient at integrating all combat arms in MOUT.

Little has been written to assist in planning aviation MOUT. Presented here

Lessons Learned from the experiences of 2-25 Aviation Regiment in Somalia and Haiti.

are some planning considerations to assist those uninitiated in MOUT. Use these considerations to promote more in-depth planning during MOUT and aid in the establishment of unit MOUT SOP. The planning considerations are divided into phases typical of all operations.

The planning considerations and

techniques presented below were derived from the thousands of hours flown by the 2nd Battalion (Attack), 25th Aviation Regiment during Operation CONTINUE HOPE (Somalia) and Operation UPHOLD DEMOCRACY (Haiti).

Occupation. Detailed Intelligence Preparation of the Battlefield (IPB) and much forward thought must be applied when selecting an Assembly Area (AA) in urbanized terrain, especially during OOTW. Restrictions of the host nation, transportation infrastructure, and civilian disposition (present and projected) may need to be considered in addition to the normal tactical considerations such as defendability, suitability, etc.

The aviation unit with its AA in ur-

banized terrain has quicker response times for operations in the urbanized area or city. Furthermore, occupation of facilities such as an airport, seaport, or railyard will certainly ease resupply with shortened lines of communication, and the aviation unit may augment security of the facility. These facilities often have existing structures for maintenance, sufficient open areas for aircraft dispersion, and appear at first the logical choice for AA location.

All too often, however, these areas have poor defendability. Cluttered fields of fire, ease of enemy observation from adjacent structures, and the inflexibility to modify the terrain with engineer support hamper AA security. Furthermore, enemy direct and indirect fire systems in the adjoining urbanized terrain can often target the lucrative aviation AA with little chance of being located. In addition, the inevitable collateral damage may preclude the use of area weapon/indirect fire on these easily concealed, highly mobile enemy systems (mortars, small AA pieces, recoilless rifles etc.).

For these reasons, the aviation AA should be located outside the urbanized area. How far outside should be balanced between the ranges of known or suspected enemy fire systems in the city, resupply assets available, and the urgency of rapid response to operations in the city. Open terrain outside the city will allow for clear fields of observation and fire. Areas outside the city will generally allow greater dispersion of airframes reducing the chances of single round multiple losses. Also locate all bases to keep travel

outside the AA (specifically through the populated area) to a minimum.

Navigation. The commander must give special attention to several aspects of aviation planning during MOUT. First, all crews and staff must be familiar with the terrain layout as building descriptions and road names will often supplement UTM coordinates during operations. A thorough knowledge of the city permits quick response during hasty, response-type, missions.

Here is one method for MOUT navigation: Divide the area into large sectors, easily defined by existing features

(roads, powerlines, rivers, etc.) and name each sector after a state. Assign each city block within the sector a letter, and each building in the block a number. If Grid Reference Graphics (GRGs) are available for the area they will assist in the breakdown and labeling. A building or open lot may then be easily referenced as "Virginia-Hotel-5".

Aircrews must become familiar with the roof outline of buildings before a mission, as this will often be the first characteristic used for identification. Additional structural features revealed in the GRGs will aid in confirmation. This method of terrain association will prove invaluable for targeting or reconnaissance, since structures are often too close for relying on mere grid coordinates. Ensure that this overlay is distributed to all air and ground elements involved with the operation.

Reconnaissance. Aircraft should operate above 60 knots while over the city. Speeds of 60 knots or greater do not allow the enemy to track aircraft with small arms. Lowest altitude possible will

*"...the aviation
[assembly area]
should be located
outside the
urbanized
area."*

limit the ability of the enemy to bring small arms or AAA systems on aircraft. The lower altitude causes almost continual masking from weapons at ground level, thus limiting enemy observation. Beware that modern cities with greater vertical development offer the enemy advantageous positions to place small arms or shoulder fired systems to engage aircraft.

If enhanced optics (OH-58D, AH-64) and enemy situation permit, conduct reconnaissance from positions beyond the edge of the city over sparsely populated terrain. Aircraft conducting reconnaissance should never occupy stationary positions over the city. The aircraft (never single ship) should initially pass the area of interest at a high speed a few hundred meters to either side. Once no immediate threats are identified, conduct subsequent passes on all sides at slower airspeeds to gather information. If needed, the reconnaissance crews should locate suitable attack/support by fire positions, determine the minimum altitude for weapons use from these positions (taking into account obstacles between firing positions and target area, i.e. rooflines, powerlines, etc.) and determine the best lanes for running fire and associated obstacles.

Video imagery during this reconnaissance is invaluable because it permits shorter station time than sketching, provides more detail, and permits other aircrews to study the area of interest. Because all operations will be observed by the civilian populace, use various means to deceive the enemy such as feigning reconnaissance of additional areas or doing the reconnaissance far ahead of the planned mission. Be aware that key terrain features in this situation may be dominating rooftops, balconies and windows, bridges or tunnels, sewer systems, or similar places the enemy may hide with small arms and shoulder fired

systems.

Attack Position Selection. When planning attack positions during MOUT, there are several factors in addition to Background, Range, Altitude, Sun, Shadows, Concealment, Rotorwash, Area to Maneuver, Fields of Fire (BRASS-CRAF) and Nature of Target, Obstacle Clearance, Range, Multiple Firing Positions, and Adequate Area of Dispersion (NORMA) to consider.

- *Force Protection.* The congestion of forces in MOUT (especially OOTW) demands careful consideration be given to fratricide and collateral damage. Firing position altitude should be as high as METT-T allows to minimize weapons splash, ricochets, and flight distance of misses. Support by Fire will often be danger close due to the nature of MOUT.

- *Winds (fields of fire).* The only viable attack path or field of fire to engage targets on streets with high structures on each side is often the road axis itself. If winds are not aligned with the road axis/attack path, then special consideration may need to be given to aircraft control and munitions ballistics. This predictable attack path will often have an unusually dense AAA umbrella aligned with it.

In addition, concrete structures hit by munitions produce a very thick dust cloud that can quickly and completely obscure the target. If possible always begin servicing a structure on the downwind side.

- *Target Effect.* Obtain all available information possible about the target. Products needed for MOUT IPB may include sewer system plans, power distribution architecture, and related city infrastructure references. Blueprints and floorplans will allow for efficient targeting and the maximization of available ammunition when targeting structures.

Flight Profile. The standard considerations of route selection apply during

MOUT with minor additional factors. Overfly as little as possible of the populated area enroute to areas of interest to prevent the populace from warning of your approach. Watch for signals (lights, tracers, etc.) that residents may use to warn of your approach. Also be wary of incidents within the city that are deserving of investigation. The enemy may light fires, flash lights, build barricades, form crowds, or start riots as a diversion or setup for ambush.

Fly below 100 feet AHO in the city and at the fastest airspeed commensurate with mission requirements. This profile will reduce vulnerability from small arms and surface-to-air missiles and increase visibility into streets, yards, and buildings. Clarity with NVGs at higher altitudes is usually not acceptable for detailed observation in the MOUT environment.

High illumination percentage during NVG missions is a high risk and should be treated as such during risk assessment. Additionally, low cloud cover reflects the city lighting and significantly brightens the sky. The reflective cloud surface creates a very dangerous contrasting background making aircraft at higher altitudes easily visible from the ground.

CSAR/DART. Apply the principles of survivability towards flight routes and formation flights in MOUT just as in any battlefield environment. Single ship flight should be the exception, not the standard. Internal flight following is crucial for communication, and immediate security in the event one aircraft is downed. Crew extraction in the MOUT environment must be immediate. The enemy can very quickly muster forces and establish a formidable defense against air and ground rescue with minimum assets by using the city structures to his advantage.

Limited PZ/LZ locations within the city hamper efforts to deliver rescue and

DART elements. For this reason aircrews must be properly suited with all available items for survivability (extraction harnesses, appropriate weapons for personal protection, etc.). Knowledge of friendly and enemy demographics in the city will provide possible resources such as vehicles or hide areas to aid escape and evasion.

Summary. Although MOUT present some unique challenges, the fundamentals of aviation operations remain the same. Do not allow the new battlefield environment to lessen the unit's adherence to basic principles of aviation operations.

None of the methods presented above stand as a hard and fast rule. This only points out some areas that deserve special consideration and provides limited discussion on methods of execution; it should serve as only a starting point for the aviation planner preparing for MOUT. Success depends on the planner's ability to rapidly adapt to MOUT while adhering to sound military principles.

★ ★

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DOES LONGBOW APACHE REALLY MAKE A DIFFERENCE?

So you're an Apache pilot dying to get his hands on a Longbow Apache, or possibly a Kiowa Warrior pilot yearning for full production of the Comanche. On the other hand, you may be some "controller type" who fails to see the benefit of "wasting" money on frivolous things such as fire control radars and fire-and-forget missiles. Well, folks, take a peek at how your Army assessed the value of these two machines against threats around the world. This document is an attack helicopter operator's view of what "computer geeks" (a.k.a., analysts) think about our future aircraft.

First, let's discuss some introductory "validation" garbage. Why did these computer geeks study these aircraft? Well, in an era of declining budgets, the Army must thoroughly examine each acquisition program. To get a thorough understanding of the Longbow program, its cost and operational impact must be thoroughly scrutinized. The objectives of the Longbow analysis (Cost and Operational Effectiveness Analysis, or COEA), were to determine the operational effec-

An attack helicopter pilot's view of the Longbow test analysis.

tiveness (OE), the strategic deployability and supportability, the costs, and the training, logistics, and manpower requirements impacts for each alternative.

Included in the report was also a "Crosswalk" that compared the operational results found through the use of combat models with the results from the Initial Operational Test & Evaluation (IOT&E) conducted at Hunter Liggett, CA, which utilized pre-production Longbow Apaches in field trials flown by 2/229th AVN Regt out of Fort Rucker (see "AH-64D Longbow Apache: A User's Perspective", ARMY AVIATION, October 31, 1995).

The Alternatives and Levels of Analysis. The Office of the Secretary of Defense (OSD) requested that five alternatives be compared in the OE portion of the analysis. The following table shows the different alternatives and their weapon's mixes. The weapon loads were heavy Hellfire due to all of the scenarios involving attacks on moving mech forces.

Let's take a minute to explain/define all of the acronyms used in the table.

Alternative	Helicopters	Hellfires	Guns
Base Case	24 AH-64A+	16 SAL	300 30mm
1	8 AH-64D w/FCR 16 AH-64D	12 RF / 4 SAL 12 RF / 4 SAL	300 30mm 300 30mm
2	24 AH-64D w/FCR	12 RF / 4 SAL	300 30mm
3	8 RAH-66 w/FCR 16 AH-64D w/FCR	12 RF / 4 SAL 12 RF / 4 SAL	500 20mm 300 30mm
4	8 OH-58D 16 AH-64A+	2 SAL 16 SAL	300 .50 cal 300 30mm

Apaches are going to be found in three flavors: the A+, which upgrades the basic Apache with GPS, SINGARS, auxiliary fuel tank capabilities, and improvements to the fire control computer and the 30mm cannon; the D, which takes the improvements in the A+ and adds digital communications, integrated (MAN-PRINT) crewstations, and the ability to use the new Hellfire II missile; and, the D w/FCR, which adds the Fire Control Radar (FCR) and the Radar Frequency Interferometer (RFI) to the D model.

The RAH-66 w/FCR is the Comanche with FCR, which brings its own unique systems to the battlefield, and the OH-58D is the current Kiowa Warrior. Hellfires will soon come in two flavors: the Semi-Active Laser (SAL) Hellfire, which needs a laser designation of the target until impact, and the Radar Frequency (RF) Hellfire, which works with the FCR alone or combined with the TADS in a fire-and-forget capability.

The ability of the alternatives to influence the battle were compared at both the brigade and corps level (this article just looks at the brigade level fights). TRADOC Analysis Center-White Sands Mis-

sile Range (TRAC-WSMR) was responsible for the brigade-level effectiveness of each alternative, while TRAC-Leavenworth conducted the corps-level analysis. Scenarios involving battles in Northeast Asia and Southwest Asia were developed and used. Weather conditions varied in each scenario between fair and poor visibility. It should be noted that all of the scenarios were intentionally stressful (one might say bordering on impossible in one scenario), so that comparisons could be made between alternatives.

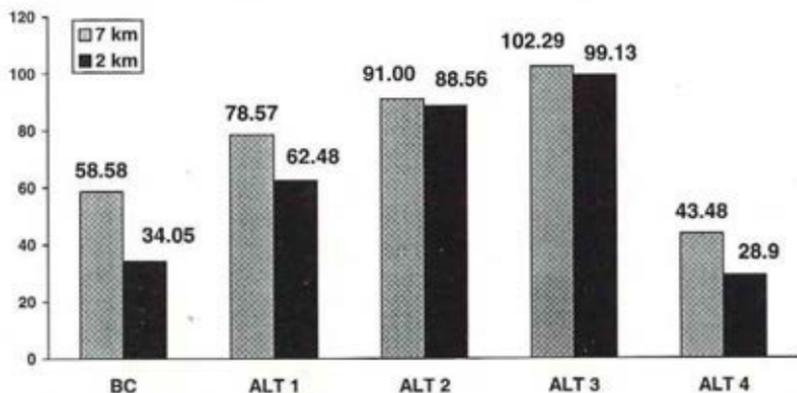
All of the scenarios were approved by Fort Leavenworth's Scenarios and Wargaming Center, DCSINT, and the Joint Staff. Performance data and capabilities of equipment were approved by the Army Material Systems Analysis Agency. Threat tactics were approved by the Combined Arms Center's Threat Division and the helicopter tactics, techniques, and procedures were approved by USA-AVNC.

Northeast Asia Results. Picture if you will a major conflict in NEA that has raged on for 120+ days. The BLUEFOR is attacking into an attrited Threat Army. In support of a corps size attack into the

Figure 1. NEA Night Deep Attack



Figure 2. NEA Threat System Losses



enemy's rear, a corps aviation attack battalion conducts a night deep mass attack against a counterattacking mech infantry brigade (see figure 1).

The threat brigade possessed a tank battalion, five battalions of fire support (both SP and towed), one battalion of mech infantry, and a battalion of mounted infantry (270 total vehicles). Each company of the attack battalion was organized into 2 three-ship teams, with the team leader performing scouting duties, the other two attack. The terrain surrounding the engagement area was mountainous and the weather conditions had either 7km or 2km (rain) visibility. Due to this mission being conducted in the later stages of a theater campaign, almost all radar directed SAMs had been destroyed. However, the ADA threat was still significant, with 37mm AAA occupying key terrain throughout the sector.

Most friendly aircraft losses were taken during ingress or upon initial occupation of the BP, with the vast majority of losses due to AAA. During all of the simulation runs, the attack battalion was able to acquire the Threat brigade undetected until the first Hellfire impacted. The Threat's reaction to contact was to deploy off the road and dismount their infantry and MANPAD teams. Figure 2 shows that as the technology of the alternatives increased, especially the number of FCR's, the number of threat vehicles destroyed increased. This was due to several factors. With the Longbow Apache or FCR equipped Comanche, targets were acquired and categorized more quickly. Through the digital interface, target hand-offs and dissemination occurred more rapidly and accurately. Attack teams with the digital interface were able to fire more rapidly.

This high rate of fire allowed the battalion to catch more vehicles on the road

before gaining concealment and cover. During the adverse weather engagement, the AH-64A+ battalion (BC) and the Kiowa Warrior equipped battalion (ALT 4) were unable to acquire and lock-on to targets with the TADS and MMS from their original BPs, causing them to close within 2-3 km before engaging. This made them more vulnerable to AAA and MANPAD threats, resulting in a significant increase in helicopter losses (almost an entire attack company destroyed).

Of the FCR equipped alternatives, only the 64FCR/64D alternative (ALT 1) showed a discernible degradation in the adverse weather. Because of the poor visibility, the ALT 1 battalion chose to maintain standoff and use remote RF Hellfire engagements. This increased survivability but slowed the rate of fire. The end result of the engagement was that all the alternatives managed to strip at least 30% of the Threat's combat power except the AH-64A+ battalion and the Kiowa Warrior equipped battalion in the 2 km weather condition.

Southwest Asia Results. The operations analysts at TRAC-WSMR used two brigade-level SWA scenarios to test the alternative attack battalions. The first scenario involved an airborne unit defending a lodgment as part of an early-entry force. The other battle sees a Blue mech brigade attacking an attrited Threat division in a hasty defense. Weather was varied between 5km and 2km (dust) visibility conditions. Both of these scenarios showed the same trends that were identified in the NEA deep attack.

As the acquisition and targeting abilities of the alternatives improved, the level of success of the attack battalion became greater. Although the trends remained the same, Threat losses were not as great due to his increased sophistication. These threat vehicles possessed countermeasure



Figure 3. Lodgment Defense. Phase II Attack

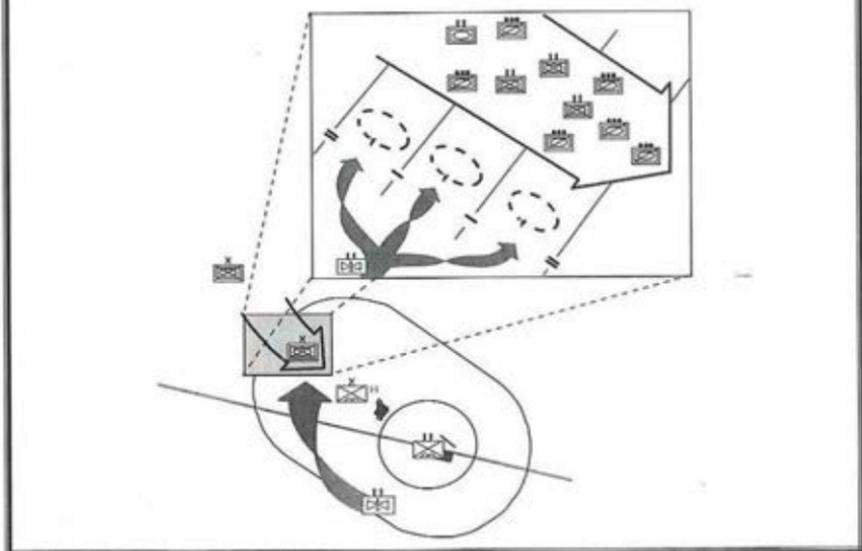
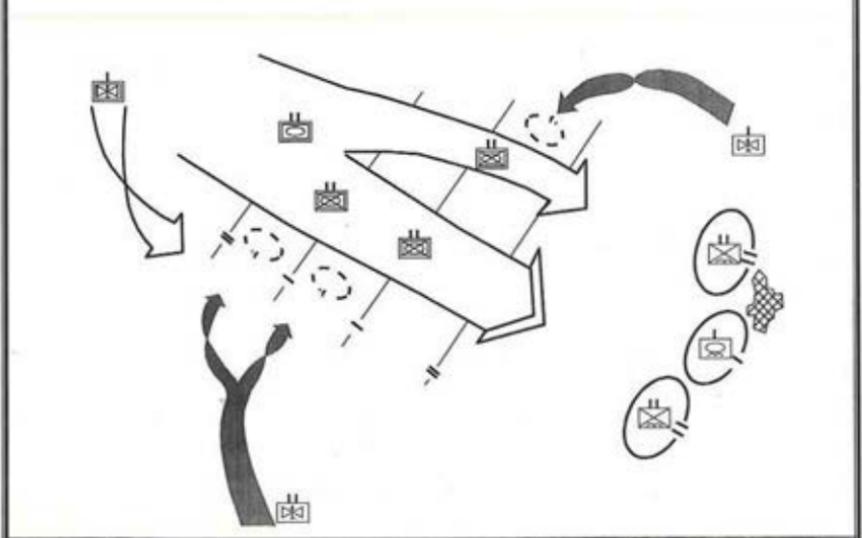


Figure 4. Lodgment Defense. Phase III Attack



capabilities that the NEA Threat did not. Threat countermeasures included laser and radar warning receivers, multi-spectral smoke (both VEES and grenades), radar absorbing materials, reactive armor, and an active protection system (APS) that destroys an incoming projectile before contacting the armored vehicle (similar in concept to the US Navy's Phalanx). FCR and FLIR acquisition was definitely hampered by the combined effects of dust and multi-spectral smoke, especially when attacking from downwind.

The attacking threat force in the early entry scenario consisted of two mech brigades who were detected by J-STARS hours before contact with the airborne task force. The Threat brigades' combined forces included two tank battalions, six mech infantry battalions, eight battalions of tube artillery and 2 battalions of MRL (total vehicle count: 700). Air defense was provided by MANPAD (SA-16 & 18) and the 2S6.

The early detection by J-STARS allowed the attack helicopter battalion to conduct three separate attacks on the Threat force before the close battle began. The first and second engagements were battalion massed attacks, first against the trailing brigade and then against the lead brigade, and occurred 100km and 40km in front of the lodgment. In both attacks, one company attacked the advance guard, another engaged a mech battalion in the main body, while the third company attempted to destroy the supporting artillery group (see figure 3).

The final attack used the continuous attack method on the Threat's lead brigade as they began to deploy for the assault against the lodgment. The first company attrited a trailing artillery battalion, with the second company attempting to destroy a mech battalion operating as part of the main effort (see figure 4). The

third company engaged the supporting attack in the north. Just prior to direct contact between the ground forces, the first company was able to rotate back into the fight from the FARP and further attrit the same artillery battalion.

All of the alternatives managed to render the lead brigade combat ineffective in the 5km visibility condition. Figure 5 shows, however, how ineffective the AH-64A+ battalion (BC) and the 58D/64A+ battalion (ALT 4) were in the 2km weather condition (after three attacks, they had managed roughly one vehicle destroyed per aircraft). This was due to the degraded capability of the TADS and MMS in the 2km visibility dust. On the other hand, the pure Longbow Apache battalion (ALT 2) and Comanche mix (ALT 3) would have rendered the entire attacking force combat ineffective.

The number of Threat systems destroyed over the three phases increased 79% when the scouts were equipped with FCRs. Blue helicopter losses over the three attacks ranged from a low of one in the Comanche alternative to a high of nine in the base case. Due to the inability of the AH-64A+ and OH-58D to use the fire-and-forget technology of the RF Hellfire, their exposure time to the 2S6 was much greater. As an example, the AH-64A+ pure battalion (BC) lost 6 aircraft in 2km weather to the 2S6 in a single attack. The bottom line is that both the base case and the 58D/64A+ (ALT 4) alternatives finished the scenario combat ineffective (less than 70% strength).

The second SWA scenario required the attack battalion to conduct two cross-FLOT deep attacks against a mech brigade attempting to reinforce the Threat division in hasty defense (see figure 6). The first attack involved a 125km ingress route, with the second ingress being 60km past the FLOT. The final phase of the



Figure 5. Lodgment Defense. Helicopter Specific Threat Losses

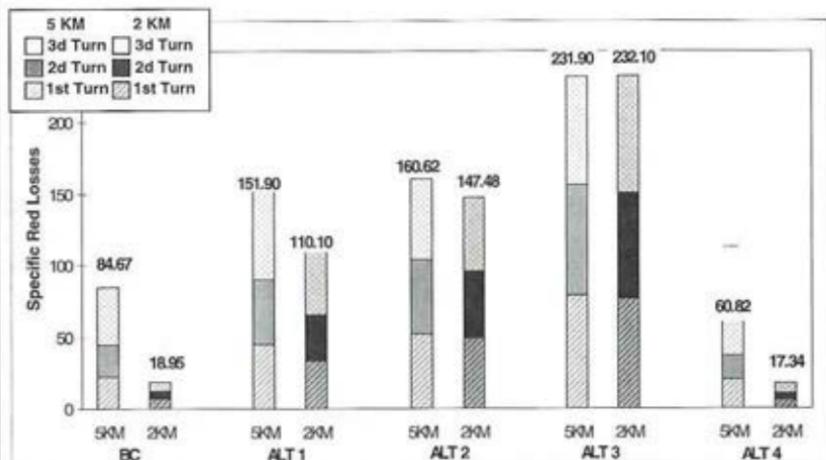
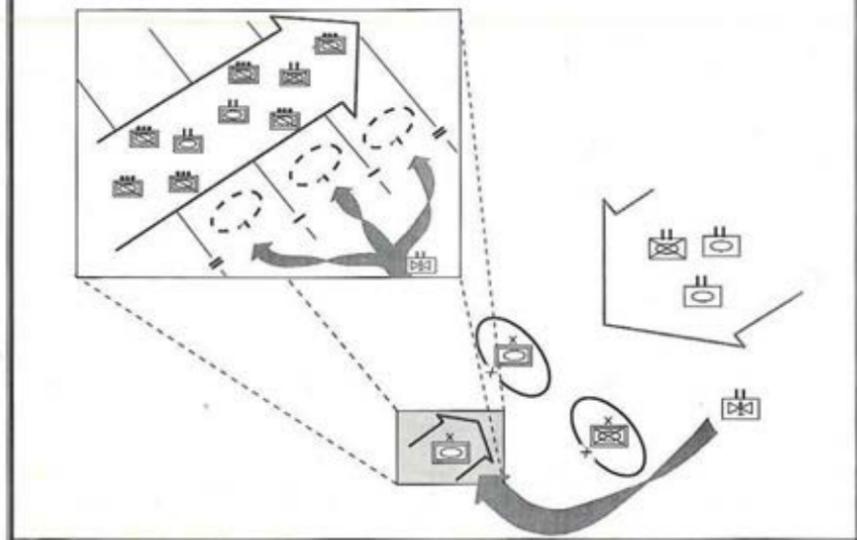


Figure 6. Brigade Deliberate Attack. Phases I and II.



scenario is the ground brigade assaulting the Threat defense. The attacks occurred over typical desert terrain, with very limited terrain relief.

The number and type of Threat ADA at the FLOT and in the engagement area represented a major obstacle to the operation. MLRS was used for SEAD at each FLOT penetration and the SAM radars in the engagement area were jammed by USAF assets. Due to the robust ADA at the FLOT, the scouts in each team were given responsibility to shoot at emitting air defense units (ADU) only, while the attack aircraft suppressed other potential threats. The scouts with FCRs were able to take advantage of the Radar Frequency Interferometer's (RFI) ability to detect emitting ADUs and interface with the FCR to engage the ADU in a fire-and-forget mode.

In this scenario, only the 64A+ pure battalion and the 64FCR/64D mix (ALT 1) were compared due to the complexity of the simulation. The FCR equipped battalion was definitely able to better distribute and execute fires, which doubled the losses incurred by the reinforcing Threat brigade (see figure 7). More important than increasing the Threat losses however, the Threat brigade was forced to stop and defend against the helicopter attacks in alternative 1 due to the severity of the attack. This gave the Blue maneuver brigade conducting the assault enough time to develop the situation on the enemy's flank without opposition. This reduced total Blue maneuver system losses by 21%.

Nonetheless, Blue losses, both total and helicopter specific, were severe. The Blue force was reduced to roughly 50% strength in both alternatives, leading to an obvious conclusion that the attack would not have succeeded. The majority of the Blue helicopter losses seen in Figure 7

occurred at the FLOT. During the first ingress, the attack battalion faced stiff opposition from 2S6s and armored systems. While the SEAD was effective, it did not eliminate the problem. There was no terrain to separate the aircraft from the 2S6, so in many cases it became a question of ordnance range and acquisition timing of who won the "duel". The tactic of having the FCR equipped aircraft engage the emitting radars caused some reduction in Blue helo losses. However, with the speed of the SA-19 round being much greater than that of the RF Hellfire, the Apaches still suffered losses in the exchanges.

Conclusions. The introduction of the Longbow system into the heavy attack helicopter battalions increased the level of operational effectiveness significantly in both clear and adverse weather conditions, when compared to the AH-64A+ equipped battalion. This improvement is the result of the FCR equipped team achieving faster target acquisition and better distribution and rate of fires. Without the Longbow, the Blue ground maneuver forces would have lost battles in adverse weather. For instance, in the SWA lodgment defense, there is no doubt that an airborne task force could not have withheld the attack of two mech brigades in open terrain; yet with the Longbow, the lead Threat brigade was rendered combat ineffective and the trail Threat brigade attrited prior to direct contact.

The bottom line is this: to be a key maneuver element of the combined arms team, attack aviation must be able to alter the outcome of battles, regardless of the weather or Threat. Longbow is a quantum leap toward that objective.

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AVIATION SAFETY: A NEW MARK ON THE WALL

FY 95 was a fantastic year in safety—the best in the history of Army aviation. Closing out the fiscal year with just 10 Class A flight accidents and a Class A flight accident rate of 0.83 per 100,000 flying hours is a major breakthrough in aviation safety and indicates that we are indeed making progress in our efforts to bring about a cultural change in the way the Army views safety.

Just a few years ago, only the visionaries truly believed that someday we would turn the corner on aviation accidents and have our aviation Class A flight accident rate drop below one accident per 100,000 flight hours. But we continued moving in the right direction as we embraced risk management and force protection initiatives to make Army aviation a safer place to live and work. Turning that aviation vision into a reality took a lot of individual dedication and teamwork.

Breaking the 1.0 mark and putting this new aviation safety mark on the wall was truly a superb job by all.

Everyone must personally commit to understanding risk management.

● **The good news.** Calling FY 95 a banner year for aviation safety seems like a classic understatement when considering how long it took to break the 1.0 mark. The previous benchmark aviation safety record was set in FY 92 with a Class A flight accident rate of 1.57 per 100,000 flight hours. Repeating that safety

performance proved to be a tough challenge. In fact, we fell short of the FY 92 mark on the wall in both FY 93 and FY 94. Dropping our Class A flight accident rate from the previous best-ever rate of 1.57 to a new record rate of 0.83 is a major leap forward in safety performance.

A lot of good things were going on in Army aviation safety during FY 95. In addition to reducing our Class A accidents from 21 in FY 94 to 10 in FY 95, our Class A through C flight accidents decreased significantly as well. And more good news, especially in these times of constrained resources: we were able to reduce total aviation accident costs from approximately \$108 million in FY94

to about \$76 million in FY 95.

• **The bad news.** But in spite of our dramatic decline in accident rates and costs, FY 95 wasn't an all-good-news story. It was marred by the loss of 13 soldiers in aviation flight accidents that could and should have been prevented. That is two more soldiers than we lost in FY 94. If you only focus on the number 13, you've missed the point. Each number represents a soldier who met an untimely death while serving our country. Losing soldiers needlessly is a tragedy felt across the Army and one we cannot afford.

Because of the importance of safety to our combat capability, we sometimes tend to focus on statistics to tell us how well we are doing in aviation safety. But simply achieving high goals and putting new marks on the wall isn't our purpose. The rates are only measurements to tell us how well we are doing in what really counts: saving lives and preventing damage to our equipment to conserve our combat capability. No matter how low the numbers and rates go, they will never be acceptable as long as we continue to lose or injure soldiers in preventable accidents.

The New FY 95 Mark: How Did We Do It? I believe our tremendous FY 95 safety performance can be attributed to the quality of soldiers, civilians, and leadership in today's Army. Having our heads in the game, being sensitive to the environment, understanding the capabilities and limitations of the equipment we operate as well as our own capabilities and limitations, working hard and working smarter, and doing the right thing gave us the safety successes we enjoyed

in FY 95. Professional soldiers and civilians with self-discipline, dedication to risk-management and force-protection initiatives, and courage made safety happen in FY 95. The challenge is for us to continue to do that.

A Repeat Performance? Even as we congratulated ourselves and enjoyed the first rounds of backslapping, we looked ahead to think about the challenges we would face in FY 96. Could we repeat or even improve upon our FY 95 safety performance? If we don't believe that we can do better, I guarantee you it will never happen again.

Although we were coming off our best year ever, we've been able to maintain the safety momentum and stay focused. We've now completed the first quarter of FY 96 and were able to achieve the same great safety performance that we enjoyed during the first quarter of FY 95: only one Class A flight accident and no fatalities.

Historically, we experience the highest number of Class A flight accidents during the first quarter of each fiscal year. But we broke that trend during the first quarter of FY 95, and we were able to break it again during the first quarter of FY 96. So we are off to another good start for this fiscal year.

A Word Of Caution. But even as we reflect on our first quarter FY 96 accomplishment, we must remind ourselves that if all we do is look back, something out front will be waiting to snare us and our safety momentum will be lost. A momentary lapse in safety vigilance is all it takes to wipe out a safety record that has taken years to build. No one doubts that the challenges for the remainder of FY 96

"[FY95] was marred by the loss of 13 soldiers in aviation flight accidents that could and should have been prevented."

will be tough. To hold the high ground in safety performance that we acquired in FY 95 and the first quarter of FY 96, we are going to have to work awfully hard to stay on course.

The mission of our Army is to fight and win our Nation's wars. And every day we respond to our Nation's needs and expose our soldiers to hazards in uncertain and complex environments. Increased missions, turnover and constant change in our Army today, leader inexperience, and frustrations are all warning signs that the environment is ripe with conditions that can quickly turn the phenomenal safety performance we enjoyed in FY 95 in a negative direction if we fail to effectively manage the risks we encounter. Therefore, we have no time to rest on our laurels and lose sight of our safety focus. The price will be much higher than we are willing to pay.

Risk Management. Risk management is the bedrock of our safety culture. It is the tool that helps us identify hazards and reduce risks to our soldiers, thus allowing us to successfully operate in high-risk environments with minimal losses.

The successes we achieved in FY 95 are evidence of just how dramatic an effect proper risk management can have on our operations. But we still have a lot of work to do. The risk-management process is in the field and generally accepted but not fully understood by everyone. For maximum effectiveness, risk management must be a closed-loop process: a cyclic five-step process—identify hazards, assess hazards, make the right risk decisions, put controls in place, and supervise—that must start with planning and continue

throughout execution, post operations, and the after-action reviews.

Risk management is probably the most important five-step process you will ever learn. Embrace it and practice applying the entire process in everything you do, both on and off duty. The more you practice risk management, the easier it becomes. As the Director of Army Safety, I challenge you to make a renewed personal commitment to thoroughly understanding risk management and practicing it until it becomes intuitive.

Keys To Future Success. We all know that it takes a team effort to set new safety records; no one individual can do it alone. But what we will accomplish during the remainder of this fiscal year begins with you. Keep up the safety momentum, stay focused, and continue to look for new ways to integrate risk management and protect our force. If we all do this, then we can look forward to a future where safety is embedded

in the Army's culture and Army Aviation will be a safer place to live and work.

Proper application of risk management, excellent leadership, and quality soldiers and civilians are critical for continued success. With our total Army force—Active, National Guard, Reserve soldiers, and civilians—all working together, safety will happen and we will be able to sustain, even improve upon, our FY 95 safety performance.

Make Safety Happen!

★ ★

BG Konitzer is the Director of Army Safety and Commanding General, U.S. Army Safety Center, Ft. Rucker, AL.

“Embrace [risk management] and practice applying the entire process in everything you do, both on and off duty.”

“NGUY-HIÊM”: THE FIRST YEAR

This paper is many years overdue, but hopefully it is not too late to establish the historical factors involved with the formation, activation and operation of the 1st Aviation Brigade in Vietnam (RVN) in 1966 as best remembered, at this late date, by “The Originals” who were directly involved in that significant, pioneering, chapter of Army Aviation history. It is also hoped that the information contained herein will provide an historical perspective and heritage to all who later served in this great organization, as well as those who will proudly serve in the future.

BACKGROUND: The buildup of major tactical units in Vietnam was well reported during 1965, but the steady insertion of non-organic aviation units to provide combat and combat service support throughout the country went relatively unnoticed. By the close of 1965 the number of separate Aviation Companies and Battalions had long since surpassed the limits of efficient and prudent span of control and coordination of the commands concerned. There were really no com-

The founding of the 1st Aviation Brigade in 1966.

plaints on the part of those supported, other than that each wanted its own aviation unit attached or assigned on a permanent basis.

The primary control headquarters for non-organic Army Aviation elements was the 12th Aviation Group led by COL Guy Jones, who also was nominally the USARV Aviation Officer. USARV

Bulletin 238, dated 2 November 1965 established the Aviation Special Staff Section effective 1 November 1965 and named COL Gerald H. Shea to be the USARV Aviation Officer. DA approval of a new force structure, which included an Aviation Brigade and two Aviation Groups, was eagerly awaited.

The emerging force structure for Army Aviation included the allocation of Aviation Battalions, Companies, Detachments and necessary supporting elements within USARV. It was based upon one Aviation Group to support I FORCEV and one to support II FORCEV, and provided an Aviation Brigade Headquarters for overall command and control.

USARPAC General Order 336, dated 9

December 1965 authorized the activation of the 1st Aviation Brigade Headquarters along with the 12th and 17th Aviation Group Headquarters and cited the implementing DA reference. Assignment of the 34th General Support Group, Aircraft Maintenance and Supply (AM&S), to the 1st Aviation Brigade was anticipated.

The 34th Group had been activated provisionally by USARV in November of 1965 to provide all levels of backup support to divisional and non-divisional aviation elements. Formal activation of the 34th was authorized by USARPAC G.O. 6, dated 17 January 1966. It was assigned as a separate USARV command and placed under staff supervision of the G-4.

COL Shea was directed, VOCCG, by then BG John Norton to establish the 17th Aviation Group at Nha Trang, which he did per the following quote: "BG Jack Norton, Deputy USARV Commander, told me to get my ass up to Nha Trang and plant the 17th Aviation Group flag on the centerline of the runway. I did, and issued General Order 1, dated 1 January 1966, with a typewriter borrowed from the Nha Trang Base Support Company." (This was later ratified by USARV SO 7, 7 January 1966.) LTC Albert Fern was assigned as Gerry's Exec shortly thereafter.

The 17th Aviation Group became "Provisional" in March, and "provisional colors" were quickly designed and fabricated by a local "Cheap Charlie". Official activation, complete with the presentation of formal Group Colors, took place the end of May, and coincided with assumption of Group Command by COL John Marr. Meanwhile, COL Bob Corey replaced COL Shea as USARV Aviation Officer.

BIRTH OF THE BRIGADE: BG George P. ("Phip") Seneff, Jr. was as-

signed to USARV as the Aviation Officer in January of 1966, with the background of having been the first Commander of the 11 Aviation Group, 11th Air Assault Division (T), and as the most recent Director of Army Aviation at Department of the Army. After assessing the situation he announced that the 1st Aviation Brigade would be formed, and designated the 12th Aviation Group as the host organization to administratively support the effort until Headquarters, 1st Aviation Brigade became operational.

The 14th of February was designated as the starting date for organization of the new command. MAJ Dwight Lorenz, a member of the USARV Aviation Staff, was designated the initial Adjutant and Acting Executive Officer and charged to, "Collect the people, equipment and other things needed, put it all together, and make it work as soon as possible."

Space was found in two buildings in the vicinity of Tan Son Nhut Air Base which would house the Headquarters and provide quarters for BG Seneff and his principal staff. One was a newly acquired villa, and the main headquarters was that previously occupied by the relocated 12 Aviation Group Headquarters. The facilities obtained were bare, but fairly clean and in reasonably good condition. LTC William Runnells, also of the USARV Aviation Staff, came aboard a week later to be the S4 and head up the Supply and Maintenance activities of the new brigade. Both were former members of the 1st Air Cavalry Division and not new to the theater.

1st Lieutenant James Byrnes from the 173rd Regimental Combat Team (Airborne), an impressive young non-rated Regular Army officer was selected and assigned as the General's Aide de Camp. After his first day of flying with BG Seneff and Kismet (the General's very

large black poodle), while still covered with rice paddy mud (and smell), he loudly and firmly requested immediate transfer out of the Brigade. Jim and "Kizzer" quickly made peace, and Lt. Byrnes provided the General and Brigade Staff with outstanding service for the remainder of his tour.

Through the cooperation (often strained) of the 12th Aviation Group Commander and Staff, as well as the USARV Staff and other major commanders in the theater, the personnel and equipment required to render the new headquarters functional were rapidly assembled. The 13th Aviation Battalion in the Delta, commanded by LTC Bill Maddox, remained separate and also provided personnel and the "Delta Perspective" to the undertaking. General Seneff's initial assessment of assigned Army Aviation unit operations led him to conclude that:

- The units were doing an excellent job of providing support, on call, in the execution of myriad and diverse missions.
- The units had developed tactics and techniques which tended to be rigid, and oriented toward support of specific units and areas. When directed to support units out of normal sector there were problems in marrying the tactics and techniques of aviation and supported units which took too much time to resolve, and created confusion on the part of both parties. (MACV maintained Operational Control (OPCON) over all Brigade tactical units.)
- The trail formation incurred unnecessary vulnerability and inefficiency.
- There were too many "dumb" aircraft incidents and accidents.

BG Seneff stated that he wanted seasoned aviation experience from all over Vietnam to fill out his staff. This would lead to the implementation of his next objective which was to standardize the tactics and techniques, to include forma-

tions, employed in each Brigade unit in the theater so that "interoperability" became a reality, not just a term to be used to describe a future objective.

Secondarily, he was concerned about our air crews flying out on missions without the aid of the most recent "hostile fire" areas marked on their maps. Thirdly, the corrective action required for the incidents and accidents was command emphasis and training, and would be taken by him, quite personally, through his commanders.

MAJ Colin McKenzie arrived in late February after relinquishing command of the 121st Aviation Company ("Soc Trang Tigers"), and was placed in close working relationship with MAJ Billy Rutherford of the USARV Aviation Staff to develop plans for the further growth, organization and employment of the Aviation Brigade.

MAJ "Jug" Haid, former commander of Co. A, 502nd Aviation Battalion ("The Rattlers") (later the 175th AML Co.), arrived to be the initial Brigade S2, complete with helmet, goggles, bicycle and cigars. He was a rare and unforgettable experience at Brigade, and must also have been when with "The Rattlers", as the song "The Snake Pit" was written about him!

LTC (Chaplain) Arthur Estes, a Master Parachutist, was provided by USARV, also by the end of February. We took this as a hint that someone believed we were in dire need of Divine Guidance early in our organizational quest. Art immediately became one of the Aviation family and did, in fact, excel in his performance as Brigade Chaplain. An excellent magician, he contributed greatly to the Public Relations and Civic Actions programs. It was obvious that he thought (and probably still believes) that Army Aviators are wilder and crazier than Paratroopers. However,

Overworked 1 Cor. 15:58		Bald Lev. 13:40
Plane Fright Psalm 139:8a		Out Ranked Psalm 3:1
Restricted Psalm 55:6		Hangover Proverbs 20:1
Tempted 1 Cor. 10:13		No Mail Hebrews 13:16
March Isaiah 40:30-31		Sick Call Luke 5:31-32
Bad Chow Psalm 59:15		Dear John Letter Proverbs 31:10
Need Money Psalm 86:1-3	Marriage Col. 3:18 & 19	Gambling Proverbs 1:19
		Overseas Duty Matt: 28:18-20
		Field Duty Exodus 33:14

Figure 1

he survived, provided and contributed, and was a real asset to the new organization!

The wallet sized (enlarged here) "TS CARD" by "ARTESTES" (Appendix 1) was developed within two weeks after his arrival and became extremely popular throughout the Brigade.

COL John B. Stockton, newly promoted to that rank, joined the Brigade on 4 March (accompanied by: Dog, One Each, Small, Pretty, Clean, Well Behaved) and was assigned as Deputy Commander. His skill as a dynamic aviation organization commander does not require amplification here. In addition to lending "weight" to the acquisition of personnel and equipment, he aggressively set about developing "hot zone" mapping and standardization of flight tactics, formations and techniques which rapidly took shape as the "Brigade Tactical SOP".

He and the Brigade Commander flew countless hours of combat missions with the tactical units in order to find the weaknesses in operations which would be corrected via the SOP and "command guidance".

The Brigade Headquarters was granted "Provisional" status on 1 March 1966 per USARV General Order 1313 dated 26 February 1966. Personnel authorization was: 30 Officers, 1 Warrant Officer and 83 Enlisted Men. The stated mission was: "To provide command, staff planning, control and administrative supervision of two aviation groups."

BG Seneff signed General Order Number 1, formally assuming command of the Brigade on 1 March. The event was well reported by the Pacific Stars and Stripes. Special Order Number 1, Headquarters, United States Army Aviation Brigade (Provisional) was dated 10 March 1966

and made duty assignments of the officers assembled as of that date. Operational status was attained in mid-March, just 29 days after BG Seneff had given the verbal order for creation of the headquarters, an excellent example of what can be achieved when many people from diverse units, headquarters and interests join together in a positive quest.

It should be noted that not only the 12th and 17th Aviation Groups and 13th Aviation Battalion contributed to this success. The Aviation Staff Section of USARV under COL Bob Corey, and later COL Wally Buelow; Executive Officer LTC Jim Nix; Administrative Officer Major Jim Aikman and Safety Officer Major George "Charlie" Kuhl provided superb support as far as they were able.

March saw the major influx of highly motivated personnel from all directions and of all skills. The enlisted men assigned were a mix of in-country experience and new soldiers from the "pipeline". Their dedication and performance were exemplary in all respects, and materially contributed to rapid achievement of the Brigade Headquarters operational status. Of particular significance was the motivation, appearance and conduct of the junior enlisted personnel. The "Regulars" could not be differentiated from the "Draftees". A part of their motivation was the "backing from home" to help "Win in Vietnam!"

BG Seneff published "Commander's Notes Number 1" on 7 March. This brief publication provided guidance, policy, confirmed matters covered at Commanders Conferences, set standards and pointed up what was going well and areas which needed improvement. Normally, these were handouts at the monthly Commanders Conference, but additional issues were published when the need dictated.

Significantly, Paragraph 3.d. of Notes

Number 1 stated: "I want an informed report from Commanding Officers of the 12th and 17th Aviation Groups during the first week of April citing examples of misuse or waste of Brigade aircraft or crews during the month of March." His "Philosophy of Command" (written while at DA) is a classic, and was appended to Commander's Notes Number 8, dated 4 November 1966.

His method and example of leadership was to concentrate on where he wanted the command to be in the future and guide his subordinates to work in that direction. This avoided the daily "crisis management" and "thrashing around" which many of us had experienced at one time or another during our careers. He was highly effective in getting positive results without "pressuring" his people, and totally supportive of his staff and commanders!

The USARV G-1 Officer Personnel Section went out of its way to provide the proper mix and arrange for the "trading" of many personnel through the theater-wide "Infusion Program" which was created to keep whole unit staffs from departing at the same rotational time. The key players during the first year were MAJ Russ Rumney, who was followed by MAJ George Baxter. MAJ Audrey "Ann" Fisher, the only WAC Officer in the theater at the time, was most supportive of our rather unusual non-personnel administrative requests and requirements, and also was an avid fan of the early Aviation Song tapes.

Jim Hertzog, the "dual hat" Flight Surgeon, created another "personnel leveling" program, also with the support of those mentioned above. His initial survey of ground and aviation unit physicians revealed that there were flight surgeons assigned to non-aviation positions and flight surgeon positions were filled by

doctors who could better serve the troop units. Needless to say, his program to align assignments met with considerable opposition. This later changed to "thanks" and appreciation as the benefits to all concerned were realized.

Relocation of the 197th UTT Company (later the 334th AML Co.) out of the Saigon area made the facilities they had occupied available to the 1st Aviation Brigade. The officers quarters became the Brigade BOQ, Officers Mess and "Club" which was quickly designated the "Red Bull Inn" (complete with Hicar's "BARBER SHOP"). The name was a contraction of the former radio call signs of BG Seneff and COL Stockton back in the 11th Air Assault Division era, "Red Hawk" and "Bull Whip".

LTG Engler, USARV Deputy Commander, participated in the ribbon cutting ceremony at the official opening of the Red Bull Inn. Captain Ed Fritz, a non-rated Armor officer, was the first OIC of the Red Bull and was followed by CWO Snow, also non-rated. This quickly became a very popular social and transient facility in addition to fulfilling its primary mission.

BG Seneff had been fascinated with the hawk since his completion of flight training. He held that the hawk in an attacking dive, just prior to seizing its prey, portrayed the stealth, swiftness and attack ability of Army Aviation. (His design for the 11 Aviation Group Colors and Crest was such a hawk on a field of teal blue. His radio call sign was "Hawk Whip 6".) His broad concept for the Brigade shoulder patch included this hawk and was provided, verbally, to MAJ Lorenz, who created a very busy sketch which included the hawk and evidently reflected too many other items.

This was summarily rejected as being "too busy and crowded", and new "guid-

ance" was provided. MAJ Jerry Curry was enlisted to assist at this point. The result, with the artistic talent of the Public Information NCO, and after a few minor modifications, was the design which BG Seneff submitted, through channels, to The Institute of Heraldry. Not waiting for official approval, the initiative was taken to have some shoulder patches fabricated locally. As soon as approval of the official shoulder patch seemed certain an order was placed with a firm in Yokohama, Japan, for production of several thousand first class emblems in both standard and subdued colors. The initial, jokingly derisive description of the insignia by other than aviation personnel, "The Skewered Chicken", did not last long, as the exploits of the Brigade became known and highly respected throughout the theater.

The Brigade Headquarters Crest design was initially that of the Brigade shoulder patch. A small quantity of the metal based, painted, shield type crests were locally produced to temporarily suffice. Both BG Seneff and COL Stockton were adverse to continuation of the traditional "shield type" crests and insisted that a suitable, detailed, attacking hawk silhouette be created as the Brigade Crest.

MAJ Hertzog found a statue in downtown Saigon which featured a hawk in the attack and presented it to the General, who directed that the detail found in the silhouette of this statue was what he wanted for the Brigade Crest. The art work was again done by Brigade personnel and the crests were fashioned out of brass and produced by the owner and staff of the shop in which MAJ Hertzog found the statue. It is interesting to note that the current shoulder insignia and "Golden Hawk" crest of the 1st Aviation Brigade are still of the original design and heraldry.

Several significant events took place during the Brigade's organization and gestation period. The reorganized 12th, and fledgling 17th Aviation Groups became well established, COL Shea having gotten his headquarters and rendering it operational in record time. LTC Maddox's 13th Aviation Battalion in the Delta was retained as a separate battalion, although of nearly group size and with multiple and diverse mission requirements.

The "Capital" Aviation Battalion (Provisional) was created from the small, separate Aviation elements located in the vicinity of Saigon, and LTC Raymond "Peter" Gunn designated its first commander. This organization provided an Army air traffic control capability, a rapid reaction airmobile force emergency "fire brigade" and general support to both the 1st Aviation Brigade Headquarters and USARV Aviation Section.

The 13th and Capital Aviation Battalions reported directly to Brigade Headquarters. Majors McKenzie and Rutherford had worked quickly and effectively to provide a logical and functional force structure. LTC Paul Kilpack was assigned as Brigade Executive Officer, vice Major Lorenz, (who remained the S1/Adjutant) on 27 March after completion of an in-theater tour as commander of an artillery battalion.

Musical talent turned out to be one of the notable, but heretofore unknown, attributes of Army Aviation personnel of all ranks. This became apparent during the early stages of Brigade formation. It turned out that "home spun" composition, playing and singing groups were to be found in each unit. Songs of the first few months included: "Saigon Girl", "The Snake Pit", "Ole Sky King", "Six Days in the Jungle", and "Phu Loi Tower", to name but a few.

"Ballad of the Green Flight Pay" (a good natured take off on the "Ballad of the Green Beret") landed BG Seneff in hot and deep water when the text appeared in the Saigon Times.

As a morale booster and incentive, the "word" was put out that the agenda of each of the planned monthly Brigade Commanders Conferences would include a "Song Contest". Contestant musical groups were to be the finalists from monthly Battalion and Group elimination contests. The results were (and still are) unbelievable! The first musical group of great popularity was the "Merry Men" of the 173rd AML Company, 11th Aviation Battalion, and they were quickly followed by many others. The contests concluded upon BG Seneff's departure in August of 1967.

An early administrative effort was to convert use of the term "Pilot" to "Army Aviator". One does pilot an aircraft, but Army Aviators have the training and capabilities to do much more than that. It took very little time for this conversion to take hold, and not just in the Aviation Brigade. Secondly, the common excuse for not filling requirements in the form of, "Sorry 'Bout That!" was challenged at each opportunity with the positive, "Why Not!", which over time became very effective.

ACTIVATION: The 1st Aviation Brigade became a part of the official Army Force Structure on 25 May 1966 per USARPAC General Order 113, dated 19 May 1966, at an authorized strength of 28 Officers, 4 Warrant Officers and 86 Enlisted Men. The mission in this order was: "To provide command less operational control, staff planning and administrative supervision for two aviation groups and provide aviation support, as directed, to US, ARVN, and other Free World Military Assistance Forces for the



Brigadier General George P. ("Phip") Seneff, Jr., 1st Aviation Brigade Commander

conduct of combat, logistical or other counterinsurgency operations throughout the Republic of Vietnam."

LTG Jean Engler, Deputy USARV Commander, formally presented the 1st Aviation Brigade Colors to BG Seneff during a brief, but impressive, ceremony at the Brigade Headquarters. It seemed almost impossible that the Army structure, as concerns heraldry and fabrication of newly approved Colors, could react so quickly to an application from the field. We were most thankful that it would, could — and did! The ultra-marine color of the Army Air Corps became the basic color of Army Aviation, vice teal blue. The 1st Aviation Brigade was recognized as the first Army Aviation Command to be so recognized since conversion of the Army Air Corps to the U. S. Air Force.

As the headquarters was getting pretty well settled it became necessary to vacate

the large brick villa initially used for offices in favor of the newly forming Engineer Brigade, and all of the Aviation Brigade office assets were moved across the street to the villa occupied as quarters at 106 Cach Mang. This crowded situation did not last too long, as headquarters space became available on Tan Son Nhut. Relocation took place in June, and advantageously placed the 1st Aviation Brigade Headquarters in close proximity to the 34th Group which allowed much better staff coordination. Space was also found for a newly formed "Sundry Fund" supported NCO/EM club, the "Green Hornet", which opened in August.

MATURATION: Aviation operations improved rapidly and significantly, and were hailed both internally and by the supported units. Logistical and administrative alignments became responsive and as timely as possible, given inherent

limitations of the Theater. Nothing was (or ever will be) perfect! The 34th General Support Group (AM&S) was also maturing during this time, and a close working relationship with that organization was established. However, the argument as to whether the Group should be under the Aviation Brigade or USARV, although frequently addressed, remained resolved in favor of USARV during 1966.

From March through September the staff expanded and changed. The senior NCO picture in the Brigade deserves special notice. MSG Cyril Manning, the longest-serving enlisted man in Vietnam at that time, was assigned as the initial Operations NCO from the 13th Aviation Battalion; Lawrence "Rabbit" Kennedy was the first Command Sergeant Major (CSM), and had served as COL Stockton's CSM in the 1/9 Air Cavalry Squadron in the 11th Air Assault (T) which was later the 1st Cavalry Division (Airmobile). As a tribute, CSM Kennedy set the tone, pace and standards to be followed within the Brigade in no uncertain terms, and then personally and dynamically oversaw their implementation at all levels of command!

He was followed by CSM Rudy Summers, and then newly promoted CSM Cyril Manning. The 12th and 17th Aviation Groups were well served by CSM Spears and McLean, respectively. They, and those unnamed, who staffed all of the senior NCO positions were professional and effective in all respects, and ensured that the freedom the NCOs enjoyed to exercise their responsibilities were kept in proper perspective, thus keeping the officers out of their business and allowing the officers to perform officer tasks, as it should be.

Several senior officer changes occurred during the May-July time period. COL Guy Jones turned over command of the

12th Aviation Group to COL Potter Campbell; COL John "Jack" Dibble replaced COL Stockton as Deputy Commander and COL John Marr replaced COL Gerry Shea as commander of the 17th Aviation Group. COL Marr had been one of the principal staff officers involved with the development and approval of the Aviation Force Structure for Vietnam.

Bill Maddox was promoted to Colonel and remained in the Delta as Senior Advisor. LTC Jack Dempsey assumed command of the 13th Aviation Battalion. LTC John Richardson became the Brigade S3 and Major, later promoted to LTC, Harvey Mayse replaced LTC Bill Rannels as S4. Upon the departure of LTC Paul Kilpack, the Brigade Exec, and in anticipation of continued growth and expansion, his replacement, LTC Leo Soucek, was designated the first Chief of Staff.

Every military organization generally has a slogan or nickname. "Hgyu Hiem" became the slogan of the 1st Aviation Brigade. It was adapted from the marking "Danger" on the tail boom of U.S. helicopters. "Hgyu Hiem" is the warning "Danger/Dangerous" in Vietnamese, which was applied to the helicopters in RVN. COL Dibble suggested that this become the Brigade Slogan, as it signified the danger which the 1st Aviation Brigade posed to real and potential enemies. This was immediately approved and implemented with the net result of adding to pride and morale building within the Brigade, and respect from without.

One of the more interesting, and perhaps unusual, aspects of the Brigade leadership, attitude, and contagious enthusiasm had to do with the acceptance of personnel for assignment to the Brigade Headquarters. They were of various ranks and branches and considered otherwise "unassignable" for any of a myriad of

reasons ranging from "relieved", "doesn't get along", "misfit", "no place for him", and so on. The results were, with only one exception, outstanding.

These folks were readily accepted and assigned to responsible positions. Each picked up on the spirit and enthusiasm which pervaded the organization and contributed immeasurably to the success of the Headquarters functions. Their presence allowed assignment of personnel, who would otherwise have been assigned to the Headquarters, to perform in unit positions where they were more urgently needed.

Following briefly on what could be considered "unusual happenings", one Aviation Company (UH-1) arrived in early 1966 with a full complement of Aviators — each and every one in the grade of Major! To make matters worse they were given a virgin piece of territory which flooded with each rainfall. To say that priority was given to this unit per the "Infusion Program" would be an understatement!

In order to supplement the effects of this program, Brigade established the policy that anyone who wished to extend his tour by a minimum of four months, and was so recommended by his commander, would be able to take up to a thirty day leave without charge to that accrued. The legality of this policy was never put forth for the approval of higher headquarters, but was instrumental in retaining experience needed to provide continuity of operations and functions in many of the Brigade units and organizations.

Unit level administration was a nightmare! Preparation and typing of the required records and reports, along with the volume of recommendations for awards and decorations, dictated that anyone with clerical or administrative capability be

placed in such duty status. This resulted in mechanics, supply specialists, POL and armaments technicians being utilized away from their basic assignments at the expense of those remaining in the already "lean" sections.

This was remedied, in part, by the creation of a Brigade Form (the idea of CPT Rivera, with thanks from many) which could be used for recommendation of the Air Medal for Sustained Operations (for personnel on Flight Status, only). Up to thirty names could be submitted on one form. It is believed that this was expanded to cover the Bronze Star and Commendation for Meritorious Service, also. This program did not diminish the significance or importance of the award, as the recommendation supporting data still had to be verified and certified, but it materially reduced the man hours required for typing individual forms for awards which were fairly simple and quite routine.

This approach was not well received by USARV, but was allowed to continue after BG Seneff prevailed in his arguments regarding the need for such a procedure.

BG Seneff's 50th Birthday was celebrated on 27 August with a surprise staff "invasion" of his quarters, complete with the champagne which his wife had requested be "obtained somehow" and provided. The means and method of luring the General to his quarters from a visit to one of the battalions that night was to send a message that LTG Engler wanted to see him, in BG Seneff's quarters, at 1900 hours. Period! He took the arrival of his staff in place of LTG Engler in good humor and thus set many fears and misgivings at rest.

OPERATIONS: Efficiency of aviation support, operations, supply and maintenance continued to improve within the Brigade as command desires, objectives,

procedures and emphasis took effect. Interoperability became a reality, and aircraft incidents and accidents declined. "Charlie's" mobility proved such as to make the compilation and dispatch of a daily "Hostile Fire Zone" map overlay, or plot "chart" impracticable, and the program was discontinued. A considerable amount of time, effort and mission effectiveness was lost due to the efforts of the Air Force to prove, through "fly-offs" against Army Aircraft, that the Air Force and not the Army, should own the aircraft subjected to the contest. The O-1 Bird Dog was first, followed by the OV-1 Mohawk.

The Army successfully demonstrated that the aircraft concerned had strict, organic, application which the Air Force could not replicate. However, the Army practice of arming the OV-1 was, per the Army Chief of Staff, terminated. The lack of an armed Mohawk for the provision of protective escort for their SLAR and IR brethren resulted in the significant loss of OV-1 aircraft and crews.

As many may recall, the Army's fixed wing workhorse "Caribou" fleet was transferred to the Air Force by the Army Chief of Staff, GEN Harold K. Johnson, per the agreement that the Air Force would not procure and operate helicopters for other than crew rescue and MED-EVAC purposes. The Air Force proved incapable of operating the Caribou in support of Army missions. Most notably, they refused to fly in and out of the primitive short strips which were normal for Army Aviators and crews. It wasn't long before the Air Force developed a rather large UH-1 force, and what remained of the CV-2 Caribou fleet they didn't crash was relegated to the Davis Monthan "Bone Yard". So much for high level agreements!

The shortage of Aviators caused the

largest concern for commanders. Newly assigned personnel had to be indoctrinated and seasoned, and planned and unplanned missions had to be flown day or night. The available air crews became fatigued with the pace, and limits were thus placed on cockpit time per day, week and month unless a Flight Surgeon's release was obtained to exceed those stated. The overall effect, from one perspective, was to make each mission as useful and effective as possible. However, since OPCON was exercised by other than the Brigade and Group Commanders, the matter of which missions to fly and which to deny was pretty much beyond their control.

In a rather unusual role, MAJ Hertzog, the USARV and Brigade Flight Surgeon, somehow or other organized a plan whereby members of the Brigade Staff who held Army Parachutist designations would participate in a parachute jump with the 5th ARVN Ranger Battalion. He acquired the parachutes and arranged for the Brigade Flight Detachment to furnish the helicopters. The event was so exciting that one of the chopper pilots exited his seat and joined in the "jump" activities as the 13th jumper. The exercise went without incident, but it is still difficult to understand how the Flight Surgeon became so involved with such an interesting training program. It could be because he was Jumpmaster in charge!

The practice of one command (MACV) having OPCON over the assets of a subordinate command deserves critical mention. Our commanders were charged with all of the inherent responsibilities of command EXCEPT COMBAT EMPLOYMENT, the ultimate in the meaning of the term "command responsibility". The administration, training, health, welfare and morale, maintenance and supply, housing and security were left to USARV and the 1st Aviation Brigade Commanders

while, without constraint, consultation or concern, their forces were committed per the authority of MACV.

This was a direct emasculation of the inherent tenets of command responsibility, in the opinion of those who were so subjected. The units were jockeyed from rarely under-committed to frequently over-committed with no means of influence by the senior commanders to whom the tactical units were assigned. It is hoped that this practice will not be repeated in any future theater of operations.

Assignment of the 34th General Support Group (AM&S) to the 1st Aviation Brigade was an anticipated event which didn't happen, and a great disappointment. However, the close working relationship, mentioned previously, evolved quite rapidly during the early organization and maturation of both organizations. COL Dibble was greatly impressed with the efforts he observed during evolution of controlled decentralization of supply points to insure that they were as close as possible to multiple, relatively local customers.

The American public never was privileged to learn of the good works which our military personnel provided the citizens of Vietnam. The media, to this date, refuse to acknowledge the voluntary, needed and beneficial aspects of the many programs pursued by the U.S. military.

Within weeks of Brigade Headquarters formation, Chaplain Estes and Doctor Hertzog organized and led the "adoption" of two orphanages in the Saigon area. They were later joined and supported by COL Dibble. The relationship of Chaplains and Flight Surgeons acting as a team spread throughout the Brigade at all levels, and is worthy of a separate document on the subject.

Orphanages, schools, hospitals and clinics were supported in battalion sec-

tors. Money; food (with vitamin supplements); medical attention, including immunization shots; facility construction, improvement and maintenance; clothing collections from "hometowns", and other forms of contributory support was provided willingly and freely, despite the rigorous work load of those responsible and participating. It is a disgrace that the voluntary Civic Action efforts prevalent throughout the Theater have not been recognized and publicized.

"THE ORIGINALS": Upon their departure, the officers and senior NCOs who served with Brigade Headquarters during 1966, and were the first to hold their respective positions, were presented a suitably inscribed plaque which included the designation "ONE OF THE ORIGINALS". This accolade was intended as a rare and distinct tribute for just a few of the many who later followed as members of the Brigade staff. The term recognized their contributions during the humble and hectic period which resulted in the birth of this proud and professional organization.

The first year ended on a particularly positive note. The Brigade, due to the exemplary wisdom, leadership and perception on the part of BG Seneff, as executed through his staff and subordinate commanders, was a respected, high spirited, and most necessary combat element of USARV and MACV. It is gratifying to note that the 1st Aviation Brigade is still a part of the current and forecast Army structure, despite the "downsizing" of the force which has taken place. It is hoped, and appears likely, that the 1st Aviation Brigade will remain a vital part of the Army force structure well into the future.

MUSICAL NOTE: LTC Martin Heuer, Sr., Ret., former Adjutant of the 14th Aviation Battalion, and original member of that organization's "Three Majors and

a Minor", later "The High Priced Help", is making a superhuman effort to capture the words, music, author, unit and names of the musicians and vocalists of the Brigade unit musical groups. Anyone who has tapes or any of the sought after information or documents regarding unit tunes is requested to contact Marty at: 1-(800) 330-0555.

EPILOGUE: BG Seneff was selected for promotion to Major General and departed the command in August of 1967. During 1967 the Brigade had continued to expand in size and complexity, and became a "Command", complete with General Staff, and authorization for the commander to be a Major General.

Gratifying is the implication that the 1st Aviation Brigade was considered an important "stepping stone" for higher rank and positions of responsibility, as is indicated by the promotion record of BG Seneff and subsequent commanders. These included, in order of command, through 1973: MG Bob Williams, MG Allen Burdette, MG George Putnam, COL Sam Cockerham, COL Jack Hemingway, MG Robert McKinnon, BG Jack Mackmull.

The following quote is attributed to GEN Creighton Abrams, Deputy COMUSMACV in 1968, at the ceremony during which the Brigade received a second Vietnamese Cross of Gallantry, and reflects the result of continuous building on the cornerstone so carefully laid in 1966: "It has been interesting for me to note that the aviators and men of this Brigade have been taken into the Brotherhood of The Combat Arms....not by regulations, not by policy, but because they've been voted in by the Infantry who are the charter members of the exclusive club, The Combat Arms."

This article is the written recollection of pretty much an oral history of old com-

rades from 30 years ago, and more, set down on paper by the author to provide an important, but heretofore unrecorded element of history to be added to the archives. It is hoped that those of you who served in the Brigade in the years subsequent to 1966 will make an effort to provide a record similar to this, and keep adding to it, so that the history of this great organization can be amplified and expanded to create a continuing and up-to-date historical document which will continue to grow as each year passes by.

We are interested in assembling as complete a list as possible of "The Originals". Please add any facts and tales you may have by contacting the author: LTC Dwight Lorenz, Ret., P.O. Box 270, Bennington, VT 05201-0270, Phone/Fax: (802) 442-3280, E-mail: lorassoc@sover.net

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LTC Lorenz, Ret. is a consultant, Bennington, VT.

30th Anniversary of "The Originals"

A special event celebrating the 30th anniversary of the founding and activation of the 1st Aviation Brigade will be held in conjunction with the activities of the 1996 AAAA Annual Convention. All current and former members of the Brigade are welcomed.

The event will be held in the Radisson Plaza Hotel on Wednesday, 27 March at 9 p.m., immediately following the Early Birds Reception. Attendance is open to all, however an advance notification of intent to attend is required to ensure that adequate space and facilities are available.

Contact Dwight Lorenz at Phone/FAX (802) 442-3280 as soon as possible. A nominal cover charge will be collected at the door.

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 WO1 Sean Miller
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 BG Peter C. Franklin

COLONIAL VIRGINIA
FORT EUSTIS, VA
 COL Charles W. Fletcher, Jr.
 PV2 Matthew D. Johnson

CONNECTICUT
STRATFORD, CT
 Mr. Stephen K. Morse

CORPUS CHRISTI
CORPUS CHRISTI, TX
 Ms. Eva C. H. Brown
 Mr. Robbie L. Cryer
 CW4 David K. Farlow
 Mr. William M. Fischer
 Mr. James A. Fulton
 Ms. Viola M. Griego
 Mr. James F. Kaylor
 Ms. Diane Medelin-Almaguer
 SSG Ray Minix, Jr.
 SFC Abelardo Navarrete
 Ms. Alma M. Studer

FLYING TIGERS
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 CW3 Ronan D. Donahoe
 MAJ Charles D. Koons
 CW2 Richard A. Larson
 CW2 William B. Lindell
 1LT Heath K. Lord
 SFC Stephen N. Lynch, Jr.
 CPT Timothy F. McConvey
 CPT Edmund G. Naughton
 CW4 Donald E. Ridings
 1LT Timothy S. Rogers
 CW2 Kevin S. Slinker
 CPT Brian W. Smalley
 CW3 David M. West



FROZEN CHOSEN
GRAND FORKS, ND
 CDT Scott A. Monson

GREATER ATLANTA
ATLANTA, GA
 MAJ Harry W. Helfrich

INDIANTOWN GAP
INDIANTOWN GAP, PA
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 SP4 Felicia A. Phillips
 SSG Mark A. Pickett
 SGT John A. Plehnik
 SGT Michael Pigford
 PFC Crystal G. Pike
 PV2 Aaron A. Pina
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SGT James R. Price, Jr.
 SPC Majorie H. Pryce
 SPC Thomas W. Puppel
 SPC Nancy I. Qasem
 SPC Elizabeth B. Raatzma
 SSG David H. Raiston
 SP4 Mitchell L. Ramo, Jr.
 CPL Gary K. Ray
 SSG Monessa L. Raymore
 PFC Sara A. Redmond
 SPC Aaron C. Reinard
 SPC Katrina M. Render
 SGT Brian K. Resenbeck
 SSG Pamela M. Reyes
 SGT Kory J. Reynolds
 Mr. Chang Jae Rhee
 SPC Christopher L. Rhoten
 SSG John R. Rice
 SGT Harold J. Richardson
 SPC Jonathan M. Richardson
 SSG Yong M. Richardson
 SPC Alan K. Richmond
 SPC Ronald M. Rigaud
 PFC Miguel A. Rivera, Jr.
 SSG James S. Rivers, Jr.
 PFC Elizabeth A. Roberts
 CPL John G. Roberts
 SP4 Lonnie W. Robertson
 PFC Jeffery Robinson
 PFC Traci L. Robinson
 SSG Joel R. Rocha
 PV2 Christopher A. Roche
 SSG Jesus M. Rodriguez
 PFC Derik G. Rogers
 PVT Christina J. Rose
 SGT Timothy S. Rose
 SPC K. C. Rosenberg
 PV2 Keith R. Rosenberg
 SPC Dominic Ross
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 PV1 Stephen M. Scott
 SPC Richard W. Scrivner
 SSG Charles L. Scroggins
 SGT Carlos Semas
 SGT Eduardo A. Serrano
 SSG Jose J. Serrano
 SPC Robert J. Serviss
 SSG Jesse L. Sharpe, Jr.
 SPC Darren Shearer
 SPC David B. Shook
 SPC Merrick J. Sides
 SGT Marc A. Simione
 SGT Renwick K. Simon
 PFC Naquinta N. Simpson
 SGT James A. Sims
 SSG Ike Singletary
 PFC Martin H. Skrivanic
 CPL Robert S. Slider
 PFC Bryan C. Smith
 PFC Gaelan B. Smith
 SSG John G. Smith
 SSG John L. Smith
 SPC Lance W. Smith
 SSG Olivia Smith
 SGT Thomas G. Smith, III
 SPC William L. Smith
 SGT Gale C. Solomon
 SPC Terrence S. Spann
 SSG Henry J. Spanow
 SSG James A. Spearman
 PFC Bruce A. Spencer
 SGT Sandy L. Spencer
 SPC Todd C. Spindler
 PV2 Gary W. Stafford
 SPC Scott F. Stanley
 SSG David A. Stark
 SP4 Jason R. Steen
 SGT Scott A. Stelle
 SPC Craig L. Stewart
 SGT Joseph E. Stricklin
 SPC Julius A. C. Strose
 SPC Nicholas H. Stuart
 PFC Tiffany Loyal Sumter
 PFC Carolyn T. Swain
 SSG David E. Swanson
 SGT Tatsuo Tachibana
 SSG Kenichi Tamassukuku
 SGT Alicia M. Taylor
 SSG Bret S. Taylor
 SP4 David C. Thomas
 PFC Kenneth S. Thomas
 SSG David B. Thompson
 SGT Mark D. Thompson
 SGT Philip M. Thompson
 SPC Sandra J. Thompson
 SP4 Steven D. Thoman
 SGT Leonard L. Tilden, Jr.
 SPC Alvin L. Tolbert
 PV2 James L. Trayers, IV
 SPC George W. Tucker
 SPC Lronda Y. Turner

SSG Joel C. Vanhooladt
 PFC Timothy Venning
 SSG Francisco J. Villalobos
 SPC Kevin D. Vincent
 SGT Gregory A. Vlach
 SPC Donald M. Wadsworth
 PFC Charles R. Wagenbrenner
 SSG Roderic L. Walbe
 PFC Mikal L. Walbridge
 PV2 Eric W. Walker
 SSG Michael W. Wall
 SGT John H. Wallace
 SGT Shylonda L. Wallace
 SP4 Wayman K. Walton
 SGT David A. Watzel, II
 PFC Thomas H. Ward
 PV2 Chad R. Warner
 1SG Clifford Washington
 SPC Demetrius Washington
 SP4 Phillip J. Washington
 SSG Odester Watson, Jr.
 SPC Scott A. Wayne
 PV2 Samuel T. Weidner
 SGT Derwin A. Wesley
 SGT Ashley B. White
 PFC Louquan D. White
 PV2 Yonna J. White
 SSG Patrick Whitfield
 SPC James L. Whittenon
 SGT Paul A. Wierda

SPC Gary L. Wilhelm, II
 SSG Carvis A. Williams
 SP4 Derek K. Williams
 SGT Donald C. Williams
 PV2 Genola L. Williano
 SPC James R. Williams
 SGT Keith A. William
 SPC Lowell C. Williams
 SGT Rudolph A. Williams
 SGT Darrin Wilson
 PV1 Deanda R. Wilson
 SGT Roy H. Windham
 SSG James L. Window
 SSG Everton Wint
 PFC Trevor A. Woelke
 PFC Patrick C. Wolf
 Mr. Jeong Deok Woo
 Mr. Marvin W. Woodard, Jr.
 CPL Donald Woody
 PV2 Jerry Works
 SGT William T. Worthy, Jr.
 PFC Linda M. Woten
 SSG William A. Wrancher
 SSG James A. Wylie
 SPC Pamela J. Wyman
 SPC Darrick W. Wymer
 SPC Philip C. Yarbrough
 SSG Richard L. Yeomans
 President Hyup-Woo Yi
 SSG Randall A. Young

Mr. Gerald E. Zentner
NARRAGANSETT BAY
N. KINGSTOWN, RI
 SSG David J. Piccittolo
NORTH TEXAS
DALLAS/FORT WORTH
 Mr. Thomas H. Allen
 Mr. Arthur Darwin Barboza
 Ms. Launa D. Barboza
 Mr. Lowell G. Cantwell
 Mr. Thomas J. Daley
 Mr. Kenneth J. DeSerrano
 COL Owen A. Heeter, Ret.
 COL Ernest L. Isbell, Ret.
 Mr. Cliff J. Koon
 Mr. Daniel Sanchez, Jr.
 Ms. Karen S. Schorr
 MSG Charles O. Wiggins, Ret.
NORTHERN LIGHTS
**FORT WAINWRIGHT/
 FAIRBANKS AK**
 CW2 Timothy R. Commerford
OREGON TRAIL
SALEM, OREGON
 CW3 Joseph P. Mollahan
PHANTOM CORPS
FORT HOOD, TX
 1LT Son P. Vo

CSM Robert L. Wedgewood
POTOMAC
ARLINGTON HALL STN, VA
 CPT Sandra W. Dittig
 Mr. Donald E. Wilson
SAVANNAH
FT STEWART/HAAF, GA
 WO1 Jeffrey A. Surrency
SOUTHERN CALIFORNIA
LOS ANGELES, CA
 Mr. John B. Totty
WASHINGTON DC
WASHINGTON, DC
 MAJ Michael J. Hall
 COL Kief S. Tackaberry
MEMBERS WITHOUT
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 Mr. Mike Bacon
 CPT Robert T. Herbert
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 COL Mike Ryan
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 Mr. David A. Torgennud

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I wish to join the Army Aviation Association of America (AAAA). My past or current duties affiliate me with U.S. Army Aviation and I wish to further the aims and purposes of the AAAA. I understand that my membership includes a subscription to AAAA's official magazine "Army Aviation", and that my membership will start on the subsequent first of the month. Contributions or gifts to AAAA are not deductible as charitable contributions for federal income tax purposes. Dues payments may be deductible by members as ordinary and necessary business expenses.

Name/US Grade _____ First Name _____ MI _____ Last Name _____ Sex _____

Mailing Address _____

Mailing Address _____

City _____ State _____ Zip + 4 Code _____

Active Duty or Civilian Job Title and Unit or Firm Name _____

Area Code _____ Office Phone _____ Area Code _____ Residence Phone _____ Area Code _____ FAX _____

Consent: do do not consent to the publication or release of the above information to third parties.

Signature _____ Date _____

Citizenship _____ Nickname _____ Spouse's Name _____

Date of Birth (Mo/Yr) _____ Social Security No. _____ www.aaa.org

AAAA ANNUAL DUES

Applicants other than those listed below:
 () 1 yr, \$21; () 2 yrs, \$39; () 3 yrs, \$57
 Full-Time Students; Enlisted WOCs; GS-8 DACs & Below;
 Wgc Board 12 DACs & Below:
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 Add \$5 per year if you have a foreign, non-FAO address.
 Add \$15 if your check is drawn on a foreign bank.
 Check enclosed payable to "AAAA" or charge to
 AMEX Diners Club Mastercard Visa
 Card No. _____

Amo \$ _____ Exp. Date _____

Signature: _____

Date: _____

Check (✓) Your Professional Qualifications:

- () Army Active Duty () US Defense Industry
 - () DA/ODD Civilian () Civilian
 - () Army In-It Guard () Publishing/Other Am.
 - () Army Reserve () Foreign Military Service
 - () Army Retired () Foreign Defense Industry
 - () Other US Military Service () Other
- Are you a former AAAA member? Yes No
 If yes, what year did you join? _____
 Chapter Affiliation Preferred _____
 Print Name of Branch: _____

AAAA President's Message

(Sixth in a Continuing Series)

MG Richard E. Stephenson, Ret.

December 1995 — January 1996 was one big, BIG time for Army Aviation. While in Germany, I spoke with MG Dan Petrosky and COL Will Webb on their respective ways to [end?] the saga of the Sava River Bridge where Army Aviation contributed in ways only Army Aviation can. We are all with our troops "over there".

On January 4, 1996 we celebrated the first flight of the fighting flagship of the 21st Century Army — the RAH-66 Comanche armed reconnaissance helicopter. Hardware is eminently more defensible than paper, so hurdle number one is a runaway behind us with this vital program. Congratulations to BG Jim Snider, Comanche PM, the Boeing Sikorsky team, and the legions of "believers". Moving the production decision to the left is the next challenge as the bugs get worked out. A special thanks to Capitol Hill.

On January 10, 1996 we held a Blizzard of '96-postponed (from January 9) AAAA NEB Meeting at Ft. Rucker, AL, hosted by our Branch Chief and his brigade commanders. While we were not able to muster a quorum (only 21 of the required 24 for a 1/3 of 72 Quorum), we did brief out finances, strategic plans, and the emerging recommendations from our Contract Review Committee. More on these developments at the March 27, 1996 NEB meeting in Fort Worth, TX, 1400-1630 hours. Hope to see as many NEB members and AAAA member observers as possible. It will be an important NEB meeting.

On January 24, 1996 I was an invited head table guest of the AUSA at the Aviation Modernization Symposium which was well attended and well presented by our Aviation team. CG TRADOC indicated that he was going to establish an aviation battlelab within TRADOC "within the year" in response to a floor question. We hope to collaborate with AUSA in future aviation symposia and we will keep you posted on developments. AAAA-AUSA collaboration at the chapter level is routine and healthy, based upon my feedback from the field.

After the Winter of '96, we should have a great year ahead — see you in Fort Worth, March 27-30, 1996!

AAAA SCHOLARSHIPS AVAILABLE

\$154,000 to be offered in 1996



Scholarships "dedicated" to
Enlisted, Warrant Officer, Company Grade Officer,
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Funds also available for spouses, siblings,
& children of AAAA members.

Contact the AAAA Scholarship Foundation, Inc.,
49 Richmondville Ave., Westport, CT 06880-2000
Tel: (203) 226-8184 FAX: (203) 222-9863
for complete details.

Application Deadline: May 1, 1996



Above: The AAAA Morning Calm Chapter, Seoul, Korea held its Annual Christmas Ball on 9 December 1995. COL Thomas F. Stewart (left), Chapter President, joins GEN Gary E. Luck (second from right), Commander-in-Chief, United Nations Command and Commander, United States Forces Korea/Combined Forces Command, in presenting the Morning Calm Aviation Unit of the Year to CSM Timothy D. Paul (second from left), Senior NCO, 5-501st Aviation Regiment, and LTC Rickey L. Rife (far right), Commander, 5-501st Aviation Regiment, accepted the award on behalf of the Battalion.

Below: The Phantom Corps Chapter's 8th Annual Chili Cookoff and Pegasus Run was held on 3 November 1995. Over 300 people participated in both the 5K and 10K races. Approximately \$2,000 was raised for the AAAA Scholarship Fund.



New AAAA

Chapter Officers

Colonial Virginia:

CPT Daryl R. Cooper (VP Memb); CW5 Wayne A. Waersch (VP, WO Affairs).

Corpus Christi:

Laurie A. Simcik (VP, Programs); Holly E. Gifford (VP, Publicity).

North Country:

MAJ James S. Rice (Treasurer).

North Texas:

LTC Brennon R. Swindell, Ret. (SrVP); COL Michael E. Whittenberg, Ret. (Secy); James F. Horan (VP, Prog); LTC Garry M. Bass, Ret. (AVP, Prog); Raymond C. Roane (VP, Ticket Sales).

Potomac:

COL Ralph J.W.K. Hiatt, Ret. (VP, Industry Affairs).

New AAAA

Industry Members

Eaton Corporation

El Segundo, CA

Lorad Industrial Imaging

Danbury, CT

Self Contained Cleaning

System, Inc.

New Brockton, AL

AAAA Aviation

Soldiers of the

Month

A Chapter Program to Recognize Outstanding Aviation Soldiers on a Monthly Basis.

SPC Cynthia P. Camp

June 1995

(Talon Chapter)

SGT Kevin M. Ireland

December 1995

(Talon Chapter)

SPC Elvin L. Cintron

January 1996

(Talon Chapter)

SPC Dennis Clark

February 1996

(Talon Chapter)

SPC William B. Mills

April 1996

(Talon Chapter)

SSG David E. Humphrey

January 1996

(Savannah Chapter)

**AAAA Aviation
Soldiers of the Year**

A Chapter Program to
Recognize Outstanding
Aviation Soldiers on an
Annual Basis.

SPC Raymond W.

Dawson III

1995

(Aviation Center Chapter)

**AAAA Aviation
NCOs of the Year**

A Chapter Program to
Recognize Outstanding
Aviation NCOs on an
Annual Basis.

SFC Ronald E. Robinson

1995

(Old Tucson Chapter)

SGT Norman O. Viloso

1995

(Aviation Center Chapter)

Aces

The following members
have been declared Aces in
recognition of their signing
up five new members each.

LTC Ronald Alexander

Ms. Susan E. Barnes

COL Norman M.

Bissell, Ret.

CPT Gary C. Fahrni

1995 AAAA MEMBERSHIP COMPETITIONS

The tabulations for the 1995 AAAA "Chapter Membership Enrollment Competition" have been completed and the winners in the three Chapter categories are:

Master Chapter Category (170 or more members)

Aviation Center Chapter, Ft. Rucker, AL

CY95 Net Member Gain of 95 members

COL Michael T. Mulvenon, Chapter President

LTC James W. Kelton, VP Membership

Senior Chapter Category (80-169 members)

Old Tucson Chapter, Marana, AZ

CY95 Net Member Gain of 11 members

MAJ David A. Mitchell, Chapter President

SSG Melissa L. Pirisky, VP Membership

AAAA Chapter Category (25-79 members)

Armadillo Chapter, Conroe, TX

CY95 Net Member Gain of 37 members

LTC Charles B. Ladd, Chapter President

LTC Christopher G. Gallavan, VP Membership

1995 "Top Gun"

MSG John H. Bae, Ret., Morning Calm Chapter

CY95 Member Enrollment Total of 683 members

Below: Army Aviation graduates of the U.S. Army War College Class of 1995/1996. Top row, 1 to r: LTC(P) Tom Mathews, LTC(P) Grant Scott, COL Randy Maschek (MS), LTC Todd Lee (USAR). 2d row: LTC(P) Don Burke, LTC Rich Langhorst, LTC(P) Jim Myles, LTC Joe Peraza, LTC(P) Tom Hinkel, LTC(P) Rich Johnson. 3d row: COL Gordon Toney (ARNG), COL Mike Marvin (ARNG), LTC Greg Walker, LTC(P) Darrell Lance, LTC(P) Bernie Negrete, LTC(P) Stan Meyer.





Above: During his recent visit to Ft. Bragg, NC, MG Ronald E. Adams (right), CG, USAAVNC and Ft. Rucker, AL presents LTG Henry H. Shelton (left), CG, XVIII Airborne Corps and Ft. Bragg with a plaque to commemorate the publication of LTG Shelton's article, "Army Aviation's Journey to Force XXI and Beyond" in the December 31, 1995 issue. MG Adams and the aviation commanders at Ft. Bragg surprised LTG Shelton who came in from leave to receive their thanks for his support of Army Aviation.

Below: COL Roger E. McCauley (left), Commander, 18th Aviation Brigade and Iron Mike Chapter President, presents MG John M. Pickler, DCG, XVIII Airborne Corps, with a Bronze Order of St. Michael. The ceremony took place just prior to MG Pickler's departure to Ft. Carson, CO where he will assume duties as the Commanding General.



SSG Joseph Kenney, Jr.
CPT Gene K. Lambrecht
CPT John P. Miller
CPT Andrew B. Nocks
MAJ(P) Robert E. Payne
CW3 Jack T.F. Pike

Nell Fortner

Nell Fortner, 73, wife of 1983 AAAA Hall of Fame Inductee Marion Jake Fortner, died Saturday, November 18, 1995 in LaGrange, AL. She was a Charter Life Member of AAAA.

Survivors include three sons and daughters-in-law, USAF Colonel William F. and Sandy Fortner, John and Myrtis Fortner, and Robert and Nancy Fortner; daughter and son-in-law, Jane and Phil Humphries; seven grandchildren; and four great-grandchildren.

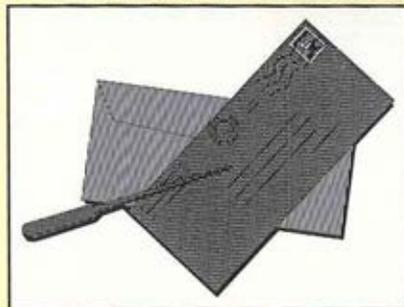
In Memoriam

COL Ted D. Cordrey
Mr. Robert J. Pope

See You In Fort Worth!

AAAA
Annual
Convention
Fort Worth,
Texas
27-30 March
1996

AAAA LOCATOR • AAAA LOCATOR



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The AAAA offers its members the opportunity to contact the National Office for addresses and phone numbers of other members with whom they have lost touch over the years.

In addition, as a service to our members, a brief announcement may be placed in these pages to help locate those who are not AAAA members.

Mr. DB Ashton seeks Harley J. Baker (RA15595103)(403-52-5611), a graduate of the 6 Sep 68 Infantry OCS class. Baker, a Kentucky native, was a jumpmaster and had served a Vietnam tour with the 101st Airborne Division before OCS. He was an SFC/E7 before commissioning, and became a UH-1 pilot with the 173rd AVN BDE. His last reported rank was CPT.

Contact Mr. Ashton at Tel (212) 861-5525, FAX (212) 861-5526, or E-Mail jayhawk@walrus.com

AAAA GOES ON-LINE!

The AAAA National Office now has E-Mail capability via CompuServe. Our address is:
74023.3400@compuserve.com

AAAA CALENDAR

A list of upcoming AAAA Chapter and National events.

March 1996

- ✓ **Mar. 27 - 30.** AAAA Annual Convention, Tarrant County Convention Center, Fort Worth, TX.
- ✓ **Mar. 27.** AAAA National Executive Board Meeting, Tarrant County Convention Center, Fort Worth, TX.
- ✓ **Mar. 28.** AAAA Scholarship Board of Governors Annual Meeting, Tarrant County Convention Center, Fort Worth, TX.

July 1996

- ✓ **Jul. 19.** AAAA Scholarship Board of Governors Executive Committee Meeting, National Guard Readiness Center, Arlington, VA.
- ✓ **Jul. 20.** AAAA National Scholarship Selection Committee Meeting to select 1996 National Scholarship recipients, National Guard Readiness Center, Arlington, VA.

October 1996

- ✓ **Oct. 29-31.** AAAA Colonial Virginia Chapter and AHS Hampton Roads Chapter, Helicopter Military Operations Technology Specialists Meeting (HELMOT VII).

CANCELLED!

*The AAAA
USAREUR Convention,
originally scheduled for
25-27 April 1996 in
Chiemsee, Germany, has
been cancelled due to the
Bosnia deployments.*

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