Special Focus: Maintenance and Logistics

# SPECIAL FOCUS: MAINTENANCE AND LOGISTICS

# ARMY AVIATION

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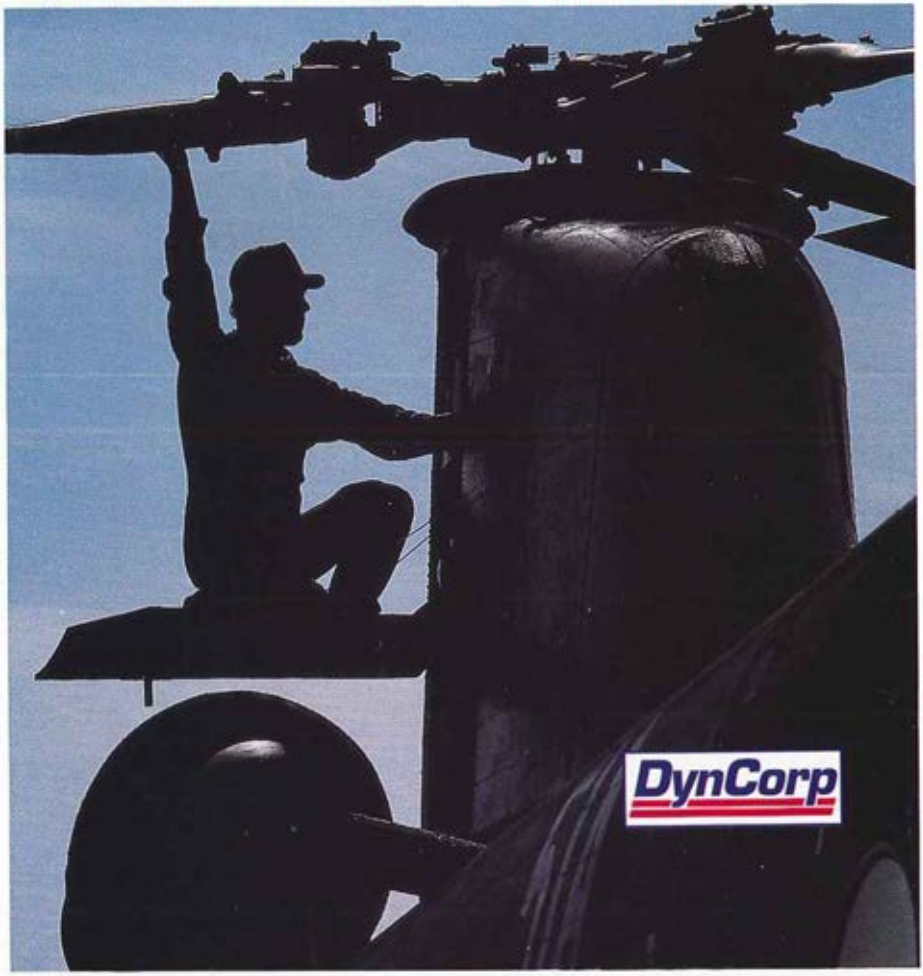

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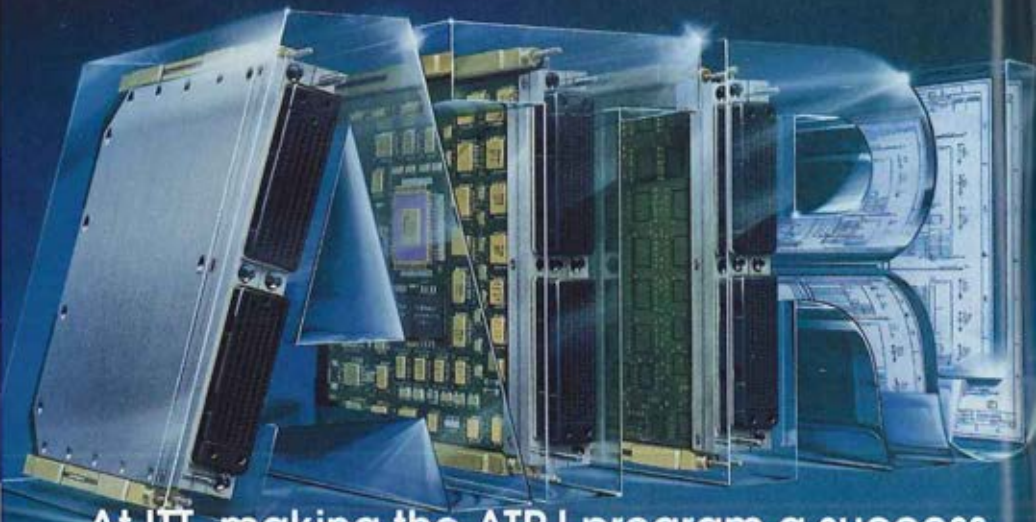

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**FORTHCOMING ISSUES**

March-April 1994 — Annual AAAA Convention Issue.

May 1994 — Post Convention issue with Longbow Apache and Kiowa Warrior Special Focus.

# Briefings

The first **LTG Ellis D. Parker Outstanding Aviation Unit Award** was presented 30 November 1993 by Army Chief of Staff GEN Gordon R. Sullivan to the **3rd Battalion, 160th Special Operations Aviation Regiment (Airborne)**, Hunter Army Airfield, Savannah, GA. That unit was the top battalion in the combat support category. The Army's Active and Reserve battalions worldwide competed in four categories for the Parker Award — combat, combat support, combat service support, and Table of Distribution and Allowances (TDA). Also recognized in the competition were the **2nd Battalion, 25th Regiment**, Ft. Drum, NY, winner of the combat category; **421st Medical Evacuation Battalion**, Weisbaden, Germany, winner of the CSS award; and **1st Battalion, 212th Aviation Regiment, Aviation Training Brigade**, winner of the TDA category. The Parker Award originated at LTG Parker's retirement ceremony on 31 January 1992, when GEN Sullivan announced he would establish a DA-level award in honor of LTG Parker, who commanded Ft. Rucker and served as Aviation Branch Chief from January 1985 to September 1989.

A powerful new flight management computer is being prepared for integration into the U.S. Army's next-generation AH-64D Longbow Apache attack helicopter, built by **McDonnell Douglas Helicopter Systems**. The lightweight computer system, built by the **Hamilton Standard Division** of United Technologies Corporation, will be installed on the fifth Longbow Apache prototype.

The U.S. and Foreign Commercial Service (FCS) of the U.S. Department of Commerce and the Pentagon's Office of Defense Cooperation (ODC) are combining their efforts to participate in **"Eurosatory 1994"**, the largest land defense armaments show in the world. A biennial event, Eurosatory 1994 will take place at the Parc des Expositions at Le Bourget Airport, Paris, from June 20-25, 1994. More than 100 foreign country delegations will attend this exposition, which is for professionals only. Contact Michael Michaud or Mary-Jeanne Caldwell, Tel: 011-33-1-42-96-12-02, extensions 2508 or 2628. FAX: 011-33-1-42-66-48-27.

Preparations are well underway for the **U.S. National Helicopter Championships** to be held in Las Vegas, NV, 6-7 May 1994. Sanctioned and organized by the Helicopter Club of America (HCA) and Las Vegas Events, Inc., the national championships will determine which crews go to the VIII World Helicopter Championships currently scheduled for 26 August to 1 September 1994 at the Tushino Airfield, Moscow, Russia. As of this writing, seven crews have stated that they will compete in the national championships. A maximum of 22 crews will be registered for the Las Vegas event. For further information, contact: Mr. Mel Larson, 1994 USNHC Registration, c/o Las Vegas Events, Inc., 2020 East Flamingo, Suite 200, Las Vegas, NV 90119.

VOLUME 43 ARMY AVIATION NUMBER 2

## FEATURE ARTICLES



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# AMERICA'S ARMY

***A message from the Chief of Staff, U.S. Army, on the all-component force for the future.***

We are America's Army, a powerful team of teams. You know the key components: the Active Army, the Army National Guard, the Army Reserve, and Department of the Army civilians. But we are more than that. America's Army also includes families, retirees, veterans, and contractors. All combine to form a seamless whole, a mighty engine dedicated to whatever our Nation asks. All share our soldier's ideal of selfless service to America. The idea of America's Army replaces the Cold War concept we knew as the "Total Force."

America's Army has a long tradition. America's Army fought its first battles before the United States even formally existed. The honors echo across 218 years: Lexington, Concord, Bunker Hill, Ticonderoga. Patriotic Minutemen responded when called. Raw Continentals learned the drill that would allow them to stand against red-coated British regulars. Loyal citizens provided supplies, money, intelligence, labor, and moral support. Shielded by its embattled Army, America declared its independence and created a democratic government. At Yorktown, in October of 1781, Lord Cornwallis surrendered to America's Army, his stunned professionals parading away to the strains of "The World Turned Upside Down."

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teamwork between regular regiments, militia units, and loyal citizens.

That team conquered the West, turned back the Kaiser's legions in France, defeated dictators during World War II, defended freedom in Korea and Vietnam, and liberated Grenada, Panama, and Kuwait. That team stands sentinel right now in dangerous places with names like Mogadishu and Skopje, names that Americans had never heard of before now. But, of course, we had never heard of San Juan Hill, Omaha Beach, or the Ia Drang until America's Army consecrated those places with the blood of heroes.

None of that came easily. Success was not preordained, nor is it today. Traditionally, some of the strong-willed, independent Americans who have contributed so much to the common defense have also disagreed about the place of each component in the overall scheme. The active Army, the National Guard, the Reserve, the civilian work force, the families, the retirees, the veterans, the contractors from private business — all have occasionally advanced a "go it alone" policy to the detriment of the rest of the members. While that may make sense to a few, history tells us that going into action with only part of the team leads to failure.

We tried to fight in Vietnam with only part of America's Army. General Creighton Abrams and other far-sighted civilian leaders, active Army soldiers, Guardsmen, Reservists, retirees, and concerned citizens all cooperated to make certain that the next time the situation demanded it, the entire Army, the people's Army, would respond.

***"... some of the strong-willed, independent Americans who have contributed so much to the common defense have also disagreed about the place of each component in the overall scheme."***

Together, these wise people created the Total Force, the most thorough and successful active/reserve integration program to date.

The Total Force introduced the *roundout* (reserves in place of active units) and *roundup* (reserves added to reinforce active units) forces we know today. It provided strong incentives to train, equip, and man our Army Reserve and National Guard units to make them as ready as possible. The Total Force won the Cold War. It also proved versatile enough to liberate Grenada, Panama, and Kuwait, as well as to aid those suffering from hurricanes, floods, and wildfires. We strengthened the bonds between the American


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people and their Army. You see the results daily in the high regard the public has for our Army team.

America's Army builds on the rock-solid foundation of the Total Force. During the Cold War, the Total Force made a lot of sense. We knew who the enemy would be, and where we would most probably fight. And we could calculate pretty well how long the campaign might last. Accordingly, we envisioned a sequential commitment of our forces: active first, then the Guard, and finally new units built around the Reserves.

Today, the Cold War is over. We are working without that familiar script. We do have a plan, and the plan is working. All components are smaller. Interestingly, though, the Nation's requirements for us have been increasing. The demands of peace are very great. Even as we downsize America's Army, our missions have gone up 300% over the last two years.

The message is clear. In light of the rising demands of peace, we cannot afford to have any of our talent sitting on the bench. When our Nation calls, the people expect a decisive, overwhelming response. They expect victory.

America's Army will give them victory. In America's Army, we all go in together. We don't leave any talent behind. In October 1993, I announced that the Army will raise an all-component battalion task force to carry out the six month peacekeeping mission in the Sinai. The details have yet to be finalized, but we are looking at a mix of about 20% active troops and 80% reservists. That battalion reflects the wave of the future, a contemporary successor to the 1917 "Rainbow" Division that stretched its recruiting effort across America and brought victory in the Great War.

Even as we reshape our force to carry out today's missions, we must maintain a base for future expansion. We cannot predict the exact size of our Army in 1998, 2003, or 2008, but we can be sure that it will have to expand at some point in the future. America's Army provides for that, while at the same time prioritizing resources for early-deploying forces and individuals.

All of this will take teamwork among all the members of America's Army. Being part of America's Army means signing up for that teamwork, for a life of hardship, ambiguity, and danger. It was the same at Valley Forge, at Camp Kilmer, and at King Khalid Military City. As the soldier privileged to serve as the Chief of Staff of America's Army, I recognize your sacrifices, and thank you for them. Together, we have the strength to meet and surmount any challenge tomorrow will bring. Together, we are moving into the 21st century. We are America's Army. Count on us.

★★

*GEN Sullivan is the Chief of Staff, U.S. Army, Washington, D.C.*

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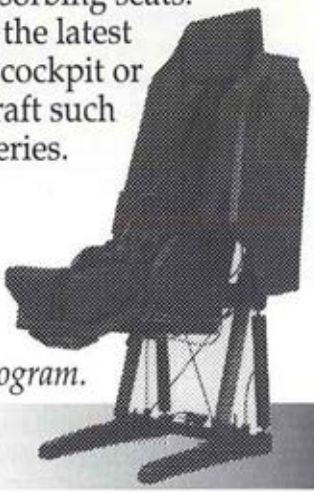

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# AVIATION TECHNOLOGY FOR THE 21ST CENTURY

***AMC reviews its impact on present and future systems.***

*Shrouded by the early morning darkness, the RAH-66 Comanche is undetected as it crosses through enemy territory. As it approaches the objective, advanced integrated sensors and processors quickly identify the target. A near-instant digital exchange with friendly forces updates the situational awareness display. A Longbow Hellfire missile is soon launched to seek out and destroy its target. The mission complete, the Comanche banks left and moves out; there's more work to be done.*

No one who has seen video tapes of the early engagements between U.S. Army aircraft and Iraqi radar installations during Operation DESERT STORM can fail to grasp the triumph of technology on the modern battlefield. Viewers can not help but feel compassion for the Iraqi soldiers who raced about in surprise and confusion as their world erupted around them.

But technical advantage is a fleeting state. Its use discloses its existence to opposing forces and invites immediate countermeasure development. Our forces must then develop the next step on the technology ladder. U.S. Army Aviation activities are doing exactly that on a number of fronts to guarantee U.S. preeminence on any future battlefield.

The Army Materiel Command (AMC) is committed to focusing on technologies that will directly impact on the Army's capabilities for the 21st Century. This commitment has been incorporated as a critical

part of our strategic vision so that AMC will remain "The leader in equipping and sustaining America's Army through superior technology and responsive support assuring world wide power projection and decisive victory".

AMC's technology programs, a key part of our critical long range initiatives, are structured to support both the Army's modernization objectives and to insure that AMC resources remain focused on the right technologies to retain future land force dominance. Our thrust is to identify and develop those technologies that will be available for fielding in the year 2000, that will provide future commanders with a significant increase in lethality using smaller but more capable forces.

***"The power of the microchip and the microprocessor will provide the Army with a quantum leap into the 21st century."***

History provides many examples where technology has had a decisive impact. Our own Civil War is a case in point. During Sherman's famous March to the Sea, a brigade of the Union 15th Corps was attacked by a Confederate division under the command of General G.W. Smith. Union fire was so rapid and intense that Smith's division was quickly defeated. Many years later, General Smith continued to argue that he had been up against a full Union division. This Union brigade--equipped with leap ahead technology, Spencer repeating rifles--had made the difference.

Today, we stand at the dawn of another explosion in military technology. The power of the microchip and the microprocessor will provide the Army with a quantum leap into the 21st Century. Now more than ever, the relative size of a military force is becoming far less important than the level of technology in the hands of well-trained and well-led soldiers.

AMC manages its aviation technology programs through the Aviation and Troop Command (ATCOM) and its Aviation Research, Development and Engineering Center (AVRDEC), the AMC-lead RDEC for aviation technology.

AVRDEC and the Program Executive Office, Aviation are developing a number of enhancements to improve the performance of the Apache helicopter that will extend its usefulness well into the 21st century; for example, addition of Longbow MMW radar technology. The Longbow Apache with

the Hellfire Modular Missile System and the new Fire Control Radar will achieve First Unit Equipped (FUE) in June 1997.

- The Fire Control Radar provides automated target detection, classification and prioritization. It also can detect emitting targets by using a radio frequency interferometer that will improve situational awareness through secure voice and digital burst exchanges to both air and ground.
- Longbow allows the Apache, through the mast-mounted location of these sensors, to take advantage of terrain masking. In addition, Longbow automatically prioritizes targeting data and passes it to the Hellfire Modular Missile System.
- The Apache cockpit has been redesigned to reduce pilot workload and increase effectiveness.

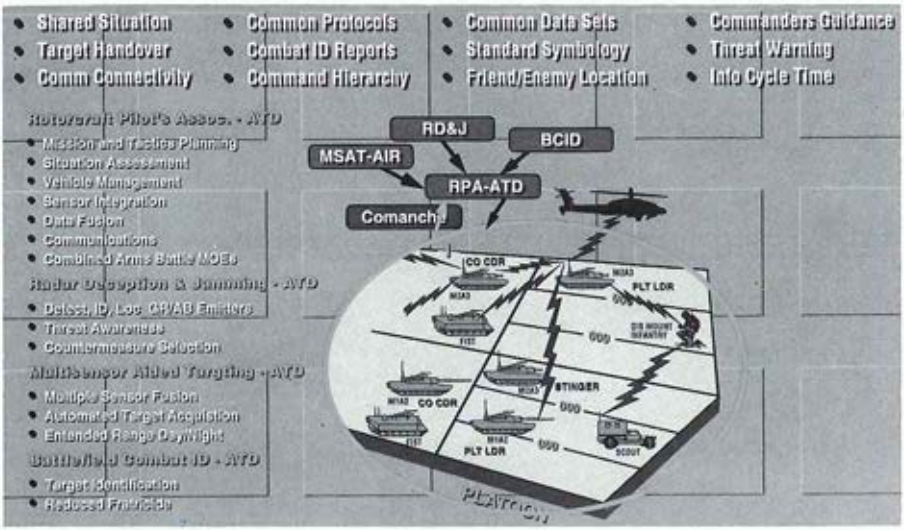
The newest and most advanced armed scout helicopter under development is the RAH-66 Comanche, scheduled for FUE in November 2003. Capitalizing on an array of technology developments, the Comanche and its fully integrated mission equipment will provide the commander with an unparalleled level of situational awareness and combat capability. Low radar, infrared, aural, and visual signatures will allow the Comanche to acquire vital tactical information without detection. It will also have a unique ability to fly and fight at night using advanced FLIR, radar, and image intensification sensors. Comanche's weapons systems will include the Stinger and 20mm nose-mounted gun to provide an air-to-air capability, as well as laser Hellfire and Longbow Hellfire missiles for engaging hard point targets. Comanche is designed to operate in a wide range of environments, conduct combat operations around the clock, and defeat any known or projected threat in the 21st Century.

Aviation technology will also provide tremendous improvements in command and control for directing the combined arms team.

Exploiting the latest microelectronic technology to reduce space, weight, and power, while increasing capability, the Army Aviation Command and Control system will allow both ground maneuver and aviation commanders to keep pace with a fluid digitized battlefield. The combination of real-time data, current intelligence, situational awareness and a feel for the operational tempo, will provide the commander the ability to make more timely and accurate decisions.

To ensure we maintain superiority against any threat, the Army relies on a robust technology base outlined in the Army Science and Technology Master Plan, which

# AVIATION ATD INTEGRATION TECHNICAL/OPERATIONAL ISSUES




The concept of the digital battlefield requires ATDs. Depicted here are four on-going key ATDS that are essential to the future capabilities of Army Aviation (Comanche) in the area of sensors, targeting, protection, pilotage, and decision aids.
MSAT-AIR — Multi-Sensor Aided Targeting-Air
RD&J — Radar Deception and Jamming
BCID — Battlefield Combat Identification
RPA — Rotorcraft Pilot's Associate

**Figure 1**

describes the Army's strategic vision along with goals and objectives for maintaining continuous modernization of the force.

The Science and Technology Master Plan recognizes the tremendous potential for aviation forces to enhance battlefield operating systems. This can be seen through the number of aviation-related science and technology objectives (STOs) and Advanced Technology Demonstrations (ATDs) included in the plan.

What follows is a snapshot of future new aviation-related technologies that will enable the Army to meet the challenges expected on battlefields of the future.

Multi-Sensor Aided Targeting (MSAT) (Figure 1) is a technology that will make a major contribution to battlefield superiority. Under the direction of AMC's Communication-Electronics Command (CECOM), the MSAT-AIR ATD will demonstrate multiple sensors performing automated target acquisition. The demonstration will be a realtime, fully-operational emulation

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of the RAH-66 target acquisition system evaluated under simulated battlefield conditions. The system will process target features from various sensors such as second generation thermal imager, millimeter wave (MMW) radar, laser radar and other devices to establish the optimal combination of sensors to meet the aided target recognition requirements of aviation weapons systems.

MSAT-AIR technology is scheduled for transition to the RAH-66 Comanche aircraft that incorporate the Longbow radar. Use on the Apache is a pre-planned product improvement requiring addition of second generation forward looking infrared (FLIR) and the MSAT high speed processor. The combination of target features collected in the separate FLIR and Longbow radar bands is expected to provide a much higher probability of correctly classifying targets on the high intensity battlefield of the future.

***"The combination of target features collected in the separate FLIR and Longbow radar bands is expected to provide a much higher probability of correctly classifying targets."***

The Combined Arms Command and Control ATD currently under development will make key contributions to digitizing the battlefield by addressing horizontal integration of command and control functions at brigade level and below. This ATD will demonstrate concepts for improved situational awareness, target hand over, data base distribution, and integration with Combat Identification.

Aviation capability will also be enhanced through the Battlefield Combat Identification System (BCIS) ATD. In conjunction with the related Combined Arms Command and Control ATD, BCIS will demonstrate point of engagement target identification techniques, support situational awareness displays, and minimize fratricide during ground-to-ground and air-to-ground engagements.

CECOM is currently developing other advanced aviation technologies. For example, the Radar Deception and Jamming (RD&J) ATD will demonstrate an airborne system that will detect, identify, and locate both ground and airborne radio frequency emitters. The system will also provide real time threat awareness and aid countermeasure selection.

The MSAT-AIR, RD&J and BCIS products will be further integrated into the Rotorcraft Pilot's Associate (RPA) ATD. RPA will develop and demonstrate cognitive

decision-aiding expert systems, data fusion algorithms and processing, and advanced mission equipment to collect and use vast amounts of battlefield information to improve man/machine effectiveness. It will also improve the quality and timeliness of information that can be distributed to the rest of the combined arms team.

ATCOM's other RDECs are pursuing aviation-related systems. The Belvoir RDEC is developing the Airborne Standoff Minefield Detection System that will provide automatic target recognition of minefields and disseminate information to maneuver commanders. The Edgewood RDEC as part of the Chemical Biological Defense Command (CBDCOM) is developing a similar capability for standoff detection of chemical and biological agents.

The Natick RDEC is developing the Advanced Precision Airborne Delivery System — a high-altitude offset cargo airdrop system that can deliver 21-ton gross weight loads with precision guidance and soft landing. An ultra-large gliding parachute system will deliver loads from up to 25,000 feet with automatic navigation using a global positioning satellite signal for increased accuracy. An altitude sensor will initiate a flared landing maneuver to minimize the ground impact velocity.

Improved payload and aircraft survivability will enhance the commander's ability to insert combat-essential payloads onto the battlefield. The reduced impact velocities will expand the inventory of air-droppable equipment, thus improving combat flexibility and capability. This system will also provide just-in-time resupply of rapidly moving combat forces.

The great victory in DESERT STORM was made possible by well-trained, well-led soldiers with the world's finest equipment. Just as AMC brought forward the technology that allowed decisive victory in the Persian Gulf, we are now bringing forth technologies for the decisive victories of the next century.

In this period of uncertainty, one simple truth stands out: the Army of the 21st century will be markedly different from the Army of today. Tomorrow's battlefield will be characterized by smaller, more mobile and more lethal forces operating over vastly increased distances. Bringing decisive force to this future battlefield will require the effective integration of critical leap-ahead technologies into our battlefield operating systems to overmatch any potential adversary. Army aviation will make significant contributions to all of the Army's modernization objectives and will play a key role in maintaining military technical superiority in the future.

★★

*GEN Ross was Commanding General, Army Materiel Command, Alexandria, VA at the time this article was written.*

# LOGISTICS UNDER THE AVIATION RESTRUCTURE INITIATIVE

As Aviation Branch Chief, one of my primary responsibilities is to execute a well-coordinated transition to a smaller, efficient, and affordable aviation force to support a CONUS-based, power-projection Army. The Aviation Restructure Initiative (ARI) is our vehicle for doing that. ARI has been getting a lot of recent press from the operational perspective. This article focuses on the logistics support initiatives needed to support ARI.

***How the Army of Excellence AVUMs and AVIMs can be strengthened under ARI.***

The Army of Excellence (AOE) restructure in the mid-1980s enhanced the combined arms role of Aviation. Unfortunately, it was resourced about 65% of required manning. Personnel strength caps in the Aviation maintenance L-series TOEs left AVUM and AVIM units with insufficient maintainers to sustain the force.

During this time of downsizing, increasing personnel authorizations were not a viable option; the force required substantial restructure. In view of this, ARI approaches the "fix" to the problem by adopting a homogenous structure philosophy. Units previously with two or more type aircraft were restructured so only one type aircraft was in the unit. This permitted a more efficient allocation of spaces to unit and intermediate level maintenance. In short, the personnel shortages were covered by the reallocation of existing end strength.

Along with this restructuring effort, a divestiture plan to remove the older aircraft systems began. The

aircraft targeted were those in which we do not intend to fight. These airframes generally have inordinately high operating and support costs. The ARI planned divestiture will save millions of dollars annually. The subsequent pure-fleeting that will occur in the attack battalions, cavalry squadrons and assault units will allow for better continuity of support from within the logistics system.

Using 1987 as the base year, ARI reduces the rotary wing fleet by almost 50%. By comparing FY 95 AOE aircraft inventory and personnel strength to ARI aircraft inventory and personnel strength through FY 00, a 23.5% reduction of aircraft is achieved. Personnel strength, however, diminishes by only 3.5%.

A specific example of this is in the AH-64 Attack Battalion, where the ratio of maintainers per aircraft increases from 5.7 under AOE to 7.1 under ARI. Gains were achieved by retiring aircraft while retaining their associated operators, maintainers, and overhead.

Aviation and Aviation maintenance units organized under new ARI TOEs will be resourced to 100 percent of the authorized requirement. Thus, ARI will place approximately 7,000 personnel back into the logistics side of the mission equation. Units will see improvements that enhance the maintenance teams, such as a second crew chief for the Black Hawk, which will also provide another set of eyes for NVG and other high stress missions.

Each of the heavy divisions will have an Aviation Support Battalion (ASB) consisting of a Headquarters and Supply Company, Ground Maintenance Company, and AVIM Company. Like the Forward Support Battalion for the ground maneuver brigade, the ASB will provide dedicated support to the Aviation brigade.

The concept was employed in Operation DESERT STORM as the Forward Support Battalion-Aviation (FSB-A), and was highly successful. The FSB-A structure will transition to the ASB design with the fielding of FM 63-23, *Aviation Support Battalion*, scheduled for publication in 2QTR, FY94.

In addition to dedicated multifunctional support, the ASB will see Class III/V FARP operations sufficiently manned, and operational units will see substantial increases in the number of assigned wheeled vehicle maintainers.

With the modernization of our fleet towards more complex and sophisticated aircraft, we have responsibility to provide aircraft maintainers trained to a higher skill level and sufficiently experienced to sustain them. Our "Stripes on the Flight Line" ini-

tiative intends to meet this challenge.

This initiative places experienced mechanics on the flightline and allows them to remain there, fixing aircraft and training/mentoring young mechanics, while maintaining competitiveness for promotion.

Finally, ARI addresses issues peculiar to AOE-designed AVUM and AVIM units. ARI eliminates doctrinal passback maintenance. Doctrinal passback maintenance is an AOE design philosophy that mandates a specific corps-to-division alignment for the purpose of quantifying maintenance that is to be passed from division AVIMs to their supporting Corps AVIM battalions.

Because divisional passback maintenance is integrated into the Corps AVIM battalion workload, the specific division-to-corps alignment cannot be fought in alternate configurations without risk of serious inconsistencies in manpower and equipment requirements. The inherent lack of flexibility in AOE AVIM design is not consistent with the needs of CONUS-based, power-projection force.

As previously noted, ARI AVIM units at all levels are designed and resourced to support 100% of their respective aircraft workloads. "Displaced" and "excess passback" maintenance — terms synonymous with AOE designed units — will not apply to ARI designed units.

ARI AVIM TOE formats will include sufficient guidance and definition to assist commanders in defining personnel and equipment requirements. There will be increases in low density MOSs and equipment to better support modularity for task organization, split base operations, and operations other than war (OOTW).

Considering the foregoing, the Aviation Restructure Initiative is the impetus for major improvements in logistical support to the aviation brigade. As units transition to their ARI MTOE designs, the majority of the AOE deficiencies inherent to current designs will become only a distant memory.

★★

*MG Robinson is Chief, Aviation Branch and Commanding General, U.S. Army Aviation Center (USAAVNC) and Ft. Rucker, AL and Commandant, U.S. Army Aviation Logistics School.*

## AAAA CONVENTION FORUMS

This year's convention will again feature question and answer forums. There will be three panels: Acquisition, Logistics, and Operations/Training. Each will be held on Saturday, 23 April, from 0900-1200.

The Operations/Training Forum will focus on the Aviation Restructure Initiative. Discussion and your questions should focus on warfighting, doctrine, training, organization, personnel, and equipment issues. This is a good opportunity to ask questions on these and other aviation subjects.

# ARMY AVIATION'S LEADERS

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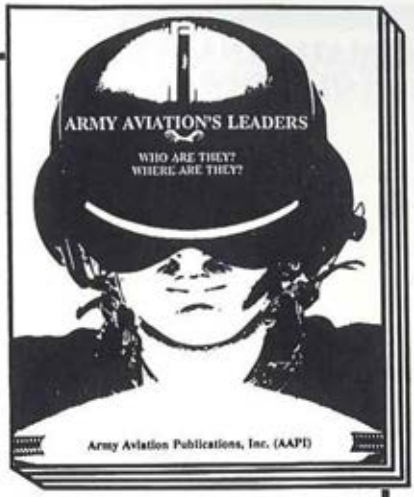
## WHERE ARE THEY?




*An original compilation of over 600 organizations in which U.S. Army Aviation personnel serve in key positions and the parent organizations to which these organizations report. Updated biannually, the compilation features alphabetical and geographic indexes of the organizations; an alphabetical listing of each organization including mailing address and key personnel; charts showing the reporting relationships of each organization; a telephone directory of all key personnel; and a listing of common acronyms.*

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BY MG JOHN S. COWINGS

# ATCOM'S OMBUDSMAN PROGRAM

The U.S. Army Aviation and Troop Command (ATCOM) has rejuvenated its Ombudsman Program into a very proactive program to facilitate communications and cooperation with industry. The program's prime objective is to improve the way ATCOM communicates and does business with industry. Our Ombudsman Program has been active now for several months, and so far has proven to be very successful.

***A program that promises to facilitate cooperation with industry.***

Mr. David F. Seitz has been chartered as the Command's Ombudsman. His prime responsibility is to assist individuals and contractors who present complaints or requests for assistance in resolving problems with the Command expeditiously and equitably in order to improve the overall acquisition process. As the Ombudsman, Mr. Seitz acts as my special assistant, reporting daily to me on his activities as Ombudsman. I personally review all recorded cases handled by the Ombudsman, sitting down with Mr. Seitz on a regular basis to discuss them in depth. This greatly helps me in better knowing your company and your concerns.

Mr. Seitz serves as an independent senior Government official of ATCOM providing an alternative for addressing and promptly resolving individual or contractor concerns when such concerns are not satisfactorily resolved through existing channels. Mr. Seitz has the authority to address independently or to call on other resources to resolve inquiries or concerns. This includes the authority to review or

**(OMBUDSMAN — cont. on p 67)**

BY COL SAMUEL L. KINDRED AND MAJ JAMES P. McGAUGHEY, IV

# AVIATION RESTRUCTURE INITIATIVE: CRACKING THE RICE BOWLS

***The Aviation Logistics Office's perspective on applying ARI across the services.***

Army Aviation has undertaken a restructuring initiative that will revolutionize the way the Army will support rotary wing (R/W) operations in the future and in the process directly impact joint warfighting doctrine.

The Aviation Restructure Initiative (ARI) will reduce logistics requirements by retiring old aircraft, "pure fleeting" existing units around a core of aircraft (i.e., the AH-64, UH-60, CH-47, OH-58D and the RAH-66), and resourcing units to their full manpower authorizations. The ultimate objective of ARI is to achieve a fightable and sustainable aviation force while remaining within the current personnel and equipment resource "boxes." We feel that the successful execution of ARI will serve as a catalyst for similar processes throughout DoD.

As the Services struggle to reduce their force structure to accommodate the changing threat environment they will be doing so with a new vision for R/W aviation. The requirement for R/W aviation and its multifunctional capabilities will not lessen in the foreseeable future despite the contraints established by the budget reductions. Already there is less equipment, less personnel, and less money yet, despite the reductions there are at least as many claimants for the available resources.

The future role of any R/W aircraft will be directly linked to capability of the actual airframe (or platform) to accommodate the multiple mis-

sion configurations necessary to support the joint warfighting environment.

If DoD is to accommodate the strategic vision of joint warfighting, a greater effort must be made to develop a more fightable, sustainable, and affordable R/W fleet. To accomplish that, the services must focus on the requirements of the Armed Forces as a whole and redesign their R/W fleets utilizing a small number of core platforms that are capable of performing basic R/W tasks (i.e., attack, reconnaissance, external lift and transport). To achieve that compatibility and versatility in the future, five core airframes would probably be sufficient to meet the general R/W mission requirements of all services.

***"...the responsibility for fighting the force clearly rests with the CINC but the requirements for supporting that force are still cloudy."***

The RAH-66 (reconnaissance), the H-60 (general support/transport), the CH-47 and CH-53 (medium lift) and the AH-64 (attack) will provide a viable core for the future. Of course, the peculiar mission requirements for seaborne operations, search and rescue, electronic warfare, anti-submarine warfare, special operations, etc., would have to be accommodated with external or internal modifications to the core airframes.

There are other reasons to pursue a restructuring of the DoD R/W fleet. For example, Joint Publication 0-2 *Unified Action Armed Forces*, establishes that the services have the responsibility to man, equip, train, and sustain their forces. To ensure readiness, the services may sustain their forces, e.g., R/W aircraft, through four different methods; cross service support, common service support, joint service support, and single service support.

- **Cross Servicing** — an operation where one Service support another service's equipment on a reimbursable basis;
- **Common Servicing** — an operation where one service provides support to another on a non-reimbursable basis
- **Joint Servicing** — an operation in which a jointly staffed and funded organization is supporting two or more of the services;
- **Single Servicing** — each service provides its own support.

Within Army Aviation we are increasing efforts to provide for joint support of contingency operations, depot maintenance and training.

Additionally, according to Joint

## U.S. HELICOPTERS MISSION/SERVICE

| Aircraft | Army | Navy | USAF | USMC | Series |
|---|---|---|---|---|---|
| AH-64 | ATK | | | | -A/C/D |
| AH-1 | ATK | | | ATK | -F/G/J/S/W |
| OH-6 | SOF, ATK, OBSN | | | | AH |
| CH-3 | | GEN SPT | SAR, SOF | VIP TPT | VH/MH/SH/-E/D |
| CH-46 | | TRNG, LIFT | | TPT, LIFT | -A/D/E |
| CH-47 | LIFT, SOF, TPT | | | | -A/B/C/D/E/MH/BV |
| CH-53 | | SOF, MCM, LIFT, ASW | SAR,SOF | LIFT, TPT | -A/D/E/J/MH/RH |
| UH-60 | LIFT, TPT, EW, SOF, ECM, C&C | ASW, TPT, LIFT | SAR, SOF | VIP, MED | -A/B/G/L/EH/UH/SH/VH/MH |
| UH-1 | GEN SPT | | SAR, SOF | C&C, TPT | -H/L/N |
| OH-58 | OBSN, RECON, C&C, TRNG | | | | -A/C/D/ARMED |
| SH2F | | ASW | | | — |
| TH-57 | TRNG | | | | |
| RAH-66 | ATK, OBSN | | | | |

— LEGEND —

SOF = SPECIAL OPS
LIFT = MED/HVY LIFT
EW = ELECTRONIC WARFARE
C&C = COMMAND AND CONTROL
ATK = ARMED ATTACK
SAR = SEARCH AND RESCUE
TPT = TROOP TRANSPORT
OBSN = OBSERVATION
RECON = RECONNAISSANCE
ASSLT = AIR ASSAULT OPNS
ECM = ELEC COUNTER MEASURES
TRNG = TRAINING
MCM = MINE COUNTERMEASURES
ASW = ANTI SURFACE WARFARE

**Figure 1**

Publication 4-0, *Doctrine for Logistic Support of Joint Operations,* "Under conditions short of crisis or war, CINCs are authorized to exercise directive authority over logistics operations within their areas of responsibility.

This authority is designed to ensure effective execution, provide efficiency and economy in operations, and prevent or eliminate unnecessary duplication of resources, facilities and overlapping functions of component commands."

By itself the authority given to the CINC appears to transcend past the parochialism that was endemic in joint operations by encouraging the assignment of responsibilities and missions on a "functional basis" rather than a Service basis. Joint PUB 4-0 also allows the CINC to, "... use all necessary facilities and logistic resources, to include the transfer of logistics functions between or among the service components within the AOR, to accomplish the mission under wartime or crisis conditions."

Within these general guidelines, the responsibility for fighting the force clearly rests with the CINC but the requirements for supporting that force are still cloudy. The challenge is significantly increased when we realize that the CINC has to contend with the potential of employing, supporting and sustaining 50 versions of 12 different

R/W aircraft. Any previous flexibility the DoD tried to accommodate was derailed by individual services' parochial "wants", with regard to development and sustainment will become more and more constrained and focused on "needs" as reductions in force structure and budgets are implemented.

With the reduced budgets, the services must reach an agreement between what structure creates the most acceptable balance between cost efficiency and operational effectiveness. The Army has established the foundation for such an agreement with ARI, which when used as a model for DoD will benefit the CINCs with the same types of savings envisioned for Army Aviation.

***"Expanding the scope of ARI Service wide will require a recognition that there must be changes in training and adjustments to service doctrines."***

Under ARI, as the number of types of airframes are reduced, a number of critical components of the R/W support infrastructure will be affected. The Army will see a decline in the scope of our supply inventories simply because the number and type of aircraft supported will decrease. However, the full benefit of the restructuring will not be felt until current aircraft have been phased out of the total force (Active and Reserve Components). The reduction in inventories will impact not only procurement actions, but also storage and evacuation requirements.

Included in the issue of inventory management is the requirement for the services to maintain replacement aircraft in the event one or more are lost due to combat or accident. Each one of the 50 versions of R/W aircraft within the DoD inventory require special training to fly or support. Each version may also require specialized tools or test equipment to maintain. As a result there is very little flexibility within today's force structure to conduct joint maintenance operations.

Additionally, replacement aircraft frequently are incompatible with existing fleets because they are either older models or are not the same mission configuration as other aircraft being supported by the unit. Replacement aircraft, like pre-positioned equipment, have more value if they are adaptable to more than one service's mission requirements.

The operational infrastructure would also be positively impacted with an expanded, DoD version of ARI. A core of compatible plat-

forms will allow the warfighting CINC to designate one Service with the basic maintenance responsibility for joint operations (with limited service-peculiar augmentation). Maximizing the utilization of redundant capabilities would not only reduce the logistics footprint, it would also result in a significant reduction in mobility requirements for limited airlift and sealift assets.

The core approach within ARI will provide the Army and the services with an inherently joint approach to develop tomorrow's R/W fleet based on capabilities while accommodating critical service interests. Expanding the scope of ARI service wide will require a recognition that there must be changes in training and adjustments to service doctrines. Nevertheless, the real issue is not about doctrine. It is not about revising roles and missions. The real issue is determining a new strategic vision for warfighting that will institutionalize economy and efficiency while maintaining combat effectiveness. The core approach of ARI offers one solution. However, expanding the process to DoD will definitely involve cracking a few rice bowls.

★★


*COL Kindred was Chief, Aviation Logistics Office, ODCSLOG, HQDA, Washington, D.C. at the time this article was written.*

*MAJ McGaughey is Aviation Management Officer, Aviation Logistics Office, ODCSLOG, HQDA, Washington, D.C.*

BY DANIEL J. RUBERY

# THE PROCESS FOR JOINT SERVICE COOPERATION

The recent military budgets and projected available resources have reflected the advent of a changing threat environment in Europe and around the world. One of the consequences of reduced resources has been to look for ways of getting more out of what we have, so that our military readiness does not suffer.

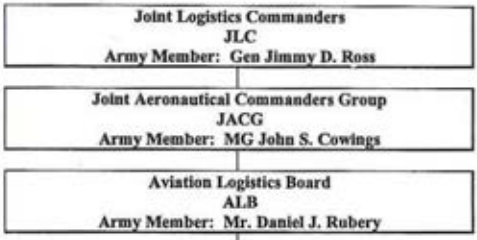
***Joint solutions to logistics problems are on the way.***

For many years the military services have attempted to share with one another information, capabilities, facilities, and equipment. The process has often been fraught with problems and difficulties. However, in Defense Department circles, the 1990s may become known as the joint service program era.

New emphasis has been placed on the process for maintaining our military readiness through joint service cooperation. The Aviation Logistics Board (ALB) represents this new emphasis in the aviation community.

The ALB's purpose is to identify and develop cost effective processes that ensure combat effectiveness through joint logistics initiatives. Its objective is to seek out and develop process improvements in the areas of depot support and the acquisition and management of logistics support resources.

The ALB will oversee and provide guidance to joint service subgroups that have been formed to look at specific areas with high potential for process improvement. The ALB membership includes representatives from the Army, Navy, Air Force, Defense Logistics Agency, Coast Guard, and the Aerospace Industries Association.

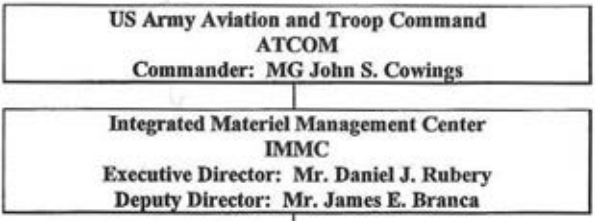



| Subgroup: | Army Member: |
|---|---|
| Aviation Inventory Reduction Subgroup | Lynn J. Allen, AMSAT-I-SP, Directorate for Materiel Mgt |
| Depot Concepts Subgroup | John E. McClure, AMSAT-I-SB, Directorate for Materiel Mgt |
| Common Metrics Subgroup | Donald T. Finnegan, AMSAT-I-B, Business Managment Office |
| Integrated Logistics Support Subgroup | John K. Gillispie, AMSAT-I-F, Force Mod/ILS Office |
| Logistics Commercial Survey Subgroup | JW Dean, SFAE-AV-BH-L, Utility Helicopter Proj Mgr Office |
| Operating and Support Cost Subgroup | Brad Miller, AMSAT-R-N, Directorate for Advanced Systems |
| Training Subgroup | Will Zinn, ATSQ-LTD-P, Aviation Logistics School, Ft. Eustis, VA |

Operating under the authority of the Joint Aeronautical Commanders Group (JACG), the ALB has established seven joint service subgroups to look at specific high potential areas for improvement in cooperative efforts. The U.S. Army Aviation and Troop Command plays important roles in the JACG, ALB and the subgroups as can be seen from the organization charts. The lead service for the individual organizations will alternate annually among the services represented.

The subgroups will identify opportunities to enhance logistics supportability/commonality; understand differences in business practices and processes that are barriers to commonality; and develop common processes/modification of processes for review by the ALB. The subgroups will recommend implementation actions to the ALB.

The Depot Concept Subgroup, using the case study approach, has been studying similar depot level programs across services. The purpose of the Subgroup is to identify, analyze, and support common depot level processes that meet the needs of the multiple service aviation community and reduce operating and support costs while maintaining required levels of operational readiness. They are currently looking at the H-60 helicopter and the F-14/15 aircraft programs. The process investigates and capitalizes on




| Key Personnel | |
|---|---|
| Directorate/Office: | Director/Office Chief: |
| Business Management Office | Mr. Gary L. Fryman, Chief |
| Force Mod/Integrated Logistics Support | Mr. John K. Gillispie, Chief |
| International Logistics | Mr. Donald L. Platt, Director<br>LTC Charles G. Cole, Deputy Dir |
| Logistics Operations | Mr. Calvert Worth, Director<br>LTC Keith R. Gordon, Deputy Dir |
| Maintenance | Col James J. Bennett, Director<br>Mr. Daniel H. Kruvand, Deputy Dir |
| Materiel Management | Col Bruce R. Gardner, Director<br>Mr. Charles C. Trendley, Deputy Dir |

efforts by all organizations. One area of study has been the comparison of TEAM HAWK efforts with the focus on the Depot Subgroup, specifically on the H-60. Among other efforts, the team will identify commonality in management and engineering processes. Recommendations will be forthcoming to improve processes, to share processes, and for joint service use of common data and publications.

The Integrated Logistics Support (ILS) Subgroup was formed to promote joint integrated logistics between the services to eliminate impediments, reduce duplication, exploit common procedures and promote standardization. The Subgroup has developed several focus areas for study. As the potential for savings have surfaced in these focus areas, separate working groups have been chartered to fully develop the process to assure success. There are currently working groups on Logistics Support Analysis Record (LSAR), Logistics Planning and Simplification System (LOGPARS), and modeling.

The LSAR Working Group's objective is to standardize Joint Service architecture. That architecture must be compatible with the Joint Logistics System Center and the Joint Computer-aided Acquisition and Logistics Support. Logistics Support Analysis (LSA) encompasses all logistics information documented

during the development and acquisition of equipment.

The LOGPARS Working Group will look at standard aeronautical modules for joint service standardization. LOGPARS is an expert system designed to assist in the thought process and knowledge required to develop the support strategy for new weapon system acquisitions.

The Modeling Working Group will look at the large number of automated models independently reported, maintained, and used to capture, store, and manipulate data which directly or indirectly effect logistics support. These models are used in the decision process for such areas as technology insertion, alternative support concepts, procurement options, supply and maintenance concepts, improving customer support, operating and support cost reductions, and inventory investment strategies. The Work Group will identify these on-going efforts, categorize them, identify opportunities for jointness, and define standards for non-proliferation.

The Training Subgroup was broken away from the ILS Subgroup to add emphasis to the issues being studied. Team members monitor and coordinate with other organizations focusing on training. The Subgroup has worked with the Interservice Training Review Organization, which is already considering common Basic Jet Engine Training.

The Logistics Commercial Survey Subgroup has visited eleven major defense contractors. The Subgroup identified, through a survey questionnaire with industry sources, areas for process improvements in joint service logistics acquisition. The subgroup analyzed data and recommended potential areas for greatest improvements and cost savings for both the near and long term.

Some of the issues included the Federal Acquisition Regulation ambiguity, transfer of products between divisions of the prime contractor; impact of changing maintenance concept on joint/foreign military sales customers; incorporation of the supportability design requirements into the system specifications; standardized training program requirements; LSAR data to satisfy contract ILS delivery requirements; lack of a standard maintenance data collection system; level of repair/life cycle cost models; and lack of adequate post production support analysis. Recommendations were made to the ALB and feedback to industry sources was provided.

The Aviation Inventory Reduction Subgroup will concentrate not just on the "reduction" of inventory, but on ways to "optimize" its management. The Aviation Subgroup will coordinate with the

Inventory Reduction Subgroup (chartered by the Joint Inventory Management Group under the Joint Logistics Commanders). Many topics were nominated for study. Depot inventory will be the first focus. That topic will be followed by impact of modifications, provisioning like systems, commercialization, and parts conservation.

The O&S Cost Subgroup plans to define life cycle cost elements for joint service; identify sources of data that trap O&S costs; determine criteria for access to existing data (accuracy and currency); initiate methods to develop a database; and means to maintain the database.

Issues which the Subgroup will address are: O&S cost data available; application of consistent nomenclature and element vocabulary; and standardized format and vocabulary required for baseline comparison.

The Common Metrics Subgroup goals include the following: Define and enumerate aviation logistics measurements within each service; examine the usefulness of existing measures for each service; establish common measures acceptable to all services; and implement use of common measures across service lines. The Subgroup will focus on readiness/supportability/affordability, common terms, logistics performance analysis, logistics element measurement, and joint management systems. The categories to be investigated include materiel (wholesale and retail); maintenance (organizational, intermediate, and depot); acquisition logistics (major modifications/warranties); and relationships between the categories.

***"The payoff will be ... the best support possible for the soldier in the field."***

Information, recommendations, and actions from the efforts of these various subgroups are briefed at the ALB. The ALB in turn provides its own findings to the JACG for its consideration. The whole process is results-oriented and is becoming a highly disciplined effort. The payoff will be maximum utilization of information/data, improved capability as a joint military force, efficient use of facilities and equipment, and the best support possible for the soldier in the field.

★★

*Mr. Rubery is the Army representative to the Aviation Logistics Board and Executive Director, Integrated Materiel Management Center, U.S. Army Aviation and Troop Command, St. Louis, MO.*

BY COL GREGORY T. JOHNSON AND CW4 CHARLES M. EARWOOD

# PRO-ACTIVE VS. RE-ACTIVE MAINTENANCE

**The former 11th Aviation Brigade Commander and BAMO provide extensive maintenance tips.**

*During the past year and a half (since the post DESERT STORM recovery period) the 11th Aviation Brigade and all its subordinate units have experienced phenomenal Apache readiness rates. Our rates are consistently 10-15% above the other USAREUR brigades, and 5-10% above Department of the Army averages. Outsiders continually ask "What are you doing differently that results in your success?" That's a good question, yet one that has no short, easy answer.*

*I don't know what other units "do" so I'm not sure we "do" anything different. We endeavor for pro-active aviation maintenance that provides quality aircraft in the numbers and with the necessary hours to support our training and contingency requirements.*

*I've asked the guy who supervises the program on a day-to-day basis to attempt to explain in more detail what we mean by proactive maintenance management versus reactive maintenance. Read on!*

The Brigade Aircraft Maintenance Office (BAMO) — the staff element at brigade that constantly wants more information. Is this the way you perceive your BAMO? If so, something is wrong!

This is the way I perceived our brigade BAMO when I was the Production Control (PC) Officer of one of our battalions. When I was brought up to the brigade to do the job myself I made up my mind that I would not run things that way. I'm a customer oriented kind of guy, and as such I viewed the battalions as

being my customers. This view obligated me to provide a service.

What kind of service could I provide? In reality, a good Spec 4 can collect status reports and report the news. I wanted to *make* the news!

I decided that the easiest way to do this was to fall back on past experience and do this job the same way I've done others.

- **Start with organization.** The first order of business was to establish who I was with the battalions and what authority I should be viewed as having. The brigade commander solved this early in the game by telling the battalion commanders that I was authorized to speak for him in matters relating to aircraft maintenance. This filtered down to the maintainers as an indicator that I was not just another pretty face. I had the authority to develop and execute plans.

- **Establish communications channels.** The next step was to eliminate communication errors. To accomplish this I established myself as the focal point of all communications with outside agencies. The battalions must talk directly with elements that provide them direct support. They have a daily need to communicate with their AVIM, SSA and LAO. They do not need to talk with the Corps or Theater support agencies.

- **View the past with an eye to the future.** What was the past performance of the brigade and where did we want to go? Harvard Graphics helped a lot. I loaded the last year's worth of 1,352 statistics into the computer and then started viewing the results from different angles. To view readiness rates accurately you must relate them to something. What was the unit's OPTEMPO? What was their personnel fill? When were they deployed on an exercise and when was their recovery period? These are just a few of the questions that helped put things into perspective.

***"The battalions must talk directly with elements that provide them direct support ... they do not need to talk with the Corps or Theater support agencies."***

- **Develop a Plan.** Where did we want to go? I have always felt that it is my job as a maintainer to provide the commander with the safest aircraft in adequate numbers to allow him the flexibility to execute valid training programs whenever he wanted. This just happens to fit right in with DA's readiness goals. Sometimes it's hard to convince people that you're

not just trying to "make the numbers," but if you look closely you'll see that the two go hand-in-hand. If you can provide an adequate number of aircraft to train with, you will "make the numbers".

- **Execute!** Now for the hard part. One of the first things I realized when I took the job was that no one worked for me. Each of the battalions marched to their own tune and their commander was the band leader.

Ergo, I must write music that the band leaders liked!

One of the biggest problems I had while at the battalion level was getting repair parts. I established an agreement with my customers. If they would submit valid requisitions and use good lateral search techniques, I would work the supply system from the SSA up. This falls right in line with the communication channels established earlier.

Fear of automation can be a serious stumbling block. It took me three months before I started using E-Mail. I was tying up so much time on the telephone calling people to research parts status that I was falling behind.

Once I started there was no holding me back. When I first took the job it was not unusual to get Not Mission Capable Supply (NMCS) Reports from the units with 10 to 20 parts per battalion. I submitted for and received access to the Logistics Information File (LIF). Now I didn't have to pass my request to the LARs and wait for a response; I had the capability at my finger tips. Next, I gained access to the Corps' repair parts data base. Then, it was Asset Visibility and Re-Distribution Systems (AVARS); now its Objective Supply Capability (OSC). With this I have the capability to look at any SSA in Corps and determine parts availability. If the part is on-hand in another SSA I set up a lateral transfer between SSAs and the part is ours.

The only problem I had was determining when to take action. An aircraft may have two priority requisitions against it, but the unit may not be ready to dedicate manpower to driving around Germany to get it. When you tell an outside agency that you are down for the part and must have it, your credibility goes downhill fast if the unit doesn't go get the part for three days.

We solved this by putting E-Mail in every battalion PC Office. Now they have the capability to determine their own repair parts destiny. I haven't received a NMCS Report from any unit for over four months! Any part that they are down for is reflected on their daily aircraft status report. We no longer deal with our parts problems by

submitting a weekly report to brigade; we take action by the minute and have the capability to make valid management decisions regarding controlled substitution! The commanders like this tune!

Another invaluable service provided by automation is Aviation Safety Action Message (ASAM) and Safety of Flight (SOF) Message service direct from ATCOM. How many times have you received an ASAM or SOF message a week late or not received it at all until your LAR brings it to your attention?

We now receive these messages as soon as they are sent from ATCOM. Our E-Mail addresses are loaded at ATCOM so that the messages come direct to each PC office! The commanders like this tune, too!

A follow-on to our automation effort was to put CD-ROMs in each battalion. This gives the unit's ARMYLOG and FEDLOG capability. Now we know we are looking for the right part. In addition, it gives the units the ability to access the Hazardous Material Data Sheets they need to establish a safer maintenance program.

Good meetings are important to good communications. I started having a weekly meeting with the battalions about a year ago. One thing we rarely discuss at these meetings is aircraft status. I'm supposed to already know their aircraft status. We discuss the best ways to integrate outside programs into our maintenance plans. These outside programs are Special Technical Inspection and Repair (STIR), modification teams, and Airframe Condition Evaluation (ACE) Teams to name a few.

One of the things which developed from our meetings was a brigade aircraft maintenance plan. Ours is very basic but if executed properly will result in the safest aircraft and highest readiness rates. It states that all write-ups will show action taken within 72 hours. Boy, that's simple; what does it mean? It means that you either get it fixed within 72 hours or show "CAUSE".

Example: "I didn't get it fixed CAUSE I need a part that is not in stock" or "I didn't get it fixed CAUSE it's not within my capability." In either case management knows the CAUSE. It is posted to the write- up in the form of a document number or work order number. Now the whole world knows what the maintenance plan is to fix that write-up. We even have all of the information necessary to do a valid biweekly reconciliation of the maintenance plan for that write-up, and the pilots know action is being taken to keep their aircraft in the best possible condition. I sincerely believe pilots will fail to make as many write-ups if they don't see evidence of action being taken to fix the old write-ups. And you can't fix something you don't know is broke!!

Now that myself and the brigade commander are nearing the end of our tours I would like to sum up some of the things we have noticed that make a unit different from others in regard to aircraft maintenance. Which type of unit are you in?

**1. Re-Active Tenets:**

- Don't fix it if it isn't broke.
- Don't put the new part on now; wait until something else breaks.
- Don't review that program yet; wait until just before our next inspection.
- Don't give an aircraft to the Modification Team; they just break it and cause more downtime than they're worth.
- Don't use controlled substitution; make the supply system work.
- Do a 100% inspection on that aircraft; it's a pig!
- Don't turn that part in yet, I may need something from it.

**2. Pro-Active Tenets:**

- Develop a method of checks and balances to better define when it is "broke".
- Install parts as they come in; this ensures a better aircraft that takes less downtime during Phase.
- Incorporate cyclic program review; don't neglect something to the point that it gets put on the front burner before you're ready.
- Invest in your aircraft's future; it's better to report 70% FMC with 10 modifications installed than to report 78% FMC with no modifications installed.
- Make timely, logical decisions regarding controlled substitution; waiting a week doesn't "make the supply system work".
- Target specific areas in your maintenance program that are perceived as weaknesses and inspect all aircraft to the same standard. (An aircraft does not become a "pig" overnight; somebody let it get that way.).
- Turn in all repair parts promptly.

**3. Pro-Active By-Laws:**

- Start with organization.
- Review past performance with an eye to the future.
- Develop a plan and execute.
- Make maximum use of downtime.
- Establish and maintain realistic standards.

Which unit do you identify with the most? If yours is not Pro-Active then you need some help. Each battalion has different strengths and weaknesses. In most cases they know best what needs to be done. They only need some assistance from a responsive staff and a commander who appreciates good maintenance.

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*COL Johnson was the Commander 11th Aviation Brigade when this article was written.*

*CW4 Earwood was the Brigade Aircraft Maintenance Officer (BAMO), 11th Aviation Brigade, when this article was written.*

BY CPT THOMAS L. McCLELLAN AND CW2 ROBERT L. MORRILL

# SECRETS FOR A GREAT AVIATION MAINTENANCE PROGRAM

***How to construct an innovative and efficient program for aviation maintenance.***

With the deactivation of the 7th Infantry Division (Light) well under way, we wanted to capture some of the good things we have done and the techniques we used so that others could learn from them.

2nd Squadron, 9th Cavalry, had a great deal of success in both ground and aviation maintenance. D Troop (AVUM) was named as AAAA's Outstanding Aviation Logistical Support Unit of 1992. The entire Squadron represented the Division in the competition for the Chief of Staff of the Army's Maintenance Excellence Award, placing third out of all of the units in FORSCOM.

Our basis for these claims of excellence lies in the outstanding results we achieved in the maintenance effort. For 1992, our average availability rate was 93% for both OH-58s and AH-1Fs. For the first six months of FY 93, we were even better, sustaining 94.5% Fully Mission Capable (FMC) overall. We did this while participating in four aerial gunnery exercises, a five battalion ARTEP, four Emergency Deployment Readiness Exercises, an exercise at the National Training Center at Fort Irwin, and a counter-narcotics border reconnaissance mission 500 miles from home station. The Squadron was able to deploy all 21 aircraft to each of these exercises. We did all of this while flying 3,798 flying-hours without any accident or incident above Class E, while spending only 52% of our $915,000 repair parts budget. We performed 12

phased maintenance inspections, averaging 11 days for OH-58s and only five days for AH-1Fs; by the end of the year, our phase program improved to the point where we performed two OH-58 phases in the field, each in only two days.

The absolutely essential ingredient for a great maintenance program is command emphasis. If a unit commander in any unit thinks that maintenance and aircraft availability are important, then those areas will receive attention.

Our Squadron and Brigade Commanders were committed to the importance of aircraft maintenance. While the rest of the 7th Infantry Division (Light) was doing physical training five days per week, our Brigade Commander went to bat and was able to get permission for the Aviation Brigade to reduce that to only three days per week, resulting in extra manhours available for aircraft maintenance. It is interesting to note that even while doing PT only three days per week, the Squadron's troopers still maintained an average PT score of over 250. Our Squadron staff worked to ensure that the fast OPTEMPO which we sustained still allowed time to do the maintenance properly so that we did not get behind. It was a regular occurrence to see the Brigade Commander in the hangar.

Troop Commanders supported the maintenance effort as well. They realized and appreciated the tremendous benefits of having all of their aircraft flyable for major exercises and were willing to put in the required work between training events.

***"The absolutely essential ingredient for a great maintenance program is command emphasis."***

Soldiers took a great deal of pride in being part of such an outstanding unit and they brought their performance level up to meet the example set for them.

Lastly, our AVUM Troop was recognized as being the best at what it does by the AAAA. After receiving the award in St. Louis last February, we felt compelled to share our secrets with others so that other units could benefit from our experience.

**Secrets for a great AVUM:**

1. *Start with a single-minded purpose of effort: providing safe aircraft for the Air Troops to fly is the most important mission.* Everything else flows from that. Do the important things first, i.e.

safety and maintenance, and then do whatever is left in the time remaining.

2. *Get rid of the PC clerk.* He is not authorized anyway and having one takes a mechanic off of the hangar floor. The PC Officer and NCO can do everything if they are worth their pay.

3. *The PC Officer runs the entire show.* Not the AVUM Commander, not the Maintenance Platoon Leader, etc. The PC Officer should further be in control of where people are going and what they are doing. For example, even though the TIs do not work for PC, the PC Officer has to know where the TIs are if an aircraft breaks.

4. *The PC office and Tech Supply should be as one, and hopefully co-located.* Parts and tools are what the mechanics need to do their job and they should only have to look in one place.

5. *Phased Inspections:*

- It should be an almost unbreakable rule that bank time never goes below 50%. To allow it to go below is a grave risk to combat readiness. We know of units which allow aircraft to sit at five hours or less awaiting phase because they do not want to suffer the down time needed to do the inspection.
- The training calendar must drive the phased inspection schedule. The S-3 should be able to forecast the dates of major exercises and how many flying hours he expects to fly at each exercise. This will determine how many phases to perform. Once you know this, put each phase on the calendar, by tail number, and do it when its time comes. This supports the AVUM by giving it some predictability, and it supports the Air Troops by keeping their flow going. If the Air Troop whose helicopter is due for a phase is unable to fly it down, phase it anyway. Do not hold up the train just to get those last 10 or 20 hours. Everyone in the unit, down to even the Tech Supply clerk, should know how many phases need to be performed to meet the flying hour program and when the unit has them scheduled.
- Make sure that by 25 hours before phase you have all parts on hand or on order. The QC NCOIC should be banging on the PC Officer's desk to make sure TBO items are ordered on time (and the additional hardware you use whenever you change out the component). If you do not have all of the parts which you know you will be needing, **DON'T START THE PHASE!**
- Phased inspections do not have to take several weeks to complete. A good team will have it done in under two weeks. A great team can do it in even less time. We averaged about five days, for both AH-1Fs and OH-58s, and even did a couple of OH-58 phases in the field in

only two days each. One of those included a TBO engine change. We have done AH-1F phases in three to four days several times. The secret is having the phase well planned in advance, having everyone there, and having no distractions.

- Phased inspections were designed to be just inspections, but many units have developed the habit of deferring maintenance to the phase. If you save up work to be done on an aircraft, it just makes it take longer to get out of phase.

Here is a good example: there was a unit we know of which deferred changing an OH-58 windscreen until the next phase just so they would not eat the down time; when the time arrived to do the inspection, the phase team got halfway through then were told to stop working on it for two days to allow the sheet metal guys to replace the windscreen.

The members of the phase team could not do any other work on the aircraft while the sheet metal guys were working so there was no savings in downtime by deferring the windscreen replacement. As it turned out in this case, the phase had began on a Wednesday and the sheet metal mechanics got the aircraft on Thursday of the following week. They finished up late Friday afternoon and then the phase team had to work on the weekend to get the aircraft up to deploy to the field. You can imagine how this made the members of the phase team feel. BOTTOM LINE: Do the work when it comes up and you will not have to worry.

- Start the inspection on a Monday, and tell the members of the phase team your plan for what needs to get done each day so that it will be completed before the weekend.
- Once the phase is begun, go all out on it until it is finished. Protect the phase team from distractions.

***"Once the phase is begun, go all out on it until it is finished. Protect the phase team from distractions."***

This can be done in several ways such as exempting the team from the duty roster (at least while they are working on a phase), bringing food to the hangar so the mechanics do not have to go to the mess hall (pizza and chili are big crowd pleasers), having the First Sergeant and PAC sort out a soldier's pay problem so he won't have to, etc.

On one four day AH-1F phase which our unit recently conducted, the platoon leader and platoon

who owned the aircraft were in the hangar almost the whole time. The platoon leader made sure that everyone got fed and ran interference for the mechanics on whatever distractions came up. The platoon sergeant went to fetch tools and parts whenever they were needed so that the mechanics did not have to get down off of the aircraft.

The Air Troop Commander was also present a good part of the time and was even seen on a creeper with a speeder bar helping to reinstall the access panels under aircraft so it could get pushed out for MOC. Everyone up and down the chain knew it was important to get it done and did what was necessary.

6. *You have to crosstrain your mechanics to survive.* We had AH-1 OH-58, and UH-1 mechanics all working on every type aircraft. They gave us enough people to push out a phase in a timely manner. We usually made our engine mechanic a part of the phase team, both for crosstraining and to have him readily available. Electricians and avionics repairers should work together and understand each other's job. The same is true for engine and powertrain mechanics. With the low densities in each of these MOSs, losing one guy to duty, leave, or PCS can put you out of business for his specialty. So you must either have someone else of another MOS do the work, or rely on your supporting AVIM to help you. In 2-9 Cavalry, we seldom gave any work to our AVIM and never gave them an aircraft for a phase inspection. Our FMC rates speak for the success of cross-training.

7. *FTXs are not a burden—they are opportunities to have all of the helicopters and mechanics in one place with no distractions,* and with the helicopters being looked at and flown daily so that problems can get identified and fixed. We typically came back from FTXs with fewer open work orders for deferred maintenance than when we went out.

**Secrets for Platoon Leaders and Air Troop Commanders to help ensure great maintenance:**

1. *Air Troop Commanders must manage the flow chart.* They will need advice from the PC officer, and the Squadron Commander must monitor, but the commanders who own the aircraft and assign the missions are the only ones who can really control the flow. If the flow chart distribution becomes uneven, do not go looking to blame the maintenance guys — they did not fly those hours. Strive to maintain an even distribution across the flow chart so that one Troop's aircraft are not clustered together. If this means that B Troop's pilots have to fly C Troop's aircraft for a few missions, then so be it.

2. *Do not let deferred mainten-*

*ance entries pile up in your logbooks.* Either it is a problem or it is not. If it is a problem, get on your crew chiefs to fix the faults. If the writeup requires work by the AVUM, get in the PC Officer's face every day until he gets it fixed.

3. *Understand that the AVUM Commander and PC Officer know what you want and are trying their best to give it to you.* Work to understand what they need from you (aircraft in or out of the hangar, crew chief support, etc.) and make it happen.

4. *Instill in your pilots the understanding that they play a crucial role in keeping aircraft mission ready.* Assign each aircraft to a pilot and stencil his name on it. Make that aircraft be the one he regularly flies. If it needs a run up or simple MOC, he should be the one who is there to do it. That pilot should know the complete status of all systems on his aircraft and should pro-actively work to fix any problems. If an aircraft has a problem or starts acting funny, do not just write it up and walk away. Go get a maintenance guy right then; he may be able to solve it on the spot. If not, at least you will both have a common understanding of what is wrong. The maintenance guys need to know the pilot's concerns or complaints, unfiltered by the logbook writeup or the work order.

5. *Make it a rule in your Platoon/Troop that, "if the aircraft are not all up on Friday night, then I'll see you Saturday morning."* And if your soldiers are working late, you damn sure better be there with them. Also, make Fridays be no-fly days. There is little that is more frustrating to a crewchief than to have a pilot bring a Red X'd aircraft back at 1630 Friday.

6. *Give incentives for maintenance excellence.* Awards, certainly, should be a part of it although their effectiveness wears thin if overused. There are other ways of bestowing recognition for a job well done. Time off is also a great reward and motivator.

7. *Get your hands on the January/February 1992 issue of Aviation Digest and read the article "Flight Line Maintenance-The Critical Element" by MW4 Jesse H. Dize.* It is a great primer for understanding what maintenance guys do and how you can help. It should be required reading for all Lieutenants.

8. *If, by some misfortune, one of your helicopters has to go to the AVIM hangar for repair, go visit it.* Stop by the AVIM PC Officer first, of course, and then talk to the guys who are working on it and find out if they need anything which you can get for them in order to do the job faster and better. Your mere presence will communicate to them that you appreciate their work and think it is important, and they will be much more likely to get it done fast for you.

Remember that excellence in aircraft maintenance does not come from crack maintenance managers — it comes from crack mechanics who are led well and given what they need to do the job.

Remember that people do not come to work to fail. They fail when leaders fail them, either by not planning adequately or by allowing spur of the moment changes to get in the way of a good plan.

Even though the drawdown of our Army is difficult to accept, it has had some positive benefits. With all of the various early-out programs, soldiers who do not like the Army have a fairly easy time finding ways to get out. Those who remain are here because they want to be are therefore more inclined to work harder and better. Leaders are blessed by having fewer discipline problems and can concentrate on maintenance and training. The challenge for the leaders of this new leaner Army will be in leading and caring for these excellent soldiers well enough to allow them to reach their full potential.

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*CPT McClellan is a 1982 graduate of U.S. Military Academy and has held a variety of positions as an Aviation Logistics Officer. Recently he commanded D Troop, 2-9 Cavalry which was named AAAA's Outstanding Aviation Logistical Support Unit for 1992. CPT McClellan left the Army in July, 1993.*

*CW2 Morrill entered the Army in 1980 as an Aircraft Powertrain Mechanic and is now an Aviation Maintenance Technician. CW2 Morrills current assignment if AH-58D Maintenance Officer in Korea.*

BY CHARLES J. READING, JR.

# RAH-66 COMANCHE SUPPORTABILITY UPDATE

As the RAH-66 Comanche program undergoes continuing cost scrutiny and restructure in line with emerging defense budgeting realities the Supportability related program goals of providing our soldiers the world's most reliable and maintainable aircraft remain unchanged.

***Efficiency is built-in from two level maintenance to integrated training.***

The up-front and on-going design influence exercised by the Comanche Supportability community remains focused on achieving overall program objectives. Primary among those is the goal of maximizing Army Aviation's battlefield influence by fielding a totally integrated weapon system with the proper mix of quality soldiers, hardware and software within a flexible and responsive support system.

To assist in achieving the implied Army goal of evolving into a higher quality, smaller force capable of projecting combat power from a CONUS-based contingency force, the RAH-66 Comanche is being developed as a versatile, lethal, deployable, survivable and supportable aviation weapon system. Operating and support costs, throughout the life of the Comanche, will be reduced compared to the current aircraft fleet through increased component reliability and improved maintainability features combined with emerging and dynamic force structure initiatives.

A smaller military force will rely heavily on systemic improvements in the supportability related fields of Integrated Logistics Support

(ILS); Manpower and Personnel Integration (MANPRINT); Reliability, Availability, and Maintainability (RAM); and Diagnostics to keep high value, force multiplier weapon systems such as the Comanche in the fight.

To streamline the maintenance portion of the Comanche's logistics tail, a two level maintenance design concept, User and Depot, is a primary system design driver. The two level maintenance concept is intended only to influence aircraft design and not dictate or force a maintenance structure on the Army. The Comanche will be fielded within the current three level aviation maintenance structure.

Through this unique design initiative, associated maintenance and support system infrastructure burdens will be minimized. For example, not requiring the use of an intermediate maintenance capability eliminates the command, management and support burdens related to these units. Without a need for intermediate maintenance personnel, there is a reduced need for the clerks, cooks, cadre, and other associated personnel to support them.

Other benefits of the two level maintenance design will be realized. The simplification of Comanche maintenance tasks will permit the consolidation of military occupational specialties to match design attributes, resulting in fewer total maintainers needed to sustain fully mission capable aircraft flying at increased operational tempos.

Reduced quantities of peculiar and standard ground support equipment will be required because of increased standardization among systems and subsystems. Fewer spare and repair parts will be required due to increases in reliability and the overall reduction of piece part counts in virtually every system and subsystem.

***"... the complex high technologies used in the Comanche will be as transparent to the maintainers and support personnel as possible."***

In effect, the complex high technologies used in the Comanche will be as transparent to the maintainers and support personnel as possible. Technology is actually being applied to work for the maintainers rather than the maintainers having to work the technologies. (Figure 1).

User level maintenance functions will consist primarily of pre- and post-mission inspections, combined with remove and replace tasks for failed items. System maintenance and inspections will

## SUPPORTABILITY

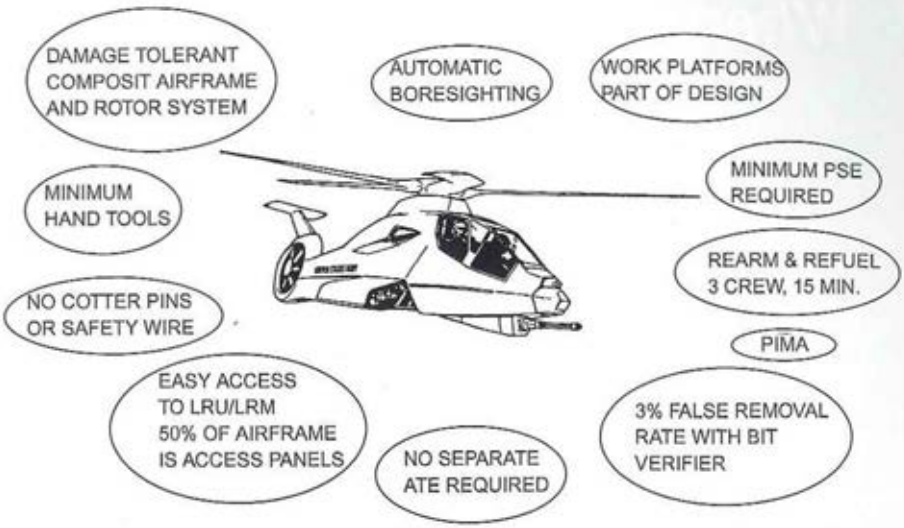


**Figure 1**

be facilitated using on-board diagnostics augmented by the Portable Intelligent Maintenance Aid (PIMA). The PIMA is a laptop computer-sized piece of off-board equipment which incorporates a "BIT verifier" capability to eliminate Depot return of serviceable items. Additionally, the PIMA will function as the "intelligent" troubleshooting, maintenance and parts manuals; and host the automated aircraft log book.

An extensive and accurate on-board fault isolation and prognostic trending capability alerts the maintainer of impending component failures with sufficient lead time to order parts, thereby reducing administrative and logistics delay time.

Integrated throughout design and development of the Comanche are the principles embodied within the Army's MANPRINT philosophy. Every aspect of the Comanche is being designed around the physical and cognitive capabilities and limitations of the soldiers who will operate, maintain and support the system. Maintenance tasks are being analyzed and, where required, redesigned to minimize manpower requirements and task times.

Maximum maintenance and support access to aircraft components is being assured through the use of computer generated mock-ups. Safety, health, and environmental hazards are being identified, recorded and tracked through continuous analysis by safety, engin-

eering and operational experts. Design solutions are being implemented to eliminate, or control to an acceptable level, all identified hazards.

The Comanche Integrated Training System continues to be designed and developed concurrently with the aircraft. The Boeing Sikorsky contractor team is developing the Comanche training systems in accordance with the TRADOC Systems Approach to Training (SAT) process as they design and develop the aircraft.

Training developers from Fort Rucker, AL and Fort Eustis, VA are assisting in the accomplishment of each SAT phase and are an integral part of every training analysis. The goal of having a fully validated, verified and government accepted training system ready for training base to support the Comanche Initial Operational Capability will be realized.

Despite the economic uncertainties which continue to shape DoD budgets and the program, Comanche remains committed to developing and fielding a capable, responsive, supportable and cost effective weapon system able to serve our soldiers, and the taxpayers, well into the next century.

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*Mr. Reading is Chief, Comanche Integrated Logistics Support Management Division, St. Louis, MO.*

BY DANIEL H. KRUVAND

# DIRECTORATE FOR MAINTENANCE OVERVIEW

***A review of the first year of ATCOM's reorganization.***

Leaving the Mobility Equipment Command (MECOM) Maintenance Directorate in January 1974, I never would have guessed I'd be returning to the same building almost 19 years later as deputy director of a combined aviation and troop maintenance organization.

While the building number may be the same, almost everything and everyone else has been either renovated, recombined, reshaped, or retired.

The original merger concept was straight forward enough: combine the troop and air maintenance functions along with RAM engineers and data collectors from the former Product Assurance directorates.

After the initial moves were completed in the summer, 1 October 1992 found us with a new directorate of some 700 people spread from one end of the Federal Center complex to the other.

Getting our people, workstations, files, phones and automation into our new home, the newly redesigned office space in Building 110, while continuing daily operations was a gigantic moving puzzle. The move was successfully completed by year's end due to the outstanding team spirit and plain hard work of all directorate employees.

In January 1993, as the last boxes were being unpacked from the move, the command announced that significant personnel reductions would be required as a result of the rapidly declining Operations and Maintenance Army (O&MA) budget

Our share was some 100 spaces out of the roughly 700 in our newly-merged directorate. Targeting vacancies as much as possible, reductions were made at all grade levels and series. A reduction-in-force announcement was eminent in March, but ATCOM received authority to offer retirement and separation incentives. If enough people took advantage of these monetary incentives, involuntary separations could be avoided.

Some 80 personnel in Maintenance responded. After all the farewell luncheons and ceremonies, by end of the first week in April, we were left without many key senior employees and supervisors.

With the hiring freeze still in effect, these key vacancies made the need for reorganization apparent. Division chiefs were told to maximize retention of on board personnel in making position changes, or "what you see is what you get." The new downsized structure consists of a total of 574 civilian and 19 military positions assigned to six divisions: Aircraft Ops, Watercraft/Rail Ops, Maintenance Engineering, Field Data, Provisioning, and Publications. A Business Execution Office and Information Mgt Office rounded out the organization.

Good news came in October when ATCOM requested and received hiring authority for permanent fill of positions vacated by the March retirements. Job announcements were issued for some 27 permanent vacancies in the directorate, along with other positions (not vice retirements) which can only be filled on a competitive temporary basis. For our workforce, many of whom have willingly assumed temporary promotion to a higher grade and/or supervisory responsibilities, this will be the first opportunity for permanent promotion in at least three years. Additionally, authority to promote will allow us to permanently place many employees currently in an overage situation.

Despite all the turbulence which I've outlined, those in the trenches have continued to provide outstanding maintenance services to our PEO/PMs and Army customers worldwide. Contingencies were supported, from Hurricane Andrew to Operation RESTORE HOPE. New challenges were overcome, like Special Repair Activity (SRA) authorizations and the ban on Ozone Depleting Compounds (ODC). After reading the accompanying division reports that follow, I hope you will share my pride in the many achievements of the new ATCOM Maintenance Directorate and gain a sense of our strong support for new and challenging initiatives.

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*Mr. Kruvand is Deputy Director of Maintenance, ATCOM, St. Louis, MO.*

BY EDWARD F. BRANHOF AND EMMETT R. RATLIFF

# LIAISON ENGINEER PROGRAM

***How the Liaison Engineer Program directly supports the field.***

The Liaison Engineer Program had its beginning during the Vietnam War under the UH-1 Branch in the Systems Engineering Division.

The program provided a means for field personnel to communicate directly with U.S. Army Aviation Systems Command (AVSCOM) engineers. As a result, technical problems were solved, usually in days, rather than weeks as was the case while depending on the mail.

Because of the proven benefits in return, expansion was in order! Due to the number of aircraft, the military threat at the time, and the difficulty in providing technical information to the field, the next logical step was to establish a Liaison Engineering position in Europe. A position in Germany was established during July 1981 and was staffed by one engineer.

Again the program immediately proved its worth by providing expedited solutions to problems in the field. Increased readiness and reduced cost were realized authorizing one time limited depot level repairs, thereby minimizing returns to depot.

Over the years, the program has grown until it now includes six operational positions, with a seventh in the process of being established in Korea. The present locations/positions include two in Germany (Charles Brooks and Larry Hoffman); Fort Hood (Ray Boland); Fort Rucker (Keith Clancy); Fort Campbell (Clark Lemons); and Fort Bragg (Jack Glaeser). All positions are under the supervision of Edward F,

Branhof, Chief, Cargo Utility Section, ATCOM, Integrated Materiel Management Center (IMMC), Directorate for Maintenance, Maintenance Engineering Division.

The stated missions of the liaison engineer are to:

- Serve as the technical point of contact for ATCOM Logistics Assistance Representative(s) (LARs) and Aviation Maintenance personnel.
- Support other Command elements as requested.
- Maximize repairs at local facilities and minimize transportation delays and cost.
- Provide engineering advice, guidance, and instructions on matters which would otherwise be directed to ATCOM.
- Provide on-the-spot decisions related to extent of repairs which may be made by local facilities.
- Review items that have a high rate of replacement, and report possible cause/solution to ATCOM.
- Provide engineering assistance in Accident Investigation and Component Teardown Analysis and verify Estimated Cost of Damage aircraft condition.
- Provide an analysis of technical problems reported by user and Logistics Assistance Representative(s).
- Grant authority to perform minor repairs and deviations.
- Participate in Modification Work Order verifications and review Safety-of-Flight Messages.
- Identify trends and propose long term solutions to the appropriate process owner.

The Liaison Engineers have an excellent record both in peace time and during recent conflicts. They have been deployed whenever the need for an engineer has been determined, to Panama, Southwest Asia, and now Somalia.

The role of the Liaison Engineer expands somewhat during times of conflict to include serving as the point of contact between the field and ATCOM on all aviation technical issues; to expedite solutions to technical problems; evaluate battle damage and provide special repair procedures when required; identify and correct systemic aircraft problems relative to the environment; and recommend changes to maintenance procedures in order to obtain maximum use of the aircraft.

ATCOM views the liaison engineer program as a win-win effort, the field wins by having on-site and immediate response to engineering level technical issues and ATCOM wins by having engineers in the field gaining valuable day to day hands on experience. ATCOM will consider and evaluate requests for new positions based on user requirements and the availability of funds.

★★

*Mr. Branhof is Chief, Maintenance Engineer, ATCOM, and Mr. Ratliff is a Liaison Engineer, USAATCOM, St. Louis, MO.*

BY ROBERT R. GIRARD AND ANTHONY S. TONATORE

# SPECIALIZED REPAIR ACTIVITY (SRA)

***Performing selected Depot repairs on site saves costs.***

Today's aviation maintenance personnel are confronted with the challenge of meeting ambitious mission requirements at a time of diminishing resources. One effective method of doing more with less is to maximize equipment repair at the intermediate level or "fix forward".

The Maintenance Directorate has been an active participant in the "fix forward" concept by providing technical assistance to the user in the quest to conserve assets. The method to support this effort was termed the Depot Repair Authorization (DRA) which served for many years as a responsive method for satisfying user needs. But in October 1992, the Department of the Army (DA) directed that the DRA process would cease and future depot repair requests would follow the Specialized Repair Activity (SRA) procedures as outlined in AR 750-1.

The new emphasis on utilizing SRAs results from the advent of Defense Business Operating Fund (DBOF) as it relates to Stock Fund Depot Level Repairables (SFDLR).

User Aviation Intermediate Maintenance(s) (AVIMs) and Directorates of Logistics (DOLs) recognized the cost saving available by performing selected depot repairs on site, thereby saving the cost of buying an overhauled item from the system while allowing the equipment to continue operating until scheduled overhaul.

The emphasis by the Combat Service Support (CSS) units to repair the SFDLR item where possible

# SRA PROCESS PER AR 750-1

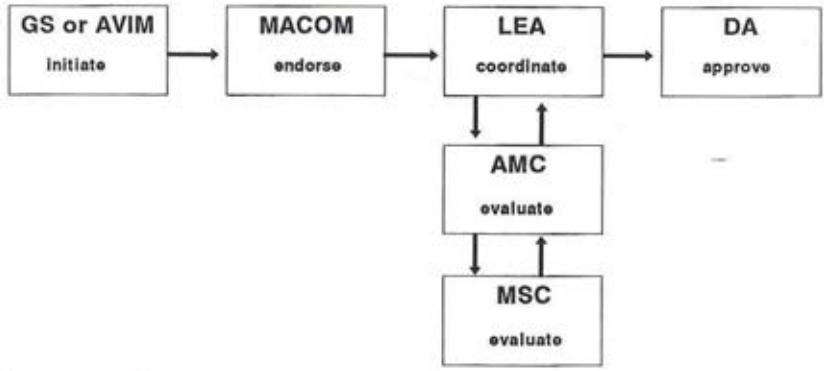


**Figure 1**

caused a surge in SRA requests. In CY92, HQ DA received requests to repair 2,114 National Stock Numbers (NSNs) which were Depot/Special Repair Activity (D&L) coded. This was more than the cumulative total of 1,386 NSNs submitted for all prior years.

The SRA request program has become a dynamic process. The purpose of an SRA is to allow limited depot level repair at the intermediate level where sufficient manpower, skill, tools, repair parts, etc., are available. The SRA request for aviation items are limited to repair or authorization to perform a particular maintenance task, rather than overhaul or configuration of the item. The obvious benefit to the user is to improve readiness and reduce cost.

Per AR 750-1, the official channel for an SRA request is from the unit's Aviation Intermediate Maintenance (AVIM) through their Major Command (MACOM) to the U.S. Army Logistics Evaluation Agency (USALEA). USALEA assigns a control number and forwards it to the Army Materiel Command (AMC) who routes it to the U.S. Army Aviation and Troop Command (ATCOM) for evaluation and recommendation. The recommendation is returned to AMC who officially submits the SRA request to DA for final disposition (Figure 1).

In the past, the lack of a stan-

dard or well defined procedure led to poor and inadequate control of requests, as well as untimely evaluations and responses. Some requests were simply "wish lists", and the complexity of the actual task associated with the request proved to be more than the unit was capable of performing. The biggest deterrent for expediency of evaluations was the lack of necessary supporting information in the original requests.

ATCOM evaluates all SRA requests for both technical and logistical considerations. The Maintenance Directorate evaluates the technical documentation and capability of the user to accomplish the repair. The Materiel Management Directorate evaluates the ability of the supply system to support the SRA request and its impact on depot level maintenance and overhaul programs.

While there are good economic reasons for the sites to do certain repairs, there are other considerations unknown to the sites which are cause for disapproval of the SRA request. These include overall cost to the Army, lack of parts to support the SRA request and the depot simultaneously, excess stock of an item at depot level, the interruption of returned parts which support an overhaul program, an existing free exchange or replacement part negating need to repair, warranty claims, flight safety considerations, and the requirement to maintain the depot industrial base.

ATCOM struggled with the change from Depot Repair Authorizations (DRAs) to the SRA request process initially, however, we are committed to continuously refining the process to achieve a high quality evaluation in a timely manner. The Maintenance Directorate, in conjunction with the Materiel Management Directorate, has developed in-house procedures to achieve a systematic, coordinated, and timely evaluation.

The Army is working to improve the SRA process and reduce the elapsed turnaround time for individual requests. In this light, DA has initiated a sample standard format to be used in an SRA request to provide the minimum information required for evaluation. ATCOM expanded the format for aviation unique items. Requirements are to be submitted on the standard form developed by ATCOM, as it will reduce time loss in acquiring the additional information needed by the evaluators, and to cover the safety considerations. A procedural guide for aviation equipment will be provided by ATCOM to the sites.

In order to shorten the approval process, DA and AMC delegated SRA approval authority to the Major Subordinate Commands (MSCs), effective, 6 December 93. An added coordination by the U.S. Army Depot Systems Command

**(SRA — cont. on pge 63)**

BY WILLIAM S. McDONALD

# FEEDBACK IS THE KEY

The Army has embarked on an effort to improve quality within the methods of conducting business. This Total Army Quality (TAQ) program unfortunately has not trickled down nor made its benefits known or quantifiable. Yet many euphemisms have become associated with TAQ such as "work smarter not harder" or "continuous improvement: a journey not a destination". Unfortunately TAQ in some cases has become a program of slogans and a feeling that "if you say it, it will happen". Without true commitment from all involved TAQ will become a relic like so many of its predecessors.

***Total Army Quality depends on feedback from you.***

Total Army Quality dictates that processes be identified, measures set for their control, and feedback established to identify refinements necessary to maintain process control. This is not an easy task by any means. Without the means to measure results of a process versus requirements of a process, control is merely chance. Process improvements are obtained with luck if not based on feedback.

How does this fit into Army Aviation directly? Feedback is the key. Consider for a moment the frustrations experienced in maintaining readiness rates. Why is there a persistent need to justify low readiness for lack of available maintainer touch time? The Army community continually measures readiness rates and reports not mission capable for either supply or maintenance. Readiness data used to be

the best that could be gained and was always historical. By the time readiness data filtered through command channels, no influence could be brought to bear to improve it. The historical data is used to identify what may have caused a past undesirable state and apply that fix to the future, whether appropriate or not.

This method of operation has traits deemed objectionable in that it makes no correction is real-time and fails to provide feedback on the root cause of the support process. In the case of needed increase in available maintenance man-hours, the fix is to allocate manpower after the damage to readiness has occurred and the need may or may not still exist.

***"A distinction between data and information should be understood ... data provides a measure against a requirement, while information provides insight to the operation of process."***

A distinction between data and information should be understood. In the context of process control, data provides a measure against a requirement, while information provides insight to the operation of the process. Data will give indications that a process is not under control, where information provides indicators on the value of parameters that are influencing the process outcome. One may recall, when the zone defense first appeared in football, that football was quickly becoming a low scoring defense battle. The rate of scoring was less than desired. Given this data the rules committee started codifying elaborate rules to enhance the passing aspects of the game.

When presented to owners, George Halas used his information and knowledge of the passing game to redesign the playing field by moving the hash marks closer to the center of the field by five yards between the 20 yard lines, thus nullifying the need for defensive changes. The next year was the highest scoring to that date.

By knowing the process and the influence of process parameters on results, the simplest and most appropriate solutions are available. Data must be translated into information before it's of any use.

The current effort to automate aviation maintenance records is an attempt to gather data and convert it to useful information to influence the outcome of readiness. A great deal of misunderstanding of the value of the automation process, Unit Level Logistics System-Aviation (ULLS-A), has slowed its

release. ULLS-A's true value is not the automation of manual forms. Lead pencils are more reliable and their operators require less training. The true value is an enhancement to readiness by providing feedback on parameters that influence readiness outcomes. Properly utilized true workload measures and requirements can be monitored and corrective action taken in a timely manner.

ULLS-A is a true tool for TAQ in Army Aviation. Supply and maintenance requirements will be available at all levels. If TAQ is fully implemented, proper support will be made available at the appropriate level to enable the maintainer to succeed.

As is known, the present Army logistics support structure exists in retail and wholesale communities. Information flow between the communities has been enhanced for Aviation by various data reporting systems; Sample Data Collection, The Army Maintenance Management System-Aviation (TAMMS-A) Component Tracking, Aviation Readiness Reporting, etc. ULLS-A has a potential to make data flow seamless. Other services have developed feedback and tracking systems for management of logistics processes. The vision from ATCOM is to develop and extend these same type systems within Army Aviation.

Feedback through data and information is the future for determining allocation of resources to improve all logistic aspects of present and future Army Aviation assets. The effort to provide feedback is not free but the payoff will be measured in enhanced decision-making and use of resources. Without the introduction of ULLS-A to the field, the effort spent to modify TAMMS-A will be of limited benefit.

★★

*Mr. McDonald is Chief, Field Data Division, Directorate for Maintenance, Aviation and Troop Command, St. Louis, MO.*

## CORRECTION:

Due to a computer error, the following entry was left out of the 1993 BLUE BOOK:

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CSM James O. Jackson
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BY WARREN J. SCHNELL

# DIVERSE BUT SEAMLESS PUBLICATION

A crowd of 75,000 stands in hushed anticipation. On the field a color guard of the U.S. Armed Forces troops the colors prior to the National Anthem. In their dress uniforms the soldiers, airmen, sailors and marines represent the diversity of our great country in race and gender. Their uniforms, from Army green to Air Force blue, Navy white and the red, white and blue of the Marine Corps, graphically emphasize the pride of each service or corps.

***Jointness also extends to the Army's Technical Publications.***

This difference, the source of "esprit de corps", has always played a key part in the effectiveness of military units. Each soldier wears his unit insignia with pride. In many cases a unit's insignia or nickname becomes nationally known, occasionally even appearing in song or motion pictures. The black berets of the Army Rangers and the maroon ones of the "Screaming Eagles", nickname of the 101st Airborne, are but two examples.

Two hundred years ago, when our logistics and technical publications systems were just being developed, the missions of the various services were much more clearly defined with very little overlap. It should come as no surprise that the different systems would take on the characteristics of the respective service.

In many ways their systems are similar, but without exception the publication reflect the cultural heritage of the service. Over the years there have been a number of attempts to devise a common, more efficient technical publication

system. These attempts have always been more or less thwarted by the "pride of ownership", diversity of equipment, and even more seriously, the differences in target audience training, available tooling, and operating environment.

Today's military environment is far different from the environment of WWII. In recent years joint operations involving all services under single command has become the rule. Interoperability of units and equipment can and does make a major difference in the success of a mission. Yet unit pride and "esprit de corps" are still a critical element in the effectiveness of a combat unit.

With the advent of the microchip, we now have the capability to prepare paper manuals from a single database, yet output them in the format that meets the specific user's requirements.

We stand on the threshold of a revolution in the preparation and dissemination of technical literature. Portable Maintenance Aides (PMA), roughly the size of a laptop computer, will have the capability of displaying all technical manuals for a weapon system. In its spare time the same device can also requisition spare parts, do your administrative work, and even report back reliability data to the proponent Logistics Command to ensure continued improvement in product reliability. Technology, however, is not enough.

Now is the time for all services to get together to ensure that the structure of the forthcoming Interactive Electronic Technical Manuals (IETMs) is compatible.

***"Now is the time for all services ... to ensure that the structure of the forthcoming Interactive Electronic Technical Manuals (IETMs) is compatible."***

It will cost little more to ensure that the data is accessible with the same logic on any PMA regardless of the proponent command.

This interpretability of the data system would be a boon to the user on a joint mission as well as reducing the cost to procure and maintain data. We will not be able to easily overcome the difficulties of different skills, maintenance levels, tooling, and environment; however, the particular publications could be set up to provide the appropriate task information based upon the sign-in of the user. Thus a soldier would be automatically given the correct information and could perform a task as easily as a sailor on a common piece of equipment, even though

the soldier is working on an aircraft at a forward location with little in the way of facilities while the sailor is working on an attack carrier with extensive back shop capability.

Using this technology the proponent service could procure, verify and manage the database, yet each of the services could have an output designed around specific needs. With this approach, it is possible to substantially improve customer service and yet reduce total cost.

While technology provides this opportunity, several organizational changes must be made.

- The lead service must be totally committed to support a DoD system.
- a single project manager must control configuration and schedules for the chosen system.
- frequent reviews with all services have to be held to ensure that customers' needs were satisfied.

Military effectiveness will continue to require that unit identity and pride be maintained, however, the military science of logistics must become a smooth seamless operation to support all customers, meeting their diverse mission requirements.

★★

*Mr. Schnell is Chief Technical Publications Division, Directorate for Maintenance, ATCOM, St. Louis, MO.*

## SRA
(continued from page 57)

(DESCOM) is included in the delegation change to preclude adverse impact to depot programs. Even though this will reduce the SRA approval cycle, the disapprovals will still follow the existing chain of review and decision authority.

Update 14 to AR 750-1 is in process at this time and will include the standard format and the delegation of authority. As of this writing, the actual text of the changes have not been received by ATCOM for review and comment.

ATCOM is committed to help the units reduce cost and improve readiness wherever possible, and in that light, we will continue to push for a more streamlined and timely SRA request and approval process within the guidelines of the SRA policy.

★★

*Mr. Girard and Mr. Tonatore are General Engineers, Directorate of Maintenance, USAATCOM, St. Louis, MO.*

BY CPT MICHAEL G. KOSALKO

# STANDARDIZATION OF AVIATION MAINTENANCE AUTOMATION HARDWARE

***A review of the program to develop a common hardware platform.***

Just like personal computers have revolutionized the office environment, portable notebook computers will revolutionize the way we do Aviation Maintenance.

Imagine viewing any technical manual on a computer screen by voice command, testing the aircraft's sub-systems on one standard computer by simply accessing a menu to run the appropriate software, or filling out aircraft logbook forms and records with a computer pen (stylus) and then sending this data electronically to the appropriate maintenance or operations section. If this excites you then you will probably go into the hover mode when you hear what else is coming.

The future of aviation maintenance automation will allow the user to predict when and where faults will occur, tell him how to fix these faults, automatically request aircraft parts before they wear out, and extend the life of existing parts. The problem is that until now aviation maintenance automation has been held back by the lack of a standardized effort to field an automation system.

Army Aviation maintenance has capitalized on numerous software and hardware systems which will automate test equipment, measurement equipment, diagnostic procedures, electronic technical manuals, and maintenance management procedures onboard Army aircraft. Yet, there is a lack of consensus in the Aviation community for a standard piece of automation hardware to use as a platform to host all these independent systems. Therefore,

many program and system managers have turned to promoting their own computer platform to host their particular piece of software and peripherals. This has created an unnecessary proliferation of computer hardware in the Army Aviation maintenance community.

The capability exists to automate Test, Measurement, and Diagnostic Equipment (TMDE) on a standard notebook computer using software and removable circuit boards. In the past, test equipment consisted of large breakout boxes which were designed to test only one system and were too big to fit onboard all Army aircraft. Even today, Army Aviation is purchasing 90-pound breakout boxes to test aircraft systems because the necessary automation hardware is not available.

***"The capability exists to automate Test, Measurement, and Diagnostic Equipment (TMDE) on a standard notebook computer using software and removable circuit boards."***

The Program Manager for TMDE is attempting to standardize automatic test set requirements under the Integrated Family of Test Equipment's (IFTE): Contact Test Set (CTS). The current CTS III was primarily designed for trucks and does not meet Army Aviation's size and weight limitations. Therefore, it is not fully utilized by aviation maintenance. The United States Army Aviation Logistics School (USAALS) is working with the PM TMDE to refine the size and weight requirements for a new CTS which will better serve Aviation needs. This new CTS is called the Aviation Maintenance Integrated Diagnostics System (AMIDS) and will be the platform for numerous Army Aviation maintenance software and hardware systems.

The new proposed AMIDS-CTS will not only be able to host TMDE, but will also host and interface with other Aviation maintenance software and hardware.

Some of these systems are the Unit Level Logistics System for Aviation (ULLS-A), Intelligent Fault Locator System (IFLS), and Diagnostic Troubleshooting Aide (DTA). By including all aviation maintenance software on one computer platform, we avoid the trap of purchasing numerous different computer systems and the proliferation of automation hardware.

In addition, the AMIDS must be able to host future aviation maintenance software. One possible so-

lution may be to have a PC Card slot on the AMIDS. Type III PC Cards, formerly known as PCMCIA, are credit card size hard drives, which have a storage capacity comparable to most fixed disk hard drives. This will allow the AMIDS to run new software off a small portable hard drive card, and maintenance personnel will be able to interchange cards in order to perform a host of different maintenance functions including tests, measurements, and diagnostics.

Functional use will determine the type of AMIDS computer hardware which best suits the needs of Army Aviation maintenance. Flight crews, maintenance test pilots, and aviation maintenance shop personnel will all use the AMIDS. In order to meet the needs of these users, Aviation maintenance system developers are considering two separate pieces of hardware: one for operation by the flight crew/maintenance test pilot and the other for shop maintenance.

The USAALS envisions the AMIDS flight crew computer as a portable notebook small enough to fit in the aircraft logbook container or in the most restrictive cockpit environment (AH-64A or OH-58D). This computer could be a notebook computer or personal digital assistant (PDA) with stylus. Initially, flight crew/maintenance personnel will only use the computer while the aircraft is not flying. As software becomes available, maintenance test pilots may use the system to perform operational checks during flight. The AMIDS must therefore be small enough to operate in the cockpit without interfering with the safe operation of the aircraft. Since the AMIDS will replace the logbook and become a permanent part of the aircraft, the weight of the computer must also be minimized.

A wearable computer best suits the needs of aviation shop mechanics while they perform maintenance. The mechanic's AMIDS will be able to host and perform the same maintenance functions as the flight crew version. The difference between the two AMIDS is portability and size. The mechanic will be able to view electronic technical manuals or interactive diagnostic procedures on a small two-inch miniature display, and access information with a trackball or by voice recognition input. The computer itself is very compact and mounted on a utility belt which allows mechanics to access information and keep their hands free while performing work in confined areas.

In the past, attempts to ruggedize and militarize computer systems significantly increased weight and cost. As an example, one of the proposed militarized aviation maintenance computer

systems costs five times the amount of a non-militarized off-the-shelf computer version. One reason militarized systems are so expensive is that they are designed for extreme operating conditions. However, the system's operational requirements should not be greater than the aircraft for which it was designed. These operating conditions can be attained by today's computer hardware designed to the best commercial standards.

The goal of the AMIDS program is to provide a standardized platform to host Army Aviation Maintenance computer software. This is necessary to prevent the proliferation of unnecessary computer hardware currently being proposed. The system will host numerous applications which will include the Army Maintenance Management System for Aviation (TAMMS-A), test equipment, measurement equipment, diagnostic procedures, and electronic technical manuals. Furthermore, it standardizes the interface with aircraft systems and other future hardware, like the flight data and maintenance recorder. As such, it will become the cornerstone for all Army Aviation Maintenance automation.

★★

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## OMBUDSMAN
(continued from page 24)

investigate complaints, intervene in disputes, and communicate directly with any staff element or organization within or outside ATCOM on my behalf. Mr. Seitz also serves as our focal point for the receipt of questions addressed by industry involving the acquisition process at ATCOM or simple inquiries of points of contact. As the Ombudsman, Mr. Seitz also provides information to those individuals or firms who inquire about or express interest in conducting business with ATCOM.

The future success of our Ombudsman Program depends on its utilization by industry. All Ombudsman activities are handled with extreme confidentiality so feel free to contact Mr. Seitz on any issues pertinent to your company. Mr. Seitz is easily accessible and eager to provide his assistance. He is located at ATCOM's Headquarters in St. Louis in Building 103E, 2nd floor. Mr. Seitz can be reached by calling Commercial (314) 263-1712/DSN 693-1712 or writing to Mr. David F. Seitz, U.S. Army Aviation and Troop Command, ATTN: AMSAT-D-P, 4300 Goodfellow Blvd., St. Louis, Missouri 63120-1798.

★★

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# AWARDS AND HONORS

**The AAAA provides awards to the Distinguished Graduates of the Initial Entry Rotary Wing Aviator Course and certain enlisted, warrant officer, and officer courses at Fort Rucker, Alabama and Fort Eustis, Virginia, that have been determined by the AAAA Aviation Center Chapter's Executive Council to merit a Distinguished Graduate Award.**

**CH-47 Helicopter Repairer Supervisor Course—BNCOC—67U30 (11/19/93):** SGT Joseph Paul Dibiase.

**UH-60 Helicopter Repairer Supervisor Course—BNCOC—67T30 (11/19/93):** SGT Andrew Alexander Miller.

**UH-60 Helicopter Repairer Supervisor Course—BNCOC—67T30 (11/19/93):** SGT Mark Anthony Zimmer.

**AH-64 Attack Helicopter Repairer Supervisor Course—BNCOC—67R30 (11/19/93):** SGT Bradley Ronald Bertrand.

**Aircraft Pneudraulics Repairer Supervisor Course—BNCOC-68H30 (11/22/93):** SGT Paul Alan Ashburn.

**Aircraft Armament/Missile Systems Repairer Course—68J10 (11/24/93):** PFC Shawn Robert Kaufman.

**UH-60 Helicopter Repairer Course—67T10 (11/24/93):** PV1 Eric Brian Hubbard.

**UH-60 Helicopter Repairer Course—67510 (11/24/93):** PV1 Corey Allen Rasmussen.

**OH-58D Helicopter Repairer Course—67S10 (11/24/93):** PV2 Dustin Kelly Nelson.

**Aircraft Powertrain Repairer Course—63D10 (11/24/93):** PV2 Shawn Louis Goulet.

**AH-64 Armament/Electrical Systems Repairer Course—68X10 (11/24/93):** PFC Coley O'Brian Gamble.

**AH-64 Attack Helicopter Repairer Course—67R10 (11/24/93):** PV2 William Troyce Chance, Jr.

**AH-64 Armanement/Electrical Systems Repairer Course—68X10 (11/24/93):** SPC Robert Edward Grant, Jr.

**CH-47 Helicopter Repairer Course—67U10 (11/24/93):** PV1 Sterling Trent Frazier.

**Aircraft Armament/Missile Systems Repairer Course—68J10 (11/24/93):** PV1 Mark Steven Dewey.

**AH-64 Armament/Electrical Systems Repairer Course—BNCOC—68X30 (11/24/93):** SGT Quentin Shawn Lyons.

**CH-47 Helicopter Repairer Supervisor Course—ANCOC—67U40 (11/24/93):** SSG Daniel Lee Mort.

**UH-60 Helicopter Repairer Supervisor Course—ANCOC-67T40 (11/24/93):** SSG George Carle Gattone.

**Observation Airplane Repairer Supervisor Course—ANCOC—67H40 (11/24/93):** SSG Gerald James Yerese.

**AH-1 Attack Helicopter Repairer Supervisor Course—ANCOC-67Y40 (11/24/93):** SFC Robert Fahl Morgan.

**AH-64 Armament/Electrical Systems Repairer Course—68X20/30-T (11/30/93):** SPC Richard Daniel Krause

**Aircraft Electrician Repairer Supervisor Course—BNCOC—68F30 (12/01/93):** SGT Jose Campos.

**Course 37V1 Class 01093 (12/06/93):** PFC M. Pearson.

**Course 37L8 Class 02193 (12/06/93):** SSG R. Stanskysr.

**Course 37N5 Class 01193 (12/06/93):** SGT M. Tebaldi.

**Course 37W4 Class 00194 (12/07/93):** SGT R. Belanger.

**Course 37K8 Class 00594 (12/07/93):** CW2 K. Gatewood.

**Course 37W6 Class 03593 (12/08/93):** PV1 D. Carnley.

**Course 37S6 Class 01093 (12/08/93):** SPC R. Riedel.

**Course 37S1 Class 01793 (12/09/93):** PV1 A. Clark.

**Course 37N8 Class 03793 (12/09/93):** PV2 J. Henson.

**Course 37L6 Class 08893 (12/09/93):** PFC E. Williams.

**Course 37L6 Class 08793 (12/09/93):** PV2 M. Nielson.

**Course 37L6 Class 08993 (12/13/93):** PV1 J. Peca, Jr.

**Course 37L6 Class 09093 (12/13/93):** PV1 B. Hamm.

**Course 37P4 Class 01493 (12/13/93):** SGT A. Beck.

**Course 37L8 Class 02293 (12/13/93):** SSG C. Grimm.

**Course 37W3 Class 02993 (12/15/93):** PV1 M. Farmer.

**AH-64 Aircraft Armament Maintenance Tech Course (12/16/93);** CW2 Mark Louis Duplessie.

**Course 37W1 Class 50293 (12/16/93):** PV1 L. Segerstrom.


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CW2 Jeff L. Cobb
SGT Michael P. Derosier
CPT Craig A. Engel
CPT Maryanne Gaffney
CW4 Jeffrey L. Gibson
CW3 Charles L. Harwood
LTC Thomas N. Hinkel
CPT David R. Hosmun
CW4 Mike L. Johnson
CSM Douglas B. Laird
MAJ Samuel A. Mooneyhan
CW2 Nelson C. Perez
1SG John Petrella
CPT William H. Philbrick
CW3 Robert A. Plomski
SFC Thomas J. Vincent
SGT Alfred P. Wilmont, Jr.
Mr. Casey C. Wiseman
SPC Deborah Wiseman

**PHANTOM CORPS CHAPTER**
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CW3 James K. Addington
SGT Glen S. Barto
CW2 Benjamin P. Bushong
SSG Michael S. Coake
CPL Michael Z. Gallant
CW2 Richard J. Gonia, Jr.
CPT Glen A. Jordan
MAJ Richard W. Lally
CPT Denise A. Little
CW2 Peter B. Montrono
SGT Charles T. Obermier
PV2 Rhonda Susan O'Keefe
CPT James W. Panlon
CW3 Wm. Timothy Peacock
CW3 Wayne L.Pearson
MAJ Mike C. Pheanis
CPL(P) Brett R. Rinehart
PV2 David E. Sowell
CW4(P) Howard L. Swaim
CW2 Michael H. Vaughn
CW3 Johnny H. Warren
CW2 David B. Whalen

**RAGIN' CAJUN CHAPTER**
**FORT POLK, LA**

CW4 Bill Davis
COL Samuel S. Thompson, III

**RAZORBACK CHAPTER**
**NORTH LITTLE ROCK, AR**

CW3 Roy J. Fowler
1LT Steven R. McClure

**RHINE VALLEY CHAPTER**
**MANNHEIM, GERMANY**

CW3 Dawn R. Stirling-Smith

**SAVANNAH CHAPTER**
**FT STEWART/**
**HUNTER AAF, GA**

Mr. Robert A. Mazur

**SOUTHERN CALIFORNIA CHAPTER**
**LOS ANGELES, CA**

Mr. William Brankin
CW4 Keith E. Carson
SGT Joseph M. Ortiz
Ms. Sandra Schaffer

**TALON CHAPTER**
**ILLESHEIM, GERMANY**

CW2 Derrick H. Crager
CW2 Kenneth D. Poindexter
CPT William S. Story

**TARHEEL CHAPTER**
**RALEIGH, NC**

CPT Jeffrey L. Copeland
1LT Craig M. Mix

**TAUNUS CHAPTER**
**WIESBADEN, GERMANY**

LTG Jerry R. Rutherford

**WASHINGTON DC CHAPTER**
**WASHINGTON, DC**

Ms. Gaynell H. Canipe
Mr. Ned L. Christensen
Ms. Elaine C. Conardy
Ms. Sandra Fleming
SFC Ronnie L. Grantham
Mr. Gary L. Groom
Mr. Otto C. Grummt
CPT Theophilus Hall
SFC Mark F. Herndon
Mr. Michael P. McDonnell
Mr. Thomas C. McFarlane
Mr. Norman F. Mitchell
MAJ William O. Wade

**WINGS OF THE MARNE CHAP. ANSBACH, GERMANY**

CW3 Anthony L. Acosta
CW2 Michael E. Cuthbert
CW2 James D. Ellis
CW3 Tom E. Grogan
WO1 Brian J. Joseph

**MEMBERS WITHOUT CHAPTER AFFILIATION**

COL Paul D. Alford, Jr.
2LT Mark M. Beckler
CPTN Gerd H. Behn
Ms. Betty C. Brown
CW2 Bradford B. Chambers
CW4 Arthur W. Cox
1LT David G. Dehoog
CW3 Glen P. Demorest
CPT Bradley E. Errington
SSG Charles O. Fluty
CPT Xavier O. Garcia
SFC Kevin K. Gaston
CW3 Pablo Herrera, Jr.
SGT Erlene R. Hoagland
CPT Ronnie W. Howell
CW4 Eric R. Leohner
Mr. Rick Lewis
LTC Daniel J. McGraw
Mr. Robert B. McNab
CDT Daniel S. Metting
CPT James C. Miller
CW3 Terry L. Myers
CW3 Terrence A. Myres
Mr. Mark Nadir
2LT Meritt L. Phillips
CPT Lowell C. Preskitt
Mr. Salvador Rodriguez, Jr.
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## ARMY AVIATION ASSOCIATION OF AMERICA (AAAA)

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**Please check one:** ☐ Change of Address; ☐ New Membership Application

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

Rank/GS Grade _____ First Name _____ MI _____ Last Name _____ Sex _____

Mailing Address _____

Mailing Address _____

City _____ State _____ Zip + 4 Code _____

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

( ) _____ Area Code Office Phone ( ) _____ Area Code Residence Phone ( ) _____ Area Code Fax

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

Signature _____ Date _____

Nickname _____ Spouse's Name _____

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

### AAAA ANNUAL DUES

Applicants other than those listed below:
( ) 1 yr, $21; ( ) 2 yrs, $39; ( ) 3 yrs, $57
Full-Time Students; Enlisted; WOCs; GS-8 DACs & Below; Wage Board 12 DACs & Below:
( ) 1 yr, $14; ( ) 2 yrs, $25; ( ) 3 yrs, $36
Add $5 per year if you have a foreign, non-APO address.
Add $15 if your check is drawn on a foreign bank.

☐ Check enclosed payable to "AAAA" or charge to:
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**Check (✓) Your Professional Qualification:**

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|---|---|---|---|
| ( ) | Army Active Duty | ( ) | US Defense Industry |
| ( ) | DA/DOD Civilian | ( ) | Consultant |
| ( ) | Army Nat'l Guard | ( ) | Publishing/Other Assn. |
| ( ) | Army Reserve | ( ) | Foreign Military Service |
| ( ) | Army Retired | ( ) | Foreign Defense Industry |
| ( ) | Other US Military Service | ( ) | Other _____ |

Are you a former AAAA member? ☐ Yes ☐ No
If yes, what year did you join? _____
Chapter Affiliation Preferred _____
Print Name of Recruiter _____

AAAA NEWS

## New AAAA Chapter Officers

**North Texas**
Thomas A. Russell (Pres); John R. Murphey (SrVP); Ms. Carol Mabry (Secy); Jerry Esquibel (VP, Memb); LTC James R. Barkley, Ret. (VP, PR); LTG Jack Woodmansee, Ret. (VP, Programs).

**Savannah:**
MAJ Larry W. Fleniken (Secy); CW2(P) Les C. Lindner (VP, WO Aff); 1SG William B. Harrelson (VP, Enl. Affairs).

**Talon:**
CPT William S. Story (Treas); CW2 Michael F. Monaghan (VP, Membership).

**Wings of the Warriors:**
CSM William L. Rhea (VP, Enlisted Affairs).

## New AAAA Life Members

**1LT R. Matthew Bliss**
**Keith R. Darrow**
**COL Jack E. Easton, Ret.**
**1LT George Hamontree III**
**MAJ Jeanne M. Lang**
**MAJ Barry S. Kapplan**
**LTC Matthew C. Matia**
**LTC Clifford F. Moriarty**
**CW4 Francis W. Murtagh**
**SFC Roland W. Root**
**LTC Chris Sautter, Ret.**
**CW4 Harry R. Stevenson**

## New AAAA Industry Members

**GEC-Marconi Electronic Systems, Corp.**
Arlington, VA
**Logistics Management Engineering, Inc.**
Annapolis, MD
**Magnetek, Inc.**
Tempe, AZ
**Olympus America, Inc.**
Lake Success, NY

Above: LTG William H. "Bud" Forster (left), Military Deputy, OASA (RD&A), and Director, Army Acquisition Corps, congratulates LTC Gary R. Davis, Ret., Operations Research/Senior Analyst for Aviation Systems, Directorate of Program and Vulnerability Assessment, SARDA, upon presenting him with an Order Of Saint Michael Bronze Award during a Pentagon ceremony, 8 October 1993.

Below: CPT (now MAJ) Nancy J. Sherlock aboard the Space Shuttle *Endeavour* (STS-57), is the first female Army Aviator to fly in space. Other mission highlights included the retrieval of the Eureca Satellite and the first flight of the Spacehab Module.

# Army Aviation Hall of Fame Nominations Open

## (Suspense Date for Nominations: July 1, 1994)

An AAAA-sponsored Army Aviation Hall of Fame honors those persons who have made:

- an outstanding contribution to Army Aviation over an extended period;
- a doctrinal or technical contribution;
- an innovation with an identifiable impact on Army Aviation;
- efforts that were an inspiration to others, or
- any combination of the foregoing, and records the excellence of their achievements for posterity.

All persons are eligible for induction, except active duty Generals and Colonels. Membership in AAAA is not a requirement.

Contact AAAA National Office (203-226-8184) for Nomination Documentation requirements. All nominations must be postmarked not later than July 1, 1994.

An eight member Board of Trustees is responsible for selecting a specific number of candidates from all nominations received for placement on the Army Aviation Hall of Fame ballot. The ballot will be mailed to AAAA members with two or more years of current continuous membership in the Fall of 1994.

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# AAAA Annual Essay Contest

The second Annual AAAA Essay Contest is underway. The contest is designed to encourage the writing of original essays on topics that further the general knowledge of U.S. Army Aviation. Suspense date is 1 July 1994.

### DOCUMENTATION

The official application form should be used and is attainable from the AAAA National Office, 49 Richmondville Avenue, Westport, CT 06880-2000; Telephone (203) 226-8184; FAX: (203) 222-9863. The form may be reproduced locally.

### SELECTION

The essays will be reviewed by members of the AAAA Awards Committee appointed by the AAAA Awards Committee Chairman.

### AWARD PRIZE

First prize earns a $500 honorarium; second prize earns a $300 honorarium; and third prize earns a $200 honorarium.

### PRESENTATION

The three winning essays will be published in ARMY AVIATION Magazine. Essays not awarded prizes may also be published in ARMY AVIATION. The winning essay may also be considered for presentation at the AAAA Annual Convention.

AAAA NEWS

## Honorary Members

The following persons have been selected by their Chapters as Honorary Members. Each will receive a complimentary one year membership, citation in these pages, and a "Certificate of Honorary Membership".

**LTG Jerry R. Rutherford**
*Taunus*

**LTG Henry H. Shelton**
*Iron Mike*

**MG William G. Carter, III**
*Iron Eagle*

**BG John A. Van Alstyne**
*Iron Eagle*

## COL Barclay T. Resler, Ret.

COL Barclay T. Resler, Ret., passed away at Good Samaritan Hospital, Kearny, NE on 24 November 1993. He had been a member of AAAA since 1963.

COL Resler served in the Army during WWII, serving in the Pacific Theater. He saw duty in Japan during the Korean War as Secretary of the General Staff, Japan Logistical Command, under GEN Douglas MacArthur. He retired from the Army in 1962 as Chief, Overseas Supply Agency, Transportation Corps. He was employed by The Vertol Division of Boeing, where he was proud to be involved with delivery of the first CH-47D to the Army.

He is survived by his daughter, Nancy Peek, of Kearney; son Barclay T. Resler II of McLean, VA; and six grandchildren.

Soldiers stationed in Korea were awarded trips to Chejudo Island, the "playground" of Korea. The trip was sponsored by the AAAA Morning Calm Chapter. The lucky troops were treated to tours, parties, and much-needed relaxation time.

The winners, pictured above from left to right, are first row: CPL Jung Choi, 17th Avn Bde; SPC Cedric Johnson, 2-501 Avn; SPC Steven Murdoch, 3rd MI BN; PFC Steven Clark, 4-501 Avn Regt; and PV2 Scott Smith, 5-501 Abn Regt. Second row: SPC Samuel Gibson, 4-501 Avn Regt; SPC Holly Frohn, 377 Med; SGT Dolly Leatherman, 4-58 Avn Regt; SGT Anna King, 4-58 Avn Regt; SPC Wilcann Amazon, HHC, 17th Avn Bde; and PFC James Neal, 2-501 Avn Regt. Third row: SPC Curtis Jackson, 2-501 Avn Regt; PFC Daniel Munoz, 1-501 Avn Regt.

## AAAA Chapter News

A new, but as yet unnamed, AAAA chapter is being formed in Giebelstadt, Germany. The chapter will be for units of the 3rd Infantry Division, 12th Aviation Brigade, and one company of 7-159 Aviation AVIM.

An organizational lunch meeting was held 24 September 1993 and featured a briefing on the history of Giebelstadt Army Airfield from 1943 to the present.

In other Chapter News, the **Tar Heel Chapter** held a quarterly meeting on 8 January 1994 at the Army Aviation Support Facility, Salisbury, NC. Chapter President COL Leslie T. Everett, Jr. briefed on how ARI will affect members of the Tar Heel Chapter. The rest of the meeting was devoted to planning activities for 1994.

# AAAA SCHOLARSHIPS AVAILABLE
## $125,000 to be offered in 1994


Scholarships "set aside" for
Enlisted, Warrant Officer, Company Grade Officer
and Civilian Members.

Funds also available for spouses, siblings
& children of AAAA members.

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

**Application Deadline May 1, 1994**

# HELEN THORP CRIBBINS AAAA MEMORIAL SCHOLARSHIP ANNOUNCED

**Helen Thorp Cribbins**
**1907-1993**

A new AAAA Memorial Scholarship has been established in the name of Helen Thorp Cribbins. Beloved wife of AAAA National Executive Board member Joseph P. Cribbins, she was on active duty in the U.S. Army from 1943-1945. They met in the Phillipines in 1945 and served together as military officers. After twenty-six years of soldiering in the Army, Joe served as a Department of the Army civil servant for another twenty-six years for a total of fifty-two years devoted to the Army, nearly all of it to Army Aviation, with Helen at his side.

In compliance with her wishes, The Helen Thorp Cribbins AAAA Memorial Scholarship will be presented annually to the most deserving female candidate. Contributions may be made to the AAAA Scholarship Foundation, Inc., in care of the Helen Thorp Cribbins Scholarship, 49 Richmondville Avenue, Westport, CT 06880-2000; Telephone: (203) 226-8184; FAX: (203) 222-9863.

## AAAA CALENDAR

A list of upcoming AAAA Chapter and National dates.

**February, 1994**

**Feb. 1.** Phantom Corps Chapter General Membership Meeting, Ft. Hood Officer's Club. Guest Speaker: MAJ Nancy J. Sherlock.

**Feb. 2.** Lindbergh Chapter Professional-Social Meeting. Stouffer Concourse Hotel.

**Feb. 2-4.** 20th Annual Joseph P. Cribbins Product Support Symposium sponsored by the AAAA Lindbergh Chapter, Stouffer Concourse Hotel, St. Louis, MO.

**Feb. 3.** AAAA Outstanding Aviation Logistics Support Unit of the Year Award Presentation & Industry Award Presentations, Stouffer Concourse Hotel, St. Louis, MO.

**Feb. 5.** Armadillo Chapter Professional-Business Meeting, ASF Houston 62. Guest Speaker: COL Michael K. Mehaffey.

**Feb. 18-21.** Iron Eagle Chapter Ski Getaway. Portes du Soleil, Switzerland.

**Feb. 19-26.** Chesapeake Bay Chapter Ski Trip. Breckenridge, CO.

**March, 1994**

**Mar. 25-26.** AAAA USAREUR Region Professional Sessions and USAREUR Region Ball.

**April, 1994**

**Apr. 20-24.** 1994 AAAA Annual Convention, Cervantes Convention Center, St. Louis, MO.

**Apr. 20.** AAAA National Executive Board Meeting, Cervantes Convention Center, St. Louis, MO.

**Apr. 21.** AAAA Scholarship Board of Governors Annual Meeting, Cervantes Convention Center, St. Louis, MO.

**July, 1994**

**July 15.** AAAA Scholarship Board of Governors Executive Committee Meeting, Best Western, Arlington, VA.

**July 16.** AAAA National Scholarship Selection Committee Meeting, Best Western, Arlington, VA.

**August, 1994**

**Aug. 15-18.** Army Aviation Electronics Symposium, sponsored by the AAAA Monmouth Chapter. Gibbs Hall, Ft. Monmouth, NJ.

**October, 1994**

**Oct. 17.** AAAA NEB Meeting, Sheraton Washington Hotel, Washington, D.C.

## 2 for 1 Offer

AAAA now offers a two year membership for the price of one for all first-time new members

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See membership application on page 73.

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