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THE FUTURE IS NOW

by Maj. Gen. John "Dave" Robinson, Ret.

The humor of Yogi Bera's philosophy, "The future ain't what it used to be" has a subtle and profound meaning today. Major changes are sweeping the globe affecting complex ideological, political and economic changes. In addition, there are various concerns for domestic and international security. Many questions have been asked regarding the role of military forces in this new environment.

The recent Report of the National Defense Panel on Transforming Defense provides a realistic but sobering look ahead at defense priorities for the new millennium. As the Army Aviation Association of America looks to the future, we too must address the changing times to remain relevant. With this edition of Army Aviation magazine we are launching not only a fresh format, but establishing a forum for the exchange of ideas on Army aviation systems, operational concepts, force structure, supportability, training needs and other subjects appropriate for a professional dialog.

National military strategy seems unsettled, perhaps even unhinged, by the demise of the Cold War. Our forces must have a real or perceived lethality tied to our commitment to deploy such forces. Potential adversaries have become increasingly assertive. Many have turned to high-technology weapons and moved away from large, expensive standing armies. Certainly, ground forces have not become obsolete but one might observe that lethal, precision weapons that have the effect of massed forces are influencing many defense investment decisions. Regardless of the operational scenario, deterrence should be fundamental in our thinking.

Considerable interest has already been shown in space-based and terrestrial sensor packages, intelligence-producing systems, advanced communications, ballistic missiles and other systems capable of precision fires. Additionally, future battlefields are likely to see agile, stealthy weapon platforms, both manned and unmanned, possessing sophisticated electronic countermeasure equipment.

While the lure of high technology may be compelling, T. R. Feherenbach's observation has sobering merit for both international and domestic application: "We can fly over the land, bomb it, atomize it and wipe it clean of life; but if we desire to preserve it for civilization, we must ultimately put soldiers in the mud."

When AAAA was founded more than 40 years ago, our world was profoundly different and so was America's Army. Air assault and air cavalry were concepts; our aircraft were underpowered, had little firepower and were relatively vulnerable. Army aviation was viewed mostly as a combat-support entity. Little attention was given to aviation's potential role as a fire-and-maneuver force. However, several noted Army aviation leaders shared a vision that institutionalized air assault and cavalry operations. The genie was out of the bottle!

Since those early days, we have learned Army Aviation has many unique dimensions. It is not an air force nor is it infantry. Aviation is not part of the aerospace environment—its primary mission is combat operations as part of the combined arms team. It was born in Army traditions and lives and fights in the ground regime. Army Aviation is in the land part of the airland battle! It uses Army methods to control its forces and is integral to the ground commander's operations regardless of venue – peacekeeping to classical battle.

Central to fighting Aviation is the concept of air maneuver across the spectrum of combat; that is, placing the enemy in a position of disadvantage through the flexible application of combat power in the third dimension. The notion of air maneuver in the ground regime has long been resisted but recently it has gained greater acceptance across the Army. Aviation focused on deep targets or the flanks area against low dwell-time, high-value targets can increase operational tempo and gain position advantage in both time and space over the enemy. Following echelons and supporting structure can be interdicted before they can move into the direct fight.

> "...we are launching not only a fresh format, but establishing a forum for the exchange of ideas on Army aviation."

Potential operational environments should concern us all. The world watched our forces and systems in the Gulf War. The National Defense Panel surmised that our adversaries "will seek to disable the underlying structures that enable our military operations. Forward bases and forward-deployed forces will likely be challenged and coalition partners coerced. Critical nodes that enable communi-

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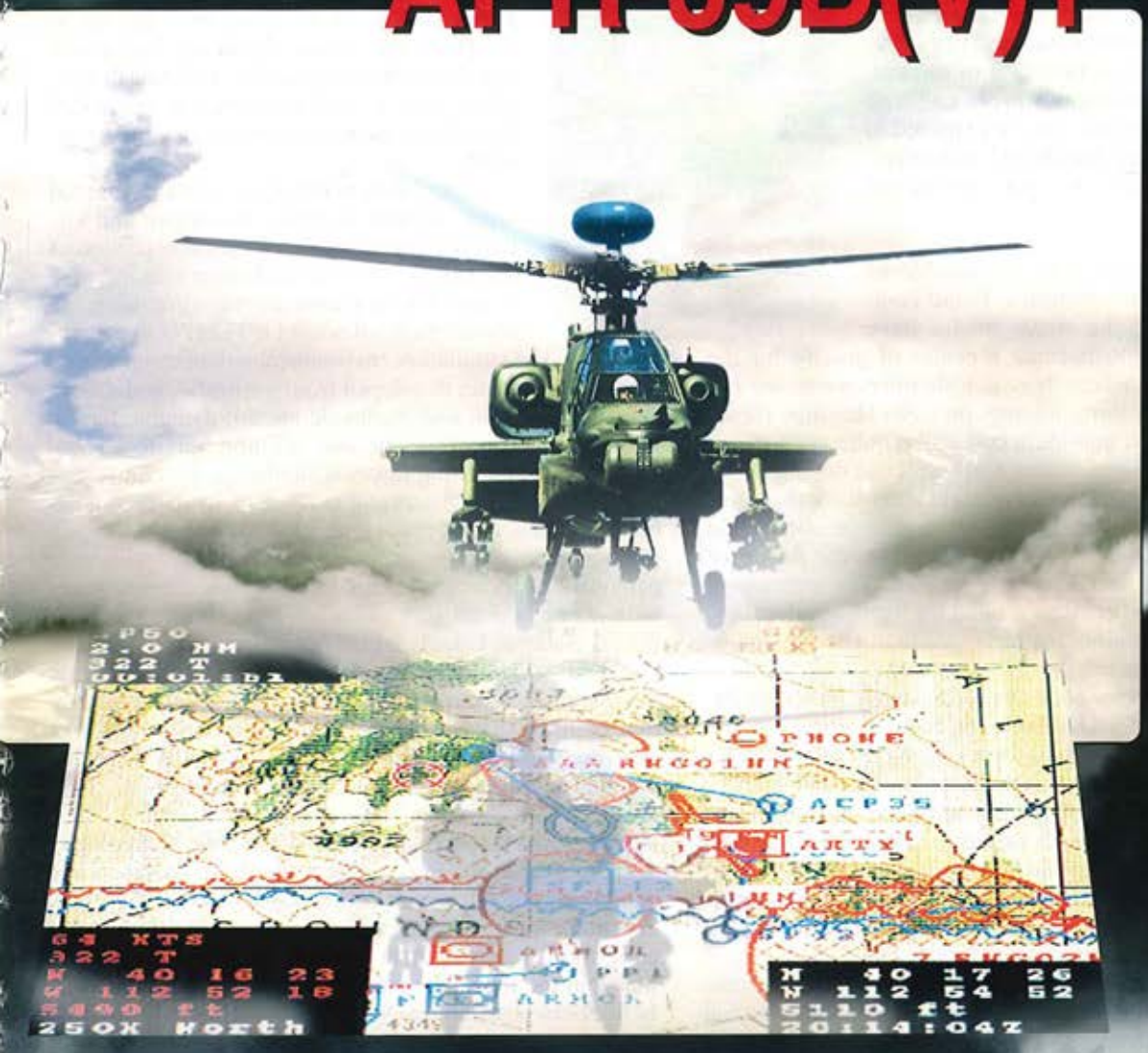

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cation, transportation, deployment and other means of power projection will be vulnerable." The Panel also provided ominous warnings regarding the vulnerability of our domestic communities and key infrastructure from the proliferation of nuclear, chemical and biological weapons. Those opposed to our interests can be expected to confront us at home and abroad with asymmetrical responses to our traditional strengths.

> "... without significant restructuring and changes to our investment strategy, we risk becoming a hollow force ..."

America's Army must be capable of decisive, quick victories. Rapid communications and the news media have caused casualties to become a center of gravity for the American people where there is little tolerance to see our youth bleed every thirty minutes on CNN Headline News. Decisive victory at minimum cost will require agile-minded and intuitive commanders, well-designed organizations and state-of-the-art digital communication links that have the potential to instantly link the strategic, operational and tactical levels. Digital systems will allow the fusion of intelligence data from disparate sensors. The technology may give commanders near ground truth on any adversary. With such information available, we then have a significant capability to sense the enemy's intent.

The Army is a very conservative organization and is difficult to change. Much has been said about restructuring, but the Army has downsized mostly by opting for proportionate reductions distributed across the force to meet end-strength goals. To its credit, the Army has embraced emerging technologies and proclaimed a desire to adopt more flexible, deployable, agile, leaner and flatter organizations. However, without significant restructuring and changes to our investment strategy, we risk becoming a hollow force that will look a lot like a downsized Cold War army.

Since the foundation of our nation, our citizens have been called and mobilized for domestic and international purposes on numerous occasions. Future conflicts will surely again make this call. Therefore, the reserve components must be integral in modernization planning to efficiently place functional responsibilities across the components. The reserve components must be comprised of lean, ad hoc multi-functional, modernized forces committed to readiness for the full spectrum of conflict. Army Aviation has made important strides to preserve the linkage among and commitment to the components. Inherent in the future vision must be the ability to quickly get the RC into contingency operations by facilitating more rapid mobilization of their important capabilities. This will require policy, statute and organizational changes along with investment commitments.

The training base will be challenged to shift from "brute force thinking" to ways that will harness the power of the human brain. As more powerful sensors become available and lethal systems with greater precision and lethality emerge, training regimes must adapt to harness soldier intellect; we must train for intellectual flexibility. Information-producing technologies demand agile-minded, intuitive leaders empowered to make quick battle decisions. Simulations are becoming increasingly important in training future warriors. Simulations can accelerate experience, compress learning time and will become central in screening prospective young leaders. As we move from the era of the Huey and Cobra, significant investment must be made in the training base now to transition aviator and maintenance personnel from these mature systems to modern equipment.

Simulation networks can link combined arms elements in real, constructive and virtual environments. A considerable portion of individual, crew and collective training may be possible in a simulation environment; we should trade off some OPTEMPO to accomplish this. The simulation environment will permit mission rehearsal on terrain developed from a worldwide database containing natural and manmade terrain; dynamic terrain will be commonplace in our training environments. Sophisticated opposing forces with blue-gray technologies will offer significant training challenges in these simulation environments. It is not stretching too much to suggest it may be possible for aviators to go "on line" with their personal home computers and interact with other warriors on a simulation network. This has powerful implications for the National Guard and USAR components.

The streamlined force inherent in the Aviation Restructure Initiative (ARI) combined with its modernization plan must be executed. Systems such as Longbow Apache, Comanche, Black Hawk, and the Chinook upgrade are pivotal in meeting future requirements.

Much can be done to harness information technologies to sustain the force using state-of-the-art diagnostic equipment in the hands of highly trained technical specialists. In the aviation area, modern systems drive down operating costs and the number of skilled technicians needed to maintain the fleet. The notebook computer provides nearly limitless possibilities. We have already developed electronic logbooks and they will soon become commonplace; technical manuals and parts requisition processes have the potential to become paperless. Aircraft data buses on our aircraft will record usage data to help predict fatigue and failure parameters. Prognostic technologies allow maintainers to track twisting, bending, and torsion moments experienced by the aircraft that can be compared with engineering designs to determine when a component should be changed. In short, we will finally be freed of the component time change mentality while protecting the force and at the same time saving millions in operations and support costs.

The power in America's defense forces has always been in their versatility. The future strategic environment calls for an agile, flexible Army capable of domestic and foreign deployment. We have a way to go in restructuring the force and bringing a Total Force concept into reality. "The future clearly ain't what it used to be" and for that matter, it never has been.

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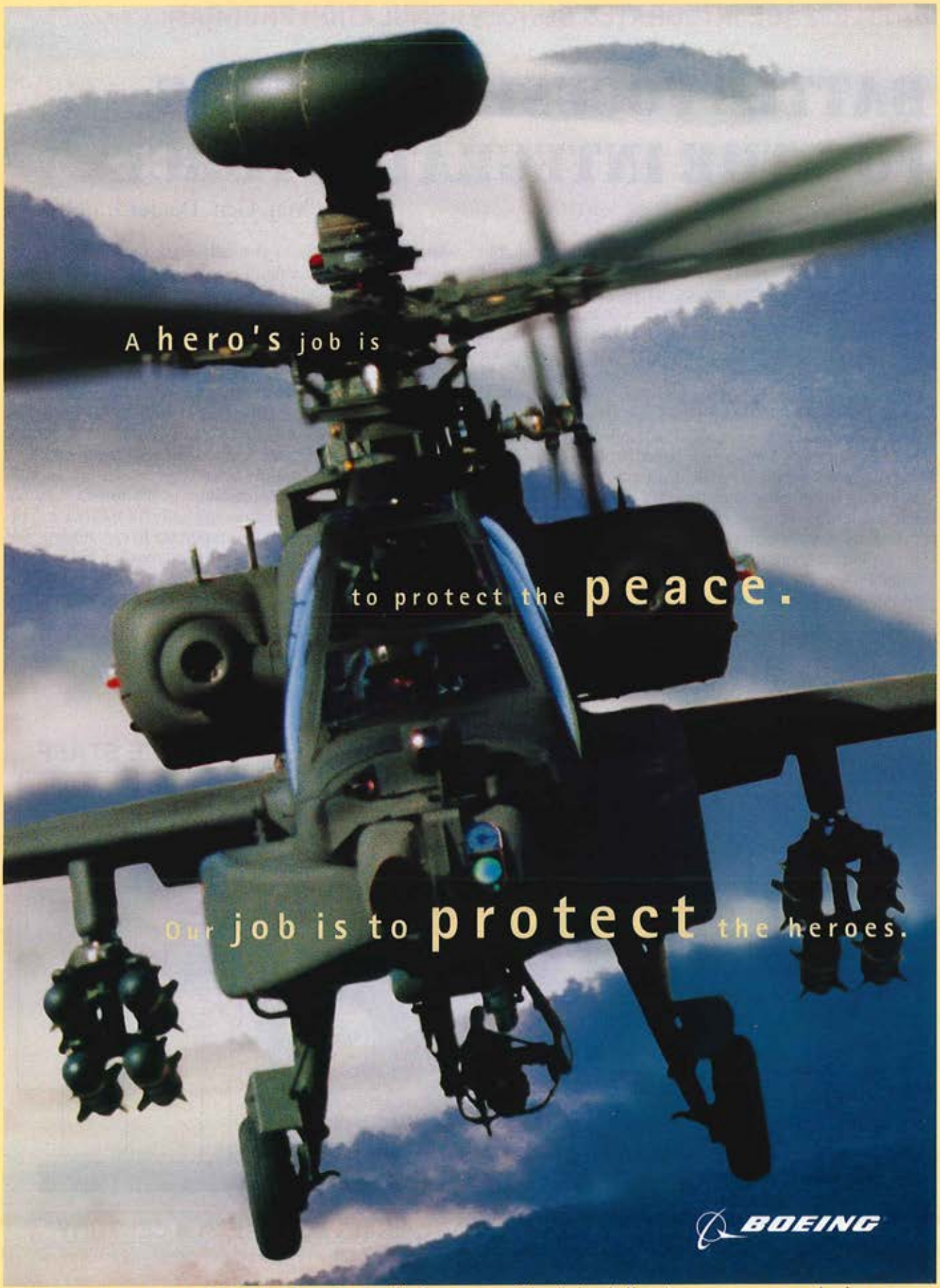
Maj. Gen. Robinson is president of the Army Aviation Association of America (AAAA).



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BATTLESPACE INTEGRATED CONCEPT EMULATION PROGRAM:

BATTLE FOCUSED TRAINING FOR THE INTEGRATED FORCE

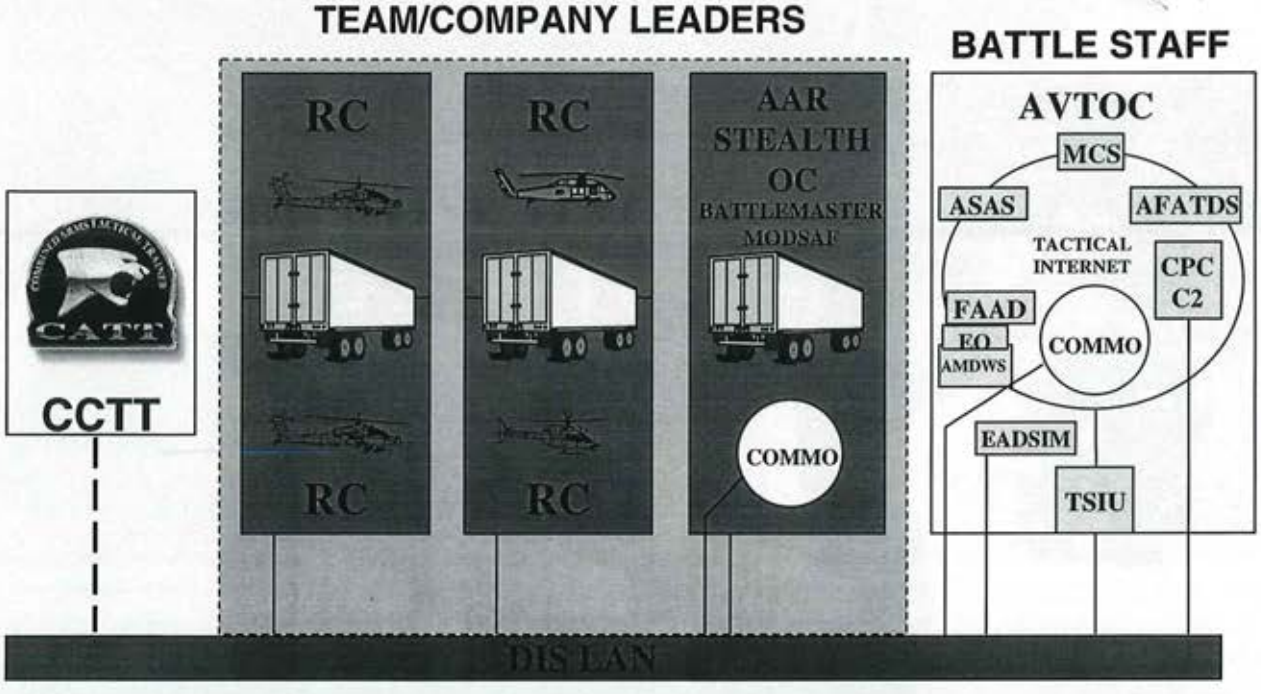
by Maj. Gen. Daniel J. Petrosky

The explosion in new technologies and their inevitable application toward information systems and weapons platforms has caused us to validate how we organize, man, and equip the force. These new changes have caused us to look deeply into how we intend to fight and employ future forces. Insights gained from our Army's Advanced Warfighting Experiments (AWEs) at the National Training Center and Fort Hood, as well as analysis performed on various Heavy Division Designs, have concluded that Army XXI, equipped with the latest information technologies and armed with the latest high technological weaponry will in fact achieve significant increases in lethality, survivability, and OPTEMPO on the battlefield of tomorrow. Our next real challenge, therefore, is to determine how we will train these forces to exploit and optimize the employment of these new capabilities. The most difficult piece in this challenge is training our leaders from platoon through battalion and brigade battlestaffs to correctly fight their systems and units. We must be able to provide a full spectrum environment for leader development and collective training (crew through brigade battlestaff) for the Total Army, active and reserve components!

Army Aviation is on the cusp of achieving this goal by the use of virtual flight simulators optimized for the performance of collective warfighting skills. The battlespace Integrated Concept Emulation Program, better known as BICEP will do just that for us. (See figure 1). BICEP is a joint Active Army and Army National Guard initiative that will provide a family of reconfigurable, non-motion based aircraft mission simulators to the force. They are optimized for collective training and will train those collective tasks deemed most important to our leaders and staffs in a cost effective and efficient manner. BICEP provides a non-cooperative OPFOR and creates a virtual battlefield on which the aviation unit must plan, prepare, and

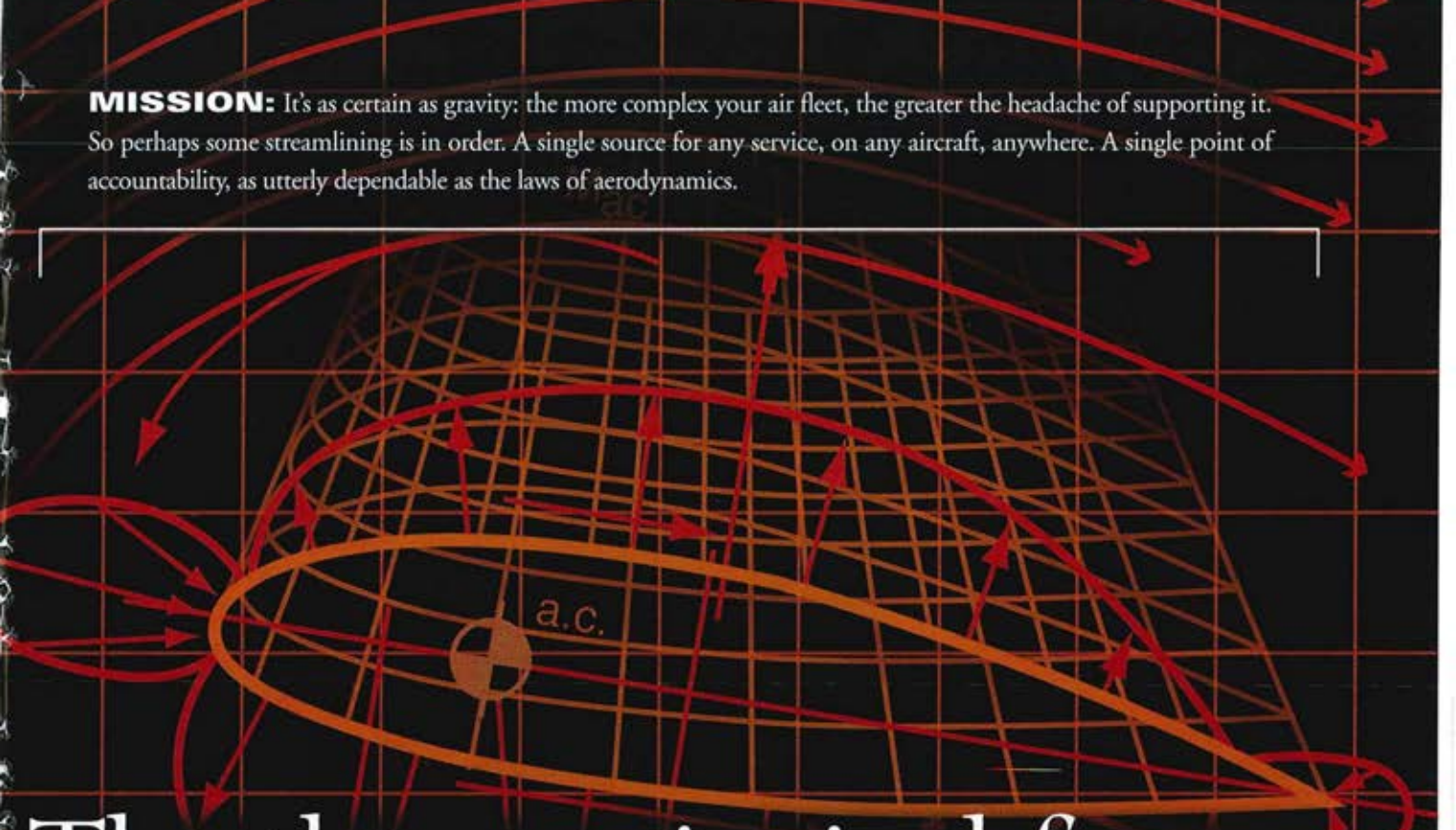
BICEP OBJECTIVE SYSTEM

Figure 1

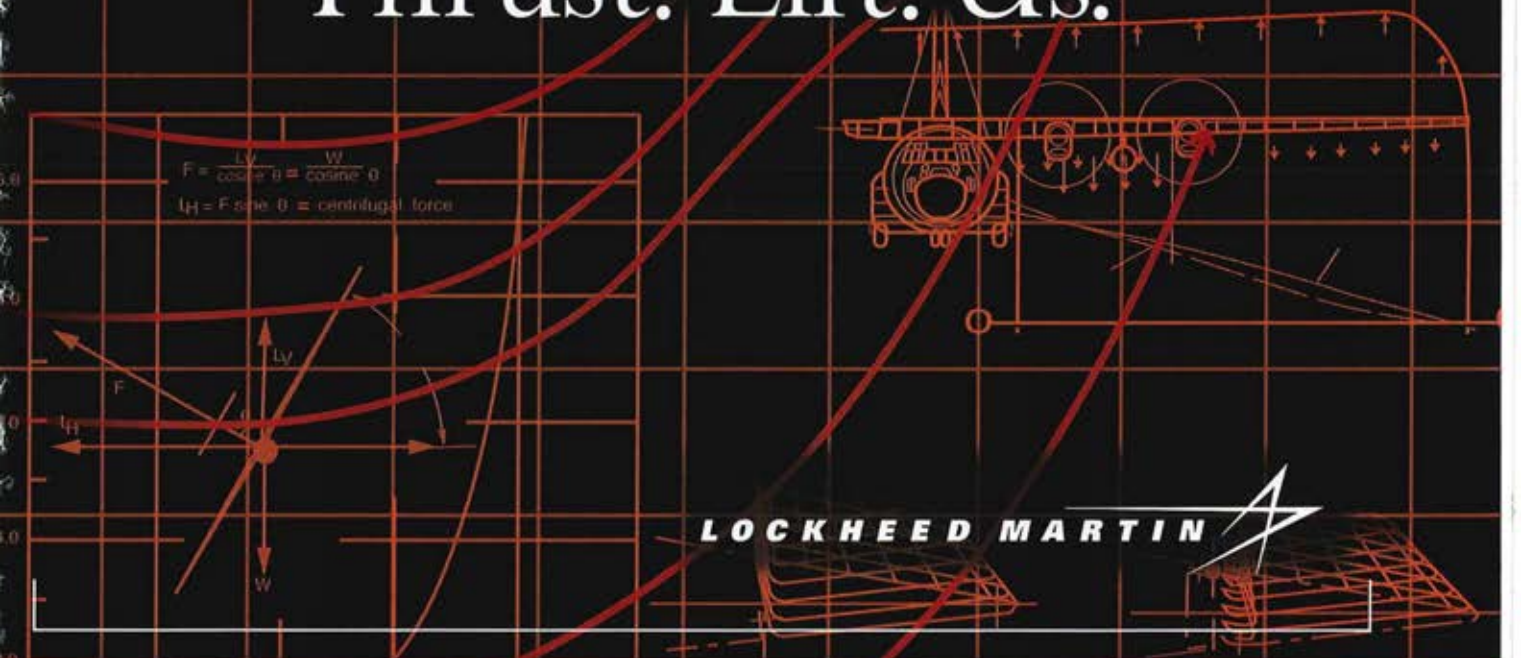


"FULL SPECTRUM BATTLE FOCUSED TRAINING FOR THE 21st CENTURY"

MISSION: It's as certain as gravity: the more complex your air fleet, the greater the headache of supporting it. So perhaps some streamlining is in order. A single source for any service, on any aircraft, anywhere. A single point of accountability, as utterly dependable as the laws of aerodynamics.



The three principal forces that keep an aircraft aloft: Thrust. Lift. Us.



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execute realistic, challenging combat missions that will hone those fleeting collective skills. BICEP will allow aviation leaders and units to increase their collective combat skill proficiency and enter live training at a much higher proficiency level, thereby optimizing those precious live flying hours. It also provides a kill/be killed feed back mechanism that creates the realistic environment for unit level training. Coupled to either a digital (via the Tactical Simulation Interface Unit) or non-digital Tactical Operations Center at battalion or brigade, BICEP causes the commander and staff to contend with most events they would experience on the real battlefield. Most importantly, it will be interoperable with the Army's Close Combat Tactical Trainer (CCTT) ground combat (mechanized infantry and armor) training system, thus allowing the interaction of the entire combined arms team.

BICEP will be cost effective and affordable because it is designed to use commercial off-the-shelf simulation technology that is state of the art. It is reconfigurable in the sense that each system can replicate the cockpits of all our modernized aircraft, including Longbow Apache, Comanche, and some of the non-modernized aircraft found in the National Guard. Commercial touch screen technology and innovative breakthroughs in Helmet Mounted Display visual systems make switching from one aircraft type to another a matter of about 45 minutes. A system will consist of six reconfigurable cockpits linked together on a local area network, which will be coupled to a Mission Control Center that provides exercise management and a robust After Action Review capability. The most significant departure from our older legacy simulation systems is that this system is containerized, thus allowing mobility of the system to various sites including deployment to contingency theaters of operations. For the first time Army Aviation will be able to bring its trainers along with it as it deploys, providing a way to sustain those perishable collective combat skills even though the unit may be involved in a Support and Stability Operation. As we grow the system, BICEP will evolve with a wide variety of terrain data bases that will be optimized for designated contingency areas of operations and can therefore provide a true mission rehearsal capability in theater that will significantly increase the likelihood of mission success.

BICEP has a robust and varied history of testing and training successes to support its approach to leader development and collective team and battlestaff training. Preparation of the Digital Aviation Task Force (4th Aviation Brigade, 4th ID) for their NTC rotation during the TF XXI AWE; train-up of two CONUS aviation units (229th Aviation Regiment and 4th Squadron, 2nd ACR) for deployment to Bosnia; and most recently, participation in the latest Force XXI Division Advanced Warfighting Experiment at Fort Hood, Texas in November, all demonstrated the success of this training methodology for our current forces and the forces of the 21st Century. It has also demonstrated great promise in supporting the training of newly formed OH58D(I) units, such as 3rd Squadron, 4th Cavalry, 25th ID. This particular event is unique in the fact that BICEP is the only flight simulator capability available to the Kiowa Warrior community today and the 21st Cavalry Regiment, III Corps sees great opportunities to incorporate this system into their training plans for newly forming units.

The results of these experiments have led to definition of the correct fidelity levels and system performance characteristics that will allow accomplishment of all the collective tasks of interest and not a single function more than that. Great care has been taken to design out those features that may contribute to negative habit transfer while alternately optimizing the performance most meaningful to the pilots and leaders. BICEP will not be everything to everyone, as it is designed for collective skill performance. While it is designed to execute collective gunnery tables, it is not designed to be a procedure trainer nor will it qualify table 8. We will still have a need for full motion based high fidelity trainers to accomplish these tasks, however we will not need as many.

"Army Aviation is on the cusp of achieving full spectrum environment for leader development and collective training (crew through brigade battlestaff) for the Total Army active and reserve components!

The planned BICEP fielding will provide a complete system to each CONUS installation with an Aviation unit, including Germany, Korea, Alaska, Hawaii, and six systems to the Army National Guard. A set of production containerized prototypes will be delivered to Fort Hood in June of 1998 to continue development of the final production versions and provide the platforms needed to achieve CCTT interoperability. Placing these systems in the hands of the troops early in its life cycle leverages the great successes achieved through the spiral development process used so successfully in the Force XXI initiative process. We intend to work hard to get BICEP into the Army's training PEG.

Even though our Army is going through rapid changes and the train seems to be speeding up, rest assured the aviation soldier of today and tomorrow will be provided with the tools he needs to fight and win. BICEP will provide the tool with which our aviation soldiers will need to train to fight our systems. BICEP will provide a full spectrum environment for leader development, mission rehearsal, and collective training (crew through brigade) for the Total Army.

Above the Best!

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Maj. Gen. Petrosky is Aviation Branch Chief and CG, U.S. Army Aviation Center (USAAVNC) and Ft. Rucker, AL, and Commandant, U.S. Army Aviation Logistics School (USAALS), Ft. Eustis, VA.

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AMCOM STANDS UP

by Daniel J. Rubery

"The organization combined many of the successful processes wihin ATCOM with the teaming structure in place at MICOM–the best of both worlds".

The merging of two Army Materiel Command (AMC) major subordinate commands via the Base Realignment and Closure (BRAC) process is no small feat. It is wrought with months, even years, of preplanning activity leading to months of reconstitution planning and the development of common processes. Ultimately, strategic plans are developed which are designed to assure the newly merged command is a synergistic combination focused on mission with no gap in accomplishment.

In October 1997 the aviation missions of the U.S. Army Aviation and Troop Command (ATCOM) in St. Louis, Mo., and the U.S. Army Missile Command (MICOM) at Redstone Arsenal, Ala., were merged to form the U.S. Army Aviation and Missile Command (AMCOM), located at Redstone Arsenal. The merger was accomplished through detailed layers of plans carried out by many dedicated government employees and is far too detailed to address in this forum. There were, however, some key areas which have not only made the merger possible but have provided the synergy, or the "glue," to hold the new command together.

The forming of weapon system teams for aviation systems within the Integrated Materiel Management Center (IMMC) is one of those key areas. The traditional functions of maintenance and materiel management were combined into a new Aviation Systems Directorate (ASD), which now serves as the aviation focal point for the newly organized air and missile IMMC. The decision to move from the traditional functional organization at ATCOM to the customer-aligned weapon system ASD structure in AMCOM came about after a thorough review by both commands of the MICOM teaming experience.

In October 1994 the MICOM IMMC completed a total reorganization, moving from a functionally aligned organization to an organization of weapon system teams aligned to support major customers. Reorganizations at ATCOM were put on hold pending the move to Huntsville. At MICOM, the traditional Logistics Engineering and Maintenance Directorate, Materiel Management Directorate and Project Management Support Directorate were abolished and multi-discipline teams were organized within seven directorates: four hardware directorates aligned to support major customers, and three support directorates to provide overall system support, field customer support, and business and administrative support functions.

Immediate results included reduced logistics operations costs and improved customer-response time. Operational improvements included straight-lined organization structure and the use of work teams emphasizing the "powering-down" of decision making. Performance measures during the first year of operation indicated that readiness rates remained at or above Department of the Army goals, stock availability increased, critical process cycle time was reduced and customer satisfaction increased. Based on these indicators, the decision was made to align the new air and missile IMMC into weapon system teams.

Two years before opening the doors on AMCOM the IMMC formed Integrated Planning Teams to address key areas and processes. The Weapon System Planning Team, comprised of key players from both missile and aviation, was to develop organizational structure options, highlighting the advantages and disadvantages of each. From these options an IMMC management decision was made to move to the weapon system structure.

The organization combined many of the successful processes within ATCOM with the teaming structure in place at MICOM — the best of both worlds. The four missile hardware directorates were decreased to two — Land Combat Directorate (Missile) and Air Defense Directorate (Missile) — to support the PEO Tactical Missiles and PEO Air and Missile Defense. The Aviation Systems Directorate was established to support the PEO Aviation. The support directorates — Business Management Directorate, Readiness Directorate and Logistics Support Directorate — each provide a distinct support mission and were also organized into teams.

The support directorates were created by pulling

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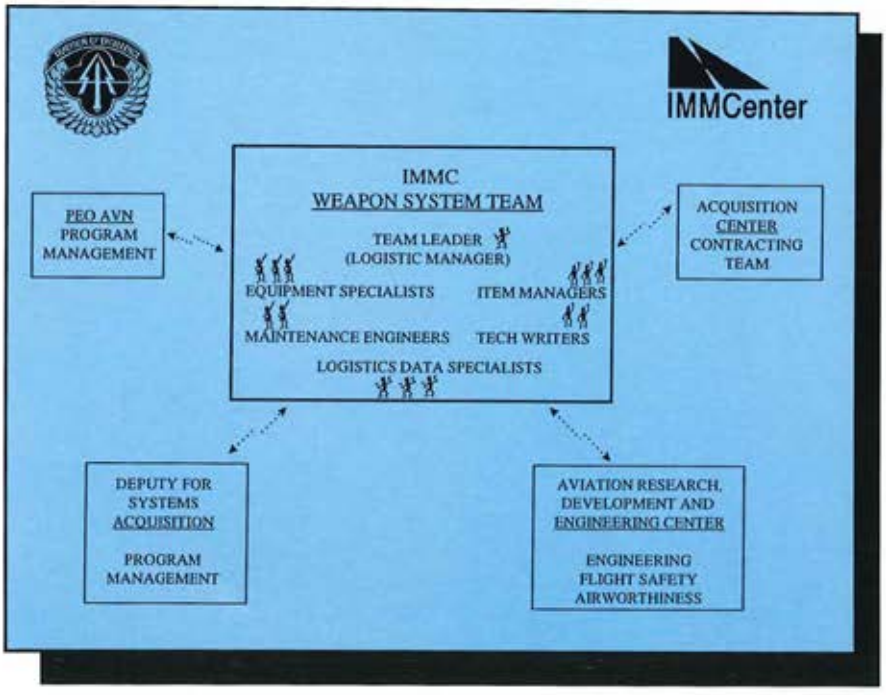
together from various locations within both commands the personnel needed to accomplish the respective functions. Likewise, the two missile hardware directorates were very similar to the existing MICOM organization and required some shifting of personnel.

However, the major change for the IMMC was the newly formed ASD, organizing aviation multi-discipline weapon system teams for the first time. An immediate benefit to the IMMC and AMCOM accrued because the formation of teams allowed the mission area to better cope with the loss of expertise of the ATCOM non-movers. The synergy generated by having all the players for a weapon system in close proximity proved to be key to accomplishing more mission with fewer personnel. Additional efficiencies were gained by moving weapons packages to their aviation platforms so that the entire weapon system would be centrally located and managed: Mast Mounted Sight to Kiowa Warrior, M-65 Subsystem to Cobra helicopter, and Apache Fire Control to Apache.



Two former ATCOM managers lead the new ASD: Mr. Thomas J. Lavin as director and Mr. Ted Stokes as deputy director. The ASD two divisions: the Attack Division, led by Ronnie Davis as division chief, and the Utility Cargo Division with Louis Clark as division chief. The two divisions are home to the weapon system teams, bringing together the item managers, equipment specialists, and provisioning and publications specialists. Along with the team leader, the members of the team have oversight of the total system. The ASD organization is responsible for the full range of sustainment logistics support for Army aviation. Even with the unavoidable challenges of such a structure change and its inherent learning curve, early experience is indicating that processes are better integrated and business decision-making is streamlined and quicker.

The IMMC teaming concept also extends to other AMCOM functional areas as "virtual teaming" becomes a reality. Integrated process teams with representatives from various functional areas address such specific command issues as administrative leadtime reduction and new methods of contracting. Key management officials involved in virtual teaming include Marlene Cruze as director of the Acquisition Center; Carol Lehman as aviation logistics director in the Acquisition Center; Thomas House as director of the Aviation Research, Development and Engineering Center; representatives from PEO Aviation; representatives from the Deputy for Systems Acquisition; and IMMC Director Jim Flinn. Issues and status updates are briefed to the AMCOM's senior leadership at Executive Acquisition Strategy Team meetings.

"Taking Care of People," the first IMMC goal, has received major emphasis throughout the entire merger process. As a result, ATCOM personnel were given the option to decline their AMCOM positions within days of their scheduled moves. This presented a challenge as detailed plans aligned personnel to positions in the new structure. The resulting organization literally hit the ground running in the weeks prior to and during the official reorganization date of Oct. 12, 1997. This was no small task given the volatility of the number of movers.

A tribute to the success of the teams was seen immediately after the new command stood up. The ASD teams successfully completed a major AMC tasking to develop the Fiscal Year 1998 Execution Plan for aviation procurement and repair while continuing the normal supply and maintenance functions. These included maintaining stock availability at prescribed Army levels, meeting the annual buy/repair goals, completing actions on digitizing publications and maintaining control over the flight safety parts initiative. The ASD continues to monitor personnel well-being through "Quality of Life" teams with participants from each weapon system team.

Initial indications are strong that the teaming structure in place within the ASD provides the capability to sustain the aviation mission and its critical processes in a rapidly changing environment.

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Daniel J. Rubery is the deputy to the commander for business management and strategic planning at U.S. Army Aviation and Missile Command, Redstone Arsenal, Ala.

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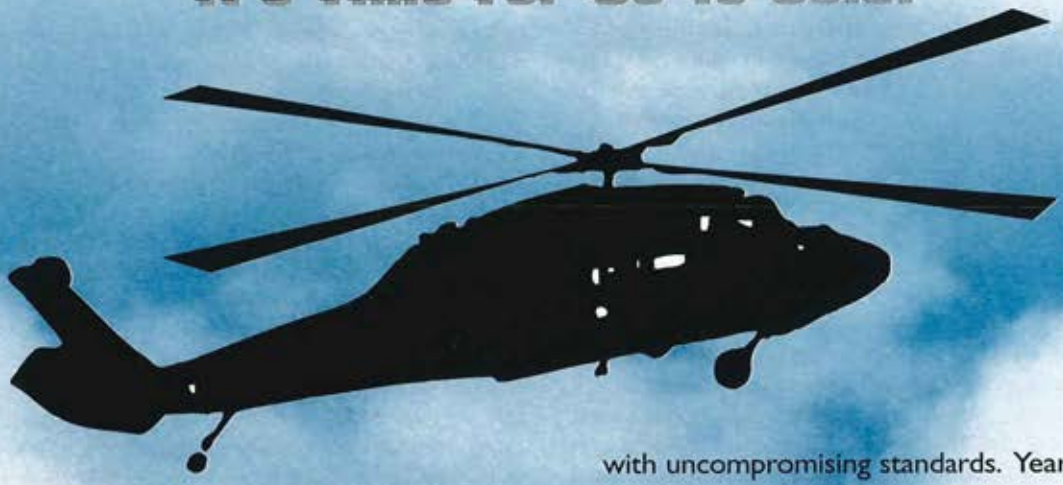

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Four Principles for Aviation Maintenance

by Lt. Col Tom Hedglin

In this article, I recommend four principles for the aviation community to consider for use in planning maintenance operations. I hope these principles will be taught to all leaders in our branch, corporals through colonels, logisticians and operators.

Like the principles of war, I hope these principles are general enough to apply to all aircraft and conditions. Rather than generating a specific maintenance course of action, they should help in evaluating and comparing different courses of action.

I believe there is a need for these principles. Our training system teaches soldiers to perform and document maintenance. There is very little training on planning maintenance operations. Indeed, I have never before seen acknowledgment that there are different courses of action and different ways to plan and execute maintenance. But I assure you there are, and I believe these principles will allow a basis of comparison for the unnamed but very real courses of action that our soldiers develop, choose and execute every day.

The principles I propose are: Mass, Nonlinearity, Inspection and Accountability.

Mass

Mass is employing as much logistical force as possible. In business or industrial terms it might be stated as keeping all resources fully engaged. In general, it is better to have many people working on one aircraft than to have several aircraft worked on by only one person. For example, assume it takes ten man-months (10 people working 20 days per month) to do a UH-60 periodic inspection and that 20 mechanics are available. If the operational tempo (OPTEMPO) requires two phases per month, the mechanics could be divided into two teams. They could complete the required two phases each month and there would be two aircraft in phase at all times.

Applying the principle of mass, the 20 people could be employed on one phase and complete it in two weeks. It would still take a month to complete the two phases; however, there would only be one aircraft in phase at any given time, resulting in higher aircraft availability.

This is a principle only, and there are limitations to its application. For example, there is a maximum number of people who can work on an aircraft at one time. Typically, there is one hoist. There are critical paths and procedures that have minimum times, but there is no doubt that the principle of mass is real. The bottom line is that it is better to put as many people on the task as can be gainfully employed than to divide them among different tasks.

So far, we have discussed the benefits of employing logistical forces in mass rather than piecemealing them among multiple maintenance tasks. The maintenance leader must also avoid piecemealing his forces among other requirements.

The first step is to ensure that maintenance events get the proper priority, visibility and command emphasis. The best way to do this is to put phase inspections on the training schedule. Keep different teams in green, amber or red status at all times so you can plan non-maintenance training, details, leaves and special-duty taskings accordingly. You know your current aircraft flow, your annual flying-hour program and your peak training events. You should be able to forecast phase requirements and schedule them.

Maintenance is training and should be on the training schedule to prevent conflicts and allow for preparation. This also garners support from operational commanders and command sergeants major who will understand and support these efforts better when they see them as training events rather than as training distracters. Indeed, once it is on the training schedule, you may see them visit the hangar to make sure you are "executing the scheduled training."

When organizing the training schedule for your logistical forces, remember that the principle of mass also applies to time. A long period of uninterrupted maintenance is far more productive than an equivalent amount of time broken into a number of small pieces. Each time your forces begin and end a maintenance period, there is a fixed cost in time lost to get tools, prepare the aircraft, brief soldiers, get books and records, and to clean up.

If you can only allocate 16 hours in a week to phase maintenance, it is better to schedule two eight-hour days than four four-hour days. Plan and execute maintenance as if it were a total effort to achieve a critical objective, because it is.

Nonlinearity

Concurrent activity is preferred to a consecutive, linear approach. This has been the intuitive approach used by our best NCOs and officers for many years and is now being documented to develop phase maintenance PERT charts. The chart should stack vertically, and not extend horizontally.

The traditional phase book has a beginning, middle and end. All too often, young leaders conduct the phase in the same linear way – not beginning section four until sections

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one through three are finished. The best phase leader tears the book into sections and assigns each to a sergeant or corporal so that progress is made in all areas at once. Everyone must be fully engaged in the mission at hand in order to win.

Nonlinearity is closely related to the principle of mass. Nonlinear maintenance operations result in numerous concurrent activities (rather than consecutive activities) and allow the logistical commander to engage more of his logistical forces against the problem. Nonlinearity is one way to achieve mass.

Inspection

Inspections must always come first. Inspections are analogous to conducting reconnaissance and gathering intelligence. It is impossible to plan any kind of future operations without intelligence.

I have observed units that replaced time-between-overhaul (TBO) components on one aircraft while delaying required inspections for a hot start, hard landing or overtorque on another aircraft because they could complete the TBO replacement faster. However, if the inspection is delayed a week and critical parts are requested after the inspection, then that aircraft's repair is delayed unnecessarily. If the inspection was completed first, the TBO replacement could then be done while awaiting the parts needed for the inspected aircraft. This is far more efficient.

Units sometimes choose to do an easy phase first, while letting a tough phase (aircraft in poor condition) sit in backlog. Meanwhile, you just know there are many parts that will be needed, yet the requisitions are delayed.

Given a choice to complete an inspection or to perform a repair, it is always better in the long run to complete the inspection first. Unfortunately, units with poor maintenance programs are always in a crisis to meet daily mission requirements and thus tend to live in the short term.

Finally, inspection is closely related to the principle of nonlinearity. Inspecting first and repairing later allows the support shops to repair components, and the supply personnel to fill requisitions, at the same time that the maintenance section is performing repairs. Inspecting first is one way to ensure nonlinearity.

Accountability

Accountability is so fundamental to Army leadership that one may think it does not need to be a stated principle. Too often however, leaders accept poor maintenance performance. This is usually for one of two reasons. In many cases they do not understand the details of aviation maintenance and they need general principles. In other cases they are intimidated by the excuse that faster maintenance will jeopardize safety. This is not true. We must plan and execute maintenance better; we must not reduce the amount or quality of maintenance.

Leaders should set goals, measure performance, analyze results and provide feedback.

The first aspect of accountability is to measure maintenance performance: mission-capable rates, NMCS rates, OST, average phase time and so on. Next, clear goals must be established and must be stated in SOPs, job descriptions and standards, counseling statements and performance appraisal support forms. The third and final aspect is to provide continuous constructive feedback.

For example, it is reasonable to expect a UH-1 phase to be completed in one week. At the end of the week all inspections should be finished.

If the aircraft is not yet ready for test flight when it should be, the commander should evaluate why. Check all open requisitions and ensure that requests were accurate and timely. Check all open work orders. If you are waiting for the oil cooler fan bearing to be replaced by the AVIM and the work order was not opened until Thursday, then a lesson should be learned. All items requiring scheduled work orders to AVUM or AVIM shops should have been removed and turned in on Monday (in keeping with the principle of nonlinearity). Also, once the phase team is at work stoppage, work order priorities should be upgraded to AOG. Finally, continue to review the performance until completion, especially parts requisitions. Parts requested after the one week goal indicate a problem; either the scheduled inspections were not completed on time or repairs were not properly planned. One of the principles that best lends itself to accountability is the principle of inspection.

The most important aspect of accountability is an absolute reluctance to use excuses, especially the supply excuse. Most supply problems are locally induced. Component repairs should never be delayed awaiting bench stock items. High average repair times result in a need for more inventory of high-cost components and increased investment. Bench stock pays for itself over and over.

There are myriad ways to self-induce supply problems. High requisition cancellation rates (editing), improper demand analysis, failure to order the correct part (prime vs. sub NSN, higher assembly, etc.) and, finally, failure to repair repairable parts.

Leaders who wish to increase accountability in maintenance must be willing to spend the time to research all parts excuses and reported NMCS time. A few quick indicators, however, are to check reported NMCS rates, AOG request rates, and how quickly aircraft are repaired after AOG parts come in. NMCS rates in good units rarely exceed the Department of the Army standards. Low usage of AOG requests may indicate that aircraft need too many parts to use AOG requests, because AOG are limited to fewer than "three to five" parts. Finally, if it takes more than a couple of days to get an aircraft up after the last parts come in, then it was probably not at a true work stoppage while awaiting parts. This is not only an abuse of the priority designating system but also violates the maintenance principle of nonlinearity.

In summary, every leader must be trained on the principles of maintenance: mass, nonlinearity, inspection and accountability. Maintenance should be viewed as training and should be on the training schedule. Every phase or major maintenance event should begin with a planning session and should end with an After-Action Review (AAR). Planning sessions and AARs should use the four principles as a guide to comparing plans and evaluating performance. Finally, commanders must demand good maintenance and must be involved in training their subordinates to develop and execute quality programs.

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Lt. Col. Hedglin is chief of the Aircraft Logistics Management Division in the Aviation Branch's Directorate of Logistics, Ft. Rucker, Ala.

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Repair Or Despair

by Paul L. Hendrickson

Before getting into the nitty gritty behind that rather daunting title, let me introduce myself. I am a retired Department of the Army civilian who, at retirement, was chief of the organization that was responsible for getting ting repair and spare parts into the Army depot system to meet the needs of Army aviation units worldwide. At the time I retired the budget for this part of the aviationprogram was about $1.5 billion annually. This was almost equally divided into three parts: acquisition of consumables (repair parts), new procurement and overhaul programs for depot-level repairables. Since then a majority of the consumables have been removed from Army acquisition and passed to the Defense Logistics Agency. You may or may not have agreed with that move, although it was said to have saved the Department of Defense millions of dollars annually that can be used for other purposes.

(As an aside, I would be interested in any comments on the current state of support in this area and the effectiveness of DLA in meeting aircraft-peculiar part needs. However, comments relating to standard aviation hardware would serve no useful purpose at this time).

Still, I am concerned about the Army's support of the field- and depot-level repairable items, and about the management of those programs to meet current and future support of the aviation program and its many and continually changing needs. The movement of the aviation parts-acquisition mission from St. Louis to Huntsville is of major interest. A considerable number of the people who have carried out the parts support program over the years will not make the transfer to Huntsville. A significant amount of experience and dedication will be left behind in St. Louis. Many of the people who do make the transition will not be in the same positions they held in St. Louis. That does not give me a warm, fuzzy feeling for this segment of the support program for the next several years.

Let me give you a little insight on why I express this concern. First of all, the standard system utilized by the Army for computing spare and repair parts procurement requirements does not do a very good job for field and depot repairable items. A good deal of human intervention and recalculation of the results of the standard study system are required to get anything like realistic projections of need for these items. Hence my concern with the loss of many experienced personnel in the transfer.

" ...the standard system utilized by the Army for computing spare and repair parts procurement requirements does not do a very good job for field and depot repairable items."

Secondly, the lead times to acquire new items for aviation support are really extended, with most engines, transmissions and rotor blades having acquisition leadtimes of at least five years. So if you think there is going to be a surge of demand for these items in 2001, action to acquire them should have already begun. And if that anticipation is for something more than the currently projected flying-hour program, be assured that such actions are not being contemplated. Spare parts are procured only to the projected flying-hour program, except for some items that are procured as "war reserves," whenever dollars are made available for this project, a highly erratic process at best. Hopefully, the aviation fleet will not be flown at anything but current or lower peacetime OPTEMPOs for extended periods. There appears to be nothing but more and more real reductions in the dollars available for parts support at the national level. Even if budgets are straight-lined, the annual price increases in the parts catalogs will result in lower quan-

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tities affordable for procurement. And with the increasing pressures on DOD budgets, I see no offsetting increases to be probable.

Here is one fact I offer those currently responsible for operation and support of the critical aviation assets: The more you fly aircraft, the lower the operation hour need for parts. There are several reasons why this is true, including pre- and post-flight SNAFUS, lack of initial lubricant, plain old mechanics error (as Joe Cribbins always has said, "If it ain't broke don't fix it!") and weather conditions, among other things. This presents an enigma for Army aviation. The approved Army flying-hour program allows an average of less than an hour per day for each aircraft in the system. That level probably represents about the most expensive part-support level of operation that could be assigned. At least double that amount would be required to significantly reduce the cost of parts per flying hour of operation. I know for sure that at Fort Rucker, where the average monthly aircraft hours flown are much higher than in most units, the parts per flying hour is significantly lower.

Your parts requirements would be reduced if the same annual flying hour program is sustained on a far lower number of aircraft. And from a readiness viewpoint, have the maintenance personnel put the other half in semi-permanent storage (as happened in a USAREUR experiment a few years past) and once a year, as long as peacetime operations are in force, change over the equipment from operation to storage and vice versa. I'm betting you can improve your spares support, reduce your maintenance man-hours and be more ready to go than ever if the balloon should go up. So if you can't dictate the allowable flying hour program, you can dictate the number of aircraft that can most efficiently execute the assigned program.

I can't see "the system" increasing your support in the near future, but I believe that I've outlined a way that you can contribute to an improvement in your own situation and future level of success. I once suggested this approach to a then vice chief of staff of the Army, and while he was somewhat intrigued with the possibilities he felt it would be an infringement on the perogatives of command to direct such a program. So I'm proposing it now in hopes that many of those with these prerogatives will see the logic in the approach and act accordingly. And if you don't consider this approach, perhaps a saying from the 1930s — days of the great depression — should be your next thought: "Use it up, wear it out, make it do or do without."

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Paul L. Hendrickson is a former chief of the Aircraft Systems Division, Direc-torate of Materiel Management, at TSARCOM/AVSCOM. In 1995 he was awarded the Gold St. Michael medal for his long and dedicated support of Army aviation. He is a former member of the AAAA National Executive Board, current governor of the AAAA Scholarship Foundation and senior vice President of the Lindbergh Chapter of AAAA.

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Sinai Unit wins AAAA's Outstanding Aviation Logistics Support Unit of the Year Award

Aviation Company, 1st U.S. Army Support Battalion, Sinai, Egypt, commanded by Maj. David Cheney — two flight platoons, a maintenance platoon, a shops and warehouse platoon, and a headquarters platoon — conducts all activities related to U.S. helicopter operations supporting Multi-national Force and Observers activities in the Sinai Peninsula. Operating from two bases separated by more than 250 miles of the Sinai, the unit also overflys the Mediterranean and Red seas, the Gulfs of Aqaba and Oman, the Suez Canal, the Gaza Strip and parts of southern Israel.

A maintenance crew completes a phase on one of the 10 aircraft located at North Camp. photo by U.S. Army

Located more than 5,000 miles from support maintenance at Fort Bragg, N.C., Aviation Company soldiers are on their own when it comes to the repair and operation of their UH-1 aircraft.

In Fiscal Year 1997 the unit's aviators executed a 2,870-hour flying program with only ten helicopters. The company is engaged in the fastest operational tempo of any Army aviation unit, with missions including sling-load operations to one of the heaviest land-mined places on earth; medical evacuation on a 24-hour-a-day, 7-day-a-week basis; transportation; command and control; and facilitation of the observation and treaty verification missions.

Under the guidance of 1st Sgt. Nelson Lind, the company performs its own aviation unit maintenance (AVUM), aviation intermediate maintenance (AVIM), limited depot-level maintenance, and Class IX and POL operations. All are superbly carried out in one of the harshest environments on earth.

Pilots test night vision equipment before a night training mission. They train at night in the event they must perform a medevac.

photo by U.S. Army

Lear Siegler Services, Inc., OLR Team, wins Army Aviation Material Readiness Team Award

The diverse group of professionals who make up the Lear Siegle Services Overhaul, Logistics and Repair (OLR) Team at Fort Lewis Wash., recipient of AAAA's Materiel Readiness Award for an Industry Team, Group or Special Unit, provides depot modification and repairs AVUM/AVIM, installation of aircraft modification work orders (MWOs and aircraft refurbishment for 1,081 Army rotary- and fixed-wing aircraf at 30 sites in 18 Western Region states, including Alaska, Hawaii an Kwajalien Atoll.

One of the team's major contributions to Army aviation was the completion of the AH-1 Cobra rewire program in Hawaii. During the rewiring of 28 Cobras for the 25th Infantry Division, OLR Team members stripped each aircraft of all old wiring, fitted and tested new wiring bundles, an test-flew the aircraft. Each rewire was expected to take 1,400 hours, bu the OLR Team members completed the tasks in an average time of 1,144

n Material Readiness

Kenyon Recognized for Individual Contributions to Material Readiness

Richard D. Kenyon, Division Manager, DynCorp's Fort Rucker, Ala., facility was named 1997's outstanding individual contributor.

Kenyon managed nearly 2,000 DynCorp employees who supported flight training at Fort Rucker. Every day during the award period his team provided student pilots with approximately 350 safe helicopters at a 105.4 percent availability rate.

Kenyon led and implemented initiatives that have increased Fort Rucker's aircraft component repair capability, improved local readiness and saved millions of dollars. His vision for accessible, real-time maintenance management data has resulted in Fort Rucker's most comprehensive information system upgrade in 30 years.

Because of his sustained and imaginative leadership and commitment to safety, quality and readiness, Army aviators benefited from an unprecedented 2,500,000 hours of safe flight training.

AEPCO '97's Best Small Business Organization

The recipient of the 1997 AAAA Material Readiness Award for a small business organization, Advanced Engineering and Planning Corporation, Inc. (AEPCO) of Madison, Ala., under the leadership of the company's chief executive officer is Dr. James S. Whang, provided superior logistical support to the Apache attack helicopter Program Manager's Office and made significant contributions in all areas of Apache logistics, to include training, readiness, MANPRINT and Longbow fielding.

AEPCO's significant contributions to Apache training, for example, included overseeing the development and fielding of Maintainer Training Devices to support Apache maintainers; serving on the Apache Longbow Multi-year Contract Evaluation Board; and overseeing the development of the Longbow Player Station (LPS), the Longbow Crew Trainer prototype, Longbow Crew Trainer Risk Reduction Program, the Longbow Crew Trainer (LCT) and the Longbow Collective Training System (LCTS).

AEPCO's varied contributions resulted in sustained Apache readiness and continued development of training devices during the turbulent period associated with the relocation from St. Louis, Mo., to Huntsville, Ala. Without AEPCO's personnel and direct support before, during and after the move, many programs would have suffered major setbacks.

ours. Supported by the Fort Lewis-based OLR supply section, the rewire rogram was completed on time and under cost.

The unit's quick-response teams were also dispatched from Fort Lewis o conduct joint aircraft corrosion evaluation inspections of 116 aircraft at arious installations within its area of responsibility. MWOs were also a ajor area of focus during the award period, with OLR Team members at ort Lewis manufacturing MWO kits for use on UH-1, UH-60, AH-1 and H-47 aircraft. The kits were fielded by the OLR Team's Fort Lewis site upply activity, and installed by field crews rotating among sites through-ut 18 western states.

The OLR site had an average strength of 92 employees and expended 75,312 hours during the year. The OLR Team is a special unit of Lear iegler Services, Inc., of Oklahoma City, OK. The firm's chief executive fficer is John H. Moellering.

Raytheon Aerospace Named 1997 AAAA Material Readiness Contractor of the Year

Raytheon Aerospace Contract Field Teams was named the winner of the 1997 AAAA Material Readiness Award for a major contractor. The firm's president is Daniel A. Grafton.

During the award period Raytheon Contract Field Teams (CFTs) — consisting of more than 145 dedicated employees at 20 different units — provided U.S. Army, Europe, with more than 342,500 man-hours of maintenance support while completing more than 3,200 work orders.

Army units benefiting from Raytheon's materiel readiness effort included those participating in Operation Provide Comfort, Operation Beirut Air Bridge and Operation Joint Guard. Raytheon employees were deployed to distant locations on short notice some 36 times during the award period.

The major "out of garrison" event during this period was the multiple deployments of Raytheon CFT personnel to the Bosnia/Hungary area of operations in support of 1st Armored Division and 1st Infantry Div. activities as part of NATO's Stabilization Force and Operation Joint Guard. One deployment occurred during one of the harshest winters in recent European history; CFT technicians were forced to work under some of the most inhospitable and severe conditions encountered by aircraft maintainers; yet CFT employees continued to go the extra mile to get the job done quickly, safely and efficiently.

Another indication of the quality of Raytheon's support is found in the readiness rates for USAREUR aviation units, which are eight to 10 percent higher than those of their CONUS counterparts.

AH-64s In The Theater Missile Defense Role

by Lt. Col. E. J. Sinclair and Maj. Alan P. Mooneyham

Since World War II military forces around the globe have remained particularly vulnerable to the effects of tactical ballistic missiles (TBMs). Moreover, even the most sophisticated armies have been confounded for more than 50 years by the difficulty of developing methods and weapons to counter the technologically crude TBMs.

However, the U.S. Army Training and Doctrine Command's Theater Missile Defense Advanced Warfighting Experiment (TMD AWE), conducted during Exercise Roving Sands '95 in New Mexico, revealed a new and viable solution to the old problem of TMD. During Roving Sands '95 all branches of the U.S. armed forces, as well as German and Belgian air defense units, showcased only their most sophisticated weapons and newest tactics in an effort to defeat TBMs.

Although many weapon systems and innovative techniques were tested, only the Army's AH-64 Apache, operated by the 3rd Cavalry Squadron, 6th Cav. Brigade, from Fort Hood, Texas, was able to consistently locate and destroy unconfirmed TBM sites. The Apache's unmatched responsiveness, battle damage assessment (BDA) abilities and other inherent capabilities — combined with new and innovative tactics, techniques and procedures (TTPs) — clearly validated the AH-64 as the most effective weapon system to locate and destroy unconfirmed TBM sites.

"...only the Army's AH-64 Apache, operated by the 3rd Cavalry Squadron, 6th Cav. Brigade, from Fort Hood, Texas, was able to consistently locate and destroy unconfirmed TBM sites."

TMD – The Historical Perspective

The first significant use of TBMs dates to the V-1 "Buzz" bombs developed by Nazi Germany and launched against England and continental Europe during World War II. The Germans launched more than 10,400 V-ls against England and an additional 8,000 against other targets in Europe. The missiles inflicted some 22,000 casualties in England and Europe and displaced more than 800,000 civilians.

The Royal Air Force and U.S. Army Air Forces utilized radar and innovative flying techniques to detect and attempt to destroy the slow-moving bombs in flight, as well as conducting intensive bombing campaigns against known V-1 launch sites. Although the bombings managed to reduce the number of V-1 launches, they were a tremendous strain on the Allied war effort and, more importantly, they did not stop the V-1 attacks. These primitive cruise missiles were replaced over the years with more sophisticated, deadly and inexpensive variants that allowed even the most austere militaries to have a "poor man's air force."

During the Iran-Iraq War each side conducted missile campaigns against the other's major cities. The Iraqis launched more than 189 TBMs against Iran with devastating results. Both sides were defenseless against the other's TBM campaign. Moreover, the world intelligence community was unable to collect detailed information on the tactics, techniques and procedures Iraq or Iran used in employment of TBMS. It was not until the Iraqi invasion of Kuwait that this lack of intelligence and the need for a clear missile defense plan became painfully clear to American and Coalition forces.

Despite the Coalitions' enormous technological advantage and the TMD insights gained from the Iran-Iraq War, anti-TBM missions undertaken during Operations Desert Shield and Desert Storm did not prove any more effective at stopping the weapons than had similar missions in previous conflicts. The Gulf War did, however, reaffirm the effectiveness of TBMs.

The U.S. government and its secretary of defense knew Iraq would use TBMs and had chemical capabilities as well. Consequently, the United States placed a heavy emphasis on stopping Iraq's use of SCUD missiles. Coalition aircraft flew more than 1,500 anti-TBM sorties between Jan. 17 and Jan. 30, 1991, and claimed to have destroyed numerous Iraqi transporter-erector-launcher (TEL) vehicles and several fixed launch sites.

According to data published in the March 1991 issue of Jane's Soviet Intelligence Review, Iraq launched 57 SCUDs against the Coalition Forces and Israel. Thirty-six SCUDs were intercepted by Patriot missiles and nine missed their targets completely. However, a 1991 Defense Intelligence Agency (DIA) memorandum contradicts the Jane's report, stating: "In spite of over a hundred claims of destroying SRBM (short range ballistic missiles) mobile launchers, national intelligence resources did not definitely confirm any of the 'kills.'" Clearly, U.S. Central Command (CENTCOM) was having serious problems developing a coherent strategy for dealing with the mobile SCUD threat.

Although the American Patriots were able to inconsistently intercept incoming missiles, they did nothing to prevent launches or eliminate TELs. Moreover, Coalition aircraft maintaining aerial orbiting alert status could not reach TBM mobile launch sites before the equipment had left the area. Furthermore, fast movers did not have the station time nor the meticulous search

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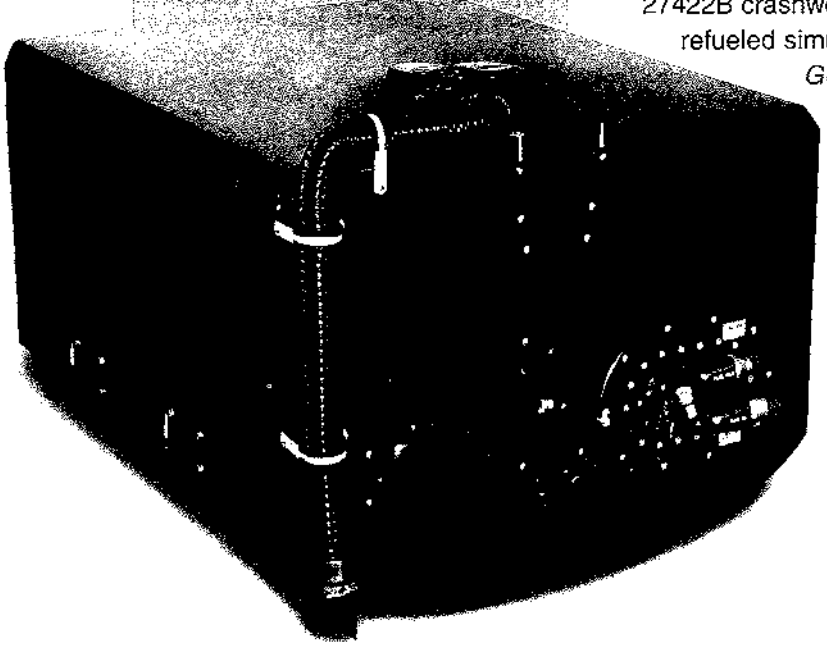

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capabilities necessary to hunt for the escaping TBMs. The Coalition's unsuccessful TMD efforts clearly exposed the need for the development of intelligence assets that could find enemy TBMs, and for a weapon system designed to locate and destroy an elusive, uncooperative threat.

The TBM Threat

TBMs have remained a significant threat because they are extremely difficult to detect when intelligently employed. Such employment is based on the frequent repositioning of missile launchers among groups of hide, reload and launch sites. Moves are often made under the cover of darkness and inclement weather, and occur well behind the protective cover of the launching force's forward units and air defense systems. These techniques severely handicap even the most sophisticated intelligence-gathering assets and allow TBMs the luxury of operating virtually undetected until firing, after which they are quickly moved to new sites. This modus operandi severely limits the possibility of preemptive attacks to destroy TBMs and has confounded those seeking to develop effective counter-TBM tactics. Consequently, the most effective method of TMD may very well be reactive in nature.

AH-64 Tactics, Techniques And Procedures For TMD

The 3rd Attack Helicopter Squadron was the Apache unit selected to participate in the Roving Sands TMD AWE and tacitly represented Army aviation. Its mission was to locate and destroy TBMs at night deep behind enemy lines.

Since no doctrine existed for using AH-64s to hunt TBMs, however, the unit had to develop an ad hoc set of tactics, techniques and procedures from scratch. The premise for developing the TTPs was that the OPFOR would adhere to Soviet-style TBM tactics (meaning the TBMs would move after firing) and that higher headquarters would report the launch site and time with reasonable accuracy and speed.

Since TBMs move between hide, load and launch sites, determining exact target location would be impossible despite the initial launch site detection by collection assets. Consequently, squadron planners determined that a movement to contact (MTC) would have the best chance of locating and destroying repositioning TBMs. In order to determine the size of the MTC area it would be necessary to determine how far TBMs could continuously move in the time it took the AH-64s to arrive at the suspected launch site. A TBM vehicle-movement rate of 15 km per hour (on unpaved roads) and an AH-64 ground speed of 100 knots were used to determine the size of the MTC box.

The final product was an MTC template depicting scaled concentric MTC boxes corresponding to AH-64 en route times and TBM vehicle-movement rates. Each template was further divided into three equal sectors, one for each attack troop. This template was combined with a grid-matrix system similar to the Manual SHORAD Control System (MSCS) covering the entire maneuver area to rapidly maneuver troops around the battlefield and provide en route threat updates. To further reduce response time, the squadron selected and coordinated preplanned, cross-FLOT air corridors and supporting SEAD packages throughout the area of operations. Ultimately, these techniques and procedures gave the unit the capability to rapidly respond to TBMs anywhere on the battlefield with minimal planning and maximum standardization and simplicity.

Once the Apache crew was alerted for a mission, the S3 would use the MTC template tables to determine AH-64 en route flight time, the distance TBMs could move and the corresponding MTC template size. Within minutes the S3 provided commanders a standardized TBM mission briefing with sufficient information to accomplish the mission. Commanders would plot the reported TBM launch site, superimpose their scaled MTC template over this site and know their troop's exact sector of responsibility. The MTC template, along with preplanned air corridors and SEAD packages, significantly reduced the amount of hasty planning. Meanwhile, aircrews were busy bringing their aircraft to operating RPM. This entire process took on average only 10 to 15 minutes from mission receipt to aircraft launch and only 5 minutes for in-flight divert missions.

Despite the simplicity of the Apache unit's mission mechanics, each mission was a combined, joint operation. Intelligence assets — primarily unmanned aerial vehicles during Roving Sands '95 — had to first locate possible targets and then the Joint Force Missile Defense Coordinator (JFMDC) had to quickly determine what weapon system was best suited for the mission. Once the mission was given to the Apaches and aircraft were enroute to the target, the airborne TAC (UH-60) received SITREPs and passed spot reports and BDA through USAF AWACs and ABCCC aircraft to the brigade headquarters. This information was simulcast to the JFMDC.

During Roving Sands the AWE White Cell provided each test participant with several tactical scenarios that were primarily designed to challenge participants' response time and ability to locate mobile TBMs. The Apache squadron was tested on three scenarios during the five-day AWE. Scenario One involved responding from the unit's forward assembly area (FAA) to a TBM launch. Scenario Two required the unit to divert from a committed cross-FLOT mission and respond to a TBM launch. Scenario Three was to respond to an unexpected TBM detection by the unit while returning from a prior cross-FLOT mission. Each mission was conducted anywhere from 100 to 250 kms beyond the FLOT, at night, and included a "large" target location error. Furthermore, White Cell controllers outfitted both Apaches and TBM with Global Positioning System receivers in order to track their positions while missions were in progress.

The White Cell assessed mission success by reviewing objective data that included target effect, response times and friendly losses. Apache target effect was determined by monitoring on-board tracking systems to ensure the aircraft were in the vicinity of TBMs and reviewing Apache gun-camera tapes to verify crews actually found and engaged the targets. Responsiveness was on average

15 minutes on the ground and 5 minutes in the air from the time of mission receipt. Arrival times at engagement areas varied with distance. Despite the high risk associated with deep operations, the squadron suffered no losses to enemy fire. Based on this objective data the White Cell credited the Apaches with 90 per cent of all mobile TBMs killed during the five-day AWE.

The TMD AWE tested both proactive and reactive measures against known and unconfirmed TBM sites. Since defeating known TBM locations has never been a significant problem, the challenge was to locate and destroy mobile TBMs in unconfirmed sites deep behind enemy lines. Although many military assets were tested, the only weapon system that consistently located and destroyed unconfirmed TBM sites was the AH-64 Apache. Moreover, the Apache accomplished this feat under marginal weather and illumination, deep behind enemy lines and with impressive response times.

Conclusion

Although TMD has posed a dilemma for as long as TBMs have been in existence, the introduction of the Apache into the TMD arena may very well provide the long-overdue solution to an old and difficult problem. Clearly, the AH-64's unmatched BDA against TBMs during Roving Sands '95 reflects the capability of the Apache to fill this vital role. The AH-64's inherent capabilities and some simple yet innovative TTPs produced a winning combination that resulted in the rapid location and destruction of mobile TBMs deep behind enemy defenses at night and under inclement weather and illumination conditions.

Although the Apache clearly proved its worthiness as a viable TMD weapon system during the Roving Sands AWE, all missions had their share of obstacles that had to be overcome in order to achieve success. Communications, command-and-control divert authority, intelligence, SEAD fire support and en route flight hazards each posed unique problems that exceed the scope of this article. Although none of these obstacles should be discounted as insignificant, each can be overcome with a little resourcefulness and ingenuity. The capabilities of the Longbow Apache will significantly reduce these obstacles in the future.

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Lt. Col. E.J. Sinclair is the senior aviation trainer in NTC's Operations Group, Ft. Irwin, Calif. and Maj. Mooneyham is the assistant military attache in Barbados.

HOVER DANCE

by Frank Kuznik

"Ladies and gentlemen, boys and girls! At this time I am proud to present the United States Army Helicopter Square Dance Team: two lovely ladies, Harriet and Henrietta, and two gents, who are Hank and Henry. Let's give them a big welcome by waving your hands or handkerchief so they can see you!"

If that announcement didn't grab your attention, what happened next certainly would. Four Army helicopters would fly onto the field, painted in bright pastels and garish polka dots, wearing hats and wigs and skirts. After bowing to the crowd, they would face each other foursquare and perform an honest-to-God, chicken-in-the-bread-pan square dance, while loudspeakers blared "Turkey in the Straw."

It was the 1950s. America was in bobby socks, the military was booming, and a new type of aircraft was on display. An unexpected star in evacuation and rescue on the battlefields of Korea, the helicopter was still a novelty across much of the country.

"Most people had never seen an airplane do anything but take off and land in a straight line," says square dance team member Ned Gilliand. "This was a new flying machine that could hover, back up, go sideways, even spin on itself."

The show created by Gilliand and his colleagues ran intermittently, in various incarnations for 25 years. This little slice of aviation history is memorialized in "Dancing Rotors," a photo memoir that Gilliand compiled after he retired from Bell Helicopter in 1986. As the book shows, both the Navy and Marine Corps fielded helicopter demonstration teams during the 1950s, though neither was as elaborate as the Army's.

The helicopter square dance team was the result of a number of factors intersecting in the early 1950s at Fort Sill, Okla., where the Army's rotary-wing pilot training program was under way. After being left in the dust when the Air Force went off on its own in 1947 — taking most of the fixed-wing aircraft with it — the Army program was anxious to prove itself and wasn't shy about pushing the envelope or, more accurately, creating the envelope. Helicopters were so new that many of their flight characteristics were still unknown.

"Every day was a learning experience," says team member Charlie Martin. He credits the commanding officer, Gen. Carl Hutton, for setting the school's freewheeling tone. "Hutton gave us our heads to do what we wanted to do. If he hadn't, it would have taken a lot longer for helicopter flight techniques to evolve."

The training division geared up to sell the value of helicopters, both to the military establishment and to the American public. Army aviation was competing for a share of the military budget.

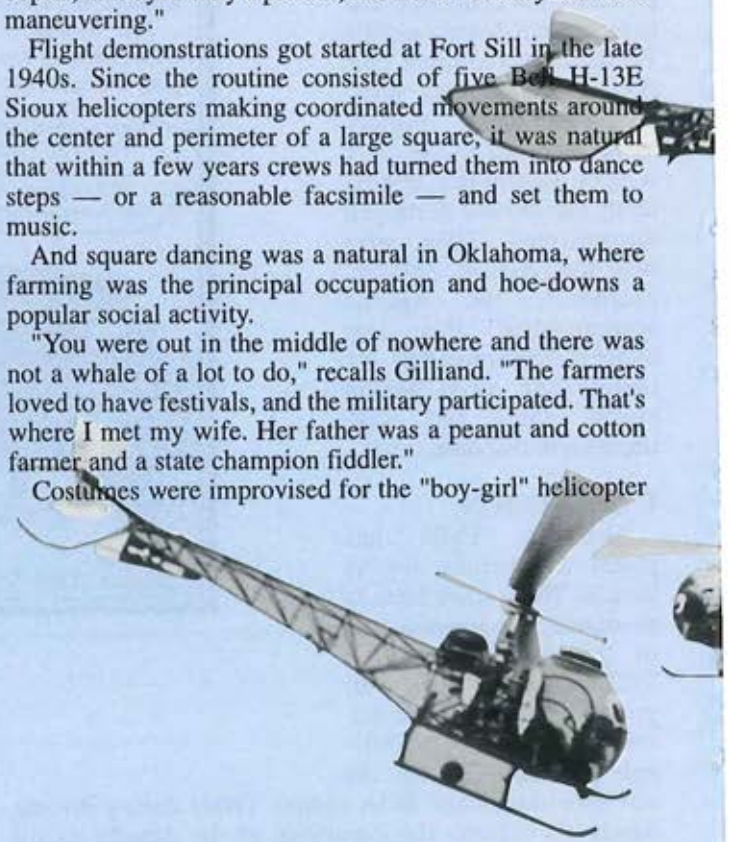
"Different branches of the service are always trying to grab the hearts and pocketbooks of the American people, competing to have their latest toy," says Jack Greene, an instructor and team member. "Even in the military at that time, there were many people who had never seen a helicopter, or maybe only a picture, and never actually saw one maneuvering."

Flight demonstrations got started at Fort Sill in the late 1940s. Since the routine consisted of five Bell H-13E Sioux helicopters making coordinated movements around the center and perimeter of a large square, it was natural that within a few years crews had turned them into dance steps — or a reasonable facsimile — and set them to music.

And square dancing was a natural in Oklahoma, where farming was the principal occupation and hoe-downs a popular social activity.

"You were out in the middle of nowhere and there was not a whale of a lot to do," recalls Gilliand. "The farmers loved to have festivals, and the military participated. That's where I met my wife. Her father was a peanut and cotton farmer and a state champion fiddler."

Costumes were improvised for the "boy-girl" helicopter

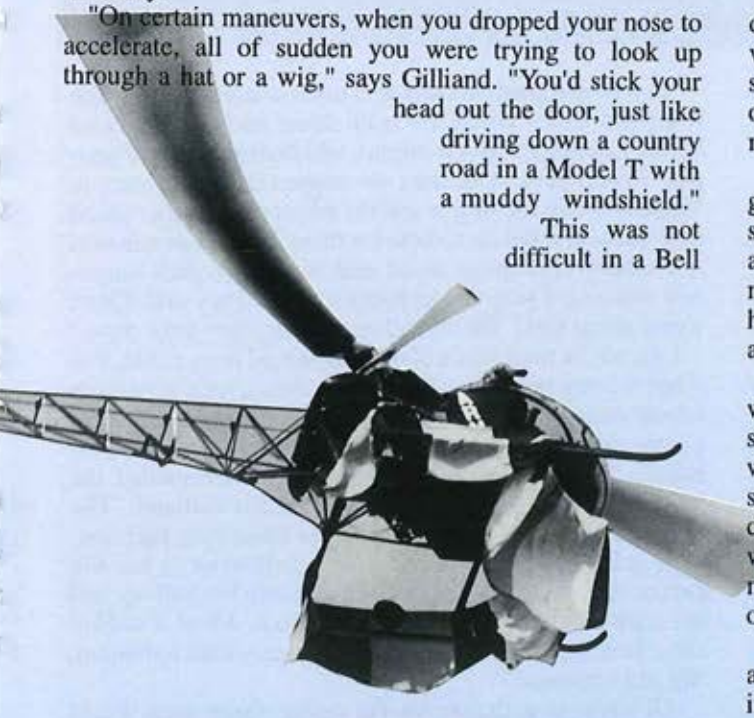


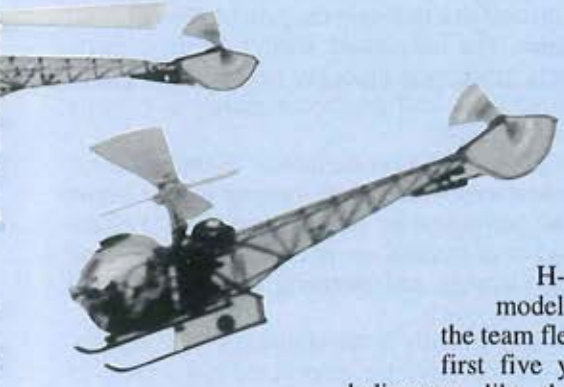
Anthropomorphic Bell H-13s do-si-doed up a storm at the hands of Ned Gilliand (opposite) and his Army teammates at 1950s airshows.

partners. Initially, simple faces were painted on the inside of the bubbles, but the paint ran or smeared in the morning dew and humidity. Instead, the crews painted eyes, noses, and mouths on squares of oilcloth that could be taped in place. Over time, the costumes grew more elaborate, made from whatever materials were at hand: Floor mops became wigs, a helmet liner painted red and strapped on with parachute cord served as a nose, and colorful panels of target cloth from the firing range (first soaked in fire-retardant liquid) were draped around the fuselage for skirts or wrapped around wire frames shaped like ears and bow ties.

One problem with the costumes was trying to maintain visibility.

"On certain maneuvers, when you dropped your nose to accelerate, all of sudden you were trying to look up through a hat or a wig," says Gilliand. "You'd stick your head out the door, just like driving down a country road in a Model T with a muddy windshield." This was not difficult in a Bell





H-13, several models of which the team flew during its first five years. Other helicopter., like the Hiller H-23B, were rejected as too heavy or underpowered. The Sikorsky H-3 was deemed too noisy, drowning out the music and the caller and also kicked up huge amounts of dust with its prodigious rotor downwash. The lightweight, maneuverable Bells, with their big bubbles and enough power to operate on hot days, were best suited to precision flying.

Local scribes were often colorful in their descriptions of the aircraft. One reporter wrote: "The once new-looking Army helicopters were now painted up as two rustic swains with wicked leers and two pert lasses with country-fresh smiles."

The team appointed a "caller," usually a backup pilot, who chanted the dance verses.

The corn pone image, as far as the pilots are concerned, wasn't a slight to their skill, or even incongruous with a military demeanor.

"The narrator made a point of saying this was being done by very highly qualified Army aviators to show the versatility of the machine," says Gilliand. "They didn't say, Here's a bunch of pilots who are going to chase each other around with music and somebody hollering into a microphone.'"

"We had one general who thought this was not a very good image of Army aviation, so we got rid of him," says team member Clyde Emery. "You know, we were all warrant officers being greeted by four-star generals, mayors, editors of papers, and signing hundreds and hundreds of autographs. We were treated like celebrities, and it was a wonderful experience."

The most popular celebrity on the demonstration team was Bozo the Clown, a fifth H-13 with a flashy set of stunts. Bozo had his origins in the early demonstrations, when Charlie Martin found he could get a laugh by occasionally wandering off or making a wrong turn. He soon developed other tricks. "I'd go over to where the narrator was and blow all his papers away," Martin recalls. "Then maybe I'd find some gal who was kind of close to the end of the stands and lift her skirt with rotor wash."

When Greene took over in 1952, he developed it into a full-blown daredevil routine, throwing the helicopter into aerobatics both comical and dangerous.

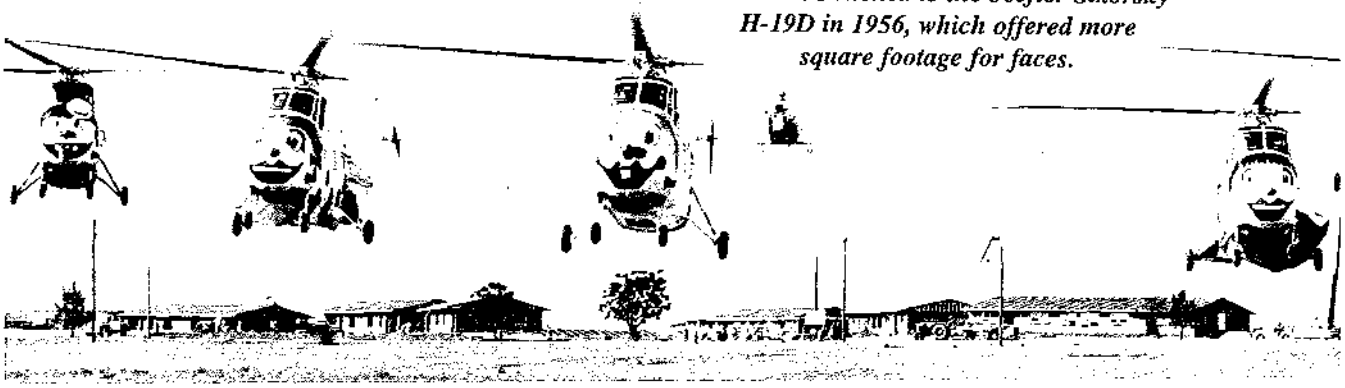
"They were maneuvers you should not be doing," he admits. "I pushed that thing right to the edge of the envelope and beyond. Sometimes I scared myself. But, you know, we were young and enthusiastic and thought we could fly any damned thing in the world."

Later Bozo focused more on stunt work: tipping over a 55-gallon drum and blowing it around with rotor wash; picking up big rings on the toes of the skids and twirling them; and playing with a yo-yo. A scaled-up model of the common toy, the yo-yo weighed about 70 pounds and was as tricky to operate as the real thing. If the pilot didn't catch it at the right moment on the downspin, it would jerk the helicopter down, or whack the skid coming back up.

"There was quite a learning curve," says Gilliand. "Seven times up and down is the most anyone ever did. If you could do it twice in front of a crowd, they were happy as mud."

The smoothness of the routines belied their difficulty. Only instructor pilots were recruited for the original team because only they had the requisite hours and experience in the new machine.

"You develop a tremendous reaction time flying with a student. The old saying is: They try to kill you every 30 seconds," says Emery.



The team switched to the beefier Sikorsky H-19D in 1956, which offered more square footage for faces.

There was no time to look at the instrument panel; pilots had to be focused on maintaining rotor clearance between helicopters, and symmetrical distances and height. Mostly, they flew by ear.

"The transmission sat right behind you, and those gears sing at the right operating speed," says Gilliand. "A good pilot knows that sound like a musician knows middle C."

It was tricky flying the new machines, let alone doing close-quarter maneuvers. Fixed-wing pilots making the transition to helicopters had to unlearn the critical importance of airspeed and fight the feeling they were going to fall out of the sky at slow speeds or a hover. Learning to hover was a trick in itself, a function of balancing stick and rudder with a third control called the collective, which adjusts the "bite" or inclination of the blades to provide lift. And this was well before helicopters gained the luxury of turbine engines, so pilots also had to coordinate the collective and throttle, which was operated by twisting the collective lever in a manner similar to most motorcycle throttles. The piston engines were very responsive to the throttle, but it took practice to pull up on the collective to lift off the ground while rolling in throttle smoothly and not shooting past the engine's overspeed limits.

"One of the hardest things to teach people was just to hover and hold the helicopter dead still," says Gilliand. "Usually, for the first hour on all three controls they were all over a three acre field. Then bang, it would come to them, just like that. Some guys never got it. You were given eight hours, and if you couldn't solo by then, you got kicked out of the training program."

The clown-and-dance show was a hit, propelling the square dance team out of Fort Sill and into airshows and festivals across the country. This suited the Army's needs perfectly. The helicopter demonstration team not only made a strong case for the new aircraft, it served as a recruiting tool for new pilots, which the Army badly needed.

The team traveled like barnstormers, flying in short hops to their destination, sometimes stopping at roadside gas stations to refuel. (Conoco and Shell only: their high-test fuel had an additive that kept the spark plugs from fouling too quickly.)

"We'd land at a filling station, shut down, lower the landing wheels, pull over to the pump and fill it up," says team member Fred Bell. "Of course, this always attracted a lot of attention. There would be pictures in the paper the next day and such."

"If we were going to stay in a town overnight, we made it a point to fly down the main street and circle around before heading out to the airport, which drew mobs of people," says Emery. "One time we stopped in a small town in Virginia where the mayor and the editor of the paper asked us if we would put on a show for them. We had permission to do that sort of thing, so we said 'Sure, we'll do it tomorrow morning if you can get publicity out.' They said 'Don't worry about that.' We wound up staying there three days."

Life on the road was a blast. "We would buzz cattle, and when we saw people out in the farm fields, we'd give them a little buzz job," says Bell. One time the group spotted a young girl heading from a rural schoolhouse to the outhouse. "The five of us went down and surrounded the building, slowly pivoting around it," recalls Gilliand. "The door cracked open and you could see these eyes peep out. This gal had probably never seen a helicopter in her life before. She came running out with her britches half up, and we started herding her toward the school. All of a sudden the school door opened and out came a guy with a shotgun. We just scattered."

All business at the shows, the square dance team would perform a seven-minute routine (which eventually grew to 15 minutes) of paired twirls and pivots, tight circles and close passes. The key was a set of markers – cloth panels staked to the ground in a five-spot die pattern, 90 feet from corner to corner. The helicopters started at the corners, with the panels positioned precisely between the pilot's feet then followed the lead pilot's commands to execute and break each maneuver.

None of the pilots could hear the music. "Frankly, I didn't have the slightest idea what square dancing was," Greene confesses. "We performed by (radio) command." But the maneuvers had been worked out in time to the music and a good caller, clapping and pumping the crowd, could make it all seem in synch.

The team was practically in the audiences' laps, maneuvering about 150 feet from the grandstand and a mere 25 feet off the ground. "Not to disparage the Blue Angels or Thunderbirds, but you didn't have to look around in the sky for us – we were right there in front of you," says Bell. "A lot of people didn't know a square dance from a waltz. But we were dressed up crazy, doing these weird, intricate maneuvers, and it fascinated them."

The first team had two accidents, but none during a performance. One occurred when two of the H-19s were taxiing to park after a practice at Fort Rucker, Ala., and Bell

misjudged his rotor clearance by an inch or two. His blades nicked his partner's, sending blade-tip weights flying through the bleachers.

"All they had to replace was my rotor blades," says Bell. "I say that's all – actually, it was quite costly. But I was never charged with an accident. It was accepted as part of the demonstration hazard."

The other accident happened during a dress rehearsal for the 1956 National Aircraft Show in Oklahoma City, a milestone of sorts for the team. With other demonstration groups graduating to higher-performance aircraft, the square dance pilots had been given their choice of new aircraft. They settled on the Sikorsky H-19D Chickasaw, a brute nearly twice the size of the H-13, with acres of space to decorate. Gilliand designed the new paint jobs and went whole hog. The "women" were given bright bows and polka dots. The "men" got pockets holding a comb or whiskey bottle, plus new props – corncob pipes (painted aluminum stovepipe) and Li'l Abner-style boots made of plywood.

The rehearsal was held at Fort Sill on a day so gusty the pilots were reluctant to fly. "But the colonel who was the director of the Army show insisted," says Emery. "I thought, 'Oh boy, here we go.'" The team planned to unveil a new maneuver, a backward take off and flight in diamond formation, a dainty move for the big Sikorskys. All went well until the pilots' radio frequency was jammed by another filer, and Emery, the right wingman, missed a course correction. When a gust of wind hit him, his tail rotor veered into the main blades of the rear H-19.

The rear man struggled with severe vibrations induced by bent and broken blade tips and fell in rearward flight, settling with a momentum that broke off the nosewheel assembly when he hit the ground. Emery, meanwhile, had lost his tail rotor, which caused the H-19 to instantly roll onto its right side and fall some 70 feet. Shortly after impact, he escaped through the copilot window and ran to safety. "It was a hairy experience," he recalls.

Neither pilot was injured, but their helicopters were trashed. High-ranking officers intervened, telling the team to find two replacement H-19s from the many assembled at the base. One was a brand new Sikorsky that had just been flown up from Fort Hood, Texas.

"The pilot of that helicopter screamed like a mashed cat," recalls Bell, "because we stripped everything out of it and turned a beautiful new paint job into these horrible pastel colors. Our colonel said, 'That's too bad, but we're going to have a team.'"

The pilots recruited volunteer help and stayed up all night painting and outfitting the new aircraft. By morning, the square dance team was ready to fly again. But from then on, the H-19s were grounded when winds exceeded 28 mph.

The helicopter demonstration team dazzled airshow audiences for another five years before shifting priorities and budget constraints shut it down in 1961. By the time it was revived in 1972, the image and role of the helicopter had changed radically, particularly after its media exposure during the Vietnam war. The routine had changed too; instead of square dancing, seven Hughes OH-6A Cayuse helicopters did flashier maneuvers and shot off trails of white and red smoke. The team, now called the Silver Eagles, gave over 220 performances before being disbanded in late 1976.

In the 1950s flying with the demonstration team had been a badge of achievement. That changed in the 1970s as well.

"There were people who were asked to join the Silver Eagles who refused because they were afraid it would hurt their career," says Gilliand. "I talked to one pilot who was on the team for a while but got out of it as quickly as he could because he was afraid the dancing-helicopter tag would hurt his chances for advancement."

Maybe people took things less seriously in the 1960s, or maybe, with the threat of nuclear Armageddon lurking, they were simply more grateful for distractions. Even the military airshows of the time could be pretty scary. Just the Army portion of a typical show in 1955 featured 20 displays of troop and artillery deployments and concluded with a simulated atomic bomb explosion. At shows devoted to the serious business of proving U.S. military readiness, dancing helicopters struck a much needed light note.

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Ward, John M. COL, 910 S. Osceola Avenue, Orlando, FL 32806.

Command Sgt. Maj. Edward P. Iannone, Jr. has been named as the U.S. Army Aviation Branch Command Sergeant Major of the U.S. Army Aviation Center and Fort Rucker, Ala. Iannone, who has served since July 1997 as command sergeant major of the 6th Cavalry Brigade, Camp Humphreys, Korea, was selected for his new position by the U.S. Army Aviation Center and Fort Rucker Commander, Maj. Gen. Daniel J. Petrosky. CSM Iannone succeeds Command Sgt. Maj. Marvin E. Horne, who retired Oct. 31. The date Iannone will assume his duties has not been determined.

The U.S. Army Industrial Operations Command has awarded **Tracor Aerospace Inc.** contracts worth $15.3 million for the production of M-206 and MJU-10 infrared self-defense flares for Army and Air Force aircraft. The two contracts contain options which, if exercised, could bring the total contract value to $30 million. Both types of flares will be deployed from Tracor-developed electronic dispenser systems onboard Army helicopters and Air Force attack and cargo aircraft to protect them from heat-seeking missiles.

The **U.S. Department of Transportation** will conduct open meetings for all users of U.S. government-provided radionavigation systems. The 1998 meetings are intended to obtain user perspectives on the federal policies and plans concerning the Global Positioning System (GPS); differential GPS and other GPS augmentations; Loran-C; VOR/ DME; TACAN; radio beacons; and ILS/MLS. The next meeting will be held Feb. 11, 1998, in Long Beach, Calif. Information and registration packages are available by contacting Carol-Ann Courtney (617) 494-2686 or courtney@volpe5.dot.gov.

Orbital Sciences Corp. successfully launched a Storm-2 Maneuvering Tactical Target Vehicle from White Sands Missile Range, N.M., in late September. The mission, conducted for the U.S. Army Space and Strategic Defense Command's Storm program, was intended to validate a new suborbital vehicle design and qualify it as a target for theater missile defense systems. The single-stage rocket used for the mission consisted of a Minuteman Stage 2 ballistic missile motor and a Pershing II re-entry vehicle. The launch was Orbital's 14th under the Storm contract and the company's 10th launch this year. ■■

Aviation Branch Career News

Beginning this month ARMY AVIATION will offer aviation-related officer and enlisted career news extracted from PERSCOM's Web site. For up-to-the-minute news, and for the full text of the items extracted here, please refer to the PERSCOM Aviation Branch online newsletter at www-perscom.army.mil/opmd/ avnews.htm.

Officer Airborne Reconnaissance Low (ARL) Pilot Training Prerequisites

Due to recent inquiries on minimum pilot requirements needed for consideration to receive ARL pilot qualification training, the minimum requirements are provided:

1. Have completed a fixed-wing utilization tour and/or have a minimum of 300 hours of fixed-wing multi-engine time.

2. Be in possession of a current fixed-wing instrument ticket that will not expire during course attendance.

3. Be in possession of a current Army flight physical and altitude chamber test that will not expire during course attendance.

These are minimum requirements due to the complexity of this four-engine, transport-category aircraft. The POC for further inquiry is CWO 4 Don Braun, INSCOM Aviation Standardization Officer, (DSN) 235-1217 or COML (703) 706-1217, or e-mail dtbraun@vulcan.belvoir.army.mil

ADSO

Many officers call with questions about when their ADSO began, when it ends and where this information is annotated. For most officers, ADSO begins on completion of OBC and flight school as indicated on the single AER. Officers who received multiple AERs from flight school and OBC will use the AER end date from the IERW AER. ADSO expiration is not annotated on your ORB (ROTC or service academy obligation data is often mistaken for incorrect ADSO dates from flight school). For more detailed information, please refer to AR 350-100.

CAS3

Post advanced-course captains who require CAS3 must schedule a class date through their S3/G3 schools office. Aviation Branch only schedules CAS3 classes for officers coming out of the advanced course, and occasionally for senior captains who require CAS3 TDY en route to their next duty stations. Captains attending CAS3 can report to Fort Leavenworth, Kan., no earlier than one day prior to the required class report date.

FA 92 Designation: Year Group 92 Officers

The functional area (FA) designation process for year group 92 is underway. FA packets have been mailed out to the address you have on file. If you have not received your packet, please contact Capt. Lindsay. We cannot begin the designation process until more than 90 percent of officers have responded. If you're thinking about requesting FA 48 (Foreign Area Officer) you must ensure that you have a DLAB score and/or language proficiency (DLAT) information updated to your ORB. Contact your installation education office for information on taking the DLAB and DLAT.

Branch Transfers to Aviation

In accordance with the DCSPER policy letter dated June 1995, branch transfers to aviation are no longer being approved. PERSCOM's OPMD director is the waiver-approval authority for this policy, but Aviation Branch will not recommend approval on any requests due to the large backlog of currently serving aviators who require modernized aircraft transitions (AQCs). If we accepted branch transfers, the new accessions would either not receive AQCs (and increase the backlog) or take an AQC from currently serving aviation officers.

Results of the FY 97, Colonel, Army Competitive Category Promotion Board

Prom Seq #	Name	Prom Seq #	Name
112	BAGLEY JAMES E.	97	NOTARIANNI PETER A.
250	BOLAND JAMES A.	230	PAGE JAMES A.
235	BOZEMAN MICHAEL R.	297	QUINN GEORGE A.
44	BROOME DOYLE D.	387	RIFE RICKEY LYNN *
17	BURT NANCY J.	131	ROBERSON LARRY W.
272	COX ROBERT E.	144	ROBERSON MELVIN A.
192	DAVIS MICHAEL H.	281	SAMBOROWSKI LEONARD
132	DOCKENS THOMAS M.	47	SEETIN ROBERT EUGE
26	EDWARDS LAWYN C.	226	SINK AMMON A.
205	GOLSON ELLIS W.	116	SMITH JOSEPH A.
202	HARROD TIMOTHY D.	46	STEAGALL BENNY G.
195	KNAPP GARY K.	246	SWAIN ALAN D.
319	LANDRITH MARK S.	61	TATE PAUL ALLEN *
191	LANDWERMEYER H.	197	TOPETE HECTOR E.
53	MERKT CARL R.	314	WELLIVER CHARLES K.
157	MILLER MICHAEL J.	107	WIGLESWORTH SAMMY
269	MUNDT STEPHEN D.	318	WIMBISH WILLIAM L.
19	MUSE GAYLAND D.		

* Below the Zone

Enlisted Effects of the ARI

The Aviation Restructure Initiative (ARI) is a comprehensive and complex effort to shape Army aviation units affected by the Army's downsizing to produce more capable and effective units. The total effects of ARI are to downsize the aviation force, while at the same time enhancing the capability and sustainability of Army aviation units on the battlefield.

ARI affects all aviation soldiers in one way or another. Almost every aviation MOS will experience some degree of turbulence under ARI. ARI causes roughly a 40 percent decrease in the number of aircraft, while resulting in roughly a 20 percent reduction in aviation enlisted personnel.

The most affected personnel are those who are non-modernized aircraft mechanics. Most all OH-58A and C, UH-1 and AH-1 mechan-

ics are displaced by Kiowa Warrior, Black Hawk and Apache modernized systems over the course of the next several years. MOS 67V (OH-58A/C Mechanic) authorizations drop from 886 to 176 over the next three years. MOS 67N (UH-1 Mechanic) authorizations drop from 861 to 412 over the same period, while MOS 67Y (AH-1 Mechanic) authorizations decline from 571 to 127.

While this may initially seem like bad news, the authorization increases for 67T (UH-60 Mechanic) rise from 2,911 to 3,216 and result in a significantly greater organizational maintenance capability. Concurrently, Kiowa Warrior fielding causes 67S authorizations to almost double, going from 410 to 792 over the next three years. AH-64 mechanic authorizations remain fairly constant at 1,316 and CH-47 mechanics remain steady at 1,670.

Within CMF 67, the greatest challenges of ARI are to retain quality aviation soldiers and to provide viable career opportunities to those soldiers whose MOSs are displaced or eliminated by downsizing. Reclassification of some soldiers is inevitable, and each aviation soldier has the option to request reclassification to a shortage MOS to increase his or her promotion potential.

Many aviation soldiers choose to remain in aviation careers, and we have taken several proactive steps to insure that quality aviation soldiers are afforded the best possible career opportunities.

First, a "transition course" has been added to each modernized aircraft training course. These courses are designed to provide only systems training to sergeants and staff sergeants who are already trained aviation mechanics.

Transition courses are taught at an accelerated pace and allow nonmodernized mechanics to obtain rapid retraining on modernized systems. These transition courses will be available to most nonmodernized mechanics in roughly the same timeframe as their old system phases out of the inventory. A substantial number of additional advanced aircraft school seats have been allocated specifically to accommodate nonmodernized mechanics to obtain modernized aircraft training. We expect to use transition courses through 1997 to target high quality junior noncommissioned officers for transition training, and to allocate about 60 seats each year for Kiowa Warrior, Apache, Black Hawk and Chinook transitions.

We also use "shortfall" courses to achieve substantial increases in advanced aircraft transition training. Since the first three weeks of any 67-series advanced individual training (AIT) course are com-

mon core subject skills which any trained aviation mechanic already possesses, a deserving aviation soldier can be sent TDY and return to an unfilled seat at the modernized aircraft AIT course.

The important thing to remember about shortfalls is that units that have overages in nonmodernized mechanics and need more modernized mechanics are targeted for this program first. PERSCOM carefully coordinates with the Aviation Logistics School (USAALS) at Fort Eustis, Va., to identify and announce shortfalls as they occur. Unit sergeants major are vital to this program's success, because they identify quality, retention-eligible, reclassification-eligible soldiers who can attend an advanced aircraft training course on short notice and return to the unit to use their new skills. We have obtained DA funding to offset the unit's TDY costs, and the soldier is stabilized for one year following return from the course. This program must be exceptionally managed and will require careful coordination between the unit, USAALS and PERSCOM.

We are very proud of the fact that, to date, 180 soldiers have participated in the shortfall program and obtained modernized aviation maintenance or shop skills MOSs from what would have otherwise been a "no-show" to a CMF 67 AIT. USAALS lets us know when an opportunity arises, and the unit CSMs have always been quick to provide quality soldiers to take advantage of the training. It's working great, and we hope to keep this program going strong.

We have a distinct opportunity with this program, in that we have the requirement to assimilate a significant number of nonmodernized mechanics, who have served our nation well for many years, into modernized aircraft or shops skills with the least cost and greatest return on the investment. This program has allowed us to reduce the number of lost training seats at Fort Eustis to virtually zero, and to have the capability to convert what would have been a lost training seat into a training opportunity for a quality aviation soldier.

CMF 93 (Aviation Operations) is also affected significantly by ARI. Most notable is the elimination of MOS 93B (Enlisted Aeroscout Observer). This MOS was eliminated from the inventory 1 October 1997, and affects several hundred soldiers. We are in the process of developing a comprehensive reclassification plan to afford these fine soldiers the best possible career options, and to allow a smooth transition to another MOS for which they are qualified. We are attempting to provide maximum opportunity for 93B soldiers to reclassify into 93C (Air Traffic Controller) or 93P (Flight Operations Specialist) commensurate with Army requirements.

ARI is vital to building a substantially more capable aviation force for the 21st century, and presents challenge as well as opportunity to the aviation enlisted force. PERSCOM is committed to providing each quality aviation soldier with viable, rewarding career opportunities and to build a strong, capable Army for the future.

67T Assignments to the Sinai, Egypt

MOS 67T soldiers with a secondary MOS of 67N are now eligible to be assigned to the Sinai, Egypt. The normal tour length is 12 months, unaccompanied. Soldiers interested in volunteering for the assignment should be qualified as per AR 614-200.

The mission of the Sinai Aviation Company is to support the 11-nation Multinational Force and Observers (MFO) by providing UH-1 helicopters to transport troops and supplies to various locations throughout the Sinai Peninsula.

For more information, contact SSgt. Smith or Ms. Campbell at the Aviation Branch, (DSN) 221-5882.

Aviation Soldiers Needed As Detailed Recruiters

The FY 97 active-component enlisted recruiting mission of 89,700 represents a 22 percent increase over FY 96 and is the largest since FY 90.

Our recruiting force executing this mission has not increased proportionately and is, in fact, smaller than it was in FY 90. For this reason, the Aviation Enlisted Branch is stepping up efforts to identify and select personnel to help fill aviation MOS shortages within the U.S. Army Recruiting Command (USAREC).

Soldiers interested in recruiting duty must have high moral character, emotional and financial stability, outstanding personal appearance and bearing, and a favorable record of service in previous assignments. Personnel selected for duty as recruiters will be detailed to USAREC for a three-year stabilized assignment.

Most soldiers identified to serve as recruiters are selected via the PERSCOM nomination process. However, we strongly encourage and recommend that soldiers volunteer for recruiting duty whenever possible. Regardless of the selection process, past senior promotion boards recognize that soldiers who complete a successful assignment as a recruiter is very positive and a means to move ahead of their peers.

Aviation soldiers interested in volunteering for recruiting duty should refer to AR 601-1 ("Assignment of Enlisted Personnel to the U.S. Army Recruiting Command") and AR 614-200 ("Selection of Enlisted Soldier for Training and Assignment") for specific selection criteria. Further questions can be answered by contacting the Recruit the Recruiter Team at USAREC by calling (DSN) 536-0231/0271 or (502) 626-0231/ 0271, or by contacting your assignment manager at PERSCOM Aviation Branch, (DSN) 221-5882.

Selective Re-enlistment Bonus (SRB) News

Effective 25 May 1997, MOSs 67R, 67S, 68G, 68X, 93C, 68D with ASI "N2", and 68J with both an SQI "P" and ASI "W5" were added to the list of Army MOSs offering an SRB. The SRB multiplier for these MOSs is 1.0A, meaning that the bonus is computed by multiplying (1.0) x (base pay) x (number of years of re-enlistment). See your Retention NCO for further details.

MOS 68J Kiowa Warrior Armament/Missile Systems Repairers

MOS 68Js who do not have the W5 identifier can expect to receive W5 training en route to their next duty station. Class seat availability is still the driving force behind this training. Soldiers on assignment to priority assignments such as Korea or fielding force modernization units will receive this training first. Personnel requesting W5 training in a TDY-and-return status can expect a reduced number of training seats. Priority for training will go to those soldiers who receive the training en route.

93B Reclassification

The MOS 93B (Aeroscout Observer) was phased out as of October 1997. The 93B Fast Track Program was closed effective 5 March 1997. Voluntary Fast Track requests received by the Reclassification Management Branch will be returned to the appropriate field authority. The remaining shortfall will be filled through DA-directed reclassifications. Memoranda directing reclassification, primarily into 93P or other shortage MOSs, will be mailed to the field reclassification authority. All reclassification actions will be controlled by the Reclassification Manage-ment Branch at (DSN) 221-6806. Soldiers who are eligible for re-enlistment options, soldiers ineligible to re-enlist or soldiers who reached their retention control points prior to Oct. 1, 1997, will not be targeted for reclassification. For additional information contact SFC Sieber at (DSN) 221-5882. ❐

ARMY AVIATION BOOK STORE

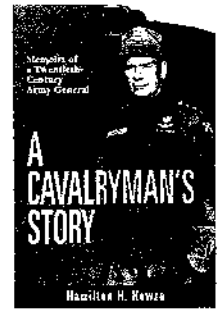
U.S. ARMY AIRCRAFT SINCE 1947

Since 1947 - An Illustrated Reference
Stephen Harding

U.S. Army Aircraft Since 1947 is the only comprehensive, up-to-date guide to the 124 types of helicopters, fixed-wing aircraft and experimental flying machines used by the U.S. Army since 1947. After a concise yet thorough introductory history of U.S. Army Aviation, the author discusses each aircraft type used by the Army's air arm, which is the largest, most technologically advanced and most combat experienced force of its kind in the world today. Within each chapter the author includes information on aircraft serials, markings, weapon systems, operational history and other technical data. Illustrated with more than 220 color and black and white photographs, *U.S. Army Aircraft Since 1947* is the definitive reference source on its subject and a must-have volume for all military aviation historians and enthusiasts. [Schiffer Publishing Ltd. Size: 8 1/2" x11", 264 pages, hard cover; ISBN: 9-7643-0190-X]

A CAVALRYMAN'S STORY

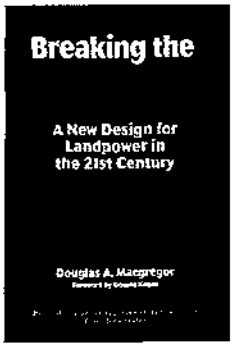
Memoirs of a Twentieth Century Army General Hamilton H. Howze



A Cavalryman's Story is the memoir of a professional soldier, born into the lineage of West Point and recognized today as the father of U.S. Army Airmobile tactics and doctrine. With understated charm and humor, GEN Howze writes of his polo-playing years in a 1930s Army that still relied on horses, and then of the sudden, almost remarkable transition to armored divisions, when the U.S. entered WWII. It was in the mid-1950s that GEN Howze emerged as one of a handful of perceptive Army officers who recognized the potential of a sky cavalry. As the first director of Army Aviation GEN Howze promoted the concept to industry, the government, and the public. His vision came to fruition in the 1960s when he presided over the U.S. Army Tactical Mobility Requirements Board, known as the Howze Board, which proved the viability of sky cavalry in combat. *A Cavalryman's Story* provides an authoritative look at the forging of the modern Army and a wry perspective on the perennial absurdities of military life, whether in peace or war. [Smithsonian Institution Press. Size: 6"x9", 316 pages, hard cover; ISBN: 1-56098-664-6].

BREAKING THE PHALANX

Douglas A. Macgregor

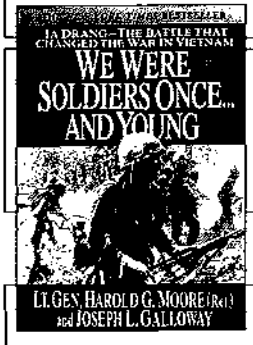


This work proposes the reorganization of America's ground forces on the strategic, operational and tactical levels. Central to the proposal is the simple thesis that the U.S. Army must take control of its future by exploiting the emerging revolution in military affairs. The analysis argues that a new Army warfighting organization will not only be more deployable and effective in Joint operations; reorganized information age ground forces will be significantly less expensive to operate, maintain, and modernize than the Army's current Cold War division-based organizations. And while ground forces must be equipped with the newest Institute weapons, new technology will not fulfill its promise of shaping the battlefield to American advantage if new devices are merely grafted on to old organizations that are not specifically designed to exploit them. [Praeger Publishers. Size: 6"x9 1/8", paperback, 283 pages, ISBN: 0-275-957942]

YEAR OF THE HORSE: VIETNAM

1st Cavalry in the Highland1965-1967
COL Kenneth D. Mertel (USA, Ret.)

Year of the Horse: Vietnam is the day-to-day story of the Jumping Mustangs - 1st Battalion, Airborne, 8th Cavalry, of the 1st Air Cavalry Division. After describing the activation of this then revolutionary airmobile division at Fort Benning, GA on 1 July 1965, COL Mertel gives a vivid picture of the building of his own Jumping Mustang Battalion, the rigorous training of officers and men, and, finally, the long voyage across the Pacific to Vietnam. Now the test. The answer came quickly and dramatically in a rapid succession of search and destroy operations. COL Mertel pays tribute to the many acts of heroism of his men, who lived, worked and fought together in some of the world's most inhospitable conditions. He also writes movingly of those who never came back. [Schiffer Publishing Ltd. Size: 6"x9", 384 pages, hard cover; 59 color photographs, 9 maps; ISBN: 0-7643-0190-X]



WE WERE SOLDIERS ONCE...AND YOUNG

Harold G. Moore and Joseph L. Galloway

We Were Soldiers Once ... And Young brings the war back home with unforgettable stories of those who lost family members to combat. This devastating account rises above the specific ordeal it chronicles to present a picture of men facing the ultimate challenge, dealing with it in ways they would have found unimaginable only a few hours earlier. It reveals to us, as rarely before, man's most heroic and horrendous endeavor. [Harper Collins Publishers, Size 5 1/2"x8". 483 pages, paperback. ISBN: 0-06-097576-8]

DANCING ROTORS

Harry E. (Ned) Gilliand, Jr.

Dancing Rotors, is a book about special helicopter usage, documenting the evolution of U.S. military helicopter precision flight demonstration teams from 1948 through 1976. It covers Army and Navy efforts to provide unique shows to stimulate recruiting into both branches of service, and especially into their rotary-wing aviation programs. A wealth of very unique helicopter history, heretofore untold, is now within the reach of every helo enthusiast. [Aerofax, Inc. Size 8 1/2"11". 483 pages, paperback. ISBN: 0-942548-57-4]

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AAAA Chapter Corner

Monmouth Chapter

by Mr. Ronald V. Kurowsky, Chapter President

The Monmouth Chapter was initiated in 1965. At that time the majority of government personnel were members of the Avionics Laboratory, later renamed the Aviation R&D Activity (AVRADA), Electronics Command, Fort Monmouth. The average size of the chapter grew to approximately 340 with membership split 50/50 government and industry. The intent of the chapter was to promote fellowship among people of like interest and provide forums for exchange of state of the art avionics information. This intent has expanded to include the overall Fort Monmouth Community and NJ National Guard and Reserve. The Chapter's Executive Board includes 12 active members and all past presidents in the immediate area. In order to ensure all activities are represented, we have VPs for Scholarships, National Guard/Reserve, Industry Affairs, Government Affairs (R&D and Logistics), Personal Development, and Community Affairs.

During any given year the Chapter sponsors quarterly membership luncheons with invited speakers, Membership Appreciation Day (boat cruise or race day), Sports Day (Scholarship Fund raiser), and the Biannual Symposium (now cosponsored with AEC Symposium). We also sponsor soldiers at the Signal Corps Regiment Association function, provide support/donations for Armed Forces Day, Boy Scouts of America, Family Fun Fest, "Good Citizen" community service, State of CECOM Luncheon and Fort Monmouth volunteer recognition. This year 120 people took advantage of the boat cruise even though we were looking into the eye of Hurricane Danny.

Monmouth Chapter now has five scholarships totaling $12,000 named in memory of those who had been ardent supporters of AAAA and this chapter. Our newest scholarship was initiated in memory of two National Guard members who were killed during a training exercise at Fort Drum, NY. These scholarships are open to all qualified within the AAAA family and not just chapter members. We were the only chapter to support the AAAA Flying Tigers Chapter in Knoxville, TN, in their drive to establish a scholarship in their name as part of the 1997 National Convention Golf Tournament. The Chapter believes in the vision of our past National President, MG Richard Stephenson, Ret., who stated "My vision is that by the year 2000 AAAASFI be able to provide a scholarship to every applicant."

"The Aviation Clipboard", is the Chapter's newsletter where the Executive Board and members disseminate subjects of interest to chapter members. A complimentary copy of the newsletter is also sent to other Chapter presidents and National Board members. "The Aviation Clipboard" is a semi-annual publication containing news on past and future events, professional development, symposium registration, election results and other pertinent articles. Also published are messages and announcements from other local professional organizations at Fort Monmouth.

Members of the Monmouth Chapter are highly motivated to support AAAA; they are members of the Executive Board, Scholarship Foundation, and support selection of scholarship recipients. To many this means attending functions on their own time. There are always volunteers to help at all functions. Board members attended and presented briefings on the benefits of AAAA at NJ National Guard Aviation Safety Day and received the full support of the New Jersey State Aviation Officer. Three of the present Board were presented with the "Minute Man" coins by the NJ State Army Aviation Officer of which only 19 have been awarded.

In 1996 the Chapter was selected the "TOP CHAPTER" and the best way to describe this choice is as follows: A highly active volunteer membership capable of reaching out to the community, providing donations to multiple activities, providing active participation in joint organizational activities at Fort Monmouth, with a commitment to the AAAA scholarship program, and expansion of the organization to National Guard and the Logistics segment of CECOM.

Editor's Note: This is the first in a continuing series of features on AAAA Chapters, their activities and their histories. Next month will feature the ARMY AVIATION CENTER Chapter.

AAAA North Country Chapter honored several Order of St. Michael recipients and AAAA Soldiers of the Month at its November meeting at Ft. Drum, New York. Pictured from left to right are: LTC(P) David P. Brostrom, Chapter President, 1SG Paul Miller, CW4 William Wallace, CW4 Kent Harrington, SPC Mary Orloff, SGT Franco Camacho, MG Lawson Magruder III, Commander 10th Mountain Division.

Army Aviation Hall of Fame

by Maj. Gen. George W. Putnam, Jr., Ret.,
Chairman Army Aviation Hall of Fame Board of Trustees

The Army Aviation Hall of Fame honors those who have made outstanding contributions to Army Aviation. These can be over an extended period of time, of a doctrinal or technical nature, innovations with an identifiable impact on Army Aviation, efforts that were or are an inspiration to others or any combination thereof. The Army Aviation Hall of Fame is located in the Army Aviation Museum, Fort Rucker, Ala., and is an approved activity of the U.S. Army. The AAAA is the executive agency for selection of its members.

The first seven selectees were inducted to the Hall of Fame in 1974; seven additional were inducted in each of 1975, 1976 and 1977. Thereafter inductions were established on a triennial rather than annual basis with one exception - the induction of three recipients of the Congressional Medal of Honor (title since changed to the American Medal of Honor) in May 1990 during the opening ceremonies for the current Army Aviation Museum. With the induction of nine selectees during the 1998 AAAA annual convention, the total number so honored will be eighty-nine.

Policies concerning nomination, consideration, voting, selection, numbers selected, composition and tenure of the Trustees, etc. have either been left to the Trustees or recommended by the Chairman to the AAAA National Executive Board for approval. Here are several examples of changes over the years leading to current guidelines for the Trustees.

The Board normally meets during the third quarter of the year preceding the year of induction of new selectees. All nominations received are combined with those nominations recommended for continued consideration by the previous Board of Trustees and sent to each Trustee for study prior to the meeting. Any variation must be justified to and approved by the Trustees.

The Board in closed session selects from those nominated a slate of eighteen to twenty-two candidates to be voted by the membership. The only variation from this occurred in 1980 and 1983 when the Board picked those to be inducted. Voting was originally restricted to those with seven years of AAAA membership. Beginning with the 1992 slate, voters with two years of membership were made eligible to vote. Also, voters were required to vote for a specific number of the candidates. For the first elections, voting was restricted to candidates from certain eras - namely, vote for one from the 1942 and prior years; vote for two from the 1961 - 65 years, etc. Later, voters were directed to vote specifically for seven - no more, no less. Finally, this was changed for the last two elections to the more controversial limitation of voting for one or more up to a specific maximum - this maximum being the tentative number determined by the Trustees for induction. This change was made because most Trustees held the firm opinion that no voter should be required to vote for other than those he or she wanted in the Hall of Fame. Those opposed held equally firm views that elections could be skewed by what is termed "Bullet Voting".

The ballots are reviewed and the votes counted by the AAAA National Office and then checked and rechecked by the AAAA Executive Director. The Trustees review the tabulations and determine the logical cut point which may or may not be the same as the tentative number previously agreed upon. Finally, data from the ballots are compiled and recorded by the Archivist.

The Chairman of Trustees is nominated by the President, AAAA, and approved by the National Executive Board. Trustees are selected by the Chairman normally from among those members of the Hall of Fame who have not served as Trustees. An ideal group of Trustees would include a grade spread of enlisted, warrant officers and officers but selection is limited by the relatively small number of enlisted soldiers and warrant officers in the Hall of Fame and their availability. The Chairman serves at the pleasure of the NEB or until he resigns. Trustees usually serve for one selection period of three years.

The Army Aviation Hall of Fame is the expression of the AAAA membership. One cannot become inducted unless nominated and then selected by vote of the membership. I became somewhat knowledgeable about aviators and aviation soldiers and their accomplishments from serving over fourteen years in personnel assignments and as I Corps Aviation Officer, Deputy Director of Army Aviation, Assistant Commandant of the Aviation School and commander in combat of two organizations having huge number of aviators and aviation soldiers - the 1st Aviation Brigade and the 1st Cavalry Division. In more recent years Army Aviation has become a branch and experienced astonishing improvements and changes in organization, equipment, training, tactics, safety, - you name it! Most important has been the major role that Army Aviation has played in every conflict from Panama to Bosnia. Many from my period of active service have been nominated but I'm certain there are others particularly among the enlisted ranks and warrant officers who made tremendous, but as yet unrecognized, contributions to Army Aviation. And what about those who met the many challenges of the years since Vietnam and made Army Aviation branch the success it is today?

Those with better memories of the past and especially those knowledgeable of events of the more recent twenty-five years should take pen in hand to ensure that major contributors to Army Aviation are not forgotten.

As a result of your voting, the 1998 Army Aviation Hall of Fame inductees are:

COL Robert F. Cassidy, Ret.
CW4 William T. Hargrove, Sr., Ret.
CW5 Randolph W. Jones
PFC Garfield M. Langhorn*
SPC4 Joseph G. LaPointe, Jr.*
LTC Donald F. Luce*
SFC Louis R. Rocco
BG Joseph B. Starker*
CW5 Benjamin A. Van Etten, Jr.

* Deceased

AAAA NEWS

Colonel Alexander J. Rankin, Ret.

Alexander J. Rankin, 84, Colonel, U.S. Army, Ret. a commander of cavalry in WWII and a pioneer in the developing and testing of the Army's aviation and AAAA Charter and Life Member died of cancer at the VA Hospital in Martinsburg, Vir. on November 29, 1997.

Col. Rankin was born in Glasgow, Scotland, and at age 6 emigrated with his parents to the USA. Prior to our entry in WWII he enlisted in the 102d, a horse cavalry regiment of the New Jersey National Guard, which entered active federal service in January 1941. He learned to fly with the Cavalry Reconnaissance Troop of the 78th Division in WWII combat in Europe and became an Army Liaison Pilot in 1946.

In 1958 Col. Rankin became the first Deputy Chief and later Chief, Air Mobility Division in the Office of Chief, Research and Development, on the DA General Staff. In April 1962 he was one of four Colonels called by General Hamilton H. Howze to become his Secretariat, his "inner circle of confidants" that organized and gave direction to the legendary "Howze Board" which changed forever the way the Army organized and used its aviation.

During the Army Aviation Center's fall membership meeting, Col. Lee Gore (left), Chapter President, happily accepted a check for $10,113 from Capt. Michael Engle, Head Bean and event coordinator for the chapter's 6th annual AAAA Chili 5K race and cook-off competition. The check represented the final proceeds from this year's successful Chili 5K race, chili competition, and sponsorship program, held at Fort Rucker on Oct 25th. The money will help the chapter to fund local programs, awards, scholarships and other activities.

After accepting the check, Gore expressed the chapter's gratitude to the 1st Bn, 11th Aviation Regiment for their volunteering to host and execute this year's Chili 5K. "I would like to recognize and thank Capt. Mike Engle for his outstanding job as the Head Bean in planning and coordinating the Chili 5K," said Gore. Engle was presented with a chapter plaque and an AAAA coin for his selfless work.

The fall membership meeting was attended by approximately 110 members, and included a member appreciation night with free buffet and drinks.

new members

ALOHA CHAPTER
HONOLULU, HI
WO1 Albert Medeiros, Jr.

ARMADILLO CHAPTER
CONROE, TX
MAJ Gene H. Weidemeyer

AVIATION CENTER CHAPTER
FORT RUCKER, AL
WO1 Ralph B. Baklarz
2LT Erica G. Bennett
2LT Lee E. Bokma
2LT David J. Borden
CPT Bryan D. Brown
2LT Jeffrey S. Butler
2LT Christopher H. Courtney
CPT Eric H. Craig
MSG Bobby W. Eades
Ms. Linda C. Eubanks
WO1 Robert W. Gifford
WO1 Ryan C. Glathar
LTC John G. Greenhalgh
WO1 James B. Hall
2LT Ralph R. Heidel, Jr.
Mr. Ken L. Holder
CW2 Michael D. Hunt
2LT Scott D. Hutchison
1LT(P) Danford A. Kern
2LT John J. Maher
CPT Chad L. Maxey
SFC Everett W. McAdams, Ret.
CW4 William C. Muller
CW2 Daniel J. Parks
WO1 Erik O. Peterson
WO1 Gregory L. Riggs
2LT Leonardo Rinaldi
2LT John W. Shields
WO1 Thomas S. Trimble
LTC Phillip H. Webb, Jr. Ret.

BONN AREA CHAPTER
BONN, GERMANY
Mr. Miles L. Henselman

CENTRAL FLORIDA CHAPTER
ORLANDO, FL
Mr. Ronnie D. Bennick
CAPT Thomas L. Freeland

COLONIAL VIRGINIA CHAPTER
FORT EUSTIS, VA
CPT Reginald J. Mason

CORPUS CHRISTI CHAPTER
CORPUS CHRISTI, TX
Mr. Randy P. Disbrow

DELAWARE VALLEY CHAPTER
PHILADELPHIA, PA
SFC Carol M. Gallagher

FLYING TIGERS CHAPTER
FORT KNOX, KY
CW3 Michael M. Bigay

IRON MIKE CHAPTER
FORT BRAGG, NC
CPT James J. Cutting

JACK H. DIBRELL/ALAMO/
FORT SAM HOUSTON, TX
CPT Mary C. Adams

LINDBERGH CHAPTER
ST. LOUIS, MO
Mr. Nicholas J. Congemi

MORNING CALM CHAPTER
SEOUL, KOREA
CW4 George T. Anderson, Jr.
CW3 Edward M. Cook II
SGT Christopher E. Dirkes
MAJ Robert B. Foutz
SPC Michael E. Fuller
CW5 Jonathon B. Haigh
CW3 Crit J. Kennedy
SPC Steve E. Lowman, Jr.
SPC Guy J. Morgan
CPL Jed K. Rose
SGT Aaron M. Scott
MAJ Nathan D. Smyth
PFC Scott A. Wilson
SPC Kevin H. Yetman

NORTH COUNTRY CHAPTER
FORT DRUM, NY
MAJ James R. Beck
CSM Timothy O. Bowers
CW4 Ralph H. Donovan
COL Ann E. Dunwoody
COL Ronald A. Maul
Mr. Melvin V. Moton
LTC Joseph R. Nunez
SPC Donald W. Poelking
CSM Bob Stubblefield
SSG Earl W. Thomas

PIKES PEAK CHAPTER
FORT CARSON, CO
SGT Vinicky A. Elliott
SPC Chad D. Thomas

SINAI CHAPTER
SINAI, EGYPT
CW3 Caryl E. Newberry
CW2 Jay L. Sanders

STONEWALL JACKSON CHAPTER
SANDSTON, VA
Mr. Michael L. Wright

TALON CHAPTER
ILLESHEIM, GERMANY
2LT Mandy L. MacWhirter

TENNESSEE VALLEY CHAPTER
HUNTSVILLE, AL
COL Gilbert J. Ferguson, Ret.
Ms. Pamela D. Woolery

VIRGINIA MILITARY INSTITUTE CHAPTER
LEXINGTON, VA
CDT Amberleigh SP Covell
CDT Hesuk Susan Kim

WESTERN NEW YORK CHAPTER
ROCHESTER, NY
SP5 Kenneth J. Garasz
1SG Michael C. Lovullo

MEMBERS WITHOUT CHAPTER AFFILIATION
2LT Amy L. Emanuel
LTC Elton Fowler
SSG Damian M. Goldsmith
WO1 W. Mills
MAJ Brent R. Overton
Mr. Eugene F. Voelzow
Ms. Margit G. Weir

New Chapter Officers

Aviation Center:
CPT David E. Salter, V.P. Awards.

Big Red One:
Capt. Thomas Baker, Treasurer.

Greater Chicago:
Maj. Phillip S. Martin, VP Programs.

Iron Eagle:
Lt. Col. William M. Wilkinson, Pres.; Lt. Col. Daniel L. Garvey, Sr. VP. Capt. Krista L. Bonino, Treas. VP Membership Enrollment; Maj. Darryl T. Shamblin, VP Memb. Enrollment; Maj. Michael Stewart, VP Progs; CSM Gary L. Moore, VP Enlisted Affairs.

Iron Mike:
LTC Kirt t. Hardy, Sr. Vice Pres.; MAJ Scott T. Waggoner, Treas. MAJ Eric M. Nelson, V.P. Membership; SSG Scott A. Gibson, V.P. Membership Re-newals, CW5 Larry W. Newsom, V.P. Programs; MAJ Kevin M. Woods, V.P. Military Affairs; 1SG William R. Baker, V.P. Enlisted Affairs; CPT James M. Ball, V.P. Chapter Awards; MAJ Peri A. Anest; V.P. Public Affairs.

Jack Dibrell/Alamo:
LTC Michael J. Hartman, President.

North Country:
CPT Quint A. Consani, V. P. Awards.

Rising Sun:
LTC Michael O. Grant, Vice Pres.; Capt. Gregory K. Mogavero, Secy.; SFC Douglas H. Kelley, Treas. Maj. Kevin R. Bishop, VP Membership Enrollment; Capt. Leonard W. Bowley, VP Programs; SFC Jay W. Maitland, VP Enlisted Affairs; Lt. Col. Kiyoyuki Takeda, VP Civilian Affairs.

Sinai:
LTC Ronnie L. Foxx, President.

Tarheel:
LTC Andrew W. Goodwin, President.

Col. Richard M. Johnson (above left), Senior Vice President of the Aviation Center Chapter, presented the Order of St. Michael bronze award to Capt. Robert M. Wildzunas during a recent ceremony at Ft. Rucker. Wildzunas was recognized for his significant work in the area of applied aeromedical research.

AAAA Aviation Soldiers of the Month

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

SGT Vinicky A. Elliott
October 1997
(Pikes Peak Chapter)

SPC Carla L. Francis
October 1997
(Talon Chapter)

PVT Phillip M. Riggins
November 1997
(Talon Chapter)

SPC Chad D. Thomas
November 1997
(Pikes Peak Chapter)

Aces

The following members have been recognized as Aces for their signing up five new members each.

CW5 Thomas P. Gadomski
1LT John A. James
CPT(P) Bob Kiser
AJ Eric M. Nelson

In Memoriam

Capt. Donald J. Lee

New AAAA Industry Members

Sparta Inc.
Huntsville, AL

Monterey Bay Corporation
Ellicott City, MD

Basic Concepts, Inc.
Sandy Springs, SC

calendar

February 1998

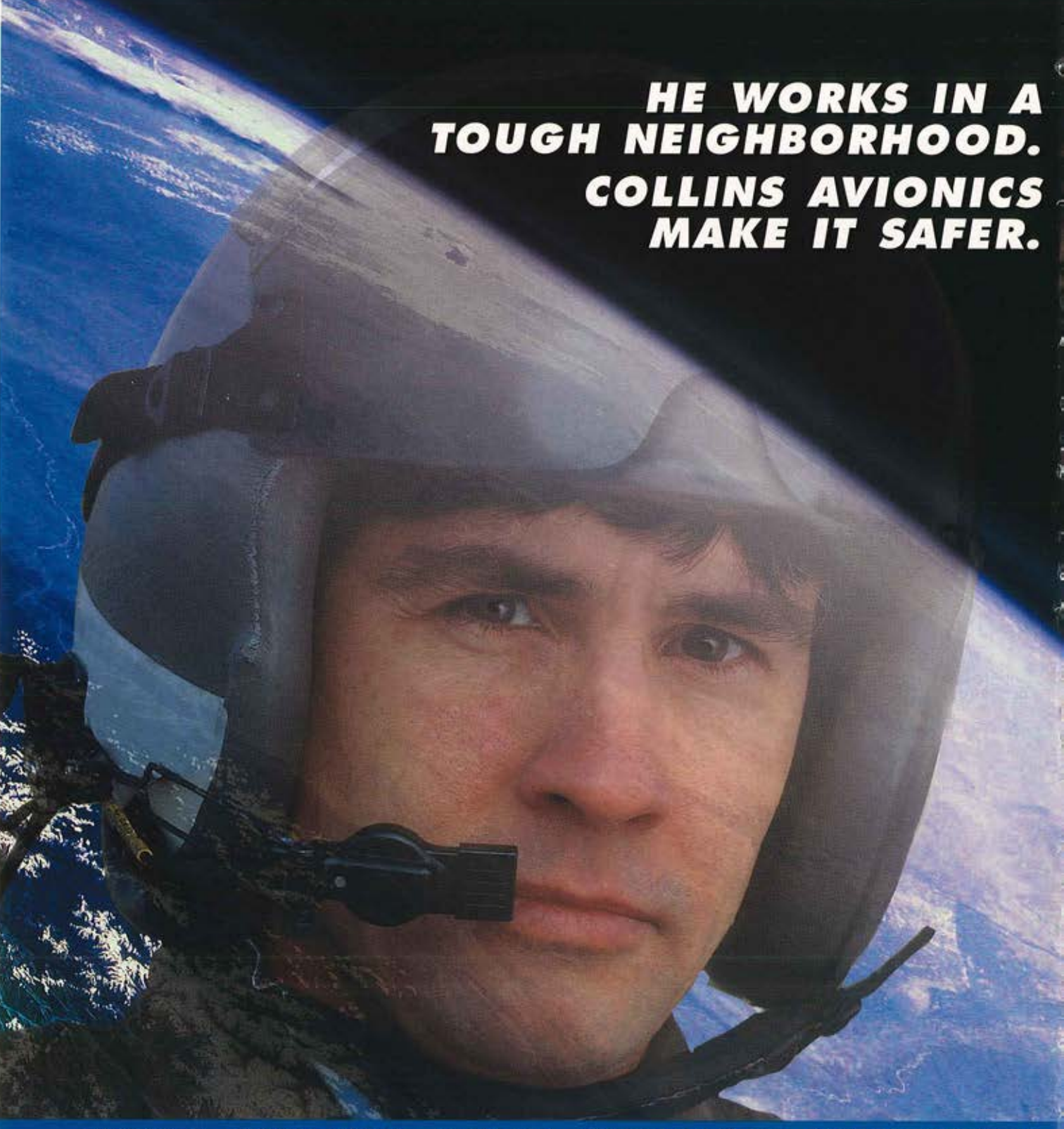
☛ **Feb 2-6.** Aviation Leader's Training Conference (ALTC), U.S. Army Aviation Center, Fort Rucker, AL.

☛ **Feb 5.** AAAA Aviation Center Chapter AAAA Awards Banquet, Fort Rucker, AL. Awards Presentations: AAAA Aviation Trainer of the Year, Air/Sea Rescue Award, Aviation Fixed Wing Unit Award, ROTC Award, and Air Traffic Control Awards Presentations. Contact: CPT Kenefick, 334-255-8524.

☛ **Feb 6.** Army Aviation Center Chapter AAAA Shotgun Spectacular Shoot, Ft. Rucker Skeet & Trap Range, Ft. Rucker, AL. Contact: MAJ Tee Thackston, 334-255-8419.

☛ **Feb 21.** AAAA Morning Calm Chapter Winter Formal, Grand Hyatt, Itaewon, Seoul, South Korea. Guest speaker: LTG Randolph W. House, Commanding General, Eighth United States Army. Contact CPT Jennifer J. Manzo, HHC, 17th Avn. Bde., Unit 15270, APO AP 96205-0043. E-Mail: eaav-ap@emh2. korea. army.mil.

☛ **Feb 24.** Army Aviation Center Chapter General Membership Meeting and Member Appreciation Night, Ft. Rucker O'Club. Contact CW2 Jim Kennedy, 334-255-3411.



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