A report on the AVSCOM's Directorate for Maintenance

GUEST EDITORIAL: ARMY AVIATION IN THE REPUBLIC OF KOREA

ARMY AVIATION

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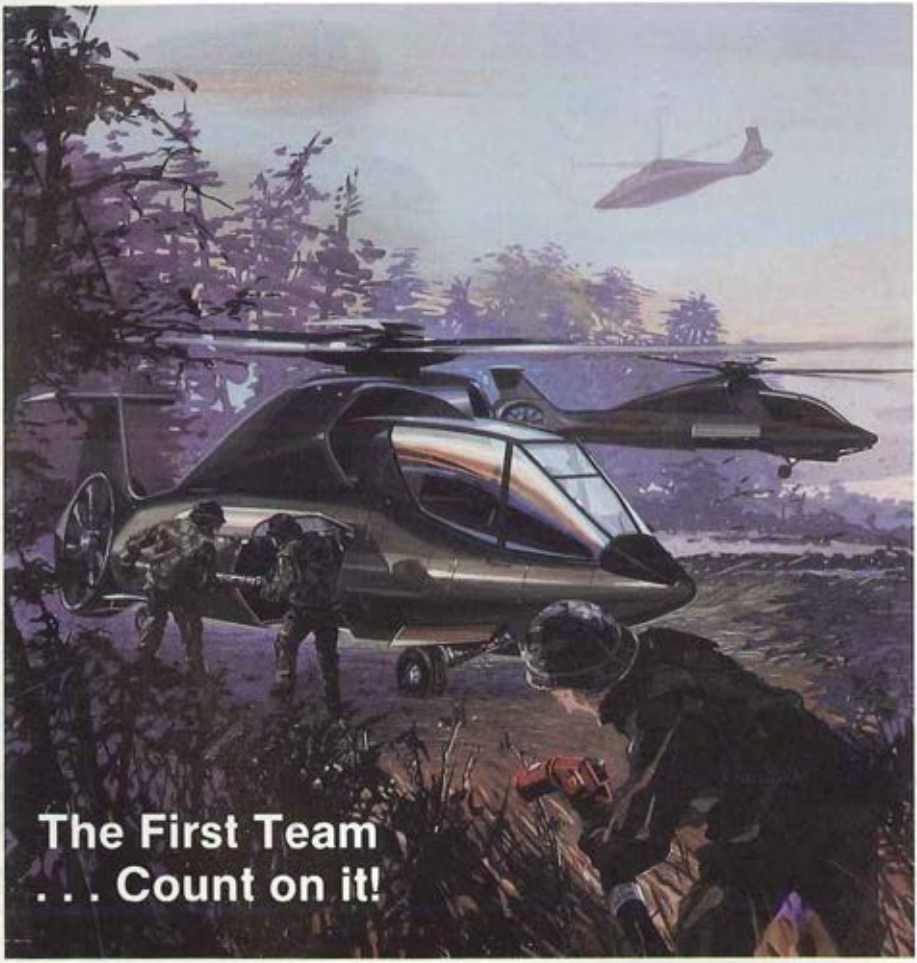

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Why Join AAAA?

by Major General Charles F. Drenz, Ret.
AAAA Senior Vice President

We've all heard the question "Why Join AAAA?" many times, but recently I read an article in INDUSTRY WEEK about joining industrial associations. The author wrote that while certain technical organizations have degree requirements for membership, the majority require only that you be working in or have a deep interest in the specialty in order to join. **And join you should!** Being a member of a professional organization shows that you consider yourself and your specialty to be professional.

Whether you're talking about the Army Aviation Association of American (AAAA) or any other association, its value to you extends far beyond nice lapel pins, slick posters and one more wallet-sized membership card.

Joining one of these organizations means that you consider yourself a professional and that you wish to associate with other members of your profession. It means that you are willing to make that extra effort that will allow you to take advantage of the opportunities that membership provides.

And, what are these opportunities? Once you join an association, you'll soon receive an announcement of the next local chapter meeting. Show up! Get involved! You'll find that you're meeting people who share a common interest (in our case Army Aviation) in an atmosphere that encourages the free exchange of ideas among people who care about their profession.

If you haven't learned it by now, you'll soon realize that a significant portion of your education/training occurs through informal firsthand opportunities to learn from the experiences of others. Talk to the people who design your systems, are responsible for their logistical support and sustainment as well as your peers in your specific expertise.

Are good fellowship and entertainment sufficient reasons to join? Probably, but membership provides much more in the area of professional development.

Every association publishes some form of major journal. One of the primary functions of a professional organization is to keep its members up-to-date on the latest developments in its field. AAAA keeps its members informed through ARMY AVIATION MAGAZINE, which is written by AAAA members themselves.

When was the last time you submitted an article for publication? When your article is accepted for publication, you will have made a tangible contribution to your profession and to keeping your fellow members well informed on your particular efforts.

You may find that someone who reads your article may take issue with you. A further exchange of ideas then takes place. If you contribute a number of articles, you may find yourself making a presentation at a Chapter meeting or even at the Annual Convention.

If writing and speech making aren't what you're looking for, keep in mind that the information, experiences and friendships you gain will stand you in good stead throughout your career. Many people stay active in their associations in retirement to keep up on current events and see who's coming up the ladder behind them.

You may look at yourself as a loner, not a "joiner". Fine, but try looking at yourself and your work as every bit as professional as any doctor, lawyer or engineer. For the modest investment that joining our association requires, I'm sure you will come to appreciate the years of satisfaction that AAAA membership affords.

Join the professionals — Join AAAA! You won't regret it. IIIII

Helping Protect Peace in the Republic of Korea

By General Louis C. Menetrey

It was 4:00 a.m., Sunday, 25 June 1950: The free world, whether it would ever admit it or not, was at war. Eighty thousand North Koreans had been moved, some divisions coming down from the high and distant Yalu, and it had all been done smoothly. But the West had not prepared for trouble. It did not want to be prepared. The Korean War did not write the end to an era, but merely marked a fork on a road the world is still traveling.

In some ways, war on the peninsula followed timeless traditions. The enemy traveled light, at night, and was an astute scholar of terrain and its application to cover and concealment. No matter how bitter the weather, or other conditions, he carried on. His weapons and supplies moved in oxcarts, by pony, even by camel, but usually they moved on the backs of men who climbed the cliffs, maneuvered along the military crest of ridges, and made optimum use of concealment offered by the narrow valleys. This was an enemy used to hardship and deprivation; an enemy which excelled in the use of the night attack, and who willingly sent wave upon wave of forces, crashing forward time and again, to seize specific objectives. The many ridges meant a high degree of canalization for ground-bound maneuver elements. Key terrain and decisive terrain often meant highly defensible terrain that was hard to take, and given the logistics, even harder to hold.

GEN Menetrey is Commander, U.S. Forces Korea, and CG, 8th United States Army, ROK.

From the very beginning, elements of Army Aviation were deeply involved in the air campaign and made significant contributions to the United Nations effort. Using the light planes of World War II, Army artillery spotters, such as First Lieutenant Lee Hartell of the 2d Infantry Division, daily worked the steep ridges with light aircraft, searching the hillsides and narrow ravines. Once the enemy was

spotted and his precise position plotted, the men flying these flimsy craft called the fast movers and indirect fire from a multiplicity of sources, and adjusted the splash as needed. In one such action, a mission in which Lieutenant Hartell participated, more than three thousand enemy soldiers were killed by precise artillery fire, assisted by Air Force strafing and bombing runs.

This traditional mission was important, and well executed, but the war in Korea also brought great changes to Army Aviation. It marked the real beginning of rotary-wing flying in an active combat environment. First, of course, was observation. But the capabilities of rotary wing flight — particularly the ability to land wherever it wanted, and loiter through areas, hovering behind treelines and hilltops — quickly drew the interest of many different fields. The helicopter also was responsible for many rescues, at sea as well as behind the lines, of pilots and aircrews forced down by enemy action. The most eventful use, however, had to be the first faltering steps taken in the business of tactical aerial envelopment. Before the armistice, both squad and platoon level assaults were made by the Marine Corps — operations watched carefully by the Army's aviation community. Korea was the launchpad for the massive tactical and logistics use of rotary-wing aircraft in Southeast Asia.

"Let your rapidity be that of the wind, your compactness that of the forest. In raiding, be like fire, in immovability, like a mountain. Let your plans be dark and impenetrable as night and when you move, fall like a thunderbolt!"
The Art of War, Sun Tzu, 500 B.C.

An International Team

Army Aviation continues its service in Northeast Asia today as part of a strong international combined-joint defense team charged with the same mission as every other element within the force; a mission that has now been successfully carried out for more than three decades. That mission is to safeguard the Republic of Korea's right to exist as a sovereign nation, free from aggression by a neighbor whose leadership contends the use of armed force to achieve unification is a legitimate tactic.

The continuing imbalance of combat forces to the North remains a serious factor in the security and stability of the peninsula. More than 20% of North Korea's gross national product continues to be used for military growth. The North now has an estimated 950,000 personnel under arms, with more than 65% located within 75 miles of the D-M-Z, compared to 600,000 South Korean forces dispersed throughout South Korea. Kim IL Sung's forces are much better equipped than they were on that day in 1950 when they first invaded the Republic. Today, the North has a substantial quantitative advantage — at least two to one — in such key areas of combat power as armor, artillery and multiple rocket launchers. North Korea has more than twice as many combat aircraft, a greater numerical advantage at sea, and a large special operations force, trained to spearhead an assault, using parachute and helicopter insertions, as well as over ground, sea and D-M-Z tunnel routes.

These facts are constant considerations in terms of METT-T (Mission, Enemy, Terrain, Troops & Time Available) and our ability to accomplish wartime missions. The Army Aviation community in the Republic of Korea knows this and properly applies these factors to its daily operations. This significantly enhances our posture of deterrence; the posture which permits citizens of the Republic of Korea to live freely in conditions of peace.

Complementarity

Complementarity and interoperability are two operational terms which need more than a casual mention. Complementarity means, for the aviation community, the procurement and use of items which strengthen the entire team. In the Republic, for instance, the ROK armed services might decide to expand their medium lift capabilities, while the U.S. Army decides it needs more gunships. The result is a combined aviation force having both enhanced attack and lift capabilities; a combined aviation force, which, since the Team Spirit exercise in 1983, has performed in an outstanding manner in a wide variety of operational assignments.

Indeed, today there exists a formal organization known as just that — the Combined Aviation Force (CAF). It is commanded by a Republic of Korea Army Brigadier General. The Deputy Commander is a U.S. Army Colonel also commanding the 17th Aviation Brigade who serves as the maneuver commander of the CAF.

This force is designed to provide enhanced command and control, and optimum battlefield responsiveness, from the ground component aviation capabilities of both nations. The CAF is the largest aviation structure in the free world. This organization provides the echelon above Corps aviation support to the Combined Forces Command. Its composition includes Attack, Assault, and Cargo assets in order to provide maneuver, combat support, combat service support, joint/combined air assault, general support for non-standard operations, and general and direct support for Field Army, Corps and Division operations. Mid to high intensity Theaters will require allied cooperation for success. Since any significant conflict within the Republic would undoubtedly involve major land, Naval, and Air Forces of several nations operating toward common objectives, being a component of the CAF is an integral part of the ROK Army Aviation Command and the 17th Aviation Brigade's mission. In Korea the allied structure is in place and cooperation with allied forces is the routine method of conducting operations.

"Rapidity is the essence of war; take advantage of the enemy's unreadiness, make your way by unexpected routes, and attack unguarded spots."
The Art of War, Sun Tzu, 500 B.C.

Interoperability

Interoperability fits precisely into the overall picture with complementarity but involves not only combined, but joint operations as well. Interoperability means that either ROK or U.S. aviation units can properly function with ground units of either nation, or with other parts of the air-land-sea team, as a single entity dedicated to engaging and successfully concluding combat operations designed to achieve a specific purpose.

I'm firmly convinced the finest combined-joint aviation training for any military organization anywhere in the world today exists in the Republic of Korea, and is being carried out with all the excellence possible by a competent and confident team of professionals. The future of Army Aviation in the Republic of Korea is that of an equal partner with combined and joint counterparts to provide the right kind of aerial capabilities for the exceptionally well tailored forces that are in place.

Unconventional War Task Force

The Army Aviation community in the ROK is doing an excellent job in all aspects. Expanding capabilities with the presence of the CH-47D cargo helicopter, and the Enhanced UH-60 utility helicopter emphasizes night operations and pinpoint navigation to support the ROK Special Warfare Center as a part of the Combined Unconventional Warfare Task Force. Expanding capabilities ahead include on-going efforts to modernize our aviation force through the fielding of enhanced components and major end items.

Other actions include implementing a highly mobile command and control system capable of meeting the demands of volatile battlefield conditions and consolidating all air traffic control facilities into one flight operations center. The CAF will greatly assist in overcoming the imbalance of forces currently existing between the North and South.

The Spirit To Win

Together as an air-land-sea, combined-joint force, we face threat forces to the north who are well-armed and well trained. The Army Aviation community exemplifies the spirit and the strength required of combined forces to effectively safeguard against any threat; and to win, should deterrence fail. I have something the commander of the forces to the north will never have — bright, industrious men and women who know why they serve and do so in a willing manner to protect freedom. No soldier, sailor, airman or marine can have a finer mission than that. IIIII

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The Enlisted Aerial Observer Course

By Major General Rudolph Ostovich, III

Enlisted Aerial Observers are beginning to look into the future through the eyes of the most advanced Aeroscout the Army has ever known — the OH-58D. Soldiers who were in high school a few months ago are now finding themselves bridging a technology gap only dreamed of in video arcades across the country. The OH-58D Enlisted Aerial Observer Course began 1 October 1989, and will soon improve the eyes and ears of the division commander.

The first class of Enlisted Aerial Observer students trained in the OH-58D came from varied backgrounds. They are from 20 to 32 years old, range in rank from Private to Staff Sergeant, and are graduates of the 93B Enlisted Aerial Observer Course taught in OH-58A/C aircraft. They all display an avid interest in flying, and come to the course with 50 to 160 hours of aerial observer experience.

MG Ostovich is Chief, Aviation Branch, CG, U.S. Army Aviation Center and Ft. Rucker, AL and Commandant, U.S. Army Aviation Logistics School.

Training for these advanced Aeroscouts is conducted at Fort Rucker by the warriors of Company C, 1st Battalion, 14th Aviation Regiment. The observers train in the left seat to become technically and tactically proficient members of the Combined Arms team.

Learning the Ropes

Training begins with 18 hours of emergency aircraft handling and the operation of the complex communication and navigation systems. The program of instruction consists of the observer actually flying to various airfields and performing basic flight maneuvers. He also employs the inertial navigation system enroute and performs all radio communication functions.

Developing the cockpit coordination needed to survive on the AirLand battlefield is an integral part of this phase of training. Next, the soldier moves into day combat skills training and learns to employ the

advanced systems of the aircraft. He is taught to acquire, identify, and locate targets with the Mast Mounted Sight at distances in excess of five kilometers from nap-of-the-earth altitudes. After locating the target, the student calls for artillery or attack helicopter support through the digital data-burst communications of the Airborne Target Handover System. Observers gain hands-on experience and are exposed to advanced tactics through the conduct of reconnaissance and security missions.

The Final Phase

The final phase of training develops the observer's skills in combat night fighting. He performs all of the previously mastered tasks at night using AN/AVS-6(V)1 night vision goggles. Soldiers also become highly skilled at identifying targets with the Thermal Imaging System (TIS) and designating them with the Laser Rangefinder/Designator (LRFD).

A hands-on evaluation of all critical tasks ends each phase of training. At the completion of his training, the observer is required to be a systems expert with the ability to fly and land the aircraft safely if his pilot is wounded or disabled in combat.

Manning the Left Seat

Aerial observers are assigned to air cavalry units after completing their training. These highly trained soldiers become fully functioning members of the combat team, flying in the left seat of OH-58D helicopters. They are currently being assigned to Fort Bragg, North Carolina, and in the near future will go to Germany when the Armored Cavalry Regiments change over to OH-58D. Observers will also be trained in aerial gunnery when the Army fields the armed OH-58D.

With the implementation of the 93BW5 Aerial Observer Course, enlisted soldiers now have the opportunity to excel along the advancing blade of aviation technology.

Relocation of Avionic BNCOC Training

By CSM Don K. Corkran

In a continuing effort to centralize all Army Aviation training, the former Career Management Field (CMF) 28 Basic Noncommissioned Officer Courses (BNCOCs) have been moved from Fort Gordon, GA to the U.S. Army Aviation Center Noncommissioned Officer Academy, Fort Rucker, AL effective 5 January 1990. These courses, which are now a part of CMF 67, are designed for Sergeants and Staff Sergeants with Military Occupation Specialties (MOS) of 68L (formerly 35L) Avionic Communications Equipment Repairer; 68N (formerly 35K) Avionic Mechanic; 68Q (formerly 35M) Avionic Flight Systems Repairer; and 68R (formerly 35R) Avionic Radar Repairer.

Formerly these four MOS capped at the rank of Staff Sergeant into MOS 35P (now 68P); however, under the restructuring and integration into CMF 67 this cap does not occur until the rank of Sergeant First Class. This change in the capping point has had a tremendous impact on the content and length of these BNCOC courses.

CSM Corkran is Commandant, Noncommissioned Officer Academy, Ft. Rucker, AL.

Prior to this change, Fort Gordon taught one BNCOC course for the capper MOS which included merger training for all four MOS; this course was in excess of 18 weeks. Since this merger of MOS was changed to the SFC/Advanced Noncommissioned Officer Course (ANCOC) level, four separate courses had to be designed for BNCOC soldiers; however, without the need for merger training, they were greatly reduced in length. When training commences in January, the four new courses will all be eight weeks and one day in length. The first half of this time will be spent in Common Leadership Training (CLT) designed by the Sergeants Major Academy and Aviation Common Subjects designed by the Aviation Center.

(BNCOC — continued on page 60)

One view of Starstreak you'll never see.

Travelling at many times the speed of sound, Starstreak isn't easy to spot. Impossible, in fact.

And as it travels, three guided darts separate out in formation to strike the target. Greatly increasing the hit area.

Too bad if it's you.

Fast, lethal and accurate — Starstreak has no challengers. It's highly immune to countermeasures.

This innovative weapon system was designed by Shorts and is currently under development for production and delivery soon to the British Army.

Its power is awesome. Incorporating the very latest missile technology advances, Starstreak has completely redefined the state-of-the-art in close air defense. No other system provides such devastating speed and accuracy. The British Ministry of Defence has contracted for the early deployment of Starstreak in Western Europe.

Shorts is teamed with Boeing Aerospace to adapt Starstreak to the Avenger as an upgraded pedestal-mounted air defense system for the U.S. military. McDonnell Douglas Helicopter Company and Martin Marrietta Electronics Systems are working together with Shorts to integrate Starstreak as an air-to-air missile on the Apache Helicopter.

Blowpipe, Javelin and Seacat are also produced by Shorts, so Starstreak is only the latest in a succession of proven and technically excellent weapons. But much faster and more lethal than anything that's gone before. Which is good to know. Providing it's not pointing in your direction.

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Aviation Night Vision Goggle Update

by
Lt. Colonel Dennis A. Williamson

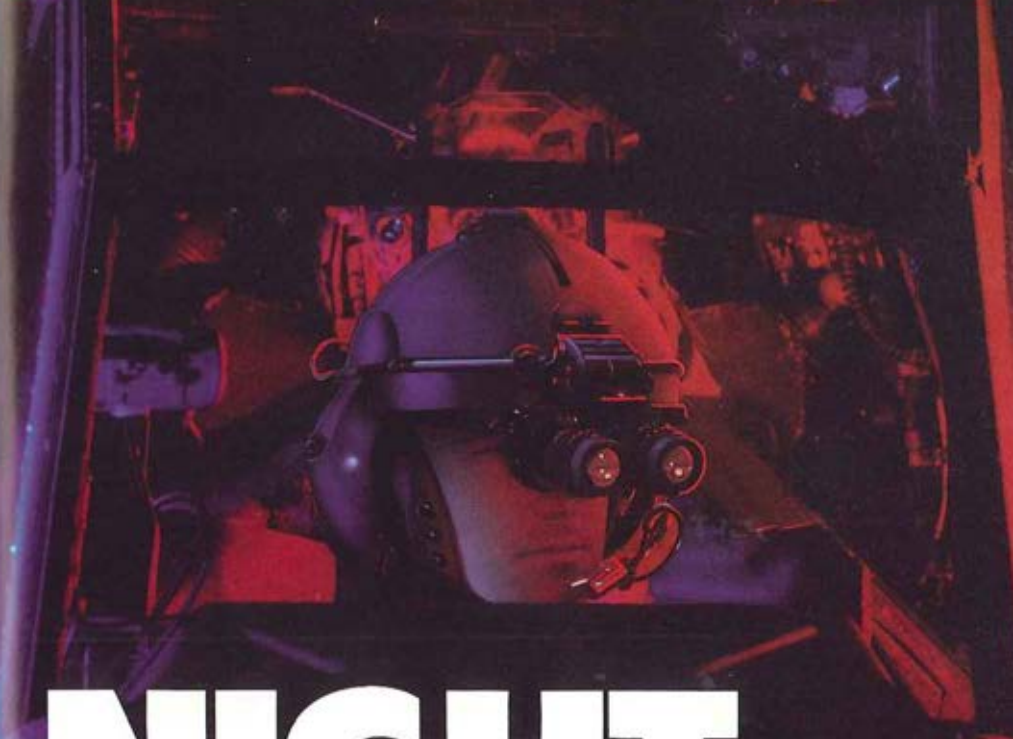
Throughout the past year, aviation units have evaluated all AN/PVS-5A/B/C Night Vision Goggles (NVG) and AN/AVS-6 Aviators Night Vision Imaging System (ANVIS) to screen out those with unacceptable distortion. I want to provide you with the latest information regarding the distortion evaluation, status of spare image intensifier tubes, and the impact on fielding of new goggles.

The distortion problem was first reported in early 1988 in the AN/PVS-5B/C series goggles. These goggles were restricted from aviation use. The Project Manager for Night Vision/Electro-Optics (PM-NVEO), immediately went to work to determine the cause for distortion. During the summer of 1988, engineers discovered the twist in the fiber optic inverter used in the NVG and ANVIS image intensifier tube was the culprit. In coordination with the aviation Research and Development community, a procedure was designed that could be used at the unit level to evaluate all goggles. In March 1989, after extensive validation tests, the PM-NVEO and the Army Safety Action Team, Headquarters, Department of the Army, recommended to the VCSA that a Safety-of-Use message be dispatched to all NVG users. The message required that all models and series of night vision goggles used by aviators and crewmembers be evaluated to identify those with unacceptable distortion. Results of the evaluation revealed that approximately 28% of the fielded goggles had a distortion level unacceptable for aviation use.

LTC Williamson is Aviation Materiel Management Officer, ODCSLOG, Washington, D.C.

Emergency Contract

As results of the evaluation became known, it became evident that sufficient spare image intensifier tubes were not on hand to replace those determined to have unacceptable distortion. In May 1989, a



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competitive emergency procurement contract for 1,680 tubes was awarded to Varian with delivery to begin in November 1989. This contract could not meet the shortfall and a second emergency procurement was initiated in August 1989 for an additional 1,750 tubes with an option for 1,750 more. ITT was awarded the second contract with initial delivery to begin in January 1990. On 2 November 1989, the Communications and Electronics Command (CECOM) awarded the 1,750 option. The delivery schedule has been accelerated, at no cost to the government, to overlap with deliveries from the basic quantity.

Filling Backorders

Concurrently, a joint decision between the Office of the Deputy Chief of Staff for Operations (ODCSOPS) and the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) was made to reduce the production of new goggles in order to use individual tubes previously identified for goggle production to fill backorders. At the request of CECOM, intensifier tubes were added to the Aviation Intensive Management Item (AIMI) program to ensure equitable distribution. Requisitions are now being filled in accordance with the priorities established by ODCSOPS. We anticipate all Non-Mission Capable Supply (NMCS) requisitions currently documented should be filled by the end of 2QFY90.

The Fix

To ensure unacceptable distortion is not present in new production goggles and tubes, the PM-NVEO has taken two steps. The first step will be the specification for the fiber optic inverter. This is being phased into the production schedule. So far, the

How Does an Image Intensifier Tube Work?

Night vision is based on the phenomenon of photoemission, the emission of electrons from the surface of a solid when struck by even minute amounts of visible and infrared light. Scientists have been able to develop night vision devices that could both intensify small amounts of light as well as converting infrared wavelengths into visible light.

As shown in the drawing, when minute amounts of light strike the photocathode, it releases electrons. These electrons are multiplied a thousand times or more by an electron multiplier (microchannel plate or MCP). The MCP is composed of approximately two million fiber-optic channels arranged in a wafer-like plate. The electrons are then routed at high speed toward a phosphor screen within the tube. The phosphor material emits a green light each time it is struck by one of the thousands of electrons bombarding it. The phosphor emits the light in the exact pattern of electrons coming from the outside scene via the photocathode. The human eye, which is very sensitive to this green light, can now see clearly the night images as though it were nearly daylight.

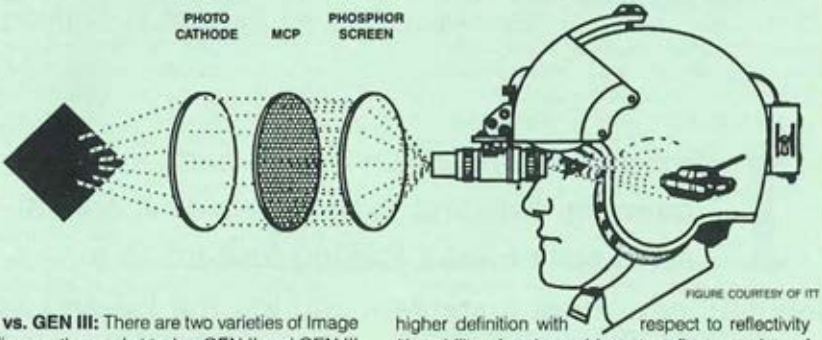

FIGURE COURTESY OF ITT

GEN II vs. GEN III: There are two varieties of Image Intensifiers on the market today, GEN II and GEN III (GEN 0 and GEN I are now obsolete). The advantage of GEN III is its ability to respond not only to low light in the visible spectrum, but also to infrared wavelengths.

The more overcast — and therefore darker — the night, the more infrared frequencies come into play. Besides providing much better vision on overcast nights, GEN III also utilitizes infrared's substantially higher definition with respect to reflectivity (the ability of various objects to reflect a variety of electromagnetic waves). In the GEN II range, objects typically seen by a pilot reflect with little difference, thus contrast is inhibited. Without contrast, objects cannot be seen. In the infrared range, reflectivity increases, as does differences in reflectivity. The end result is that with a GEN III system, a pilot is able to see objects that would not be seen at all with a GEN II system.

results are very favorable. The second step will develop a procedure that can be used to objectively evaluate distortion beyond the current subjective evaluation. To date, automated test equipment has been integrated into the ANVIS production line at both ITT and Varo, the prime manufacturers of AN/AVS-6 goggles.

Determining Acceptability

By comparing the distortion evaluation procedure used in the field with the new automated test results, the Army has now determined there is a definite quantitative relationship between acceptable and unacceptable systems. We will now be able to field AN/AVS-6 systems and spare intensifier tubes based solely on quantitative evaluations.

Support of current night vision goggles and fielding of new AN/AVS-6 goggles has been adversely impacted by all the above. However, spare intensifier tubes are now being delivered. Fiber optic cables meeting the new specification are being used and new automated test equipment is now in place at the manufacturers' plants. We are now reversing the trend by supporting old systems and fielding new ones on an improved schedule. IIIII

The Silent Partner

By Major General Richard D. Kenyon, Ret.

Imagine driving down a road early in the morning, listening to the news on the local radio station, and looking forward to a beautiful day. All of a sudden, you top the hill and see 140 helicopters take off and head in as many directions.

Where are you? You just arrived at the intersection of Farrel and Lowe Field Roads at Lowe Field, Fort Rucker, AL, just in time for the morning launch of flight students — the aviators of tomorrow. Of course, the scene could be the other base operating fields like Cairns, Hanchey, or Shell but without quite as many aircraft.

What makes it possible to see this many helicopters launched day after day? What provides the essential and unique effort that allows the Aviation School to concentrate on flight instruction? The "silent-partner" does — Fort Rucker's contract aircraft maintenance team. This team is comprised of more than 2,000 professionals, averaging 48 years in age and 15 years of experience. They do everything from fabric repair and woodwork to engineering assistance to normal aircraft maintenance and avionics and engine repair. Some have been with the operation through several contractor changes - Spartan, Aeronca, Hayes, Page, Northrop, and SSSI — and a few came from Fort Sill, OK, when the flight training moved in 1954. These people have made the complex and fast-moving flight training program possible for over 35 years through their knowledge, skill, and dedication no matter what company managed the effort. Today DynCorp's Fort Rucker Division manages the largest single location helicopter maintenance operation in the world. Beech Aerospace Services Incorporated (BASI) manages Fort Rucker's U-21, C-12, and transit fixed wing aircraft maintenance.

MG Kenyon is Division Chief, Dyncorp, Fort Rucker Division, Fort Rucker, AL.

The dimensions of this undertaking are best expressed in the mission statement of

the Fort Rucker aircraft maintenance team, which is to perform aviation unit, intermediate, and limited depot maintenance and scheduled inspections on all assigned and attached aircraft for the Aviation Center, its satellite activities, and the Army Aviation Development Test Activity.

This involves maintaining the Army Aviation Center's fleet of 600-plus aircraft on a 24-hour, seven-days-a-week basis in order to provide the instructor pilots and students with safe, ready-to-fly "birds" in specified numbers four times a day at the four primary flying locations. It's not unusual to see in excess of 2,000 hours flown in one day at Fort Rucker, and that means a lot of maintenance around the clock. This program results in over 400,000 flying hours per year. This is almost 25 percent of the Army's total annual flying program, and it is accomplished with about seven to eight percent of the Army's aircraft fleet! To do this requires not only the mechanics that directly work on aircraft but also comprehensive supply support from a group of experts that manage a half-billion dollars in parts per year.

Information Management

They maintain 15,000 Authorized Stockage List (ASL) lines and an average issue of 12,000 items monthly. Another very important operation is the information management center, which ties together the supply, maintenance, and personnel functions to permit sound and timely management decisions. Fort Rucker depends upon them to perform about 16,000 computations a day! The scope and operating tempo of the Aviation Center's flight training program dictate that the "silent partner" has all elements of the operation constantly synchronized.

Safety is the single most important part of the entire maintenance operation, and every member of the team knows and understands that fact. Every member of the maintenance team knows that people's lives are always in his or her hands. This dedication to "safety first" was demonstrated at the end of last fiscal year, when property damage was reduced by 64 percent and personnel injury accidents were down by 51 percent. These achievements result from safe minds directing safe hands to maintain safe aircraft.

Hanchey Field

Hanchey Field is the largest operation of the four fields and has 600-plus contract maintenance employees. One hundred forty aircraft (AH-64, AH-1, OH-58D, and CH-47), used for transition and combat skills training, are assigned; and approximately 5,900 hours are flown each month by instructors and students. Each month, 20 phase inspections are performed, and 315 test flight hours are flown. At Hanchey, one phase inspection crew has now pulled over 146 AH-64 phase inspections since the program began in 1985, accomplishing a phase in four to five days! Notably, over 50 percent of the Army-wide APACHE flying hour program is flown at Fort Rucker with ten percent of the AH-64 fleet.

An additional facet of the Hanchey operation is the range support provided at Longstreet. Here a small group works around the clock making sure that weapons are loaded and unloaded and that unscheduled aircraft maintenance is provided to preclude an aborted training period. For instance, if a 30 mm gun doesn't fire, it is replaced on the spot instead of scrubbing the mission; or if an electrical malfunction is discovered, an electrician repairs the system. Their ammo loaders load an average of 3,500 2.75 inch rockets; 17,000 30 mm rounds; and 29,000 20 mm rounds per month.

Cairns Field

At Cairns Field, 150 aircraft (UH-1, UH-60, and OV-1) are maintained by 300 personnel. These aircraft are used for transition, instrument, combat skills, and instructor pilot training. Additionally, these team members provide necessary maintenance to the school support aircraft as well as air ambulance service. Each month, 8,250 hours are flown, 30 phase inspections are performed, and 190 test flight hours are logged. These UH-60 mechanics pulled 48 phases last year, or more than one per assigned aircraft, as

compared to a tactical unit that might accomplish one per aircraft every two years!

Also at Cairns Field, the Division provides maintenance support to the U.S. Army Aviation Development Test Activity at Fort Rucker and at any of its test facilities in the continental United States and Alaska. This includes limited depot maintenance, engineering, instrumentation, avionics, armament, Aviation Life Support Equipment, and Aircraft Survivability Equipment support. This unit last year logged 153 TDY trips to 35 different sites involving 330 people who traveled 800,000 miles. A notable accomplishment was the assumption of responsibility for the MILES-AGES project — Multiple Integrated Laser Engagement System-Air Ground Engagement System. The original contract was for two years, but when the local contract test activity team took over the project, it was completed in eight months at a cost savings of $1.6 million.

Lowe Field

At Lowe Field, 440 team members maintain 225 UH-1 aircraft used for primary and combat skills training. Each month, approximately 18,400 hours are flown, 122 phase inspections are accomplished, and 300 test hours are flown. In one day, the Lowe Field folks will turn out five phase inspections! Additionally, they launch about 350 aircraft each day over the four launch periods. That is a lot of log books to get ready and write-ups to clear.

Shell Field

At Shell Field, 150 personnel maintain 90 OH-58 helicopters which are used for transition, aerial observer, instructor pilot, and combat skills training. Each month brings 8,660 hours, 28 phase inspections, and 140 test flight hours. At Shell, three phase crews each turn out a phase every two days. It's not unusual for the Shell professionals to have 60-plus aircraft available. In addition to providing normal day-to-day maintenance, these mechanics provided the necessary maintenance support for the World Helicopter Championship Team during their arduous training period.

Aviation Maintenance Support

Of course, this entire operation would not be possible without the dedicated work force in the Aviation Maintenance Support Shop. These folks are the ones who do the limited depot maintenance with a minimum of turn-around time. In addition to what these team members do routinely — overhauling ten UH-1 main rotor hubs and 19 UH-1 swashplate assemblies, servicing 400 batteries, and repairing 60 turbine engines per month — they were tasked recently to design and build from scratch an HLH rotor hub so rotor blades could be installed on the XCH-62 Heavy Lift prototype helicopter on display at the Army Aviation Museum.

When considering the hours flown per day with the aircraft available, one realizes the incredible maintenance challenge. Each day from 0600 to 0400 the team supports the launch of approximately 800 aircraft and offers it up for another safe 2,000 hours. Although the maintenance team is invisible during flight briefings, their presence is depended on. They're visible but silent during flight launches each day. They're invisible and silent during graduation ceremonies, but their presence makes them possible. IIIII

Now the Army turns to Sabreliner

Sabreliner – a name synonymous with years of positive program achievements and contract performance for the Air Force, Navy and Marine Corp. – is now also on the Army's team.

The Sabreliner Corp. team will rebuild up to 400 T53 engines at Perryville, Missouri and Hondo, Texas for the world renowned UH-1 "Huey" helicopter. Sabreliner won both halves of a split-procurement contract for small business and large business – a rare achievement. It competed against four small businesses and six major defense contractors worldwide in the open competition.

Once again, Sabreliner Corp. has proven to be a better choice for military aviation maintenance and modification services.

Sabreliner Corporation

Government Operations

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Mobilization Readiness: The Aviation Branch

By Lt. Colonel John L. Papier, USAR

The purpose of this article it to generate thought and communication in this critical area, Mobilization Readiness of the Aviation Branch. Is it necessary? You can bet your sweet rotorhead it is!

I guess it's human nature to believe that *your* area is the critical one, be it recruiting, training, supplying or maintaining. Much has been written in this very publication over the months and years. However, little information has been published about our ability, and status, as to *mobilizing, deploying,* and *sustaining.* Let's face it guys and gals, that is the bottom line; the culmination of all our efforts is measured by our ability to mobilize, deploy, and sustain; and if we can't do it, we might as well pack up and go home because we are wasting a lot of our valuable time and taxpayers' money, not necessarily in that order!

LTC Papier is the former Logistics Division Chief, MACE-ARNG.

That having been said, let's talk about it. Better yet, *let's communicate.*

Maybe by close scrutiny in certain problem areas, we can at least focus our collective attention to facilitate problem recognition and resolution. (That's the opposite of "Let's not talk about it and maybe it'll go away.") I hope we'll see future articles from the MACE, AVSCOM, DESCOM, FORSCOM, MICOM and CECOM to present their thoughts, ideas, and perspectives as to mobilization readiness as it pertains to our Branch.

General areas of concern will be M to M + 90. The support to deploying forces wherein there may be 2,700 National Guard aircraft added to the Army inventory, mobilizing through some 51 mobilization stations. How many of these Mob stations can handle the surge? How many stations need assistance from the AVCRADS? What is the overall shortfall and what is being done about it?

The next area of concern will be the

M 91+ which leads into the sustaining part of our mission. If we're having parts problems now, "line stoppers" if you will (part shortages that preclude finishing the job), how do we propose to sustain upon mobilization? By magic? A hidden supply somewhere? Let's talk about it. How does MICOM and CECOM propose to support the battle with civilian maintenance? Let's talk about it.

The Formation of AVCRADs

On 16 August 1977, Department of the Army Deputy Chief of Staff for Aviation Logistics (DALO-AV) tasked the U.S. Army Materiel Development and Readiness Command (DARCOM), now known as AMC, to perform a feasibility study to determine whether there was a shortfall in the U.S. Army Aviation Depot Maintenance capability upon Mobilization, and if so, whether the existing Army National Guard Transportation Aircraft Repair Shops (TARS) had the capability to augment the depots to reduce the shortfall. The study concluded that there was a shortfall and that the ARNG TARS did have the capability to reduce the shortfall.

The study was submitted to the Department of the Army in July 1978 and the concept was approved on 13 October 1978. In January 1979 an implementation planning group was established which included personnel from DARCOM agencies and the National Guard Bureau. During a scheduled IPR (In Process Review) on 20 March 1979 between DARCOM and Director ARNG (DARNG), the DARNG requested approval to reorganize the four ARNG TARS units into their configuration, as four Aviation Classification Repair Activity Depots (AVCRADs) and to form a Headquarters unit for required peace time coordination and Mobilization command and control. The required personnel spaces (1224) to form these units were available in the ARNG force structure.

On 11 June 1979 the Vice Chief of Staff Army gave approval to implement the concept and to reorganize the ARNG units. On 1 August 1979 the first AVCRAD was organized in Connecticut and on 1 September of that year, the remaining three TARS in California, Missouri, and Mississippi were reorganized into AVCRADs. Simultaneously with the latter date, the Mobilization AVCRAD Control Element (MACE) was organized in the state of Maryland to serve as the mobilization headquarters for the four Aviation Depot Maintenance Roundout Units (ADMRUs).

Pre-mobilization Missions

Missions were designed and modified as real time situations changed. The pre-mobilization missions (10 July 1986) included:

- Production of AVIM and Depot level maintenance services to support the 2,700 aircraft assigned to the ARNG.
- Training of AVCRAD personnel to perform the mobilization, mission of in-theater, depot level classification, repair of critical aviation components and back up CONUS depot level component repair.

In accompanying these two general pre-mobilization missions, AVCRAD production workload requirements were balanced with the mobilization training workload requirements and available resources to insure optimum accomplishment of both AVCRAD missions. A memo of understanding was established between the Chief, NGB and the Commander, Army Materiel Command (AMC) to maximize the productivity, training, and readiness of the AVCRADs.

The driving force for mobilization planning in the ADMRU program is the "workload". The ADMRU community deals with two mobilization workloads. The workload generated by the mission of support to deploying FORSCOM units M-Day to M + 90, which will include AVUM through depot maintenance on airframes, and the M + 91 on workload, which is assigned by DESCOM and consists primarily of component classification and repair. In the latter workload, the "supply pipeline" is the customer.

On 30 January - 1 February 1987, the MACE conducted the Fifth Annual Commanders' Conference, attended by MG Jimmy D. Ross, Commander, DESCOM,

(Readiness — cont. on page 60)

Army Aviation in a Constrained Budget Environment

By Colonel Bradford M. Brown

Our last report to you was in the August/ September issue and provided the status of the Army Aviation Modernization Plan. Since that time there have been significant changes in the foreign and domestic political situation and the issuance of new fiscal planning guidance. In view of this, our *force modernization priorities* have changed. Shown to the right is a chart which portrays the changes in priorities.

While the *principles* embodied in the modernization plans remain unchanged, drastic adjustments in many appropriations can be expected due to changes in *priorities*.

This results in fewer systems in the near and mid-term, with few new starts, in order to protect future modernization efforts.

For Aviation, most of the systems that are part of the current modernization plan are being fielded. The total procurement objective for these systems was reduced last year and will probably be reduced further in some programs as a result of this new guidance. The AH-64 APACHE procurement objective will remain at 807; other system procurement objective revisions are unknown at this time. We have been working closely with the Army Staff, particularly with the Office of the Deputy Chief of Staff for Operations and Plans Aviation Division to best resolve the operational and acquisition (business) impacts on Army Aviation program options.

COL Brown is Director for Maneuver Systems, OASA (R,D,& A) Washington, DC.

LHX

The LHX will remain the cornerstone of future Aviation Modernization. Unresolved *Major Issues* are shown below:

- Size of the Aviation Force (Active and Reserve).
- UH-60 BLACK HAWK Procurement Objective and Funding.
- OH-58D Armed AHIP Program

FORCE MODERNIZATION PRIORITIES HAVE CHANGED

Modernization Principles	*Current Plans*	*New Fiscal Guidance*
Priority to First to Fight **• Retain Essential Warfighting Capabilities** **• Modernize By Thirds**	**TOP PRIORITY** X	X
Lethality and Survivability **• Non-Negotiable** **• Eliminate Systems with Limited Improvements**	X	**ASSUME MORE MID-TERM RISK** X
Field Inside Threat Acquisition Cycle **• Streamlined Acquisition** **• Eliminate Competing Technologies Early**	X	**ASSUME MORE MID-TERM RISK** X
Design for the Future **• Resource Long-Term Solutions** **• Maintain R & D Base** **• Resource High Risk / High Pay off**	X	**TOP PRIORITY** X

NEW FISCAL GUIDANCE RESULTS IN FEWER SYSTEMS AND A ROBUST TECHNOLOGY BASE

Procurement Objective.

• AH-64 APACHE (LONGBOW) Funding.

Planners have been working around the clock to make sure all issues are surfaced to senior Army leaders. It is clear that the Army of tomorrow will be quite different from today's and that Army Aviation will continue to play a key role.

PEO Aviation

The 1987 establishment of the Program Executive Office (PEO) for Aviation and the combining of Aviation Systems Division and the Ground Combat Systems Division into the Maneuver Systems Directorate reporting to the Office of the Secretary of the Army (Research, Development and Acquisition) is continuing to mature. One positive aspect of the combining of these divisions is that three procurement appropriation accounts are "managed" by one directorate with interface with three PEOs and the LHX PM. This means that all maneuver systems can be viewed by this office and that decisions concerning which systems to buy can be made across three appropriations versus one.

There have been some recent changes in the Aviation Division. LTC Bob Atwell is the Division Chief and is on Special Assignment. He did a superb job as acting director of Maneuver Systems Directorate for over six months. We still have three MAJ/LTC vacancies in the division and two PEO Representative vacancies. (Anyone looking for a job?). The division officers are:

LTC Mike Boies, Program Manager LHX Representative; LTC Colbert Gautreaux, Acting Division Chief, Attack Helicopters, SFTS (Training), Fixed Wing and Avionics; LTC "Rupe" Martinez, Utility and Cargo Aircraft, Special Operations and Airdrop and Cargo Handling; MAJ Mike Garretson, reporting in on 18 December 1989; MAJ Ray Peterson, Scout Aircraft, Air Traffic Control, Life Support Equipment and Aviation Safety; and MAJ (P) Jim Young, Program Executive Officer Aviation Representative. All are Aviation Programs which are PEO Managed.

The next report will cover the decisions made by the Army and President's Budget submission. IIIII

C³I Interoperability: Why Aviators Care

By Brigadier General Richard J. Mallion

Interoperability is one of the most pressing issues in the C³ arena. It is particularly important to aviators because there is not time for cumbersome workaround procedures in your fast-moving environment. Also, some of the solutions to interoperability problems are either difficult or impossible when aircraft are involved. Interoperability is the ability of joint and combined *forces* to operate effectively together. This doesn't say that having radios which can talk to each other or C² systems which use the same data provides interoperability ... the *forces* have to operate effectively to satisfy the definition.

In the aviation community, there are many examples of interoperability. You can take off from an Army post and land at an Air Force base because you have radios which allow you to talk to air traffic control at both locations, and you know how to set the radios to the correct frequencies, and the controllers at both locations know how to converse with you in a way you comprehend. (Of course, you still have to know how to fly and how to get to where you are going, but even then you will be dependent on interoperable NAVAIDS). The fact that there are communications and navigation systems to support the flight is not an accident, but it is a good example of joint interoperability.

BG Mallion is Director, Joint Tactical Command, Control & Communications Agency, Reston, VA.

How is interoperability established and maintained? If resources were unlimited, it would be difficult. As the defense budget shrinks, it gets even more difficult, yet even more important to achieve. Only then can joint commanders have the flexibility to employ all their forces with a high assurance that the mission will be accomplished. The Joint Tactical Command, Control and Communications Agency has been given the simple mission of ensuring C³ interoperability. It is a complex process which can best be

explained in four steps.

The essential first step is to have joint or combined doctrine which lays out how the forces should work together to accomplish the mission. Then you have to figure out who needs to communicate with whom, what kind of information they need to pass, how time-sensitive the information is, what the penalties are for non-receipt of the message, and what types of systems can satisfy the stated needs. In C^3 jargon, this is an "architecture".

For example, the pilot needs information from the controller; it is best that it be spoken; it has to be at the instant the pilot asks for it; if it isn't received the flight could be in serious trouble; and radio is probably the best way to provide the information.

Developing Standards

Second, we develop some standards: *technical* standards get us radios that will operate together. *Procedural* standards develop the rules so that the messages are understood. *Operational* standards are the instructions to the humans for things like getting the radios turned on and the frequency set.

For example, the aircraft and the tower radios are not identical, but are capable of operating in the same net. Both the pilot and the controller have a common set of operational messages which are unambiguiously understood. Both the people in the plane and on the ground can turn the radios on, get the same frequency and find the push-to-talk switches.

Without C^3 standards, you might have to have a different radio for every field on which you had to land, a different set of messages depending on which air traffic controller was working your aircraft, and a different set of responses depending on who operated the airfield. My simple mind says that the latter two wouldn't even be problems because the aircraft would be so full of different radios it wouldn't get off the ground ... and we all know how much of the aircraft's weight is already given to the avionics package.

The third step is testing to make sure that the established standards will work, that equipment being bought meets the standards, and that the human users understand how to put it all together.

For example, all the radios in every aircraft have undergone thorough testing as have those in the towers. All pilots and controllers have been taught the correct communications procedures and been tested on them before being certified to fly or control. And everyone has done a lot of practicing to be sure that they understand how to get the plane safely off the ground and safely land it at the correct place. (As a non-aviator-but-frequent-passenger, this is very important to me.)

Operate Effectively

Does this all ensure "interoperability"? Not yet, because the only real proof is if FORCES can operate effectively together. This fourth step is best demonstrated in joint and combined exercises. Only if the Army Aviation assets can be used with the forces of the other Services or with the forces of our allies can we say that we have achieved interoperability. A real key to this is thorough joint and combined planning. If your Army Aviation unit can fly Marines from a Navy vessel to participate in defending a forward Air Force base, then you can say you are interoperable in the joint sense. If you can do that with the forces of an ally, you can say you are interoperable in a combined sense.

The probability is slight that we will have many contingency situations when a purely-Army operation can be conducted. Therefore the need for interoperability becomes great. Army Aviation is in a relatively good posture because all of military aviation (and civil aviation) is in a relatively good posture with respect to the technical and procedural parts of the equation. The challenges now are to develop the joint and combined doctrine so that everyone plays by the same "rules"; and then we have to exercise all aspects of interoperability so that whatever FORCES must be deployed can accomplish the mission. It isn't just a C^3 problem, and every Army Aviator will have to be prepared to be a part of the complex interoperability equation so that the awesome capabilities of Army Aviation can be brought to bear. IIIII

Stealth and the UAV

By Captain Thomas R. Biang

Near-real time battlefield intelligence is the basis on which the maneuver commander makes decisions. Commanders must have the latest information in order to plan, execute, and win the battle. Near-real time intelligence comes from many sources, including strategic, ground, and aerial exploitation. Of these sources, aerial exploitation provides the majority of near-real time intelligence through communication (COMINT), non-communication (ELINT), and imagery (IMINT) collection systems. Aerial exploitation platforms can be called upon by the commander at any time, and within hours, vital battle field information can be transmitted for analysis by battle planners.

But with great resource and flexibility comes risk. Tremendous advancements in the enemy's air defense capabilities have led intelligence planners to question the survivability of today's aerial platforms. When the "balloon goes up" and the air is filled with millions of electromagnetic pulses, even the most advanced airborne electronic countermeasure systems will find it difficult to detect, jam, or warn the pilot of impending disaster.

CPT Biang is Mission Operation Platoon Leader, B Company, 2d MI Battalion, APO New York.

The United States Army Intelligence Center and School has been responsible for development of the Army's Unmanned Aerial Vehicle (UAV) for several years. The UAV's future role will be to fill the near-real time intelligence requirement for both the close-in and deep battle areas. The UAV will be small, require less personnel to operate and maintain, and cost much less than currently manned aerial vehicles.

When fielded, the UAV will provide the means for uninterrupted reconnaissance and surveillance throughout the maneuver area. Imagine the advantages available to the maneuver commander, given the capability to continuously "peer down the

throat'' of the enemy.

The Associated Press reported in June 1989 that an unmanned piston-powered vehicle, the Condor, developed by Boeing Advanced Systems, set a record by reaching an altitude of over 66,900 feet and also set a special-category national record of over 31,700 feet. The vehicle is controlled by a pilot at a remote ground station or completely on its own from takeoff to landing by flying a pre-programmed flight route. Pre-programmed flight also contributes to the vehicle's capability of staying airborne for several days at a time.

A typical intelligence collecting UAV would have individual or combined IMINT, ELINT or COMINT systems, an advanced navigation and flight director system, propulsion system, and a means to communicate to intelligence personnel on the ground. But consider this, nearly all UAVs being tested for intelligence collection are designed to be expendable even though any one of these systems represent a healthy investment. (Expendable, not designed to be survivable.)

The Boeing Condor

UAV Survivability

The common denominator for UAV survivability, and in this case loiter time, is detectability. There are four major methods of detecting an intruder over the battlefield: optical, noise, infrared, and radar. Optical detection is reduced by the inherently small size and by flying at relatively high altitudes. By selecting a piston-powered propeller driven vehicle, noise is somewhat reduced in comparison to turbine or jet vehicles. The infrared signature is also substantially reduced by using the cooler piston engine. But then, there is radar. Looking at the shape and angles used in the design of most UAVs offered by industry, it seems that little consideration has been given to the contributions that stealth shape and Radar Absorbent Material (RAM) can make. Let's look at how stealth technology can contribute to UAV survivability.

How can a UAV possibly elude sensitive military radar? By reducing what engineers call Radar Cross Section (RCS) to zero. There are two ways to accomplish this:

- Design the UAV's shape so that radar waves are reflected away from the radar receiver.
- Use of RAM on surfaces exposed to radar waves.

True stealth would be a zero radar return or no target indication on the threat operator's scope.

Radar Cross Section

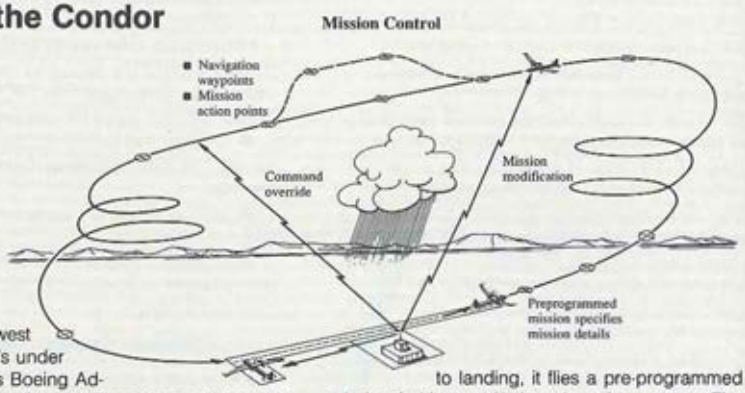
An object's shape rather than size determines the RCS and the radar return of the object. An average pickup truck with sharp edges and flat sides has a RCS of 200 square meters, a wide-bodied jet registers about 100 square meters, and a walking man shows up as one square meter.

To understand this effect, consider two shiny model airplanes, one of the F-117A stealth fighter and the other an F-16. Suspend the fighters from the ceiling of a dark room and shine a flashlight on both aircraft. The F-16 with its many smooth curves would reflect several glints of light no matter where the light source was positioned. Reflection from the stealth fighter will be different. Regardless of which direction you shine the light, only one small part or one facet of the plane's surface will reflect the light. These two concepts of stealth shape, smooth contour and gemlike facets, could be used to reduce UAV detectability and produce the desired stealth effect on radar waves with relatively little effort and expense.

RAM

To further diminish radar returns or reduce the RCS, the employment of RAM

Tale of the Condor



One of the newest proposed UAVs under development is Boeing Advanced System's Condor. The airframe of the High Altitude, Long Endurance (HALE) vehicle, is composed entirely of all-bonded composite materials. It has a wingspan of some 200 feet, larger than a 747 jetliner. The aircraft is powered by two six-cylinder turbocharged, liquid-cooled piston engines, rated at 175 horsepower each.

The Condor is truly autonomous and robotic. Capable of operating totally on its own from takeoff to landing, it flies a pre-programmed mission that is stored in its onboard computers. The flight plan can be modified during flight via a communications link with ground controllers.

The Condor is designed to fly at altitudes well beyond those of normal aircraft, and its mission times are measured in *days* rather than hours. Potential military missions include reconnaissance, surveillance and target acquisition, battle damage assessment, search and rescue and communication relay.

can be used to absorb radar waves instead of reflecting them. Major advances have occurred in recent years in the development and use of RAM and lightweight composite materials thanks to the B-2 and F-117A stealth projects. These materials are now commonly stronger than aluminum. The composite is a specific mixture of plastic carbon-fiber epoxies mixed with graphite-like substances. These radar absorbent compounds are called ferrites. An even newer technology of RAM uses polymers (compounds of usually high molecular weight and density) made from retinyl schiff based salts that also absorb radar waves.

RAM could be used to coat outer surfaces of the UAV such as; leading edges of the wing, surfaces with high probability of lengthy exposure to radar, or even the highly detectable propeller. The molecular structure of these coatings will absorb radar energy and transform it into heat through oscillation of the molecules. To aid the absorption process, selected sections of the wing or fuselage of the UAV could be honeycombed in a wedge shape. This wedge would trap any incident radar beam and reflect the beam from side to side within the wedge. Each time the beam is reflected it dissipates energy until it is gradually absorbed into the RAM.

Manned vs. Unmanned

Employment of the UAV instead of manned aerial vehicles for continuous surveillance and intelligence collection seems to be a logical counter to the lethal battlefield of the future. Manned aerial vehicles will become less survivable as the enemy's air defense capabilities increase.

The UAV will provide the maneuver commander with the continuous intelligence needed to fight a successful battle. Losing this capability before, during, or after the battle will jeopardize the chance of success. Proper employment of Stealth technology can significantly reduce detectability of the UAV and increase the probability of continuous intelligence collection. This, in turn, will provide near-real time battlefield intelligence which the commander can use to base decisions and increase the chance of success. IIIII

The Directorate for Maintenance: An Overview

By Colonel Gary D. Johnson

The mission of the National Maintenance Point is Combat Readiness. Whenever the need arises, our challenge is to be postured to rapidly support the warfighting CINCS' most lethal and flexible asset — Combat Aviation.

It seems as though it was only yesterday. I was a young aircraft maintenance officer in an Air Cavalry Troop, (F Troop, 8th Cavalry) charged with the responsibility of keeping our 9 AH-1G COBRAs, nine OH-6s and two UH-1Hs and two UH-1Ms flying. It was a tough job all right, but not nearly as tough as the one confronting the "maintainers" of today and tomorrow.

Back then, my service platoon and KD Team contained approximately 121 soldiers with the capability of performing limited direct support maintenance. We were convinced that we could fix just about anything that went wrong with our aircraft. Alas however, the days of the "shade tree' mechanic and the seemingly unlimited availability of parts and people are gone forever.

COL Johnson is Director for Maintenance, U.S. Army AVSCOM, St. Louis, MO.

The sophistication and inherent reliability of today's and tomorrow's aircraft, coupled with ever declining resources, dictates that we become more innovative and efficient in accomplishing our maintenance mission.

A Vision of Year 2010

Merely looking at today's challenges is not enough. We must look ahead so we can prepare ourselves to meet the challenges of the future. Simply put, looking ahead is to have a vision of what maintenance will be like on the battlefield in the year 2010. How will we cope with:

- Even more complex weapons than we already have?
- Fewer maintenance technicians to effect repairs?
- The increased mobility requirements of a highly fluid battlefield.

• Even greater fiscal constraints.

The vision will be one in which the threat will be defeated through the use of technologically superior assets. New systems will be flying electronic platforms, heavily integrated with lethal weaponry and night/all weather-seeing target acquisition and designation devices. The aircraft of the future will contain systems that are soft-failing and self-healing.

There are many issues to address when forming a vision of the year 2010, and resolution of these issues can not be constrained by today's rules or today's technology. The fundamental principles of maintenance will, at least for the foreseeable future, remain unchanged. What will change, however, is the way these principles are adapted to an environment of rapidly advancing technology and new repair techniques.

Maintenance Data Management

Vital to efficient maintenance management is a timely and systematic process for reporting specific types of data on specific pieces of equipment. This is especially important in the field of aviation where safety, operational readiness and economics go hand-in-hand. Complete automation of maintenance data management is the ultimate goal, and we are making headway in that direction. The paperless Army of the future is mandating this approach. As an example, we are currently testing the use of an automated aircraft logbook system. Among other uses, it allows the unit maintenance technician to use a computer to record and produce complex records and reports needed for maintenance management decisions. This will make the job of maintaining aircraft easier as well as increasing the accuracy and utility of the data recorded. The primary goal is to design and implement an integrated aviation data management system that minimizes manual input, captures 98% of the essential data and facilitates maintenance at all levels.

The increasing complexity of our Army's aircraft with their automated systems, provides the impetus for the development of advanced diagnostics. We need to improve the capability and productivity of not only our technicians but our aviation maintenance units as well. This must be accomplished through the use of enhancements available from technology, improved management techniques and increased reliance on state of the art diagnostics, such as:

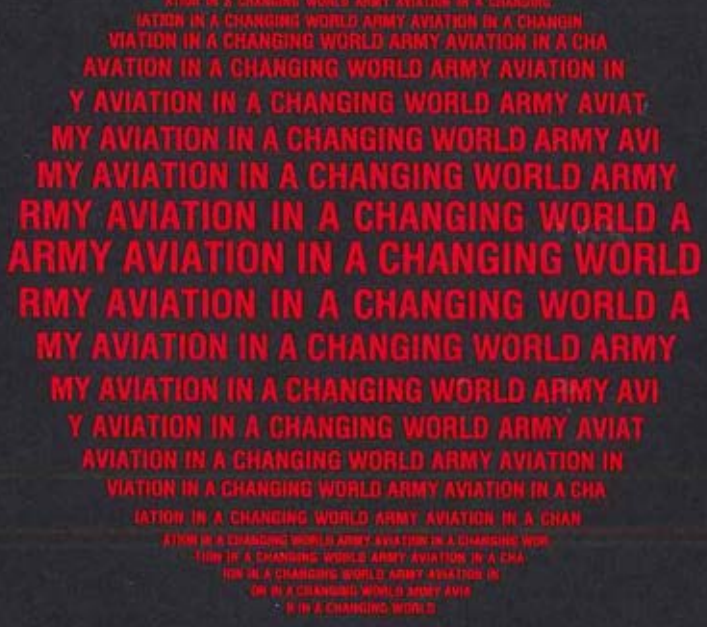
- An in-flight caution warning system which also provides a diagnosis of the malfunction.
- A generic maintenance monitoring system.
- Aircraft vibration and portable engine test sets.
- Adequate training to develop personnel capable of properly using "high-tech" equipment.

We cannot allow the capabilities of our maintenance units and depots to lag behind the technology of our fielded aircraft systems. This doesn't mean merely insuring the proper maintenance and diagnostics equipment are in the proper hands. It means insuring the training base is preparing our maintainers for a "high-tech" environment; and that our maintenance units (to include depots) are structured to meet the needs of our "high-tech" systems.

Battlefield Maintenance

We must continue to seek improvements in ways to maintain our aircraft systems in a field environment. Maintenance must be responsive to operational requirements. Aircraft availability is a product of many things, not the least of which is the amount of scheduled maintenance that must be performed in the field. Innovations are being pursued to reduce the scheduled maintenance load in the field. Attention is being given to the development of a better battle damage assessment system including man-portable specialized repair kits.

These and other issues related are constantly in study and analysis throughout the Army's aviation community. Each individual issue is a moving train ever changing with the advent of newer technology. We in maintenance are dedicated to the resolution of many of these issues in order to achieve our Aviation Maintenance Vision for the future.



THE AAAA ANNUAL CONVENTION

APRIL 11-15, 1990 • ORLANDO, FLORIDA

REGISTRATION:

An Advance Registration Form must be completed by each individual who wishes to register or attend social functions. This form may be reproduced locally if additional copies are required.

All persons attending the Professional Sessions, except spouses, must register and pay the appropriate Registration Fee; admission to all Professional Sessions will be by Registration Badge. For those attendees who are non-members and wish to attend the Professional Sessions, there is an additional $15.00 fee which includes a full-year AAAA membership. AAAA members, non-members, guests, and their spouses who only wish to attend the exhibits or social functions need not pay the Registration or Membership fees.

Advance Registrations may be submitted to the AAAA National Office at any time prior to **Thursday, March 1, 1990,** together with full payment for the functions the individual wishes to attend. If time permits, Advance Registrations received after **March 1** will be processed; otherwise, they will be held for On Site Registration. Full refunds of function fees will be made if notification is received at the AAAA National Office by phone or mail on or before **Wednesday, March 28.**

For those members who advance register for the Professional Sessions and pre-pay their Registration Fee, the AAAA will provide an attractive "take-home" convention souvenir.

Individuals may pick up their registration badges and function tickets at the AAAA Registration Center in the **Orange County Convention Center.** Operational hours of the AAAA Registration Center are listed in the **"SCHEDULE OF EVENTS".**

HOUSING:

The AAAA National Office has reserved room blocks at four Orlando hotels at AAAA Convention Rates. Room requests will be processed on a first-come, first-served basis. Room requests received after **Thursday, March 1,** will be honored on a space-available basis.

Registration for the Professional Sessions or exhibits or attendance at a minimum of one of the convention functions listed on the Advance Registration Form is required to reserve hotel accommodations at AAAA Convention Rates.

The AAAA National Office is serving as the Housing Bureau **ONLY** for Military/DAC rated rooms. Military/DAC fees and room rates apply only to Active Army and DAC personnel and to those Reserve Component and Retired persons who are NOT in the current employ of defense contractors on a full-time, part-time, or consulting basis. DO NOT RETURN THE AAAA OFFICIAL HOUSING REQUEST FORM TO THE AAAA NATIONAL OFFICE UNLESS YOU ARE ELIGIBLE FOR THE MILITARY/DAC ROOM RATE. If you are eligible for the Industry/Civilian rate, send this form directly to the hotel of your choice. The hotels will ONLY accept direct reservations at AAAA Industry/Civilian rates.

PLEASE NOTE: Limited space is available at the hotels listed on the Official Housing Form. Indicate your hotel choices in order of preference: (1)—1st Choice to (4)—Last Choice. **Your Housing Request cannot be processed unless your preferences are clearly indicated on the Housing Form.**

AIR FARE SAVINGS:

DELTA has been selected as the official carrier for the AAAA Annual Convention and will offer significantly reduced fares for travel to the Convention. Certain restrictions apply. For reservations or more information, call **DELTA** at 1-800-241-6760 (Cite File #P17032) or the AAAA's official travel agent, **Westport Travel** at **(800) 243-3335** TOLL FREE (In Connecticut, (800) 433-7183). The savings apply to reservations for **DELTA** flights between Sunday, April 8, and Wednesday, April 18. Please consider using **DELTA** and **Westport Travel** to make your travel arrangements for the AAAA Annual Convention.

RENT-A-CAR SAVINGS:

Through the AAAA contract with **HERTZ** — CDP-1D #83438, AAAA card-holding members attending the AAAA Convention may obtain the **HERTZ** U.S. Government Discount on reservations made personally, or through travel agencies or corporate travel departments. The **HERTZ** toll-free number is **(800) 654-3131.**

BUS SHUTTLE:

A Shuttle Bus Schedule will be provided to Convention attendees approximately two weeks prior to the Convention.

DRESS CODE:

The AAAA suggests the following attire: **Wednesday, April 11:** Casual. **Thursday, April 12:** Class B/Coat & Tie — Daytime; Casual — Church Street Station. **Friday, April 13:** Class B/Coat & Tie — Daytime; Coat & Tie — President's Reception. **Saturday, April 14:** Class B/Coat & Tie — Daytime; Dress Mess/Dress Blues/Black Tie — Awards Banquet. **Sunday, April 15:** Casual.

CHILD CARE SERVICES:

While there are numerous childcare options available in the Orlando area, for your convenience, you may wish to consider:

THE CHILDREN'S HOTEL, sponsored by the Peabody Hotel, open nightly from 6:00 p.m. to 10:00 p.m. at $15 per child. Children must be potty-trained and aged 3-15 years. Call (407) 352-4000.

SUPER SITTERS BABYSITTING SERVICE to arrange for in-room childcare at any time of day from infants on up. Cost: $6 per hour; 4 hour minimum; $6 travel fee. Call (407) 740-5516.

The AAAA does not endorse any childcare programs.

ORLANDO ATTRACTIONS — DISCOUNTS:

Information, Tour & Tickets (ITT) will sell discounted tickets to active and retired military and their dependants for Orlando attractions on Thursday, April 12, and Friday, April 13, at the AAAA Registration Center in the Orange County Convention Center.

PROFESSIONAL SESSIONS:

The Professional Sessions taking place on Thursday, April 12, through Saturday, April 14, at the Orange County Convention Center, will be of special interest to all AAAA members, and are being arranged by **Major General Rudolph Ostovich, III,** Aviation Branch Chief and Commanding General of the U.S. Army Aviation Center and School, Ft. Rucker, Alabama, who serves as the Presentations Committee Chairman. The Keynote Speaker of the AAAA Annual Convention is **The Honorable Michael P.W. Stone, Secretary of the Army.** The Professional Sessions — all under the theme of **"Army Aviation in a Changing World"** — will officially commence at 8:15 a.m. on **April 12.** Admission will be by Registration Badge.

EXHIBIT HALL DISPLAYS:

The Exhibit Hall Displays have become one of the most important segments of the AAAA Annual Convention — complementing the Professional Sessions with exhibits of Army Aviation products and services and opportunities to exchange vital information first-hand with the representatives of defense-related manufacturers. The Exhibit Hall Displays will be held in the Orange County Convention Center. Refreshments will be provided on a cash basis during all open hours. The hours of operation appear in the **"SCHEDULE OF EVENTS".**

1990 AAAA ANNUAL CONVENTION
ADVANCE REGISTRATION FORM
Orange County Convention Center, Orlando, Florida • April 11-15, 1990

I plan to attend the 1990 AAAA ANNUAL CONVENTION. The Advance Registration Deadline is **THURSDAY, MARCH 1, 1990.** If time permits, Advance Registrations received after **March 1** will be processed; otherwise, they will be held for On Site Registration. I understand that I may receive a full refund of my function fees if requested by phone call to the AAAA on or before **FRIDAY, MARCH 30, 1990,** or by written notification to AAAA that is received not later than **FRIDAY, MARCH 30.** Please **print** all information. **NOTE:** Military fees apply only to Active Army and DAC personnel and to those Reserve Component and retired AAAA members who are not in the current employ of defense contractors or suppliers on a full-time, part-time, or consulting basis. **Please make checks payable to AAAA.**

KEY: THIS BOX FOR OFFICE USE ONLY

RANK/GS GRADE NAME (FIRST, MI, LAST)

HOME MAILING ADDRESS OR NAME OF COMPANY, FIRM OR UNIT

STREET ADDRESS OR P.O. BOX NUMBER

CITY STATE ZIP

COUNTRY AREA CODE OFFICE TELEPHONE NUMBER SOCIAL SECURITY NUMBER

NICKNAME FOR BADGE SPOUSE'S NAME, IF ATTENDING

UNIT/FIRM NAME FOR BADGE

CITY/STATE FOR BADGE

IS YOUR FIRM OR UNIT EXHIBITING? ☐YES; ☐NO ARE YOU A CHAPTER DELEGATE? ☐YES; ☐NO ARE YOU A U.S. CITIZEN? ☐YES ☐NO

REGISTRATION FORM

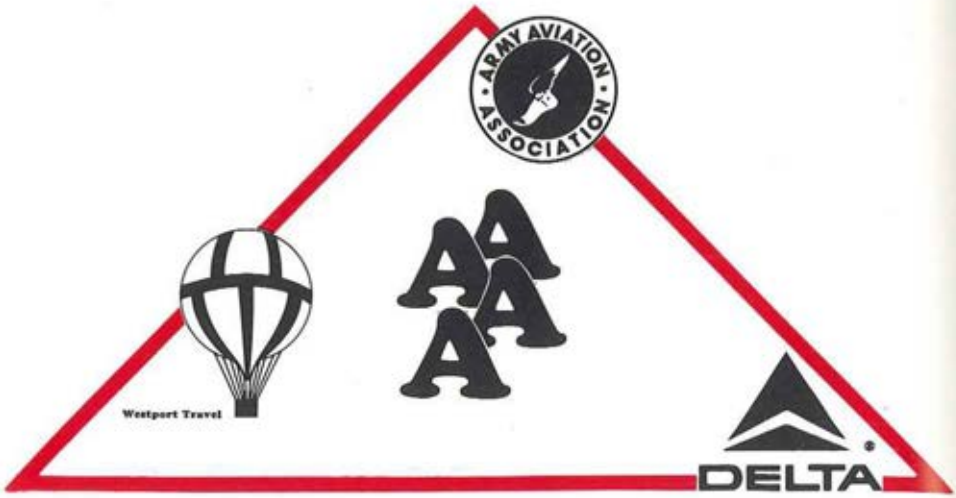
SPECIFIC FUNCTION HELD AT THE 1990 AAAA ANNUAL CONVENTION	NOTE—The AAAA Professional Program begins at 8:15 a.m. on April 12, 1990.	MILITARY/DAC MEMBER OR SPOUSE	INDUSTRY/CIVILIAN MEMBER OR SPOUSE	ITEM LINE TOTAL	OFFICE USE
❶ REGISTRATION FOR PROFESSIONAL SESSIONS		☐ $19	☐ $59	$	
❷ MEMBERSHIP FEE FOR NON-AAAA MEMBERS		☐ $15	☐ $15	$	
❸ CHURCH STREET STATION ROUND-TRIP SHUTTLE BUS PASS, Thursday, April 12		☐ at $10 ea	☐ at $10 ea	$	2
MEMBERSHIP LUNCHEON, Thursday, April 12		☐ at $11 ea	☐ at $19 ea	$	3
SPOUSE BREAKFAST & CLAIROL "MAKEOVER" PRESENTATION, Friday, April 13		☐ at $16 ea	☐ at $16 ea	$	4
AWARDS LUNCHEON, Friday, April 13		☐ at $12 ea	☐ at $20 ea	$	5
PRESIDENT'S RECEPTION, Friday, April 13		☐ at $14 ea	☐ at $22 ea	$	6
SPOUSE WINTER PARK SHOPPING TOUR (LUNCH ON YOUR OWN), Saturday, April 14		☐ at $17 ea	☐ at $17 ea	$	7
EXHIBIT HALL LUNCHEON, Saturday, April 14		☐ at $10 ea	☐ at $15 ea	$	8
❹ AWARDS RECEPTION & BANQUET, Saturday, April 14		☐ at $30 ea	☐ at $60 ea	$	10
❺ EASTER SUNDAY SERVICE, Sunday, April 15		☐ # of people	☐ # of people		11
CHAMPAGNE GET-AWAY BREAKFAST, Sunday, April 15		☐ at $11 ea	☐ at $16 ea	$	12
❻ CIRCLE METHOD OF PAYMENT: MasterCard VISA Personal Check Business Check			TOTAL	$	

CREDIT CARD NUMBER EXPIRATION DATE

CARDHOLDER NAME AND SIGNATURE

❶ Spouse Registration for Professional Sessions, if desired, is complimentary. ❷ AAAA Membership is required to attend the Professional Sessions. ❸ Covers Round-trip bus transportation only. ❹ Reserved Seating. Formal/Black Tie; Military Blues/Mess Jacket. ❺ No Charge. Information needed for planning purposes. ❻ MasterCard & VISA credit cards only; no others accepted.

This form, with the appropriate fees, must be completed and received by: AAAA, 49 Richmondville Avenue, Westport, CT 06880-2000 on or before THURSDAY, MARCH 1, 1990. Phone: (203) 226-8184.



DON'T GET SHUT-OUT OF THE 1990 ORLANDO AAAA CONVENTION EASTER WEEK APRIL 11-15

Delta has been selected as the designated carrier for the AAAA Annual Convention in Orlando.

The reduced fares to and from Orlando will be 40% off Coach Class or 5% off the lowest Super Saver. These apply to advance purchase requirements of the applicable fare.

To make your seat reservations ($100,000 free insurance, convention mileage, seat assignments, boarding passes), call **Westport Travel**, our official agency. The Group Department toll free number is available to all convention attendees.

WESTPORT TRAVEL 1-800-243-3335
(in CT, 1-800-433-7183)

— OR —

DELTA 1-800-241-6760 (File #P17032)

The savings apply to reservations on Delta flights between Sunday, April 8 and Wednesday, April 18, 1990.

AAAA OFFICIAL HOUSING FORM
AAAA ANNUAL CONVENTION
APRIL 11-15, 1990 ● ORLANDO, FL

MAIL THIS OFFICIAL HOUSING FORM TO:

IF MILITARY/DAC — Mail or FAX this form to the AAAA National Office, 49 Richmondville Avenue, Westport, CT 06880. FAX: (203) 222-9863.
IF INDUSTRY/CIVILIAN — Mail this form directly to the hotel of your choice — See address below.

Please print all information. I understand that to receive a room at AAAA Convention rates, I must register for the professional sessions or exhibits or attend at least one of the functions of the AAAA Annual Convention. Room requests will be processed on a first come, first-served basis. Room requests received after **THURSDAY, MARCH 1,** will be honored on a space-available basis. Please confirm your special needs directly with the hotel to which you have been assigned. If you have any questions, please contact the AAAA National Office at (203) 226-8184.

RANK/GS GRADE NAME (FIRST, MI, LAST)

HOME MAILING ADDRESS OR NAME OF COMPANY, FIRM OR UNIT

STREET ADDRESS OR P.O. BOX NUMBER

CITY STATE ZIP

COUNTRY AREA CODE OFFICE TELEPHONE NUMBER

❶ ARRIVAL DATE _____ ARRIVAL TIME _____ NO. NIGHTS _____ DEPARTURE DATE _____

❷

INDUSTRY/CIVILIAN

Select the hotels of your choice in order of preference. If a room at the hotel of your choice is not available, this form will be forwarded to the hotel that is your next available choice. **If you work for a Defense Contractor on a full-time, part-time, or consulting basis, you are NOT eligible for the Military/DAC rate even if you are Retired Military.** Mail this form directly to the hotel of your choice — see address below.

☐ The Peabody Hotel, $120
9801 International Drive, Orlando, FL 32819 Tele—(407) 352-4000 (800) PEABODY

☐ Orlando Heritage Inn, $78
9861 International Drive, Orlando, FL 32819 Tele—(800) 447-1890 In Florida—(800) 282-1890

☐ Quality Inn Plaza, $47
9000 International Drive, Orlando, FL 32819 Tele—(407) 345-8585 (800) 999-8585

☐ Orlando Marriott, $90
8001 International Drive, Orlando, FL 32819 Tele—(407) 351-2420

MILITARY/DAC

Select the hotels of your choice in order of preference. If a room at the hotel of your choice is not available, a room will be reserved at the next available choice. **NO request will be processed without at least three choices indicated.** The Military/DAC room rate applies only to Active Army and DAC personnel and to the Reserve Component and Retired persons who are **not** in the current employ of defense contractors on a full-time, part-time, or consulting basis. Mail this form to AAAA, 49 Richmondville Avenue, Westport, CT 06880 if you are eligible for the Military/DAC rate.

☐ The Peabody Hotel, $59
c/o AAAA, 49 Richmondville Avenue, Westport, CT 06880

☐ Orlando Heritage Inn, $59
c/o AAAA, 49 Richmondville Avenue, Westport, CT 06880

☐ Quality Inn Plaza, $47
c/o AAAA, 49 Richmondville Avenue, Westport, CT 06880

☐ Orlando Marriott, $59
c/o AAAA, 49 Richmondville Avenue, Westport, CT 06880

❸ PLEASE CHECK ONE BOX: ☐ Single Occupancy ☐ Double Occupancy ☐ Other: # _____

❹ **PRINT** OR **TYPE** THE NAMES OF ALL PERSONS SHARING YOUR ROOM **EXCLUDING** YOURSELF:

1. _____ 2. _____ 3. _____

❺ PLEASE GUARANTEE MY RESERVATION WITH THE FOLLOWING CREDIT CARD:

☐ Mastercard ☐ VISA ☐ American Express ☐ Diner's Club ☐ Other (Specify) _____

Credit Card Number _____ Expiration Date _____

❻ ☐ PLEASE GUARANTEE MY RESERVATION WITH THE ENCLOSED CHECK EQUAL TO ONE NIGHT'S STAY

(NOTE: All AAAA Convention Hotels require that a first night's deposit be submitted with the reservation. If your room is held by a credit card guarantee, your credit card may be charged at the time the guarantee is made. If your reservation is not guaranteed, the hotel will not guarantee that your reservation will be held.)

*** Have you made your airline reservation? Call Delta at 1-800-241-6760 (Cite: File# P17032) for the AAAA Group Savings!**

TOGETHER!

Hertz and AAAA

Hertz

At the 1990 AAAA Annual Convention April 11-15, Orlando, Florida

★ ★ ★ ★ ★

Two winners have teamed up to provide you with the best in car rentals while in Orlando

Through the AAAA contract with Hertz — CDP-ID-83438 — any card holding members of AAAA may obtain the Hertz U.S. Government discount while at the AAAA Annual Convention in Orlando. Discounts are on reservations made personally, through Westport Travel (800) 243-3335 (in Connecticut — (800) 433-7183)

Or call Hertz direct toll free at (800) 654-3131

SPOUSES PROGRAMS:

The AAAA invites spouses to participate in a program of planned activities from Thursday, April 12, through Saturday, April 14.

On **THURSDAY**, spouses are invited to enjoy a day of entertainment, dining and shopping at Orlando's **CHURCH STREET STATION.** Shuttle service will run hourly from 10:30 a.m. until 5:30 p.m. Don't miss the new Church Street Station Exchange, three levels of specialty shops, Commander Ragtime's Midway of Fun, Food & Games, fabulous restaurants, and a matinee show of Rosie O'Grady's Dixieland Jazz Revue.

On **FRIDAY**, the traditional Spouses Breakfast to honor the wives of the Awardees will be held at the Peabody Hotel at 8:30 a.m. At 9:30, Monarch Crown/Clairol, a subsidy of Bristol-Myers, will present "You. Only Better", a presentation geared to the military lifestyle on how to apply the principles of line and shape to hairstyle, makeup, and clothing selection.

FRIDAY afternoon will be free for individual exploration. Information on Orlando points of interest will be available at the AAAA Registration Center.

On **SATURDAY**, spouses are invited to tour Orlando's famed Winter Park. Buses will depart from the Orange County Convention Center at 9:00 a.m.; First stop, the Winter Park Boat Tour, a 12-mile course of beautiful lakes and canals; next a tour of Tiffany's Morse Gallery of Art featuring the largest collection of Tiffany art in the country; then stroll, shop and lunch at your leisure through Winter Park. Buses will return to the Convention Center by 3:00 p.m.

AAAA CHAPTER RECEPTIONS:

The Friday and Saturday evening AAAA Chapter Receptions are a MOST IMPORTANT AND UNIQUE PART of every AAAA Annual Convention. Chapters do their utmost nightly to top one another in providing their own brand of hospitality, entertainment, food, and beverages — for all AAAA Convention attendees. The Chapter Receptions will be held at the Peabody Hotel. Bus transportation will be provided from each of the "AAAA" hotels listed on the Housing Form.

AAAA GOLF TOURNAMENT:

The AAAA Central Florida Chapter is sponsoring a Golf Tournament on Wednesday, April 11. There will be two sections: 8:00 a.m. and 12:30 p.m. Space is limited and will be allocated on a first-come, first-served basis. Contact Rita Simpers at (407) 660-5613.

AAAA EARLY BIRDS RECEPTION:

The AAAA Exhibit Hall Displays will officially open with the Early Birds Reception on Wednesday evening, **April 11**, in the Exhibit Hall of the Orange County Convention Center. Admission will be by badge.

AAAA MEMBERSHIP LUNCHEON:

The AAAA Membership Luncheon will be held on Thursday, **April 12**, at the Peabody Hotel during which the AAAA will honor its "Outstanding Chapter Activities" and its top recruiters. All seats at this luncheon are unreserved.

AAAA'S NIGHT ON THE TOWN:

Starting at 5:30 p.m. until 1:00 a.m., on Thursday, **April 12**, shuttle service will run between the AAAA Convention Hotels and Church Street Station. AAAA attendees will receive a discount coupon to exchange if you wish to enjoy the fabulous evening shows, live entertainment, and dancing — Rosie O'Grady's, the Cheyenne Saloon, the Orchid Garden, Phineas Phogg's and Apple Annie's. It's really fun!

AAAA AWARDS LUNCHEON:

The AAAA Awards Luncheon will be held at The Peabody Hotel on Friday, **April 13.** Senior Army representatives will present the AAAA's national individual awards. All seats at this luncheon are unreserved.

THE PRESIDENT'S RECEPTION:

On Friday evening, **April 13**, the President's Reception will take place at The Peabody Hotel. Bus transportation will be provided from each of the "AAAA" hotels. The AAAA National President, **Brigadier General James M. Hesson, Ret.**, and **Mrs. Hesson**; the AAAA Executive Director, **Terrence M. Coakley** and **Mrs. Coakley**; and the Chief of the Aviation Branch and AAAA Presentations Chairman, **Major General Rudolph Ostovich, III** and **Mrs. Ostovich**, are expected to form the Receiving Line.

AAAA EXHIBIT HALL LUNCHEON:

An informal luncheon will be held on Saturday, **April 14**, at the Orange County Convention Center, after which AAAA's traditional Chapter Photos will be taken. All seats at this luncheon are unreserved.

AAAA AWARDS RECEPTION AND BANQUET:

The AAAA's Awards Reception and Banquet will be held on Saturday, **April 14**, at the Peabody Hotel. Senior Army representatives will present the AAAA's national unit awards.

Seating at this formal Banquet is reserved. Please note any special seating requests on the Advance Registration Form. Every attempt will be made to comply with your request. Your table number will appear on your Banquet ticket. We ask that you sit at the table where you have been assigned in consideration of the other attendees.

In accordance with DoD provisions, military and government dignitaries and AAAA senior military members and their wives are invited as AAAA Banquet guests by the AAAA National Office in accordance with the invitation policies established by the AAAA National Executive Board. Invitations are non-transferable.

These guests include (1) all Active Army O-5 Members and above, (2) all Active Army GS-15 Members and above to include members of the Senior Executive Service, (3) all Active Army E-9 Members, and (4) Active Army O-4 Members, Active Army CW4 and MW4 Members, and Active Army E-8 Members from the Regional area in which the Annual Convention is held. Invited guests are seated in random fashion at tables purchased by Industry Member firms to foster approved and meaningful interchange between government and industry.

Banquet guest acceptances must be received by Thursday, **March 1**. If you are eligible to be a Banquet guest and have not received an invitation by February 1, please contact the AAAA National Office.

AAAA EASTER SUNDAY SERVICE:

An ecumenical Easter Sunday Service (Catholic & Protestant) will be held at the Peabody Hotel on Sunday, **April 15.**

AAAA CHAMPAGNE GET-AWAY BREAKFAST:

On Sunday morning, **April 15**, the AAAA invites AAAA Convention attendees to join the AAAA President in a champagne toast and breakfast at the Peabody Hotel.

AAAA 1990 ANNUAL CONVENTION SCHEDULE OF EVENTS
"ARMY AVIATION IN A CHANGING WORLD"

MONDAY, APRIL 9, 1990

1200-1700 Registration & Ticket Sales

TUESDAY, APRIL 10, 1990

1200-1700 Registration & Ticket Sales

WEDNESDAY, APRIL 11, 1990

0800-2100 Registration & Ticket Sales
0800-1230 AAAA Central Florida Chapter Golf Tournament
1200-1330 AAAA National Executive Board Luncheon
1230-1700 AAAA Central Florida Chapter Golf Tournament
1330-1730 AAAA National Executive Board Meeting
1800-2100 Early Birds Exhibit Hall Reception

THURSDAY, APRIL 12, 1990

0700-1800 Registration & Ticket Sales
0700-0815 Speakers & Panelists Breakfast
0815-0930 **Opening Professional Session**
- 0815-0830 Welcome by AAAA President
- 0830-0900 Keynote Address by Secretary of the Army
- 0900-0930 Aviation Branch Chief's Update

0930-1700 Exhibit Hall Displays Open
0930-1000 Exhibit Hall Refreshment Break
1030-1730 Church Street Station Shuttle
1000-1120 **Professional Session—Continued**
- 1000-1020 USAAVSCI/USAALS Update
- 1020-1040 Enlisted Update
- 1040-1100 AVSCOM Update
- 1100-1120 DA Update

1100-1600 PERSCOM Career Guidance
1120-1200 AAAA Membership Reception
1200-1330 AAAA Membership Luncheon
1330-1430 Exhibit Hall Refreshment Break
1330-1430 Chapter Presidents/Secretaries Session
1330-1600 AAAA Scholarship Board of Governors Meeting
1430-1600 **Afternoon Professional Session**
- 1430-1450 Safety Update
- 1450-1510 Integrated/Simulation Training
- 1510-1530 Combat Developments: Air Combat Update
- 1530-1600 Panel Discussion/Q&A

1730-0100 Church Street Station Shuttle

FRIDAY, APRIL 13, 1990

0700-1730 Registration & Ticket Sales
0700-0800 Speakers & Panelists Breakfast
0800-0900 **Morning Professional Session**
- 0800-0830 Coalition Warfare in Europe
- 0830-0900 Coalition Warfare in the Pacific

0800-0900 **Special Focus Sessions**
- 0800-0900 Aviation Enlisted Program
- 0800-0900 Aviation Warrant Officer Program

FRIDAY, APRIL 13, 1990 — CONT.

0830-1100 Spouse Breakfast & Monarch Citrus Clairol "Makeover" Presentation
0900-1700 Exhibit Hall Displays Open
0900-0930 Exhibit Hall Refreshment Break
0930-1100 **Professional Session - Continued**
- 0930-1000 International Army Aviation Programs
- 1000-1100 International Military Briefings
  - UK
  - France
  - Germany

1100-1700 PERSCOM Career Guidance
1100-1200 Awards Luncheon Reception
1200-1400 AAAA Awards Luncheon
1400-1430 Exhibit Hall Refreshment Break
1430-1600 **Afternoon Professional Session**
- 1430-1530 International Military Briefings
  - Italy
  - Korea
  - Japan
- 1530-1600 Panel Discussion

1830-2030 Registration & Ticket Sales
1900-2030 AAAA President's Reception
2100-0100 AAAA Chapter Receptions

SATURDAY, APRIL 14, 1990

0700-1700 Registration & Ticket Sales
0700-0800 First Light Breakfast (By Invitation)
0800-1000 **Morning Professional Session**
- 0800-0820 PEO Update
- 0820-0840 UAV Update
- 0840-0940 Industry Seminar
  - Bell Helicopter Textron
  - Boeing Helicopters
  - McDonnell Douglas Helicopters
  - Sikorsky Aircraft Div., UTC
- 0940-1000 Panel Discussion

0900-1500 Winter Park Spouse Shopping Tour
0900-1600 Exhibit Hall Displays Open
1000-1030 Exhibit Hall Refreshment Break
1000-1600 PERSCOM Career Guidance
1030-1230 **Aircraft Seminars**
- 1030-1130 AH1F, APACHE, Fielded Aviation Systems, SOA
- 1130-1230 BLACK HAWK, OH-47, COBRA

1130-1230 Contractor Performance Certification Program Seminar
1230-1400 AAAA Exhibit Hall Luncheon
1400-1600 Exhibit Hall Social/Chapter Photos
1730-1930 Registration & Ticket Sales
1800-1900 Awards Banquet Reception
1900-2200 AAAA Awards Banquet
2200-0130 AAAA Chapter Receptions

SUNDAY, APRIL 15, 1990

0730-0830 Easter Sunday Service
0830-1130 Champagne Get-Away Breakfast
0900-1000 AAAA National Executive Board Meeting

*This Schedule is subject to change.

The National Maintenance Point Today

By Ronald L. Powell

At this writing, we in the Directorate for Maintenance at AVSCOM are doing National Maintenance Point (NMP) functions required to support over 9,300 globally deployed aircraft. The Directorate for Maintenance is organized to provide maintenance specialty support throughout the life-cycle of the aircraft and in particular, sustaining maintenance support in such areas as technical data, publications, training, depot repair, depot engineering, quick reaction field support, modifications or retrofit, and maintenance concept change, just to mention a few.

In this article I hope to synopsize our organization and relate it to the multifaceted functions of maintenance support of end-item systems, subsystems and related support systems.

Mr. Powell is Deputy Director of Maintenance, U.S. Army AVSCOM, St. Louis, MO.

Divisional elements within the Directorate for Maintenance perform a variety of interrelated, interactive tasks and functions affecting new systems such as the LHX to the Army workhorse, the UH-1. Day-to-day activities within the Divisions involve a wide array of disciplines from engineering to publications. There are many things going on here that you need to be aware of, many, as a direct result of users voicing needs in one way or the other. Advancing technology is pushing a number of major thrusts in the area of automation, artificial intelligence, paperless technical data to state-of-the-art diagnostics and prognostics. Some of these efforts and developing innovations will be discussed in more detail in the accompanying articles, however, I would like to recap some of the principal efforts ongoing in our major organizational elements.

Depot Maintenance

Primary functions of this element are to orchestrate a depot overhaul program to a discrete budget with varying projected

requirements between our organic facilities and private sectors. The end results are repaired and overhauled aircraft and components necessary to support the Army Aviation program.

The majority of our repair and overhaul capability is at Corpus Christi Army Depot, TX and with many commercial contract sources located in both CONUS and Overseas. It is our strategy to dual source our overhaul programs, currently running about 50/50 between organic and commercial. The annual Aircraft Condition Evaluation (ACE) program is still the primary method used to select aircraft needing depot level maintenance and through supply studies, based on demand rates and the flying hour program, is the basis for component loading. This depot program involves management of over a half billion dollars annually. Included is an extensive program for the application of approximately 12,000 modifications to aviation equipment.

Maintenance Management

Here, aircraft maintenance management policies and procedures are developed and managed. A computerized database is used to maintain a file of approximately ten million component records for The Army Maintenance Management System-Aviation (TAMMS-A). This allows for a variety of trend analyses on aircraft components and is of vital interest to our engineers, program and supply managers and soldiers. It also provides us with a means to reconstruct historical data on time-managed aircraft components and assemblies, by serial number of the component. It is a database easily accessed by the soldier. When he receives a component on which he needs time information or other data, he just calls the 2410 HOT-LINE here in maintenance. The database is queried for information which is used to reconstruct historical data on the item, which in turn, is passed back to the soldier.

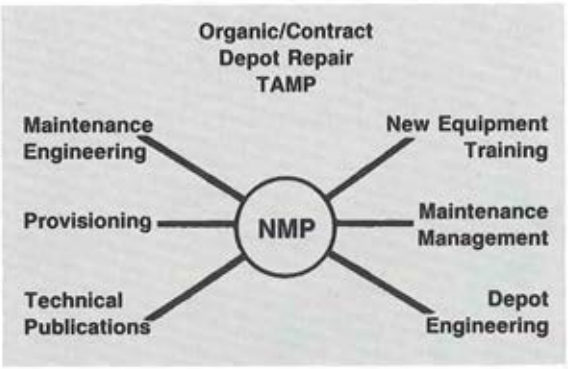
When we prevent premature overhaul or scrappage of an expensive component by reconstructing its history, we have a measurable cost avoidance. Through this technique, we had a $29 million cost avoidance for FY 88. At the end of April 1989, we had realized a cost avoidance of over $20 million, with five months yet to go in the fiscal year. We recently established data reconstruction offices in USAREUR, Korea and at the Corpus Christi Army Depot, TX. Also, as you hear about automation enhancements in the aviation area, it is this group that is the Command focal point for such programs as the Predictive Aircraft Maintenance System and the Logbook Automation System.

Technical Publications

This element of maintenance manages over 1,600 technical publications in support of 17 different aviation systems. Approximately 300,000 pages are involved of which about 60,000 pages are updated annually. We are working on future possibilities of computerizing these voluminous and expensive, but necessary technical manuals. Service leadership vision of the paperless battlefield will, in part, be dependent upon the effort of the innovative thrust of this group.

New Equipment Training

This function develops and provides training devices along with maintenance training to individuals on newly fielded aviation systems. Training may include the instructors at TRADOC schools as well as on-site unit and organic depot repair and



overhaul training. Foreign Military Sale and Military Assistance Program cases are also provided training and managerial support.

Maintenance Engineering

This element provides maintenance engineering support for fielded aircraft systems and establishes criteria for malfunctions, enhancements and new programs. This involves close liaison with field activities on AVIM and AVUM maintenance matters and relates these to the manufacturer's concept and related elements of engineering. Engineering support is also provided for individual aircraft systems, maintenance concept planning, system configuration control, depot maintenance support planning, to include development of equipment for sets and testing purposes. If you ever wondered who is the focal point for Test Program Sets (TPSs) used to check and repair electronic Line Replacement (LRUs) items, you need to look to this group to answer that question.

Depot Engineering and RCM

This element is unique in that they are located at the Corpus Christi Army Depot (CCAD), TX. Its mission is to provide engineering support to CCAD and other organic/commercial overhaul activities, ensure technical adequacy of Depot Maintenance Work Requirements (DMWRs), and also provide engineering support to other Directorates within AVSCOM, as well as the Spare Parts BREAKOUT program. As this element is co-located with the Depot activity where the aircraft, engines and components are being repaired and overhauled, it is the focal point for the execution of the Reliability Centered Maintenance (RCM) program for Army Aviation. It is also the technical focal point for the Airframe Condition Evaluation (ACE) and Aircraft Analytical Corrosion Evaluation (AACE) programs which are under the RCM umbrella.

Provisioning

This is where initial and follow-on provisioning actions take place for aviation equipment and materiel. Their activities include selecting the range and quantity of repair parts to support both field and depot level aircraft repair and overhaul needs. Source-Maintenance Recoverability (SMR) codes, Demilitarization Codes, preliminary Procurement Method Codes, and failure factors are determined here and subsequently published in appropriate publications. It also serves as the focal point for technical data aspects of the Provisioning Master Data Record and the NSN Master Data Record. The bottom line is that these functions form the hub of support. Without proper coding, parts don't show up and aircraft don't fly.

TAMP-EUROPE

In mid-year 1987, approval was given to establish a "TAMP-EUROPE" management office at Seckenheim, Germany. This new office is serving as the AVSCOM focal point for the Theater Aircraft Repair Program being accomplished in Europe.

The office coordinates with In-Theater activities such as the HQ, U.S. Army-Europe, HQ. U.S. Army Materiel Command-Europe and the U.S. Army Contracting Command-Europe. A typical function of the office is to provide technical assistance in the areas of maintenance management, technical publications, quality control, and materiel management. Two major contracts are currently in-being as shown below:

- An airframe repair contract awarded to Agusta-TEAMCO Joint Venture (ATJV), which is located in Brussels, Belgium. This contract is providing a variety of maintenance services to include inspection and repair of aircraft and selected depot level repairs. This contract also provides field teams capable of providing on-site maintenance.
- A second contract with CASA (Construcciones Aeronautucias S.A.) which is located in Madrid, Spain. This contract is for the overhaul of specific aircraft components primarily in support of U.S. Army-Europe.

This report does not cover it all, it should help you to gain a better perspective of what AVSCOM Maintenance is all about. We are here to support the Army Aviation community and we are very sensitive about that. IIIII

Airframe Condition Evaluation (ACE)

By Curtis Young, Jr.

Army flying units worldwide are aware of the visits of ACE teams. Most also know that the teams gather information used by AVSCOM to administer programs for depot-level airframe repair of aircraft that are not combat, crash, or accident damaged.

Over the period 1967 through 1972, Mr. Clifford Sims and other engineering personnel of the AVSCOM engineering element at Corpus Christi (now known as the Depot Engineering and RCM Support Office, or DERSO) developed the original ACE method. The method evolved naturally out of the first-hand experience these people gained in connection with depot repair operations. ACE was first used in FY74 to select aircraft for comprehensive depot-level airframe repair. The fleet was deteriorated, maintenance budgets were shrinking, and the Army still needed to be aviation ready. ACE offered a means of anticipating depot resource requirements and applying those resources where they would do the most good.

Mr. Young is a General Engineer, DERSO, Corpus Christi, TX.

The effectiveness of ACE depends on engineering recognition of a design's actual defect patterns. The ACE method is best suited to airframe design with trend defects that develop harmlessly for an extended period, indicating a predictable decline and need for depot level repair. Since the end of the post-war recovery period, ACE operations have rarely resulted in airframe disposal, but some post-war aircraft were restored from the brink.

Even though ACE is performed only on the airframe, an aircraft call-in decision arising from ACE results can be tracked back to an established guide-line total maintenance burden. This burden is judged in both human terms (manhours, expertise) and materiel terms (tooling, processes, facilities, etc.). However, dynamic components, which greatly affect flight

characteristics and are field correctable, have not been the object of ACE. This is why a good flying aircraft could be a depot candidate. Reports are that many units have replaced better components for worse on airframes destined for the depot. When scheduling candidates for depot return, flexibility has been a featured element.

The primary goal is to relieve field maintenance organizations of chronic, exhaustive or impossible repairs. Before ACE, most aircraft were programmed for comprehensive depot repair at five-year intervals. That means twenty percent of the fleet was being returned to the depot each year. Since the implementation of ACE, such repairs have averaged less than eight percent of the fleet annually with no sacrifice of reliability. Not only were more aircraft kept on the line, but over $1.1 billion in unnecessary maintenance costs were avoided.

The Value of ACE

ACE has never been intended to act in lieu of the preventive maintenance inspections (dailies, periodics, phases, etc.). This point becomes clear when one realizes that many aircraft that have been identified as depot candidates were not promptly returned to the depot due to fiscal constraints. For these aircraft, as for any of the fielded aircraft, it has been more directly incumbent on the local maintenance organization to assure mission-worthiness with the technical data they have been provided. As a contingency, local maintenance has been able to request depot-level maintenance services which have been available in many forms.

It must be noted that safety has been a consideration in the development of ACE operational parameters. Also, since maintenance resources have been more appropriately allocated through the application of ACE over other forms of depot programming, the overall fleet condition has been optimized.

ACE operates by numerically ranking the airframes in the fleet according to their need for depot maintenance. A number called the Profile Index (PI) is the ranking quantity. Each airframe that is evaluated has its own PI. The greater its PI, the greater is the likelihood that the aircraft should be returned for depot.

The PI itself is a summation of lesser quantities called weights. Weights are assigned to each of the part/defect combinations that are likely to occur as indicators of a need for depot repair.

Assuming that the indicators and their importance to the depot decision are adequately trended and those trends are reflected in the weight assignment, a profiled fleet is effectively ranked according to condition. To assist in the effort to program aircraft for depot return, engineers develop and recommend a special value of PI. This value is called the "Threshold". All aircraft with PIs above the "Threshold" are candidates for depot level maintenance.

When an airframe is ACEd, the evaluator circles the applicable indicator listed on a pre-printed form. The forms have never contained more than forty-eight airframe items. Depending on the airframe, an actual aircraft evaluation takes from one-half to two hours. The numerical results are input to a computer for a PI calculation and consolidation of fleet data.

The Future ACE

ACE is experience-based. Factors affecting that experience are not static and DERSO is committed to stay abreast. To pursue that goal, DERSO has developed the Aircraft Analytical Corrosion Evaluating (AACE) to, among other things, identify deteriorating trends that warrant inclusion in the ACE. Also, the ACE procedures currently in effect for the BLACK HAWK and APACHE are intended to reveal actual defect trends that develop as these systems approach a depot maturity due to accumulated wear and tear. If this information can be characterized positive for its ability to expose depot requirements, then effective depot programing will be the result. Each design, each trend will be considered on a case-by-case basis. Adjustments will be made as necessary.

Over the years, ACE has been a very dynamic entity. Recently, the FAA has requested information concerning the application of this important Army program to the aging U.S. commercial fleet. IIIII

Project OLR: What Is It?

By Lt. Colonel Van Kaiser

The question persists! What is it, what does it mean and what does it do? It's been around longer than many people realize and will be around for a long time to come. An explanation of "OLR", as you will see later on, would have little meaning without first knowing what it is and what it does. Let's explore briefly:

Modification Kit + Aircraft = Project OLR

This command, AVSCOM, and specifically the Directorate for Maintenance, is responsible for the field application or installation of Modification Work Orders (MWOs) and kits on all Army aircraft worldwide. This was not always the case as AVSCOM was assigned this responsibility in 1976, however, prior to that year, aircraft users had the responsibility for MWO application. The reasons for transferring this responsibility to AVSCOM is of little importance now, except to say that AVSCOM is now a single entity for organizing and coordinating the aircraft MWO application program.

LTC Kaiser is Chief, Depot Division, Directorate for Maintenance, AVSCOM.

In the beginning, AVSCOM was faced with three rather significant concerns:

- How to find and establish a control on all uninstalled MWO kits still in the field and in the depots.
- Next was to plan for the installation of these abundant older kits, plus new kits coming out of production.
- The third concern was to find the manpower and facilities by which the kits could be physically installed on a wide variety of Army aircraft, wherever the aircraft were located.

This was all done in time and by various methods with tremendous cooperation and assistance from the aircraft user. Most often, this help came in the form of borrowed facilities and personnel. Some of you will remember these rather trying times, and we at AVSCOM again say, "Thanks".

So what exactly *is* Project OLR? One thing it is not, is an acronym. "OLR" is a computer project code assigned by AMC years ago and has no other meaning, except that it is now generally accepted as a term for the present AVSCOM MWO application program.

Most of our MWO application personnel and facility headaches are in the past, although they are under continual assessment and frequent adjustment to meet changing annual program requirements.

We have access to a virtually unlimited source of highly qualified technical personnel by taking advantage of a unique USAF contract. This contract is also used by other military services and government agencies, including the Navy and Marines. The Air Force administers the contract under a Contract Field Team concept, and AVSCOM orders the required type of personnel in the quantity needed for each field location or facility that will be installing MWO kits. Quality work is produced by these contract teams using a "quality system" approved by the USAF. This system covers work and inspection procedures, record keeping, and inspector certification practices with an audit trail. All work produced is also checked by a government inspector on a progressive basis. The contract team doing the work is liable for his quality of work, even after the aircraft is returned to the user.

Customer Satisfaction

You, as the OLR customer, have the final say on the quality of work done when MWO kits are installed on your aircraft! If you are not satisfied with the work, the contractor must correct the problem. If you have a problem, tell us right away, it will be taken care of.

Project OLR still uses facilities largely provided by user commands at a variety of locations in CONUS, USAREUR, and Korea. Today these are stable facilities with each location servicing a specific geographical area. Under agreement with the user, aircraft are scheduled and delivered to the OLR site, or the contract team will travel right to the aircraft, depending upon the situation and need. This flexibility allows us to schedule work at times and locations that are the most convenient for all concerned. At the present time we are operating seven "OLR" field operations. The AVSCOM Project Officers (POs) and Quality Assurance Representatives (QAs) are:

Hunter AAF, GA
Mr. Dale D. De Roia (PO)
Mr. Larry I. Sylvester (QA)
AUTOVON 971-5402/5691.

Ft. Hood, TX
CW4 J. Nance (PO)
Mr. Lee Armstrong (QA)
AUTOVON 737-3511/4505

Ft. Lewis, WA
Mr. Jim Bush (PO)
Mr. Ron Hutchins (QA)
AUTOVON 357-5761/6645

Ft. Campbell, KY
Mr. James Simon (PO)
Mr. John Pottmeyer (QA)
AUTOVON 635-7511/7538

Ft. Carson, CO
Mr. Thomas Cook (PO)
Mr. Herb Williams (QA)
AUTOVON 691-5079/5077

USAREUR (Germany)
Mr. Nicky McGuire (PO)
Mr. Bernie Weigand (QA)
2131-7481

Korea
Mr. Rorie R. Boyle (PO)
AUTOVON 253-7709/7710

At AVSCOM, the "OLR" program is managed by Mr. Jack Heenan, Chief, MWO Office, which is a part of the Depot Division.

A lesser known side-line of the "OLR" teams is their ability to do limited depot level repairs. In some instances we have sent them right to the aircraft when on-site repair is requested. This is an option we can use when appropriate, to expedite service to the Army customer.

Project "OLR" exists to help keep your aircraft current with the latest improvements in aircraft technology. We in the Directorate for Maintenance are dedicated to do our best in reaching this goal as rapidly as possible with the least possible disruption to your operations. IIIII

TAMP Europe

By Lt. Colonel Jim Verity and Steve Zephir

The United States Army Europe (USAREUR) has always experienced high maintenance cost and extensive delay times repairing aviation components and airframes. There was no system by which aviation items could be overhauled in Europe.

USAREUR needed a program that would reduce lines of supply and curtail the high cost associated with airframe repair.

The Theater Aviation Maintenance Program (TAMP), a joint AMC and USAREUR effort, is that program. It provides Aviation Unit Maintenance (AVUM), Aviation Intermediate Maintenance (AVIM), and limited depot maintenance for the United States Army Europe. Established 9 November 1987 in Seckenheim, Germany, the TAMP Office has helped create more centralized theater maintenance and allows the Army to save money by repairing aircraft as far forward as possible. TAMP has management jurisdiction over four separate commercial aviation maintenance contracts which enhance U.S. Army Aviation readiness in Europe.

LTC Verity is Chief, TAMP Office, Germany for the Dir. of Maintenance, AVSCOM.

A components contract was competitively awarded to CASA (Construcciones Aeronauticas S.A.) of Madrid, Spain on 30 September 1987, to provide depot overhaul of forty-two different components. Covering five aircraft systems; AH-1, CH-47, UH-1, UH-60, and OH-58, the contract allows for the overhaul of engines, tail rotor blades, drive system components and other major aircraft component electrical components. Work in Spain is performed in contractor owned and operated facilities. Although CASA has extensive facilities, work on the TAMP contract is performed in three plants.

Mr. Zephir is a data management specialist, TAMP Office, Germany.

These plants are located in Ajalvir, Getafi, and Cadiz, Spain.

When a USAREUR unit has a component that requires overhaul, it turns it over to the European Redistribution Facility (ERF). Components are screened at the ERF to see if they fall under the TAMP Program. If a component belongs to TAMP, it is removed from normal channels and shipped to CASA via the Military Airlift Command (MAC) with entry into Spain at Torrejon Air Force Base. The components are inducted and the contractor is required to complete overhaul ninety days after the induction date. After components have been overhauled, they are returned to the ERF via MAC and can be shipped directly to a requesting unit within Europe. This reduces delay in supply time and allows the National Inventory Control Point (NICP) in St. Louis to maintain assets in-theater and reduce shipment costs. This program is entirely funded by the Aviation Systems Command (AVSCOM).

Airframe Repair

An airframe contract was competitively awarded to Agusta/TEAMCO Joint Venture (ATJV) on 9 November 1987. The aircraft contract is separate from the component contract and consists of maintenance assistance field teams and a contractor operated facility in Brussels, Belgium. The contract specifically called for a facility within two hundred nautical miles of Coleman Barracks, Mannheim, Germany. For this reason, Agusta International teamed with Trans European Airways Maintenance Company (TEAMCO) in order to take advantage of both companies' expertise. Agusta is providing the knowledge and personnel for the maintenance assistance field teams with TEAMCO providing the central facility work.

The maintenance assistance teams provide AVUM and AVIM for Army field units. These teams are located at sixteen aviation sites supporting twenty-three units throughout West Germany, Holland and Luxembourg. They perform maintenance on the units organic aircraft as directed by the Commander of the resident unit. The field teams are authorized to perform any aviation maintenance task that the hosting unit is authorized in the Maintenance Allocation Charts (MACs) with the available skill mix present. Composition of the field team job skills is agreed to with the hosting unit and can be changed every three months, if necessary. The funding for the field teams is provided by USAREUR, through the 200th Theater Army Materiel Management Command (TAMMC) and the using units.

AVIM/AVUM Overflow

The facility in Brussels, Belgium performs AVIM/AVUM overflow, limited depot maintenance, aircraft painting, and limited crash damage repair as directed by the 200th TAMMC and AVSCOM. Aircraft are flown or line-hauled to Brussels from the owning unit in USAREUR. The contractor then performs the maintenance and corrects deficiencies on the aircraft required by contract. Depot maintenance is performed on a case-by-case basis as directed by AVSCOM. The aircraft are returned directly to a USAREUR unit or placed in storage for issue at a future date. Extensive shipping costs are saved and turn around time is enhanced by keeping the aircraft in Europe.

The South of the Alps contract provides AVUM/AVIM maintenance for all Army rotary aircraft located south of the Alps. These aircraft are located in Italy, Greece and Turkey. The contract for FY89 was provided by Agusta International. This contract has been extended for 90 days into FY90 while new proposals are being considered.

The fourth TAMP contract is the Target Acquisition Designation Sight/Pilot Night Vision Sensor (TADS/PNVS) contract. It provides for the depot overhaul of all twenty-six (26) Line Replaceable Units (LRUs) that make up the AH-64 APACHE TADS/PNVS electronics equipment. Awarded to the Martin-Marietta Corporation, the contractor began the active overhaul of AH-64 TADS/PNVS LRUs for USAREUR in 1986. Although the AH-64 is not considered grounded if the system is nonfunctional, the aircraft is not considered fully mission capable. The repair cycle time has been reduced by 85% for USAREUR

(TAMP — continued on page 60)

Aircraft Movements: A Materiel Management Problem

By Ray E. Pearce

Help! Help! Help on this one. Yes, we need your help. Our aircraft are moving all the time. Some of the more familiar reasons for these movements are aircraft going to a depot facility for overhaul or repair, for modification and conversion and for transfer to another activity. Army wide, this is an every day occurrence. How can we have much of a problem with such a common event? I will explain further after I add a relatively new twist to the subject.

A new reason to "move" an aircraft, one which has not been so commonplace, is to deliver it to a facility for reclamation and disposal under the current Army Aircraft Retirement Program. The uncommon nature of this reclamation effort is the increasing number of aircraft that will be involved and what happens to the aircraft at the reclamation site.

Mr. Pearce was Chief, Data Base Mgmt Branch, U.S. Army AVSCOM, St. Louis, MO, at the time this article was written.

We have, over the years, recognized the tendency by some units to take advantage of aircraft going to a depot maintenance facility to exchange hightime components with lowtime components. This is not so troublesome except when this component exchange is improperly documented. By improper documentation we mean those Time Change (TBO and Retirement/Finite Life) components delivered with the aircraft whose Serial Numbers do not match to the aircraft Logbook records. When this happens and the depot facility does not know the time remaining on the item, the component is removed and usually a long search for component historical data must follow. Unfortunately, when the records search is unsuccessful, TBO type components may be prematurely overhauled or Retirement/Finite Life items may wind up in the scrap bin ahead of time. This adds unnecessarily to the time and cost of repairing the aircraft. This situation can also occur when making a routine

transfer of an aircraft to another unit and component Serial Numbers do not match the records.

We believe in some instances, that a unit turning in an aircraft to a reclamation site may be under the misconception that the entire aircraft is to be disposed of totally, by scrapping. Nothing could be further from the truth. True, many aircraft are now in some type of reclamation/retirement program and many more will be scheduled, however, large numbers of these same type of aircraft will remain in service for some time to come. That is why we must all be fully aware of what really happens during the reclamation process. A typical example would be the recent reclamation of a number of UH-1 and OH-58 helicopters at Davis-Monthan AFB, AZ. Virtually all Time Change Components were removed from these aircraft with the objective of classifying them as serviceable or repairable. These items would then be returned to the Army supply system for use on other aircraft or were sent to an overhaul facility for repair and eventual reuse.

Reclamation Efforts

In addition to Time Change components, many individual parts of the aircraft which are in short supply were also on the SAVE LIST. A portion of the OH-58 fuselage is also being reclaimed and saved to support the AHIP conversion program. Typical items on the SAVE LIST would be Engines, Transmissions, Rotorheads, etc., all expensive items needed to support the rest of the operating fleet. As is the case at the depots, if the component records are incomplete, missing or are inaccurate, many items will be misclassified and some may possibly be lost to the system.

Linehaul of aircraft is where the plot thickens. Although the majority of aircraft are flight delivered to their destinations, it is not uncommon to linehaul a complete aircraft. On a recent visit to the Davis-Monthan AFB reclamation site, the signs of needed improvement in how aircraft are prepared for line-haul shipment were very apparent. In many instances the Army's objective of reclaiming good usable components and parts from these aircraft were being defeated. These signs included oversights such as minimal or no preservation of the aircraft or loose components removed to facilitate shipment and little or no documentation of component substitutions. Most loose items were stowed inside the aircraft with little or no preservation or protection and were damaged during handling and shipment. There also was a general lack of use of Materiel Condition Tags to show serviceability of loose items. All of this contributed to severe problems in efforts to determine proper serviceability classification of the items and in determining time remaining on Time Change items.

How to Help

A number of things can be done:

- Deliver aircraft as a complete aircraft.
- Bring the aircraft Logbook records up to date. When substituting components to go with the aircraft, document the records to reflect correct Serial Numbers of all components removed and installed or shipped with the aircraft.
- Components/parts removed from the aircraft to facilitate linehaul by truck should be classified as to condition and an appropriate Materiel Condition Tag attached to the item. Don't forget to report these removals and installations on DA Form 2410 Component Removal, Repair/Overhaul and Installation Record, as the majority of these items will never be reinstalled on that aircraft. Be sure that other component records are updated and correct records go with the aircraft. Removed or loose components and parts should not be stowed inside the aircraft, except items small enough to be properly secured to the cargo floor. It is recommended that loose components/parts be shipped on a platform on the truck, using proper preservation and reusable or suitable wooden containers to adequately protect the items.

Many of you will notice the similarity between this article and an AVSCOM Field Newsletter previously released by the Directorate for Materiel Management at AVSCOM. This is an indication of the collective concern over this subject. The

(Aircraft Movements — cont. on page 60)

Maintenance Engineering

By William S. McDonald

AVSCOM has established a Maintenance Engineering Division within the Directorate for Maintenance. In twenty-five words or less the function of the Maintenance Engineering Division is to provide needed engineering support to AVUM and AVIM maintenance units for enhanced readiness of Army Aviation Assets.

To provide support services for the engineering aspects of field maintenance of Army Aviation Assets, the Maintenance Engineering Division is subdivided into four branches:

- Maintenance Engineering Program Management Branch.
- Configuration/Specification and Data Management Branch.
- Maintenance Engineering Aircraft Systems Branch.
- Automatic Test Equipment/Test Program Set Branch.

Mr. McDonald is Chief, Maintenance Engineering Div., Dir. for Maintenance, U.S. Army AVSCOM, St. Louis, MO.

Each branch has specific responsibilities for a different maintenance area to support field readiness.

Maintenance Engineering

The Maintenance Engineering Program Management Branch is headed by Mr. Tom Geoffroy. This branch is responsible for all non-specific aircraft system projects. This branch manages acquisition of Battle Damage Assessment and Repair (BDAR) Kits, Corrosion Prevention Control (CPC), maintenance concepts, and presently Depot Maintenance Support Planning (DMSP). BDAR may be familiar to some, but will be common to all aviation maintenance personnel within the next few years. Kits are now being defined and procured to allow skilled personnel to apply field fixes to commonly induced aircraft damage due to combat operations. This attempt to place expedient repairs in front line units will greatly enhance combat readiness in

hostile environments. CPC is another program that will increase readiness by decreasing loss of equipment caused by material deterioration due to the natural environment. CPC formalizes measures necessary to prevent metal returning to its natural oxide state. Maintenance concepts are developed and evaluated to optimize the preventative procedures necessary to insure safe operation of aircraft systems. Investigations conducted under maintenance concepts responsibilities revealed flaws in the Progressive Preventative Maintenance concept. DMSP requires involvement with depot overhaul requirements and concepts. If organic depot overhaul and repair is selected for support of an item; procedures, tooling, training, and replacement parts must be determined and procured. DMSP responsibility extends from concept of organic overhaul until initial overhaul is completed.

Configuration/Specifications

The Configuration Management Branch is headed by Mr. Jim Archibald. This branch is responsible for controlling the configuration of purchased aviation assets. Violation of configuration principles can endanger life and materiel at worst, or render a product non-supportable at best. As there is no free lunch, there is no cute way to control configuration without jeopardizing either safety or the support base. Configuration changes are necessitated by safety impacts, costs saving redesign, and lack of material availability. When changes are made, consideration must be given to implications on all documentation from drawings to technical manuals, user/maintainer training, impact on production line, impact on fielded items, and disposition of spare items. If fully implemented with spares and field retrofit, a seemingly simple configuration change can explode easily to a multi-million dollar change. Pressure is ever present to take short cuts that foolishly save initial dollars but delay and worsen full field supportability of a modified item. The Configuration Management Branch also is responsible for insuring contracts have proper deliverable data descriptions included for all contractor formulated reports, specifications, lesson plans, manuals, etc.

Aircraft Systems Branch

The Aircraft System Branch is headed by Mr. John Bauer. This is the branch whose primary responsibility is the maintenance engineering support of the field. The most important duty is the evaluation of Safety-of-Flight (SOF) Messages and Maintenance Information Messages (MIM). Personnel

review them to be certain that the maintenance instructions are accurate, can accomplish the intended purpose, and are easily understood. In conjunction with other divisions within the directorate they make certain the parts and technical manual callouts, as well as reporting requirements are correct. In addition, they make determinations as to whether or not to grant requests for Depot Deviations. While many requests are straightforward and can be answered easily, some are complex and require considerable research.

Other functions include the evaluation of Engineering Change Proposals (ECPs), answering written and verbal requests from the field, insuring that the technical information in the maintenance manuals is correct, and evaluation of Suggestions, Supply and Maintenance Assessment and Review Team (SMART) and the Tool Improvement Program (TIP) submittals. The ECPs have to be evaluated to insure that the proposed changes do not adversely affect maintenance of aircraft, that provisions for retrofitting the fleet are included, and that Modification Work Orders (MWOs) are furnished for retrofit. Developing information for response to queries from the field is the biggest workload in this branch. Periodically, the maintenance manuals, particularly on in-production aircraft, are updated and the information must be reviewed. Suggestions, SMARTs, and TIPs are evaluated on a continuing basis.

ATE/TPS Branch

The Automatic Test Equipment/Test Program Sets (ATE/TPS) Branch is headed by Mr. Ed Branhof. ATE and TPS provide a way for the field personnel to check out and diagnose today's complex electronic systems and subsystems. The branch is responsible for management of AVSCOM ATE/TPS to assure their availability to meet readiness requirements. The management function of this branch includes planning, direction, developing, procurement and distribution of ATE/TPS, coordination of ATE/TPS policy with AVSCOM organization elements to assure compliance with Army and AMC directives.

The ATE/TPS Branch emphasis currently is placed on three technical disciplines:

- Development Engineering,
- Field Support Engineering, and
- Configuration Management.

The Development Engineering function includes the design, development, and revision of ATE/TPS software, hardware and documentation. The Field Support Engineering function is to provide the user/field sites technical assistance in problem formulation/definition, evaluation/analysis and resolutions, including on-site support.

The ATE/TPS Configuration Management function is to provide configuration control of AVSCOM managed ATE/TPS and Unit Under Test (UUT) data base line, documentation status and changes. Currently, efforts are underway to renovate a 16,000 square foot area at AVSCOM into an ATE/TPS Branch laboratory facility. This facility will contain and provide post deployment support for all AVSCOM managed ATE/TPS and related UUTs.

This then is Maintenance Engineering. We are ready and will continue to support the field and the rest of the Army in all of the areas described above. CALL US! IIIII

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SURVIVABILITY:

ASE TRAINING UPDATE

BY DONALD L. ROTH

ST. LOUIS, MO — Throughout the years, the capabilities of various threat airborne intercept, surface to air, and air to air weapon systems have been analyzed and assessed by the Project Manager's Office for Aircraft Survivability Equipment, along with the Center for Electronic Warfare, Reconnaissance, Surveillance and Target Acquisition. As a result, very effective countermeasures have been developed and fielded to include systems that provide radar warning, radar jamming and infrared suppression. For example, the AH-64A APACHE is provided with an AN/ALQ-136(V)5 Radar Countermeasures Set, an AN/ALQ-144 (V)5 Infrared Jammer, an AN/APR-39(V)1 Radar Warning Receiver and an M-130 Chaff Dispenser.

This combination of the ASE suite allows the APACHE to perform its primary tank killing mission under extremely hostile conditions. To date, the AH-64A with its ASE suites has been successfully fielded to CONUS, Europe and ARNG units. Additionally, the SEMA fleet has been successfully equipped with a highly effective suite of ASE.

The PMO-ASE continues to upgrade present survivability systems as the threat increases. The development of modular components that are effectively integrated throughout the aircraft will save weight, space, power and money while enhancing the aircraft's survivability capability.

Utilizing an effective and highly capable ASE suite requires good, effective training. Maintainers and operators of ASE receive training at the appropriate schools, such as the Aviation Center at Fort Rucker, AL and the Signal Center, Fort Gordon, GA.

New Equipment Training (NET) is a continuous process performed by on-site teams of trainers that accompany the New Equipment Fielding Teams. The Logistics Assistance Representatives (LARs) assigned to Army Materiel Command (AMC) Readiness Directorates also contribute valuable training in the field. Sustainment training is extremely important. Once the NET has been completed, units are responsible for continuing ASE training and providing the needed momentum to keep operators and maintainers skilled and qualified.

Training Devices

The ASE Project Manager's Officer fielded the Aircraft Survivability Equipment Trainer (ASET I) in 1988. It was intended to provide an all purpose training mechanism for ASE users and operators that was easy to use and readily available. Aircraft Survivability Equipment Trainer II (ASET II) will provide an updated training system that allows the operator to plan for and program the use of ASE prior to and during the conduct of the simulated mission. ASET II will be fielded to active Army units during 1990. ASET II will be a vast improvement over the capabilities of its predecessor and will become even more valuable to unit commanders in these times of lean training budgets.

Mr. Roth is Chief of the Logistics Management Division, ASE-PMO, U.S. Army Aviation Systems Command, St. Louis, MO.

Updating ASET

As aviation threat capabilities change, so too can the ASET be updated to remain compatible with the ever changing threat profiles. The ASET II will continue to provide self paced training for attack, observation and SEMA pilots.

In the future, ASET III and ASET IV will be developed and fielded, providing an even more updated and realistic ASE training program. ASET III will provide a capability for the unit Instructor Pilot (IP) to train pilots on the fundamental employment of ASE during a simulated, real-time flight. ASET III will be integrated into the training courses at both TRADOC schools and aviation units. ASET IV will be developed with a "train as you will fight" capability and will provide a family of threat emitters that will actively engage friendly crews throughout the conduct of their mission. This will allow the aviator to employ his operational skills against realistic threats with real-time feedback. IIIII

OPERATIONS:

THE 'WINGS OF WAR' BRIGADE

BY COLONEL LONNIE S. BEASLEY &
MAJ DAVID L. WESTFALL

FORT HOOD, TX — The "Wings of War" Brigade and its assigned units have faced many challenging training opportunities this past year.

Highlighting our training was the completion of two deployments to the National Training Center within seven months and starting preparations for a third rotation in November. In addition to the unit deployments the brigade has provided aviation support in smaller numbers to a variety of different posts and areas. The brigade was tasked to send personnel to Honduras and Panama to alleviate shortages and provide support to Joint Task Force Bravo.

E Company, 227th Aviation Regiment served as the base headquarters during GALLANT KNIGHT/GALLANT EAGLE providing aviation support for U.S. Central Command, Allied and U.S. distinguished visitors observing the exercise. The "Vultures" have also been working closely with the newly activated Long Range Surveillance Detachment doing helicopter insertions using Night Vision Goggles and other techniques to enhance their survivability. Echo Company has always provided dedicated aircraft for each NTC rotation in order to provide support to the LRSD and for logistics re-supply as well.

D Company, 227th led the way in Force modernization by being equipped with both the OH-58D and the EH-60. The Target Acquisition Reconnaissance Platoon was tested early with a rotation to NTC supporting a maneuver brigade. Working in conjunction with the 1-7 Cavalry Squadron they were able to acquire targets at a greater range during hours of darkness; therefore, enhancing the overall combat capability of the Task Force. Their success has caused the OPFOR to express concern about the OH-58D's capability. It has proven itself to be a "super scout" and target acquisition platform with unlimited potential.

The 1-227 "First Attack" owns the distinction of being the first AH-64 unit to deploy to NTC with AH-64 APACHE attack helicopters and engage the OPFOR with MILES-AGES II equipped aircraft. They participated in both force on force and live fire exercises firing Hydra 70 rockets, 30MM, and HELLFIRE missiles. The AH-64 proved that it is a formidable killer on the battlefield with target kills in excess of 7,500 meters with live HELLFIRE missiles. This rotation was also highlighted, because it was the first OH-58D and AH-64 lash-up, which proved to be a deadly combination.

The eyes and ears of the division commander, the 1-7 Cavalry Squadron, recently went through a bit of nostalgia with an insertion of its dismounted scouts into the Ia Drang. During a recent First Team reunion the 7th Regiment was activated with the 1-7 serving as the keeper of the regimental colors. Many of the unit's past members were able to pay a visit; while visiting they enjoyed talking with the young soldiers and seeing new equipment such as the Bradley fighting vehicle and the HMMV. The 1-7 has also spent extensive time with National Guard units assisting them with evaluations and training.

Looking Ahead

Many of the missions the brigade has accomplished would not have been possible without the outstanding maintenance support given by F Company 227th. Even though they are assigned to the division support command we rely on them heavily during deployments to enhance our capabilities.

The coming year looks just as challenging with NTC rotations, testing of concepts, and supporting the First Team wherever required. If you are looking for a challenging assignment with many rewards then come and join us in the Wings of War Brigade here at Ft. Hood, TX.IIIII

COL Beasley is Commander, Combat Aviation Brigade, 1st Cavalry Division, Ft. Hood, Tx.

MAJ Westfall is Brigade Adjutant, Combat Aviation Brigade, 1st Cavalry Division, Ft. Hood, TX.

AWARDS AND HONORS

The following information is provided by the U.S. Army Aviation Center at Ft. Rucker, AL:

Initial Entry Rotary Wing Aviator Courses:

Class 89-3 UH-1 Track (08/04/89): 2LT Robert S. Brown, Dist. Grad.; 2LT Danny E. Morgan, Honor Grad.

Class 89-3 UH-1 Track (08/04/89): WO Kelly D. Rutherford, Dist. Grad.; WOs James R. Burke, Jr., Joel E. Cloaky, Billy J. Brown, & Paul E. Baxter, Honor Grads.

Class 89-3 OH-58 Track (08/04/89): 2LT Brian S. McNaughton, Dist. Grad.; 2LTs Christopher M. Holmes & Michael W. Hamm, Honor Grads.

Class 89-3 OH-58 Track (08/04/89): WO Steven T. Sund, Dist. Grad.

Class 89-2 UH-60 Track (08/04/89): 2LT John D. Selmer, Dist. Grad.

Class 89-1 AH-1 Track (08/04/89): 1LT Gregory A. Barth, Dist. Grad.

Class 89-4 UH-1 Track (08/18/89): 2LT Jason R. Horne, Dist. Grad.; 2LTs Josephine A. Nicolosi & Gerald R. Diotte, Jr., Honor Grads.

Class 89-4 UH-1 Track (08/18/89): WO John Cox, Jr., Dist. Grad.; WOs Brian T. LaRose & Dennis O. Geer, Honor Grads.

Class 89-4 OH-58 Track (08/18/89): 1LT Kenneth E. Walraven, Dist. Grad.; 2LTs Jeffrey R. Linscott & Kenneth T. Royar, Honor Grads.

Class 89-4 OH-58 Track (08/18/89): WO James W. Carl, Dist. Grad.; WO David K. Wood, Honor Grad.

Class 89-3 UH-60 Track (08/18/89): 2LT John W. Menges, Dist. Grad.

Class 89-2 AH-1 Track (08/18/89): 2LT Roy Therrien, Dist. Grad.

Class 89-2 AH-1 Track (08/18/89): Mark A. Ostbloom, Dist. Grad.

Class 89-8 UH-1 Track (10/19/89): 2LT Scott H. Schofield, Dist. Graduate; 2LTs David P. Jensen & Thor I. Halvorson, Honor Grads.

Class 89-8 UH-1 Track (10/19/89): WO Dino B. Sorter, Dist. Grad.; WO Brian S. McKown, Honor Grad. & Leadership Award; WOs Katrina J. Gossman & Gene S. Horstman, Honor Grads.

Class 89-8 OH-58 Track (10/19/89): 2LT Gary D. Stephens, Dist. Grad.; 2LTs James A. Caruso, II & Thomas L. James, Honor Grads.

Class 89-8 OH-58 Track (10/19/89): WO Kevin N. Karella, Dist. Grad.; WO Michael D. Mock, Sr., Honor Grad.

Class 89-7 UH-60 Track (10/19/89): WO Steven J. Roberts, Dist. Grad.

Class 89-9 UH-1 Track (11/02/89): 2LT David E. Salter, Dist. Graduate; 1LT Eric D. Waage, Honor Graduate.

Class 89-9 UH-1 Track (11/02/89): WO Joseph V. Thompson, Dist. Grad. & Leadership Award; WOs Bradley R. Pepper & Joseph M. Cogelia, Honor Grads.

Class 89-9 OH-58 Track (11/02/89): 2LT Darren W. Behm, Dist. Grad.

Class 89-9 OH-58 Track (11/02/89): WO James G. Berberich, Dist. Grad.; WO Douglas L. Baer, Honor Grad.

Class 89-8 UH-60 Track (11/02/89): WO Todd J. Day, Dist. Grad.

Class 89-7 AH-1 Track (11/02/89): 2LT Carl B. Higgs, Honor Grad.

Class 89-7 AH-1 Track (11/02/89): WO John R. Musser, III, Dist. Grad.; WO Derik J. Willis, Honor Grad.

Class 89-10 UH-1 Track (11/17/89): 1LT Rexford E. Spofford, Dist. Grad. & Class Leader.

Class 89-10 UH-1 Track (11/17/89): WO Matthew E. Piffer, Dist. Grad.; WOs Matthew M. Speare & Clark L. Webb, Honor Grads.

Class 89-10 OH-58 Track (11/17/89): WO Kenneth J. Pfleger, Dist. Grad.; WOs Robert G. Wilkey, David A. Latt, & Richard G. Strike, Honor Grads.

Class 89-9 UH-60 Track (11/17/89): WO Mark A. Cassell, Dist. Grad.

Class 89-8 AH-1 Track (11/17/89): WO Tracy A. Hicks, Dist. Grad.; WO Donald J. Hunter, Honor Grad.

Class 89-10 UH-60 Track (12/01/89): CPT Michael T. Lytle, Dist. Grad.

Class 89-10 UH-60 Track (12/01/89): WO William D. Vanderberry, Dist. Grad.

Class 89-11 UH-1 Track (12/01/89): 2LT Darren A. Cuevas, Dist. Grad.

Class 89-11 UH-1 Track (12/01/89): WO Joseph S. Chandler, Dist. Grad.; WOs David F. Voynow, & Thomas F. Kearns, Honor Grads.

Class 89-11 OH-58 Track (12/01/89): CPT Vincent M. Tobin & 2LT Britt E. Smith, Honor Grads.

Class 89-11 OH-58 Track (12/01/89): WO Bradley A. Coy, Dist. Grad.; WOs Eric E. Rings & Harold M. Huser, Honor Grads.

Class 89-9 AH-1 Track (12/01/89): 1LT James R. Antonino, Dist. Grad.

Class 89-9 AH-1 Track (12/01/89): WO Charles W. M. Bergeron, Dist. Grad.; WO Mark E. Reimler, Honor Grad.

Air Traffic Control Operator Basic Noncommissioned Officer Course Class 89-11 (10/20/89): SGT Christopher Cole, Dist. Grad.

Air Traffic Control Operator Basic Noncommissioned Officer Course Class 90-01 (11/09/89): SSG Joseph L. Hawbecker, Dist. Grad.

Members of the 1989 **World Champion, U.S. Precision Helicopter Team** were welcomed to the White House by **President Bush** on 21 September 1989. Pictured above with the President and members of the Team are The Honorable William L. Dickinson, R-Alabama, and General Carl E. Vuono, Chief of Staff, U.S. Army.

General Dynamics Pomona Division recently unveiled an avionics system that will enable military helicopter pilots to fly at very low altitudes in reduced visibility or inclement weather and "see" obstacles in their flight path. The system, Pomona's candidate for the U.S. Army's Obstacle Avoidance System (OASYS), uses ultra high-range resolution millimeter wave radar and custom software to detect obstacles such as small multistrand wires used in electrical or telephone systems. The radar will be enclosed in a small radome mounted on a helicopter. Wires and other obstacles will be electronically projected on a "heads-up" cockpit display, or HUD.

Corpus Christi Army Depot personnel successfully completed another year of accident free flying. CCAD flew 2,424 hours in FY89 without a major aircraft mishap. The completion of FY89 without a mishap pushed CCAD's aviation safety record to more than 28 years and 60,000 hours of flight operations without a major aircraft mishap.

The **11th Annual Reunion** of the **DUSTOFF Association** will be held at the Holiday Inn Riverwalk in San Antonio, TX, on February 23, 24, and 25, 1990. For further information please contact the DUSTOFF Association, P.O. Box 8091, Wainwright Station, San Antonio, TX 78208, or telephone Glen Melton (512) 656-0083 or 657-1473.

Five employees of the **Aviation Applied Technology Directorate** (AATD), **U.S. Army Aviation Systems Command** (AVSCOM), Fort Eustis, VA, received the Director's Awards for their outstanding contributions during the fiscal year 1988. The awards were presented during the AATD annual awards ceremony held November 15. Each awardee received a Department of the Army citation, an engraved plaque, lapel pin, and a cash award of $1,000.

Receiving the **Director's Award for General Excellence** (administrative support) was **Karen C. Maculley,** secretary (steno), Propulsion Technical Area. **Stanley D. Aiton,** engineering technician, and **John E. March,** an electronics technician assigned to the Technical Services Division shared the **Director's Award for General Excellence** (technical support). **Stephen E. Parker,** mechanical engineer, Weaponization Technical Area received the **Director's Award for Technological Achievement.** Receiving the **Director's Award for Exceptional Service** was **Lauren L. Sebring,** contract specialist assigned to the Contracting Division.

There will be a **reunion** of the **173d Airborne Brigade (Separate), U.S. Army** which served in **Vietnam, 1965-1971,** and in **Okinawa** prior to Vietnam, on July 5-8, 1990, at the Mayflower Hotel, 1127 Connecticut Avenue, NW, Washington, D.C. 20036. For more information contact: Sigholtz-Capitol Chapter, International Society of the 173d Airborne Brigade, P.O. Box 27478, Washington, D.C. 20038-0478, ATTN: 1990 REUNION.

BNCOC
(continued from page 12)

while the remaining time will be dedicated to MOS technical training. As a result of this change, the resident avionic BNCOC courses were reduced by more than 50% providing a tremendous dollar savings for the Army while continuing to produce a fully qualified BNCOC graduate.

One other course has also been added to the BNCOC Programs of Instruction (POI) taught at the Aviation Center Noncommissioned Officer Academy. On 6 April 1990 the first BNCOC class for MOS 93D Air Traffic Control Systems, Subsystems, and Equipment Repairer will begin at Fort Rucker. After establishment of this five week and four day course, BNCOC instruction will be provided to all aviation MOS.

With the relocation of avionic BNCOC training to Fort Rucker, all Aviation Noncommissioned Officer Education System (NCOES) courses are now taught at two locations. Fort Rucker teaches BNCOC and ANCOC courses to all soldiers in CMF 93 Aviation Operations and to all avionic soldiers in CMF 67. Specifically, ANCOC is provided for MOS 93C40, 93D40, 93P40, and 68P40 while BNCOC is taught to MOS 68L30, 68N30, 68Q30, 68R30, 93B30, 93C30, 93D30, and 93P30. All other BNCOC and ANCOC courses for CMF 67 remain at the U.S. Army Aviation Logistics School (USAALS), Fort Eustis, VA. IIIII

Readiness
(continued from page 23)

BG Brooks representing AMC, Mr. Joseph P. Cribbins representing DCSLOG-DA, and the Commanders from the four AVCRADS and the HQ MACE. The workshop breakouts included the Commanders' group, the Logistics group which included ARMMIS, and the Mobilization group. After the conclusion of the three successful workshops, MG Jimmy Ross closed the exit brief with a seven point "tasker" to the Commanders.

- Finalize the European AVCRAD facility.
- Develop "support to deploying forces" procedures.
- Refine the CONUS depot maintenance workload.
- Continue depot-level special training.
- Automate the work-place and equipment.
- Expand Quality Assurance programs.
- Detailed Mobilization Training.

The MACE Commanders' Conference will be during the last week of January, 1990. A report on this would be very timely and welcome. With everyone's help, we can make this topic, Mobilization Readiness of the Aviation Branch, a very *positive* issue. IIIII

(Ed. note: Responses to LTC Papier's article are welcome. Contact the Editor, ARMY AVIATION.)

TAMP
(continued from page 49)

aircraft since the program began in 1987. The contractor has a depot repair facility located at Coleman Barracks in Mannheim, Germany. This contract has enhanced the deployment and readiness of AH-64 aircraft in USAREUR by providing timely repair of sensitive equipment.

TAMP Europe provides the in-theater support required for Army rotary wing aircraft. Readiness is improved by reducing the lines of supply. The aircraft are kept where they are most needed and the Army saves extensively in shipping costs. IIIII

Aircraft Movements
(continued from page 51)

reutilization of expensive and hard to obtain items to support our aircraft fleet are logical and obvious goals, and the help of everyone is needed if they are to be achieved.

We have emphasized the importance of component record documentation. Should you have a problem with documenting a component before it leaves for the depot or some other destination, call the AVSCOM 2410 HOTLINE in St. Louis, MO. They could very well have the information you need in their computer records or they will help you with any problem you may have. The HOTLINE numbers are Autovon 693-1879 or Commercial (314) 263-1879. IIIII

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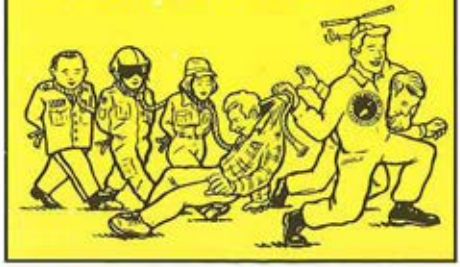

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Mr. Robert J. Hoyt
Ms. Elayne C. Matthews
Mr. Joseph M. Medwetz
Mr. Jonathon L. Myers
Mr. Nicholas J. Scarnato
Mr. Tony D. Stenta

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MAJ Ernest G. Botts
CPT Gregory S. Brown
MAJ Harlan V. Devore
CW2 Robert P. Greene
CW4 Charles P. MacDonald
CW4 Robert J. Roland
CPT Thomas B. Sanborn

GR. CHICAGO AREA CHAP. CHICAGO, IL

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WOC Gilbert G. Harper
Mr. John B. Huismann
WOC John A. Kaplafka
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CPT Kevin C. Ryan
Mr. Ken Schramer
WOC Christopher J. Schumpp
WO1 Michael G. Schweizer
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Mr. Arthur Zabinski

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Mr. Travis G. Hickman
Mr. Steven J. Schaefer
Mr. Walner J. Thervil
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Mr. Brian Richard Allen
PV2 Barbara C. Baumgartner
CPT Harlan H.R. Blake
CW2 Douglas B. Brown
PFC Jeffery J. Burns

WO1 Ronald E. Cairns
PFC Freddie D. Cook
PFC Richard E. Demuynck
SPC Hector Eduardo Dietsch
PFC Kurt S. Dornhecker
SGT Kent Dunwiddie
PFC Frank B. Eaton
SSG Ernest P. Elliott
CW4 Charles A. Fish
1LT Thomas P. Flynn
CW2 Anthony A. Fridelle
SPC Joseph E. Gould
PFC Francis L. Grey
Mr. James W. Hammonds
CPT Charles N. Hardy II
SFC Willie J. Hayes, Jr.
SSG Jose J. Hernandez
PFC Philip J. Hiebert
SPC Todd Hilesman
SPC Lawrence Holloway
Mr. Percy D. Hubbard
SGT Ortega Javier
CPT Barry S. Kapplan
CW2 Paul M. Kukish
PFC Joel S. Kyzer
SPC Mike S. Lancto
PFC Patricia A. Lopez
PFC Rhonda L. Markham
SPC Helen M. McCarthy
PFC Shawn D. McManus
PFC Dennis R. Meadors
PFC Michael S. Merica
SPC Mary B. Moore
CW2 Sean Morrill
SPC Kelly E. Morris
SSG Darrell R. Mosher
1LT Alfred A. Otero
1LT Charles J. Packard
SFC James H. Parko
1LT Jeffrey L. Powell
PV2 Cessido R. Priore
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Mr. Joseph A. Rowland
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SGT Raymond J. Saintlouis
PFC William J. Schick
SGT Michael W. Selbel
PV2 Michael L. Shores
Mr. Michael R. Spillman
SGT Edward A. Still
CW3 James E. Stone
SPC Brenda S. Taylor
SPC James K. Taylor
CPT Scott B. Thompson
PFC Paul S. Thronburg
PFC John Wesley Turner
SPC Jorge A. Valdez
SPC Craig A. Van Aelst
CW3 Michael J. Vandenberg
PFC Steve D. Walker
SSG Arthur L. Webb
1LT Charles D. Wright
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COL Steven S. Peacock

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2LT Dwayne E. Pisschsk

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Mr. Travis W. Bracken
Ms. Virginia Lee Campbell
Ms. Kimberly Kay Colley
Mr. Rex L. Cunningham
Ms. Laura L. Demzik
Mr. Walter D. Grace
Mr. Herbert P. Gray
CPT Stephen E. Hambrecht
Mr. B. Thomas Horace
Mr. Ennis D. Jones
Ms. Pamela Katz
Mr. Leroy A. McCormack
Mr. Carroll G. McCosh
Mr. Charles W. Morton
Mr. John J. O'Connell
Mr. Howard W. Rojewski
Mr. David B. Smith
Mr. William M. Smith
Mr. Peter Tiroch
Ms. Sharon J. Vaughn
Mr. Donald R. Walker, Jr.
Mr. Floyd L. West

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Mr. Robert J. Ritchie

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COL Seong Mook Baek
Mr. Yang Hwan Choe
CPT Bart S. Cox
WO1 Timothy D. Fred
Mrs. Sun Pun Han
CPT John M. Hawkins
SPC Danoris A. Jenkins
SGT Sang Pil Joo
CPT Ho Kyung Kim
SPC Rhonda L. Lafloon
CPT Jeffrey A. Lawson
SP4 Todd A Libbe
SPC Donald C. Maddox
MAJ David W. Mount
PFC Rynard L. Nickles, Jr.
SPC Albert F. Pierce, Jr.
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1LT Laura J. Richardson
CPL Yang Yung Soo
SGT James L. Stratton, II
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SGT Richard J. West
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SPC Gordon A. Hughes
LTC David D. McDougall

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CSM Hal J. Coultas

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Mr. Joe F. Chansagua
MSG Roy R. Hayhurst, Ret.
Mr. Howard E. Hollinger
Mr. Donald W. Lehman
CW2 William P. Sweitzer
CW4 Wallace R. Voss
CW2 Albert Bryan Wood

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CW2 Bruce A. Daily
WO1 Lee C. Korman
CW2 Ronald D. Mawson
1LT Anthony W. Potts
CW3 Dean G. Smith
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CW2 Stanley J. Buck
PFC Troy L. Cambler
PV2 Richard Campbell, II
2LT Eric D. Crowell
PFC Gene P. Dalporto
1LT Jonathan K. Dunkleberger
1LT(P) Gregory J. Enochs
WO1 Alexander Freitas, Jr.
PFC Regina Marie Glatt
SPC Robert T. Goebel
SGT James M. Hanisko
CPT Charles A. Jumper
CW2 Mary J. Lloyd
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PFC Robert A. Paddock
SPC Ronald L. Price
MAJ Alan H. Ray
SGT Edward W. Rivette, Jr.
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CPL Robert R. Smith, Jr.
LTC Billy W. Stevens
SPC Chuck A. Tadrzak, II
CW3 James E. Thompson
1LT Howard L. Trujillo
CW2 Terry L. Umfleet
SFC Richard F. Untalan
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SSG Earl D. Shipferling
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CW3 David W. Sullivan
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Mr. Arthur R. Mann
Mr. Patrick L. Park
Mr. Marvin B. Schaffer
MAJ Thomas P. Walsh

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TALON CHAPTER ILLESHEIM, GERMANY

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CW3 Wayne C. Carlson
1LT Cornelius J. Keohane
CW3 Kenneth P. Little
SSG Lajuanda G. Parks

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Mr. Kevin H. Griesemer
Msg Larry J. Mullins
1SG Carl E. West, Jr.

TENNESSEE VALLEY CHAPTER HUNTSVILLE, AL

Mr. Donald J. McCune

THUNDERHORSE CHAPTER FULDA, GERMANY

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WASHINGTON DC CHAPTER WASHINGTON, DC

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MAJ David B. Cassidy
1SG Robert N. Hall
MG Donald C. Hilbert
Mr. Donald B. Hirsch
MAJ Peter R. McGrew, USMC
Mr. Richard W. Meiklejohn
SGT Calvin A. Moore
MAJ Richard Stockburger, USMC
SFC Roy B. Wilson, Sr.

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CW2 Charles T. Graham
CW3 Glenn M. Harman
SGT David Larson

WINGS OF THE MARNE CHAP. GIEBELSTADT, GERMANY

PFC Timothy M. Beebe
SGT Marc T. Davis
CW2 Michael W. Homick
CW2 Paul A. Yates

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Mr. Richard W. Battison
WOC Theotis Bell
Mr. Terry Boone
WOC Dewayne E. Bunch
Mr. Thomas M. Clancy
Mr. Nat Clayton
COL William R. Clontz
CPT(P) Gary S. Drabczuk
SSG Don A. Everitt, Sr.
CPT Shawn W. Flora
Mr. Lee J. Gulfney
Mr. Derek R. Hem
Mr. Alan E. Hartwig

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Mr. William T. Inderfied
Ms. Michele P. Jamerson
CPT Michael P. Jensen
Ms. Cynthia B. King
2LT Frank C. Leith
Mr. Richard F. Liller
CPT Matthew D. MacGregor
Mr. James J. Marko
LTC William McConnick
MAJ Robert P. McKeever, Jr.
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CW4 Michael Perrin
WOC Bradley J. Reilly
SGT Todd W. Richardson
CW3 Harry M. Roberts
Mr. William H. Roof
WOC Anthony C. Rouchon
WOC Sidney A. Sanders, Jr.
CW3 Rodney L. Sangsland
CW4 Duane B. Schmutz
CW3 Irwin R. Schneider
WOC Kurt E. Schultz, Jr.
2LT Jeffrey J. Scorse
LTC Thomas J. Shallor
Mr. Parmod Sharma
WOC Kevin J. Sisk
Mr. Charles M. Sparks
Mr. L. Ray Sweeny
SPC John V. Tabliago, Jr.
WOC David A. Thoren
Mr. Darryl Tinay
WOC Ronald M. Todt, Jr.
WO1 Thomas Travis
Mr. Albert J. Tusek
Mr. E. Charles Ulie
2LT Erik Von Bausler
Mr. Jeffrey E. Wallin

AAAA CALENDAR

A listing of recent AAAA Chapter Events and upcoming National dates.

February, 1990

✓ **Feb. 5.** AAAA National Awards Committee Meeting to select CY89 National Award Winners.

✓ **Feb. 14-16.** 16th Annual Joseph P. Cribbins Product Support Symposium sponsored by the AAAA Lindbergh Chapter. Stouffer Concourse Hotel, St. Louis, MO.

✓ **Feb. 16.** AAAA Outstanding Aviation Logistics Support Unit of the Year Award Presentation & AAAA Industry Award Presentations, Stouffer Concourse Hotel, St. Louis, MO.

✓ **Feb 16.** 1st Annual AAAA Scholarship Foundation Banquet, Stouffer Concourse Hotel, St. Louis, MO.

April, 1990

✓ **April 11-18.** AAAA Annual Convention, Orange County Convention Center, Orlando, FL.

✓ **April 11.** AAAA NEB Meeting, Orange County Convention Center, Orlando, FL.

July, 1990

✓ **July 14.** AAAA National Awards Committee Meeting to select CY90 National Scholarship Award Winners.

September, 1990

✓ **Sept. 11-15.** AAAA Army Aviation Electronics Symposium. Sponsored by the Monmouth Chapter of AAAA. Berkeley Carteret Hotel, Asbury Park, NJ.

The AAAA USAREUR Region Convention held 28-30 November 1989 at Willingen, Hochsauerland, FRG, ushered in not only a new site and time of the year for the convention, but the new Aviation Branch Chief and USAREUR President as well. Above from left to right are AAAA National President BG James M. Hesson, Ret., Army Aviation Branch Chief MG Rudolph Ostovich, III, and USAREUR President COL Willie A. Tempton. The theme of the Convention's professional program was "Army Aviation in the 1990's" and featured not only PEO and AVSCOM updates, but presentations by the German, Italian, French and British Directors of Army Aviation. Below USAREUR Region Award winners pose with their awards after the Awards Banquet Thursday night.

New AAAA Officers

AIR ASSAULT CHAPTER:
MAJ (P) James Pillsbury, CW4 Marvin Brodock, CSM Freddy Finch, (Directors); MAJ(P) Frank S. Wilmoth, (Membership); CW4 Joseph L. Pisano, (Sec); LTC Thomas F. Stewart, (Programming); MAJ Anthony J.L. Adams, (Treas.).

CITADEL CHAPTER:
David Bass, (Sr VP); David R. Millson, (Sec); William C. Downer, (Programming).

GREATER ATLANTA CHAPTER:
MAJ James F. Edwards, (Sec); MAJ Randal L. Treiber, (Membership); LTC Bruce Hayhurst, (Programming); LTC Richard E. Hethcox, (VP, Prog.); LTC Charles S. Finch, (Reserve Affairs, USAR); LTC John Sydow, (Reserve Affairs, ARNG); LTC Gary L. Hall, (Convention Activities.).

JACK H. DIBRELL (ALAMO) CHAPTER:
CW3 Alfred J. Cargen, Ret., (Sr VP); BG Charles Cannady, Ret., (Treas); COL Henry McKee, Ret., (Sec).

MID-AMERICA CHAPTER:
MAJ Bill Wimbish, (Treas).

MORNING CALM CHAPTER:
COL John M. Riggs, (Pres); LTC Ruford Fowler, (VP, North); LTC Nicholas D. Bowns, (VP, South); CSM Rufus Lloyd, (Enlisted Affairs, North); CSM Louis Rosa, (Enlisted Affairs, South); LTC William B. Dixon, (Awards); CSM Hans E. Li, (Publicity); CPT James M. Richardson, (Sec).

OLD IRONSIDES CHAPTER:
CPT James Arp, (Publicity).

SAN JACINTO CHAPTER:
MAJ Jan S. Drabczuk, (Pres); MSG James D. Holder, (Sr VP); CPT Robert L. Corbin, (Sec); 1LT Charles R. Spangler, (Treas); CW4 Charles N. Gibson, (Memb); MAJ John Braun, (Programs).

(continued on page 69)

AAAA NEWS

NIGHTSTALKER NAMED "TRAINER OF THE YEAR"

CW4 Russell A. Hunter, E Co 160 SOAG (ABN), Fort Campbell, KY, was honored as the 1989 AAAA National Trainer of the Year during awards ceremonies on 7 December 1989 in Fort Rucker, AL.

The AAAA award, sponsored by CAE-Link Corporation, is presented annually to the military or civilian trainer who has made an outstanding individual contribution to Army Aviation during the previous calendar year.

CW4 Hunter was instrumental in the development of aerial refueling in Army Aviation. He was responsible for the training syllabi, training manuals, and other aerial refueling publications which govern aerial refueling training in the U.S. Army today.

As the only unit level aerial refueling Standardization Instructor Pilot in the U.S. Army, CW4 Hunter's training program and his exacting standards contributed immeasurably to the improvement of joint service interoperability and special operations, and expanded the role of Army Aviation.

In his acceptance remarks, CW4 Hunter's understated manner and professionalism in describing night time, low level, lights out, no radio communication, MH-47 aerial refueling left some heads shaking in disbelief. CW4 Hunter has personally completed over 400 aerial refueling contacts and supervised over 2,500.

Pictured above are AAAA Trainer of the Year CW4 Russell A. Hunter and his wife, Darilyn, flanked by AAAA President BG James M. Hesson, Ret., left and Army Aviation Branch Chief MG Rudolph Ostovich, III, right.

The first ever presentation of the AAAA Howze Gunnery Award to the winners of the APACHE "Top Gun" Competition was also made during the Ft. Rucker event. Pictured below left to right are, CW2 John S. VanBuren and 1LT Michael J. Blatz of B Co.,1/3 Aviation Regiment, 2d Armored Division, Ft. Hood TX with General Hamilton H. Howze, Ret., the award's founder and sponsor. Second place winners were CW2 Daniel A. Ward and WO1 Timothy J. Feathers, C Troop, 1/6 Cavalry Regiment, 6th Cavalry Brigade, Fort Hood, TX. Third place winners were CW2 Boyd A. Tackett, III, and CW2 Clarence E. Hall, B Co., 4/229 Aviation Regiment, VII Corps, APO New York. Rockwell International provided take-home trophies to the top three crews.

AAAA Scholarship Foundation announces new, expanded 1990 program!

$80,000 of Scholarship grants and loans available to members, their spouses, siblings and children!

BACKGROUND:
The AAAA Scholarship Foundation, a separate non-profit, tax-exempt corporation created to render financial assistance to selected members of the Army Aviation Association of America, Inc. (AAAA) and selected spouses, unmarried siblings, and unmarried children of current and deceased AAAA members, announces the availability of $80,000 in assistance funds for the 1990 college-entry year.

SCHOLARSHIP GRANTS AND LOANS:
A minimum of thirty scholarships will be presented — One $12,000 four year grant ($3,000 a year); other grants ranging from $1,000 to $5,000 given out as one, two or four year scholarships; and five $4,000 interest-free loans ($1,000 a year).

For the first time in 1990, a $2,000 scholarship ($1,000 a year) will be awarded to an eligible applicant pursuing a two-year associate degree in an aeronautical-related science. Also, a $4,000 scholarship ($1,000 a year) is available to those pursuing a four-year B.S. degree in an aeronautical-related science. There is also a $2,000 scholarship ($1,000 a year) available to students planning to attend St. Louis University.

AWARD PHILOSOPHY:
The AAAA National Scholarships are awarded primarily on the basis of academic merit and personal achievement.

APPLICATION PROCEDURE:
To apply, please request a Scholarship Grant/Loan Application and return it to the AAAA Scholarship Foundation, 49 Richmondville Avenue, Westport, CT 06880-2000 on or before May 1, 1990 (postmark will govern). On our receipt of the completed application, you will be mailed further instructions and assigned an AAAA interviewer. All forms, together with other supporting data, must be returned to the Foundation on or before June 15, 1990 for consideration by the AAAA Awards Committee (postmark will govern).

ELIGIBILITY CRITERIA:
An applicant must be a citizen of the United States who has been admitted to an accredited college or university for Fall 1990 entry as a freshman. The AAAA member to which the applicant is related must have an effective date of membership on or before March 31, 1989. All eligible applicants shall first be considered for scholarship grants and then, if requested by the applicants, considered for the loan program.

SELECTION AND NOTIFICATION:
Selection of winners will be made by the AAAA National Awards Committee during mid-July with each applicant to receive a list of the winners not later than August 1, 1990.

New Officers (Cont.)

USAREUR REGION:
COL Willie A. Tempton, (Pres), COL Johnnie B. Hitt, (Sr VP); CW4 John L. Peterson, (WO Aff.).

WINGS OF THE MARNE:
MAJ David L. Shrout, (Sr VP).

Aces

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

COL Charles S. Bogle
MAJ Kerry M. Brown
PFC Jeffery J. Burns
CPT Lesli L. Deveau
Dennis J. Geerts
WO1 Michael P. Hansen
SPC Bonnie W. Harrison
CW2 Joseph L. Irwin
Ike B. Jackson
CPT Nickolas Macchiarella
LTC Eddie E. Moore, Ret.
CW2 William C. Roberts
Thomas A. Russell
David P. Spencer
Brennon R. Swindell
James J. Ulakovic
LeRoy L. Worm

New Industry Members

Integrated Computer Systems, Inc.,
St. Louis, MO.

ECC International Corp.
Orlando, FL

Teledyne Ryan Electronics,
San Diego, CA.

Aviation Soldier of the Month

Specialist Frank A. Ammirita,
Taunus Chapter (October).

Certificate of Appreciation

Captain Jane K. O'Connor
Army Aviation Center Chapter

TERRY COAKLEY
Executive Director
AAAA

Your Executive Director has been very mobile recently.

On September 13, 1989, I ventured to St. Louis for the AVSCOM change of command. LTG Jerry M. Bunyard, Deputy CG (RD&A), U.S. Army Materiel Command, officiated as MG Donald R. Williamson took over from MG Richard E. Stephenson. Although the weather was damp, the crowd was most enthusiastic.

Two weeks later, AAAA President BG James M. Hesson, Ret., and I joined many Army Aviators in Ft. Rucker at the farewell dinner for then MG Ellis D. Parker, Chief, Aviation Branch. We were in the wiregrass area again on October 3, 1989 when General Carl E. Vuono, Chief of Staff, presided over the change of command to MG Rudolph Ostovich, III.

On October 16, 1989, during the annual AUSA Convention in Washington D.C., the AAAA National Executive Board met and welcomed some new members: CW4 Harry P. Arthur (AWO affairs), LTC Ralph W. Shaw (OCAR Aviation Officer), LTC Merle J. Snyder (Aviation Staff Officer, Office of the Surgeon General), and CPT Paul M. Steele (Company Grade Officer Affairs).

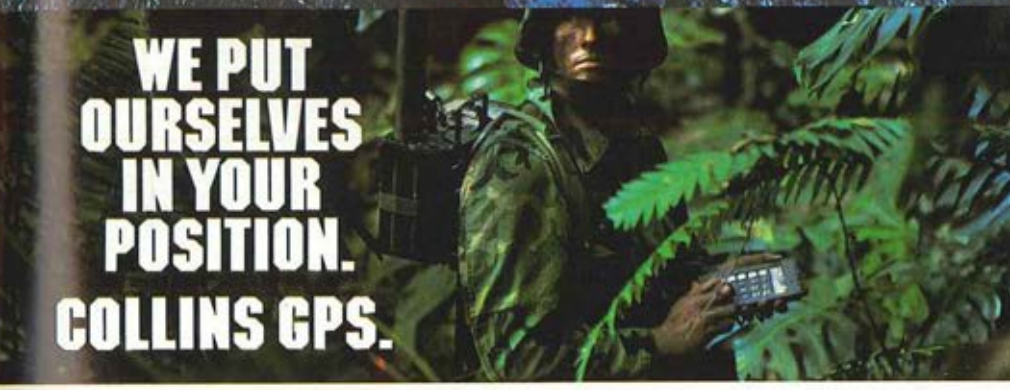
After attending the AAAA ASE (Aircraft Survivability Equipment) Symposium on November 7-8, 1989 at Tracor Aerospace in Austin, TX, I was invited by the President of the AAAA Phantom Corps Chapter,Ft. Hood, TX,

COL Thomas J. Konitzer, to participate in the Annual Pegasus Run and Chili Cook-off. What a gas!

Next visit I met with COL William D. Loftin, President of the AAAA Air Assault Chapter in Ft. Campbell, KY, who suggested a number of clever membership ideas.

In late November President Hesson and I ventured to Willingen, West Germany for the AAAA USAREUR Convention. BG Hesson and MG Ostovich welcomed the Directors of Aviation from West Germany, France, Italy, Turkey and the United Kingdom.

Berlin was our last destination. President Hesson (above center) and I were greeted by MAJ Douglas L. Powell, (above left), President of AAAA Checkpoint Charlie Chapter, our most gracious host. Gathering a piece of "The Wall" (below right) in an enclave of free West Berlin (Steinstuecken) and a day tour of East Berlin, just a few weeks after relaxation of border restrictions, made history a very real part of our lives.



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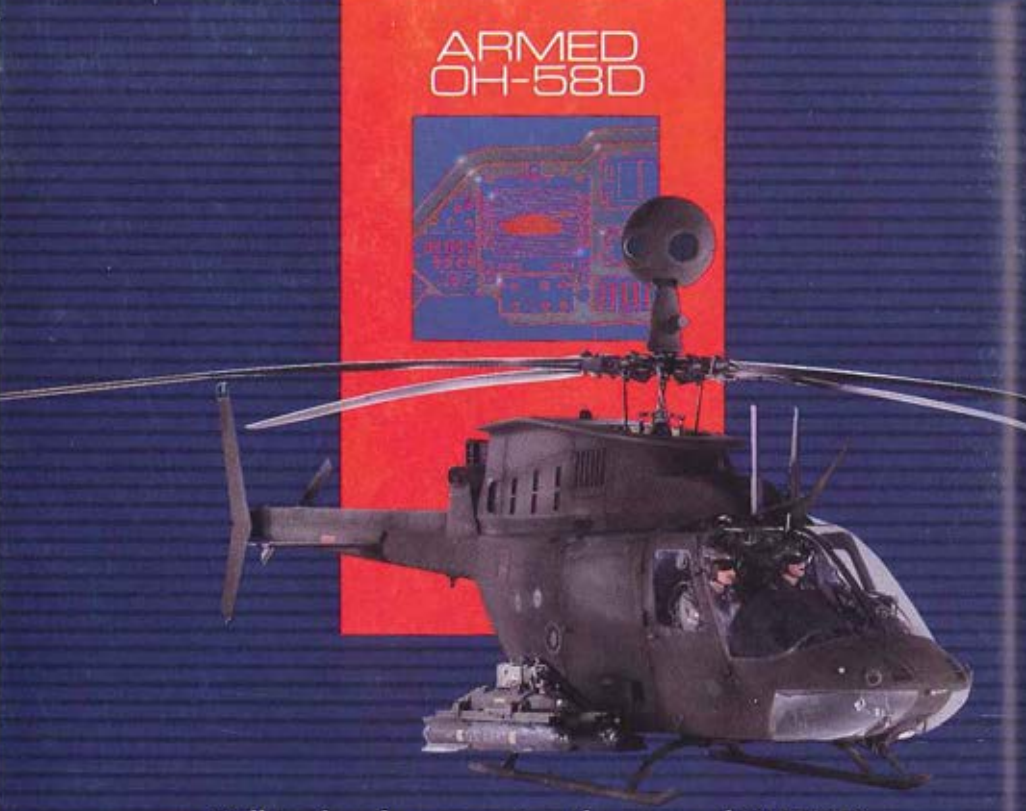
ARMED OH-58D



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