ARMY AVIATION

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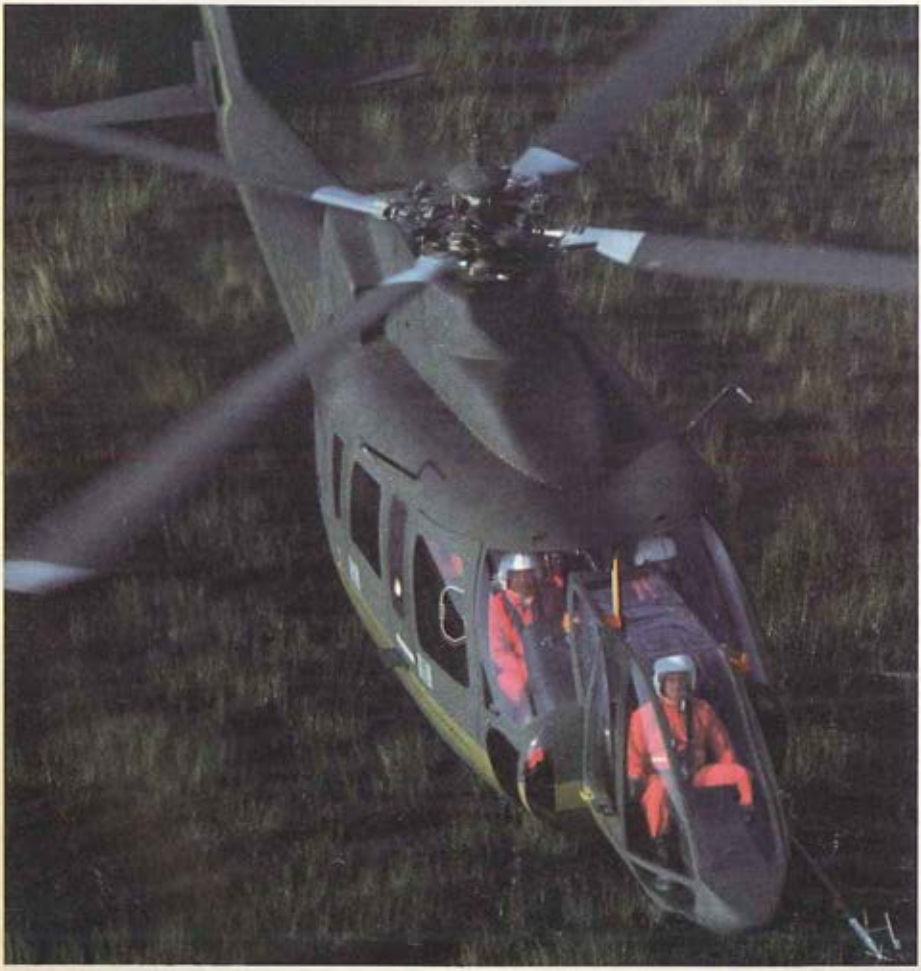

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FORTHCOMING ISSUES

January 31, 1987—A Special Report on the Army's Light Helicopter Experimental (LHX) Program.

February 28, 1987—A General News Issue, containing field reports from Army Aviation units and agencies worldwide.

March-April, 1987—AAAA National Convention issue, containing the complete program for the Ft. Worth event.

FRONT COVER
The Boeing-Sikorsky SHADOW testbed aircraft and simulator in flight. The aircraft, which tests the single-pilot concept for LHX flew recently at Ft. Eustis. See the article and accompanying photos on Page 45.

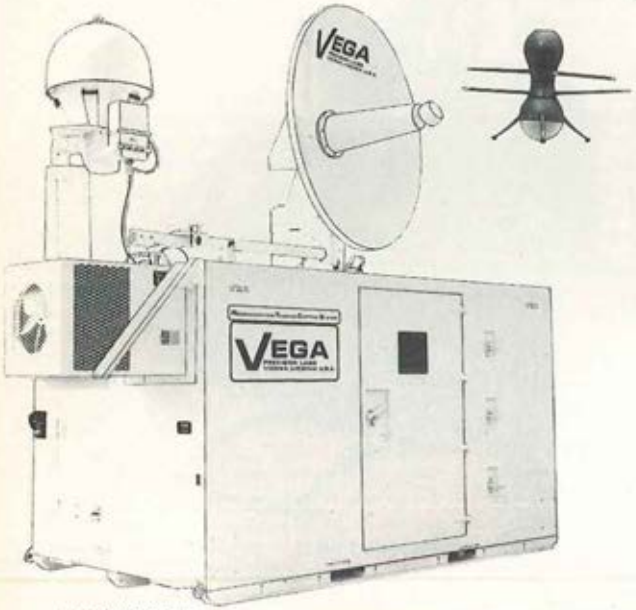
ARMY AVIATION

VOLUME 35 **NUMBER 12**

DECEMBER, 1986 FIELD REPORTS

OTHER DEPARTMENTS

VEGA HAS IT NOW



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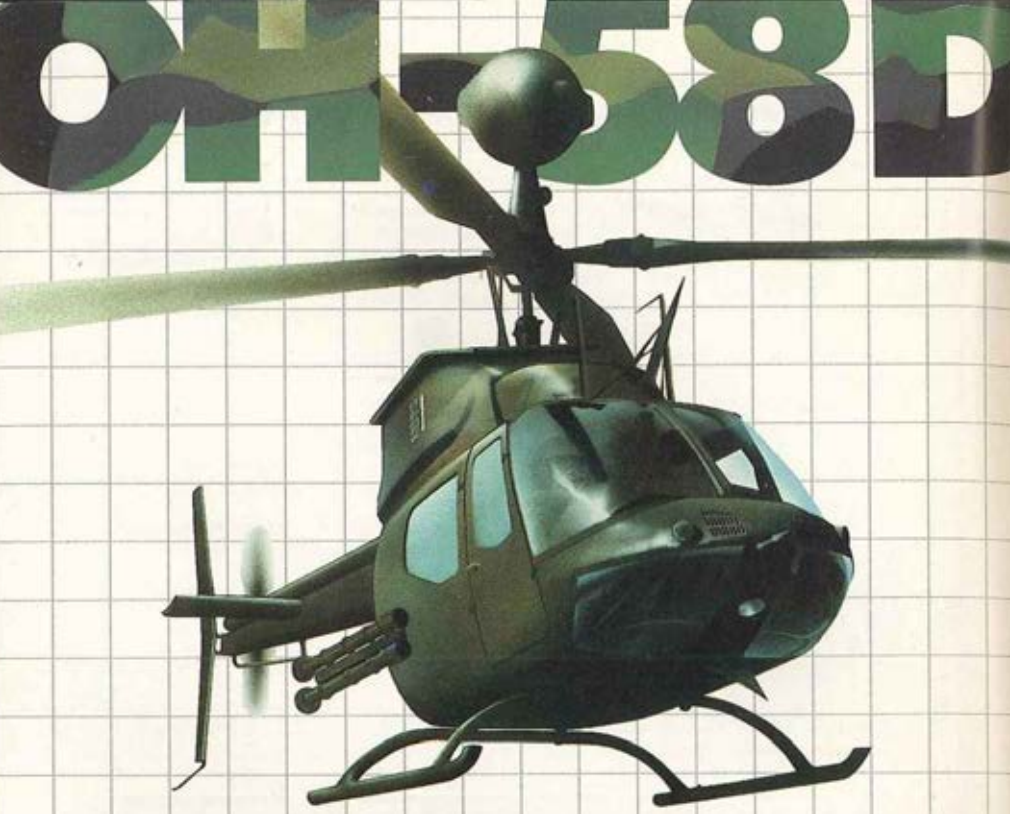
OH-58D



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The future is ours by design.

The AH-64 APACHE Attack Helicopter: Preparing for the fielding of a winner

by Major General Ellis D. Parker, Commanding General, U.S. Army Aviation Center and Ft. Rucker, AL

THIS month I want to discuss several significant activities dealing with the AH-64 APACHE that have taken place within the last few months. These events are diverse in nature, but have great impact upon our branch.

The first is the sea deployment and subsequent European tour of two APACHES from Ft. Hood, Texas. The first phase of this deployment was undertaken from 17 August to 12 September 1986, during which time the two aircraft were sealifted from CONUS to Rotterdam in the Netherlands. From there, they were transported by barge up the Rhine to Mannheim, Germany.

One objective of the sealift was to determine the effectiveness of the shrink-film protective covering on the two AH-64s. The protective covering for the aircraft was totally effective. Another purpose was to determine the feasibility of deploying the aircraft in such a way to Coleman Barracks. This was determined to be logistically sound and cost effective. In fact, HQ USAREUR supports this mode of deployment for attack helicopter battalions and CH-47Ds to Europe.

Field briefings

The second phase of the deployment lasted from 15 to 30 September 1986. During this phase, APACHEs were displayed for all U.S. forces in USAREUR scheduled to receive AH-64s. Both the TRADOC System Manager and Program Manager for APACHE gave briefings to selected General Officers, commanders, and aviators within USAREUR. Though the briefings were well received, there was universal concern by U.S. commanders as to the future capability to support the APACHE in Europe. Of particular concern were facilities, maintenance man-hours, spare parts, and MOS training.

The candor and concern of these commanders was appreciated and Mr. Joseph Cribbins, (Special Assistant to the Deputy Chief of Staff for Logistics, Dept. of the Army), was made personally aware of all concerns, and is presently addressing these issues. It is my belief that the above challenges will be successfully met in the foreseeable future.

Phase three was from 1 to 10 October 1986, during which time NATO allies were provided displays, briefings, and orientation flights in the APACHEs. The APACHE team was enthusiatically received by all NATO observers.

Noteworthy were the kudos the team received from Lord Carrington, Secretary General of NATO, for the displays, briefings, and the orientation flight which the AH-64 crews gave him. Other dignitaries to receive orientation flights included Mr. Richard R. Burt, the U.S. Ambassador to West Germany and LTG Hans-Henning Von Sondrart, the Chief of Staff of the West German Army. Our West German allies, along with the United States, are looking at a program addressing the feasibility of a derivative APACHE to meet their military helicopter requirements.

The bottom line is that the APACHE was well received in USAREUR, and the aircraft and its equipment performed well. Both AH-64s returned to Ft. Hood by C-5A on 19 October 1986. The deployment to USAREUR of the two AH-64s was a major accomplishment and did much to cement our alliance and friendship with our NATO allies.

APACHEs in the Guard

As we look to the fielding of the AH-64 battalions, it is important to note that the Department of the Army has announced that two AH-64 battalions will be fielded respectively in the next several years by the North Carolina and South Carolina National Guard. The fielding of two battalions with the National Guard will enhance and expand the Guard's mission capabilities and,

above all, keep our National Guard aviation abreast with the active Army.

Already, some North Carolina Army National Guard (ARNG) pilots are being trained to fly the APACHE. Upon completion of training by North Carolina ARNG pilots in the AH-64, and the subsequent transition of the unit to that of an AH-64 battalion, the South Carolina ARNG will begin training and transition into the AH-64. The North Carolina AH-64 battalion is scheduled to be activated a year before the South Carolina battalion.

An In-Progess Review (IPR) of the two National Guard units is being done on a quarterly basis at Aviation Headquarters, National Guard Bureau, Edgewood, Maryland. As the battalions get closer to activation, the IPRs will become more frequent as to ensure an orderly transition. The deployment of two AH-64 battalions to the National Guard will do much to enhance our nation's ability to quickly respond to any military and/or political contingency.

We here at the Aviation Center are extremely proud of the fact that on 5 November 1986 the dedication of the new AH-64 APACHE Combat Mission Simulator (CMS) took place. This was the culmination of a program started by the Secretary of the Army in 1965 to reduce the costs and hazards associated with actual flight training.

The new flight simulator was built by the Link Flight Simulation Division of the Singer Company. According to Dr. Jay R. Sculley, Asst. Secretary of the Army for Research, Development and Acquisition, the APACHE CMS is the most outstanding weapon system of the year, and is the most advanced flight simulation device in the Army. The new simulator gives the crews the experience of being engaged by enemy aircraft and ground units. It also simulates fighting in all types of weather and the experience of being exposed to the high-threat environment of combat.

The threat mode of the CMS serves to test the APACHE crew's ability to fight and survive against hostile fire and damage to the aircraft and its systems. Realism is incorporated into the training to the extent that crew members are made aware of ordnance and aircraft damage. The simulator also provdes the AH-64 crew a chance to react, and/or take immediate action, using ordnance such as HELLFIRE missiles, 2.75 inch rockets, and the 30mm chain gun.

Every APACHE crew member receives 15 hours of combat skills training, which is broken into ten 1.5 hour increments as part of the AH-64 transition training. In FY87, the Aviation Center plans to train more than 290 students in the CMS. Our AH-64 pilots have needed this simulator, and its use by our pilots will greatly enhance their ability to fight and survive in any combat scenario. IIIII

NEW APACHE COMBAT MISSION SIMULATOR OPENS FOR BUSINESS — The ribbon was cut on November 5, 1986 formally dedicating the Combat Mission Simulator at Ft. Rucker, AL. In attendance were (l-r): MG Ellis D. Parker, CG of Ft. Rucker; Dr. Jay R. Sculley, Asst. Secretary of the Army for Research Development and Acquisition, and Geroge Barna, VP of the Link Flight Simulation Division of Singer.

LEFT: CW4 Denis Dvorchak, an AH-64 APACHE flight instructor at Ft. Rucker, explains the intracacies of the $61.9 million APACHE Combat Mission Simulator to Dr. Jay R. Sculley.

Air Traffic Control

The Army ATC Activity returns home to Ft. Rucker

FT. RUCKER, AL — Air Traffic Control (ATC) is an integral part of Army Aviation and a key element in Army Airspace Command and Control (A^2C^2), which integrates aviation assets on the modern AirLand battlefield.

According to **MG Ellis D. Parker** in the June 1986 *"Aviation Digest"*, air traffic control as part of A^2C^2 can provide Army Aviation commanders the services required to allow their fleets to operate at maximum potential. Those services are essential to meet the challenge of projecting combat air power in a flexible manner while maintaining a relatively safe environment in a crowded air space.

A Report by Colonel Melvin J. McLemore

Recognizing the need to streamline command and control of ATC and closely align it with other aviation assets, the Department of the Army (DA) made the decision to transfer proponency for ATC from the U.S. Army Information Systems Command (ISC) to the U.S. Army Aviation Center effective October 1, 1986.

Ft. Rucker, AL, is the new home of the U.S. Army Air Traffic Control Activity (USAATCA). Proponency and management of ATC transferred along with the USAATCA as the DA aviation representative for worldwide Army ATC operations. Establishment of the USAATCA as a separate directorate at the Aviation Center will facilitate the incorporation of ATC into the Army Aviation modernization plan for the future and will establish the framework for effective airspace usage.

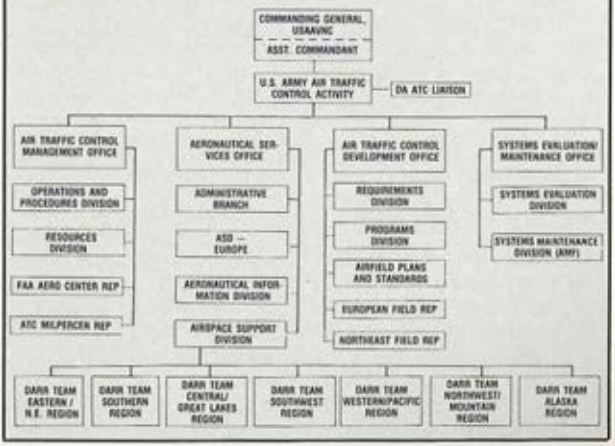
The organizational structure of the USAATCA places it under the direction of the Army Aviation officer. Offices within the USAATCA include fixed base management, development, systems evaluation, and maintenance support (AMF), and the Aeronautical Services Office (ASO), which includes DA regional representatives (DARR) to the FAA.

The USAATCA will also manage designated field representatives with other organizations for worldwide coordination of ATC related matters. The activity will be responsible for developing policy and procedures for Army ATC operations and facilities management and ensure interface for total Army ATC systems with other services and host nations as necessary.

Specific functions for which the USAATCA will be responsible include the following:

- Centralized management for development, procurement, and execution of ATC equipment and facility modernization programs worldwide.
- Systems evaluation and maintenance support (AMF) for Army operated fixed based navigation and landing aids.
- Procurement, budgeting and technical assistance for fixed base ATC equipment and facilities

THE U.S. ARMY AIR TRAFFIC CONTROL ACTIVITY



• Policy for standardization of Army airfields/heliports.

A second organization, the Air Traffic Services Division of the Aviation Center Directorate of Combat Developments (DCD) has been established and is the DCD point of contact for A^2C^2 in the combat zone and is the proponent agent for combat support and tactical ATC.

Army Aviation of the future, particularly A^2C^2, will place new demands on ATC, necessitating a new approach to training, resource development and management of ATC assets. The USAATCA, in coordination with the Aviation Proponency Office, DCD and other directorates at Ft. Rucker, will ensure total ATC systems integration.

The U. S. Army Air Traffic Control Activity will provide comprehensive support for ATC service and assistance to CONUS and OCONUS commanders, and serve as the central point of contact for DA on all ATC related matters.

—COL Melvin J. McLemore
Commander, U.S. Army Air Traffic Control Activity

Top ATC Soldiers and Units Honored at Ft. Rucker

The Army's top Air Traffic Control (ATC) soldiers from around the world were feted at the U.S. Army ATC Activity's annual ATC Awards ceremony. The awards were presented on October 30, 1986 at Ft. Rucker by **MG Ellis D. Parker,** commander of the U.S Army Aviation Center and Aviation Branch Chief.

SSG Robert L. Ulrigg was named Air Traffic Controller of the Year. He is assigned to the 57th ATC Company, 16th ATC Battalion at Ft. Lewis, WA.

CW2 PEARSON

CW2 THOMAS

MSG GEIGER

CW2 Eric P. Pearson, III, was named Air Traffic Control Manager of the Year. He is assigned to the 192nd ATC Company, 58th ATC Battalion at Ft. Bragg, N.C.

ATC Maintenance Technician of the Year honors went to **CW2 William G. Thomas, Jr.** Thomas is assigned to the Headquarters Detachment, 125th ATC Battalion in Korea.

The **1st Platoon/189th ATC Company,** 59th ATC Battalion, Schwaebisch Hall, Germany was named Combat Support Platoon of the Year. The Support award was accepted by **MSG John P. Geiger** on behalf of the platoon.

And the **Army Radar Approach Control (ARAC)** Division at Cairns Army Airfield, located at Ft. Rucker, AL, was named the Army's Air Traffic Control Facility of the Year.

Last year, ARAC controlled over 45% of all instrument operations in Alabama.

The ASO: making maps and charts for all occasions

ALEXANDRIA, VA — The U.S. Army Aeronautical Services Office (USAASO) acts as the executive agent for Headquarters, Department of the Army (HQDA), Office of the Assistant Chief of Staff for Intelligence, by providing input for Mapping, Charting and Geodesy (MC&G) products that directly affect Army Aviation.

These products range from tactical maps to small scale aeronautical charts. Three products currently under review and scheduled for major improvements are 1:100,000-scale topographic maps, Air Crash Search and Rescue (ACS&R) maps, and helicopter route charts. The following information provides background on these products and current efforts for improvement.

1:100,000-Scale Topographic Map — The 1985 U.S. Army Aviation Policy Committee meeting identified a need for a map between the 1:50,000-scale topographic map and the 1:250,000-scale Joint Operations Graphic (JOG). A 1:100,000-scale topographic map was determined to be the best inter-

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mediate-scale map for supporting combined arms tactics that employ Army Aviation elements.

In FY 86, HQDA brought together representatives from the Defense Mapping Agency (DMA), U.S. Army Materiel Command (AMC), U.S. Army Forces Command (FORSCOM), U.S. Army Training and Doctrine Command (TRADOC), and USAASO to discuss limitations of the current 1:100,000-scale map design. The DMA Director also initiated a map redesign effort for standard topographic maps and aeronautical charts.

After receiving input supporting Army Aviation and ground requirements, the Army recommended that DMA work with forces at Ft. Hood, TX, during their design review. This action is significant in that it allows the Army to directly influence the design of maps that will be used in the combined arms arena. Plans are currently underway to produce and review redesigned maps of the Ft. Hood area during the first half of 1987.

Air Crash Search and Rescue Maps — The ACS&R map program is "back-on-track." During a January 1986 meeting at Ft. Rucker, an improved design criteria for ACS&R maps was developed. This map will be on a standard 1:50,000-scale base map providing coverage within seven nautical miles of the airfield. Concentric circles, centered on the airfield of three, five, and seven nautical miles, and a 5,000 meter alphanumeric grid will be overlayed on the map. Army topographic units will be responsible for producing installation ACS&R maps.

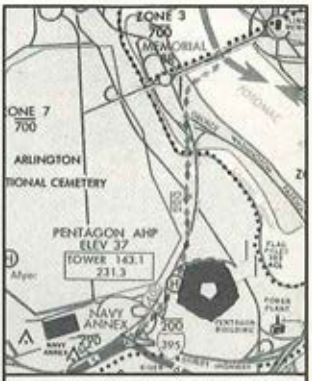
USAASO is now in the final stages of compiling an ACS&R map production priority list of Army airfields. In addition, we are reviewing the comments provided by the topographic units on the draft ACS&R map specifications. Upon completion of these two tasks, USAASO will provide the priority list and specifications to the Army topographic units so that production can start.

Helicopter Routes Charts — Helicopter Routes in Washington, D.C. were originally designated to accommodate military helicopters landing at approved sites within the Washington Terminal Control Area (TCA). They provide expeditious routing, separate rotary wing and fixed wing traffic, and reduction of overall noise impact by following major highways and rivers.

A Report by Thomas J. Callahan

To assist military pilots flying the routes, a Special Military Helicopter VFR Routes Chart was developed. The chart has been available to military units with authorized missions within the Washington TCA. Military pilots are required to use the chart and have an annual briefing prior to flying the routes.

Before February 1986, chart use was restricted to military only. However, the program worked so well that authorized route usage was expanded to include



other government and civil helicopter operators. This allowed USAASO to turn the product into a joint DOD/FAA product which is now published by the National Ocean Service.

Our next goal resulting from this effort is to standardize helicopter charting in the U.S. The Inter-Agency Cartographic Committee (IACC), composed of representatives from the Departments of Commerce, Defense, and Transportation, is reviewing chart specifications. Upon approval, all VFR helicopter charts will be produced in accordance with chart specifications.

The USAASO is Army Aviation's representative for the above programs. We do not review or make determinations without soliciting input from the users of the final product. The USAASO address is provided in DOD FLIP products and we solicit your questions, comments, and recommendations on improving aeronautical maps and charts.

—Thomas J. Callahan
Aeronautical Info. Spec.
USA Aero Services Office

Aviation Medicine

MEDEVAC: A Proud Member of the Army Aviation team

WASHINGTON, DC — 1986 has been a busy year for the Army's aeromedical evacuation units. Today, 65 units (active and reserve) are flying over 500 aircraft dedicated to aeromedical evacuation support.

In the active structure alone, over 6,000 MEDEVAC missions were flown in 1986.

Force Modernization is continuing with three more MEDEVAC units programmed for UH-60 BLACK HAWK fielding during the next year. As this article is being written, crews from the 36th Med Det, Ft. Polk, LA, are en route to the Sikorsky plant to ferry their first issue of new "Hawks" back to Ft. Polk.

Medical support to the future battlefield is being redesigned to better support the soldier in the future AirLand Battle environment. A more streamlined flow of evacuation, with emphasis on return to duty of patients with less serious injuries is the thesis of this new concept.

Concurrently, a new Evacuation Battalion with Air Ambulance companies of 15 aircraft each has been developed. This new combat zone evacuation concept, which includes the integration of air and ground evacuation, is pending DA approval and will be programmed for active and reserve component fielding in the near future.

The Medical Evacuation requirements for the LHX-Utility aircraft have been developed by the Academy of Health Sciences, approved by the Aviation Center and forwarded to industry for incorporation into the design aircraft.

The LHX-U-MEDEVAC aircraft is being configured to carry four litter and two ambulatory patients and is intended for use in the forward combat zone (Division area).

In June 1986, the Academy of Health Sciences proposed a 12 item MEDEVAC mission kit for the future V-22 OSPREY. The V-22 will be an excellent MEDEVAC platform for evacuation requirements in the Corps area of operations.

A Report by Lt. Colonel Benjamin M. Knisely

Current planning for the 1990's envisions rotary MEDEVAC aircraft in the forward (Division) areas, with backhaul from the Corps area provided by V-22 companies of eight aircraft each. The V-22 will carry 12 litter patients and will replace a portion of the rotary wing air ambulance fleet on a one for two basis.

"DUSTOFF," a proud member of the Army Aviation Team in both the active and reserve forces stands ready today around the world to conserve our fighting strenghth.

—LTC Benjamin M. Knisely
Aviation Officer - Office of the Surgeon General

BELOW: Members of the 214th Medical Detachment assist in the medical evacuation effort in the city of Armero, Columbia. The hoist capability of the MEDEVAC BLACK HAWK proved an indispensible tool in extracting victims from the thick mud that had covered the area.

Avionics

AVRADA Update: The Avionics R & D effort touches many areas

FT. MONMOUTH, NJ — The increasing demands on the aircrew and constraints imposed on the aircraft cockpit designers mandate the integration of controls and displays in Army helicopter cockpits. AVRADA's engineers continue to develop, test and field avionics equipment. The following is an update on selected efforts of AVRADA.

A Report by Colonel David S. Grieshop

STAR/ADAS: The System Testbed for Avionics Research/ Advanced Digital Avionics Systems — Expanded missions such as anti-armor, night surveillance, and air-to-air, coupled with the survivability requirements of nap-of-the-earth (NOE) flight, changed the approach to cockpit design radically. The new approach applied the latest technological innovations in the areas of controls, displays, multiplexing, and microprocessing to unburden the pilot.

The ADAS system will reduce pilot workload and make the performance of tasks safer and more efficient. The ADAS has been digitally integrated into a UH-60A BLACK HAWK helicopter, referred to as the STAR. The STAR provides AVRADA with an invaluable testbed for accomplishing integrated technical demonstrations. The technology base for integrated system architectures and cockpit integration concepts for the BLACK HAWK Improvement Program and other future aircraft is being established.

A fully integrated control and display multiplex system was developed for use in Army Avionics research. This integrated system permits relatively rapid develop-demonstrate-develop turn/arounds.

Five years of in-house software development, hardware modification, system design and installation, has resulted in a cadre of trained personnel with hands-on experience in the integration of avionics systems. They are providing the electronics integration framework required for development of the Special Operations Forces (SOF) Integrated Avionics System and other advanced aircraft systems.

Systems verification was conducted on the UH-60 aircraft, and the engines were started for the first time through computer control, and the aircraft has been hovered using ADAS controls and displays. Full flight airworthiness is expected early in 1987.

While other aircraft and systems use CRT displays for certain functions, the STAR represents the first time that cockpit functions will be totally integrated in an Army aircraft and present them through CRT's.

Digital Map — Aircraft pioneers of yesteryear such as the Wright Brothers, Lindbergh, and Sikorsky, would have welcomed a system such as the Digital Map Generator, (manufactured by the **Harris Corporation**), which is worth a thousand words to today's military aviators.

AVRADA is integrating the full color digital map into the Army Helicopter Improvement Program (AHIP) mission equipment package.

Working in conjunction with the ATHS, currently used on the production aircraft, the introduc-

BELOW: The display on the Harris Digital Map Generator shown in 6x6 km mode with all topographic features.

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tion of the digital map will improve the airborne attack team's command and control interface with both ground forces and other services and will enhance the pilots spatial awareness of battlefield situations.

ATHS — Airborne Target Handoff System. Faced with the challenge of adding the ATHS to an already crowded APACHE, AVRADA engineers designed an avionic integration architecture for the aircraft that, for the first time, allows both pilot and copilot/gunner full control of on-board avionics.

Many required operator functions are being automated to minimize operator workload. This program called for the completion of engineering changes and procurements within a very short time to meet aircraft fielding requirements.

Omega — The employment of the AN/ARN-148 OMEGA System in CH-47D Rapid Deployment Force (RDF) aircraft will enable worldwide deployment to within a navigation accuracy of 1-2 nautical miles thereby enhancing the tactical capability of the RDF.

A competitive Non-Developmental Item (NDI) procurement resulted in a contract to **Tracor Aerospace, Inc.,** of Austin, TX, for a modern technology system. The production price was less than 50% of that paid by another service for OMEGA equipment approximately ten years old. As a result of the favorable price, other users such as the U.S. Coast Guard, U.S. Customs, National Guard units, and other Army Major Commands are obtaining the system via the MIPR route.

SINCGARS — Single Channel Ground Air Radio System: The Army's decision in 1984 to enter directly into production on the SINCGARS-V radios required the SINCGARS airborne program to be immediately accelerate from its deferred status into production.

To meet the compressed schedule, AVRADA entered into an aggressive integration program with the aircraft managers in AVSCOM by providing its technical avionic expertise. AVRADA's constant interface with AVSCOM community has enabled them to respond to the urgent schedule requirements.

As a direct result of the interaction between AVRADA and the aircraft managers, the airborne SINCGARS will be fielded as directed.

VIA/CEP — Voice Interactive Avionics/Concept Evaluation Program: A CEP to examine the effectiveness of using pilot voice commands to control aircraft communications systems has tentatively been scheduled for April/May 1987 at Ft. Rucker.

Control of avionic systems by voice is one of the newest techniques available that promises to reduce pilot workload and increase pilot effectiveness. The CEP will use the voice technology testbed (VTT) developed by AVRADA and designed for quick conversions between different VIA hardware and software by simple card changes.

AVRADA is installing the VTT on a JOH-58C helicopter and integrated it with a **Collins** CMS-80 Control Display Unit (CDU). A follow on VIA/CEP is planned for an OH-58D helicopter. It will be specially modified to include a full color digital generated map integrated with the VIA system. The follow on CEP will include a fully integrated ATHS and navigation system controlled by voice.

Transition of the Air Traffic Management (ATM) System AN/TSW-7A — The full management responsibility for the AN/TSW-7A has been transitioned from the R&D Activity to CECOM thereby satisfying Army Aviation mission needs by introducing operational ATM system into the inventory.

PLS — In our next AVRADA report, in the February 28, 1987 issue, we will look at the AN/ARS-6 Personnel Locator System, manufactured by **Cubic Corp.,** which allows rescue aircraft to locate downed airmen.

—COL David S. Grieshop
Commander, U.S. Army
Avionics R & D Activity

Awards and Honors

AWARDS

AAAA CHAPTER—SELECTED "AVIATION SOLDIER / NCO OF THE MONTH"

OCTOBER 1986 —
Aviation Center Chapter
SP4 Michael G. Shands

NOVEMBER 1986 —
Aviation Center Chapter
SP4 David L. Leamon

HONORS

U.S. ARMY AVIATION CENTER FT. RUCKER, ALABAMA

★ Distinguished Graduate
+ Honor Graduate

OCT. 27, 1986 — Guest Speaker: COL Richard A. Numberg, Commander, U.S. Army Dental Activity, Ft. Rucker, AL.
Warrant Officer Senior Crs Class 86-6:
★ CW3 Wayne S. Callis; + CW3s Brian R. Swenson; Ricky H. Cornelius; Rickey L. Sanders; Jerry W. Mitchell.

OCT. 28, 1986 — Guest Speaker: LTG Johnny J. Johnston, Commanding General, Second U.S. Army, Ft. Gillem, GA
Aviation Officer Advanced Crs Class 86-4:
★ CPT Karen L. Habitzreuther; +CPTs Bernard F. Gerding; Derek J. Paquette; Grover W. Merritt; Surlla J. Boisselle.

NOV. 13, 1986 — Guest Speaker: CAPT USN (Retired) Thomas N. Flanary II, Bell Helicopter Textron, Hampton, VA.
Officer RW Aviator Course Class 86-18:
★ 2LT Eric A. Selber; + 1LT Thomas G. Ensminger.
Warrant Officer RW Aviator Class 86-17:
★ WO Carl L. Farrow; + WOs Travis B. Peery; Troy M. Miller; John S. Van Buren; Jay T. Ferguson.

NOV. 18, 1986 — Guest Speaker: COL Richard A. Numberg, Commander, U.S. Army Dental Activity, Ft. Rucker, AL
Aviation WO Advanced Crs Class 86-10:
★ CW2 Michael K. Schroeder; +CW2s Richard B. Rieser; Gareth A. O'Bannon; Larry G. Willoughby.

NOV. 26, 1986 — Guest Speaker: CW4 (Ret.) Michael J. Novosel, Sr.
Officer RW Aviator Course Class 86-20:
★ 1LT Charles E. Guess; + 1LTs Rickey D. Miller; Michael C. Maffei.
Europe/NATO RW Aviator Class 86-501:
2LT Per Hegalsaune (Class Leader)
Warrant Officer RW Aviator Class 86-19:
★WO Martin K. Free; + WOs Robert H. Matthews; Glenn E. Malin; Jeffrey J. Webb; David J. Davighi.

COMMAND & STAFF

Colonel Jerry W. Childers, as Chief of Staff, 101st Airborne Division, Ft. Campbell, KY.

Colonel Willam A. Hall, Jr., as Commander, Aviation Brigade, 7th Infantry Division (Light), Ft. Ord, CA

BG William W. Ford

An Army Aviation pioneer, Brigadier General William Wallace Ford, 88, died on November 9, 1986. He lived in Redding, Conn.

Born in Waverly, Va. on Oct. 2, 1898, he attended Virginia Polytechnic Institute and the Univ. of Virginia. He was also a 1920 graduate of the U.S. Military Academy.

In 1942, then Lieutenant Colonel Ford organized and directed a course at Ft. Sill, Oklahoma — known now as "The Class Before Class One" — which produced Artillery observer pilots. Successful demonstrations of this course prompted the Dept. of the Army to authorize a permanent Department of Air Training — the forerunner to today's Army Aviation School.

Colonel Ford established this school and developed its courses, which eventually turned out thousands of Artillery-trained pilots.

The success of these pilots, known as "Grasshoppers", during World War II paved the way for the subsequent development of Army Aviation as it is today.

During World War II, he commanded the 87th Division Artillery in Europe, and after the war, the 43rd Division Artillery. He was awarded the Legion of Merit (twice), the Bronze Star, the Air Medal, the French Legion of Honor, and was a 1975 inductee in the Army Aviation Hall of Fame.

After retiring from the Army in 1954, he taught mathematics at the Univ. of S. Florida and the Univ. of Massachusetts. He is survived by his wife, Sarah.

Combat Developments

T & E Divison at the DCD: Determining the user's needs

FT. RUCKER, AL — The Test and Evaluation (T&E) Division, Directorate of Combat Developments (DCD) at the U.S. Army Aviation Center (USAAVNC) is responsible for the independent evaluation of aviation equipment being considered for procurement.

The T&E Division is not a tester. We are the evaluators of tests conducted on aviation related equipment. This evaluation is designed to see how a particular piece of equipment — whether it is a total aircraft, or something as simple as a flight glove — fits into the total Army picture.

We need to know not only if it works, but if the soldier can use it in an operational environment under all climatic conditions. We ask questions like, "Does it fill the original need it was intended to satisfy — or is it just a 'would be nice to have' piece of equipment? Can the logistical tail support it, and can we adequately train our soldiers to operate, repair and maintain the equipment safely?"

The T&E Division performs an impartial evaluation on the adequacy of testing, and on the materiel's ability to satisfy the deficiency it was designed to correct. This is done by using an Independent Evaluation Report, (IER) and forms the basis for the Center's Combat Developer, who is the user representative, to establish a recommendation for cancellation, procurement, or further development.

The T&E Division's involvement in the acquisition process begins when the Combat Developer recognizes a need in the field for a new article or improvement/modification to an existing piece of equipment.

When this happens, the combat developer prepares an Operational and Organizational plan (O&O) and a Required Operational Capability (ROC) document. This is usually based on an Army Aviation Mission Area Analysis (AAMAA) deficiency. If the deficiency cannot be corrected by training, revisions to tactics and doctrine, or organizational changes; the T&E Division goes to work.

A Report by John R. Arrington

Based on what the Combat Developer wants the product to do (which is defined in the ROC), the T&E Division develops operational test issues that must be answered before a production decision is made.

The number and scope of issues are determined by the equipment, its application, and fielding intentions. If the item is categorized as major, Independent Evaluation is the responsibility of the Operational Test and Evaluation Agency (OTEA), Department of the Army. If it is a non-major category I or II, the Independent Evaluation becomes the responsibility of the U.S. Army Combined Arms Center (USACAC). If the item is a non-major category III, the Independent Evaluation is the responsibility of the DCD T&E Division at USAAVNC.

In any case, initial test issue development is the responsibility of the T&E Division for all materiel for which the USAAVNC is proponent.

Once a program is initiated, the Combat Developer has the overall responsibility for management of that program as the user representative. He translates concerns about a program into the specific areas that need to be examined through actual testing. The T&E Division, in an advisory capacity, converts the Combat Developer's concerns into actual testable issues. As the Combat Developer's advisor on matters related to testing, the T&E Division assumes responsibility for all test related documents.

Once the test issues are prepared and approved at the center, they are sent out to coproponents and all other interested centers for comment/concurrence, then to the USACAC for approval.

Upon approval of the test issues, the T&E Division prepares an Independent Evaluation Plan (IEP), coordinates it, and gains approval. The tester (for the USAAVNC, usually the U.S. Army Aviation Board) takes the IEP and prepares and submits an Outline Test Plan (OTP) through U.S. Army Training and

Doctrine Command (TRADOC). When approved, the OTP is entered into the Five Year Test Plan (FYTP) and becomes the authority for conducting the test. The test is then conducted by the test activity and a test report is published at the conclusion.

The T&E Division uses the test report, technical test data, studies and modeling results, test observations, personal knowledge, previous test results, and any other data sources available to perform an independent assessment of the item as it pertains to the requirement and integration into the total Army system.

This assessment is published in the form of an IER which is approved by USACAC, and provides the Combat Developer with an independent evaluation which he uses to establish an Aviation Center position on whether to recommend procurement, cancellation, or further development of the item.

DCD's Test and Evaluation Division is here to support the Army Aviation soldier in the field. It's very important to us and for the overall mission to get only the best equipment to the field. We encourage anyone interested in improving existing aviation equipment, or with a suggestion for new equipment to submit their ideas to the directorate for our review.

Our address and phone numbers are: Commander, U.S. Army Aviation Center, ATTN: ATZQ-CDE, Ft. Rucker, AL 36362-5202, AV 558-4171/2405.

—John R. Arrington
Test and Evaluation Div.
DCD, USAAVNC

Air-to-Air is the focus at the second annual AVSCOM Industry Day

ST. LOUIS, MO — Over 500 senior Government and Industry people gathered at the St. Louis Embassy Suites Hotel to discuss the latest trends in Army Aviation for the 1990's and beyond.

Most of the sessions were keyed toward the mission of air-to-air combat, and the requirement for aircraft and aircraft systems to meet that need

The keynote speaker was **MG Ellis D. Parker,** Commanding General of the U.S. Army Aviation Center at Ft. Rucker (photo below, left). He spoke on the function of Army Aviation today, then addressed the issue of the future counter-air role.

MG Parker also spoke of the recent agreement by the Joint Chiefs of Staff and the U.S. Air Force making the counter-air role the mission of Army Aviation for the next decade.

Other sessions included an evaluation of Air-to-Air Combat tests, the Stinger Air-to-Air Missile System, the Forward Area Air Defense (FAAD), as well as Concept Doctrine and Training in Air-to-Air.

BG(P) Ronald K. Andreason, LHX Program Manager, (photo, below right), spoke of the future Air-to-Air role of the LHX.

MG Richard E. Stephenson, Commanding General of the U.S. Army Aviation Systems Command (AVSCOM), provided an overview of AVSCOM's operations, and spoke of planning for the future. He also pledged AVSCOM's fullest support to the counter-air roles.

A banquet was held on the first night of the symposium. Guests were treated to a talk by **LTG Jack V. Mackmull, (Ret.),** (photo above), who spoke on the successes and problems faced by aviators during the Grenada mission.

The symposium ended with a panel discussion called "Challenges to Industry". Charles Crawford, Technical Director of AVSCOM, was the moderator. Panelists included **MG Stephenhenson, Gary L. Smith,** Dir. of Advanced Systems at AVSCOM, and **COL Frank H. Mayer,** Dir. of Combat Developments at the USAAVNC. The St. Louis Chapter of AHS sponsored the event.

Hardware

The OH-58D AHIP: Fielding the Army's newest Aeroscout

FT. RUCKER, AL — The past twelve months have been very turbulent for the OH-58D program. Nevertheless, significant progress has been made in aircraft production, completion of institutional training development, completion of instructor and key personnel training, preparation for a major aeroscout operational test and deployment to the field.

The purpose of this field report is to provide a status of the OH-58D program and to share with you some of the insights we've gained this year.

In the way of a little background, the OH-58D is a very sophisticated helicopter that incorporates a mission equipment package allowing it to navigate, locate, and designate targets day, night, or during reduced visibility.

Aside from the name OH-58, there is very little similarity between the D model and the aircraft it succeeds. With a four-bladed soft-in-plane rotor system, more powerful engine (twice the horse power of the OH-58C), new transmissions, and tail rotor (no more loss of tail-rotor effectiveness), the 'D' is an impressive performer.

The heart of the OH-58D's capability is the innovative integration of the mission equipment package (a mast-mounted sight with daytime TV, a thermal imaging system, laser range finder/designator, doppler navigator, a five (5) radio suite (Dual IFM, UHF, VHF, and HF) and an airborne target handover system (ATHS)). All of these devices are integrated through a data bus to provide one of the most operationally oriented cockpits in any aircraft today.

A Report by Colonel James R. Cox

With all of these airframe improvements and a total program that meets or exceeds all specifications, one would not expect difficulty achieving full scale production and fielding. However, the Army's operational test did not conclusively prove with statistical significance that the OH-58D was better than the OH-58C in the attack or cav roles.

As a result, deployments have been limited to the command aviation companies of the Combat Aviation Brigade in fourteen (14) heavy divisions and in two of the heavy corps. The OH-58D will be fielded to support of the Field Artillery Aerial Observer (FAAO) mission.

The fielding schedule has been revised by HQDA, deleting deployments with AH-64 APACHE attack and air cav units. The current plan calls for nine FORSCOM, four USAREUR, and one EUSA unit, to be manned and equipped with the OH-58D beginning in FY 87.

A majority of the institutional training base is in place to accept the programmed student loads. Training began at Ft. Eustis in September for tech inspectors, aircraft mechanics, engine repairmen, powertrain repairmen, and aircraft electricians totaling about 100 students per quarter. Training began at Ft. Rucker in October for pilots, IP's, and observers totaling about 35 students per quarter. Ft. Gordon will open their OH-58D schoolhouse and begin training approximately 30 avionics repairmen per year after the first of 1987.

Field artillery observer combat skills will be taught at Ft. Sill beginning about March of 1987. All schedules for institutional training are coordinated to support the first unit equipped date of February 1987 and subsequent fielding.

The latest turn of events for the AHIP program has been driven by an Army decision to terminate production as a matter of affordability after the FY 87 buy of about 135 aircraft. Current Army budget plans provide no funds after 1987, although deliveries will continue into 1989.

As a result of this decision, an aeroscout test will be conducted to determine the best alternative scout for attack and cavalry units given no OH-58D. The test unit, Task Force 1-112, is a special battalion size unit under the command of **LTC Mike Weaver.** The five company task force is made up of an AH-64/OH-58C company, an

C-17

"C" as in close

NEW AIRLIFTER DESIGNED TO FLY DIRECT TO THE FRONT.

The C-17, now in development, is designed to fly military cargo routinely from the U.S. directly into combat zone airstrips as short as 3,000 feet.

With this short-field capability, plus exceptional ground maneuverability, all Army and Marine Corps battle gear—the biggest tanks, artillery pieces, even helicopters—will move in a rapid, sustained flow right to the fight.

The C-17—it's the fastest way to deliver the goods.

MCDONNELL DOUGLAS

AH-64/OH-58D company, a pure AH-64 company (no scouts), an AH-64/AH-1S (FMC) company, and a forty-man AVUM company. The task force trained at Ft. Rucker through individual and crew ARTEP standards and deployed in November to Ft. Chaffee where training through team ARTEP was completed just before the Christmas break.

The Aeroscout test will be conducted at Ft. Hunter-Liggett beginning with exploratory trials in February 1987, followed by record trials to be conducted between March and June. A second phase for force-on-force trials is being scheduled for 4th quarter, FY 87.

As you can see the OH-58D program is very active. It is anticipated that many innovative and effective applications of the OH-58D's capability will be forthcoming once it is in the hands of the troops. In any event, the aircraft promises to bring a new and exciting capability to the field commander in the immediate future. Scouts — first in, last out.

—COL James R. Cox
TRADOC Systems Mgr.
Scout Helicopters

The HELLFIRE Missile System: On line and ready to kill tanks

REDSTONE ARSENAL, AL — The HELLFIRE Modular Missile System is in the field, bringing to Army helicopter units a long range anti-armor capability of incomparable accuracy and lethality. The HELLFIRE missile design is evolving to defeat its armored adversary for the remainder of this century and will continue to do so in the most cost effective manner possible.

Fiscal Year 1986 was an exceptional year for the HELLFIRE team.

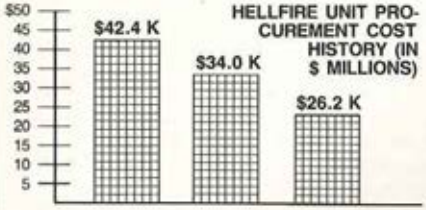
- The missile unit price dropped 21%.
- The missile system was successfully fielded in both AH-64 APACHE and U.S. Marine Corps SEA COBRA units.
- The Navy was granted approval for full production of over 11,000 missiles.
- UH-60 BLACK HAWK HELLFIRE program successfully completed DTI.
- HELLFIRE compatibility with Aquila Remote Piloted Vehicle was proven.
- The improved low visibility autopilot and minimum smoke motor improvements to HELLFIRE were granted materiel release for troop use.
- The Improved Lethality HELLFIRE full-scale development program was initiated.
- Dynamic warhead tests clearly established HELLFIRE's pre-eminence as a tank killer.
- **COL William J. Schumacher,** HELLFIRE/Ground Laser Designator Project Manager, was named "PM of the Year" by the Secretary of the Army.

New acquisition strategy — HELLFIRE has implemented dual source competition between **Martin Marietta Corp. (MMC)** and **Rockwell International Corp. (RIC)** for the production of all up missiles. Before initiating competition in production, MMC was responsibile for production of the missile's laser seeker, while RIC produced the remainder of the HELLFIRE. Thanks to a technology transfer program initiated by the HELLFIRE/GLD-PMO, both companies helped each other obtain certification on the remaining part of the system.

A Report by Lt. Colonel Emmett E. Hughes

This highly competitive acquisition strategy has saved hundreds of millions of scarce tax dollars for DOD. **Figure 1** (opposite page), depicts what has happened to the HELLFIRE missile's unit price over the last three buys.

The HELLFIRE Modular Missile System met its first unit equipped (FUE) date of 15 April 1986 with its primary launch platform, the AH-64 APACHE. The FUE unit was 3d Squadron, 6th Cavalry Brigade (Air Combat). Initial operational capability (IOC) was subsequently



declared on 22 July 1986.

In the joint arena, IOC for the U.S. Marine Corps SEA COBRA HELLFIRE System was declared on 30 September 1986. The IOC unit was 39th Marine Aircraft Group, Camp Pendleton, CA.

Aquila — At the direction of the Vice Chief of Staff of the Army, a missile flight test program was executed in May 1986 to demonstrate that the Aquila Remote Piloted Vehicle can successfully designate armor targets for HELLFIRE.

The results were impressive: four launches, four direct hits. This compatibility demonstration was significant, because with the Aquila, HELLFIRE indirect launch platforms become true "over the hill" systems with all troops behind the hill and out of harm's way where communication, command, and control of both launcher crews and designator teams are greatly simplified.

UH-60 BLACK HAWK HELLFIRE — This congressionally mandated program will provide 135 BLACK HAWKs with a "bolt on, bolt off" HELLFIRE launch capability. Having completed a successful DT I, the system is currently in a transition to production phase which will involve a DT II test, delivery of the technical data package, and incorporation of automatic target handoff system (ATHS). ATHS brings to the system a secure, efficient, and highly accurate means of communicating between the UH-60 and its laser target designation team. It computes target location, launch azimuth, and operational/safety constraints automatically to simplify command and control of the system and reduce launch crew workload.

ATHS

Following the transition phase, hardware will be procured in FY 88, 89, 90, and 91 to equip 135 UH-60's with HELLFIRE.

Minimum Smoke Motor and Improved Low Visibility (ILV) Autopilot Production — These improvements virtually eliminate the smoke trail of the missile during boost and also enable the missile to fly low, flat trajectories during low cloud ceiling weather. Initial production of these improvements was procured in the FY 84 missile production contract. In September 1986, the U.S. Navy and Marine Corps took first deliveries of the improved configuration in order to meet their SEA COBRA IOC. All future HELLFIRE procurements will be of this configuration.

Digital Autopilot Development (DAP) — This improved autopilot will enhance HELLFIRE's probability of hit at minimum ranges, improve its probability of kill against air targets (maneuvering and non-maneuvering), and optimize its trajectory for improved anti-armor lethality. Full-scale development of the DAP effort went under contract in May 1986 and will cut into production in FY 89.

The new autopilot is externally programmable, thus allowing the flight trajectory to be altered quickly, easily, and without a costly redesign effort.

The Joint Service Seeker (JSS) program is developing an imaging infrared seeker to provide HELLFIRE with a fire-and-forget capability. With this, AH-64 launch crews will reduce their exposure to hostile fire, because the crew will no longer have to track the target once the missile has been launched.

The seeker will also increase the HELLFIRE's rate of fire. It will also reduce the effects of target masking and loss of line of sight at extended ranges. It will also improve missile performance in adverse weather, dust and man-made obscurants.

Currently, the JSS program will undergo tests. These missle flight tests, if favorable, could result in delivery of its first fire-and-forget missiles in FY93.

—LTC Emmett E. Hughes
Asst. PM for HELLFIRE
HELLFIRE/GLD PMO

The NOTAR: How does a helicopter with a single rotor work?

MESA, AZ — For over ten years, McDonnell Douglas Helicopter has been developing the NOTAR® (No Tail Rotor) anti-torque system to replace the conventional exposed tail rotor. The NOTAR system promises substantial improvements in handling qualities and subsystem reliability while reducing pilot workload, vulnerable area, and life cycle costs. The NOTAR subsystem has undergone component validation and is now in full scale flight testing which has demonstrated NOTAR's promises.

The tail rotor in conjunction with a single main rotor has been the dominant helicopter configuration for over 40 years. However, the tail rotor poses a hazard to flight and ground personnel. It plays a part in over 15% of all helicopter accidents largely through tail rotor strikes. The tail rotor also dominates the helicopter's acoustic signature and contributes significantly to pilot workload. NOTAR has an advantage in these and other areas.

The NOTAR system incorporates a circulation control tailboom, direct jet thruster, and a variable pitch fan. The system is most easily understood by beginning with the direct jet thruster. The direct jet thruster is a variable area nozzle comprised of two parts: a fixed inner cone with openings sized for maximum right and left thrust; and an outer rotating sleeve with a fixed cutout.

A small diameter variable pitch fan at the aft end of the fuselage **(see Figure 1)** delivers low pressure air to the variable area nozzle at the end of the tailboom. The area, and consequently thrust, is varied by rotating the outer sleeve with its fixed cutout around the inner cone.

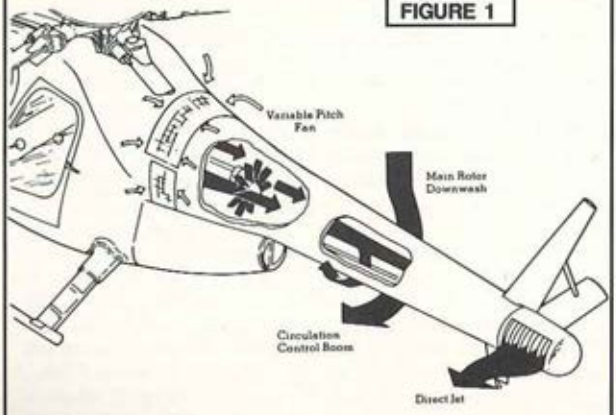
A Report by Andrew H. Logan

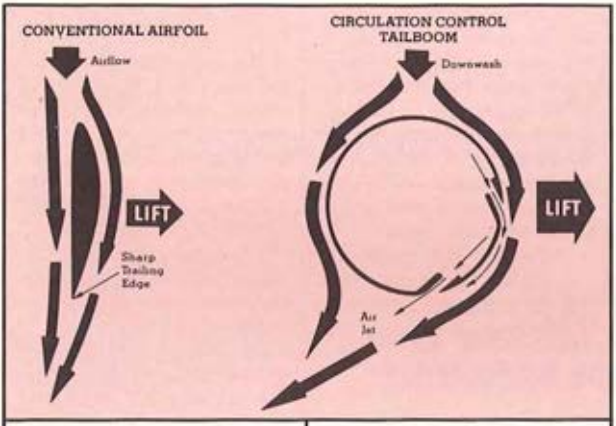
The sleeve is connected to the anti-torque pedals. At full left pedal the thruster left side is completely open. Full right pedal rotates the sleeve 180 degrees to uncover the right side opening to provide thrust for right sideward flight and thrust for power off maneuvers. The thruster is completely closed when the pedals are near the neutral or hover position. Proper sizing of the rotating fixed cutout provides smooth, continuous directional control force.

By its unique design, the NOTAR is power efficient. Systems using internal air sources and vectored thrust for anti-torque/directional control have been studied for many years, but the power requirements of this type of system have made them impractical.

The NOTAR system is successful because of the synergism between the circulation control tailboom and the thruster. Circulation control, as

FIGURE 1





employed on NOTAR is illustrated in **Figure 2.** Thin jets of air are exhausted from two slots on the right side of the tailboom. The main rotor downwash is entrained by the air jets and follows the contour of the tailboom. By moving the natural downwash separation point further around on the tailboom, lift is created in the direction required to provide anti-torque force.

This effect is similar to a jet flap on conventional aircraft and is very power efficient since it uses the energy of the main rotor wake. Lift from the tailboom provides more than half of the anti-torque force required in a hover. The thruster, augmented by the relatively power efficient circulation control tailboom offers system performance approaching that of a conventional tail rotor.

To demonstrate the NOTAR concept, the rugged, dependable, and agile OH-6A was selected as the baseline aircraft. The OH-6A NOTAR demonstrator recently completed a very successful flight test program **(Figure 3).**

The demonstrator exhibited low speed handling qualities that were better than the baseline OH-6A while maintaining crisp yaw control responsiveness.

The sideward flight envelope was double that of the standard OH-6A. Forty knots was obtained in both left and right sideward flight while the OH-6A is restricted to 20 knots in either direction. These improved speeds were possible because of low pilot workload required to maintain heading.

The NOTAR aircraft was also very stable in gusty conditions, due primarily to NOTAR's relative insensitivity to the external aerodynamics that play havoc with an exposed tail rotor. NOTAR also eliminates vortex ring state which means that high speed left sideward flight is no longer a maneuver to avoid. NOTAR's other attributes include a 20% subsystem reliability improvement, 35% reduction in vulnerability, lower life cycle costs and reduced noise.

For the combat pilot, a NOTAR configured aircraft would provide a distinct advantage on the battlefield. The absence of an exposed tail rotor would permit more aggressive maneuvering while using nap

of the earth (NOE) tactics. Eliminating the pilot's concern over tail rotor strikes allows concentration to the more important aspects of an engagement. The directional stability and low gust sensitivity demonstrated in the OH-6A flight test are an additional tactical advantage. After it is there, point it where you want it and it stays there without stability augmentation.

NOTAR technology is ready for implementation. We are at the stage in helicopter development where conventional approaches are nearing their optimum performance. If the helicopter is to evolve, new ideas are required. NOTAR is a new idea, and a good one.

—Andrew H. Logan
Director, Technology Div., McDonnell Douglas Hcptr.

McDonnell-Douglas Helicopter opens new Mesa, Arizona headquarters

MESA, AZ — The new Arizona headquarters of the McDonnell Douglas Helicopter Company opened officially on November 1, 1986. Opening ceremonies were attended by thousands of employees, families and distinguished guests.

Sen. Barry Goldwater (R-AZ) was the keynote speaker of the event, which signaled the completion of the program which gives the company a 2 million square foot headquarters.

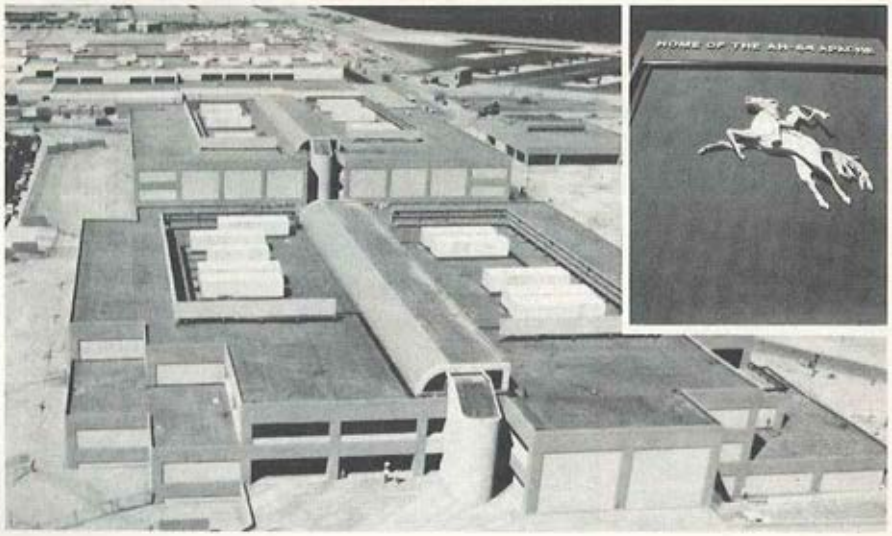
Remarks were also presented by Arizona Governor Bruce Babbitt, Sen. Dennis DeConcini (D-AZ), and Rep. John McCain (R-AZ), whose Congressional District includes the site.

The celebration also marked the relocation of administrative offices, and major helicopter design, development, assembly and flight test operations from the company's former headquarters in Culver City, CA, just outside Los Angeles.

The company also announced its plans to relocate light helicopter assembly operations to Mesa in early 1987.

McDonnell Douglas currently manufactures the Army's AH-64A APACHE attack helicopter and is teamed with Bell Helicopter Textron (as the "Superteam") in competition for the LHX.

The company was formerly Hughes Helicopter Inc., which was started as the aircraft division of Hughes Tools in 1934 by the late Howard Hughes.



GUEST EDITORIAL: The HON James R. Ambrose

ARMY AVIATION

JAN. 31, 1987 ISSUE • SPECIAL REPORT: LHX

NEXT MONTH IN *ARMY AVIATION*

"LHX: THE FUTURE OF ARMY AVIATION"

INTRODUCTION: "LHX: The future of Army Aviation" by **GEN John A. Wickham Chief of Staff, U.S. Army**

"LHX: What the user needs" by **GEN Carl E. Vuono, U.S. Army Training and Doctrine Command**

"LHX Program Update" by **BG (P) Ronald K. Andreson Program Manager, LHX**

"What LHX will mean to Force Structure" by **MG John Woodmansee, Asst. DCS for Opns for Force Development**

"Defense Science Board and its impact on LHX" by **LTG Louis C. Wagner, Jr. DCS for Research, Development & Acquisition**

"Tactical Employment of the LHX" by **MG Ellis D. Parker, CG, USAAVNC and Ft. Rucker**

"Early LHX user testing and experimentation" by **MG James E. Drummond, U.S. Army Operational Test & Evaluation Agency**

"LHX Support Concept: Planned maintenance" by **Joseph P. Cribbins, Special Assistant to the DCS for Logistics**

In addition, there will be articles by Industry teams involved with the LHX Program. A number of follow-on articles will appear in our February 28, 1987 issue.

Field reports for January will include: Army Aviation in the Sinai, the Flight Data Recorder Program, the AB at the 5th ID (Ft. Polk, LA), and the Army Research Institute.

Liaison

The FY 1987 budget: Army Aviation survives Gramm-Rudman

WASHINGTON, DC — The fiscal year 1987 budget process is finally completed. We have weathered the first year of the Gramm-Rudman-Hollings Act, and with continued fiscal constraint, could face the end of the significant military buildup and defense spending increases begun during President Reagan's term of office.

While there have been significant reductions in the President's defense budget request, Army Aviation programs fared well. In the procurement appropriation, the Army Aviation budget request was $3.264 billion. The actual appropriation was $2.762 billion or 85% of the original request.

Congress authorized and appropriated funds for procurement of 120 of the requested 144 AH-64 APACHEs, 78 of the 78 requested UH-60 BLACK HAWKs, and 18 of 18 EH-60's. In the area of aircraft modifications, funds were made available for 48 CH-47D CHINOOKs and 32 OH-58D AHIPs.

Additionally, adequate funds were appropriated to continue procurement of ground support equipment and avionics, flight simulators, aircraft survivability equipment, and spares and repair parts.

Finally, the Army's request to initiate a multi-year procurement of UH-60s commencing in fiscal year 1988 was approved.

However, there were losses in the aircraft procurement request as well. Our $61 million request for modification of AH-1 COBRAs, primarily the C-NITE System, was reduced by $35 million. Similarly, our requests for $28 million for air-to-air Stinger and $3.5 million for special operations forces aircraft modifications were "zeroed" in the appropriations joint conference.

Two "surprises" — programs for which the Army requested no funds — appeared in the final act. First, $6.85 million was appropriated for procurement of ground proximity warning systems and, of greater interest, $40 million was appropriated for the Army to acquire C-20 (Gulfstream) aircraft.

A Report by Major General Richard D. Kenyon

In the research and development appropriation, Army Aviation again fared well. While most aviation R&D efforts were "nicked" with minor cuts, the Advanced Rotorcraft Technology Integration (ARTI), risk reduction effort for LHX, was fully funded at $44.2 million, and the T-800 engine program was funded at $98.5 million.

In a manner similar to procurement, a few aviation related R&D efforts were "zeroed", but the preponderance were funded at levels enabling positive forward development.

So much about the past. What about the future, the fiscal year 1988 budget? As of this writing, the final touches are still being applied to next year's budget and it would be premature to address specific programs. There are, however, both major changes and some similarities to look for next year.

First, the Army's next budget request will cover two years, FY 1988 and 1989, not one year as in past budgets. Next, and more importantly, the FY 88/89 budget request will face an environment of austerity—similar to if not greater than that met by the FY 87 budget request.

Under the Gramm-Rudman-Hollings constraints, the projected FY 87 budget deficit of $144 billion must be pared to $108 billion for FY 88. Congressional action required to meet the deficit goal will be defined by the magnitude of the President's federal budget request.

However, if all things remain equal, 50% of the necessary reductions would come from the defense budget. So, what about the future? Check in our next report!

—MG Richard D. Kenyon, Chief of Legislative Liaison, HQDA

Nunn to head Committee

The recent elections and change in majority will bring new leadership to the Senate's Armed Services Committee. Democrat Sam Nunn of Georgia will take over leadership of the Committee, formerly held by Sen. Barry Goldwater (R-AZ), who is retiring.

Plan Ahead!

Advance Register for the '87 AAAA National Convention and receive a Calculator as a "take home" memento!

Join your fellow members at this annual major gathering of Army Aviation "professionals" in Ft. Worth, Texas, during April 8-12, 1987

The Professional Program features over 20 Professional Presentations; Q & A Panels; and AWO, NCO, and Family Sessions, all under the theme, " The Aviation Team"

The social program includes daily luncheons, an Awards Banquet, evening receptions, an Aviation Brunch, and 18 Chapter Receptions at which to mix and mingle

View more than 100 industry and military aerospace exhibits in the 100,000 square foot Tarrant County Convention Center exhibit hall

And don't miss the special events . . . a Bell Helicopter Tour and helicopter rides, an Early Bird Reception at Billy Bob's Texas, and exciting "Texas-style" Spouses Tours!

ARMY AVIATION ASSOCIATION

1987 AAAA National Convention
April 8-12, 1987 • Fort Worth, TX

General Information

■■ REGISTRATION:
An Advance Registration/Official Housing 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 **Monday, March 9, 1987,** together with full payment for the functions the individual wishes to attend. Advance Registrations received after **March 9** will be subject to a $10 late charge; none will be accepted after **Friday, March 20.** Full refunds of function fees will be made if notification is received at the AAAA National Office by phone or mail on or before **Friday, March 27.**

For those members who advance register and pre-pay their Registration and Function fees, 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 **Tarrant 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 five Fort Worth hotels and will handle all reservations for accommodations at **AAAA Convention Rates.**To reserve your hotel accommodations, complete and return the Advance Registration/Official Housing Form by **Monday, March 9.** Room requests received after **March 9** will be honored on a space-available basis only.

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

For suites, please contact **Lynn Coakley** at (203) 226-8184. Because the number of suites is limited, first priority shall be given to exhibiting Industry Member firms on a **first-come, first-served** basis.

PLEASE NOTE: Limited space is available at the five Fort Worth hotels listed on the Official Housing Form. Indicate your hotel choices in order of preference: (1)—1st Choice to (5)—Last Choice. **Your Housing Request cannot be processed unless your preferences are clearly indicated on the Housing Form.**

■■ AIR FARE SAVINGS:
American Airlines has been selected as the official carrier for the AAAA National Convention and will offer significantly reduced fares for travel to the convention. Certain restrictions apply. For reservations or more information, call the American Airlines Meeting Desk, **(800) 433-1790** TOLL FREE, 7 days a week from 7:00 a.m. to 12:00 midnight CST. Ask for **STAR FILE #S11817.** The savings apply to reservations for American Airlines flights between Saturday, April 4, and Monday, April 15.

■■ RENT-A-CAR SAVINGS:
Through the AAAA contract with Hertz — CPD-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:
Shuttle bus service will be provided between the Tarrant County Convention Center and the five Fort Worth hotels listed on the Official Housing Form. A complete Shuttle Bus Schedule will be provided approximately two weeks prior to the Convention.

■■ PROFESSIONAL SESSIONS:
The Professional Sessions taking place on Thursday, April 9, through Saturday, April 11, at the Tarrant County Convention Center, will be of special interest to all AAAA members, and are being arranged by **Major General Ellis D. Parker,** Commanding General of the U.S. Army Aviation Center and School, Ft. Rucker, Ala., who serves as 1987 Presentations Committee Co-Chairman. The Saturday Professional Sessions are being arranged by **Major General Richard E. Stephenson,** Co-Chairman and Commanding General, U.S. Army Aviation Systems Command, St. Louis, Mo. The Professional Sessions — all under the theme of **"The Aviation Team"** — will officially commence at 9:00 a.m. on **April 9,** with the Keynote Address scheduled for 9:15 a.m. Admission will be by Registration Badge.

■■ EXHIBIT HALL DISPLAYS:
The Exhibit Hall Displays have become one of the most important segments of the AAAA National 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 Tarrant 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".**

■■ AAAA CHAPTER RECEPTIONS:
The Thursday, Friday, and Saturday evening AAAA Chapter Receptions are a MOST IMPORTANT AND UNIQUE PART of every AAAA National Convention. Six 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 1987 Chapter Receptions will be held at the Hyatt Regency Fort Worth. Bus transportation will be provided from each of the "AAAA" hotels listed on the Housing Form.

■■ BELL HELICOPTER TOUR & HELICOPTER RIDES:
As a special feature of our first Fort Worth AAAA National Convention, the AAAA North Texas Chapter is sponsoring three two-hour tours of the Bell Helicopter Textron plant and helicopter rides on limited basis on **Wednesday, April 8.** Tours will be conducted at 11:00 a.m., 1:00 p.m., and 3:00 p.m. Bus transportation will depart from and return to the Tarrant County Convention Center. Admission to the bus will be by appropriate badge and ticket. Space is limited and will be available on a first-reserved, first-served basis.

ARMY AVIATION ASSOCIATION

1987 Official AAAA National Convention Housing Form

Please **print** or **type** 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 National Convention AND that this form must be received at the AAAA National Office by **Monday, March 9.** Room requests received after **March 9** will be honored on a space-available basis only. The hotels listed below will **not** accept direct reservations for rooms or suites at AAAA convention rates. All rates are subject to applicable local taxes. Cancellation or change of hotel reservations must be directed to AAAA by phone or mail through **Friday, March 27, 1987.** After **March 27,** contact your hotel directly. Failure to notify the hotel of a change in arrival may result in full cancellation.

— — — — — — — THIS BOX FOR OFFICE USE ONLY

❶ Arrival Date _____ Arrival Time _____ No. Nights _____ Departure Date _____

❷ **Print** or **type** the names of persons sharing your room:

1. _____ 2. _____ 3. _____

❸ Select the hotels of your choice in order of preference. **Print** or **type** the number of your choice in the boxes provided: 1 - 1st Choice to 5 - Last Choice. If a room at the hotel of your choice is not available, a room will be reserved at your next choice. **If your choices are not clearly indicated, your request cannot be processed.** The hotels are listed in alphabetical order:

☐ Fort Worth Hilton
Military Single or Double, $51
Civilian Single or Double, $77

☐ Hyatt Regency Fort Worth
Military Single or Double, $51
Civilian Single or Double, $77

☐ Metro Center
Military Single, $35, Double, $45
Civilian Single, $38 Double, $48

☐ Park Central
Military Single, $35 Double, $43
Civilian Single or Double, $48

☐ The Worthington Hotel
Military Single or Double, $64
Civilian Single or Double, $77

FOR OFFICE USE ONLY

❹ Select the applicable Room Rate: ☐ Military Rate ☐ Civilian Rate

Please Note: The Military Room Rate applies 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 or suppliers on a full-time, part-time, or consulting basis. Military identification may be requested by the hotel to receive a military rate.

1987 AAAA National Convention

Advance Registration Form—Official Housing Form

Tarrant County Convention Center, Ft. Worth, Texas — April 8-12, 1987

I plan to attend the 1987 AAAA NATIONAL CONVENTION. The Advance Registration Deadline is **MONDAY, MARCH 9, 1987.** Advance Registrations received after **MARCH 9** will be subject to a $10 late charge; none will be accepted after **FRIDAY, MARCH 20.** I understand that I may receive a full refund of my function fees by phone call made to the AAAA on or before **FRIDAY, MARCH 27, 1987,** or by written notification to AAAA that is received not later than **FRIDAY, MARCH 27.** Please **print** or **type** all information. **NOTE:** Military fees and room rates 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 _____

FULL NAME INCLUDING RANK _____

MAILING ADDRESS _____

CITY _____ STATE _____ ZIP _____

NICKNAME FOR BADGE _____ SPOUSE'S NAME, IF ATTENDING _____

UNIT/FIRM NAME FOR BADGE _____ OFFICE TEL ( ) _____

UNIT OR FIRM CITY AND STATE FOR BADGE _____

IS YOUR FIRM OR UNIT EXHIBITING? ☐ YES; ☐ NO FOR OFFICE USE ONLY

ARE YOU A CHAPTER DELEGATE? ☐ YES; ☐ NO; IF SO, WHAT CHAPTER _____

REGISTRATION FORM

SPECIFIC FUNCTION HELD AT THE 1987 NATIONAL	NOTE—Keynote Address and Prof'l Program begin at 9 a.m. April 9	MIL/DAC MEMB. OR	CIVILIAN MEMB. OR	ITEM LINE	OFFICE USE

CONVENTION OF AAAA	SPOUSE	SPOUSE	TOTAL	
❶ REGISTRATION FOR PROFESSIONAL SESSIONS & EXHIBITS	☐ $10	☐ $55	$_____	_____
❷ MEMBERSHIP FEE FOR NON-AAAA MEMBERS	☐ $15	☐ $15	$_____	_____
❸ BELL HELICOPTER TOUR & HELICOPTER RIDE, Wed., April 8	☐ # People	☐ # People	$ **FREE**	1
Check tour time preferred: ☐ 11 AM ☐ 1 PM ☐ 3 PM				
❹ EARLY BIRDS CASH-BAR RECEPTION AT BILLY BOB'S, Wed., April 8	☐ at $3 ea	☐ at $3 ea	$_____	2
SPOUSES TOUR & LUNCHEON—DALLAS NIEMAN-MARCUS, Thurs., April 9	☐ at $37 ea	☐ at $37 ea	$_____	3
AAAA MEMBERSHIP LUNCHEON, Thurs., April 9	☐ at $8 ea	☐ at $15 ea	$_____	4
SPOUSES BREAKFAST AT THE STOCKYARDS & SHOPPING, Fri., April 10	☐ at $12 ea	☐ at $12 ea	$_____	5
AAAA AWARDS LUNCHEON, Fri., April 10	☐ at $10 ea	☐ at $16 ea	$_____	6
PRESIDENT'S RECEPTION, Fri., April 10	☐ at $9 ea	☐ at $17 ea	$_____	7
SPOUSES TOUR & BARBECUE — RANCHLAND DUDE RANCH, Sat., April 11	☐ at $35 ea	☐ at $35 ea	$_____	9
TEXAS-STYLE BARBECUE BUFFET LUNCHEON, Sat., April 11	☐ at $7 ea	☐ at $14 ea	$_____	10
❺ AWARDS RECEPTION & BANQUET, Sat., April 11	☐ at $25 ea	☐ at $55 ea	$_____	11
AVIATION BRUNCH & CHAMPAGNE GET-AWAY, Sun., April 12	☐ at $8 ea	☐ at $13 ea	$_____	12
❻ CIRCLE METHOD OF PAYMENT: MasterCard VISA Personal Check Business Check			TOTAL $_____	_____

CREDIT CARD NUMBER _____ EXPIRATION DATE _____

CARDHOLDER NAME AND SIGNATURE _____

❶ Spouses are not required to register for Professional Sessions. ❷ AAAA Membership is required to attend the Professional Sessions. ❸ Limited space available on first come, first served basis. ❹ Fee covers round-trip transportation and entrance. ❺ Reserved Seating. Formal/Black Tie; Military Blues/Mess Jacket. ❻ MasterCard & VISA credit cards only; no others accepted for function fees.

This form, with the appropriate fees, must be completed and received by: AAAA, 1 Crestwood Road, Westport, CT 06880 — on or before MONDAY, MARCH 9, 1987. Phone: (203) 226-8184.

❺ *Select the Room type desired:* ☐ Single Occupancy ☐ Double Occupancy ☐ Special Room Request _____

❻ ☐ Please guarantee my reservation with the following credit card:

☐ MasterCard ☐ Visa ☐ American Express ☐ Other _____

Credit Card No. _____ Expiration Date _____

☐ Please guarantee my reservation with the enclosed check made payable to AAAA in the amount of one night's lodging.

☐ I do not wish to guarantee my reservation and understand that my reservation will be held until 6 p.m. on the day of arrival, then released for sale to the general public.

This form must be completed and received at AAAA, 1 Crestwood Road, Westport, CT 06880, with applicable fees, on or before Monday, March 9. For questions, call the AAAA National Office: (203) 226-8184.

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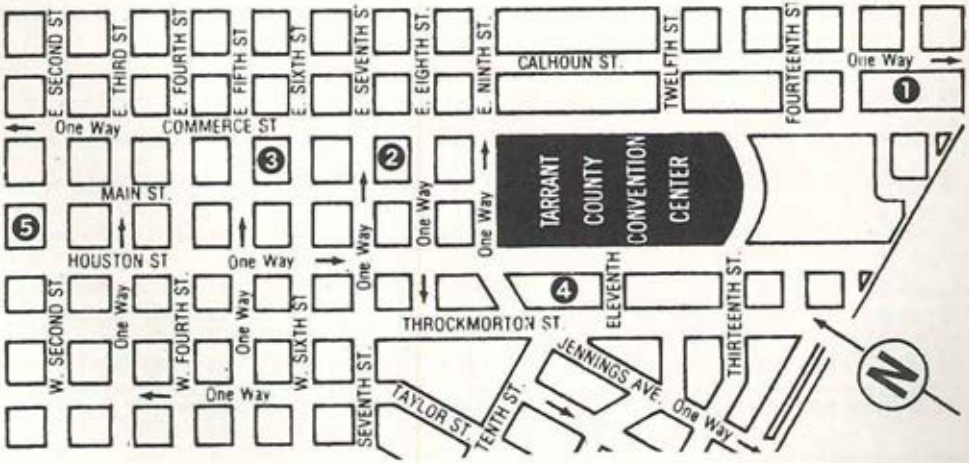
❶ — Fort Worth Hilton
❷ — Hyatt Regency
❸ — Metro Center
❹ — Park Central
❺ — Worthington Hotel



1987 AAAA National Convention
April 8-12, 1987 • Fort Worth, TX

General Information

■■ EARLY BIRDS RECEPTION AT BILLY BOB'S:

On Wednesday evening, **April 8**, the AAAA will sponsor an informal cash bar reception for "early arrivals" at **BILLY BOB'S TEXAS**, the world's largest honky-tonk. Bus transportation will depart from the Main Entrance of the Tarrant County Convention Center starting at 6:45 p.m. every 15-minutes until 8:45 p.m. Admission to the bus will be by ticket.

■■ SPOUSES PROGRAMS:

The AAAA invites spouses to participate in a program of planned activities from Thursday, April 9, through Saturday, April 11.

On **THURSDAY**, spouses are invited on a Dallas "Fashion City" Tour starting with a visit to the Dallas Market Center. Then, it's on to the famous Nieman-Marcus for a tour of the archives museum, a catered luncheon, and time for shopping and browsing. On the return to Ft. Worth, spouses will view the mansions of Turtle Creek and Highland Park. Bus transportation will depart from the Main Entrance of the Tarrant County Convention Center at 10:30 a.m. and return you to your hotel by 4:00 p.m.

On **FRIDAY**, the traditional AAAA Spouses Breakfast will be held at the Brown Derby in the famed Stockyards. Bus transportation will depart at 8:30 a.m. from the Main Entrance of the Tarrant County Convention Center. After breakfast, there will be time for "Western Shopping" before the buses return to the Tarrant County Convention Center in time for the Reception and 1987 Awards Luncheon.

Friday afternoon will be free for individual exploration - SUNDANCE SQUARE, located adjacent to the Worthington Hotel, offers a unique collection of shops, boutiques, restaurants, and galleries. Fort Worth also features the OMNI MUSEUM, the KIMBELL ART MUSEUM, the AMON CARTER MUSEUM OF WESTERN ART, the beautiful BOTANIC GARDENS, and the WATER GARDENS. Information on these points of interest and more will be available at the AAAA Registration Center.

Also on **Friday** afternoon, the AAAA Presentations Chairman will offer a special **FAMILY PROGRAM** at the Tarrant County Convention Center from 4:15 p.m. to 5:30 p.m.

On **SATURDAY**, the program is designed to highlight the flavor of the Old West with a trek out to a real "dude ranch". Wear your blue jeans, plaid shirt, boots (and bring a swimming suit) to be ready for horse riding, or a hay ride, volleyball, horseshoes, bingo, fishing, or just plain ol' relaxin'. Then, you'll enjoy a western barbecue with all of the fixins. Bus transportation will depart from the Main Entrance of the Tarrant County Convention Center at 10:00 a.m. and return you to your hotel by 4:30 p.m.

■■ AAAA MEMBERSHIP LUNCHEON:

The AAAA Membership Luncheon will be held on Thursday, **April 9**, at the Tarrant County Convention Center at which the AAAA will honor its "Outstanding Chapter Activities" and its top recruiters. This year's Luncheon will also feature a special ceremony honoring AAAA's 30-year members. All seats at this luncheon are unreserved.

■■ AAAA EXHIBITORS RECEPTION:

The 1987 Exhibit Hall Displays will officially open with a cash bar reception from 4:30 p.m. to 7:30 p.m. on Thursday, **April 9**. Admission will be by badge.

■■ AAAA AWARDS LUNCHEON:

The 1987 AAAA Awards Luncheon will be held at the Tarrant County Convention Center on Friday, **April 10**, and will be preceded by a reception. 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 10**, the President's Reception will take place at the Hyatt Regency Fort Worth Hotel. Bus transportation will be provided from each of the "AAAA" hotels. The AAAA National President, **Major General George W. Putnam, Jr., Ret.**, and **Mrs. Putnam**; the AAAA Executive Vice President, **Arthur H. Kesten** and **Mrs. Kesten**; and the Commanding General of the USAAVNC, **Major General Ellis D. Parker** and **Mrs. Parker**, are expected to form the receiving line.

■■ TEXAS-STYLE BARBECUE LUNCHEON:

It's only fitting to feature an informal "Old West" Luncheon on the closing day of the Convention, Saturday, **April 11**. The luncheon will be held at the Tarrant County Convention Center. Seating at this luncheon is unreserved. Dessert will be served in the AAAA Exhibit Hall along with coffee, beer, and soft drinks. Music and Chapter Photos are planned later in the afternoon.

■■ AAAA AWARDS RECEPTION AND BANQUET:

The AAAA's premier event, the 1987 Awards Reception and Banquet will be held on Saturday, **April 11**, at the Tarrant County Convention Center. 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, (3) all Active Army E-9 Members, and (4) Active Army O-4 Members, Active Army CW4 Members, and Active Army E-8 Members from the Regional area in which the National 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 Monday, **March 9**. If you are eligible to be a guest at the Banquet and have not received an invitation by February 1, please contact the AAAA National Office at (203) 226-8184.

■■ GET-AWAY CHAMPAGNE AND AVIATION BRUNCH:

On Sunday morning, **April 12**, the AAAA invites all Convention attendees to join the AAAA President in a champagne toast in the Presidential Suite at the Hyatt Regency Fort Worth Hotel. The Aviation Brunch, which is held simultaneously, offers AAAA convention attendees an opportunity to make their good-byes.

ARMY AVIATION ASSOCIATION

1987 AAAA National Convention
April 8-12, 1987 • Fort Worth, TX
Schedule of Events

Tuesday, 7 April 1987

1200-1700 Registration and Ticket Sales

Wednesday, 8 April 1987

0800-2100 Registration and Ticket Sales
1100-1300 Bell Helicopter Tour and Helicopter Rides
1215-1345 AAAA National Executive Board Luncheon
1300-1500 Bell Helicopter Tour and Helicopter Rides
1400-1730 AAAA National Executive Board Meeting
1500-1700 Bell Helicopter Tour and Helicopter Rides
1900-2100 Early Birds Reception at Billy Bob's Texas

Thursday, 9 April 1987

0700-1930 Registration and Ticket Sales
0730-0845 Chapter Presidents/Secretaries Breakfast
0745-0845 Speakers and Panelists Breakfast

Opening Professional Session

0900-0905 AAAA President's Welcome
0905-0915 Presentations Chairman's Welcome
0915-0945 Keynote Address
0945-1030 Aviation Branch Chief's Update
1030-1100 AAAA General Membership Meeting
1030-1600 Spouses Tour of Dallas/Nieman-Marcus

Morning Professional Session

1100-1130 Aviation Branch Update (NCO)
1100-1600 MILPERCEN Career Guidance
1130-1200 Membership Luncheon Reception
1200-1400 1987 AAAA Membership Luncheon

Afternoon Professional Session

1400-1430 Aviation Logistics Update
1430-1500 SEMA Training
1500-1520 Aviation and the Signal School
1520-1540 MEDEVAC
1540-1630 Panel Discussion - Q & A
1630-1930 1987 AAAA Exhibitors Reception
2100-0100 AAAA Chapter Receptions

Friday, 10 April 1987

0700-1730 Registration and Ticket Sales
0715-0815 Speakers and Panelists Breakfast

Morning Professional Session

0830-0850 National Guard Aviation
0850-0910 Aviation Force Structure 87
0910-0930 Training Developments
0930-0950 Force Developments
0950-1010 Aviation Safety
1010-1100 Panel Discussion
0830-1100 Stockyards Spouse Breakfast/Shopping
1100-1700 MILPERCEN Career Guidance
1100-1215 Awards Luncheon Reception
1215-1430 1987 AAAA Awards Luncheon
1430-1530 Exhibit Hall Social

Afternoon Professional Session

1530-1615 III Corps Commander's Presentation
1615-1730 Enlisted Program
1615-1730 Family Program
1615-1730 Warrant Officer Program
1615-1730 Chapter Presidents' Session
1900-2030 1987 AAAA President's Reception
2130-0100 AAAA Chapter Receptions

Saturday, 11 April 1987

0700-1630 Registration and Ticket Sales
0700-0815 First Light Breakfast (By Invitation)

Morning Professional Session

0830-0900 Industry Panel Discussion on Acquisition Contracting
0900-0930 Industry Panel Discussion on Product Support
0930-1000 Industry Panel Discussion on Contractor Logistics Support.
1000-1630 Ranchland Dude Ranch Spouses Tour
1000-1100 Exhibit Hall Social
1000-1630 MILPERCEN Career Guidance

Late Morning Professional Session

1100-1245 AVSCOM Readiness Posture and Initiatives — Utility, Cargo, Attack, Observation, Fixed-Wing, and Air-to-Air Developments.
1245-1300 Presentations Chairman's Closing Remarks
1300-1400 Texas-Style Barbecue Luncheon
1400-1630 Exhibit Hall Social/Chapter Photos
1830-1930 Awards Banquet Reception
1930-2200 1987 AAAA Awards Banquet
2200-0130 AAAA Chapter Receptions

Sunday, 12 April 1987

0830-0930 AAAA National Executive Board Meeting
0930-1030 Champagne Get-Away
0930-1200 The 1987 "Aviation Brunch"

★ ★ ★ ★ ★

*The specific functions, the speakers and the subjects of the presentations, and the dates and times of all presentations and social functions are subject to change.

ARMY AVIATION ASSOCIATION

Maintenance

New prototype Log Book Automation System in the field

SCOTT AFB, IL — Logbook Automation System (LAS), as reported in the July 1986 issue of *Army Aviation*, is in its seventh month of testing on 26 aircraft at the 102nd Army Reserve Command (ARCOM) Flight Facility.

With 2,000 hours of aircraft operational data in its database, LAS is helping to relieve a majority of our Aviation Unit Maintenance (AVUM) management burdens. Developed by **COBRO,** LAS is a systems solution, totally automating the aircraft logbook and historical records as well as providing other unit management output products.

With LAS, we have the ability to flag inspections and required component removals. The system stores logbook historical data by tail number, so that by entering maintenance and operations data, a flight pac can be generated. This flight pac is used to provide a concise aircraft status showing all open faults, listed in descending order of status symbol severity.

The LAS data presents us with an accurate and timely picture of our maintenance status, as well. We can track open faults by function coding the experience/MOS required for the job. This allows us to plan and prioritize our weekly workload. Accurately tracked flight time from LAS gives us the ability to run daily phase-flow charts to help plan unit maintenance activities efficiently. LAS also has built-in checks which aid in quality control of logbook records.

Another facet of the automated tracking of flight time is the elimination of guess work in recording time, which, in turn, contributes to safety.

The 102nd ARCOM Flight Facility uses a monthly forecast from LAS that projects time before overhauls (TBO). Recently, this forecast was used to prevent a potentially hazardous condition from occurring.

A Report by Bernard K. Dawdy

We had a helicopter that had been in extended TDY status which was preparing to return to home station. LAS alerted us that the helicopter only had 10 hours to TBO remaining on tail rotor blades and rotating bolt kit. The return trip would have taken 20 hours. Thanks to LAS, we were able to alert the crew to a potential safety hazard.

The utility and flexibility of LAS were again recently demonstrated during unit annual training at Ft. Campbell, KY. A portable computer accompanied our unit and we were able to enter a majority of our forms while in the field training environment. Fleet status was available almost immediately upon returning to garrison. Before LAS was used, detailed

status would not have been available for at least a week.

Research time on Safety of Flight (SOF) messages has been reduced. Our Technical Inspectors can access LAS and request SOF compliance by aircraft serial number. It used to take hours to obtain this information when we had to check our 26 logbooks manually. Now it's obtained in minutes.

We are now in the process of implementing unit guidelines and procedures to maximize the efficiency of LAS.

Our positive experience with LAS here in the field has AVSCOM excited about its future. A uniform Army-wide database could drastically reduce paperwork and improve data quality. With increasing budgetary restraints looming on the horizon, LAS offers the opportunity to spend more time on maintaining equipment and less on forms and records.

I'm convinced that this technology offers Army AVUM management the key to effectively managing their available maintenance man-hours and resources to new standards of excellence.

— Bernard K. Dawdy, 102d Army Reserve Command Flight Facility

Operations

The 1st ID: Using SEAD in support of the Deep Attack

FT. RILEY, KS — Within two weeks of its activation ceremony, the aviation brigade of the 1st Infantry Division (Mechanized) found itself in the middle of a Divisional Field/Command Post Exercise (F/CPX).

Although the brigade was severely short of key personnel and items of equipment, the F/CPX presented an excellent opportunity to begin the process of developing the techniques and procedures necessary to allow the newest organization to effectively fight on the combined arms team.

There were many lessons to be learned by both the division and the brigade staffs. One of the most important lessons was the detailed planning necessary to conduct suppression of enemy air defense (SEAD) in support of Army Aviation operations beyond the forward line of own troops (FLOT).

The events at Casus Belli VII F/CPX provided a classic opportunity to conduct a deep attack, but at what cost?

Events for the F/CPX were generated as part of a MIL-driven war game using a terrain board with player cells representing friendly and opposing forces. The 1st Infantry Division was to relieve a unit in contact and attack north to regain control of key terrain in support of the Corps main attack.

After several days of fighting, the Aviation Brigade's S-2, **CPT Dave Thomas,** observed developing enemy activity that could make an enemy division's second echelon vulnerable to interdiction by the attack helicopter battalion. He coordinated with the aviation brigade's S-3, **MAJ Dave Wallace,** and presented the probable courses of enemy action. **MAJ Wallace** saw the opportunity to seize the initiative in the 2d Brigade's sector, by conducting an attack which if successful, would deny the enemy the assets necessary to react to an already planned friendly attack by the 2d Brigade.

A Report by Colonel George M. Mullen

Careful staff war-gaming of the factors of METT-T (mission, enemy terrain, troops and time available) produced a viable concept of operation — we would maneuver the attack battalion 15 kilometers into the enemy's motorized rifle division's second echelon, attack his tank battalion and return.

The timing was right, there were good protected routes in and out, and excellent engagement areas existed. The 1st Attack Helicopter Battalion commander, **LTC Ted Cordrey,** had received a warning order and was preparing his forces.

A "trigger" for the operation was established as the crossing of a river by the tank battalion. That "trigger" time would start a series of events ending with a joint Air Force and Army Combined Arms attack on the enemy. It would happen just as he cleared a wooded area and deployed into column formation along a high speed avenue of attack into the 2d Brigade's sector. The attack was to be synchronized to apply maximum combat power at a point and time of our choosing.

With an established operational concept, detailed planning by the brigade and division staffs focused on how to defeat the enemy air defenses along the route. Neither staff was prepared to answer the division commander's questions concerning the cost of the operation in friendly artillery support of a localized SEAD operation — including the number of artillery rounds to be allocated to the SEAD campaign.

SEAD operations depend heavily on detailed intelligence. We knew the general locations of enemy ADA units and their capabilities to defeat and engage a helicopter force, but did not have the detailed locations of command and control nodes, target detection and fire control radars and actual battery positions.

The CG, **MG Leonard P. Wishart, III,** took the operation "off-line" from the exercise to allow his staff to do the detailed intelligence preparation of the battlefield as well as time sequence of the attack.

With the additional planning focused on the deep attack and the SEAD campaign, the brigade was ready when the enemy tank battalion began its movement south into the battle.

Lessons learned from this FTCPX include the need to have detailed and continuous intelligence on enemy air defense; complete understanding of friendly artillery weapons capabilities to suppress enemy ADA.

Planning must include assessments of tradeoffs between the employment of artillery, direct fire weapons, counter fire radars, and critical intelligence assets in support of the SEAD operation — versus their employment in support of engaged combat elements.

Complex operations such as SEAD for deep attack require the coordinated efforts of all the staffs. With the experience gained from Casus Belli VII, the 1st ID (M) has started the process of integrating the aviation brigade into the heavy division combat operations.

The outcome of deep attack? Forty-seven enemy armored vehicles destroyed and the unit rendered ineffective. Friendly losses? One AH-1S and one OH-58 lost with both crews picked up by the UH-1H sent along with the attack as search and rescue. The cost was certainly worthwhile in this case, but only detailed planning for air routes, air crew rescue, suppression, timely intelligence, and logistics support can keep the costs to an acceptable level.

—COL George M. Mullen
Commander, Avn Brigade
1st Infantry Division (M)

III Corps Aviation: Restructuring as the Army of Excellence

FT. HOOD, TX — Once again, action centers on "The Great Place," and that place is III Corps and Ft. Hood, TX.

There can be no more appropriate words than "One Army" to describe the existing challenge of forming the III Corps Aviation Brigade (CAB).

The CAB achieves its maximum combat and sustainment potential by structuring a significant number of active component (AC) and Reserve Component (RC) aviation units, all under one commander, into the III Corps Aviation Brigade organization.

A Report by Colonel Donald J. Fritsche, Sr.

As organized now, RC aviation is not totally integrated into the force. RC aviation organizations consist of a mixture of units with an equal variety of missions. In many cases there is no real command infrastructure above unit level. Army of Excellence (AOE) structure dictates that integration of National Guard and U.S. Army Reserve (USAR) aviation forces is a must to enhance command and control, training, and sustainment.

Within III Corps, there is a major restructuring program ongoing to align present aviation forces at Corps level to the AOE aviation brigade structure.

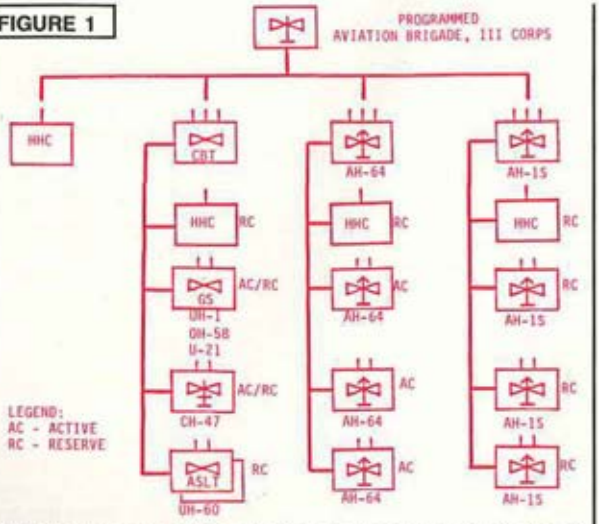
Active component realignment is the first phase of a program that will eventually result in the first heavy Corps Aviation Brigade. Paralleling this active duty restructuring effort is an extensive reconfiguration and restructuring effort by National Guard and Army Reserve aviation.

The RC will have an integral role within the III Corps Aviation Brigade. Units are receiving modernized aircraft and equipment. Tables of organization and equipment are being upgraded to AOE structures and training programs are being outlined, all of which is designed to maximize capabilities and enhance wartime readiness.

The CAB will be a maneuver force composed of three aviation groups, one combat group and two attack groups. One attack group (AC) will be composed of AH-64 (APACHE) aircraft. The CAB is composed of 10 active duty units, 10 USAR units, and seven National Guard units. **(See Figure 1, next page).**

The RC structure is organized for a peacetime chain of command and CAPSTONE alignment to III Corps. It is designed to employ totally in wartime as one aviation force under III Corps command. The CAB under AOE structure is doctrinally organized along functional command lines. The CAB puts units together functionally and gives each unit the

FIGURE 1



ability to train and work together in peacetime as they would fight in wartime.

The geographic locations of the brigade, as now organized, spread from Ft. Hood, TX to Ft. Meade, MD; Jacksonville, FL; Grand Prairie, TX; to Phoenix, AZ. The CAB will have unique logistical requirements and will require dynamic leadership and training to achieve and sustain combat readiness.

III Corps will be doing aviation business in a new and innovative way. New approaches to training — integrating UH-1, AH-1 and CH-47 flight simulators and the recent dedication of the AH-64 Combat Mission Simulator — have enhanced III Corps' task oriented aviation tactical training.

New gunnery programs for attack helicopters have been implemented. These aerial gunnery programs have refined firing tables that maximize the effectiveness of the AH-1 and AH-64 simulators. These progressive programs culminate in team gunnery to ARTEP standards on ranges with developmental electronic scoring measures added to achieve realism.

Associated with the CAB Force Integration actions, are two major field training exercises (FTX). The first FTX, "ROADRUNNER" will be a major Corps FTX maneuvering over the vast expanses of Central Texas. CAB elements will culminate this exercise with a Deep Attack — Combined Arms Live Fire Exercise.

On the horizon, the CAB will face its ultimate test with a major FTX combining an overseas deployment and redeployment.

Enthusiasm is running high among all concerned as hard work continues toward bringing the CAB to reality. The activation date of the CAB is Sept. 16, 1987. By its design, the CAB will conserve precious resources, execute training more effectively, ehance aviation safety, and offer career professional development to aviation personnel.

The challenges that lay ahead are demanding and numerous. Determining meaningful roles and missions and validating doctrine for the CAB is of significant importance to the "One Army" brigade.

Additionally, the III Corps Aviation Brigade offers the Army an ideal organization to study and refine AC/RC structure. The need for "One Army" structuring has never been more prevalent as associated with the III Corps Aviation Brigade. This unique combination of AC/RC aviation assets will, indeed, maximize combat power and make the III Corps Aviation Brigade a formidable combat multiplier for the Corps Commander.

—COL Donald J. Fritsche, Sr.
III Corps Aviation Officer
Ft. Hood, TX

Ft. Hood update: APACHEs join the 6th Cavalry

FT. HOOD, TX — 1986 was a busy, exciting, and very rewarding year for the soldiers of the 6th Cavalry Brigade. 1987, however, promises to be even more challenging than before.

Our primary peacetime mission in 1986 was to field the Army's first two AH-64 equipped attack helicopter squadrons. The AH-64 is a powerful, reli-

able, and rugged system, and the TRADOC "schoolhouse" has done an outstanding job in training our soldiers to fly and maintain it.

During the first quarter of the year, we were busy finalizing our training programs and receiving our first squadron set of equipment to include the AH-64 and UH-60 Aircraft. In the second quarter, the 3d Squadron, 6th Cavalry, under the command of **LTC Ken McGinty,** executed a very aggressive and demanding 90 day training program which culminated in a 6-day ARTEP and became the first combat-ready unit in the Army equipped with the APACHE.

A Report by Colonel Walter H. Yates

The 1st Squadron, 6th Cavalry, under the command of LTC **Barney Jenkinson,** completed their training program in November and became the second unit equipped and certified with the AH-64.

The 2d Squadron, 6th Cavalry, commanded by **LTC** Tom **Nelson,** received their aircraft in November 1986 and are now in their 90 day training program.

The 5th Squadron, 17th Cavalry, commanded by **LTC Dennis Clausen,** is currently drawing its aircraft and will start their training program in March.

ABOVE: Members of the 3rd Squadron, 6th Cavalry with an AH-64A APACHE attack helicopter at Ft. Hood, TX.

The AVIM company and BMMC personnel of our 34th Support Battalion, commanded by **LTC Dennis Griggs,** completed their AH-64 unique training along with the 3d Squadron, 6th Cavalry earlier in the year. They have been instrumental in providing superb maintenance and sustainment for the APACHE during its initial fielding.

The fielding process gave us a unique opportunity to concentrate on the development of operational techniques for the employment of the AH-64.

During the development and implementation of the training and evaluation of our program, we looked extensively at the operational concepts for the Corps Attack Helicopter Battalion. We developed detailed missions, procedures, and operational techniques for this unit in the rear, close and deep battles. The capabilities of the AH-64 APACHE gives new meaning to the concept of AirLand battle.

In conjunction with our initial fielding programs, we seized upon the opportunity to conduct extensive training with the United States Air Force to determine the impact the laser-designation capability of the AH-64 would have on Joint Air Attack Team (JAAT) tactics.

We discovered the laser-equipped AH-64 has a significant favorable impact on traditional JAAT operations when matched with USAF aircraft equipped with the "Paved Penny" and laser-guided munitions.

The most notable improvements have been the extreme delivery accuracy of their laser-guided munitions. The resulting increased survivability of these high-performance aircraft comes from their ability to deliver munitions at a significant stand-off distances.

This has great implications in evolving JAATT doctrine in not only the deep attack but the rear and close in battles as well. Our laser-designation capability opens new vistas in the conduct of JAATT and close air

support especially at night.

We completed the day portion of our work with the Fighter Weapons School at Nellis AFB outside of Las Vegas, NV. The work culminated a two week live fire exercise with A-10s and F-16s in late October.

We are now conducting a night exercises with the Air Force and have also integrated the U.S. Navy/Marines into the program. We hope to conclude this program with another extensive live fire validation at Nellis AFB early this fiscal year.

As we close 1986 — completing the fielding of the AH-64 in the 6th Cavalry Brigade — we being 1987 looking forward to three significant and challenging events.

First, in September of 1987, the 6th Cav will relinquish its status as an independent cavalry brigade and become the Aviation Brigade of the III Mobile Armored Corps.

Second, the Brigade, as part of the III Mobile Armored Corps, will deploy in a major off-post exercise. This will be the first time the Corps Aviation Brigade will have deployed as part of the Corps.

Thirdly, the 6th Cavalry Brigade is planning to deploy a fully operational AH-64 Attack Helicopter Squadron on another extended major exercise.

As you can see, the tempo is high and our course demanding. The 6th CBAC is travelling along the leading edge of Advanced Attack Helicopter doctrine, and we are very conscious of our charter; that is, total integration of AH-64 Attack Helicopter Squadrons into the Combined Arms team.

LTG Crosbie E Saint, Ft. Hood and III Corps Commander, has said, "The AH-64 will quickly change the way the Army fights."

We are committed to maximizing the capabilities of the Advanced Attack Helicopter Squadrons to support the Corps Commander's fight.

—COL Walter H. Yates
Commander, 6th Cavalry Brigade (Air Combat)

New Attack Helicopter Battalion comes to Fort Rucker

FT. RUCKER, AL — The 226th Attack Helicopter Battalion (Provisional), 101st Airborne Division (Air Assault) has come into being at Ft. Rucker. The battalion's first commander is **LTC Larry R. Sloan.**

The nucleus of the Battalion is made up of soldiers from Company D, 229th Attack Helicopter Battalion, 101st Airborne Division, whose colors were cased for shipment to Ft. Campbell.

The 226th was originally constituted on February 1, 1963 as the 226th Aerial Surveillance and Attack Battalion and assigned to the 11th Air Assault Division at Ft. Benning, GA. When it was redesignated as the 226th Aerial Surveillance and Escort Battalion on January 27, 1964, its mission included "destroying the enemy via aerially mounted firepower. . ."

The Battalion, which employed 30 OV-1 MOHAWKs, was thus the only MOHAWK Battalion in the Army with mounted firepower.

The new Battalion will consist of a Headquarters Company and four letter Companies. And in the same manner as the Army's new "light" division, the Battalion will consist of light numbers, both in personnel and equipment. This is because rapid deployability is the most important factor of the new light unit.

82d Brigade Activation Ceremonies

FT. BRAGG, N.C. — Preparations are well underway for the activation of the 82d Airborne Division's Aviation Brigade on January 15, 1987. The ceremony will be held on the Post Parade Field of Ft. Bragg.

The ceremony will include the inactivation of the 82d Combat Aviation Battalion. Any persons previously affiliated with any aspects of the aviation units within the 82d Airborne Division are encouraged to participate in this event.

Additionally, the establishment of an 82d Aviation Historical Society is underway. The Society is soliciting any information, memorabilia on any 82d Aviation element. For further information, call MAJ Samuel Massenberg at (919) 396-9435.

Or write: Commander, 82d Aviation Brigade, ATTN: S-3, Ft. Bragg, NC 28307-5100.

Personnel

Promotion to Major: What influences the board in your favor

ALEXANDRIA, VA — As a former Aviation Branch assignment officer, I was asked many times to evaluate an officer's file in preparation for the annual major's promotion board.

Experience taught me that judgement calls on promotion potential were almost impossible to make without inside knowledge of the exact board proceedings. The best the assignment officer can hope to do is review files, study the board's after action reports to determine trends, and make educated guesses on future trends.

Based on my experience, I feel that the three most important tools used by a promotion board are the three over which the individual officer has the most control. These are the Officer Record Brief, his photo, and the performance microfiche.

Let's look at the photo first. As a minimum you must have a new photo made every three years. I recommend that if you are in the zone of consideration you have a new one made on general principle. Remember — this is the only way you have of introducing yourself to the board. The photo you send makes a statement on the standards you set for yourself.

The Officer Record Brief (ORB) should have the most accurate information available. Job titles are important and should match the principal duty title on your OER. They should read in plain English as much as possible. Avoid abbreviations that are purely technical. Members of the board may not be familiar with all aspects of Aviation.

Perhaps the most important tool used by the board — your performance microfiche — is updated every time you receive an OER. Your performance is rated by your superiors resulting in an audit trail of your potential for advancement to the next grade.

A Report by Major Jimmy M. Rabon

The performance trends are cumulative, and no one single report can prevent your promotion, although certain reports are more damaging than others. For example you would expect that a "relief for cause" OER would place promotion potential in serious jeopardy. It would take a series of outstanding reports to reverse the damage done by this kind of report.

Although you may not be able to influence all portions of your OER, every officer should be aware of the impact certain segments may have on board decisions. Form and substance on the OER are as important as the accomplishment of the job. Here are a few points you should look for on your OER.

Comments in the OER should stand alone. This is especially true in Part IV (Professionalism), where specific traits are listed. Time should be taken to write out a detailed description, or at least state the trait being described; such as "judgement is superb".

In my estimation the senior rater profile remains the most important element of the OER. However, the senior rater comments make the report a whole evaluation of the officer's performance and potential. The two key elements of the narrative seem to be the first and last sentences. Senior raters should pack their punch here, and address potential and performance of the officer.

Failure to mention potential leaves the impression that the senior rater was intentionally leaving out poor comments. It is important to remember that quality, not quantity, should be emphasized in the narrative.

Senior rater profiles which include only the top two blocks may lose credibility with board members. It is hard to gain an accurate picture of the officer's potential for service in so shallow a rating field. The narrative should also correspond to the senior rater profile. Such obvious discrepancies reduce the credibility of the report.

Accuracy of height and weight data on the OER is critical. Insure that you do not grow between reports. The data on the OER and the ORB should be the same. If an officer is close to the standard,

(Majors — Cont. on P. 54)

Product Assurance

Preventing failures: The Flight Safety Parts Program

ST. LOUIS, MO — The current challenge — to assure that the complexity of new systems has not compromised the ability to prevent flight safety materiel failures. Safety and readiness are at the forefront of our U.S. Army Aviation Systems Command (AVSCOM) priorities. The AVSCOM terminology, the Flight Safety Parts (FSPs) Program, is our implementation of the DA's Component Safety Program to aviation items.

The terms FSPs, Surveillance, Predictive Analysis, and Pre-emptive Removals are all sub-elements of AVSCOM's thrust — supporting system safety and reliability.

The Army Regulations (ARs) on component safety are now being staffed to bring the user and developer in closer coordination. This assures user feedback on operationally induced stresses and environments that may alter the predicted lives of each component. Use cooperation in returning parts selected as surveillance samples is key to this program's effectiveness.

The U.S. Army Materiel Command (AMC) Regulations implementing the developers portion of the component safety AR are described in AMCR-702-32, Critical Safety Item Program. At AVSCOM, we address these as FSPs and the Directorate for Product Assurance is the lead element to assure command compliance for aviation systems.

The Component Safety Program is to provide a safe and reliable product to the user. Thus, identification and documentation on AVSCOM's FSPs must be available to all personnel at the component level at which they are authorized to repair, replace, and procure.

In response to recent field materiel failures, AVSCOM has embarked on an Aviation FSP Surveillance Program with its prime manufacturers to assure user/designer feedback through an early return and test of selected components and parts for validation of safe life. The user involvement in the Surveillance Program will be coordinated between the AVSCOM Manager and the user.

A Report by Edward J. Hollman

The AVSCOM Worldwide Aviation Logistics Conference (WALC) provides a natural forum to enable AVSCOM and user planners to address the logistics and maintenance planning issues relating to FSPs. The AVSCOM policy is to provide the exchange components to the user for selected items identified as Pre-emptive surveillance samples.

This FSP Surveillance Program was initially contracted with the primes in early FY '86. Subsequent efforts include full documentation of characteristics affected during the life cycle. Documentation of characteristics is no small task as it requires design analysis and identification through manufacturing, field maintenance, depot level repair, and to include qualification of breakout procurement of spares. Surveillance testing and user reporting will be provided to the designer for operational feedback.

In addition to AVSCOM in-house and contractor FSP activity, the U.S. Army Aviation Development Test Activity (AVNDTA) at Ft. Rucker, AL, will be supporting AVSCOM by operating Lead-the-Fleet aircraft.

These Lead-the-Fleet aircraft will be flying 80-100 hrs/month at the design mission profiles that were utilized to establish component predicted life. Lead-the-Fleet components would be the initial high time FSP removals that have been flown by the aircraft through the full operating spectrum. Otherwise, we would have to depend on the engineering development test profiles, which are a limited number of tests. When shortfalls are identified, corrective action may include changes in operational use, maintenance, and/or redesign.

User tracking of these components in the newer complex aircraft systems has identified the need for automated logbooks, maintenance diagnostics, and in-flight data.

These tasks are underway to be integrated into the future Flight Safety and Maintenance

(FSP — Continued on P. 54)

The Aviation Applied Technology Directorate: Contract news

FT. EUSTIS, VA — There was much happening at the Aviation Applied Technology Directorate (AATD) in the past few months — most of it having to do with the LHX Program Development.

The **Boeing-Sikorsky** SHADOW, a testbed aircraft and flying simulator came to the AATD on November 18, 1986. The SHADOW is being used to study the single-pilot concept of the LHX. It is used for conducting cockpit studies in configuration, instrumentation, and workload analysis.

After the demo flights at Ft. Eustis, the SHADOW was off to the Pentagon for a static display, and onto Davison Airfield for more demo flights.

AATD Aviator flies the SHADOW — CPT (P) Gary W. Jerauld (right), of the AATD, is briefed by Jack Carson (left), a test pilot for Boeing-Vertol before flying the SHADOW. Jerauld was one of several AATD personnel to fly the SHADOW in flight demonstrations.

ABOVE: The Boeing-Sikorsky SHADOW takes off at Ft. Eustis, VA. Flight demonstrations were held there on November 18, 1986.

Other AATD contract awards pertaining to the LHX include a Risk Reduction Program. **Bell-McDonnell Douglas** and **Boeing-Sikorsky** were each awarded a $17.44 million dollar contract for continued Risk Reduction efforts.

"The objective of the Risk Reduction Program is to continue the developmental efforts in those technology areas that are considered to have an unacceptable risk and demonstrate technology maturity for critical LHX aircraft components and systems." said MAJ Mark Russell, AATD Project Engineer.

The teams will continue development of the Very High Speed Integrated Circuit (VHSIC) Mission Computer, the Electro-Optical Target Acquisition and Designation System (EOTADS), and the PILOTAGE System that began in the Advanced Rotorcraft Technology Integration (ARTI) Program, and demonstrate components of those systems in a laboratory environment.

A wind tunnel developmental effort will also be conducted in the NASA-Ames 40x80 wind tunnel.

In other high-tech contract awards, **Polhemus Navigation Sciences** will provide materiel and services for a Helmet-Mounted Sight (HMS) system integrated with a laser weapon simulator.

"The HMS will provide electro-magnetic helmet and sight-positioning sensing, as well as aiming reticle cues to permit pilot line-of-sight lead angle aiming of the gun turret and laser to mock air-to-air combat with the AH-1S COBRA gunship," said G. Thomas White, AATD engineer.

An R & D contract for Strike Tolerant Main Rotor Blade Tips was awarded to **Kaman**

Aerospace Corporation.

This effort will reduce accidents resulting from main rotor blade strikes of trees, buildings, or other rigid objects. With the Army's emphasis on low-level flight, rotor blade obstacle strikes have increased. These have become a serious cause of aircrew fatalities and aircraft losses.

Additional research into the Air-to-Air effort is also underway, with a contract award to **Sikorsky Aircraft Division, UTC.** The contract will have Sikorsky investigate the effect of maneuverability and agility on AACT II Air-to-Air engagements.

The objectives are to assess the impact that different levels of helicopter maneuverability and agility (M/A) had on aerial gunnery engagements. The contract will also look at what impact the "active" M/A design parameters have on vehicle component weights.

The Air-to-Air research effort will continue on the AH-64A APACHE, as well. The **McDonnell Douglas Helicopter Company (MCDH)** has been awarded a contract to modify an APACHE to study the effects of Air-to-Air combat on the aircraft.

The modified APACHE will contain devices to measure and record maneuvering performance and structural load. It will also monitor gun turret activity. The company will also install sensors on the airframe and rotor which will record "time history" data during subsequent one-on-one Air-to-Air combat tests.

Follow-up analysis of the data will look for possible structural fatigue problems that may occur as a result of the Air-to-Air mission.

In systems maintenance news, a contract was awarded to **MCDH** for the development of an enhanced diagnostic system for Army helicopters.

The contract has a number of goals, including:

- reducing the false removal rate;
- reducing repetitive maintenance actions;
- reducing excessive troubleshooting time;
- lowering maintenance skill-level requirements, and
- providing structural and fleet-usage monitoring information.

Maintenance during combat situations was the theme behind another contract award to **MCDH.** The company has been authorized to develop an Aircraft Combat Maintenance/Battle Damage Repair (ACM/BDR) Cannibalization/Serviceability Criteria Handbook for the AH-64 APACHE.

The handbook will provide guidelines as to which components may be safely removed from crashed/damaged helicopters during combat for spare parts. The handbook will also establish essential maintenance which needs to be performed at times of combat.

Engines were also the focus of a number of AATD contracts in recent months.

The **Southwest Research Institute** was awarded a contract to evaluate the Ringless Piston Engine. The goal is to study the feasibility of operating diesel engines without the use of piston rings.

The resulting decrease of friction should provide increased performance and reduce wear of engine parts. Knowledge gained in this program would be applicable to support the development of the Compound Cycle Turbo Diesel Engine.

(Ed. Note: An article on this engine appeared in the October 31, 1986 issue.)

General Electric and **Pratt & Whitney** were also awarded contracts to develop an Advanced High Stiffness Power Turbine Shaft.

The goal is to develop a high stiffness shaft that will operate satisfactorily in a turboshaft engine. The possible benefits would include: higher critical speeds, smaller diameter shafting, simplified shaft supports, lower bearing loads and overall reduced engine weight and cost.

AATD is also looking into the possibility of developing an engine history recorder which could be used on any turboshaft engine.

Economy of operation is also behind recent Adaptive Fuel Control contracts awarded by the AATD.

Sikorsky and **Bell Helicopter Textron** will both conduct ground and flight tests of Adaptive Fuel Control in a developmental test program.

The Sikorsky test will use an Sikorsky S-76 helicopter with **Allison** 250-C30 engines. The Bell test will utilize a Bell 222 helicopter with **Lycoming** LTS101-750 engines. Both Adaptive Fuel Control and Pneumatic Control will be test flown in compari-

son tests.

This fuel control is an outgrowth of the **Chandler-Evans** EMC-85 full-authority digital electronic control (FADEC). The improvements are expected in the following areas:

- reduction of rotor droop and pilot workload during high performance maneuvers;
- engine recovery from compressor surge;
- operation with one engine inoperative;
- reduction in fuel consumption during cruise by automatic variation of rotor speed;
- rapid pilot warning system for engine failure, and
- better response to drive train torsional resonances.

Safety is the highest priority when dealing with fuel systems. The AATD has awarded a contract to **Service Engineering Corp.** to develop an Aircraft Fuel System Fire and Explosion Supression Design Guide.

Electro-optics continue to be on the forefront of new helicopter technology. Contracts were awarded to **MCDH** and **General Electric Co.** for development of optical components for helicopter subsystems. The objective is to develop optical monitoring equipment (sensor and related circuitry) capable of improved performance over conventional electrical equipment. Electro-optics are considered to be superior to conventional electrical systems. They are more reliable and maintainable, cost and weigh less, and are free from the effects of electro-magnetic interference and electro-magnetic pulse (EMP).

AATD Honors four at its Annual Director's Awards

FT. EUSTIS, VA — Four employees of the Aviation Applied Technology Directorate were honored for their outstanding contributions during FY86. The four were presented Director's Awards during ceremonies held October 24 at the U.S. Army Transportation and Logistics School.

The Director's Award for General Excellence (Administrative Support) was presented to Annie F. Craddock by acting AATD Director John L. Shipley.

The Director's Award for General Excellence (Technical Support) went to John M. Hayth. The award was presented by COL Jeffrey H. Godfrey, deputy director of the U.S. Army's Aviation Research & Technology Activity (ARTA).

LeRoy T. Burrows, an aerospace engineer, was awarded the Director's Award for Technological Achievement for his work on the helicopter Wire Strike Protection System. The award was presented by former AATD Director COL (Ret.) Emmett F. Knight.

And the Director's Award for Exceptional Service went to Frank B. Tabor, Jr. He was cited for his work in designing over 100 computer programs currently being utilized by the AATD Accounting Branch. MG Richard E. Stephenson, Commanding General of the U.S. Army Aviation Systems Command (AVSCOM) presented the award and was the guest speaker for the event.

Each awardee received a Department of the Army citation, an engraved plaque, lapel pin, and a cash award of $1,000.

BELOW: AATD Director's Award winners (l-r) John M. Hayth, MG Richard E. Stephenson (guest speaker), Annie F. Craddock, John L. Shipley (acting AATD Director), Frank B. Tabor, Jr., and LeRoy T. Burrows.

Reserve Component

Important ARNG News: WAATS comes on line!

MARANA, AZ — The Dedication of the Western ARNG Aviation Training Site on October 25, 1986 represents the accomplishment of a long held goal of the National Guard Bureau.

The goal goes back to 1978, when **General LaVern Weber,** then the Chief of the National Guard Bureau, went to Ft. Rucker to meet with **MG James C. Smith,** then the Commander of the U.S. Army Aviation Center. At that time, the National Guard was in need of aviation training for "guard unique" aircraft, such as the CH-54, OH-6, and U-8.

A Report by Colonel Bill D. Badger

The results of that meeting and subsequent meetings were the development of National Guard regional aviation training sites. Under the direction of **COL John J. Stanko, Jr., Ret.,** Chief of the Aviation Division, National Guard Bureau and his Project Officer, **Ron Eaton,** today the National Guard has developed the Eastern ARNG Aviation Training Site at Ft. Indiantown Gap, PA, and now the Western ARNG Aviation Training Site at Marana, AZ.

ABOVE: The Western ARNG Training Site in Marana, Arizona.

Both aviation training sites are under the operational control of the National Guard Bureau. The U.S. Army Aviation Center at Ft. Rucker provides the quality control and standardization for the training offered at both of the ARNG Aviation Training Sites.

The mission of the WAATS is to conduct Department of the Army directed individual aircrew qualification training. The training program at the WAATS is oriented to the attack helicopter and aeroscout battlefield mission — with emphasis on aircraft qualification, night flying, tactics, and aerial gunnery training.

Operational tests of the courses and training of Arizona pilots will highlight the first year's training. One hundred and forty students have been programmed for FY 87. By 1989, the formal program will include 15 different courses, using 7500 flying hours, in three different aircraft.

The Director of Evaluation and Standardization (DES) at Ft. Rucker will have five Standardization Instructor Pilots attached to the WAATS to assure standardization and quality control.

The Western ARNG Aviation Training Site is a TDA unit within the Arizona Army National Guard. The WAATS is organized into a Command Section, seven branches and one Safety Office, consisting of 15 commissioned officers, 31 warrant officers and 59 enlisted personnel.

The unit is staffed by Arizona Army National Guard personnel in full-time military status. To date, 35 officers, warrant officers and enlisted personnel have been assigned to the unit. The unit will be up to its full strength of 105 full-time personnel by September 1987.

The students that train at the

ABOVE: The WAATS ribbon cutting ceremony included: Arizona Senator the Honorable Dennis DeConcini (5th from left); and, moving right from him LTG (Ret.) Emmett H. Walker, Jr., Former Chief of the NGB; MG Carl H. McNair, Jr., Chief of Staff, TRADOC; MG (Ret.) James C. Smith, Former Commander, USAAVNC; and COL Bill Badger, Commander of the WAATS.

Western ARNG Aviation Training Site will come from the 27 states, nation-wide that have attack helicopter units. Both the attack and aeroscout pilots will be trained at the training site.

They will stay in the $3.3 million dollar facility that includes a sixty room aircrew dormitory, dining facility, medical facility with a full time flight surgeon and staff, administrative and classroom area and the AH-1S helicopter flight weapons simulator. The AH-1S (MC) flight weapons simulator is one of two such devices managed by the Army National Guard.

The device will be installed in July 1987, with a ready for training date of April 1988. The WAATS will provide regional support role with this device by providing flight weapons simulator training to qualified COBRA pilots in the Western United States.

The WAATS will train about 600 COBRA pilots a year in the regional support role. The weapons flight simulator is an excellent training tool and has proven to save millions of training dollars for the National Guard and the U.S. Army.

The WAATS is located about 30 miles northwest of Tucson, AZ. It is co-located with an Arizona National Guard attack helicopter battalion armory and an Army Aviation Support Facility. The 160 acre complex is called Silver Bell Army Heliport and is adjacent to Pinal County Air Park.

The WAATS Executive Officer is **LTC Rudy Graf,** while the Site's CSM is **SGM Ted Mathias.** Bureau Chiefs include: **LTC William McElwee** (Operations/Training); **MAJ Benny Cobb,** (Flight Training); **CPT James Braman,** (Acad. Support); and **1LT Diane Williams,** (Administrative Services).

—COL Bill D. Badger
Commander, Western ARNG Training Site

NGB Chief MG Herbert R. Temple, Jr. on WAATS:

"The Western ARNG Training site represents the newest initiative in the National Guard Bureau effort to improve the productivity of existing resources. By providing for individual aviator training, the Western Army National Guard Training Site will improve the productivity of the training efforts in the aviation units and ultimately readiness for war."

Safety

The Army sets a new record in Aviation Safety

FT. RUCKER, AL — **Fiscal year 1986 was the safest year in Army Aviation history!**

The record-setting rate of 1.98 major (Class A) accidents per 100,000 flying hours is the lowest rate recorded since Army-wide aircraft accident data collection began in 1958. That year, the Army's major accident rate was 54.3 accidents per 100,000 flying hours.

One way of measuring what this improvement in the rate means is in dollars. For comparison purposes, in 1982, the major aircraft accident rate was 3.23. Had this rate continued over the past four years, an additional 46 aircraft accidents would have cost more than $80 million, not to mention the loss of life, decreased combat capability, and impaired national security.

The Army achieved the 1986 safety record while flying increasingly more demanding missions and high-risk night tactical operations, where a single performance error doubles the probability of a major accident.

Evidence of the increasingly more demanding aviation mission was borne out by the fact that almost 20% of the accidents in fiscal 86, minus those with materiel implications, happened during tactical training. Of these, 31% happened at night, and 75% involved crews using night vision goggles. The record is attributed to increased emphasis on safety in every phase of Army Aviation operations. The credit for the record goes to all the commanders, supervisors, and individuals who have enthusiastically accepted and supported the aviation accident prevention program.

The key to further reductions in aviation accidents is continued command involvement in managing the increased risks associated with the more demanding missions.

A Report by Colonel Albert E. Hervey

Another recent milestone for Army Aviation safety is the installation of flight data recorders (FDR) in 200 of the Army's BLACK HAWK helicopters. A contract has been let to **Sundstrand Data Control, Inc.,** to provide the recorders for installation in selected UH-60 aircraft. This FDR records 66 channels of data onto a magnetic tape housed inside the FDR unit. The data includes information from the aircraft's systems and instruments as well as recording input from the crew throughout an accident sequence.

Built to withstand the violent forces of an accident, the FDR preserves vital information which will provide focus and direction to an accident investigation team. While we recognize that FDR data may not reveal the cause of an accident and processing data from the recorder will take a lot of time and work — the FDR will add a new dimension to accident investigation.

With the systems used in Army aircraft growing more complex every year, the FDR can be a valuable tool to investigators in constructing a clear picture of what happened both before and during an accident.

That information will be vital in determining whether changes need to be made in aircrew training and whether aircraft modification is necessary.

—COL Albert E. Hervey, Jr.
Commander,
U.S. Army Safety Center

BROKEN WING AWARD

ST. PAUL, MN — Two Minnesota National Guardsmen were recently awarded the U.S. Army Safety Center's "Broken Wing" Award for bringing a crippled plane in safely.

The Guardsmen, **CW2 Mike Nelson,** and **MAJ Denny Lord,** were transporting **BG William A. Roosma,** Asst. Div. Cdr. of the 7th ID (L), Ft. Ord, CA, at the time. The plane, a twin-engine Beechcraft, took off from Ft. McCoy, WS, and was enroute to Camp Ripley, MN.

A bolt had sheared in the left tail elevator, resulting in allowing the trim tab to fly free. This caused an immense amount of vibration which would have downed the plane within minutes if the men hadn't been able to land the crippled plane at the LaCrosse airport.

Test & Evaluation

A year of many tests for the U.S. Army Aviation Board

FT. RUCKER, AL — As FY 1986 draws to a close, it signals a time for reflecting on the accomplishments of the U.S. Army Aviation Board. The year was accented by the completion of 15 user tests and the active participation by Board personnel in the planning stages of more than 30 additional tests.

While there are different types of tests — each formulated for a specific purpose — most of those conducted by the Aviation Board are operational in nature. They are designed to meet the users' needs, particularly in the areas of operational effectiveness, logistics, reliability, availability, and maintainability (RAM) and safety.

Among the tests completed by the Board in FY 1986 was the **Aircraft Survivability Equipment (ASE) Force Development Test and Experimentation (FTDE), Part 1.** Conducted at the Grumman Aerospace Anechoic Chamber, this test consisted of an electromagnetic compatibility and electromagnetic interference evaluation performed on AH-1S and AH-64 helicopters to determine if any electromagnetic interference exists between full ASE suites and aircraft systems.

The principal purpose of this test was to obtain data for use in evaluating the combined effectivness of aircraft survivability equipment and tactics in enhancing the performance and survivability of the aircraft in a multithreat mission environment.

But enhancing the survivability of aircraft is of little value unless the safety of aircrews is similarly enhanced. To this end, the Aviation Board conducted the **AH-64 Aircrew Protective Mask (XM-43) Operational Test II** and the **Aircrew Uniform Integrated Battlefield (AUIB) Operational Test II.**

Some portions of the XM-43 mask test were conducted at Hunter Army Airfield, GA; while others were conducted at Ft. Rucker, AL. This test was designed to assess the operational effectiveness of the XM-43 mask and its compatibility with AH-64 subsystems.

A Report by Colonel Stanley E. Grett

A portion of this test concerned comfort over extended periods of time. This portion was assessed using data gathered from mission profiles flown in the AH-64 by test players throughout a standard mission day.

The Aircrew Uniform Integrated Battlefield (AUIB) Operational Test II was conducted at Hunter Army Airfield, GA, to evaluate the ability of aircrew members to perform their duties efficiently while outfitted with this protective garment without their being subjected to any significant health or safety hazards as a result. During the test, features of the AUIB were compared to those of the current NBC ensemble.

Because it is almost certain that in future conflicts there will be a need for Army helicopters to have the capability of protecting themselves from assault by hostile aircraft, an effective means of defense is essential. In this area, the Aviation Board conducted two tests.

The first of these was the **Air-to-Air Combat I (ATAC I), Innovative Test.** This test was conducted at Ft. Hunter-Liggett, CA. Its purpose was to provide information on the effectiveness of Army Aviation forces during the conduct of air combat operations and to examine helicopter versus helicopter encounters.

The second test was the **Air-to-Air Stinger (ATAS) Operational Test II.** Conducted at Ft. Bliss, TX, this test was designed to examine the military utility and suitability of the ATAS missile system in a tactical environment. It involved assessing the ATAS system's operational effectiveness in a simulated tactical environment during day and night mission scenarios, utilizing tactics in accordance with current Army air-to-air combat doctrine.

Pilots flew a total of 570 hours to accumulate sufficient data for RAM assessments to be made. During the live fire gunnery phase, all four missiles fired at drone targets resulted in direct hits.

(T & E — Continued on P. 54)

BRIEFINGS

United Technologies' Pratt & Whitney (P&W) has obtained the long-term rights to market and manufacture the **Rolls-Royce Turbomeca** RTM-322 turboshaft helicopter engine for sale in the U.S. and Canada. The 2,100-shaft-horsepower engine is suitable for application in the UH-60 BLACK HAWK and AH-64 APACHE helicopters.

American Electronic Laboratories Inc. (AEL) has been awarded an $18.2 million contract by the **Dalmo Victor Div. of the Singer Company.** AEL will produce antennas and receivers for the Army's AN/APR-39A radar warning receiver. **AEL** was also awarded a contract by the U.S. Army's Signal Warfare Laboratory to develop a specialized antenna system for moving vehicles.

ABOVE: Lear Siegler Inc., has qualified the Integrated Armament Management System (IAMS) on a **McDonnell Douglas** 530MG Defender. IAMS provides integrated control of a wide variety of weapons through a single control panel.

Simula, Inc. has been awarded the U.S. Army contract to revise the five-volume **Aircraft Crash Survival Design Guide (ACSDG).** As part of this effort, the company is soliciting suggestions to improve the current edition. ACSDG users and experts in the field of crashworthiness are encouraged to submit recommended changes, indicating areas that should be added, updated, expanded, clarified or deleted. Send all recommendations to: Publications Department, Simula Inc., 10016 S. 51st Street, Phoenix, AZ 85044.

The **Avco Lycoming/Pratt & Whitney (APW)** LHX engine team has accumulated well over 100 hours of testing on two core and one full configured T800-APW-800 turboshaft engines. This includes runs to intermediate-rated speed and temperature. The team moved into the preliminary flight rating test (PFRT) development phase.

Magnavox Electronic Systems will perform qualification tests on its new AN/PRC-126 VHF-FM hand-held radio. Under a new contract awarded by the Army, the company will begin shipping 4,692 radios in May 1987, and complete delivery by October 1988. The Army also has four options to purchase up to 17,773 additional radios over the next four years. The PRC-126 is a user-friendly, fully-synthesized radio, giving users full access to all frequencies in the VHF range (30 to 88 MHz) by use of one of ten external presets.

Rockwell International Corp. has introduced a new base station for the Global Positioning System (GPS). The new station improves the available accuracy from 25 meters to within 10 meters. The station receives the GPS satellite signals and plots navigation data for the user.

In other GPS news, **E-Systems ECI Division** was awarded a sub-contract by **Rockwell** for production of three antenna sub-systems for the GPS User Equipment section.

Honeywell Inc. and **Unisys Corp.** announced the acquisition of **Sperry's Aerospace Group** for $1.025 billion. Sperry operations, based in Phoenix, AZ, will be incorporated into Honeywell's Aerospace and Defense business.

ABOVE: A **Bell Helicopter Textron** D292 helicopter, provided by the U.S. Army's Advanced Composite Airframe Program (ACAP) is tested to help study the effects of lightning on composite aircraft. The **Boeing Military Airplane Company's** Atmospheric Electricity Hazards Protection Program uses a simulator capable of producing 200,000 amperes at 1.6 million volts.

BRIEFINGS

Texas Instruments announced that approved Dept. of Defense contractors can now order engineering samples of two devices developed under the Very High Speed Integrated Circuit (VHSIC) program. The chips, a MIL-STD-1750A data processor unit (DPU) and an 8K x 9 static random access memory (SRAM), are two of seven devices being developed by TI under a contract with the U.S. Army Laboratory Command.

ABOVE: Boeing-Vertol Company has completed production of the first two large composite side skins for the Bell-Boeing V-22 OSPREY TiltRotor aircraft. The side skins are two of more than 13,000 composite parts manufactured by Bell-Boeing during the V-22's Full Scale Development phase. At present, the Bell-Boeing team has completed 22 of their 25 Critical Design Reviews.

AMTECH '87 — The International Exposition for the Aviation Maintenance and Ground Support Equipment Industry will be held March 16-18, 1987 at the Dallas Convention Center in Dallas, TX. Seminars will include: Composite maintenance; Foreign Object Damage; Development of Maintenance Programs; Safety in the Maintenance Environment; and Cockpit Digitalization. For further information, please contact: AMTECH 87, Warren S. Sellers, Andry Montgomery and Associates, P.O. Box 70465, Louisville, KY 40270, or telephone: (502) 582-1672.

ITT Electro-Optical Products Division announced the teaming of **Bendix Avelex** and **ITT**, in which the two companies will bid on the Aviator's Night Vision Imaging Systems (ANVIS) to the Canadian Dept. of Defense and potential export customers. ITT currently produces the ANVIS high performance goggles for the U.S. Army.

ABOVE: Boeing Vertol Company's new Developmental Facility is one of three major construction projects underway in a current facilities expansion program. The buildings, located in Philadelphia, PA, will also house an Office/Computer facility; a Wire Fabrication/Manufacturing Office Facility; and a V-22 Office building.

The **Dayton International Airshow & Trade Exposition** will be held July 23-26, 1987 at the Dayton International Airport. For further information, contact: George J. Wedekind, Jr., Room 214, Terminal Building, Dayton International Airport, Vandalia, OH 45377. Telephone: (513) 898-5901.

GTE Government Systems Division is under contract to produce a revolutionary new communication system for the U.S. Army. The program, known as the Mobile Subscriber Equipment (MSE) is a secure, mobile and survivable system capable of voice, data and facsimile transmission. The MSE systems will be installed in 151 **LTV Missiles and Electronics Group** Hummer Multipurpose Wheeled Vehicles.

The Eighth Annual **Anzio Beachhead Veterans of World War II** will be held March 26-29, 1987 in Orlando, FL. For information contact: M.E. Hohl, 2633 Loretto Road, Jacksonville, FL 32223.

Majors (Continued)

then comments should be made on appearance and performance.

Now that you know about these tools, you should keep your file in the best shape possible and avoid last minute updates. I recommend that you write for an ORB and microfiche a minimum of once a year.

A good rule of thumb to use is prepare for the board in the year in which you appear in the secondary zone of consideration. This will give you peace of mind the next year when the jury goes out for the real count.

The best of luck to all of you aspiring major. Keep up the good work and keep Army Aviation safe.

—MAJ Jimmy M. Rabon
Aviation Management Officer, MILPERCEN

FSP (Continued)

Recording System. Recording systems complement critical safety item programs and deserve their own article. (Ed. Note: An article on the Logbook Automation System is on Page 37).

The Critical Safety Item Program, AMCR 702-32, specifies the AMC Deficiency Reporting System (DRS) to cross-reference all FSPs as an alerting function to the DOD Quality Deficiency Report (QDR) (Standard Form 368).

At AVSCOM, this mission is in the Customer Feedback Division (AMSAV-QF), Directorate for Product Assurance and includes exhibit control, predictive trends, and corrective action.

The challenge for Industry will be to develop a unified and structured approach to successfully achieve the safety and readiness objectives of the FSPs Programs.

—Edward J. Hollman
Director, AVSCOM Safety Office and Former Dir. of Product Assurance

T&E (Continued)

In addition to the tests described, three Follow-on Evaluations were also conducted during FY 1986.

These were:

- **Nap-of-the-Earth Communications II FOE,**
- **Self-Propelled Elevated Maintenance Stand (SPEMS) FOE,** and the
- **Aviation Ground Power Unit (AGPU) FOE.**

Although this has been a year of significant accomplishments, FY 1987 is slated to present even greater challenges to the Aviation Board.

Among these is the designing, conducting, and reporting on twenty-four user tests — undoubtedly the greatest single challenge the Board has faced in its entire history.

Additional information regarding the aforementioned tests on operational testing can be obtained from **LTC Michael Biddle** and **Bob Strange** at the following address:

President,
U.S. Army Aviation Board,
ATTN: ATZQ-OTA,
Ft. Rucker, AL 36362-5064
AV 558-3683.

—COL Stanley E. Grett
President, U.S. Army Aviation Board

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I certify that the statements made by me in this statement and dated September 22, 1986 are correct and complete.

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Enterprise, AL 36330
O'CONNOR, Craig
816 Old York Rd
Branchburg, NJ 08876
RONEY, John P.
1201 Bacon Ranch Rd, #326
Killeen, TX 76542
ROTTE, Randolph R.
7272 Berwood Drive
Cincinnati, OH 45243
SMITH, Christopher
BOQ, Bldg. 1583, Rm. 109
Fort Campbell, KY 42223
STAMMERJOHN, Daniel M.
73 Deer Run Estates, Rt.2
Daleville, AL 36322
STEIN, John H.
203rd Avn Co
APO NY 09025
WELLMAN, Gregory M.
3116 Winston Pl, Apt 11
Manhatten, KS 66502

CW4s

AMICK, Carl L. Jr.
1811 McHardy St., P.O. Box 237
Newberry, SC 29108
ANDEL, Michael H.
HHC 4th Bde, Box 29
APO NY 09182
BROWN, Troy D.
1516 Dumont Drive
Valrico, FL 33594
HOWARD, Milton
B Trp, 4th Sqdn/7th Cav
APO SF 96524
KOEBNICK, Robert W.
1507 Hillside Drive
Copperas Cove, TX 76522
LOFTICE, John E.
C Trp, 2nd CAS, Box 123
APO NY 09092
MANN, Leon A. Jr.
HHC 11th Avn Gp
APO NY 09025
MANNING, Michael E.
12308 Harbor Drive
Woodbridge, VA 22192
MUNRO, Stanley A.
HHC 2d Avn Bn
APO SF 96224
OLSON, Lynn M.
721 Merrimac Drive
Port Orange, FL 32019
OLSON, Thomas A.
2715 Kenton Green Court
Colorado Springs, CO 80918
ROSE, David J.
95-751 Pulehulehi Place
Mililani, HI 96789
SEPE, Donald M.
10854 N. Kendall Dr, 406
Miami, FL 33176
SINK, Stephen L.
950 Balboa Ave
Coronado, CA 92118
THILL, David C.
401 Wildwood Drive
Enterprise, AL 36330
WADE, William D.
Hhd, 125th ATC Bn
APO SF 96301

CW3s

DAVIS, Jerome R.
244 CAC No. 1571
APO NY 09250
DEXTER, Stephen H.
HSC 8th AHB
APO NY 09185
HEDGES, John R.
P.O. Box 1092
Fort Polk, LA 71459
LYONS, Thomas B.
P.O. Box 183
Fort Campbell, KY 42223
McGUIRE, Randall J.
25th Avn Co, Box 774
APO NY 09359
REESE, Greg
P.O. Box 4262
Ft Eustis, VA 23604
SELBY, Stephen R.
189th GSAC, Box 13
APO NY 09165
THOMPSON, Edward L.
3405 N.E. Hassalo Street
Portland, OR 97232
WENRICH, Quentin L.
RD 2, Box 2732-A
Leesport, PA 19533
WRIGHT, John David
Box 74
Fort Rucker, AL 36362
WRIGHT, Thomas E.
394d Nicholson Road
Sheridan, IL 60037

CW2s

BENNET, Gregory S.
121A Winrow Rd, NBU 34-F
Ft Huachuca, AZ 85613
EDMONDS, Timothy L.
Marie St, P.O. Box 187
Grandrivers, KY 42045
FORTUNE, Thomas H.
1440 S. Mildred, No. 4703
Tacoma, WA 98465
GANDY, Kenneth
2927 Falls Road
Bainbridge, OH 45612
GUILD, Jay M.
FAMC
APO NY 09250
GUTHRIE, David T. II
3412 Chisholm Trail
Killeen, TX 76543
HOWARD, Jacob M.
7674 Sheffield Village Ln
Lorton, VA 22079
SCHULZ, Nancy A.
295 Hawthorne Street
Monterey, CA 93940
SICKMEIER, David L.
3004 Little Nolan Road
Killeen, TX 76541
STEVENS, Michael W.
839 Tidball Street
Wahiawa, HI 96789
STONEKING, Frank I.
57th CAC, Box 184
APO NY 09165
STRICKLAND, Paul B.
2220 Charlestown Rd
Clarksville, TN 37043
WILSON, John T.
705 Carmen St
Killeen, TX 76541

WO1s

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BARNHARDT, Rodney G.
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Burlington, NC 27215
BERTRAM, William K.
P.O. Box 105
Bethania, NC 27010
DESJARDINS, Wayne W.
1 Valley View Lane, Apt 1
Bangor, ME 04401

CW2s

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B Trp, 4/7 Cav
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EVERETT, Bruce E.
1266 Grossmont Dr
Riverside, CA 92506
GRAVES, Stephen K.
7316 Ramada
El Paso, TX 79912
HORNBAKER, Rick J.
5904-2 Fisher Avenue
Fort Hood, TX 76544
HOVATTER, Carl P.
1525 Neshaminy Valley Dr.
Bensalem, PA 19020
KURTZ, Anthony
236 W. Elm St
Granville, OH 43023
MANAK, Jerry W.
6525 McCommas
Dallas, TX 75214
MARNE, Martin H.S.
2406 Plainfield Drive
Fallston, MD 21047
McDANIEL, Charles P.
638 Ashley Circle
Belvedere, SC 29841
MCNULTY, Thomas M.
346 Harold Drive
Clarksville, TN 37040
MELILLO, Nicholas H.
112 Blankenbaker Lane
Louisville, KY 40207
MORELL, Patrick J.
3673 Kile Road
Vassar, MI 48768
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Marine City, MI 48039
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SNOW, Michael J.
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Spencer, MA 01562
SUMNER, Donald M. Jr.
C Co, 503 AHB
APO NY 09165

WOC

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FREE, Martin K.
209 W. 19th St
Wilmington, DE 19802
GRAYSON, Jack M.
19 Carey St
Fort Rucker, AL 36362

Enlisted

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224 Tropic St
Jackson, OH 45640
CLARK, Kim SGT
Rm 2A474, The Pentagon
Washington, DC 20310
CROUCH, Terry L. SFC
65 Johnson Street
St. Ignace, MI 49781
FISHER, William A. SP4
720 Lake St, Nw
New Philadelphia, OH 44663
GERHARD, James R. SGT
21 Westbrook Ave
Staten Island, NY 10303
HALL, Richard C. SFC
Box 332, RD 3
Jackson, NJ 08527
HENNIGAN, Patrick J. 1SG
19th Service Spt Ctr
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IMHOF, Warren L. SFC
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Fort Drum, NY 13602
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Enlisted

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Daleville, AL 36322
PRATT, Paul W. SSG
419 Lindenwood Dr
Troy, IL 62294
WATKINS, Mark J. SP4
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Plainfield, IN 46168
BROCKLEHURST, Jerry/Wiltron
33 East Park Drive
Paterson, NJ 07504
CASE, Alan M.
8421 Sunbeam Circle
Huntington Beach, CA 92646
DELANEY, Samuel J.
23 Mahoras Drive
Ocean, NJ 07712
DENDY, John C./MCDH
5000 E. McDowell
Mesa, AZ 85205
DODD, David W.
144 Bret Harte Drive
Newport News, VA 23602
EVANS, Shirley B.
P.O. Box 407
Ridley Park, PA 19078
FOLDS, Wm. R./Universal Fuel
3400 St Marys Rd, Lot 202
Columbus, GA 31906
JONES, Herb/Garrett Corp
3221 McKelvey Rd/Suite 204
Bridgeton, MO 63044
LAGRACE, R.C./Sierracin
12780 San Fernando Road
Sylmar, CA 91342
MALONEY, William H./AVCON
5709 Oak Leather Drive
Burke, VA 22015
MURPHY, Frederick D
402a Mid Trail Ct
Ballwin, MO 63011
SCHLIEPER, Elizabeth J
Route 1, Box 765h
Ingleside, TX 78362
TOMLIN, Glenn P.
Route 1, Box 13 AC
Beaufort, MO 63013

Civilian

VELLECA, Paul R.
11966 Beaverton Drive
Bridgeton, MO 63044
WESTON, Robert V./Teleflex
1800 N. 300 W., Pob 707
Spanish Fork, UT 84660
ZINK, Robert C./Rospatch
7500 Main St, POB 750
Fishers, NY 14453

Retired

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HEIKKINEN, Kenneth L. COL
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Lexington Park, MD 20653
HOLLAND, Russell E. MAJ
P.O. Box 520
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HOWZE, Hamilton H. GEN
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MAKUCH, Walter S. LTC
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Choctaw, OK 73020
McCONNELL, Lewis J. COL
2200 W. San Angelo, Apt. 2115
Gilbert AZ 85234
NEIL, Richard G. LTC
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Folson, CA 95630
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Arvada, CO 80003
SHIELDS, Roger J. COL
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Redington Shores, FL 33708
STEWART, Edward A. LTC
7506 Huntleigh Lane
San Antonio, TX 78209
THOMPSON, James B. COL
11125D Pinehurst Dr
Austin, TX 78747
TURVEY, Clifford V. CW4
140 Fort Wayne
Universal City, TX 78148

Aviation officers selected for Senior Education

A number of Aviation colonels and lieutenant colonels have been selected for enrollment in senior service colleges and graduate-level fellowship programs during 1987-88. They include:

John E. Alley
Robert B. Bailey
Charles M. Burke
Frank L. Carson
Edward D. Chandler
Gene W. Cole
Danny C. Cox
Ace A. Cozzalio
Robert M. Davis
Joseph W. Eszes
Albert J. Ferrea
Thomas A. Green
Earl H. Grubbs
Chris M. Guppy
Thomas E. Hanlon
Thomas E. Johnson
Stephen MacWillie
Bruce P. Mauldin
Thomas McConnell
Kenneth R. McGinty
Robert E. Oakley, Jr.
Palmer J. Penny III
Daniel J. Petrosky
James M. Pulliam
Johnny M. Riggs
Joseph K. Shaffer
Thomas C. Smith
Paul K. Tanguay
John D. Thomas, Jr.
Richard R. Walker
Kenneth E. Wilson

Nov., '86—Apr., '87 Calendar of AAAA Chapter Activities

November, 1986

■■Nov. 19. Jack H. Dibrell (Alamo) Chapter. Late afternoon aircraft static display and Technical Update on AH-64 APACHE. Ft. Sam Houston O-Club Parking Lot.

■■Nov. 25. Northern Lights Chapter. Late afternoon business-social meeting. Elections; refreshments. Ft. Wainwright O-Club.

■■Nov. 25. Monmouth Chapter. Prof'l luncheon meeting (Joint). MG Robert D. Morgan, Cdr, USAECOM & Ft Monmouth. "1987 Command Objectives." Gibbs Hall, Ft Monmouth.

December, 1986

■■Dec. 1. Nurnberg Chapter. Mid-afternoon prof'l-social meeting. CW4 Jeff Swickard, USASSB, guest speaker. Pegasus Club.

■■Dec. 3. Stuttgart Chapter. Prof'l-social meeting. CW2 Ackerman, guest speaker. Slide show: "AF pilot tng in USA/USSR", and live demonstration of Army's LRRP's. Snoopy's Club, Echterdingen AAF.

■■Dec. 4. Rhine Valley Chapter. Late afternoon business-social meeting. Elections; refreshments. Mannheim Officers' Club.

■■Dec. 4. Air Assault Chapter. Mid-afternoon prof'l-social meeting. LTC John Harris, Avn Bde, guest speaker. "Combat Avn Management System in the Avn Bde". Air Assault Enlisted Club.

■■Dec. 4. Bonn Area Chapter. Luncheon followed by presentation by Siemens. "Mission Equipment Package for the PAH-2." Bueckeburg, Germany.

■■Dec. 4. 1986 Hall of Fame Induction Ceremonies. GEN Hamilton H. Howze, Ret., Chairman, Hall of Fame Board of Trustees, M.C. Recreation Center, Ft. Rucker, AL.

■■Dec. 4. Aviation Center Chapter. Prof'l dinner meeting honoring the 1986 Hall of Fame Inductees and the CY86 "Aviation Trainer of the Year." Hon. Jay R. Sculley, Asst Sec of the Army (RD&A), guest speaker. Ft. Rucker Officers' Open Mess.

■■Dec. 5. "Follow Me" Chapter. 1986 Christmas Ball. Dave Hymer, T-800 (LHX) PM, Pratt & Whitney, guest speaker. Ft. Benning Officers' Open Mess.

■■Dec. 5. National Executive Board. Quarterly Business Meeting. Conference Room, USA Aviation Center, Ft. Rucker, AL.

■■Dec. 5. Thunderhorse Chapter. Late afternoon business-social meeting. Community Club, Downs Kaserne, Fulda.

■■Dec. 10. Edwin A. Link Memorial Chapter. Prof'l dinner meeting. COL Michael B. Howe, CH-47 Mod PM, guest speaker. "Program overviews." Morey's Restaurant.

■■Dec. 11. North Texas Chapter. Early evening prof'l-social meeting. . Cocktails/hors d'oeuvres. MG Richard E. Stephenson, CG, AVSCOM, guest speaker. Hyatt Regency. DFW Airport.

■■Dec. 12. Ft. Bragg Chapter. Prof'l luncheon meeting. Art Linden, Manager, V/STOL, Sikorsky Aircraft, guest speaker. "X-Wing." Ft. Bragg Officers' Club.

■■Dec. 12, Checkpoint Charlie Chapter. Annual Christmas Party and Dinner. Checkpoint Charlie Club.

■■Dec. 13. Morning Calm Chapter. Annual Christmas Dinner Meeting. GEN William J. Livsey, Cdr, USFK/EUSA, guest speaker. "Army Aviation in Korea." Sheraton Walker Hill.

■■Dec. 16. Hanau Chapter. Early afternoon prof'l-social meeting. MG Edwin M. Aguanno, Honorary Regional President, guest speaker. Modernaire Club.

■■Dec. 16. Mainz Chapter. General business meeting planning for future Chapter events. Martin Luther King Village Officers' Club.

■■Dec. 19. Corpus Christi Chapter. Late-afternoon general membership meeting and Christmas "Social" at the BOQ.

■■Dec. 19. Schwaebisch Hall Chapter. Late afternoon prof'l-business meeting. G-A Fest/Garmisch planning. MAJ Alshaulis, guest speaker. "Force Modernization in the 11th CAG." New Officers' and Civilians' Club.

■■Dec. 23. Old Ironside Chapter. Mid-afternoon prof'l-social meeting. Induction of Honorary Members; Garmisch plans. Katterbach Officers' Club.

AAAA conducted 263 separate Chapter, Regional, and Nat'l meetings in CY 86.

(CALENDAR — Continued on Page 60)

Home stretch!

The Dec. 1 ***Membership Enrollment Competition*** standings have the follow- Chapters ahead for substantial cash awards with six weeks left in the contest ending Jan. 15. Rankings are based on ***net membership gain.***

Master Chapters (225 or more members)
(1-$400) (2-$300) (3-$200)

Rank		Net Gain
1	Monmouth	+ 60
2	Wash, D.C.	+ 38
3	Colonial Va.	+ 19
4	Ft. Hood	+ 4
5	S. California	+ 4
6	Connecticut	+ 3
7	Old Ironside	+ 2
8	Thunderhorse	– 1

Senior Chapters (112-224 members)
(1-$300) (2-$200) (3-$100)

Rank		Net Gain
1	Hanau Chapter	+ 111
2	Taunus Chapter	+ 49
3	Stuttgart	+ 43
4	Link Memorial	+ 42
5	Greater Atlanta	+ 26
6	Mt. Rainier	+ 15
7	Wings of Marne	+ 4
8	Schwaebisch Hall	+ 0

AAAA Chapters (25-111 members)
(1-$200) (2-$100) (3-$50)

Rank		Net Gain
1	Lone Star	+ 78
2	Arizona Chapter	+ 55
3	Leavenworth	+ 25
4	Tenn. Valley	+ 19
5	Cedar Rapids	+ 18
6	N. Lights	+ 16
7	Mainz Chapter	+ 15
8	Pikes Peak	+ 9

AAAA Overview

■■ Seven inducted into the Hall of Fame

Cited for their contributions to Army Aviation over an extended period of time, four members were present at the 1986 Hall of Fame Induction Ceremonies held at Ft. Rucker's Recreation Center, Dec. 4. Three persons were inducted posthumously.

CW4 Robert L. Hamilton, CW4 Donald R. Joyce, MG Story C. Stevens, and **LTG John M. Wright, Jr.** — all retired Army personnel — joined with representatives of the families of **GEN Frank S. Besson, Jr.,** and **Rodney J.T. Yano,** and a member of Bell Helicopter Textron representing **Lawrence E. Bell,** deceased, in ceremonies at which photo portraits of the inductees were unveiled. The portraits will be placed alongside the 46 other Hall of Fame portraits in the Army Aviation Museum.

Photo coverage of the ceremonies and the citations of the seven inductees will be published in the Jan. 31 issue.

■■ USAAVNC CW2 wins "Trainer Award"

The only OH-58D Air-to-Air *Stinger* Instructor Pilot in Army Aviation at the time, **CW2 William H. McCollister** was selected as AAAA's third "Aviation Trainer of the Year". **McCollister** received the CY86 Award sponsored by the Singer Link Flight Systems Division at a formal dinner held at Ft. Rucker on Dec. 4.

MG George W. Putnam, Jr., Ret., AAAA President, accepted the trophy from **George Barna,** VP, Gov't Simulation Systems at Singer Link, in an earlier ceremony and had turned over custody of the trophy to **MG Ellis D. Parker,** USAAVNC CG, for the Army Aviatiion Museum.

A "do-all" Instructor Pilot pilot, he's taught students in all the AHIP Courses, and has also led the way in training other IPs at Ft. Rucker's training base and aircrews for *Task Force 1-112.*

Photos and a full citation will appear in the January 31, 1987 issue.

■■ Old Ironsides Honorary Members

In recent ceremonies conducted by the *Old Ironsides Chapter,* **MG E.S. Leland, Jr.,** the 1st Armored Division Commander, and ADCs **BG Domenic P. Rocco, Jr.,** and **BG P.R. Schwartz** received *Chapter Honorary Membership* Certificates, Lapel Pins, and Membership Cards.

■■ Mark your calendar!

Nominations for CY86 *"Aviator of the Year, Soldier of the Year,* and *DAC of the Year,* and unit nominations for the *Outstanding Aviation Unit of the Army,* the *ARNG,* and the *USAR* must be submitted to AAAA NLT Jan. 15.

Nov., '86—Apr., '87 Calendar of AAAA Chapter Activities

DECEMBER						
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

January, 1987

■■Jan. 9. Coastal Empire Chapter. Early evening prof'l-social Bar-B-Q. LTC William R. Clontz, Chapter President, guest speaker. Elections; establishment of Awards and Scholarship Programs. Hunter AAF O-Club.

■■Jan. 13. 1987 Convention Committee. Coordination meetings of Ft. Worth principals. Tarrant County Convention Center.

■■Jan. 13. North Texas Chapter. Early evening prof'l-social meeting. Cocktails/hors d'oeuvres. MG George W. Putnam, Jr., AAAA President, guest speaker. Site to be determined.

■■Jan. 14. Corpus Christi Chapter. Prof'l-social luncheon meeting. Art Kesten, AAAA Executive VP, guest speaker. Site to be determined.

February, 1987

■■Feb.4-5. 13th Annual Joseph P. Cribbins Product Support Symposium sponsored by the Lindbergh Chapter-AAAA. Airport Hilton Hotel, St. Louis, Mo. Details available from AAAA National Office o/a Dec. 15.

■■Feb. 6-7. AAAA National Awards Committee. Committee selection of 1986 AAAA National Scholarship Award winners and the CY85 AAAA Nat'l Award Winners. Ft. Myer, Va.)

March, 1987

■■Mar. 15-21. AAAA Ski Week and the 1987 USAREUR Regional Convention. Armed Forces Recreation Center and Kongresshaus, Garmisch, Germany. Details available from the AAAA Nat'l Office o/a Dec. 15.

April, 1987

■■Apr. 8-12. 29th AAAA Nat'l Convention. Tarrant County Convention Center and five area hotels, Ft. Worth, Tex.. See centerfold for details.

Did you know that . . .

. . since the April 18, 1957 activation of the AAAA, eight Charter Chapter activities have survived through the 30-year period. They are the Washington, D.C. Chapter; Mid-Eastern Chapter (now the Colonial Va. Chapter), Alabama Chapter (renamed the Aviation Center Chapter), Northwest Chapter (today's Mt. Rainier Chapter), the USAREUR Chapter (now a Region), the USAFFE Chapter (now the Morning Calm Chapter in Korea), the USARAL Chapter (renamed the Northern Lights Chapter), and the Hawaiian Chapter (today's Aloha of Hawaii Chapter).

"On November 8, the Washington, D.C. Chapter held a "Family Outing" at the Paul E. Garber Restoration Facility, the restoration location for the Smithsonian Institution's National Air and Space Museum. It was a fascinating three-hour tour, a behind the scenes look at the restoration workshop. We saw in-process restoration of the "Enola Gay," along with numerous other aircraft.

The tour was fantastic and provided a glimpse of aviation from its very earliest aircraft to the present.

In recently relocating from the S. California Chapter to the D.C. Chapter, I was very impressed with their professionalism and welcoming spirit. Their family outings are just a small part of their esprit d' corps."

—CW2 Beverly M. Haug, VP-Publ

D.C. members visit the Garber Restoration Facility

Briefs

New Chapter Officers: The *Aviation Center Chapter* recently elected the following as new '86-'88 officers: **LTC Lawrence R. Retta** as Co-VP, Memb, and **LTC Steven F. Rausch** as VP-Publ.

Add'l VPs elected were **COLs Terry Rosser, Haspard Murphy, Elray Jenkins,** and **Willis Bunting.**

At the *Colonial Virginia Chapter*, **Charles R. Cooper** was installed as the new Secretary.

AAAA's *Connecticut Chapter* has two new officers: **Robert J. Tynan** (SrVP) and **Charles P. Harmon** (VP, Prog).

At Germany's *Taunus Chapter* **CPT Fred Teaford** is the new VP-Membership.

A second APO NY Chapter, the *Thunderhorse Chapter*, has elected **CW3 James R. Helton** (SrVP) amd **CW2 Dwight McDonald** (VP-Memb).

COL Dennis P. Vasey, right, *Colonial Virginia Chapter* President, is shown presenting a *Chapter Honorary Membership Certificate* to **MG Fred E. Elam,** CG, USATC & Ft. Eustis and Commandant, USAALS. The ceremony took place on Oct. 6.

Did you know that . . .

. . AAAA national dues have remained the same, ie., **unchanged** since 1980 and have only undergone one increase since 1974 when they were $12 a year? How many national organizations can say the same?

AAAA Overview

■■ Hi-Pro: A unique Corpus Christi Chapter Program

Cameron Webb, a production controller in CCAD's Directorate for Maintenance, has been selected by the AAAA's *Corpus Christi Chapter* as the **FY86 Hi-Pro Winner. Hi-Pro,** another name for *High Productivity Achievement,* is a program wherein any group of four or more employees may nominate a co-worker for the honor. Supervisors aren't eligible for awards, nor may they participate in the selection process.

Seven CCAD employees are chosen each quarter with the quarterly winners becoming the screening panel and selection panel for subsequent winners.

Quarterly winners receive a *Certificate of Recognition,* a lapel pin bearing the **Hi-Pro** logo, and a wallet-sized ID card. They are then eligible for the annual AAAA award.

In the photo above, **COL Thomas M. Walker,** l., *Corpus Christi Chapter* President, is shown presenting the FY86 **Hi-Pro Certificate** to **Cameron Webb.** Since the program's beginning in 1985, 35 CCAD employees have been honored.

1987 AAAA Scholarships and Awards

Annual Scholarships

AAAA National Scholarship $8,000
R.M. Leich Memorial Scholarship $4,000
O.G. Goodhand Mem. Scholarship $4,000
W.B. Bunker Memorial Scholarship $4,000
B.H Dean Memorial Scholarship $2,000
R. Kahl-Winter Mem. Scholarship $2,000
K.K. Kelly Memorial Scholarship $1,000

$2,000 Scholarships

Checkpt Charlie Chap.
Ft. Hood Chapter
Morning Calm Chapter
Wash, D.C. Chapter

$1,000 Scholarships

Avn Center Chapter
Colonial Va. Chapter
Lindbergh Chapter*
Monmouth Chapter
S. Calif. Chapter

$500 Life Member Awards

Darwin P. Gerard
Thomas E. Hall
Carl D. Stephenson
Leland F. Wilhelm
Warren R. Williams

*Given in memory of GEN Frank S. Besson, Jr.

AAAA ASE Symposium a rousing success at Northrop in Chicago

AAAA members in the Aircraft Survivability Equipment (ASE) community met at the Fourth Annual ASE Symposium in Rolling Meadows, Il., on November 4-5, 1986. The focus of the two-day classified meeting was "Integrated ASE for Current and Future Army Aircraft".

Over 125 attendees were welcomed by MG Story C. Stevens, Ret., AAAA's Senior Vice President, (who also served as the M.C.), and Wallace C. Solberg, V.P. and General Manager of Northrop Defense Systems Division. As host of the Symposium, Northrop is the largest company in Illinois dedicated to the research, development, production, and support of defense electronics.

The professional sessions were planned by COL Curtis J. Herrick Jr., ASE Project Manager, who delivered the Symposium's opening remarks and introduced Keynote Speaker BG William H. Forster, Program Manager, Advanced Attack Helicopter.

Technical presentations

Eleven technical presentations covered a cross-section of ASE-related subjects. Ronald J. Langietti of Northrop explored system requirements for the future ASE Suite and discussed a methodology for developing ASE requirements to counter advanced Soviet threat systems.

Duane A. Warner, Project 2222 Manager, Wright Aeronautical Lab, Wright-Patterson AFB, presented the requirements for and uses of lasers in electronic warfare.

Gary L. Smith, Director of Advanced Systems, AVSCOM, discussed the Soviet airborne threat and new business opportunities in Army Aviation counter-air developments.

Sperry Defense Systems' John Rasinki described how the display of threat information traditionally shown on the APR-39 is being integrated into the Control/Display System of the OV-1.

Ms. Joy L. Arthur of the U.S. Army Vulnerability Assessment Laboratory explained why and how chaff is effective as an electronic countermeasure in increasing aircraft survivability.

First day sessions concluded with a presentation by John E. Andrews, Boeing Aerospace Company, on expendable self-protection decoys for aircraft and helicopters.

The ASE Award winner

A highlight of the Fourth ASE Symposium was the presentation of the first AAAA "Aircraft Survivability Award" to Major Michael F. Blacker.

The ASE Award, bestowed to the AAAA by Loral Electronic Systems, is presented annually during the ASE Symposium by the AAAA to the person who has made an outstanding individual contribution to Army Aviation in the area of aircraft survivability equipment during the previous calendar year. The trophy is retained at the U.S. Army Aviation Museum in Fort Rucker, AL, where it is on permanent display.

MAJ Blacker received the award for his exceptional performance in the improvement of aircraft survivability equipment training and tactics for Army Aviation.

As Chief of the Aviation Division of the U.S. Army Electronic Proving Ground, Fort Huachuca, AZ. MAJ Blacker planned, managed, directed, coordinated, and flew numerous test missions during which key procedures and tactics were developed for the use of ASE on the Special Electronic Mission Aircraft (SEMA). These tests have provided new insights into ASE hardware and how it is to be used and maintained.

The lessons learned from this testing are incorporated into training programs that have increased operational effectiveness and provide improved probability of aircraft survivability.

Following the awards presentation, banquet guests applauded the candid remarks of Guest Speaker BG David L. Funk, Assistant Deputy Under Secretary of Defense for Research and Engineering - Tactical Warfare Programs. BG Funk spoke on "Why ASE?".

Colonel Herrick was recognized at the Awards Banquet for receiving the Secretary of Defense Superior Management Award. The award is given in recognition of superior management through implementation of Defense Acquisition Improvement Program initiatives within the Joint Logistics Commands and significant contributions to the defense effort.

The closing day sessions opened with a classified presentation by CDR Denny K. Major,

USN, Commanding Officer of Tactical Electronic Warfare Squadron 135, Whidbey Island, WA, on "Recent Mediterranean Operations".

A presentation on "Integrated Survivability Equipment - Practical Experience" by Kenneth H. Becker, Eaton Corp., AIL Division, followed. Mr. Becker discussed the RF management process for integrated Radar/Warning/ECM Systems and the integration process of subsystems and LRU's into a working system emphasizing system operating visibility and software management.

Alan R. Cormier, IBM, spoke on the applications, benefits, and design of lightweight ESM systems needed for ASE, focusing specifically on a passive RF interferometer (RFI) ESM airborne sensor which can accurately measure bearing and identify emitters of interest.

Jerry M. Pilkington, McDonnell Douglas Astronautics Company, described the Mast Mounted Sight concept and explained how the sight is employed to reduce system signature by allowing the helicopter to hide behind terrain or foliage while performing surveillance and weapon support missions.

The final presentation was made by Dr. Martin Golinsky, Grumman Corp., Aircraft Systems Division, who reviewed the evolution of support jamming effectiveness as it has kept pace with a constantly changing threat. He discussed the emergence of new roles and missions and made suggestions regarding a possible configuration that could be used to support Army Aviation air operations against the complexity of newer threats.

These ASE Symposia have provided the opportunity for meaningful exchange between government and industry representatives engaged in the development and use of ASE.

Captain (P) Michael L. Messex, an Assistant PM-ASE, served as ASE PMO Symposium Coordinator. Charles R. Chapman, Manager, Business Development, Northrop, served as Host Coordinator. Lynn and Terry Coakley of the AAAA National Office served as AAAA Coordinators. Information on the next ASE Symposium will be announced in a forthcoming issue of *"Army Aviation"*.

LEFT ABOVE: MG (Ret.) Story C. Stevens, presents the AAAA ASE award to MAJ Michael F. Blacker. LEFT BELOW: MG Stevens with Wallace C. Solberg, GM Northrop, keynote speaker BG William F. Forster, PM-AAH, and COL Curtis J. Herrick, PM-ASE. RIGHT: BG David L. Funk talks at the ASE banquet.

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