

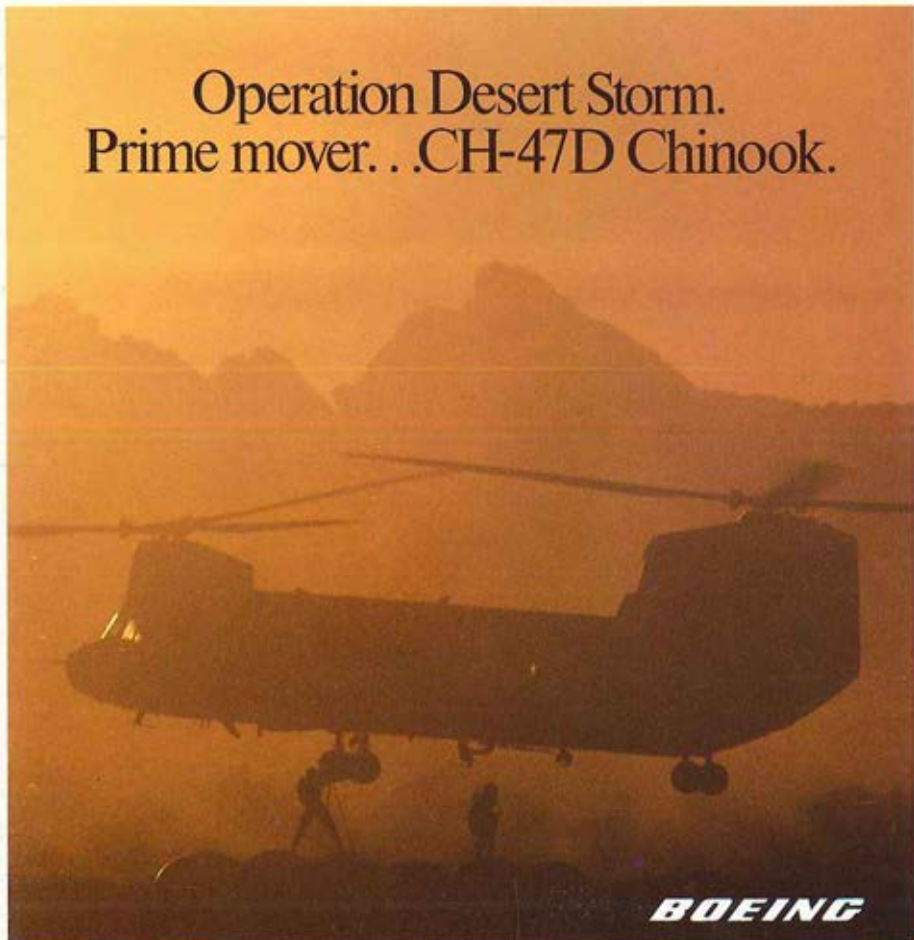
Rotary and
Fixed Wing
Updates
from PEO,
Aviation and
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ROTARY AND FIXED WING HARDWARE UPDATES

ARMY AVIATION

ENDORSED PUBLICATION OF THE ARMY AVIATION ASSOCIATION OF AMERICA • FEBRUARY 28, 1991

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The Combat Edge for Battle

By Major General Rudolph Ostovich, III

Recent contingency operations have provided renewed impetus for individual and collective aircraft survivability equipment (ASE) training. Several training initiatives are well underway to ensure our aircrew members achieve and sustain a fighting edge to effectively

counter lethal enemy air defense systems. All Army aviators are trained during their Initial Entry Rotary Wing course to proficiency in their specific aircraft ASE suite. To augment this initial training, we have developed two desk-top ASE trainers designed to provide sustainment training in field units.

The first trainer, ASET I, was fielded in 1985 and is actually a classified software package that is used with the AN/UYK-71 Microfix Computer System to teach threat, tactics and countermeasure for our attack and scout aircraft. The ASET I served as the springboard for our long-term optimum trainer, ASET II. This classified

software package includes ASET I data but was expanded to teach cargo, utility and special electronic mission aircraft systems also. The ASET II uses the Electronic Information Delivery System (EIDS) as its delivery vehicle and is designed to function in three modes: tutorial, game and management.

The tutorial mode presents information on ASE operation and employment, threat recognition, and tactics to defeat enemy systems. Before advancing to the next segment, the student must complete a lesson with 90 percent accuracy.

The game mode is an intensified combat mission simulator in which the student must complete a series of highly interactive visual scenarios. These scenarios are designed to develop, reinforce and challenge the pilot's ASE decision making skills.

The management mode tracks each student's progress throughout the training

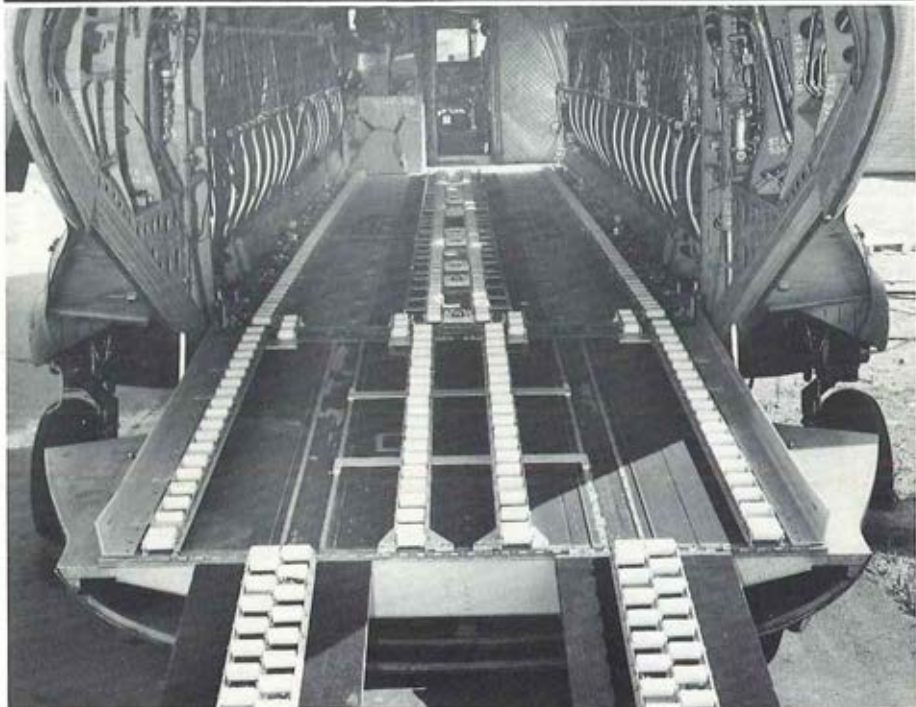


MG Ostovich is Chief, Aviation Branch, Commanding General, U.S. Army Aviation Center and Ft. Rucker, AL and Commandant, U.S. Army Aviation Logistics School.


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program. This mode allows the student to interpret his or her strengths and weaknesses and allows the commander to evaluate the unit's ASE strengths and weaknesses as a whole.

The ASET II courseware packages and the EIDS equipment are being fielded to battalion level. The distribution plan enables commanders to ensure that all aviators receive ASE proficiency training on a continual basis. Our plan is to incorporate ASET II as a training requirement of the aircrew training manual.

Fielding of ASET II is scheduled for 2nd Qtr, FY91 so be on the lookout for its arrival. The ASET II threat software is up-to-date including systems to which our forces are now exposed in Southwest Asia. In fact, several of the ADA systems now recognized had not been previously presented to our forces prior to the Iraqi invasion of Kuwait. Army Aviation units deployed to Saudi Arabia have ASE installed and the aviators are well trained on the systems. This training will provide the combat edge necessary to fight, survive and win on the battlefield.

Recent experience gained through Operation BRIGHT STAR and lessons learned thus far from Operation DESERT

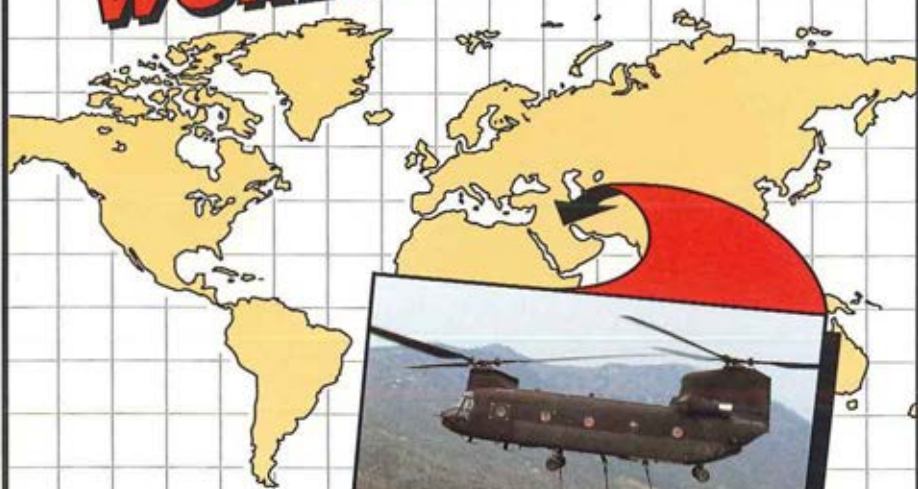
SHIELD, confirm that aircraft survivability depends on both active and passive measures. We have learned that night negates visually acquired weapons systems. This represents the vast majority of weapons that manually engage our helicopters. Systems that possess radar, infrared or electro-optical target acquisition systems, however, continue to threaten our aircraft even during night operations.

The Army's ASE program is a comprehensive and integrated program that includes tactics, signature reduction, warning, jamming and aircraft hardening. We maximize this five step program through quality, integrated training. A new and improved ASET system is scheduled to be fielded at the National Training Center in the 1st Qtr, FY93. This system will provide units with the ability to maneuver against simulated air defense threats in a force-on-force situation.

The fielding of ASET systems will validate unit tactics, techniques, and procedures used against air defense and anti-armor threats. The ASET systems, coupled with adherence to lessons learned, will ensure our aviators have the combat edge necessary to fight, survive, and win on the battlefield—today and tomorrow.



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PEO Overview

by

Gary L. Smith and Major Michael A. Gulick

The Program Executive Officer (PEO) for Aviation and the Army Acquisition Corps (AAC) performance during the past year has been highlighted by significant improvements in the Army acquisition process and the capabilities of the Army Aviation assets.

As of 1 October 1990, the AAC has taken full effect. Officers have been identified to critical positions and are being accessed into the AAC. The AAC has the following benefits:

- Direct line of communication to the Army Acquisition Executive;
- Integrated management of military and civilian members;
- Multidisciplined based on: military user experience (5 functional areas) and civilian technical expertise (11 career programs);
- Development of certified acquisition specialists to fill critical positions;
 - Centralized career management and assignment/referral;
 - Accession and

Mr. Smith is Program Executive Officer, Program Executive Office, Aviation, St. Louis, MO.

certification boards.

The Longbow Apache completed the user test and experimentation portion of the Longbow Proof-of-Principle on 6 April 1990 and performed even better than we had expected. The Army System Acquisition Review Council (ASARC) was conducted and authorized proceeding to the Defense Acquisition Board (DAB) to seek approval to enter Full Scale Development (FSD). After the Conventional System Committee meetings, the DAB was held and gave approval to enter FSD. The three parts of the program: airframe modification, fire control radar, and RF missile seekers were aligned to all begin low rate initial production at the same

MAJ Gulick is Executive Officer/R&D Coordinator, PEO Aviation, St. Louis, MO.



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time. An early risk reduction parallel effort was inserted in the program to expedite successful algorithm development for stationing targets. Budgetary constraints now appear to limit the program to 173 systems and 8,000 missiles. These quantities are consistent with planned force reductions. The Longbow will give the Apache significant increase in firepower effectiveness. As we saw in Southwest Asia, the armored threat has not disappeared. Longbow will make aviation an even

stronger player on the Combined Arms Team.

The Special Operations Aircraft (SOA) Program has had major accomplishments. In February, the Milestone IIIa In-Process Review approved Low Rate Initial Production of both the MH-47E and MH-60K aircraft. First flights of the prototypes occurred during the summer. During 1991, both prototype aircraft (MH-60K and MH-47E) will be actively engaged in technical tests, user training,

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and operational demonstrations.

The Cobra has successfully evolved from its initial design, development, and fielding as an escort and reconnaissance attack aircraft to today's proven night fighting tank killer with the newly fielded C-NITE system to South Korea. The Cobra Program, being completed, will be transitioned from PEO, Aviation control to the Aviation Systems Command (AVSCOM) in 1991.

The Project Manager (PM) for Avionics was established on 4 October 1990. The PM is organized along the traditional lines of engineering, logistical, and business management functions located in St. Louis with an additional field office located at Ft. Monmouth, NJ. This PM will be responsible for managing, standardizing, and coordinating the acquisition of new/improved conventional avionics (communications, navigation, and radar), as well as special projects that will include: ANVIS/HUD, Aural Altitude Warning, Flight Data Recorder, MILES/AGES, and more. The PM Office is currently being staffed and will be fully operational during the second quarter of fiscal year 91.

As the AH-64A Apache procurement for the U.S. Military comes to a close with the last delivery in FY94, foreign interest in the Apache continues to grow. Foreign Military Sales (FMS) cases were completed with 18 to Israel, 24 to Egypt, and an unspecified number to Saudi Arabia, United Arab Emirates, Bahrain, and European countries are expressing an interest also. Potential FMS are anticipated to bridge the gap between the last U.S. Apache production and the first major modification of the Longbow Apache. The readiness rates of the Apache have improved continuously since last spring and by October 1990 were at the Army goal. The readiness rates in Southwest Asia have continued to exceed the goals. These improvements have primarily been a result of reliability improvements being applied, personnel available to perform maintenance, additional troubleshooting equipment being provided to the field, and application of lessons learned shared between units. The importance of Army Aviation as a projection

of U.S. defense power was demonstrated by Apaches being the final major counter-armor capability to arrive in Saudi Arabia.

The CH-47D modernization of the active Army was completed, when C Company, 228th Aviation Regiment, Fort Wainwright, AK, was fielded. A total of 328 helicopters have undergone conversion to the 'D' configuration. CH-47D modernization will now continue with units of the U.S. Army Reserve and the Army National Guard.

A major effort of all PMs has been to support deployment of their aircraft to Southwest Asia. We cannot overemphasize the efforts of Aircraft Survivability Equipment (ASE) Project Manager, COL Tom Reinkober. As usual, ASE emphasis had waned during our periods of non-hostilities. The ASE PM has expedited training in the use of ASE, accelerated production of specific ASE, and deployed on site to aid in installation and check-out of various countermeasures systems. We seem to have to relearn the ASE story each time potential hostilities heighten.

The Armed AHIP (Kiowa Warrior) modification program is proceeding well with first delivery scheduled for May 1991.

In the area of standardization, the PEO, Aviation is pursuing a Company Level Automated Mission Planning Station (CLAMPS) development assisted by the Avionics Research and Development Activity. The CLAMPS will be compatible with data-based aircraft, like the AH-64, and non-based aircraft, like the UH-60. The CLAMPS will provide the pilot and operators with full mission planning capabilities and aircraft performance computations.

The PEO, Aviation is reorganizing somewhat in early 1991 to bring the LH Program into the fold and transitioning those aircraft completing production to AVSCOM management for sustainment. Although budget reductions have had a significant impact on aviation procurement, significant modernization programs remain with the LH development, AH-64B modification, the Longbow (AH-64C), the Armed AHIP, the MH-47E and MH-60K, and hoped-for continued production of the UH-60L Black Hawk.

■ ■ ■

Directorate for Fielded Aviation Systems

By Colonel James Bennett

During the Directorate's first year of existence, leadership has changed twice and we have settled on the title: Directorate for Fielded Aviation Systems (D-FAS), rather than Directorate for Systems Management, as reported to you earlier. The previous two

Directors, COL Ted Orvold and COL Jim Holder, retired in May 1990 and December 1990, respectively. There have also been several organization changes during the last twelve months. The AH-1 Cobra and Air Traffic Control (ATC) Product Management Offices (PMO) have transitioned to the U.S. Army Aviation Systems Command (AVSCOM) and been assigned to D-FAS. The Cobra PMO came to us from the Aviation Program Executive Office (PEO) and the ATC PMO from PEO Information Systems Command (ISC). The Cobra transition reflects the change in emphasis from development and acquisition to sustainment and retirement. The ATC PMO transition is the

consolidation of the materiel development functions previously split between ISC and TRADOC. Not all changes during the last year were gains. The HQ AMC decision to consolidate the training aids and devices management function at PM TRADE resulted in the loss of the Weapon System Manager (WSM) for Synthetic Flight Training Systems (SFTS). The SFTS WSM mission was transferred to PM TRADE on 1 October 1990.

Continuing to provide officer development for future Aviation Project Manager positions remains a prime objective of the organization. All seven assigned Product Manager positions are code 4Z and are filled by members of the Army Acquisition Corps. The WSM for Aviation Ground Support Equipment (AGSE) is currently identified as a developmental position. Product Manager status has been requested.



COL Bennett is Director of Fielded Aviation Systems, AVSCOM, St. Louis, MO.



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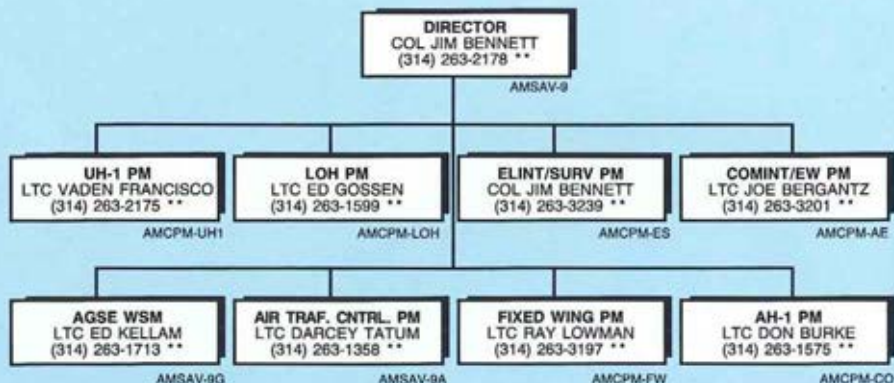
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During the August 1990 Aviation Systems Program Review, critical shortages in AGSE were identified to the Vice Chief of Staff of the Army (VCSA) as a significant issue. To resolve this issue, a detailed analysis of AGSE was prepared. The AGSE Modernization Plan was briefed to General Tuttle, Commander, Army Materiel Command (AMC), and LTG Salomon, Commander, Combined Armed Support Command (CASC), on 1 October 1990. Subsequently, GEN Tuttle signed a memorandum to the VCSA requesting funds necessary to fill Force Package I shortages through FY93.

D-FAS involvement in Operation DESERT SHIELD has been demanding from the outset. At the high point, approximately 1,000 aircraft, 16 ATC units and the Ground Support Equipment (GSE) of 66 AVUMs and 14 AVIMs under our stewardship were deployed forward. Standard items were

surged, fielded early, pushed, diverted, cross-leveled, expedited or whatever it took to meet the aviation units DESERT SHIELD requirement.

Special procurements were made to provide those items that were needed because of environmental conditions or because units were tasked organized and physically separated from their normal support.

Examples of the items procured and pushed forward to the aviation units were "Clamshell Shelters" to serve as maintenance hangars, Shop Vacs to assist in keeping critical areas free of sand and grit, polishing kits to aid in windscreen care and protection, nitrogen generation-carts to bring a capability in-house that has in the past been provided by fixed based operators and/or other services, etc. The result of everyone's efforts in support of DESERT SHIELD have been exemplary. ■■■■

Black Hawk: Coming on Strong

by

Colonel Gerald C. Green and Major Michael J. Murphy

When the President of the United States sends out a call for freedom, American fighting men and women answer "Here I am—send me." An integral part of that ready response in recent years has been the UH-60 Black Hawk fleet, now over 1,000 in

number and coming on stronger than ever. As the U.S. Army bounded into the 1990's with Operation JUST CAUSE, well trained crews flew over sixty Black Hawks in the heat of combat and behind the scenes to carry the day and save many lives. Over 400 hours were flown. More than 350 patients were evacuated. Seventeen Black Hawks sustained battle damage. Even so, the mission capable rate was over 90%. Most importantly the mission was accomplished.

In August, President Bush once again ordered America's Military to stand firm in the gap and Black Hawks took to the desert. The Black Hawk is no stranger to the burning heat and blowing

sands of the Middle Eastern region. Many of the same air vehicles, which graced the Egyptian Pyramids during several BRIGHT STAR exercises, have now been joined by hundreds more Black Hawks for a rendezvous with destiny in Saudi Arabia.

Back on the home front the Black Hawk community is aggressively pursuing the lessons we learned in Grenada, Panama and BRIGHT STAR to better equip Black Hawk users supporting Operation DESERT SHIELD. In Grenada and Panama we learned that the precious lives carried in Air Assault and Medevac Black Hawks were still vulnerable to small arms fire. In response to this need the U.S. Army Aviation Systems



COL Green is Project Manager, Black Hawk, PEO, Aviation, St. Louis, MO.



MAJ Murphy is APM, Production, Black Hawk, PEO Aviation, St. Louis, MO.

Command (AVSCOM) developed the Ballistic Armor Subsystem (BASS XIV) for utility and Medevac Black Hawks. In less than 90 days from contract award Keramont Corporation, Tucson, AZ, began shipping BASS XIV Kits to the fleet in Saudi Arabia. In BRIGHT STAR we learned of the damaging effects of sand and sun.

Key Initiatives

To combat these age-old nemeses the community has embarked on several key initiatives. First, Blade Erosion Protection Kits, designed to protect main and tail rotor blade leading edge surfaces, are being applied to all Black Hawks operating in the land of the sand. Second, to extend the life of Auxiliary Power Units (APU) in this grueling environment, PM Black Hawk, AVSCOM Engineering and Sikorsky Aircraft joined forces to rapidly qualify and ship APU Inlet Particle Separators (IPS). By the time you read this article most Black Hawks in Saudi Arabia should have this protection. Third, when our troops called home and said, "The temperature is 130 degrees in the shade—but there's no shade..." we knew what our next mission would be. The Climatic Heat Aircraft Protective Screen (CHAPS) was quickly developed and sent to the desert for user evaluation. This camouflaged nylon canopy can actually reduce blade surface temperature by 35 degrees and reduce the temperature around the aircraft by 20 degrees.

Additionally, Environmental Aircraft Protection Covers have been developed to shield Black Hawk windscreens, nose avionics bays and key components from heat build up. Together these protective systems provide an oasis of shade in a dry and thirsty land.

Improved Navigation Systems

Finding your way around in the desert can be a job in itself. When soldiers need medical attention, accurate navigation is vital. That is why the Black Hawk family exerted extra effort to supply Quick Reaction TACAN and Global Positioning Systems (GPS) to Saudi-bound Medevac Black Hawks. We have already received

reports of 15 meter accuracy during patient pickup operations. Additionally, we are aggressively pursuing the procurement of Voice Altitude Warning Systems (VAWS) to alert pilots about a too low/too high flight condition.

Beasts of Burden

Any student of Southwest Asia can tell an Arabian Camel (one-hump) from a Bactrian Camel (two-humps). Now, our field Commanders are learning that there are two distinct aerial beasts of burden bearing the Black Hawk name. Of course the UH-60A model Black Hawk is still able to leap tall sand dunes in a single bound. Now, the UH-60L model, with General Electric T-701C engines and an improved durability main transmission gearbox, is making its desert debut.

Offering DESERT SHIELD commanders up to 20% increased power, the L Model provides unique flexibility for desert operation. AVSCOM recently identified flight conditions under which Black Hawk crews can operate at increased gross weight carrying up to 9,000 pounds external load.

The entire Black Hawk Office salutes our men and women serving in Saudi Arabia and we pledge our untiring support to giving them the finest aerial mobility capability the world has ever known. The UH-60 Black Hawk is coming on strong. ■■■■





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Apache: Up To The Standard

By Robert V. Kennedy

You've all seen some recent articles and reports that have taken some shots at the status of Apache readiness and reliability. The Apache has long been accepted as the world's best attack helicopter and now it is also emerging as one of the most reliable

helicopters as supported by its readiness growth. That statement would have been hard to make a year ago; however, official Army readiness data shows the Apache met its Mission Capable (MC) readiness standard of 75% in August and exceeded it in September with an MC of 81%. This status is a result of several past and ongoing actions that are beginning to show benefits in the readiness rates.

In February 1989, a committee of General Officers chartered a group known as the Apache Action Team (AAT) to address all issues associated with Apache

readiness and take necessary corrective action expeditiously. The AAT consisted of representatives from the

Apache and TADS/PNVs Program Managers' Offices, the major subordinate commands (AVSCOM, CECOM, MICOM, and AMC), FORSCOM, TRADOC, USAREUR, Safety Center, and the two primary contractors—McDonnell Douglas Helicopter Company and Martin Marietta.

Largely as a result of Apache Action Team initiatives, reliability has taken a giant step, new and/or improved hardware is going to the field, and diagnostic equipment has been developed and tested and is being fielded along with new improved troubleshooting manuals. These efforts combined make up the Apache readiness improvement program, and it is working!

The major hardware problems that impacted Apache readiness have significantly improved and are expected to continue to improve. We are not there yet, but real progress has been made.



Mr. Kennedy is Deputy Program Manager for Apache AAH PMO, St. Louis, MO.

Main Rotor Blades — The first issue normally mentioned on Apache reliability is the problem with the main rotor blades. The old design had problems that caused unscheduled maintenance. The new blade is called "3," and it's getting the job done. We have flown over 10,000 flight hours on the improved blade with no confirmed failures. Three blades on an aircraft at Ft. Rucker, AL, are approaching 1500 hours with no failures or indications of impending failure. Old blades are being changed out on an attrition basis. We think all Apaches will be flying on "3s" by October 1993.

Main Rotor Strap Pack — New manufacturing processes and minor design changes have been implemented in the strap pack assembly. This new design is in production and being flown on fielded aircraft, with no failures reported to date. Although still early, the new strap pack is fully expected to meet its requirements. This new strap pack is expected to delete two special inspections required at 2.5 and 10 hour intervals. There are about 81 new design units in the field now. We expect all old design strap packs to be replaced by attrition by February 1992.

Tail Rotor Swashplate — MDHC is fielding an improved swashplate that incorporates new material for heat dissipation and a more durable bearing. The new swashplate was recently evaluated at 750 flight hours and found to be in a like new condition. About 200 swashplates of the new design have been fielded, eliminating the 10 hour inspection and 250 hour removal intervals required on the old. To date, there have been no confirmed problems with any of the new swashplates and a safe removal life of at least 1,500 hours is expected. All Apaches will be flying the new design by September 1991.

Shaft Driven Compressor — Over the past 18 months, several improvements have been directed toward the Shaft Driven Compressor (SDC). The result has been a growth in Mean Time Between Removal (MTBR) from 400 to 1100 hours. At the Army's current flying program, the 1,100 hours equates to more than three years between removals for repair. That's certainly

a better situation, but we are not satisfied. A joint Army-Industry team is continuing to identify additional improvements towards a MTBR goal of 2,000 hours.

Tail Rotor Elastomeric Bearings — An improved preparation process for the fork assembly and a new bonding material were both incorporated in production, and the majority of the systems in the field were retrofit over a year ago. There have been no reported failures of the improved configuration. We believe this problem is behind us.

Area Weapon System — The latest "official" data for the AWS still indicates the system will have a malfunction on an average of every 1,048 rounds. This data is over three years old and is not indicative of AWS performance, which has gone through a continuous improvement program. An extensive 100,000 round firing test will be conducted by the Army and MDHC beginning in January 1991 to determine the full capability of the system with the design improvements. The initial engineering estimates predict 3,500 to 4,000 rounds between stoppage. In the meantime, the unofficial data on the AWS indicates the reliability of the system has greatly improved. During a recent classified exercise, over 27,000 rounds were fired with no significant problems. Field feedback tells us the AWS will perform reliably if properly maintained.

In addition to the major improvements in reliability, significant accomplishments have been made with new test equipment and procedures. A Diagnostic Troubleshooting Aid (DTA) specifically designed to test and troubleshoot the TADS/PNVS has been procured and will be in the hands of the soldiers, second quarter 1991. In the meantime, the Martin Marietta field service representatives have DTAs to support the system. The AH-64 PM has also procured sets of breakout boxes along with Improved Troubleshooting Manuals (ITMs). These were fielded beginning in November 1990 and will aid the diagnostic and repair times of the aircraft and its systems.

The AH-64A is capable and ready. It stands at the front of the line, ready to demonstrate its capabilities if required. ■■■■

The Armed Eyes of the Commander

By Colonel James T. Huey

A number of key events occurred in 1990 that will result in the field commander getting an even better OH-58D than he has today. On 8 January 1990 the Secretary of the Army signed a decision memorandum that had a number of important program

impacts. First, subject to legal review and concurrence by the Kiowa Indian tribe, he selected "Kiowa Warrior" as the new popular name for the OH-58D (armed). Second, he approved retrofit of all 243 aircraft to the fully armed configuration, and transfer from the dedicated Field Artillery Aerial Observation (FAAO) role to the Air Cavalry role. Third, he approved configuring up to 81 of the 243 aircraft with the Multi-Purpose Light Helicopter (MPLH) kits.

Kiowa Warrior

The OH-58D fleet will be one configuration. The chart shows the basic aircraft configuration and the upgrades currently going into the production line. All



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production aircraft deliveries beginning in May 1991 will be in this configuration. Although the aircraft delivered in May will be provisioned for the air-to-ground weapon suite (Hellfire missiles, Hydra 70 rockets, .50 cal Machine Gun, and Air-To-Air Stinger missiles) and for the MPLH kits, neither the kits or weapons will be fielded until the test qualification program is completed and those items begin fielding (FY 92).

In May of 1990 the Vice Chief of the Army made the decision to configure all OH-58Ds with MPLH kits which will equip the aircraft for Medical Evacuation, External Cargo, Rapid Deployment and Troop Transport Missions. The exact number of each type kit to be fielded to a given unit is being worked by the TSM-Scout, COL Cordrey's office, at Ft. Rucker.

The name Kiowa Warrior was accepted by the Kiowa Indian Tribe and has passed the legal review process. On 6 October

BASIC

MMS
INTEGRATED COCKPIT
NVG COMPATIBLE
ATHS
AHRS/DOPPLER
FM (2 EA)
UHF
VHF-AM
HF (CPO)
KY-58 (2 EA) (CPO)
KY-75 (CPO)
APR-39

IMPV MGPU & KU
ISP
MMS PROC IMPRV
SINGARS (CPO)
DATA LOADER
VIDEO RECORDER
AVR-2 (CPO)
ADSS
UNIV MOUNT
ATAS
M43 MASK (CPO)
EME HARDENED

ON GOING

AN/ALQ 144 (CPO)
AN/APR-44 (CPO)
IMPV XMSN
IMPV ENGINE
AIRFRAME BEEF-UP
PROVISIONS FOR MPLH KITS
ATG WEAPONS
RAPID DEPLOY KIT*
LITTER KIT*
TROOP SEATS*
CARGO HOOK*

* MPLH

CPO — COMPLETE PROVISIONS ONLY

1990, I participated in a renaming ceremony at Anadarko, Oklahoma (Indian City, U.S.A.). Mr. Gus Palmer, Commander of the Kiowa Black Leggings Warriors, and members of his society were extremely pleased and honored by the renaming of the OH-58D. The Army historically names its aircraft after an American Indian Tribe. However, this is the first time I am aware of that an aircraft has been given the additional name associated with a sub-element of a tribe.

All members of the Kiowa Warrior Black Leggings Society are U.S. military veterans, i.e., warriors. Therefore, it was most fitting for this lethal version of an OH-58, the OH-58D, to be named Kiowa Warrior.

Fielding

The OH-58D is a key player in the ongoing series of events being played out in the Saudi Arabian desert. Not only are aircraft there, but also in South Korea, CONUS, and Europe. This past year, we fielded the first Air Cavalry Unit, 1/17th Cavalry, 82nd Airborne Division, at Fort Bragg, NC. Additional aircraft were provided to Ft. Rucker, and at press time, aircraft are being fielded to the Armored Cavalry Regiments (ACRs) in Europe. This has completed all FAO fieldings and begun the air cavalry fieldings. In late 1991, aircraft will begin coming out of fielded units and returning to the factory to begin their upgrade to the Warrior and MPLH configurations.

Although the FY 91 President's budget request did not continue OH-58D

production, due to budgetary constraints, the Congress authorized and appropriated funds to purchase 36 additional Kiowa Warrior aircraft for the Army National Guard. Congress did authorize the Army to put the aircraft into active units if deemed necessary.

Recognizing the OH-58D's unparalleled reconnaissance and surveillance capabilities and the drug smuggling problem along the U.S. southwest border, the Congress also directed OSD to do a feasibility study on the use of the aircraft in that role. The study is to look at the feasibility of having Army National Guard personnel both operate and maintain the aircraft when they are not in Federal service.

Although the Congress approved the Kiowa Warrior program, it precluded the Army from obligating any of the funds associated with the armed aircraft until the issue of sufficient funds to produce Hellfire and Stinger missiles is resolved. Hopefully that issue will have been resolved by the time you read this article.

Conclusion

The program has experienced a number of important and positive decisions this past year. With the Kiowa Warrior qualification test program ready to begin, the provisioned aircraft deliveries beginning in May 1991 and plans for retrofit underway, this year is going to be busier than 1990. Be on the lookout for a Kiowa Warrior full update in a future edition of ARMY AVIATION MAGAZINE.

III

CH-47 Modernization

By Colonel Ronald N. Williams

In 1990 the Army completed the modernization of active component Chinook units and continued the delivery of D models to Reserves and the National Guard. The five year multiyear contract for modernization of 240 aircraft was completed on schedule

and a new, and final, three year contract for 144 aircraft is underway. The last deliveries are scheduled for October 1993. Having overcome a number of technical problems in 1988 and 1989, the Chinook community was well positioned to make substantial contributions during Operation DESERT SHIELD. This report will focus on support of the CH-47D in Southwest Asia.

At this writing, there are 126 Chinooks operating in the theater with more to follow. Readiness rates are very high for a number of reasons. The most important being that the aircraft are currently held to a limited

flying hour program to save engines. The CH-47 is the only Army helicopter without particle separators, and the desert sand is

causing rapid erosion of the first stage compressor blades. A particle separator was developed for the aircraft in 1984 and was tested and found satisfactory.

Unfortunately, although the PM Office carried it as a product improvement, it was never funded because of the low priority assigned to it. By the time you are reading this report, particle separators manufactured by Paul Land Marine will be arriving in the theater and most aircraft will be modified to accept them.

In the interim, Boeing Helicopters has fabricated a sock to cover the engine inlet screens made of fine nylon mesh and foam. It has been flown in clean conditions with only minor losses of power and is on the way to Saudi Arabia for testing in tougher areas. The object is to save engines until they are all protected by separators in late May.

There are other less dramatic projects



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underway to mitigate the harsh effects of the desert. Chinook rotor blades are being treated and taped along the leading edge to slow erosion from the sand. A voice warning system is being added to the radar altimeter. This warning is needed because the sand dunes often rise at rates that are not perceptible to the pilot, and we had one minor incident where an external load was bounced up into the aircraft.

Early in the operation, flight crews discovered that temperatures in the aircraft were so high that a fan shroud was melting, and deforming in a way that was damaging a synchronizing shaft piece. We requested a new shroud of different material from Boeing, which they produced and had in place in less than three weeks.

Other items being provided by AVSCOM to all of the units in Southwest Asia include clamshell shelters, shade devices, personal protection items such as laser filter glasses, improved ASE, and Global Positioning System navigation sets.

Spares Inventory

The major emphasis in AVSCOM, not withstanding all of the above, is on spares inventory. The Chinook fleet is in good shape. Our team in the Logistics Division and Material Management has had a supply availability above 90% for well over a year and it continues to improve. Emphasis is placed on emergency buys, accelerating deliveries, developing alternate sources, and moving the material in a timely and effective manner. It is no exaggeration to say that AVSCOM often operates its own airline to see that parts needed to get an aircraft flying arrive in less than 24 hours.

A period of time is spent every day at Boeing and the Project Office trying to determine if there is anything further that can be done to improve the CH-47D and make flying tasks easier for the soldiers in the Gulf. It is our hope that they do not have to fight to achieve the nation's objectives, but it is also our belief that if they must, they have the best medium cargo helicopter in the world with which to conduct that fight.



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COMINT/EW Aircraft Update

By Lieutenant Colonel (P) Joseph L. Bergantz

Much has happened in the Special Electronic Mission Aircraft (SEMA) arena since my last report. Currently, SEMA assets are supporting Operation DESERT SHIELD. To date, these aircraft have performed well, but have encountered a very demanding operating environment.

To address some of the special demands placed on these platforms in a desert environment, certain new items of equipment have been created. Specifically, covers were developed by PM Black Hawk for both the UH-60 and EH-60. These covers, called Climatic Heat Aircraft Protective Screens (CHAPS), are now being tested in Saudi Arabia. Pending feedback from the user units, additional improvements will be incorporated and sufficient quantities procured. CHAPS provides not only shade and cover, but also provides camouflage concealment. In addition, Environmental Control System (ECS) intake covers are being fabricated for the EH-60.



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AVSCOM and PEO IEW have also taken steps to procure window tinting, similar to that used on automobiles, for installation on the EH-60 fleet. This tinting will greatly reduce the internal cabin temperatures and provide a cooler environment for the mission equipment operators and aircrew.

Blade Erosion

Another major problem facing the EH-60 and UH-60 aircraft in the desert is blade erosion. AVSCOM has settled on a blade erosion strip kit which requires both the main and tail rotor blades to be taped with a blade erosion strip. This strip greatly increases the blade life in the sand and dust. These kits are being shipped to DESERT SHIELD units and new blades are being manufactured with the kit already installed.

On the fixed wing side of the house, exhaust stack covers are being fabricated



for the RU-21s. Also, clamshell shelters are being procured for these aircraft by the Directorate Fielded Aviation Systems.

With regard to ongoing programs, the RC-12K production program has 13 aircraft currently on the assembly line at Beech Aircraft Corporation in Wichita, KS. The FY 91 contract, with an option for FY 92, is about to be awarded. Due to funding constraints in FY 91, the contract will procure only three RC-12Ks, while the option will procure seven in FY 92. These aircraft will support Guardrail Common Sensor System 2 mission equipment. All these aircraft will come equipped with the Electronic Flight Instrumentation System (EFIS), the Primus 650 Weather Radar, the Lightning Strike Sensor, and an improved SPZ-4500 Autopilot.

These improvements have been procured as Commercial Off the Shelf (COTS) items and have therefore required no additional development expense from the government.

These aircraft will also have the Honeywell Integrated ASE package, which was developed for the OV-1E, prior to its termination, and is being flown on the OH-58D. This package includes a Keyboard Unit, Multifunction Display Unit, and a Remote Terminal Unit, which does

the data processing. This equipment will significantly improve supportability by raising reliability and improving maintainability while enhancing safety/survivability. A final key feature included in this package is embedded training. This allows the crew to simulate threats, display them properly, and train to evade/defeat them, without the need to go to an Electronic Warfare range.

Current plans are to develop this same ASE Integration package for the EH-60 through a Materiel Change in conjunction with the Advanced QUICKFIX (AQF) mission equipment upgrade.

The last bit of news concerns the RU-21H Avionics Upgrade program. Due to funding constraints, I will only contract for six additional kits in FY91. This will bring the total number of kits to 14 in the inventory and will outfit two complete units.

As you can see, many activities are underway in the world of Communications Intelligence and Electronic Warfare aircraft. With this much activity, vigilance is necessary to insure that our customer's needs are kept in the forefront. Operation DESERT SHIELD has certainly reinforced this principle. Let me assure you, my primary goal is still focused on equipping and sustaining a trained and ready fleet. ■■■■

Electronic Intelligence/ Surveillance Update

By Colonel James Bennett

After 30 years of distinguished service as the Army's primary airborne, long range surveillance platform, the Mohawk continues to serve admirably in the forefront. In the largest self-deployment of Mohawks since the Vietnam War, units from Fort Hood, TX,

Hunter Army Airfield, GA, and Stuttgart, Germany, deployed to Saudi Arabia in support of Operation DESERT SHIELD. The Mohawk, unlike all other Army fixed-wing aircraft which are contract-supported, is organically supported. The "green suiters" in Saudi Arabia have, however, been augmented with contractor technical representatives from Litton Industries, Motorola Inc., and Grumman Aircraft. For the aircraft deployed, the Fully Mission Capable and Mission Capable rates have far exceeded the Department of the Army goals. The readiness rates are a real tribute

to all who work the Mohawk program, both deployed and not deployed military, government civilians, and

contractors alike.

Those Mohawks not deployed forward continue on a daily basis to conduct the Army's peacetime surveillance mission in USAREUR, EUSA, and SOUTHCOM. Mohawks are also frequently called on to serve the taxpayer by flying environmental protection and disaster survey missions and missions in support of the counter narcotics effort.

The last scheduled Program Aircraft Restoration contract was awarded to Grumman Aircraft Systems in June 1990 for the Overhaul and Service Life Extension of six (6) RV-1D Mohawks. With the delivery of the last of these aircraft in July 1991, the Army's only end item overhaul line will shut down. Contractors and organic depots will continue to overhaul needed components.

In spite of the Mohawk's continued renowned service, the planned retirement of
(ELINT — continued on page 44)



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AH-1 Cobra Update

By Paul D. Kerby

The AH-1 Program Managers Office (PMO) was downgraded to a Product Managers Office in January 1991 and transferred from PEO Aviation to AVSCOM. As part of the transition the PMO was downsized but will still have individuals assigned in the

technical, logistics, and resource management areas. The focus of the PMO is now sustainment and retirement. Only materiel changes essential to sustain the fleet through the year 2007 or those required for safety reasons will be made in the future.

The Cobra fleet now consists of 1,036 helicopters: 510 AH-1F, 96 AH-1E, 338 AH-1S, and 92 AH-1P. The size of the fleet is being reduced as Apache, Kiowa, and eventually Light Helicopter come on line. The Cobra helicopter will continue to be an integral part of Army Aviation beyond the year 2000. Forty Cobras were retired in FY90. Incremental

retirements will continue through 2007. All AH-1S series are planned to be retired by FY94. Assets made available as a result

of retirements will be utilized to the maximum extent possible for pending Foreign Military Sales (FMS) cases. As many as 182 AH-1S's are planned to be transferred to USMC to be utilized with the AH-1W Production Program (FY90-95). The primary interest of the USMC is the M65 TOW system and stub wings. The USMC will provide the labor required to accomplish reclamation. Components/parts not utilized by the USMC for which there is a need and that still have value will be returned to our wholesale system per an agreed-upon save list.

During the past year, six Cobra units have been upgraded to later series helicopters, four units have been converted to Apache, and one Cobra unit has been activated. A repair capability for the Kaman Main Rotor Blade has been established at Corpus Christi Army Depot (CCAD). C-NITE was fielded in December 1990 to selected Cobra units in

(Cobra Update — continued on page 44)



Mr. Kerby is Division Chief, Logistics Mgt. Division, Cobra PMO, AVSCOM, St. Louis, MO.

UH-1: Answering the Call

By Lieutenant Colonel Vaden B. Francisco

Army Aviation is restructuring its modernization program to ensure it can meet the future challenges brought about by the dynamic changes in the Army's revised mission, and the drastic reductions in defense spending. One of the most recent

Army decisions to come from this effort which has had considerable influence on the future of the UH-1 is the termination of UH-60 Black Hawk production at 1,443. This decision combined with an earlier decision not to pursue a Light Helicopter utility variant has resulted in a shortfall in meeting the utility aircraft modernization requirement.

The above shortfall was highlighted during the last Aviation Systems Program Review (ASPR) and resulted in the formulation of a Utility Aircraft Requirement Study (UTARS) group at the Aviation Center.



The study group will evaluate and recommend alternatives to alleviate this shortfall. An upgraded UH-1 will be among the

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alternative systems evaluated. The term "Upgraded" could vary from minimum essential improvements which underwrite the system's safety, sustainability, and survivability to a "full-up" version incorporating the above "ilities" plus a new engine and drive-train.

The UH-1 Retirement Program, to date, has eliminated nearly 430 UH-1s from the Army Aviation inventory and will increase that number by 100 this Fiscal Year. Although we have made significant progress toward reducing the Army's UH-1 assets, we have done little to reduce the UH-1 assets worldwide. Thus, the Weapon System support responsibilities in the Army Aviation Systems Command (AVSCOM) have not been reduced proportionately to the inventory reduction.

Since the Army announced its plans to retire a large portion of the UH-1 fleet, it has become an increasingly popular



system within the Foreign Military Sales (FMS) arena and to countries aligned with our nation's efforts to stop the flow of narcotics into this country from Central and South America. Therefore, nearly all of the FY90 and FY91 fleet reductions will be used to resource FMS and Counter-Narcotics requirements.

The UH-1 Security Assistance Pool overhaul contract, discussed in the May 1990 issue of ARMY AVIATION MAGAZINE, has been initiated with the acceptance of the first 12 aircraft for overhaul. An additional 8 overhaul candidates and 10 dynamic spares or Government Furnished Parts (GFP) aircraft are scheduled to arrive during the first week of January 1991.

This program will significantly improve our efforts to meet Security Assistance and Counter-Narcotics obligations, reduce the burden on Corpus Christi Army Depot, and reduce the need to divert assets from field units.

The current Middle East crisis has presented a number of new challenges for the "Old War Horse" and pointed out several areas where we can make improvements. A few of the more significant DESERT SHIELD program activities are discussed below.

Airframe:

- Accelerated production and fielding of the Improved Particle Separator for all deploying aircraft
- Introduced a new servo-cylinder that

will increase the Mean-Time Between Removal (MTBR) rate 10 times greater than that of the old component

- Accelerated the programmed installation of Night Vision Goggle (NVG) cockpit lighting modifications
- Accelerated the introduction of the Composite Main Rotor Blade (CMRB) to contingency forces

Communications:

- Accelerated and redirected the introduction of the AN/ARC-186 (VHF/AM) and AN/ARC-164 (UHF/AM) radio systems for Middle East aircraft
- Started work on an interim solution to the No. 2 FM problem experienced with most UH-1s

Navigation:

- Completed prototype actions and have issued installation instructions for the Trimble Trimpack Global Positioning System (GPS)
- Accelerated procurement and fielding of the AN/APN-209 Radar Altimeter

ASE:

- Resumed production of the Interim Infrared Suppressor System
- Accelerated the redistribution and installation of Radar Warning Receivers

It is evident that in spite of its shortcomings on the modern battlefield, this "Old Warrior" is capable of providing reliable and valuable service to Army Aviation, but most importantly, it is still answering the "Call to Duty."



Light Observation Helicopter (LOH)

By Lieutenant Colonel Edwin P. Goosen

Since the last field report, the Light Observation Helicopter fleet has been reduced to 1,867 aircraft consisting of 1,026 OH-58As, 558 OH-58Cs, and 283 OH-6As. Life cycle management of this fleet is chartered responsibility of the Light Observation

Helicopter (LOH) Product Management Office, which provides centralized management for the various life cycle functions to include acquisition, product improvement, logistics support, and retirement.

The management objectives for the LOH fleet are two-fold:

- reduce the size of the fleet to make way for the modernized OH-58D and future Light Helicopter aer scout variant;
- make only those materiel change improvements that are absolutely essential to sustain the fleet through the year 2020.



Retirement

Reduction in the size of the LOH fleet is being accomplished by a

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planned retirement program. Since 1989, 172 OH-58As and 50 OH-6As have been removed from the Army's inventory. Disposition of these aircraft includes transfer to other Government agencies (i.e., Drug Enforcement, Police, Border Patrol); conversion to maintenance trainers and drones; induction for OH-58D production program; and disassembly for parts reclamation. Current directives require the retirement of an additional 378 LOH aircraft by the end of FY94, including all remaining 243 OH-6 aircraft. The accomplishment of this goal, however, is dependent upon a new force structure which reduces the LOH fleet requirement.

Materiel Change Improvements

Although 600 light observation helicopters are being retired from service, over 1,300 OH-58As and OH-58Cs will be
(LOH — continued on page 44)

Fixed Wing Aviation Update

By Lieutenant Colonel Raymond P. Lowman, II

Although fixed wing aircraft no longer enjoy the position of prominence in Army Aviation they held through the early 1960s, today's fixed wing aviators and aircraft continue to provide increasing levels of support to the Army's senior leadership and priority

cargo movements.

One of the first requests for additional support from Operation DESERT SHIELD was for the deployment of C-12 aircraft to meet the extensive travel requirements in the Theater of Operations. This requirement was met by the timely dispatch to Saudi Arabia of flight crews and aircraft from the 207th Aviation Company, Heidelberg, Germany, and the U.S. Special Operations Command, MacDill AFB, FL, supported by Beech Aerospace Services, Incorporated technicians. As the requirements of the Theater have expanded, the number of aircraft, crews, and technicians has been increased to provide the necessary support.

Today's fleet of 390

aircraft ranges from a completely updated 1952 Beech D-18 to 1990 production C-12s, C-26s, and C-23Bs.

During the past year the Army has fielded two additional Beech C-12, two Fairchild C-26, and six Shorts C-23B aircraft to the Army National Guard. A Lear C-21A, three Pace/Chase/Photo Mission test support aircraft, and eight C-23A aircraft have been added to the active Army inventory.

Retirements of older, piston engine aircraft have been initiated. The procurement of C-23B airplanes for the Army National Guard Aviation Classification and Repair Activity Depots will allow the C-7 aircraft to again be purged from the Army's inventory. The transfer of C-23A aircraft to the Army Materiel Command will enable a variety of nonstandard airplanes to be released from service. By the end of 1992, all piston engine aircraft, except for two Cessna 182s used for training aero-



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STANDARD UTILITY AIRCRAFT FLEET

FEBRUARY 1991

C-12	116
U-21	115
C-26	2
T-42	22
UV-18	6
U-8F	49
C-23B	6
	<u>316</u>

JETS

C-20E	2
VC-11A	1
C-21A	1
	<u>4</u>

NONSTANDARD AIRCRAFT FLEET

C-31A	2
UV-20	2
VC-6	1
C-7	15
O-2	2
T-28	4
CE-182	2
PACE/CHASE	3
	<u>31</u>

LOAN

C-12C CUSTOMS	6
U-21 PATUXENT RIVER	2
	<u>8</u>

CONFISCATED/EXCESSED AIRCRAFT FLEET

C-23A	8
QUEEN AIR	8
KING AIR A90	2
CESSNA 310	3
CESSNA 402	1
TURBO COMMANDER	1
SHORT 330	4
CHEYENNE II	1
ISLANDER BN-2B-21	1
VOLPAR D-18	1
SKYVAN	1
	<u>31</u>

TOTAL AIRCRAFT 390



naval engineering students at West Point and two O-2 aircraft being employed in test support through 1994, are planned for retirement.

A major realignment of Operational Support Airlift (OSA) assets within the continental United States is underway with the initiation of implementation of the recommendations of the Army's OSA study and the directions provided by the Project VANGUARD review. This reorganization will result in the retirement of all remaining piston engine OSA aircraft, a reduction in the number of fixed wing organizations, and the consolidation of the remaining fixed wing OSA units into a hub support structure. Centralized scheduling through a consolidated Active and Reserve component Centralized Army Aviation Support Office will provide greater efficiency in meeting peacetime and mobilization support and training

requirements. Although full implementation will take place over the next several years, impacts at the unit level can be anticipated immediately.

During the coming months, fixed wing aviation will continue to provide support to Operation DESERT SHIELD. Additional C-23B aircraft will be delivered to the Army National Guard. A C-20F jet will be procured for the Army's senior leadership. Three T-34 aircraft will be placed in the test support role. Additionally, the Contractor Logistics Support agreement for the U-21/C-12/RU-21/RC-12 fleets during Fiscal Year 1992 through 1996 will be awarded.

As in decades past, today's fixed wing aviator, aircraft, and logistics support staff continue to provide the aviation support essential for the Army's leadership to command, control, plan, coordinate, and evaluate the operations of the Army in the field.

III

Aviation Ground Support Equipment (AGSE)

By Lieutenant Colonel Edwin E. Kellam

By design, Aviation Ground Support Equipment (AGSE) provides a myriad of maintenance multipliers that can instantly return readiness to the field simply by their use. Pitot Static Testers, Vibration Analyzers, Hydraulic Test Stands, Exhaust Gas Testers, and

all the tools and components of aviation shop sets are too often overlooked as an important form of readiness. With AGSE, commanders can test, diagnose, adjust, reinstall, and just plain "fix things." In short, AGSE = READINESS!

Throughout FY 90, the management of Aviation Ground Support Equipment has been centered around the development of new support systems. Planning and budgeting requirements kept the AGSE office in a position to capitalize on the use of year-end funds.

With the onset of Operation DESERT SHIELD, the focus of the office was diverted from developmental planning toward satisfying requirements with an



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immediate sense of urgency. Approximately 13 types of support equipment were acquired to support DESERT SHIELD. Without the total help and support of the staff from the Directorate for Fielded Aviation Systems (FAS) the multitude of special procurement and urgent requisitioning requirements would not have been possible. Five major AGSE systems are highlighted below.

Aviation Vibration Analyzer (AVA)

The AVA Board completed extensive work over the last 12 months to produce a Vibration Analyzer to replace the aging Vibrex equipment. Scientific Atlanta's RAD-AT was selected as the Army's next generation Vibration Analyzer with production beginning in October 1990. Worldwide fielding will commence in November 1990 for aviation units participating in DESERT SHIELD.

Divisional (AVIM) Shop Sets

Prototyping for the Divisional Shop Set Complex consisting of 12 individual sets housed in an Airmobile Shelter (ISO) has been underway throughout FY 90. Instrumental in this effort has been AVSCOM's Aviation Applied Technology Directorate (AATD) located at Fort Eustis, VA. Engineering analysis, including space management, tool, machine, and personnel interface has been completed during this year. With numerous demands generated from Operation DESERT SHIELD, this set was earmarked for immediate shipment for use in Saudi Arabia. Expedited production of follow-on sets will continue during FY 91.

Non-Divisional (AVIM) Shop Sets

The AVIM Non-Divisional Shop Set Complex consists of 12 sets, each housed in an Airmobile Shelter. This newly designed complex is in the early stage of production with only 6 out of 39 being delivered to date. The production and delivery schedule has been dramatically increased to accommodate DESERT SHIELD urgent priorities.

Coordinating the efforts between the parts suppliers and the assembly depots has stepped up both production and delivery time to effectively accommodate urgent requirements.

Flexible Engine Diagnostic System

The Army's next generation engine test set, commonly called FEDS, is designed to replace the aging Modular Engine Test System (METS). The AGSE development program for the FEDS has proceeded on schedule with the arrival of two prototype basic FEDS arriving at the Springfield AVCRAD this year. Contracts for integration of the hardware to produce the secular aircraft engine dress kits and the computer diagnostic interface have been awarded with delivery scheduled in 3rd Qtr FY 91. Site activation verification of engine test procedures and systems calibration will complete the FEDS prototype program during 1st Qtr FY 92. A competitive acquisition process will immediately follow.

AGSE Modernization

During FY 90, a great deal of effort was made to determine requirements and the future role that AGSE will have in the total modernization of Army aviation. As new systems emerge, Apache, CH-47D, AHIP, LH, etc., so too must the family of Aviation Ground Support. To keep pace with changing technology, an AGSE Modernization Study was conducted with results briefed to the CG AMC. The AGSE Mod Plan identified prioritized programs for 29 critical systems through the POM. Also identified were several management issues which will improve the AGSE process when implemented. The future of AGSE and its ability to influence the readiness of all aviation systems depends greatly upon the identification of realistic needs combined with matching program funding support. The AGSE Modernization Study has provided the basis for future growth and needed support for overall modernization of all AGSE systems. ■■■

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Air Traffic Control PMO Established

By Greg Swim

On 5 December 1990 the Chief of Staff, U.S. Army approved a plan to establish an ATC Product Manager Office (PMO). The approval was the culmination of a thirteen-month effort by three major Army commands (MACOMs) and the Department of the Army

staff, to align fixed-base and tactical ATC material development within the Army Aviation acquisition process. The ATC PMO, working in concert with the U.S. Army Air Traffic Control Activity (USAATCA), and Directorate of Combat Development (DCD) at Ft. Rucker, AL, will bring a new focus to efforts to resolve identified ATC deficiencies.

LTC Darcey T. Tatum has been appointed the provisional Product Manager (PM) at the PMO established in St. Louis, MO, under the U.S. Army Materiel Command's Aviation Systems Command (AVSCOM). The office is assigned to the AVSCOM Directorate for Fielded Aviation Systems.

The PMO was formed from assets being transferred from U.S. Army Information Systems Command, U.S. Army Training and Doctrine Command (TRADOC), and Army

Materiel Command (AMC). In addition to the AVSCOM-based office, a field office is in operation at Ft. Monmouth, NJ, and a liaison officer is assigned to the National Airspace System Joint Program Coordination Office in Washington, DC.

The Mission

The mission of PM ATC includes materiel development and overall life cycle management responsibilities for fixed-base and tactical ATC systems. Immediate challenges facing the new PM include quick reaction projects for deployed ATC units in Southwest Asia, satisfying TRADOC developed tactical requirements for the 1990s, and accomplishing multi-million dollar fixed-base projects in support of 15 Major Commands.

In December 1990 USAATCA identified numerous urgent equipment requirements for ATC units deployed to Southwest Asia.

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Satisfying those needs has been the priority effort accomplished by the PM and the ATC community. Improved high frequency radios for Tactical Flight Operations Centers/Flight Coordination Centers (FOC/FCC) and upgraded environmental control units for tactical GCA systems have been provided to ATC soldiers in DESERT SHIELD.

Other major projects include acquisition and fielding of AN/GRC-206 radio systems for use by tactical terminal control teams in remote landing zones; automation of the FOC/FCC airspace coordination systems; fielding of manpack radios for ATC intra-unit communications; and providing more powerful generation systems for ground-based navigation aids. Fielding of this equipment in less than eight weeks is indicative of the results that the Army can expect from joint efforts when the requirement and development communities work together.

New Equipment

Most of the existing tactical ATC equipment was procured to meet Viet Nam era operational requirements. New ATC concepts and requirements are in various stages of approval, but the 1990s will see fielding of new tactical equipment in ATC units. Two key ATC programs are the Tactical Terminal Control System (TTCS) and the Air Traffic Navigation, Integration, and Coordination System (ATNAVICS).

The TTCS requirement has been approved and a nondevelopmental item (NDI) acquisition program is in progress. The TTCS, mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV), will replace the AN/TSQ-97 Air Traffic Control Facility as the primary means of ground-to-air communications in remote landing zone operations. One of the options for the material solution is a joint service effort with the Air Force and Marine Corps for modification of an Air Force acquired AN/GRC-206 radio system.

The ATNAVICS will provide a highly mobile nonprecision and precision approach and landing aid. The truck-mounted system will consist of area surveillance, aircraft identification, and

communications equipment capable of providing simultaneous surveillance and precision approach recovery operations at Army airfield and landing areas in combat operations.

The fixed-base materiel acquisition programs cover a host of ground-based navigation aids, communications equipment, radar, automation, and display equipment. Such equipment is used at Army garrison facilities worldwide to conduct ATC tower, ground controlled approach (GCA), Army radar approach control, and flight following/range control operations.

DBRITE

Two of the major fixed-base programs being fielded are the AN/FPN-66 Radar Surveillance Central and the joint service Digital Bright Radar Indicator Tower Equipment (DBRITE). The AN/FPN-66 was procured to provide a 60nm surveillance radar capability for use in towers, GCAs, and flight following facilities at 10 Army locations.

The DBRITE indicator system will be hosted by the AN/FPN-66, Federal Aviation Administration, or Air Force radars and will serve 31 Army locations (58 systems) worldwide. The DBRITE system will improve identification and sequencing procedures in control towers and provide a dedicated indicator of multiple aircraft in GCA facilities. The system capability for flight following by range control operators will improve safety and maximize use of the ranges and other special use airspace.

Milestone

The establishment of the PM ATC office is a milestone in Army Aviation history. It provides the Army a single point of responsibility for tactical and fixed-base Air Traffic Control materiel development. Working with USAATCA, Directorate of Combat Development, and the rest of the Army Aviation acquisition community, the Product Manager ATC will soon become a vital member of the team providing the Army Air Traffic Controller the best equipment in the world.

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T800 Battle Damage Repair Demonstration

by

Dennis McGuire and David Wensits

In August 1990, the Light Helicopter Turbine Engine Company (LHTEC) successfully completed the first of two phases of the T800 Engine Battle Damage Assessment and Repair (BDAR) Demonstration. LHTEC is an Army contractor team comprised of Allison Gas Turbine

Division, General Motors Corporation, and Garrett Engine Division of Allied Signal Aerospace Company. Requirements for the first BDAR phase were:

- Demonstrate that the repairs can be accomplished in less than 4 hours;
- Demonstrate compatibility with existing Army resources (i.e., manpower, skills and materiel); and
- Validate Logistic Support Analysis Record (LSAR) data (i.e., source data used in defining manpower, skills and materiel requirements, and in developing required logistical products) developed for the BDAR tasks.

The second phase, now in progress, will satisfy the final requirement—demonstrate that the repairs will

last 100 hours of actual engine operation. This marks the first time the Army has examined the BDAR capability of a major component prior to completion of its materiel development. Inclusion of BDAR requirements into the T800 program began with initial contract award.

Results of a development workshop conducted in April 1988 indicated that the T800 could be repaired using existing and planned Army BDAR kits but that metric size fluid line repair materials were needed.

In spring and early summer 1989, a detailed BDAR analysis was performed which systematically identified all maintenance tasks that could be performed in a BDAR environment. Criteria were



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also established to enable BDAR team members to defer selected peacetime maintenance actions, under the stipulation that crew and air vehicle safety would not be compromised and the vehicle would retain full or partial mission capability.

As a result of a meeting at the U.S. Army Aviation Logistics School, Ft. Eustis, VA, analysis of damage modes included fire, holes/punctures, broken/missing hardware, nicks/dents/scratches, leaks and cracks. Repair categories of permanent (i.e., restored to full capability), temporary (i.e., reduced level of full capability) and emergency (i.e., one flight not to exceed one hour) were established. BDAR assessor and repairer roles, minimum skills and primary responsibilities were evaluated to ensure that all T800 BDAR tasks could be performed by aviation BDAR personnel (i.e., CMF 67—rank of E5 or higher). Non-standard maintenance tasks (e.g., repair without replacing damaged Line Replaceable Units) were written into the LSAR.

The T800 BDAR demonstration was to use existing BDAR kits but not exclude AVUM tools/equipment/material or commercial material/equipment if they could facilitate repairs.

Two military specialists (MOS 68G & 68F), each holding a rank of Staff Sergeant, were assigned by TRADOC to conduct all repairs. Neither had a background in engine maintenance (MOS 68B). The composition of the demonstration team was to simulate the actual structure of a BDAR team.

The day before the demonstration began, the two maintainers received eight hours of informal training from company personnel to gain familiarity with the engine, the repair material and the procedures documented in the LSAR, and were given an opportunity to perform the various repairs on the real and simulated engine components.

The next day, using the LSAR, which had been organized into handbooks specifically for the demonstration, the soldiers executed each of the 20 tasks by assessing the damage, performing the repairs and, after completion of each task, offering suggestions for improving the procedures. When possible, repairs were applied on-engine,

removing components only if the location of the damage or type of repair required it. Aluminum tape was used to seal against air leaks and contamination, while use of through bolt, self-tapping screws and/or stamped nuts ensured that damaged nuts, bolts, studs or inserts did not incapacitate the engine. All these BDARs utilized material available at user level.

For fluid tube repairs, LHTEC introduced Aeroquip® Corp's Rynlok Tube Fitting System, a self-contained, one-man operable repair kit that results in a permanent repair. The fittings used in Rynlok repairs are not sensitive to the type of tubing used or its wall thickness. Since the fittings are applied using pressure, no heat source is necessary as with the memory metal system—an important consideration when working around fuel or lubrication lines.

A flex tube was also demonstrated to replace a damaged rigid line. It is universally sized for multiple engine applications and is more expedient than the permanent splice, but is a temporary repair.

Adhesive patch repairs were performed using Zip-Patch and MVP-11, both manufactured by ITW Devcon® Corporation. Zip-patch is a resin pre-impregnated patch packaged in a foil pouch and activated by a spray-on applicator. It was used to repair holes in the inlet particle separator (IPS) Scroll, IPS Blower Housing and IPS Blower Duct. MVP-11 is a two part methacrylate adhesive packaged in a double barreled syringe. It was used to repair a small hole in the IPS Blower Housing and a crack in the Oil Tank weld seam. Both products were selected because they cure at room temperature in less than one hour.

The Army maintainers used the BDAR emergency wire kit to splice severed electrical harness wires. They also applied sheet metal "scab" patches to cover holes in the IPS Inner Dome and the Oil Tank.

The repaired components are now running on test engines. The calculated maximum time to repair, including cure, was approximately two hours. Results will be reported when 100 hours of actual engine run time have been logged for each of the components.

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retained in service and operated for another thirty years. To sustain their capability, several improvement programs are in progress. A brief summary of the significant ones are provided below:

- The Engine Upgrade program will convert all OH-58As to the T63-A-720 engine. This will increase power from 320 shp to 417 shp and provide adequate power and safety margins for combat flight operations in high altitude, high temperature environments. Fleet-wide Modification Work Order (MWO) application began in October 1990 and will be complete in 1993.

- The Air-To-Air Stinger (ATAS) missile program will provide the OH-58C with a self-defense capability against the air-to-air threat. The initial program calls for installation of 202 ATAS systems on selected OH-58C aircraft. Fielding began in January 1990.

- The AN/ARC-201 SINCGARS program will replace AN/ARC-114 FM radios with SINCGARS radios. All OH-58Cs and OH-58As not scheduled for retirement will be modified, providing a dual FM secure communications capability. Fielding began in Korea in June 1990.

- The AN/AVR-2 Laser Warning program will provide the capability to detect laser threats and provide audio and visual warning via the existing AN/APR-39 Radar Warning System. All OH-58Cs will be modified. The design effort has been completed. Funding cuts have delayed kit procurements until FY92.

- The NVG Cockpit Lighting Program, phase 1, to modify all OH-58 and OH-6 cockpits with ANVIS-compatible lighting, is complete. Future phases will further improve cockpit lighting with the goal of eventually achieving full MIL-L-85762 compliance.

Desert Shield

Over 300 OH-58A/C aircraft are operating in DESERT SHIELD. This experience has

generated new requirements for which programs are quickly being structured. These include: radar altimeters with voice warning capability, Global Positioning System (GPS) navigation system, ALQ-144A Infrared jammer, Digital Message Device (DMD) capability, external engine oil filter system, and improved engine particle separator.

In short, the above programs and any future programs which evolve in response to specific requirements which will ensure that the OH-58A and OH-58C will be safe, capable, and supportable well into the next century. These aircraft will continue to perform their mission while the Army transitions into a modernized scout fleet of OH-58D and future LH aircraft. ■■■■

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EUSA.

Material changes that are currently being worked include:

- Incorporation of Improved Engine Air Particle Separators on all AH-1F Cobras.

- Installation of AN/AVR-2 Laser Warning Devices on selected first to fight AH-1F Cobras.

- Development and testing of an Air-To-Air Stinger modification for the Cobra. ■■■■

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the fleet reported to you last May is very real. Current guidance indicates that the last Mohawk may be out of the system as end of year FY96. RV-1D Electronic Intelligence (ELINT) aircraft will be replaced by RC-12K Guardrail Common Sensor aircraft. The mission of the OV-1D Surveillance (SURV) aircraft will be assumed by a combination of Joint Stars and/or Unmanned Aerial Vehicle (UAV). We, in concert with CECOM, DESCOM, and PEO-IEW, are looking at contractor provided logistic support as a means to aid the Army in transitioning out of the Mohawk business, while insuring that the fleet is fully supported until the last aircraft is retired. ■■■■

ATAS in the Rear Defense

by

Colonel Joseph W. Eszes and 1LT Bradley W. Pippin

A soft red glow in the East marked the beginning of another day as a warm breeze blew across the sands of Saudi Arabia. In the distance, a team of scout helicopters worked a screen line providing both ground and air security. As dirty, tired soldiers began their

routine, the stillness of the morning was shattered by a beep and the rush of a secure FM radio breaking squelch.

"Romeo 39, this is Bravo 86, over."

The squadron operations NCOIC quickly moved to the radio. "Bravo 86, this is Romeo 39, over."

"Romeo 39, this is Bravo 86. The Air Defense Warning level is upgraded to Red. Six fast movers, two flights of three, suspected Mirages, moving towards the Corps rear, heading 185, intentions unknown."

"Bravo 86, this is Romeo 39. Roger, out." Immediately the Brigade operations center burst into action. The S-3 informed the commander of the situation as the NCOIC keyed the mike on the Brigade O & I net, "Romeo 07, this is Romeo 39, over."

"Romeo 39, this is Romeo 07, over."

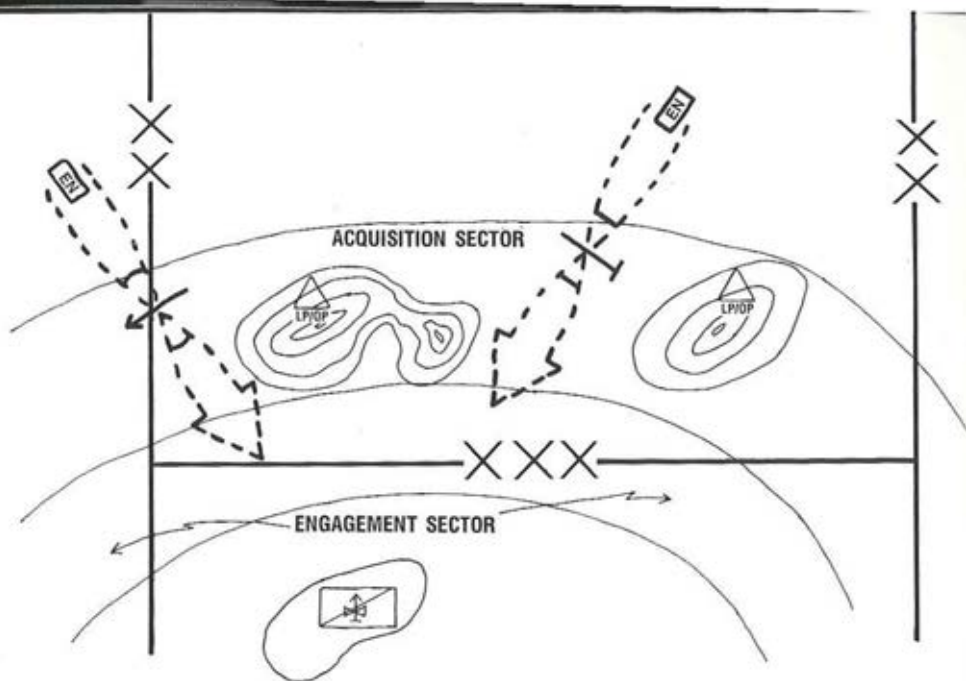
"This is Romeo 39. RAOC just upgraded the Air Defense Warning level to red. Fast movers coming from the North, direction of travel 185, suspect Mirages. Engagement status is weapons tight. Contact early warning net and call set in battle positions."

"This is Romeo 07. Roger, out." Within seconds, six OH-58s were released from their security mission and enroute to predetermined defensive positions. Two unarmed, flatplate OH-58s flew ground observers to LP/OPs and deployed to a picket line 20 kilometers from the Brigade's rear area. In less than 10 minutes, the scout team was set in an air defensive posture.

The deep strike capability of a Soviet-equipped army is formidable, making the defense of rear areas critical. Until recently, Army attack helicopter units were forced to

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rely solely on the Air Force and the Army's ADA umbrella for protection. However, with the introduction of ATAS (Air-to-Air Stinger), aviation commanders possess a weapon they can employ as an active defense measure against the air threat. The question is, how should it be employed?

Early Warning

To effectively employ the ATAS, aviation commanders at the Brigade/Squadron level must be tied to the early warning network. The flow of threat information must be both timely and accurate. Information must pass from the Corps Rear Area Operations Center (RAOC) through divisional RAOCs to each base or base defense cluster. Dissemination of this critical information ensures defense of an otherwise vulnerable target.

"Romeo 39, this is Romeo 07. Set, over."

"This is Romeo 39. Roger, out." The Air Threat Security Team (ATST) was set.

Forward scout helicopters screened in an acquisition zone up to 20 kilometers from the Brigade rear, providing ATAS equipped

aircraft reaction time. Supplementing this screen line were ground placed LP/OPs manned by aerial observers trained in identification of threat aircraft. Moving in the engagement sector (up to 15 kilometers from the rear area) were the six ATAS-equipped helicopters, each armed with two Stingers on the rail and two more strapped on racks in the rear compartment.

The next call came on the ATST's internal FM frequency. "R07, this is ground point two. Fast movers sighted, over AB009, heading South at approximately 400 knots. Two flights of three. They are Mirages."

"Roger, point two. Romeo 32, this is Romeo 07. Move your team to AB003, orient north and prepare to engage. Break. Romeo 44, this is Romeo 07. Move your team to AB004, orient north and prepare to engage. Break. My team is moving to your East on the ridgeline. Fire when in range."

As the ATST prepared to engage the air threat, the aviation commander ordered his AH-64s to condition one and prepared to disperse. The S-3 called the RAOC and ordered the Tactical Combat Force (TCF) to

alert status one and ground maintenance crews moved into prepared fighting positions. The RAOC commander, through his Air Force liaison officer, requested an intercept, but there wasn't enough reaction time. The aviation Brigade was on its own!

The ATAS aircraft were in place and the attack helicopters were enroute to an alternate holding area when the enemy aircraft entered the valley between the three teams.

The pilot of the northern most aircraft spotted the enemy first and maneuvered to engage. "I've got him in my PDU, missile's armed." The aerial observer cleared the aircraft as the pilot concentrated on the battle. The 'buzz' of the argon gas was unnoticed as the pilot cooled the seeker head. "Missile uncaged, I've got a box and a tone, missile's out." As the pilot super-elevated the OH-58, the missile left the rail. The lead aircraft disappeared in a ball of smoke and fire. The second aircraft broke hard to the right, but another missile was on the way. Within seconds, the two lead aircraft were destroyed as debris thundered to the ground in a giant fireball. The third broke left and disappeared over the ridge.

As the second formation appeared, the two teams

to the East engaged. They fired two missiles almost simultaneously at the lead and rear aircraft. The lead aircraft took a hit to the left wing, as the rear aircraft took a direct hit and crashed. The damaged aircraft burst into flames, the pilot ejected and floated to ground under a full canopy.

"Bravo 86 this is Romeo 07. SITREP.

Four Mirage fighters destroyed and one enemy pilot on the ground, appears unconscious, approximately six kilometers North of AB004. Continuing to observe."

"Roger 07, TCF is enroute to AB004 at this time. Conduct handover upon arrival."

"Bravo 86 this is Romeo 07. Wilco, out."

Although this was only a scenario, how would it have read without the ATAS advantage? The ATAS is a weapon system of promising potential. The Stinger is combat proven as a ground weapon but is not yet battle tested as an air-to-air system.

The test of this air-to-air system may arrive sooner than expected and it may occur in conditions removed from sterile stateside testing grounds. How it is employed will determine its effectiveness.

There are no text book answers addressing the tactical use of ATAS, but failure to do so may cost lives and equipment. There are many unanswered questions about ATAS. Do you have any answers? ■■■



Above the Sand

By Sergeant First Class Steve Davis

Troops from 3rd Battalion, 227th Aviation Regiment, 3rd Armored Division, are finding ways to deal with the difficult flying conditions in the desert. The heat, sun, and sand are major concerns for pilots in Saudi Arabia, but they're all learning ways to beat the heat. . .

and a lot more.

It's high noon and the Arabian sun screams from a cloudless sky. An obnoxious gust whips sand around a helicopter gunship as SGT Kenneth Davis makes pre-flight adjustments and shields his face from stinging sand with his forearm.

Davis, an AH-64 Apache helicopter crew chief, preps the bird for a test flight. Warrant Officers Erich R. Hardy and James L. Kelly each climb into a seat and begin their checklist.

From a safe distance, Davis gives them a thumbs up. A-OK. At the precise moment, the auxiliary power unit roars to life. In sequence, they engage each engine and the rotor blades spin slowly. RPMs peak and the engines whine. The blades blur like a crazy carnival ride.

SFC Davis is with the V Corps Public Affairs Office, currently on the ground in Saudi Arabia.

The Apache rolls forward and lifts slightly off the ground. It hovers across a drainage ditch, then moves to a taxiway. The pilot increases the pitch and the Apache glides forward and up over the Saudi desert.

Davis, Kelly, and Hardy are part of a handful of 2-227 Attack Helicopter Battalion soldiers attached to the 3d Battalion, 227th Aviation Regiment for Operation DESERT SHIELD. Pilots, co-pilot/gunners, crew chiefs, and mechanics from 3d Armored "Spearhead" Division units deployed with the Wiesbaden-based 12th Aviation Brigade to help defend Saudi Arabia against an armor-heavy Iraqi threat.

The Iraqi army, which seized Kuwait 2 August, is reported to have about 5,200 tanks. About 700 are state of the art Soviet-built T-72s. If war breaks out, the 3d Bn, 227th AVN will use the U.S. Army's most sophisticated helicopters to kill these tanks.

Scout, Apache, and Black Hawk crews



have been flying day and night orientation missions in their local training areas.

The training and tactics of each unit have been adapted to the Arabian desert environment.

"We're taking a crawl, walk, run approach here," said WO1 Erich R. Hardy. "We're taking it easy while we get used to the desert. As we get oriented, we'll pick up our pace."

Pilots say desert flying is a challenge. Lack of contrast can make a large sand dune look small. "There's no contrast in color," said CW2 Randolph A. Welch, a Black Hawk pilot attached to 3d Battalion's HHC, "and that makes it hard to judge height when you're flying."

Other pilots say the lack of contrast and terrain features like mountains, valleys, rivers, and lakes makes for boring flying.

"I wouldn't say it was boring," said Warrant Officer Matthew Porter, 27, from Charlotte, NC. Porter, a Black Hawk pilot attached to the 3-227th from Task Force Viper, said, "There are areas with lots of sand dunes out there. You come up on camel herds and Bedouin tents. You wonder where they get their water."

"There's a little terrain relief," he continued. "It looks a little like the southwestern United States. So there's a little to look at. But there's no water, and very few trees."

Porter said navigating is tough with so few natural terrain features. Pilots resort to using widely-scattered man-made objects

like wires or roads as reference points.

"We do a map recon before we go and get a general heading and distance," Porter said. "Then we fly to a known point. You don't know where you are every minute of the way. You have to wait until you get to something."

1LT Judd Reynolds, a Black Hawk pilot from HHC, described his first flight.

"Hot. . . damn hot," said Reynolds, 27, a native of Indanola, IA. "People think we fly with the doors open, but we keep the back doors shut. Otherwise, it's like a giant hair dryer in here. It's not warm air. It's hot air. And sand blasts into your eyes."

Heat and sand are the closest enemies. CW2 James L. Kelly, a maintenance test pilot for the Apache, said it takes a lot of extra work to keep the helicopters flying.

"It's a constant effort to keep 'em clean," said Kelly, who performs two or three test flights daily. He said maintenance crews constantly dust the Apaches to keep grit off the moving parts.

"We've been doing a lot of preventive maintenance... just trying to keep sand off and just keep 'em in the air," agreed SGT Kenneth Davis, an Apache crew chief. "It's doable. We can deal with it."

Those few words sum up the 3rd Armored Division's "Spearhead Attack" philosophy. The Spearhead aviators are confident that the perseverance and the can-do attitude that helped bring down walls in Germany will also work in the Persian Gulf.



Command and Control in the Apache Battalion

by

Lt. Colonel Pat Bennett and Lt. Colonel James Herberg

Command and Control (C²) of AH-64 battalions is a major point of concern for commanders in the field. Since Apache battalions must perform missions throughout the depth of the battlefield, it is imperative that the attack helicopter battalion commander has an ade-

quate communications capability. It is also essential that he has a night viewing capability similar to his attack aircraft.

FM 1-112, The Attack Helicopter Battalion (ATKHB), dated July 1986, depicts the battalion commander conducting command and control from an OH-58D. While this aircraft has the communications capability necessary for most command and control requirements, it has many other limitations. The OH-58D cannot carry a battle staff—it only has room for the commander and his pilot. The pilot only has night vision

goggles (NVGs) to conduct night operations, and OH-58D's Forward Looking Infrared (FLIR) was designed for target acquisition and

designation rather than for pilotage.

Presently, the AH-64 battalion TOE does not authorize the OH-58D.

The OH-58C, which is issued in lieu of the OH-58D, has additional limitations. It does not have any FLIR capability. It does not have digital data link communications and cannot keep up with the AH-64 in a fast moving environment.

The AH-64 battalion commander is qualified in the AH-64, but his assigned aircraft, by TOE, is the OH-58. Battalion commanders routinely fly in the AH-64 during troop and battalion level training missions to monitor training. But, in combat, this would cause an AH-64 to be removed from one of his troops'

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combat force. Additionally, the AH-64 was not designed or equipped to provide the battalion commander the requisite communications to capitalize on the potential of his extremely lethal force.

Of the aircraft assigned to the AH-64 battalion, the UH-60 Black Hawk is the most suitable aircraft to meet the commander's needs by acting as an airborne Tactical Operations Center (TOC) capable of carrying a battle staff. Possible battle staff composition would include the commander or S3, the S2, the Fire Support Officer, a Liaison Officer, a medic, and an aircraft technical inspector. The Black Hawk is presently used by AH-64 battalion commanders in the field as their command and control vehicle. The UH-60 gives the commander the ability to remain on station for an extended period when the UH-60 External Stores Support System (ESSS) is installed.

Modifications that would greatly enhance the capabilities of the UH-60 are a pilotage-type FLIR system and a command and control console (AN/ASC-15B). The AN/ASC-15B can be configured with AN/ARC-199 radios, high frequency radios, and satellite communications (SATCOM) radios. A portable Automatic Target Handover System (ATHS) can also be mounted to provide digital communications between ground systems, TACFIRE, and/or OH-58Ds. These systems exist in the Army inventory, but their basis of issue does not include the AH-64 attack helicopter battalion. The use of these systems on the UH-60 in the C² role will ensure that we get the maximum effectiveness of AH-64 battalions in Deep, Close, and Rear operations.

A UH-60 equipped with a FLIR system would greatly help the Apache battalion commander to position himself to best lead his battalion and accomplish the mission. With the FLIR system, the crew can fly in the identical weather and meteorological conditions that the Apaches operate in. Unmodified UH-60s have to rely on NVGs for night flight that can be degraded by low illumination and adverse weather conditions. Yet, on the same mission,

AH-64s could be operating under ideal conditions due to heat contrasts that optimize FLIR imagery. The FLIR would provide the commander controlling the battle an increased viewing capability. The FLIR picture, similar to the AH-64 gun camera video, can be recorded and reviewed. A monitor in the rear cabin of the Black Hawk would permit real time observation by the commander and his battle staff. This capability increases the commander's ability to make better decisions and proves useful for intelligence evaluation.

100% Concentration

The UH-60 equipped with a console for airborne command and control allows a commander to command and control his battalion from an aerial platform without the added stress of piloting an aircraft. This therefore frees an AH-64 weapon crew position for its primary function. The commander now concentrates 100% of his attention on the mission. The console permits him and his battle staff to monitor and control the battle without interfering with the UH-60 flight crew radios. It also gives the commander the added capability to talk with higher headquarters over extended distances.

It is conceivable that a Corps' attack helicopter battalion would be tasked to support another Corps and have to displace laterally across the battlefield. The lateral shifting of any forces across the modern battlefield is a difficult task. With today's increasingly lethal air defense weapons systems, it is also very dangerous for an aviation unit if air routes are not properly coordinated. Use of the UH-60 as a C² asset enhances the swift, efficient movement of the AH-64 battalion. Coordination for airspace, rearm and refuel locations, and maintenance requirements can be done while in the air, on the move, thereby minimizing the time required to emplace these forces. The FLIR equipped C² UH-60 enhances mission accomplishment as it makes the AH-64 battalion commander more responsive and able to plan enroute, utilizing the increased

communications capability and onboard planning battle staff.

This modified UH-60 aircraft also can carry a Long Range Reconnaissance and Surveillance Unit (LRSU) and insert them in conjunction with an AH-64 deep attack. This would increase the survivability of the LRSU mission as you would cross the FLOT using the Suppression of Enemy Air Defense (SEAD) package normally provided for AH-64 deep attacks.

If an attack or scout aircraft went down due to combat damages or maintenance malfunctions, the UH-60 could provide a Combat Search and Rescue (CSAR) capability. The aircraft technical inspector onboard can conduct expedient battlefield repairs that would not otherwise be feasible due to the damaged aircraft's location. If the downed aircraft cannot be repaired, critical Line Replacement Units (LRUs) would be recovered and used for spares on other aircraft.

The optimum solution is complete modification of all UH-60s in the AH-64 battalion with three complete FLIR systems and C² consoles; however, budget considerations may make this option

unaffordable. An alternate solution would be an "A" kit and a "B" kit concept. By having all the aircraft modified (A kit) to accommodate the FLIR system and the C² console, the commander has the flexibility needed to perform tactical missions and still meet maintenance requirements. With one FLIR system and one C² console (B kit) per battalion, the cost is greatly reduced. If an aircraft requires extensive maintenance, the console and FLIR system could be moved to another aircraft.

The 1st Squadron, 6th Cavalry of the 6th Cavalry Brigade (Air Combat) at Fort Hood, TX, has been able to incorporate these modifications into one of its Black Hawks through Aviation Systems Command (AVSCOM), Communications-Electronics Command (CECOM), and civilian contractor cooperation. The value of this UH-60 has been repeatedly proven during exercises. Its payoff in terms of increased communications capability, streamlined planning and coordination, and warfighting is immense. An operational need statement was submitted through Forces Command to the Department of the Army and is presently being reviewed. ■■■■

WIRES! WIRES! WIRES!

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This compact, lightweight system, consisting of a sensor unit and NVG compatible cockpit indicator, is designed for low-cost installation.

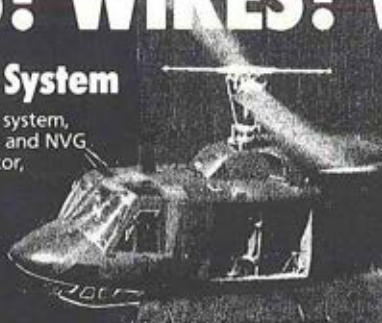
As the power cable is approached an audio warning is sounded and a directional indication is given.

**From the U.S. Army final report:
"CABLE WARNING SYSTEM FLIGHT TEST RESULTS"**

"The system worked as advertised."

"All Class A wire strike accidents that occurred during the past ten years were reviewed."

"The CWS may have prevented between 49% and 74% of these accidents."



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PERSONNEL:

MEDICAL ACTIONS AND ACIP

BY MAJOR MORRIS S. (SANDY) SMITH

ALEXANDRIA, VA — There are two actions that should be extremely important to all aviators and flight surgeons since they affect our entitlement to receive and accept Aviation Career Incentive Pay (ACIP). They are medical and nonmedical actions. This article focuses on medical actions: temporary suspensions, disqualifications, and requalifications. Part two of this series will address nonmedical actions. A thorough discussion can be found in Chapter 3, AR 600-105, Aviation Service of Rated Army Officers. Additionally, Chapter 4, AR 40-501, Standards of Medical Fitness, may be helpful.

Our office serves as the final approval authority for medical actions for active Army and USAR aviators and for exceptions to policy for their Initial Entry Rotary Wing (IERW) flight applicants. We work closely with the staff of the U.S. Army Aeromedical Center (USAAMC) on all medical actions that are not temporary in nature.

Temporary medical suspensions involve "groundings" for less than 181 consecutive days for short-term illnesses, injuries, or minor surgical procedures. Your immediate commander imposes the temporary suspension based on your flight surgeon's recommendation. Your ACIP and aviation service continue, and your Total Operational Flying Duty

Credit (TOFDC) will not be interrupted if you are assigned to an operational flying position.

Medical disqualifications are a different story. Once you are medically suspended for 181 consecutive days, you are disqualified from aviation service. Here is a typical chronology.

First, your commander notifies your Finance and Accounting Office (FAO) to stop your ACIP. Second, USAAMC is notified of your condition by your flight surgeon. Third, USAAMC thoroughly reviews your case and determines your status. If the condition is disqualifying, they will establish a date of incapacitation and send a recommendation to us; grant a waiver to the provisions of AR 40-501 or disqualify you from aviation service.

Fourth, we'll either grant a waiver, when necessary to meet Army requirements, or publish an order disqualifying you from aviation service and terminating your ACIP effective 181 days after your date of incapacitation. Sometimes, this occurs after the

181st day. So, you should understand if you receive ACIP beyond the 181st day after your medical suspension, you will repay the overpayment. Finally, you discuss branch transfer, reclassification, or other career options with your PERSCOM assignment officer.

Besides losing ACIP, medical disqualifications result in the termination of the following:

- Authority to pilot Army aircraft;
- Flying duty credit toward meeting gates;
- time creditable toward receiving senior or master aviator wings or flight surgeon ratings;
- Duty as a flight surgeon.

Requalifications are possible when your flight surgeon determines your disqualifying condition no longer exists or warrants waiver. USAAMC will review the case, and recommend to us for a waiver or for continued disqualification. If we grant a waiver, we'll publish an order to start your aviation service, then start your ACIP effective the date the USAAMC establishes. If not, you'll remain disqualified.

I have one final word on medical actions. PERSCOM strongly supports the U.S. Army Alcohol and Drug Abuse Program and wants recovered problem drinkers to get back in the cockpit when the medical authorities and the chains of command say the aviators are ready.

However, while suspended for alcohol abuse or dependence, aviators *cannot* fly until they receive waivers from PERSCOM. But there is *not* a mandatory one year grounding period for alcohol abuse or dependence. ■■■■



MAJ Smith is Chief, Aviation Plans and Programs Section, Officer Distribution Division, PERSCOM, Alexandria, VA.

TRAINING:

APACHE TRAINING BRIGADE

BY CPT STEVEN V. CALLAN

FT. HOOD, TX — 1990 has been extremely busy for the Apache Training Brigade (ATB). Flying more than 23,000 hours, the ATB has ARTEP'd and fielded 6 battalions since January. ATB has conducted 14 BASE-A exercises, supported the training of 4 National Guard battalions, provided pilot training and aircraft in support of DESERT SHIELD, and underwent a brigade change of command.

COL Robert D. Hurley changed command on 9 October 1990 and will assume duties as the course director of CAS³ next spring. During COL Hurley's command, the ATB flew more than 45,000 hours, drove 1/2 million miles, pumped over 3 million gallons of JP-4, fired over 60 tons of ammunition, and fielded 11 AH-64 battalions.

The new commander, Colonel William S. Reeder, Jr., and the ATB face a new challenge in the AH-64 fielding process. Previously, all but 2 battalions were active component units. ATB is nearing the end of the active component fielding and must now shift its focus to the reserve components (National Guard and USAR).

CPT Callan is currently S-3 of the Apache Training Brigade, Fort Hood, TX.

Background

Apache Training Brigade, based at Fort Hood, TX, is the Department of the Army executive agent for the receiving, equipping, training, and fielding of all AH-64 attack helicopter battalions.

Based on the Single Station Unit Fielding and Training plan, newly activating or AH-1 transitioning battalions undergo a rigorous training program which starts at the individual level, and progresses to collective training at battalion level. The last hurdle in the process is a 5-day exter-

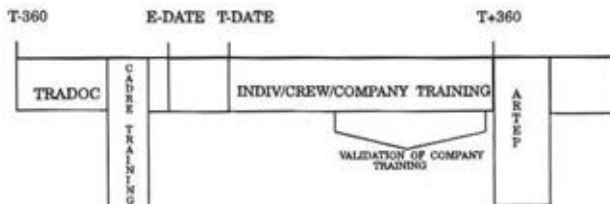
nally evaluated ARTEP, usually evaluated by a Ft. Hood resident AH-64 battalion. Upon successful completion of the ARTEP, the III Corps commander signs and issues a certificate of combat readiness. Units then deploy or return to CONUS or OCONUS stations.

To date (Nov 90), ATB has fielded 20 battalions, has five in training, and has 16 remaining. Units in training include 2 active component and 3 reserve component. Of the 21 in training or scheduled, 12 are reserve component. 5-229th Avn, commanded by LTC Alan Gardner, and 1-4th Avn, commanded by LTC David Reger, will both ARTEP in January 1991. The reserve component units are 1-111 FLARNG, 1-211 UTARNG, and 1-149 TXARNG (first up for the new cadre training program). As fielding now stands, the last unit will ARTEP in August 1995.

The Revised Program

As part of the revamped pro-

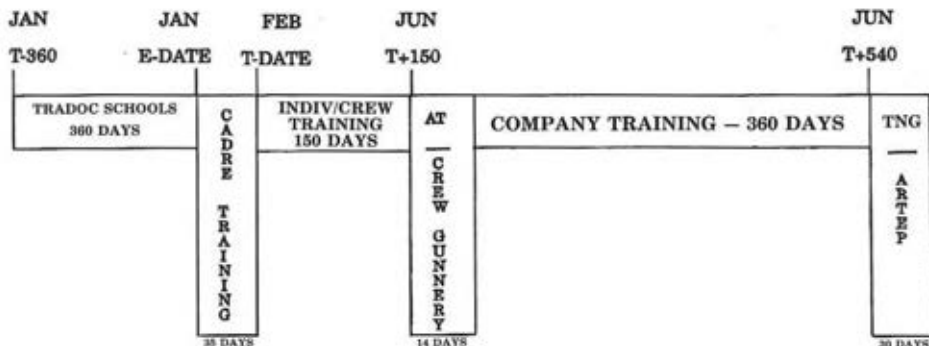
ATB REORGANIZATION PRESENT CONCEPT



- 90-day Cadre Training at Ft. Hood
- Validation by FORSCOM attack battalion
- 2-year program

ATB REORGANIZATION

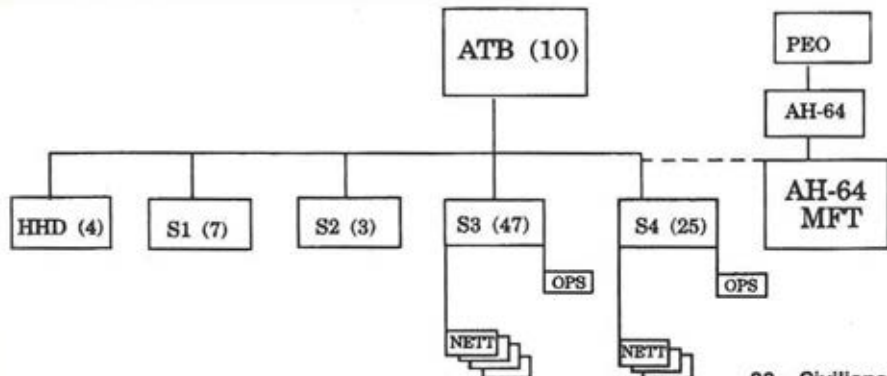
PROPOSED TRAINING CONCEPT



- 2-1/2 year program
- Reduce TDY time at Ft. Hood by 45 plus days
- Formalized Cadre training
- ATB trainers visit unit frequently
- Cadre/Battalion training & ARTEP still conducted Ft. Hood

ATB REORGANIZATION

PROPOSED REORGANIZATION

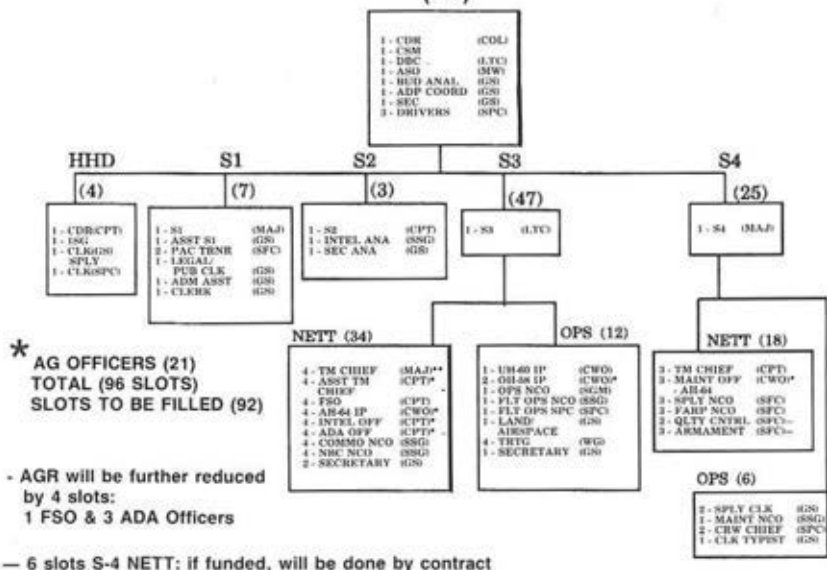


— Trainers in all staff sections

20 - Civilians
76 - Military

96 - TOTAL

ATB Proposed TDA (10)



gram, reserve component units will undergo a 30-day cadre training program at Ft. Hood. National Guard Bureau is supporting the POI development by augmenting the brigade with three POI writers. The cadre POI will encompass many topics, and includes the following: doctrine, aircrew coordination training, specific subjects (JAART, IFF, IPB, etc.), and practical exercises. Cadre training will culminate in a miniature BASE-A exercise.

Once the trainers have been trained in the cadre training program, ATB will assist the reserve component units by assigning a NETT-type team to each battalion. The NETT team will assist and evaluate the battalion prior to the unit's battalion training and ARTEP phases conducted at Ft. Hood.

To support this training/fielding process, ATB is rewriting its TDA. The new TDA has provisions for 4 operations/training teams and 3 logistics/maintenance teams. The S-3 teams will be headed by a Major (AH-64 rated) and assisted by functional area experts. The S-4 teams will be headed by a Captain (UH-60 rated) and will also be assisted by functional area experts. The teams will travel extensively between the reserve component unit's home station and Fort Hood. The teams will be married up with the reserve component unit for the time between cadre training and ARTEP.

The Future

The future of the ATB is guaranteed to be fast paced and exciting. Key slots in the

organization will be the team chiefs. We are looking for aviators with extensive AH-64 and maintenance backgrounds. Copy command, completion of CAS³, and previous assignment to an AH-64 battalion are desirable qualifications.

Other key personnel include aviators and ground support personnel from both active and reserve component forces. Instructor pilots (AH-64, OH-58, and UH-60) MTPs/MTFEs, and a Master Warrant safety officer are just some of the key slots ATB will need filled.

Keep Apache Training Brigade in mind if you are looking for a challenging assignment where you can directly influence the combat readiness of an AH-64 attack helicopter battalion.

"Attack Warrior!"

■■■■

HARDWARE:

FOREIGN MILITARY SALES 1990 RECAP

BY DONALD PLATT

ST. LOUIS, MO — Fiscal Year 1990 has come to a close with, once again, a major growth in the volume of Foreign Military Sales (FMS) activity at the Army Aviation Systems Command (AVSCOM) with the value of newly implemented FMS cases approaching \$1 billion. Typically, sales during the past year cover the gamut from retired UH-1Hs to the AH-64 Apache.

AVSCOM continues to play a major role in the United States' cooperative efforts with the nations of Latin America. Much of AVSCOM's efforts in the delivery of aircraft and spares support has been accomplished under the auspices of Section 506(A) of the Foreign Assistance Act of 1961 in addition to the national funds of the involved nations. The 506(A) authority is based on the specific determination by the President that an unforeseen emergency exists which requires immediate military assistance to a foreign country or organization. Based on this determination, the Department of Defense (DoD) is authorized to furnish up to a specified dollar value, military assistance to the involved countries. Section 506(A) provides neither funds nor contract authority. It only authorizes the draw down of material from DoD stocks. Additionally, 506(A) provides only for a 120 day "win-

dow" to provide the authorized materiel. AVSCOM's requirements during the August-December 1989 506(A) action resulted in the drawdown of nearly \$12 million in materiel including 12 UH-1Hs for the Colombian

National Police (CNP). In addition to the 12 UH-1Hs from CCAD's OCM line, the Colombian Air Force also took delivery of five new production Black Hawks and eight UH-1Hs from the Theatre Aviation Maintenance Program in Europe. The current 506(A) action, approved by the President in July 1990, includes UH-1H aircraft for Bolivia and Mexico in addition to spares support for Colombia and Jamaica with a total estimated value of \$17 million.

The most significant FMS activity of the past year, and apparently for years to come, in-

cluded the AH-64 Apache. Two FMS Apache programs for Israel and Egypt are now underway. In August, delivery ceremonies were held at MDHC, Mesa, AZ, commemorating the acceptance of Israel's first Apache which, of course, also represented the first Apache delivery to any foreign country. The Egyptian program, recently implemented, will deliver Apaches beginning in early 1994. As a result of the current Middle East crisis, Apache sales are being considered for Saudi Arabia, Bahrain, and the United Arab Emirates. This activity

"Two FMS Apache programs for Israel and Egypt are now underway."

coupled with interest amongst a number of other nations could truly make 1991 the year of the Apache in the world of Security Assistance.

The Saudi Arabian Army Aviation Program is now in full swing with deliveries of the UH-60 "Desert Hawk" completed and Bell 406 Combat Scout shipments ongoing. One VIP UH-60 Desert Hawk is slated for delivery in December 1990.

Other major fieldings this past year have included AH-1F Cobras to Thailand, MDHC 520MGs to the Philippines. Black Hawk deliveries to both Egypt and Korea are slated for December, 1990.

To everyone throughout the Army Aviation community who have contributed to the success of our Security Assistance mission, our sincere thanks as we look forward to another eventful year.



Mr. Platt is Director of International Logistics, AVSCOM, St. Louis, MO.

TRAINING:

DISTRIBUTED TRAINING

BY MAJOR WILLIAM R. MORRIS
AND MS. MARY CASCIANO

FORT EUSTIS, VA — The Army constantly faces the challenge to train soldiers more effectively and efficiently. TRADOC Pamphlet 350-4, Army Training 2007, has intensified this challenge by requiring that resident training be slowly but constantly trimmed by the year 2007. Training methods must move away from chalk and blackboard toward communicative technology.

Our challenge is to continue offering exceptional training both inside and outside the schoolhouse. Distributed training is one of the Army's current decentralized training strategies. Various types of computer-based instruction (CBI) are already incorporated into Army training programs to a small degree; however, future Army training, based on Army Training 2007, must rely more heavily on multimedia.

Meeting The Challenge

By building on the momentum the Army has gained in exploring and developing communicative technology products, the United States Army Aviation Logistics School (USAALS) is meeting this training challenge head-on. The USAALS has initiated its own multimedia distributed training program. In this program, soldiers will attend

our school for a reduced time and receive additional training in the unit.

Training products will be distributed to home stations, regional training centers, and selected sites to support Active Component (AC) and Reserve Component (RC) soldiers worldwide. Distributing training in this way should help commanders manage training programs more effectively while increasing standardization and training opportunities. An added benefit is that unit readiness will be enhanced because soldiers will spend less time away from their units.

The Plan

Distributed training effectively provides instruction for all soldiers. The USAALS plans to distribute training to the AC as well as the RC.

We will use several means for delivering training. These include:

- Trade schools.
- Off-the-shelf, computer-based instruction.

- Interactive courseware.
- Current paper-based instruction.
- Videotapes.
- Teletraining.

We are presently determining the availability of previously developed instructional products that can be reproduced and distributed. When all available products have been identified, we will develop any additional required materials.

The Pilot Program

The USAALS is initiating a distributed training program for the Reserve Component 68J10 MOS. This program will test the unit's ability to conduct an intensive training program while also performing its mission. The 68J10 soldiers are presently trained in a 22-week course at Fort Eustis.

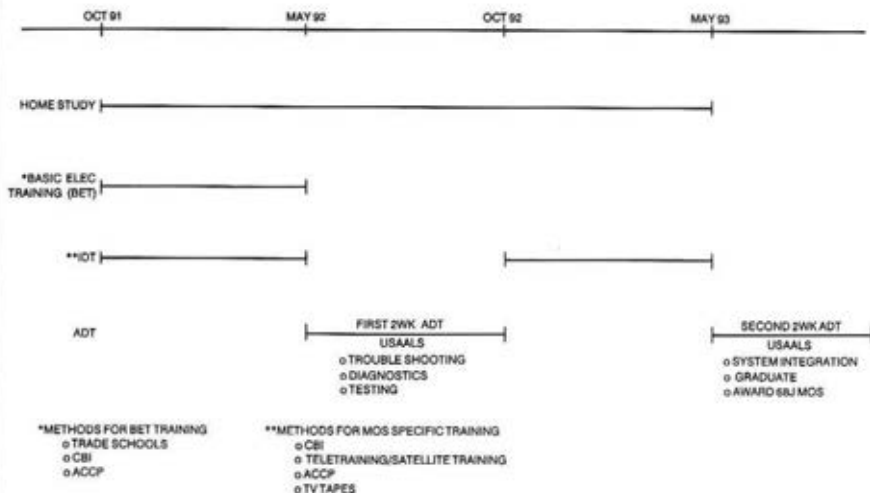
The curriculum consists of basic electronics, Air-To-Air Stinger, M65 TOW missile system, helmet sight system, fire control system, wing stores, M97 turret, and boresighting aviation ground support equipment. Obviously, an RC soldier could not fulfill a 22-week resident requirement, and no other supplementary training is currently available. By distributing the training, we can provide RC soldiers with this necessary training.

Several sites are being considered to test the program which will train AH-1 unit-specific armament tasks and consist of two Inactive Duty for Training (IDT) phases and two Active Duty for Training (ADT) phases encompassing 20-24 months. The IDT will include two 128-hour phases. Training will be provided through a variety of media, including, but



MAJ Morris is Chief of Plans Branch, USAALS, Ft. Eustis, VA. Ms. Casciano is Bio-Education Specialist, Plans Branch.

68J PILOT PROGRAM



not limited to, trainers, CBI, video, classroom instruction, and teletraining.

Home study materials must also be completed during the 2-year program. These materials include Army Correspondence Course Program (ACCP) and off-the-shelf courses.

The USAALS has developed standardized basic electronic training (BET); all training received must comply with this standard. The BET will be front-loaded in the first IDT phase and can begin prior to IDT. Initially, soldiers will attend a trade school to receive BET. Because all trade schools throughout the country will not be able to offer the exact curriculum required, CBI and other media will be

available to enhance trade school curriculum.

As in IDT, ADT will be managed in two phases. Duration of each phase will be two 120-hour weeks. ADT will be primarily hands-on training, applying training received during IDT to actual equipment. The ADT curriculum will include troubleshooting and diagnostics. Performance-oriented exams will be used to evaluate soldiers' progress.

Training will take place either at USAALS or Reserve Forces schools and will include 39 IDT drill periods before the first and second ADT periods.

The chart above displays the layout for the 68J10 pilot program.

The Future

By now, you should be able to see the potential of distributed training for both AC and RC training. It can be used for initial as well as sustainment training. The USAALS has recently established a proponent office to further develop and implement this training strategy. Between FY91 and FY97 we will be fielding Interactive Video Disc (IVD) lessons to support the AH-1, AH-64, CH-47, OH-58D, and UH-60. As we continue to develop training programs for the field, the door will be open for AC and RC units to take advantage of this modern technology.

Support tomorrow's training today!



HARDWARE:

HELLFIRE: LOOKING TO THE FUTURE

BY LIEUTENANT COLONEL GARY N. WILLIAMSON

REDSTONE ARSENAL, AL —

The Hellfire Missile has long been accepted as the Army's "number one" tank killer. It remains so today as the result of several improvements to the missile and to the expansion of the Hellfire's firing platforms. The Hellfire's capability and versatility have never been in question, but with the planned improvements and changes to Hellfire, it is poised for the future.

HOMS

The Hellfire Optimized Missile System (HOMS) is a variation of the basic Hellfire, a semi-active laser system, which provides the user a substantial improvement in the counter countermeasure arena, while providing added performance against improved "threat" armor. In addition to these primary improvements, the HOMS will also realize improvements in in-flight profiling, trajectory shaping, and end-game performance.

The missile is totally digital and incorporates 100 percent ADA software, which insures compatibility of the missile bus to the Longbow seeker, which is currently under development. Of interest to the user, is the fact that none of the stated changes generate a user impact to include the man-machine interface. In other words, all of the im-

provements are transparent. Current schedules place the HOMS in the hands of the user in mid FY93.

Following the HOMS is the Longbow Hellfire Missile, a millimeter wave technology missile, which provides a Fire and Forget capability. As mentioned above, the Longbow Hellfire will incorporate the HOMS Missile bus in its all up round configuration. The

presenting the threat with multiple technologies that he must attempt to counter.

JUST CAUSE

As demonstrated in Panama during JUST CAUSE, basic Hellfire is a formidable missile which demonstrated outstanding performance and reliability (seven hits out of seven shots). To date, the primary launch platform has been the AH-64 Apache for the Army and the Cobra for the Marine Corps, with some missile procurements being earmarked for Kiowa Warrior and Light Helicopter.

However, in recent months several different developers of varying launch platforms have expressed an interest in the various types of Hellfire missile

"...none of the stated changes generate a user impact. . . all of the improvements are transparent."

Longbow's capability will greatly improve survivability, while providing the user with an all-weather missile. The combined employment of the HOMS and Longbow, which have equal lethality, will establish superior technology on any battlefield by

systems.

Currently, testing is ongoing for Ground Launched Light and Heavy systems, as well as Navy applications for ship to ship and ship to shore utilization. In addition to increased interest among the U.S. branches of service, considerable interest has been expressed by foreign countries in both the HOMS and Longbow.

Hellfire; tested and proven for today's battlefield? Most certainly yes, and with the addition of HOMS and Longbow, it will remain ready for the battlefield of tomorrow.



LTC William-
son is Product
Manager, Hell-
fire Optimized
Missile System,
Redstone
Arsenal, AL

AIR TRAFFIC CONTROL:

CAPSTONE ATS/ATC CONFERENCE

BY COLONEL MELVIN J. McLEMORE

FORT RUCKER, AL — The 1990 worldwide Air Traffic Service/Control Capstone Conference was held on 26-27 October in Edgewood, MD. This year's conference combined the annual Air Traffic Control Commander's Conference. The event was co-hosted by the 29th Air Traffic Control Group and the United States Army Air Traffic Control Activity (USAATCA). It brought together representatives from Major Army Commands (MACOMS) which have Air Traffic Control elements, commanders of National Guard ATC units, and representatives from USAATCA. It provided an excellent forum to update the past year's initiatives, discuss problem areas, and explore possible solutions to problems and deficiencies.

Recent changes in the world situation have necessitated a revision of the Air Traffic Services (ATS) Operational Concept, and the ATS Doctrine manual (FM 95-100). The ATS Operational Concept is currently being revised to reflect the AirLand Battle - Future concept. First and foremost, the new concept will be flexible. It will be capable of task organizing to best support the tactical commander and interface with sister services as well as Host Nation ATS when required. It will support the requirement for

Pathfinder skills for ATS tactical teams in all ATS units. A draft Operational Concept is expected to be completed and reviewed by the CG, USAAVNC, in early 1991. The draft FM 95-100 is in the process of being revised to reflect ATS support in the AirLand Battle - Future concept. Major changes include focusing on global orientation, forward presence, contingency operations, fighting on the nonlinear battlefield, and task organization as required. The coordinating draft of FM 95-100 is expected to be reviewed by the CG, after his approval of the new operational concept.

In the area of personnel, the draft L-series Table of Organization & Equipment (LTOE) for ATS was briefed, announcing approval at TRADOC. Subsequent to discussions at the conference, TRADOC has recommended changes to the LTOE which will require resolution at Department of the Army (DA) level. The final recommendation and draft TOE will be forwarded to DA in 2nd



COL Melmore
is Commander,
U.S. Army
Air Traffic
Control
Authority,
Ft. Rucker, AL.

Quarter FY91. The 256th Signal Support Company, which is the Army's ATS Maintenance Unit, was approved without change.

The Operational & Organizational (O&O) Plan for the Tactical Terminal Control System (TTCS), which will replace the existing AN/TSQ-97 man-portable tower was approved October 1990 by the Requirements Review Committee (RRC), TRADOC, and subsequently by the CG, TRADOC. This final approval constitutes program initiation. The O&O Plan for the Air Traffic Navigation, Integration, and Communications System (AT-NAVICS), replacing the AN/TSQ-71B GCA radar facility was also approved by the RRC, TRADOC. It is currently at USAAVNC for minor editing prior to final approval by the CG, TRADOC.

The undersigned gave a briefing on ATS support of Operation DESERT SHIELD. DESERT SHIELD is serving to validate requirements for improved communications capabilities as well as equipment commonality. The information derived from ongoing actions and reviews will assist in further development of doctrine, training, leader development, organizations, materiel, and logistics. This operation will be addressed in detail in a separate follow-on article.

The U.S. Army Air Traffic Control Activity will continue to pursue improvements in the ATS arena, which will ultimately provide the Aviation community with "state of the art," highly reliable, and efficient ATS systems to support near all-weather capability in both the tactical and training environment.

IIII

TRAINING:

NCO ACADEMY UPDATE

BY COMMAND SERGEANT MAJOR MELVIN P. TAYLOR

FORT RUCKER, AL — The mission of the U.S. Army Aviation Center Noncommissioned Officer Academy (USAACNCOA) is to train Aviation Branch NCOs to be better leaders and trainers of soldiers, to instill increased self-confidence and a sense of responsibility, and to prepare them for leadership duties in all environments. Students enrolled in the Advanced Noncommissioned Officer Course (ANCOC) includes CMF 93 and MOSs 68P; the Basic Noncommissioned Officer Course (BNCOC) includes CMF 93 and MOSs 68L, N, Q, and R. Course length varies from five to nine weeks. Both the Advanced and Basic courses are separated into the following four phases:

- **Common Leader Training**—Common subjects taught in all Army NCO Academies designed to increase an NCO's ability to lead.
- **Common Aviation Subjects**—Subjects that all Aviation Branch NCOs need to know.
- **MOS Related Subjects**—MOS specific subjects aimed at increasing the NCO's technical knowledge.
- **Field Training Exercise**—An intensive scenario based FTX integrating Multiple Integrated Laser Engagement System and opposing forces.

Although separated into four

different phases, common leader training is stressed throughout the course. The NCO Academy has established stressful, leadership-intensive, performance oriented training that requires all NCOs to demonstrate their leader, trainer, technical, and tactical skills.

New Programs

Several new programs were recently implemented in the NCO Academy curriculum. All students must pass an Army Physical Fitness Test (APFT) before graduation, regardless of course length. An APFT is given within the first two weeks of training. Those NCOs that fail to meet the Army standards will participate in a special fitness program and retested later in the course. A second APFT failure will result in elimination.

Weapons qualification is another new program recently implemented. Both ANCOC and BNCOC students must qualify with the M-16 rifle before graduation.



**CSM Taylor is
Commandant,
U.S. Army
Aviation Center
NCO Academy,
Ft. Rucker, AL.**

The Leadership Assessment Development Program (LADP) was implemented in March 1990, in ANCOC, and October 1990, in BNCOC. LADP is a structured process that focuses on developing leaders by using multiple written assessments and observations to provide information about a leader's readiness or potential to lead effectively. It involves comparing performance to a standard or performance indicator, giving feedback, and developing a plan to improve leadership performance. The framework for LADP assessments are the nine leadership competencies contained in Appendix A of FM 22-100, dated July 1990. The nine leadership competencies establish broad categories of skills, knowledge, and attitudes that define effective leader performance. Rather than being evaluative, the primary focus of LADP is development.

Effective October 1990, all students receive instruction on how to plan and conduct battle focus training based on FM 25-101. The instruction is aimed at teaching the Section and Platoon Sergeants' role in training their soldiers in the individual and collective tasks to support the unit's Mission Essential Task List (METL).

NCOs attending the USAACNCOA are required to maintain high standards. The NCO Academy does not establish the standards, but the cadre enforce those standards established by the Department of the Army. Standards will not be decreased to let a substandard NCO graduate. The NCO Academy graduates only those NCOs that meet or exceed the standards. ■■■■

TEST & EVAL:

AVN TEST MOVES TO FORT HOOD

BY COLONEL TOMMIE A. McFARLIN

FORT HOOD, TX — On 16 November 1990, the Secretary of the Army announced the creation of the United States Army Operational Test and Evaluation Command (OPTEC). OPTEC was established by merging and reorganizing the U.S. Army Training and Doctrine (TRADOC) Test and Experimentation Command (TEXCOM) and the Operational Test and Evaluation Agency (OTEA). This reorganization includes the TEXCOM Aviation Board located at Fort Rucker, AL.

The proposal, approved by Congress and Department of the Army, involves personnel and functional realignments at several installations. Four of the eight test boards within TEXCOM will be closed, and like directorates will be established at Ft. Hood, TX. The TEXCOM Aviation Board will be redesignated as an Aviation Test Directorate and relocated to Ft. Hood.

In response to the overall defense budget reductions, the creation of OPTEC provides the Army with the capability to continue to conduct realistic, operationally valid tests and evaluations with no reduction in workload during a time of limited resources.

The reorganization is scheduled for completion by March 10, 1991. However, there will be a

small residual of Aviation Board personnel through the summer of 91. Also, a small Test Evaluation Coordination Office (TECO) will be established at Fort Rucker. The TECO will perform liaison and staff coordination functions between USAAVNC and the OPTEC headquarters in Alexandria, VA, as well as TEXCOM at Fort Hood, TX.

This reorganization decision is part of "Building Down" the Army. While doing so, we must continue to provide the operational aviation testing capabilities for Army Aviation which enhance its contribution to the Army's war-fighting capability.

The reorganization and relocation of the Aviation Board will not alter its mission—planning, conducting, and reporting on user tests and field experiments involving doctrine, training, reorganization, and material for Army Aviation systems. The Aviation Board has been responsible for assessing the military operational effectiveness and suitability of test systems or employment con-

cepts to be integrated into the Army Aviation inventory. The Board has also participated in Development Tests and provided advice and guidance on test and evaluation matters to materiel developers, materiel producers, other services, and industry.

The Aviation Board recently conducted the Early User Test and Evaluation of the Apache Longbow and an operational assessment of the proposed Light Helicopter Full Scale Development proposals of two contractor teams. The Board also completed the Initial Operational Test and Evaluation of the M43E1 Aircrew Member Protective Mask and Concept Evaluation Programs of the Improved High Frequency Radio Systems, Standard Aircraft Towing Tractors, and AH-64 Escort Jammer II. The Aviation Board is currently testing a light weight blower motor for the M43E1 Aircrew Member Protective Mask and the Helicopter Map Display Unit. The Aviation Board will soon conduct an operational test of the AH-64 Air-To-Air Stinger.

As the TEXCOM Aviation Board at Ft. Rucker transitions to the TEXCOM Aviation Directorate at Ft. Hood there may be the opportunity for coordination shortfalls. However, the Aviation Test Directorate's prime objective will continue to be its commitment to the field operational user—to ensure that the user obtains the highest quality operationally useable product in a timely manner.

The Aviation Test Directorate will retain the motto "Fidelis Operanti" (fidelity to the operator) as historical continuity which began in 1957. ■■■■



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BRIEFINGS



Aerospatiale Helicopter Corporation (AHC) received a 3.8 million dollar contract earlier this year from the **Light Helicopter Turbine Engine Co. (LHTEC)** as part of a program to re-engine one U.S. Coast Guard HH-65A Dolphin helicopter with the U.S. Army's new T800 engine. Assembly of the aircraft (above) was completed in November, and first engine start was accomplished on 30 November 1990. Systems testing having been completed, the Dolphin aircraft will be transported to LHTEC's facility in Phoenix, AZ, for ground and flight testing. First flight is scheduled for April, 1991.

Power for **Sikorsky Aircraft's UH-60L Black Hawk** will be provided by two **GE Aircraft Engine's T700-GE-701C turboshafts**. The newer engines will provide the UH-60L with over 20% more power, which translates into 1,940 shaft horsepower. This enables the UH-60L to lift up to 3,000 pounds more than earlier UH-60A models, in hot temperature/high altitude conditions.

The **Boeing-Sikorsky Light Helicopter First Team** has successfully demonstrated the Night Vision Pilotage System (NVPS) developed by **Martin Marietta Electronic Systems**. Flights were carried out during day and night conditions at Sikorsky's Stratford, CT, facilities 10-13 December 1990. The infrared imagery demonstrated was significantly better than that currently available in first-generation Pilot Night

Vision Systems. The NVPS will permit the First Team LH pilot to safely fly and maneuver at nap-of-the-earth altitudes at night and under adverse weather and poor visibility conditions. The NVPS provides high-resolution day-like imagery at extended ranges using advanced focal plane array infrared technology. The system includes a stabilized turret and a second-generation Forward-Looking Infrared (FLIR) system.

The **145th Combat Aviation Battalion** will hold a reunion on 7-9 June 1991, at Fort Rucker, AL. For more details, contact **MG Richard D. Kenyon, Ret.**, Rt. 4, Box 199B, Ozark, AL 36360. Telephone: (205) 698-0401.

On March 1-3, 1991, the **International Liaison Pilot & Aircraft Association (ILPA)** will host the first worldwide gathering of L-Birds in San Antonio, TX. Contact: **Bill Stratton**, 16518 Ledgestone, San Antonio, TX 78232.

Anatoly Grischenko, former leading test pilot of the U.S.S.R.'s Gromov Flight Institute was honored posthumously with the **Flight Safety Foundation Heroism Award** at the Foundation's 43rd Annual International Air Safety Seminar (IASS) held in Rome, Italy, 19-22 November 1990. The citation of the 1990 Flight Safety Heroism Award to Grischenko reads: "... for selflessly giving his own life in order to save the lives and safeguard the health of others following the disastrous nuclear reactor accident at Chernobyl. . . the containment and control of radioactive emissions following the major nuclear accident called for immediate action. Test Pilot Grischenko, realizing the extreme urgency of the situation and fully aware of the danger to himself and his crews from the intense radioactivity, volunteered to fly helicopter missions into areas above and around the damaged reactor. In undertaking these hazardous missions, he accumulated, through repeated exposure, high levels of radiation which resulted in serious illness and death." **John H. Enders**, President of the Flight Safety Foundation, referred to Grischenko's actions as the "greatest act one person can perform for fellow man."

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Class 90-8 UH-1 Track (10/19/90): 2LT Timothy S. Davis, Dist. Grad; 2LT LaMar Blair, Honor Grad.

Class 90-8 UH-1 Track (10/19/90): WO Michael A. Steele, Dist. Grad; WOs David K. Guarino and Timothy R. Commerford, Honor Grads.

Class 90-8 OH-58 Track (10/19/90): 1LT Edwin W. Parkinson, III, Dist. Grad.

Class 90-8 OH-58 Track (10/19/90): WO Thomas A. Ames, Dist. Grad; WO Jeffery W. Fields, Honor Grad.

Class 90-7 UH-60 Track (10/19/90): 2LT Kenneth B. Marshall-Lang, Dist. Grad.

Class 90-6 AH-1 Track (10/19/90): 2LT Robert S. Kimbrough, Dist. Grad; 1LT Edward C. Guilford, Jr., Honor Grad.

Class 90-6 AH-1 Track (10/19/90): WO Matthew L. Brown, Dist. Grad.

Class 90-9 UH-1 Track (11/2/90): 2LT Richard A. Chanslor, Dist. Grad; 2LT Edward R. Sosinski, Honor Grad.

Class 90-9 UH-1 Track (11/2/90): WO David R. Nielsen, Dist. Grad; WOs John S. Nastasi and Darryl F. Jirinec, II, Honor Grads.

Class 90-9 OH-58 Track (11/2/90): 2LT Joseph E. Fluet, III, Dist. Grad.

Class 90-9 OH-58 Track (11/2/90): WO Troy V. Montanez, Dist. Grad; WOs Michael L. Hightower and Louis A. Papesca, Honor Grads.

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Class 90-8 UH-60 Track (11/2/90): WO Randall R. Teague, Dist. Grad.

Class 90-7 AH-1 Track (11/2/90): 2LT Shannon J. McCoy, Dist. Grad.

Class 90-7 AH-1 Track (11/2/90): WO Svenerik C. Wahlroos, Dist. Grad; WO Benjamin P. Kottke, Honor Grad.

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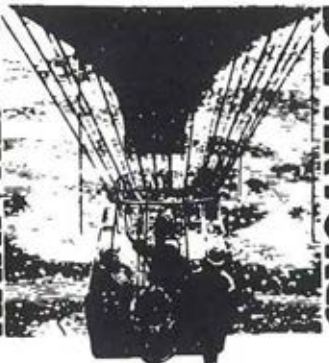
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Class 90-3 Aviation Officer Advanced Course (10/26/90): CPTs Michael C. Aid, Andrew B. Arberg, Jerold D. Bastian, Henry H. Beaulieu, Kevin R. Bishop, Christopher S. Bobo, Charles A. Bonasera, James H. Boozell, Emory W. Brownlee, Jr., John F. Dowd, Jr., James B. Duncan, Alan D. Fessenden, Neil J. Frey, Jeffery T. Kappenman, Cynthia M. Lamb, Morgan M. Lamb, Jerry F. Madison, Shawn P. Marcotte, Pete L. Newell, Michael D. Parrish, Richard T. Phillips, Richard D. Reimers, II, Douglas D. Sena, Michael J. Sinatra, Kevin P. Spala, William S. Story, Turner B. Thackston, IV, Scott T. Waggoner, Wesley L. Wyllie, Michael J. York, 1LT Randy J. Bachman, all Exceeded Course Standards.

Class 91-1 Master Warrant Officer Training Course (12/13/90): MWO Jimmy L. Rogers, Class Leader.

Class 91-1 Aviation Senior Warrant Officer Training Course (12/19/90): CW2 Byron A. Burgess, Dist. Grad; CW2 Robert T. Little, CW3 Raymond B. Collins, CW3 James R. Carrier, Jr., Honor Grads.

Class 90-4 Aviation Officer Advanced Course Class (12/21/90): CPTs Richard M. Beckinger, Timothy A. Jones, Kurt E. Norby, Vincent M. Reap, Richard L. Shaw, Stephen C. Smith, all Exceeded Course Standards.



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DESERT STORM NOTEBOOK



Above: the hull of the MV *American Falcon* is loaded with one of the many Cobra attack helicopters it will carry to Southwest Asia in support of Operation DESERT STORM. Soldiers assisting in getting the choppers aboard are with the 70th Transportation Battalion, AVIM, and 2nd Armored Cavalry Regiment.

World USO has announced that **International Business Machines (IBM)** has donated \$150,000 to the non-profit organization dedicated exclusively to serving the off-duty needs of American military service personnel and their families at more than 158 locations worldwide. IBM's contribution will be divided between USO's Persian Gulf Crisis Fund and its Corporate Sponsors' Fund, an endowment designed to ensure USO's long-term financial stability.

In other USO news, Goodwill Ambassador **Bob Hope** continued a tradition of providing comfort and cheer to military personnel stationed abroad by visiting the Persian Gulf during the Christmas season. Hope headlined a star-studded tour of performers including the Pointer Sisters, Anne Jillian, Walter Payton, Marie Osmond, Johnny Bench, Aaron Tippett, and Khristyne Haje. A simultaneous tour featuring "Major Dad" star Gerald McRaney and "Designing Women" star Delta Burke was also conducted.

According to an article in the Fall issue of *Army Families*, the possibility of long-term troop deployments for Operation DESERT STORM has

prompted the Army's top personnel officer to take a hard look at single-parent soldiers' and dual-service couples' **Family Care Plans**.

In a recent message to the worldwide Army, LTG William Reno, Deputy Chief of Staff for Personnel, asked active and reserve commanders to ensure temporary caretakers of deployed soldiers' children fully understand the military services available for those children. Those services include medical and dental care, as well as access to exchanges, commissaries, and other military facilities. Adults who are not personally eligible to use those services—but who are caring for military children—must be granted access to military facilities so that the children receive their entitlements.

Soldiers' Family Care Plans should include powers of attorney for their children's guardians, notarized certificates of acceptance from the guardians, applications for the children's military identification cards, allotment of forms or proof of financial provisions for the children. Children should be enrolled in the Defense Eligibility Enrollment Reporting System, or guardians should have copies of the children's birth certificates to prove eligibility for military medical care.

Toll-free numbers are available for guardians to call for clarification and more information. They are: the Community and Family Support Center, 1-800-542-9254 (24 hours); Headquarters, Department of the Army, Family Liaison Office, 1-800-833-6622 (7:30 A.M.-5 P.M. EST); DEERS, 1-800-538-9552 (6 A.M.-3:30 P.M. PST) and the Army Reserve Personnel Center, 1-800-874-8451 (24 hours).

MCI Communications Corporation is donating free domestic long-distance services and short-wave radio equipment to the Armed Forces Military Affiliate Radio System (MARS). Through the use of short-wave radio equipment manned by MARS operators in Saudi Arabia, American soldiers may contact any of 185 designated MARS stations in the United States. MCI is donating the domestic long distance calls. The service is available for a 90-day period which began on December 20, 1990. MCI is also providing equipment to establish 15 new MARS short-wave radio stations in Saudi Arabia.

In Memorium



When confronted with the sudden, unexpected death of a fellow aviation professional, former subordinate under your charge, and close family friend, there can only be disbelief, shock, sorrow, and an empty feeling deep within yourself. There is also a feeling of deep, sincere sympathy for the families of our fallen comrades. I didn't know CW4 Daniel S. Scott or PFC Earnest G. Dawson, but I did have the honor and pleasure of knowing LTC David H. Pickett.

Dave Pickett was the epitome of a professional Army officer. Loyal, dedicated, and unflappable during times of stress, Dave represented one of Army Aviation's best. As my S-3

officer in an assault helicopter battalion, I never did break him of his West Point habit of standing at attention when I dropped into his office to see "what was up." I did learn to enjoy his personal, dry, tongue-in-cheek sense of humor. Dave was always capable of turning the "I wants" into missions accomplished or taking the occasional "chicken sierra" from other (read that as higher) HQs or staffs and making some form of digestible chicken salad out of it. Rosemary, his wife, and their children will miss the kind, loving husband and father they knew. Rosemary, a fellow professional and Army officer, helped deliver our son. Their Army careers imposed on their time together as a family, but they always had quality time for each other. Rosemary and her children already know that Dave's high standards, personal leadership abilities, and obvious potential had resulted in an early promotion to Lieutenant Colonel, command selection and that only good things lay in their future.

On the day that he died, I am sure that the flight crew with him from his unit exemplified all the same personal qualities that are reflected in units led by good leaders like Dave. Their families and their country can be proud of these brave Americans and their courage for serving so unselfishly.

I can only pause for a moment to think of the tragedy of their loss before I am filled with a profound disgust and lack of respect for the cowardly, criminal manner in which these brave, professional soldiers died. Those responsible will not be forgotten, nor will they be forgiven. This atrocity will only serve to reemphasize for the rest of us our commitment to fight whenever or wherever the need may be in order to protect the rights and values we as Americans hold so dear. Our soldiers' personal sacrifices only make the gift of freedom a little more precious for us or for our friends allied with us.

Dave, Dan, and Earnest, you will never be forgotten; you will always be one of us.
Air Assault.

Editor's Note: These thoughts were received from LTC Charles B. Cook. LTC Pickett was a AAAA Life Member and Commander, 4th Battalion, 228th Aviation Regiment, 128th Aviation Brigade, Soto Cano Air Base, Honduras. Scott, Dawson, and Pickett were reportedly executed by FMLN rebels after their UH-1 was brought down by small arms fire in northeastern El Salvador on 2 January 1991.

New AAAA Chapter Officers

Armadillo

CPT Bobby L. Branch (Treas); CW3 Stephen J. Ingley (Secretary).

Benelux

LTC James E. Sutton (Pres); Lynn Olson (Secy); CPT Matt H. Arnold (Treasurer).

Bonn

LTC Miles L. Henselman (Secy); LTC William D. Gee (VP, Membership Renewals)

Connecticut

Anthony C. Patti (VP, Memb. Renewals)

Corpus Christi

James A. Tschoepe (Sr VP); Nancy A. Alexander (Treas); Francoise Cymes (VP, Benefits)

Mainz

CW4 Peter A. Miller (Treas); CW4 David A. Coates (VP, Membership Renewals)

Monmouth

Charles Marotta (Sr VP); Merton S. DuBois (VP Memb. & Renew); George Hogelin, Sr. (VP, Prog); Ronald V. Kurowsky (VP, Scholarships)

Morning Calm

MAJ Ray C. Woolery (Treas); MSG John H. Bae (VP, Memb. Renewals)

Mount Rainier

MAJ Thomas B. Peterman (Sr VP); MAJ Robert C. Bailey (Treas); CPT Richie L. Anderson (VP, Spec. Proj.)

Old Ironsides

MAJ Robert D. Carter (Pres); LTC Kenneth L. Travis (Sr VP); 1LT Shawn D. Allen (Secy); CPT John S. Arnold (VP, Memb. Enroll); CSM Kenneth R. Weast (VP, Enlist. Aff.); CW3 Terry A. Morich (VP, Programs);

MSG Bae Does it Again

MG Charles F. Drenz, Ret., AAAA Senior Vice President and Vice President Membership, has announced that MSG John H. Bae, Vice President Renewals, Morning Calm Chapter, ROK, has won the Calendar Year 1990 "Top Gun" award. This award is given annually to the member who sponsors the greatest number of new members during the contest year ending 31 December.

MSG Bae, who placed first last year with a spectacular 337 new members, continues on with 309 new members in 1990. MSG Bae wins an expense-paid trip to the AAAA Annual Convention in St. Louis, MO, including airfare, hotel accommodations, registration, tickets to all social functions, and a \$300 cash award. He will receive a plaque at the AAAA Membership Luncheon, 12 April 1991.

CW3(P) Butch Daniel, Army Aviation Center Chapter, placed second with a 90 member effort; CW4 Windell R. Mook, also of Army Aviation Center Chapter, produced 81; and Mr. Ronald V. Kurowsky of the Monmouth Chapter came up with 57. In fifth place, CPT John P. Connell of Army Aviation Center netted 46 recruits. Others included Ms. Nancy A. Alexander, Corpus Christi Chapter, with 28; Ms. Susan E. Barnes, Lindbergh Chapter, with 24; and CPT Brian W. Magerkurth, Black Knights Chapter, with 22. More than 100 members sponsored five or more new members each.

1990 Chapter Membership Contest

At the close of the Calendar Year 1990, the following AAAA Chapters had achieved the following standings in the "Chapter Membership Enrollment Program":

"AAAA Chapter" category (25-115): The Mid-America Chapter, Ft. Riley, KS, won with a net gain of 31 members. Armadillo Chapter, Conroe, TX, came in second with a net gain of 26, edging Old Ironsides Chapter, Ansbach, FRG, into third position with a gain of 24.

"Senior Chapter" category (116-230): Fort Ord's Monterey Bay Chapter, CA, led the way with a net gain of 47 members. Checking in for second place was the Leavenworth Chapter, Ft. Leavenworth, KS, with a total gain of 15 members, and at third place, the Cedar Rapids Chapter, Cedar Rapids, IA, came in with 11 new members.

"Master Chapters" category (231 or more): Morning Calm Chapter, Seoul, ROK, rocketed into the top slot with a net gain of 158 new members, reflecting the efforts of "Top Gun" MSG John Bae. Central Florida Chapter, Orlando, FL, took second place with 67 members, edging out the Monmouth Chapter, whose final tally was 63.

The Presidents of the three winning chapters will receive plaques at the 12 April 1991 Membership Luncheon at the Annual Convention, St. Louis, MO.

AAAA anticipates offering \$100,000 aid in 1991 for college-entry Freshmen

■ ■ ■ BACKGROUND:

The AAAA Scholarship Foundation, a separate non-profit, tax-exempt corporation created to render financial assistance to selected members of the Army Aviation Association of America, Inc. (AAAA) and selected spouses, unmarried siblings, and unmarried children of current and deceased AAAA members, expects to make available \$100,000 in assistance funds for the 1991 college-entry year.

■ ■ ■ SCHOLARSHIP GRANTS AND LOANS:

A minimum of thirty scholarships will be presented—ranging from \$1,000 to \$12,000 grants given out as one, two, or four year scholarships; five \$4,000 interest-free loans (\$1,000 a year); a \$2,000 scholarship (\$1,000 a year) to an eligible applicant pursuing a two-year associate degree in an aeronautical-related science; a \$4,000 scholarship (\$1,000 a year) to an eligible applicant pursuing a four-year B.S. degree in an aeronautical-related science; and a \$3,000 scholarship available to students planning to attend St. Louis University.

■ ■ ■ AWARD PHILOSOPHY:

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

■ ■ ■ APPLICATION PROCEDURE:

To apply, please request a Scholarship Grant/Loan Application and return it to the AAAA Scholarship Foundation, 49 Richmondville Avenue, Westport, CT 06880-2000 on or before May 1, 1991 (postmark will govern). On our receipt of the completed application, you will be mailed further instructions and assigned an AAAA interviewer. All forms, together with other supporting data, must be returned to the Foundation on or before June 15, 1991 for consideration by the AAAA Awards Committee (postmark will govern).

■ ■ ■ ELIGIBILITY CRITERIA:

An applicant must be a citizen of the United States who has been admitted to an accredited college or university for Fall 1991 entry as a freshman. The AAAA member to which the applicant is related must have an effective date of membership on or before March 31, 1990. All eligible applicants shall first be considered for scholarship grants and then, if requested by the applicants, considered for the loan program.

■ ■ ■ SELECTION AND NOTIFICATION:

Selection of winners will be made by the AAAA National Awards Committee during mid-July with each applicant to receive a list of the winners not later than August 1, 1991.

New Officers cont.

Old Ironsides (cont.)

MAJ Allen B. Taylor, Jr. (VP, Pub.); CPT Salvatore Frenda (VP, Benefits)

Old Tucson

CSM Jack H. List (Pres); CPT Michael P. Bishop (Secy); CW3 Mark H. Friskel (VP Memb. Enroll.); CW3 H. Lee Brown (VP, Membership Renewals)

Stuttgart

CPT Jeffery D. Chaplin (VP Publicity)

Talon

1LT Joseph A. Kish, Jr. (Treas); CW2 Eric R. Marburger (Secretary)

Tennessee Valley

LTC James D. Pepper, Ret. (VP, Membership Renewals)

Aviation Soldier of the Month

A chapter program to recognize outstanding Aviation Soldiers on a monthly basis

SGT Jeffery M. Schneider
(January)

SPC Todd D. Manske
(February)
Aloha Chapter

Aces

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

CPT James L. Becker

LTC Paul G. Bernhardt

CPT Lynn N. Bowler

Mr. Joseph A. Gaines

2LT Teena M. Christoffersen

CW4 John Steele Clayton

MAJ Merle W. Converse

CW3(P) Butch Daniel

CPT(P) John S. Emerson

MAJ William H. Forrester

CW3 Roger K. Garner

Aces cont.

SSG Chris W. Holland
COL Frank P. Intini, Jr.
LTC David A. Lum, Ret.
COL Robert D. Mabey
LTC Michael McClellan, Ret.
LTC George P. McGee, Ret.
1LT Kevin M. O'Brien
CPT Darryl T. Shamblin
Mr. Raymond Springsteen
CPT Chester A. Sublett
CPT David W. Sullivan
LTC Ray L. Thompson
CW4 Carroll Vaughan, Jr.,
Ret.
LTC Douglas E. Warne
Ms. Susan J. Werkmeister
Mr. James D. Winberry

Hall of Fame Nominations Due 1 July 1991

The Army Aviation Hall of Fame honors those persons who have made a) an outstanding contribution to Army Aviation over an extended period, b) doctrinal or technical contribution, c) an innovation with an identifiable impact on Army Aviation, d) efforts that were an inspiration to others, or e) any combination of the foregoing, and records the excellence of their achievements for posterity.

Please contact the AAAA National Office for the official AAAA Hall of Fame Nominations Form: AAAA, ATTN: Chairman, Hall of Fame Board of Trustees; 49 Richmondville Avenue, Westport, CT 06880-2000.



Pete Bauman, left, Edwin A. Link Chapter President, presented guest speaker Colonel Theodore Sendak, Director of Combat Developments, Ft. Rucker, AL, with a Blue Box replica at the November 27th meeting of AAAA's Edwin A. Link Memorial Chapter in Binghamton, NY.

AAAA Member CW3 Rudolph V. Hobbs, USA, Safety Officer HHD, 1st Battalion, 14th Aviation Regiment, Ft. Rucker, AL, and a member of the world champion 1989 U.S. Precision Helicopter Team, was hosted by GEN Colin Powell, Chairman of the Joint Chiefs of Staff, 17 October 1990 at the Pentagon. GEN Powell is seen below left, exchanging hats with CW3 Hobbs, right. (Photo by MSgt Joe Fallon, U.S.A.F.)





Attending the Army 10 Kilometer Marathon in Washington, DC were these six representatives from the Colonial Virginia Chapter. Dubbed the Team TRADOC "Wing Nuts," 1-222 AVN RGT, they are, from left to right: Brian Johnson, MAJ Bob Oats, CW4 Bill Montgomery, LTC Mike Bohannon, MAJ Rich Tannich, and CW4 Tony Johnson, Ret. No word on how they fared, but they look like they could have won.

Master Gregory Kaufmann prepares his CH-1 (Cuddly Helicopter -1) for his first check ride! It's obvious he's following in his father's (MAJ Joseph G. Kaufmann, currently the Executive Officer of the 4th Battalion, 58th Aviation Regiment in Korea) flight path. Greg's date of birth was 6 May 90.



2 for 1 Offer



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

**Join the
Professionals!**

Join AAAA

**See membership
application
on page 71.**

AAAA CALENDAR

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

January, 1991

- ✓ **Jan. 23.** Aloha Chapter Membership Meeting, Members & Guests. Buffet Breakfast. Schofield Barracks Officer's Club.
- ✓ **Jan. 24.** Greater Chicago Professional-Business Meeting. Members & Guests. Speaker: Mr. Robert Mansfield, President, NAV-AIDS, USA. At Santucci's Restaurant.
- ✓ **Jan. 25.** Morning Calm's General Membership Meeting and Golf Tournament. 8th Army Golf Course.
- ✓ **Jan. 29.** Colonial Virginia Membership Luncheon. Members & Guests. Guest

Speaker: COL J. Dave Carothers, DA DCSOPS, Chief, Army Aviation.

- ✓ **Jan. 31.** Corpus Christi General Membership meeting. Corpus Christi Bay Club Sun Room.

February, 1991

- ✓ **Feb. 2.** AAAA Nat'l Awards Committee Meeting to select CY90 Nat'l Award Winners.
- ✓ **Feb. 5.** Lindbergh Chapter's Combined Competition Advocates Shopping List (CASL) Workshop and Product Support Symposium Early Bird Reception. Stouffer Concourse Hotel.

- ✓ **Feb. 6-7.** 17th Annual Joseph P. Cribbins Product Support Symposium sponsored by the AAAA Lindbergh Chapter. Stouffer Concourse Hotel, St. Louis, MO.

- ✓ **Feb. 6.** AAAA Outstanding Aviation Logistics Support Unit of the Year Award Presentation and AAAA Industry Award Presentations, Stouffer Concourse Hotel, St. Louis, MO.

April, 1991

- ✓ **April 10-14.** AAAA Annual Convention, Cervantes Convention Center, St. Louis, MO.
- ✓ **April 10.** AAAA NEB Meeting, St. Louis, MO.

DON'T GET SHUT OUT OF THE 1991 ST. LOUIS AAAA CONVENTION — APRIL 10-14

TWA has been selected as the designated carrier for the AAAA Annual Convention in St. Louis.

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

To make your seat reservations (\$100,000 free insurance, convention mileage, seat assignments, boarding passes), call **Westport Travel**, our official agency, or call **TWA** directly.

WESTPORT TRAVEL 1-800-243-3335

(in CT, 1-800-433-7183)

—or—

TWA 1-800-325-4933

(Cite File #CV10314)

The savings apply to reservations on TWA flights between Sunday, April 7 and Wednesday, April 17, 1991

THE DECIDING FACTOR

ONLY ONE LH TEAM HAS



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