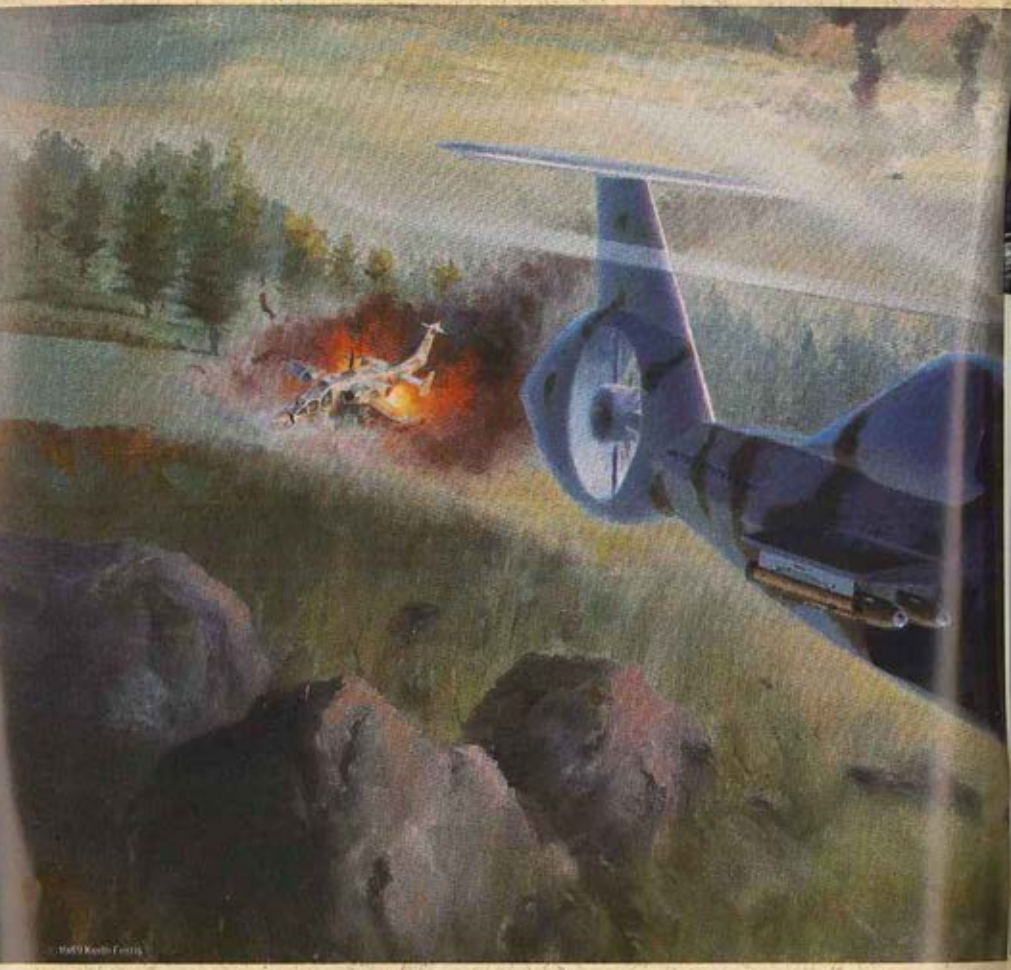
Aviation Soldier Directory and Special Focus 160th SOAR(A)

SPECIAL OPERATIONS AVIATION: 160th SOAR (AIRBORNE)

ARMY AVIATION

ENDORSED PUBLICATION OF THE ARMY AVIATION ASSOCIATION OF AMERICA • JULY 31, 1990

"Our sensors smell bogies as we're mauling their main armor column. Bogies are LHX meat."



The First Team's LHX destroys any challenger in air-to-air combat:

Nose-mounted targeting sensors, free from blade interference, allow acquisition, firing and target destruction from safe standoff position.

Continuous-feed, highly reliable Gatling gun gives high rate of fire with accuracy enhanced by in-flight feedback system; retracts for low signature.

Maximum eyes-out visibility with wide-field Helmet Mounted Display.

Low signatures due to compact airframe, retractable missile racks.

Bearingless, low-noise rotor for greater agility in nap-of-earth flight.

BOEING SIKORSKY
THE FIRST TEAM FOR LHX

Boeing Helicopters • Sikorsky Aircraft • Boeing Military Airplanes • Boeing Aerospace and Electronics • Collins Avionics • GE Armament • Hamilton Standard • Harris • Kaiser Electronics • Link Flight Simulation • Martin Marietta • TRW • Westinghouse

PUBLISHER
Lynn Coakley

ASSOCIATE PUBLISHER
Terrence M. Coakley

EDITOR
William R. Harris, Jr.

PRODUCTION MANAGER
Joanne Comcheck

ADVERTISING REPRESENTATIVE
Deirdre Frost

EDITORIAL/PRODUCTION ASSISTANT
Stephen Moore

CIRCULATION MANAGER
Jill Thomas

CIRCULATION ASSISTANTS
Mary Ann Stirling, Debbie Coley, Nancy Jo Harris

Army Aviation Magazine is a professional journal endorsed by the Army Aviation Association of America (AAAA). Title reg. ® in U.S. Patent Office. Registration Number 1,533,053.

ADVERTISING
Display and classified advertising rates are listed in SRDS Business Publications, Classification 90. For advertising information, call (203) 226-8184.

SUBSCRIPTION DATA
ARMY AVIATION (ISSN 0004-248X) is published monthly, except April and September by Army Aviation Publications, 49 Richmondville Avenue, Westport, CT 06880-2000. Phone: (203) 226-8184. Subscription rates for non-AAAA members: $25, one year; $48, two years; add $10.00 per year for foreign addresses other than military APO's. Single copy price: $3.00.

ADDRESS CHANGES
The receipt of change of addresses is verified by the publication of the residence or business change in the "Arrivals & Departures" or PCS columns of the magazine. AAAA members (O-6's and above) are asked to provide their new duty assignment for publication in the "Aviation Command Changes" column.

POSTAL
Second class postage paid at Westport, CT.

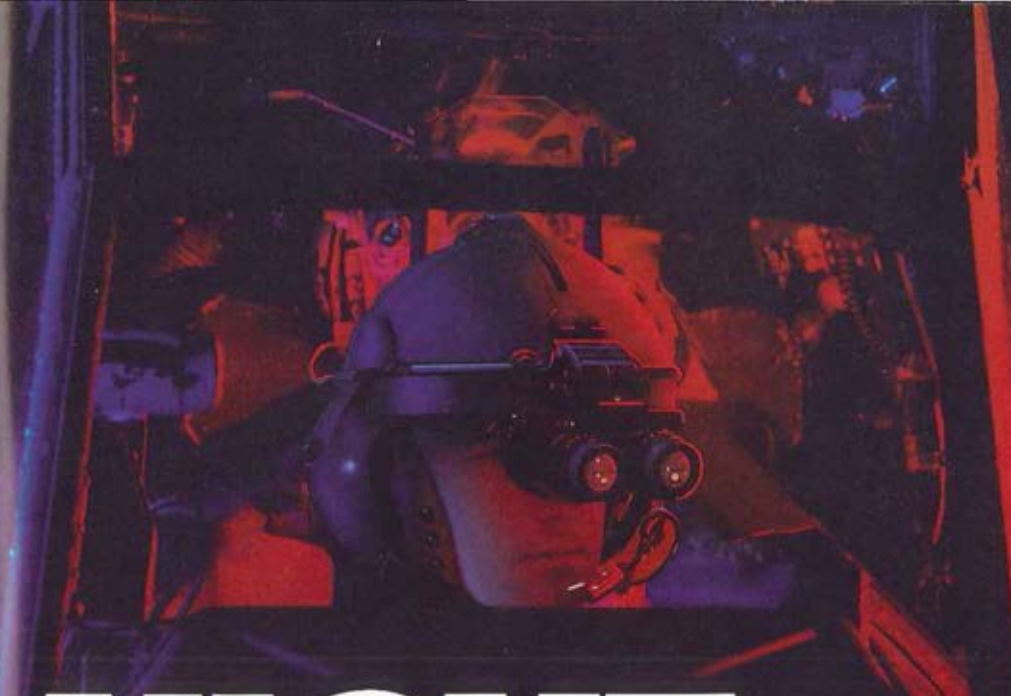
POSTMASTER
Send address changes to Army Aviation Publications, Inc., 49 Richmondville Ave., Westport, CT 06880-2000

FORTHCOMING ISSUES
August/September 1990 — The 1990 "Blue Book"; a directory of Army Aviation units, offices, and agencies worldwide.

October 1990 — Focus: Aircraft Survivability Equipment. Directory: Aviation Reserves.

FRONT COVER
Paid advertisement:
McDonnell Douglas/Bell Helicopter Textron LH Superteam

ARMY AVIATION
VOLUME 39 NUMBER 7



NIGHT VISION.

In the dark of night, clear vision is the name of the game. Players who win know that ITT IS NIGHT VISION.

When night falls, you can't afford to be left in the dark. That's why U.S. Forces trust the night to ITT. Over the last two decades, we've delivered more image intensification devices than anyone else.

Our Gen II set the standard. And our Gen III gives our armed forces unparalleled night vision technology well into the 21st century.

We are the world's largest supplier of the AN/AVS-6, the most advanced goggle in use today for night aviation. And our AN/PVS-7B uses the same GEN III technology to meet the rigorous requirements of the U.S. Army foot soldier.

For night operations on land, air and sea, ITT has the technology, the experience, and the capability to meet your demands.

ITT has the vision it takes to get you through the night.

ITT Electro-Optical Products
7635 Plantation Road
Roanoke, VA 24019, USA • 703-563-0371

ITT DEFENSE

Challenges and Opportunities

By General John W. Foss

(Excerpts of AAAA Awards Luncheon Address delivered at the AAAA Annual Convention April 1990 in Orlando, FL)

Looking at the future of Army Aviation is a bold task because the future keeps happening so fast. Moreover, futures we thought couldn't happen in our lifetime have happened, one after another, in less than a year. The rate of change is phenomenal.

The result is both a challenge and an opportunity for the Army and for Army Aviation. This can also be a window of opportunity for Army Aviation. It is an opportunity to move aviation into the future to become a predominant force on the battlefield. While Army Aviation is important today, it can be even more important tomorrow.

Army Aviation has made challenges become opportunites for almost fifty years. Army Aviation has exploited technology and created a tactical vision to open opportunities for the Army. This is the challenge again today.

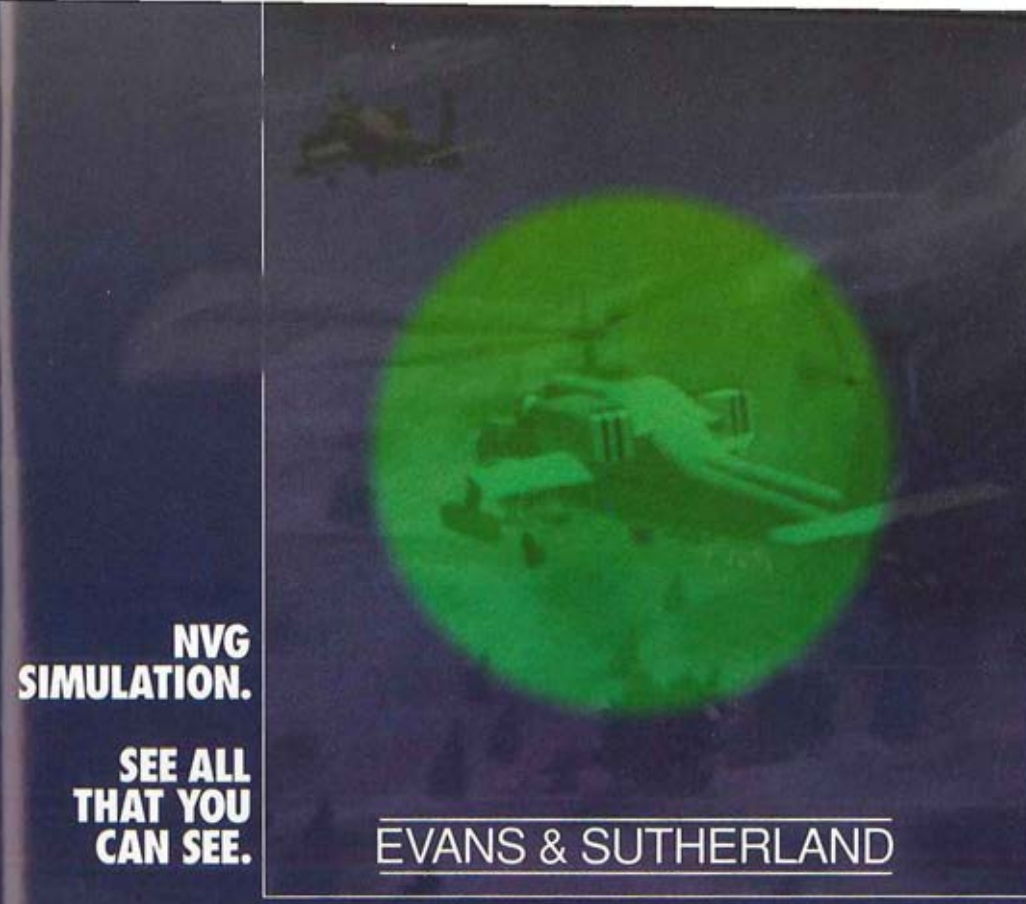
GEN Foss is CG, U.S. Army Training and Doctrine Command, Ft. Monroe, VA.

Army Aviation has grown up since its inception in World War II to fill the ground support mission not covered by the Army Air Forces. Over the years, Army Aviation has become a synonym for helicopters. Yet, the growth of Army Aviation is greater than expanding missions in concert with the increased technological capabilities of the helicopter. Army Aviation is a key link in the evolutionary changes in warfare. Aviation has redefined mobility and mobile firepower on the battlefield.

The result is more than enhancement. It is a fundamental change in concepts of operations. Consequently, it has future potential far beyond incremental improvements in helicopter technology.

It is important to understand how Army Aviation has changed concepts. The same synergisms should be at work today as we prepare for the future.

The mobility developed by Army Aviation has two basic components. The first is the ability to bypass any terrain by vertical



NVG SIMULATION.

SEE ALL THAT YOU CAN SEE.

EVANS & SUTHERLAND

Your mission: To fly a high-risk, multi-ship operation under cover of darkness and foul weather.

Your training objective: Improve mission success, safety and proficiency using night vision goggles (NVG).

Your solution: Evans & Sutherland's NVG simulation training that lets you see all that you can see.

With today's training constraints, simulation is more important than ever. And, with Evans & Sutherland's advanced visual systems, it's also more realistic than ever.

Unlike others, we design complete visual systems that optimize display, image generator and terrain database capabilities for tactical NVG training. Our databases create real world images using satellite and photographic sources, while providing other sensor simulation such as FLIR, radar and LLTV.

Whether you fly utility, SOF, cargo or attack, our simulation products help prepare you for the mission and such hazards as power lines over unfamiliar terrain, deck operations, gunnery scenarios and the disorienting shadows of a low moon on a mountainous horizon.

For more information on how to see all that you can see, contact: Evans & Sutherland, Simulation Division, 600 Komas Drive, Salt Lake City, Utah 84108. Tel: 801-582-5847, Ext. 6521. Fax: 801-582-5848.

envelopment. This was the powerful utility of helicopters as the workhorses of the Vietnam war. Jungles in Vietnam and rivers and cities elsewhere ceased to be barriers to mobility. The second component changes the "T" in every time multiplied by distance planning estimate. Helicopters could move soldiers at 90 knots. Napoleon never dreamed of moving so fast!

Now, mobility must be considered in a new context. Aviation, like other arms, will be operating over much greater areas of operations. Therefore, the ability of the battalion to refuel and rearm forward cannot be tethered to an organic logistical system. Also, Army Aviation must take a hard look at what maintenance needs to be performed at each level of organization on the battlefield. The aviation units themselves must develop mobility similar to the mobility they exercise with their aviation systems.

There is new thinking in warfighting concepts which is called nonlinear warfare. It essentially does away with the tactical defense framework. Squads to brigades may have defensive missions, but the orientation of the battlefield is neither a defensive or offensive framework, per se. The focus is on the enemy, not terrain. The offense will predominate at the operational and tactical levels. Aviation units must have the mobility to rapidly move and the ability for near-continuous operations as the locus of attacks shifts around the battlefield.

Mobile Firepower

The mobile firepower brought to bear in Vietnam started a new page in warfare. The refinements in firepower made the armed helicopter a principal tank-killer on the battlefield. Meanwhile, contingency operations in Grenada, the Persian Gulf, and Panama demonstrated new capabilities—especially the ability to operate at night. Contingency operations also demonstrated the need for a multi-purpose, light helicopter. Consequently, aviation must make an honest search to meet this realistic demand.

The system for mobile firepower must be light, thus deployable, while retaining a utility against sophisticated anti-air threats, and still be very lethal. Emerging technologies will provide ample choices for weapons engineers. Yet another implication is the need to get firepower where it is needed. There is a need for rapid, accurate, discrete down-linking of information on the enemy from multiple sources to the right commanders to give timely orders to the pilot pushing forward. Also, the information on friendly forces (joint and combined) has to be down-linked, disseminated, and acknowledged in real-time to prevent fratricide. Aircraft must loiter or be relieved on station to not lose contact or critical information on the enemy. Mobile firepower may be serving as the eyes and ears of the commander or for other fire systems as well as launching missiles and firing guns. Mobile firepower and other concepts will be developed from a shared vision of the future.

Nonlinearity

TRADOC's job is to look into the future. We are again at a crossroads for aviation, its challenges, and opportunities. As we analyze the near future, 1995 and beyond, the trends of weapons and other factors like reduced forces, we at TRADOC have reached three conclusions:

- The next battlefield will be nonlinear. By fact—not choice.
- We will have the capability to know where the enemy is all the time.
- We will be able to attack with long-range fire with great accuracy and lethality.

Aviation should be comfortable in this nonlinear battlefield. Many in our Army are uncomfortable because it is different. But Army Aviation should probably be the Branch which is most ready to adapt with the future condition of war known as non-linearity. Aviation's capabilities in air cavalry and attack helicopter operations fit precisely with the requirements for attack and reconnaissance in AirLand Battle—Future.

Mass

The nonlinear battlefield creates conditions which require mobility and

It's remarkable what the T407's advanced technology and 6,000 shaft-horsepower can do for an airframe.

Especially when that technology delivers the best SFC in the class, low acquisition and operating costs, high reliability and ease of maintenance.

The T407's performance easily opens the flight envelopes and mission capabilities of a whole spectrum of new and proven military aircraft, including fixed-wing, medium and heavy lift helicopters and tiltrotors.

T407, the engine built for the next century with the power to match your purposes today.

The power to match your purpose.

mobile firepower. The exploitation of mobility and mobile firepower relies on a principle of war—mass. We must concentrate mass rapidly to be effective to make a decisive difference. Does that mean we mass at the corps level, or do we continue to keep assets distributed down to divisions, as we did for close battles? We cannot afford to have it both ways.

If a corps commander has 125 attack helicopters, can he afford to permanently assign half of those attack helicopters to division commanders who may not be engaged with the enemy? And if he did, you know how hard it is to get combat power out of a division to employ back at corps. To a corps commander, those 125 attack helicopters could make a decisive difference—orders of magnitude more than the effect of those supporting tactical fights in the divisions. It would be difficult to step back from the integrated association in the division developed when we were forced with a linear attrition battle and a highly demanding close battle. But the chance to really make a difference—to be the winning ingredient on the battlefield—could be compelling.

Like all decisions, this one will not be easy and will invoke much discussion within the branch—as it should. The 101st Air Assault Division stands as a unit built around the unique character of aviation. As a corps commander, I found the air assault division extremely useful in every scenario or mission we planned. Yet every year someone wants to take this division apart based on cost or other issues. The issue is simple: should the U.S. Army, which pioneered air mobility on the battlefield, retain this unique division which is the envy of most other armies? If we need that debate, it should be an open debate for all to participate.

Sophistication

A second challenge is the degree of sophistication we expect from an attack helicopter. Attack helicopters must be relevant to the threat. We have a very sophisticated threat in some areas of the world and a lesser threat in other areas. The challenge is one of the uses of our resources to keep our force structure properly equipped. The more sophisticated the helicopter, the higher the cost, and the slower the modernization rate. There is no question we need some very competent helicopters. The question is whether we should look at a hi-lo mix. A "Lo" capability of a helicopter which is very competent for the lower threat—yet useful for the higher threats. Hopefully, this is not a repeat of other hi-lo mixes which could be best characterized as "new-old" mixes. Buy some new and keep a lot of old. Again, this is not a simple issue. But now we are faced with a seriously aging fleet in part of active and reserve aviation units to complement our great APACHE fleet and our upcoming LH in 1997.

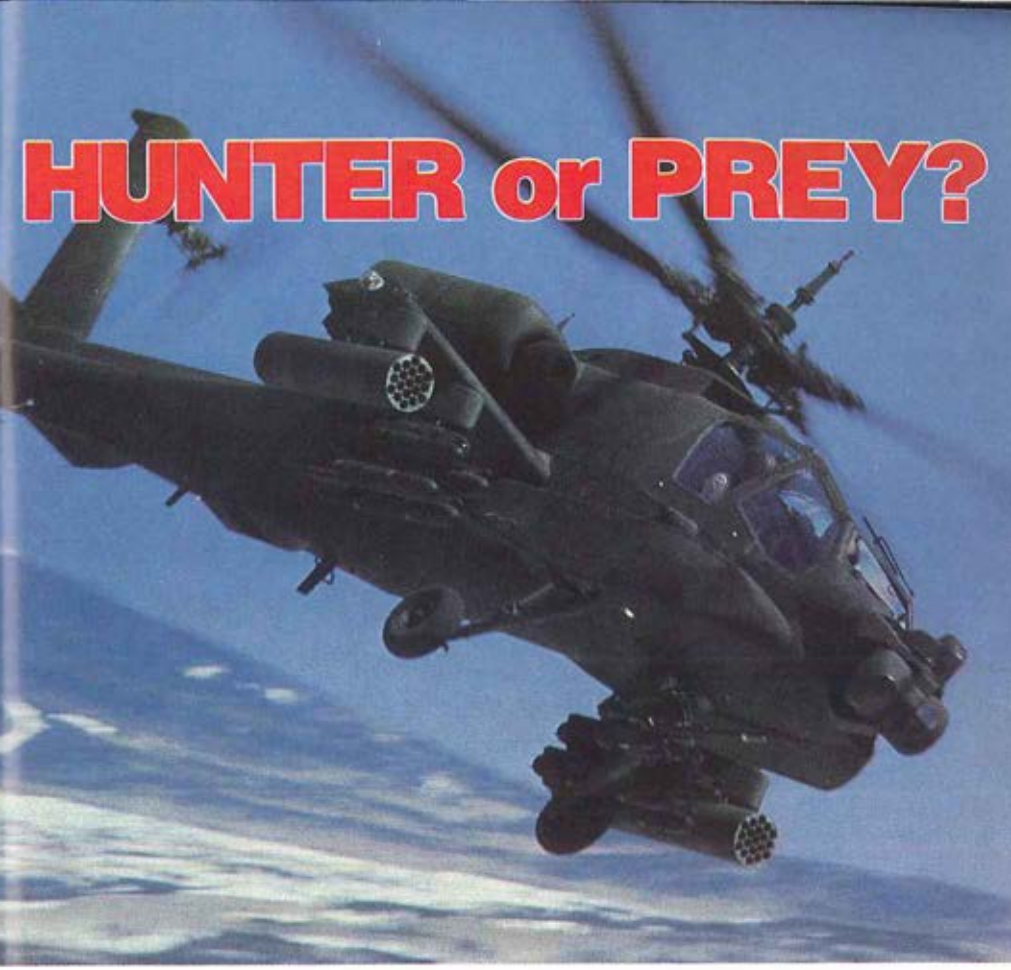
The Way Ahead

As we look at this period of change, we should all be proud of the accomplishments of the U.S. Army. Aviation, as a branch, has been a major contributor to that success. Every time the Army has been called upon — from combat operations to peacekeeping and natural disaster relief — aviation played a major role. It has given a truly professional response. We will build upon that professionalism to keep our Army trained and ready through this period of downsizing. The Army has a solid strategy and plan to transition through this period.

I look forward to the challenges of the next few years. I have high hopes for the attendant opportunites. I know that Army Aviation can and will be a dominant force on the battlefield. I know that each aviator in the U.S. Army will find the future challenging and dynamic and that he or she can personally make a contribution.

I am personally committed to a strong Aviation Branch, a strong force structure, and an outstanding inventory of high-quality aircraft. I have made that commitment because of the great effect aviation has had upon me during my time in command

(Challenges — continued on page 78)



In today's combat environment, you can go from hunter to hunted in a matter of seconds.

To meet today's demanding requirements on the modern battlefield, Dalmo Victor's APR-39A threat warning system provides aviators with what they need—fast, accurate, and complete combat information on the electronic threat.

The APR-39A is a small, lightweight, digital threat warning system that provides the crew with clear and concise audio and visual information and prioritization of multiple threats.

Call, write, or telex Dalmo Victor for more information.

Be the hunter—not the prey.

Dalmo Victor Division
General Instrument Corporation
1515 Industrial Way
Belmont, CA 94002-4095
Telephone: 415/595-1414
TWX: 650/319-2496
FAX: 415/637-6060

GENERAL INSTRUMENT

Army Aviation Owns the Night!

By Major General Rudolph Ostovich, III

Army Aviation was a critical element during operation "Just Cause" last December, providing firepower and tactical mobility to our assault troops. Hundreds of Army helicopter sorties, operating under blackout conditions at contour and nap-of-the-earth altitudes, provided precise firepower and inserted assaulting forces into confined landing areas under fire. The initial assault missions were all carried out precisely and safely at night. We were able to conduct these operations, aided by night vision devices (NVDs) such as forward-looking infra-red sensors and night vision goggles, because Army Aviation owns the night.

The Army decided to make the handsome investment necessary to conduct night operations in this manner because of the tremendous tactical advantage that they impart. For example, the 1-228th Aviation Battalion suffered none of their battle damage due to ground fire at night. The PDF just couldn't see them. Even if they had been hit, it would have been a chance shot, not the accurate ground fire that they would have received had the initial assaults gone in during the day. Add to this the surprise and confusion generated in your enemy when you can see him but he can't see you. The advantage is plain to see.

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.

Against this tactical advantage in times of conflict, we must balance the training risk in times of peace. Any night operation, including those conducted with NVDs, carries a higher risk than day operation. This risk, however, can be managed to provide a safe, effective environment in which to train and fight. Our aircrew NVG training program acknowledges that risk and deals with it, effectively.

Who adds new sting to the Cobra's bite?

AEL Aero.

OH-58C KIOWA

UH-1 IROQUOIS

UH-60 BLACKHAWK

AH-64 APACHE

...Others can gain from the experience.

To meet today's battle needs, AEL is integrating the Air-to-Air Stinger (ATAS) missile systems into the Army's Cobra attack fleet. The upgrade integrates the ATAS system with the Fire Control Computer, Helmet Sight Systems, Heads-up Display, Telescopic Sight Unit and weapons control panels. Along with an Interface Control Unit and Status Light Panel, the AEL Stinger applique enhances the Cobra's off-boresight firing capability. The upgrade is designed in kit form offering low maintenance and minimized aircraft mods.

For more information about integrating the ATAS system in your platform, call (215) 822-2929 and ask for AERO Marketing.

AEL Defense Corp.

An AEL Company
305 Richardson Road, Lansdale, PA 19446-1429
Tel.: 215.822.2929 ● Fax: 215.822.9165

The AEL Companies: AEL Industries, Inc., AEL Defense Corp., American Electronic Laboratories Inc., AEL Systems International Corp., Cross Systems, Inc., Advanced Radar Systems Corporation
AEL has immediate, long-term employment opportunities in many challenging advanced technology areas. For more information, contact: Manager of Staffing.

Our Class A accident rates bear this out. Fifteen years ago, the accident rate per 100,000 flying hours was 3.25 and we were not flying NOE or NVG scenarios. Since 1975, we have instituted programs that fully qualify every Army aviator in NVG flight in the terrain flight mode. Yet, during that same period, the Class A accident rate dropped from 3.25 to 1.94. Though today's Army aviator is expected to operate on a more complex and dangerous battlefield, he does it better than ever before.

There are some who call upon us to cease training with NVDs in order to reduce our peacetime training risk. That would be a tragic, short-sighted decision. To do so would be to give back our ownership of the night and all the tactical advantage that goes with it. Ask, as I did, the aviators who flew the combat assaults or the soldiers who rode those aircraft into the hot landing zones if, given the choice, they prefer to conduct those missions during the night. Their answer is a resounding "YES!"

Because of the Army's decision to realistically and safely train our aircrews to fly with NVDs, we stood ready when our nation called. We continue to stand ready today. Those of us in the profession of arms have long realized the tremendous tactical advantage of night vision device operations, an advantage that clearly saved many soldiers' lives during operation "Just Cause" and made possible a quick and decisive victory. This advantage, made possible by highly skilled, carefully trained aircrews, will serve our nation well in our next conflict, wherever that may be. Army Aviation owns the night! IIIII

THE ARMY WENT TO GREAT LENGTHS TO FIELD-TEST OUR OFF-THE-SHELF HF.

Throughout Operation Just Cause in Panama, the U.S. Army used a recently fielded off-the-shelf HF radio to meet its long-distance and NOE communications needs.

The Bendix/King ARC-199.

In fact, our ARC-199 was the HF used for several aircraft types actively involved in the recent Panama operation, from the front-line Chinooks and Black Hawks, to the CINC Hawk airborne command centers.

The enhanced capabilities of the improved ARC-199 can be retrofitted into existing versions with no changes in wiring or interfaces.

And its enhancement continues. Ready for implementation is a new single-button-operation control display unit with easy-to-use menu-driven software. The improved ARC-199 minimizes head-down input—essential in combat situations. In addition, the ARC-199 has demonstrated Automatic Link Establishment (ALE), digital burst modem and frequency-hopping ECCM capability, which brings an unprecedented level of performance to battlefield communications.

Engineered to operate through the standard 1553 military avionics bus and designed to interface with Army modems and communications equipment, the ARC-199 is easy to install and easy to use. Available at a fraction of the cost of other units, the ARC-199 is an established interservice standard for off-the-shelf airborne HF.

Currently, over 500 ARC-199s have been delivered to all branches of the U.S. military. These systems have been installed in both rotary and fixed-wing aircraft types, including EA-6Bs and VIP VH-3s, with recent selection for the USMC OV-10 and follow-on vertical lift requirements. And a variant of the ARC-199, the ARC-200, is flying in the USAF F-16 ADF and in export versions of the F/A-18.

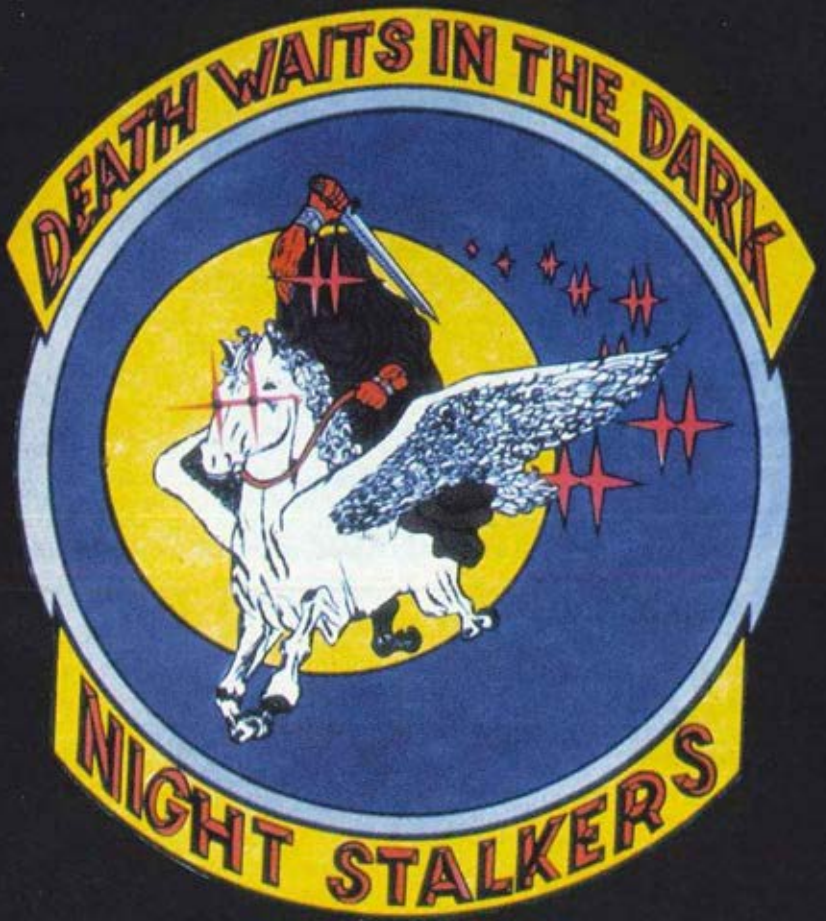
If you're looking for an advanced-capability off-the-shelf HF radio, choose the one that's been proven under fire.

To learn more, call or write:

BENDIX/KING

Government Programs Department
400 N. Rogers Road, Olathe, KS 66062-1212
FAX 913-791-1305, Telephone 913/782-0400, ext 2006

Allied Signal *Aerospace*


DEATH WAITS IN THE DARK
NIGHT STALKERS

Special Operations Aviation

By Colonel Billy J. Miller

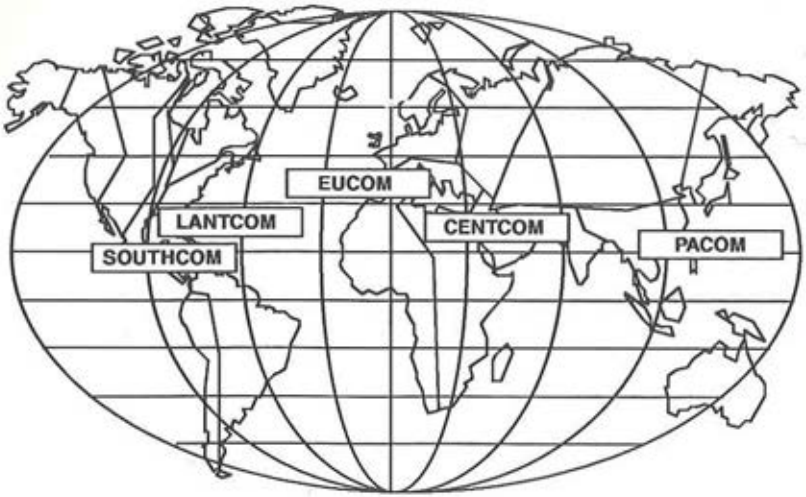
Army Special Operations Aviation (SOA) has come of age. Special people, special equipment, special training and a special mission. What began in the early 1980s as a small ad hoc special operations aviation unit known as Task Force 160 has evolved into a much larger, multi-purpose aviation unit capable of supporting the entire spectrum of requirements of Special Operations Forces (SOF) worldwide.

On 16 May 1990, the 160th Special Operations Aviation Regiment (Airborne) was officially activated as a major subordinate unit of the United States Army Special Operations Command (USASOC). The Regiment consists of three active duty special operations battalions and one Army National Guard Special Operations Aviation Battalion. The first and second battalions (1/160 and 2/160) along with the Regimental Headquarters are located at Fort Campbell, KY. The third battalion (3/160) is located at Hunter Army Airfield, GA, and the National Guard Battalion (1/245th) is located in Tulsa, OK. The Selection and Training Detachment that conducts all SOA qualification training is also located at Fort Campbell. The missions performed by each battalion and the special operations forces they support are as diverse as the family of Night Stalkers that make up the Regiment.

COL Miller is Commander, 160th Special Operations Aviation Regiment (Airborne).

Linchpins of Success

What makes SOA unique? Simply stated, people, training, and equipment. The people are high quality and closely screened officers and enlisted soldiers. All are physically fit, highly motivated, and driven by demanding challenges. The aircraft are configured and equipped to meet the SOF aviation mission profile in all spectrums of conflict. They must be maintenance-reliable, have a small logistical



tail, and be sustainable. The training environment is realistic—SOA trains to a wartime standard in all environments within its worldwide local flying area.

Commissioned officers have previous experience in conventional units and understand the importance of support for the ground component commander. Army warrant officers generally have enlisted background and comprehend the needs and requirements of the ground component they support. Special Operations Aviation looks for aviators who specifically possess Special Forces or Ranger experience. No other service can boast of this unique support attitude.

SOA Night Vision Goggle (NVG) flight is the most physically and mentally demanding operational envelope. Thus, aviation training must be conducted realistically and to wartime standards. A one-of-a-kind training program, the "Green Platoon," is used to train all assigned officers and enlisted soldiers to SOA mission standards. An example of one of our special training resources is Range 29, a dedicated aerial gunnery range at Ft. Campbell. This 24 hour-a-day resource accommodates day, night, NVG, and NBC firing for all individuals and crews and employs every weapon in the SOA inventory. No other service has dedicated the resources for experienced instructors, aircraft, or facilities focused totally on the training of the Special Operations Aviator as the Army.

Special operations forces must be properly equipped to perform the full range of required tasks. SOA plays a major part in the research, development, acquisition, and testing of SOA-peculiar items for our aircraft and combat crews. This critical area is managed within the 160th, by our Systems Integration and Management Office (SIMO).

This office has been, and will continue to be, vital to the force modernization of SOF aviation. The upcoming testing and fielding of MH-60K and MH-47E with their air-to-air refueling capability, aircraft survivability equipment, and integrated avionics will significantly improve SOA capability to support the full range of SOF missions in adverse weather, day or night over any terrain. Acquisition of NOTAR (No Tail Rotor) will dramatically improve the margin of safety accorded our AH/MH-6 crews, as well as make the aircraft much quieter.

What makes the systems integration process so remarkable and significant is that the pilots who fly the missions have participated in the development and acquisition process. This ensures that what

we get is precisely what we need and want. No bells and whistles, just enhanced capability to do our demanding mission.

Special Operations Aviation

What then is SOA? Aside from an intellectually stimulating definition found in JCS Pub 1, it may be more intuitively stated as "Special People, Special Equipment, and Special Considerations."

What I hope you'll see as you read through this special edition of ARMY AVIATION MAGAZINE is the essence of SOA—a quiet, determined, professional dedication to mission accomplishment—cemented in place by the enormous pride shared by its members. Pride borne out of the satisfaction of having accomplished difficult and demanding missions directed by the National Command Authority and having never failed.

The opportunities in SOA are limitless for those who possess absolute dedication to duty, who are willing to make sacrifices, are challenge-oriented, and have the warrior spirit. We proudly wear and serve under the flag of the United States of America. Night Stalkers everywhere know that Freedom isn't Free.

DEATH WAITS IN THE DARK
NIGHT STALKERS DON'T QUIT

Illustration by G. Maryan. Courtesy McDonnell Douglas Helicopter Co.

The SOF Aviation Regiment

Major General James A. Guest and Major T. Michael Ryan

Chickenhawk: *A hawk that preys or is believed to prey on chickens—or the title of a book about Army Aviators.*

Not entirely a name that most aviators would consider flattering. However, most aviators are not in 1st Special Operations Command[1]. To be referred to as a "Chickenhawk" in 1st SOCOM is something to relish, for you are not a mere aviator, you are special operations aviators; a title of distinction within this command.

By August 1988 we realized that, as a whole, SOF was broken. We were too decentralized, disjointed, and in some cases, not focused on what we should have been doing. What we needed was a headquarters to exert command and control over *all* SOF aviation. We decided to go out and do the chickenhawk dance at HQ TRADOC and HQDA and see what could be done.

MG Guest is Commander, 1st Special Operations Command, Fort Bragg, N.C.

Background—Figure 1 depicts the structure of SOF aviation as it existed in June 1988. Task Force 160, located at Fort Campbell, KY, was formed in 1981 out of the ashes of Desert One to perform special missions within the SOF community. The 129th Aviation Company was activated in October 1986 at Hunter Army Airfield in Savannah, GA, consisting of 15 UH-60s that formed the 617th Aviation Detachment located at Howard Air Force Base, Panama. Within the active component of 1st SOCOM, there were also four special forces groups, each with an aviation pla toon of UH-1s. And in the Oklahoma Army National Guard, there was the 245th

MAJ Ryan is Assistant MACOM Aviation Officer, USASOC, Fort Bragg, N.C.

aviation battalion. About the same time we initiated what we now refer to as the "Special Operations Aviation (SOA) Reorganization Plan", there was significant message traffic concerning the structure of TF 160 and the subsequent impact on safety, optempo, maintenance, and unity of command.

There was a feeling within the Army leadership that the unit was being overtaxed, resulting in high optempo and impacting on safety as well as serious concern of the 160th's ability to meet peacetime and wartime mission requirements as then currently structured. Unity of command for the aviation units depicted in Figure 1 was 1st SOCOM's other area of concern. What SOA really needed was "one aviator in charge."

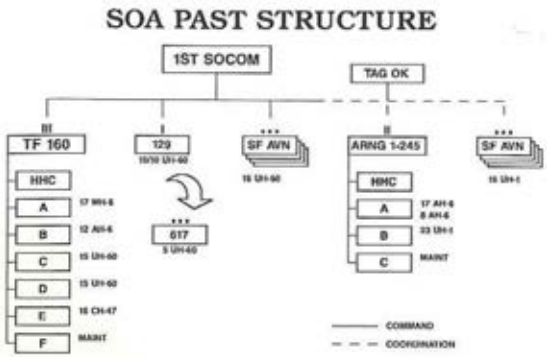


Fig. 1

In September 1988, guidance for reorganization was issued. The concept plan was built, coordinated, and over the next five months, briefed to the 1st SOCOM staff and the CINC of United States Special Operations Command. The reorganized unit was to be called the 160th Special Operations Aviation Regiment (Airborne) with an Effective date of 16 May 1990.

SOA Force Structure

To provide aviation support to SOF, the Army and TRADOC developed a SOA Force structure as depicted in Figure 2. The Regiment consists of three active duty and one National Guard Special Operations Battalions. These battalions may support either theater CINCs or be tasked to support National Command Authority (NCA) directed peacetime contingency missions. This structure is designed to deploy battalion size units in almost all theaters. ARSOA Battalions may be pure MH-47 or MH-60 units, or may task organize with combinations of MH-6, AH-6, MH-60, or MH-47 helicopters to support joint or combined operations. Platoons are the building blocks of the battalions. Depending on the type of battalion, these platoons consist of either five MH-60 or four MH-47 aircraft. This platoon structure provides flexibility to support simultaneous mission taskings within a theater. Because SOA operations are normally conducted on theater peripheries and away from established logistical and

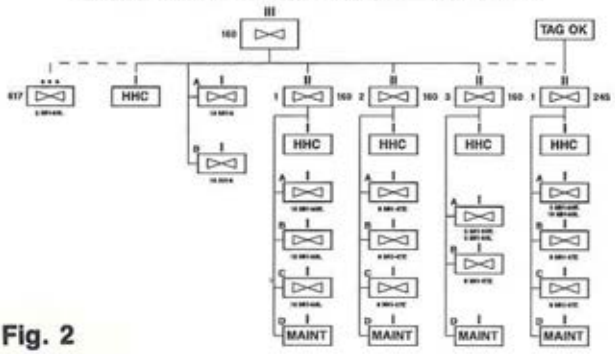


Fig. 2

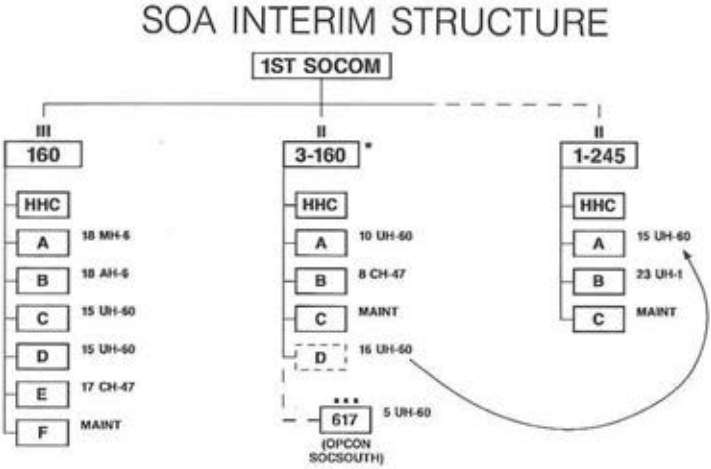


Fig. 3

support network, each battalion has an aviation maintenance company with both AVUM and AVIM capabilities.

The Operational Concept of the Regiment was "to organize, train, equip, and validate Army SOA forces for worldwide employment in support of contingency missions and the warfighting CINCs." The operating principles of the aviation regiment are:

- Maintain current capabilities available to other headquarters;
- Enhance safety, standardization, and maintenance;
- Provide unity of command;
- Centralize policy, planning, and direction;
- Plan for the future of SOF aviation;
- Provide major subordinate units quality aviation support.

Implementation of the Aviation Regiment

The DCSOPS of the Army gave final approval to the "plan" on February 19, 1989. We immediately placed into action a two-phase program which would eventually culminate with our objective structure (Figure 2). You should note here that the types of aircraft depicted in Figure 2 are either just now in the developmental stage (MH-60K/MH-47E) or are in the process of being modified to a standard special operations configuration (MH-60L). Phase 1 (Figure 3) entailed an initial consolidation of Special Forces aviation under the command and control of 3rd Battalion 160th (which grew out of the 129th aviation company), and was activated on September 16, 1989.

The Phase 1 effort required 1st SOCOM to place the four aviation platoons organic to 1st, 5th, 7th, and 10th special forces groups under Operational Control (OPCON) of the Commander of 3/160th, who then formed Company D (Provisional) to decrease his span of control. 1st SOCOM then realigned command of the 617th from 1st SOCOM to the commander, 3/160th with operation control remaining at Special Operations Command (SOCSOUTH) U.S. Southern Command.

Phase 2 (Figure 4) required us to reorganize the 160th SOA Group (7 companies) into two subordinate battalions. These actions effectively placed all active component aviation under one of two commanders—160th SOAG and 3/160th. The importance of TF 160's peacetime

CURRENT FORCE STRUCTURE

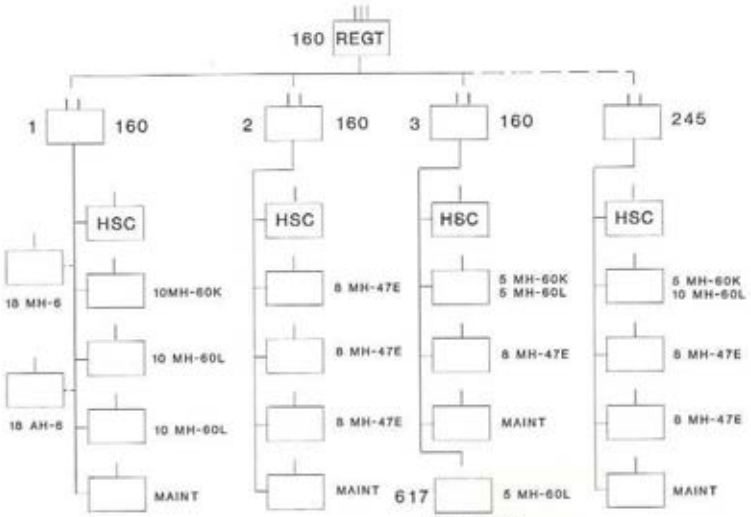


Fig. 4

mission, coupled with their large span of control, did not allow us to place 3/160th subordinate to them at that time.

The arrow in Figure 3 depicts the transfer of UH-60s from D/3/160th to the 1-245th OKARNG in a modernization action initiated by the deactivation of that unit in the fourth quarter of FY90 and entailed the reorganization of TF 160 (Figure 1) into two separate companies and two subordinate battalions (Figure 2).

For peacetime mission support (Figure 4), the two "Little Bird" (or AH/MH-6) companies were attached to 1/160th. This allows the Commander of 1/160th to task organize quickly to meet peacetime contingency missions, but at the same time gives him the flexibility to realign his unit within the original wartime TOE design to meet regional commitments.

The 2nd Battalion 160th SOAR is an outgrowth of the CH-47 company which expands from 16 to 24 CH/MH-47s. In order to complete the objective structure, the 617th SOAD is to be removed from 3/160th and placed under command of the aviation regiment but remain OPCON to SOCSOUTH.

This reorganization effort was a long time coming and enables the regimental commander to control OPTEMPO, training, and maintenance; decreases his span of control and facilities management of the safety and standardization programs across the board. Phase 2 was completed when the regiment activated on 16 May 90.

Summary

Our vision is for the regiment to be the "braintrust" of all present and future actions for Special Operations Aviation. In a world of dwindling budgets and scarce resources, it is imperative that we concentrate our efforts, provide quality training for all units, continue to accomplish the mission, and capitalize on new ideas and emerging technologies. IIIII

[1]At the time this article was written, 160th SOAR was assigned to 1st Special Operations Command. On 16 May 1990, it was reassigned to HQ, USASOC.

Dedicated Aviation Support

By Major Russell D. Carmody

Special operations, as defined by OJCS, are military operations conducted by specially trained, equipped, and organized Department of Defense (DoD) forces to accomplish strategic, operational, or tactical missions in the pursuit of U.S. national objectives. Special operations may be conducted during periods of peace or war. They may be prosecuted independently when the use of conventional forces is either inappropriate or infeasible.

The five components of special operations forces (SOF) within the Department of the Army are Special Forces (or Green Berets), Ranger, Psychological Operations (PSYOP), Civil Affairs (CA), and Special Operations Aviation (SOA). Other DoD SOF are U.S. Air Force Special Operations units (Squadrons) and Navy SEALS. All of these forces are integral elements of the strategic, operational, and tactical levels of war, and operate across the entire operational continuum or spectrum of conflict. They can influence deep, close, and rear operations.

MAJ Carmody is Commander, B Co. and former S-3 for Doctrine and Combat Development.

Background

Aviation support of Special Operations (SO) missions is not new. During World War II, fixed-wing aircraft inserted, resupplied, and extracted SO elements throughout all theaters. In recent history, aviation has supported SO in peacetime and during periods of conflict—Son Tay and Desert One. Unfortunately, past aviation support has been an ad hoc affair, tasked organized for specific missions and disbanded upon mission completion. As a result, this support of SO was sporadic and not always successful. Lessons had to be relearned when new aviation units were formed. After the Desert One debacle, the Army formed Task Force 160 from aviation

units of the 101st Airborne Division (Air Assault). TF 160's mission was to provide dedicated aviation support to special operations units performing contingency operations. During the past decade, special operations force structure has increased throughout DoD services. To support this increase, Task Force 160 has expanded into the 160th Special Operations Aviation Regiment (SOAR). The regiment's mission is to support all aspects of special operations, such as unconventional warfare, direct action, special reconnaissance, Foreign Internal Defense (FID), Civil Affairs (CA), and Psychological Operations (PSYOP).

Mission

The mission of ARSOA is to provide dedicated aviation assets to SOF operating in worldwide environments and across all levels of conflict. Modified ARSOA helicopters, flown by highly trained air crews, can penetrate hostile or sensitive airspace to conduct or support SO activities. These aviation assets operate with great precision at night or during adverse weather to insert, resupply, extract, and provide aerial fire support to SOF operating in denied areas.

When deployed overseas, ARSOA aviation assets are under the operational control (OPCON) of the CINC's special operations commands and provide airlift support for theater-wide SO missions. In most instances, SO will be performed in a joint or combined environment, or in conjunction with host nation forces. ARSOA units plan, conduct, and support special operations unilaterally, or in conjunction with other services. Careful planning, coordination, and liaison efforts are required because of differences in various services' SOF operational capabilities, logistical needs, and standing operating procedures.

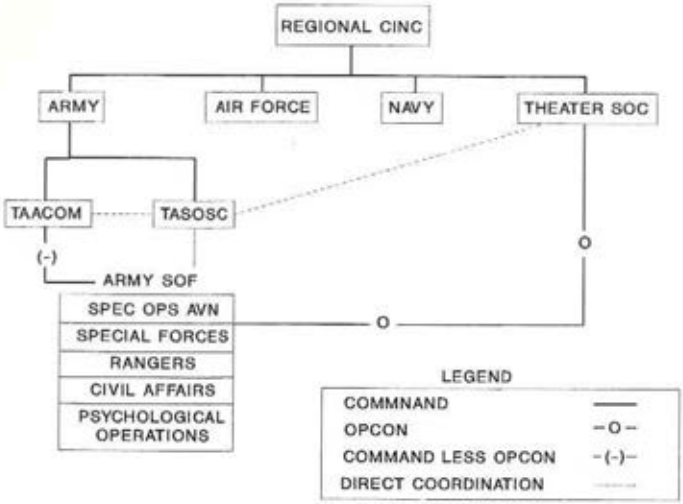
ARSOA aircraft are equipped with electronic survivability equipment packages (to include electronic warfare countermeasures) and self-defense weapons that enable SOA aircraft to operate against sophisticated ground and air threats. Air-to-air refueling capabilities, extra fuel capacity, and precision navigation systems also allow ARSOA aircraft to strategically self-deploy to crises areas throughout the world. This long-range capability enables independent or synchronized deep SO airlift operations to be launched from either austere airfields or naval vessels. Also, SOA helicopters are air transportable on USAF Military Airlift Command (MAC) transport aircraft.

Command & Control

Army special operations aviation operates under many varied command and control arrangements. While stationed in CONUS, the 160th SOAR is under command and control of the U.S. Army Special Operations Command (USASOC) at Fort Bragg, NC. USASOC is the Army component of U.S. Special Operations Command (USSOCOM) located at MacDill AFB, FL. When deployed into their respective theaters, ARSOA units are commanded by theater Armies (through a designated Theater Army Area Command—TAACOM) and operationally controlled by the CINC's Special Operations Command (SOC). Figure 1. depicts a generic theater command and control arrangement. This arrangement is for all Army and other DoD service special operations forces deployed in theaters. The theater SOC may directly employ ARSOA units or pass operational control to either a Joint Special Operations Task Force (JSOTF) or an Army component such as a Special Forces Group, Ranger, or Army Corps headquarters. Theater Armies are responsible for administrative and logistical support of ARSOA units. A subordinate command of theater Army is the Theater Army Special Operations Support Command (TASOSC) which provides a conduit between theater Army and Army SOF units for administration and logistics.

Employment of ARSOA Assets

The key to success in executing special operations missions is meticulous and methodical pre-mission planning with SO ground forces based on the planning



principles of Mission, Enemy, Terrain, Troops, and Time Available (METT-T). SOF and ARSOA integrate mission planning from receipt of a mission tasking until its completion. This planning process develops actions on the objective, alternate "what if" contingency plans, and aviation integration into the SOF ground commander's fire support plan. ARSOA planners exploit near-real-time all-source intelligence products and combat information during mission planning and execution. This information is used to plot infiltration and exfiltration low-level air routes that use terrain-masking to avoid detection from threat visual, electronic, and acoustical devices. Joint ground and air mission briefing ensures that all forces are knowledgeable of mission objectives and the SOF ground commander's intent. If the tactical situation and time permits, SOF assault personnel and ARSOA conduct mission rehearsal prior to the mission.

ARSOA exploits the capabilities of other Army branches and services to enhance mission execution. During pre-mission planning, ARSOA planners coordinate for indirect fire and close air support, Joint Suppression of Enemy Air Defense weapons (J-SEAD), and Electronic Warfare (EW). EW countermeasures suppress hostile acquisition systems during mission execution. They also coordinate various deception plans that are used during aerial infiltration and exfiltration phases of a SO mission.

Logistical support is vital to the success of supporting a special operations mission. ARSOA planners coordinate with theater Army and the TASOSC for logistical support, particularly Class III, V, and IX supplies, to sustain continuous flight operations.

When executing a special operations mission, ARSOA avoid detection and achieve surprise by using terrain flying techniques at night and during adverse weather. Aircrews maintain radio silence and reduce other electronic emissions during mission execution. Deception measures are used to deceive the enemy to the exact location of the objective. These flight techniques decrease the probability of detection from threat passive and active detection devices.

Bottom Line

Special operations forces require the capabilities to conduct missions across all spectrums of the AirLand Battle. The 160th Special Operations Aviation Regiment provides SOF the agility and initiative to either conduct unilateral NCA directed missions or synchronize operations with conventional force efforts. Dedicated aviation support for all special operations missions is the bottom line. IIIII

Selection for Special Operations Aviation

By CW2 Alexander A. Berlin

What type of individual is a Night Stalker? Only those officers and enlisted soldiers who have a strong desire to work with and among highly-dedicated and professional soldiers; who are able to work independently; and who demonstrate the motivation and ability to operate under stress to successfully complete any mission. These are the warriors sought by the 160th Special Operations Aviation Regiment (Airborne).

With Chief of Staff of the Army approval to conduct world-wide recruiting, the 160th is able to seek and assign the best qualified aviators and support soldiers available on active duty. Coordination with Special Management Branch (SMB) at PERSCOM has given the unit the ability to manage and maintain its ranks at or near 100 percent strength.

CW2 Berlin is the 160th SOAR(A) Recruiting Officer and is a Fully Mission Qualified MH-6 IP.

The Selection and Training (S&T) Detachment of the 160th SOAR was created in July 1988 to recruit and train the very best in Army Aviation. The "selection" portion of the Detachment involves this recruiting and assessment effort. Before 1988, recruiting was conducted by the group S-1.

The need to expand the recruiting effort and devote full time attention to this process mandated creation of a separate office. A formal Memorandum of Understanding now exists between the 160th Special Operations Aviation Regiment (Airborne) and PERSCOM. This provides the unit the ability to identify, recruit, assess, and assign soldiers as dictated by the mission, operations security requirements, and the need to protect soldiers' careers while assigned to sensitive, non-traditional duties.

The mission of the 160th SOAR(A)'s Recruiting Section is to present information and assignment-criteria briefings to prospective candidates, as well as

coordinate and conduct assessments. Individuals selected for assignment and initial training will provide the unit with highly skilled air crews, maintenance, logistical, and technical support soldiers uniquely qualified to perform demanding special operations missions on a worldwide basis.

The Recruiting Process

How is an installation chosen for recruiting? Simply put, the 160th will plan to visit most CONUS-based aviation units yearly, and OCONUS units about every year and a half. Those installations which have brigade-size aviation populations will be visited more regularly. Once an installation has been identified, the Recruiting Section requests SMB to send a message to the installation informing them of the requirement to establish a Point of Contact (POC) for the 160th. Direct coordination between the Recruiting Section and individual installation POCs has proven to be the most efficient method. If there appears to be a need for an advance party visit, an appointment will be requested with the brigade commander or his representative. Local commanders are asked to identify their most talented soldiers and encourage them to attend the recruiting briefing. The recruiting team does not seek an individual for PCS to the 160th until his current assignment has been completed. For those personnel not currently available for assignment, the briefing serves as an excellent source of information that can be used to plan a future career decision.

Coordination for installation visits requires deliberate preparation. Briefing information is routinely placed in the post newspaper and any other mass media available in the local area. The information and recruiting briefing consists of a short video presentation followed by a 35mm slide presentation. The entire presentation lasts approximately one hour. Following the briefing, interested personnel are encouraged to remain and address any personal questions they might have. The briefing is unclassified and provides the audience with an overall synopsis of the current status of Special Operations Aviation (SOA). It also describes the mission, equipment, and personnel of the organization, the assessment and assignment process, and the initial training received at the unit in the "Green Platoon."

Common Myths

A frequent misconception that exists in the aviation community is that pilots must have at least 1,000 hours total time and 100 hours Night Vision Goggle (NVG) time before they can apply to the 160th. There are no minimum flying hour requirements for aviators applying to the 160th. The unit believes in the "whole man" concept and looks at each individual on a case-by-case basis. Interested individuals should have at least one operational flying assignment to their credit, be available for assignment, and have completed all military and civil schooling appropriate for their rank and time in service. Any history of UCMJ action or negative file reports will be cause for the applicant to be denied consideration for assignment.

Another myth is that an assignment to the 160th will hurt an individual's chances for career progression. SOA is committed to the professional development of every soldier. The chain of command assists all soldiers in the pursuit of their professional goals. A commissioned officer will normally spend three to four years with the 160th. Warrant officers enjoy an indefinite stabilization with the unit and may remain as long as the commander and the individual desires. Enlisted soldiers are initially stabilized for a period of four years, after which they may request and receive additional stabilization in one-year increments.

Special Operations units are traditionally perceived to cause undue hardships for the families due to frequent and extended separations. Rumors abound concerning the length of absences from home. Admittedly, the 160th trains at an accelerated pace, but rarely is an individual gone from home more than two weeks at a

25Q	39V	63B	67Y	68P	75B	91A
29E	43E	63J	68B	68Q	75Z	91B
29S	44B	63S	68D	68R	76C	93P
29W	44E	66J	68F	71D	76P	96B
31C	52C	66T	68G	71L	76V	96D
31G	52D	66U	68H	71M	76Y	97B
31V	54B	66V	68J	72E	76Z	
31Z	55B	67T	68K	73C	77F	
39D	55R	67U	68L	73D	88M	
39E	55X	67V	68N	73Z	88N	

FIGURE 1.

time. Most training missions away from home last anywhere from a couple of days to two weeks before the crews are back to spend time with their family. The majority of conventional aviation units in CONUS find themselves routinely deployed to Honduras, the National Training Center, or the Joint Readiness Training Center.

Qualifications

Every officer in the unit must be a volunteer. As an aviator, he must possess previous Night Vision Goggle experience and solid basic aviation experience. Every officer must possess a SECRET or higher clearance, be in excellent physical condition, mission-oriented, and stable under duress. It is preferred that all officers be in a career status prior to assignment to the 160th.

Enlisted soldiers seeking assignment to the 160th must possess one of the Military Occupational Specialties shown in Figure 1.

They must also be in excellent physical condition, be eligible for a SECRET or higher clearance, and be mission-oriented and stable under duress.

Enlisted Application Process

Enlisted soldiers are directly assigned, but they are not retained in the unit if found unsuitable for SOA. Efforts are underway to begin assessments in FY92 for Staff Sergeants and above. Enlisted soldiers desiring to apply for assignment to the 160th and who possess an appropriate primary MOS should contact the S&T Detachment to request an Enlisted Application Packet. The process involves completion of a DA Form 4187 with their commander's signature and forwarding it directly to the 160th along with the following documents: a current copy of DA Form 2 and 2-1, a current and signed Army Physical Fitness Test, and a copy of the latest Enlisted Evaluation Report (if applicable). Once the completed packet has been received at the S&T Detachment, it is reviewed by the applicable company First Sergeant and the 160th Command Sergeant Major. If assignment of the individual to the 160th is recommended, then coordination is made with SMB at PERSCOM to initiate a Request for Orders.

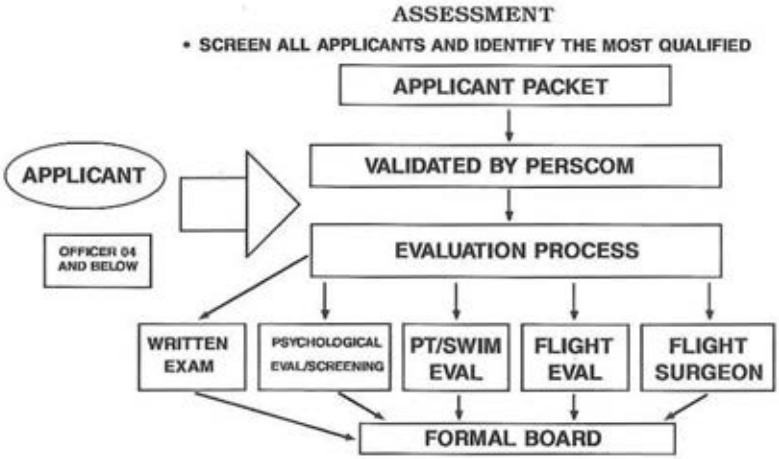
Officer Selection Process

Initial contact with the 160th can be accomplished in several ways. An officer may attend one of the recruiting briefings at his current location, make contact by telephone, or write to the recruiting office at Fort Campbell to request an application packet. The application packet includes several instances requiring the signature of the individual's unit commander.

After the application is received at the 160th Recruiting Office, it begins an exhaustive review process. Part of that process includes a thorough file evaluation conducted at PERSCOM to determine the applicant's current assignment status and potential for assignment to the 160th. Once the Commander has reviewed the application and has determined that assessment is appropriate, the individual is contacted either by mail or telephone and an assessment date is arranged.

The candidate will be given instructions on what items to bring for an assessment and how to prepare TDY orders. Most coming for an assessment can expect to spend four or five days at Ft. Campbell.

The arduous assessment consists of a written aviation knowledge examination, hands-on flight evaluation (for aviators only), standard Army Physical Fitness Test, Navy



Class II swim test, thorough psychological evaluation, and a medical records review. The entire process culminates in an appearance before a formal board of officers.

If successfully accepted, he returns to his unit to complete his current assignment. The 160th coordinates with SMB at PERSCOM for any necessary schooling and a report date.

Advantages

The Night Stalkers of the 160th are a close-knit family. Once an individual is accepted to the unit, he and his family have found a home. The level and quality of training available in SOA is the best in the world. The sophisticated equipment and techniques of the unit provide the ultimate challenge for the aviator and crewmember that cannot be found elsewhere. The unit prides itself on being able to train like they're going to fight. Real-world missions have been conducted on numerous occasions and the unit has consistently demonstrated the fact that it is always on the "cutting edge" of aviation. Failure is a word not found in the Night Stalker vocabulary.

The Family Support Group in the 160th is extraordinarily strong and designed to ease the stress placed on family members. That stress emanates not so much from the absence from home, but from the knowledge that husbands and fathers may be involved in missions which, by their nature, incur a high element of risk. Key elements of the Family Support Group are the Flight Surgeon, Physician's Assistant, Psychologist, Chaplain, and Legal Counsel. Together, these professionals provide a cohesive network of support to help not only the soldiers of the 160th but their families as well.

Assignment to the 160th Special Operations Aviation Regiment is one of the most rewarding experiences an individual will ever have. Regardless of rank or MOS, there exists a challenge for the utmost in personal and professional responsibility. For those individuals who feel they possess the "warrior ethic" and are willing to meet that challenge head on, the 160th provides that opportunity.

Interested individuals desiring an application should contact the Selection and Training Detachment of the 160th:

Commander
160th SOAR(A)
ATTN: AOAV-ST
Ft. Campbell, KY 42223-5000
Autovon: 635-4384/5689
Commercial: (502) 798-4384/5689
Unclass FAX: AV 635-4446
Secure FAX: AV 635-6593. IIIII

SOA Personnel Management

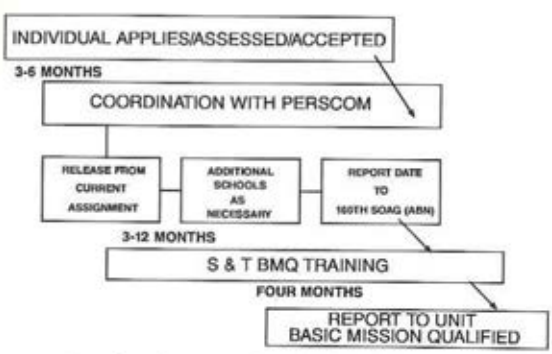
By Major Nicholas A. Christoff

It has often been said that "People are our most important product." In Special Operations Aviation, PEOPLE are one of the three linchpins to success. It is simply not enough to obtain and train the very best in Army Aviation, but absolutely essential to properly manage SOA personnel possessing unique and highly specialized skills. This management begins from the moment of acceptance into the 160th, continues during their tenure in the unit, and remains prevalent throughout their military career.

Manning the 160th SOAR requires the ability to identify, recruit, assess, assign, and manage soldiers as dictated by the mission, operations security requirements, and the need to protect soldiers' careers while assigned to sensitive, non-traditional duties. The identification, recruitment, and assessment of SOA personnel is accomplished by the recruiting section of the S&T Detachment. This process is described in the article by CW2 Berlin. Once the candidate is informed by the President of the Assessment Board that he has been accepted into the 160th, assignment and career management becomes the staff responsibility of the S-1.

MAJ Christoff is an SF-Qualified AG officer serving as the S-1/Adjutant of the 160th SOAR.

Commissioned officers and enlisted soldiers are stabilized for a tenure equivalent to one CONUS tour (48 months). Enlisted soldiers may extend in one-year increments. Warrant officers are stabilized indefinitely at the discretion of the Commander, 160th SOAR with the warrant officer's desires. Unit commanders remain in command for 24 months and, as such, may require deferments from schools or nominative assignments. All must balance schooling and professional development requirements with training and operational commitments. To maintain this delicate balance and protect the careers of SOA soldiers, a unique personnel management



system has been emplaced—Special Management Branch (SMB) at PERSCOM, located in Alexandria, VA.

Personnel actions are initiated and tracked with personnel officers at each Battalion. All activities within PERSCOM (e.g. Aviation Branch, Warrant Officer Division, Enlisted Management Directorate, etc.) are coordinated by SMB on behalf of the 160th. This direct link provides a streamlined, expeditious, and highly efficient system of personnel management.

Identifying the Force

To better manage SOA personnel possessing specialized training and highly perishable skills, the 160th has capitalized on the use of Skill Identifiers. These allow the personnel management system to identify, train, employ, and resource the force.

In October 1989, Additional Skill Identifier (ASI) K4 was approved for award to commissioned and warrant officer aviators and support personnel. ASI K4 will appear in the next edition of the Military Occupational Classification and Structure (MOCAS) handbook.

Skill Qualification Identifier (SQI) 7 was approved for award to enlisted personnel in November 1989. SQI 7 will appear in the DA Circular 611-series implementation circular.

ASI K4 and SQI 7 allows Special Operations Aviation to capitalize on existing experience. It provides for the rapid identification of personnel for assignment to SOA units during crisis and to guarantee the best return on the training dollar while reducing future training costs.

Application for both identifiers is based on recommendation by the SOA commander and one year of SOA duty, excluding the "Green Platoon" training period. Skill identifiers help by:

- Capitalizing on existing SOA experience;
- Enabling rapid identification of aviators and support personnel;
- Allowing reassignment to SOA units during mobilization and crisis;
- Guaranteeing the best return on the training dollar;
- Reducing costs for future training.

Skill identifiers provide the 160th with the best qualified and most readily available pool of aviation and support specialties of all grades, and the ability to continue as the Army's premier nightfighting aviation unit deployable worldwide for NCA contingencies.

Revocation is based on loss of flight status, security clearance, or poor duty performance.

Career Potential

Selection for promotion, command, and schools have been hallmarks of excellence for the 160th SOAR. The 160th closely monitors the career progression of all its soldiers—both past and present. Recent selection rates for promotion of commissioned and warrant officers are as follows:

PERSONNEL ACCOMPLISHMENTS
(CAREER POTENTIAL)

	ARMY WIDE	160th
1989 LTC Selection Board		
PRIMARY ZONE	61%	100% (5 of 5)
BELOW ZONE	11%	33% (1 of 3)
1990 MAJ Selection Board		
	ARMY WIDE	160th SOAR
PRIMARY ZONE	65%	100% (7 of 7)
BELOW ZONE	7%	29% (2 of 7)
1989 CW4 Selection Board		
PRIMARY ZONE	79.4%	100% (6 of 6)
1989 CW3 Selection Board		
PRIMARY ZONE	67.7%	100% (11of 11)

"Just as the training, equipment, and missions of the 160th are unique, so are the people..."

Eight out of nine E-7s in 1988 were selected for E-8 in 1988. 18.1% of the 160th's E-6s were selected for E-7, as opposed to 12.2% Army-wide. Thirty percent of our eligible majors were selected for attendance at resident Command and Staff Colleges in 1988, relative to 14% Army-wide. In 1989, the Task Force figure was 50% versus 18.2% Army-wide.

Former Night Stalkers are commanding a wide variety of combat, combat support, combat service support, and training battalions around the world. This results in the widespread dissemination of special operations aviation techniques, procedures, tactics, and methodologies throughout the Army aviation community.

BATTALION COMMAND POTENTIAL

- 19 OUT OF 20 SELECTED
  - 4 HAVE COMPLETED COMMAND
    - KOREA
    - GERMANY
  - 10 IN COMMAND
    - CAMPBELL
    - HOOD
    - RUCKER
    - MTMC
    - HAAF
  - 5 DESIGNATED FOR COMMAND
    - LEWIS
    - KOREA
    - EUROPE
    - CAMPBELL

Life After SOA

There is no such entity as an 'Ex' Night Stalker. Aviators and support soldiers depart the 160th to assume company and battalion command, become First Sergeants and Command Sergeant Majors, as well as attend military and/or civilian schooling. Regardless of where they are, the Special Operations community monitors (principally through the ASI/SQI) their progress.

Several departments, headquarters, and agencies exist that possess offices that handle actions directly impacting upon SOA. These offices range from the Joint level to Headquarters, Department of the Army level, to Army unique. The need to place officers and senior NCOs who have former SOA expertise into these locations is critical to the effective prosecution of SOA initiatives. These assignments are continually managed through detailed coordination by SMB.

Some of these critical positions external to the 160th SOAR are:

- *DoD* - Assistant Secretary of Defense for Special Operations/Low Intensity Conflict
- *OJCS* - Special Operations Division
- *HQDA* - ODCSOPS—Special Operations Policy and Forces Division PERSCOM
- *JOINT Commands* - USSOCOM—J3/J4
- *MACOMS* - U.S. Army Special Operations Command, Forces Command
- *TRADOC* - USAAVNC and School, JFK Special Warfare Center and School

Summary

The whole Army benefits from the cross-fertilization that occurs when our aviators return to AOE assignments as company and battalion Commanders, serve as Standardization Instructor Pilots, or Maintenance Officers/Test Pilots around the world.

Likewise, our enlisted soldiers take the Special Operations "warrior" ethic to their new units upon departure from the 160th. They all take with them not only the SOA message, but leadership traits that, when combined with other units and sister aviation services, provide a strong and ready deterrent.

Just as the training, equipment, and missions of the 160th are unique, so are the people and specialized management systems used to recruit, assign, and monitor their progress. The challenge is to maintain the ability to identify and assign the most highly qualified soldiers and protect their careers while assigned to very sensitive and non-traditional duties. IIIII

Special Operations Aviation Training

By CW4 Carl R. Brown

One of the three critical linchpins to success in Special Operations Aviation (SOA) is training. Nowhere is the "Train as you are going to fight" philosophy more evident than in SOA. It is this tough, demanding, realistic training coupled with a "can't fail" attitude that has realized continued success by the 160th Special Operations Aviation Regiment (Airborne) in all its real-world endeavors.

A centralized training program was established in 1983 to conduct mission qualification training for incoming air crews. Task Force 160, predecessor of SOAR, labelled the program "Green Platoon," a descriptive title that remains in effect today. The training program was based on the Army's mission training Readiness Level (RL) 2 program of the Aircrew Training Manual (ATM).

CW4 Brown is the Training Officer for the S&T Detachment, 160th SOAR(A), and UH-60 SIP.

Green Platoon was controlled and supervised by the S-3, operations officer, and the Standardization Instructor Pilots (SIP). Every effort was made to establish a program that was safe, efficient, and mission-oriented. It was the first time an effort was made to dedicate instructor pilots and aircraft to a standardized training program for the sole purpose of training newly assigned Army special operations air crews. Limitations in force structure, combined with the real-world contingency mission of the 160th, usually forced Green Platoon training to cease when the unit was deployed for an operation or major exercise.

The Selection & Training (S&T) Detachment was activated in July 1988. The creation of the S&T Detachment has allowed Green Platoon to evolve into a systematic, dedicated, and thorough training program. The Training Section of S&T is charged with responsibility for development, implementation, and modification of the Green Platoon. It now

provides initial qualification training for all incoming personnel regardless of rank or MOS.

Training Mission

Three levels of qualification exist in SOA. These qualification levels and their associated progression times are:

- BMQ—Basic Mission Qualified (4 months)
- FMQ—Fully Mission Qualified (12-18 months)
- Flight Lead—Demonstrated High Performance (36-48 months)

The training mission of the S&T Detachment is the Basic Mission Qualification (BMQ) of all incoming and enlisted officer personnel for the 160th SOAR (A). To accomplish this mission, two independent Programs of Instruction (POIs), each with four phases, were developed. The Officer Qualification Course lasts approximately fourteen weeks. The Enlisted Qualification Course is three weeks in duration. Each soldier must progress through all phases of training in order to graduate and receive the coveted maroon beret.

Officer	Enlisted
SERE Level C	In-Processing
Academics	Academics
Basic Navigation	Dunker Qualification
Aircraft Specific	SERE Level C

Instructional Areas

Unit History
160th SOAR(A) Waivers/Airworthiness Releases
Basic Combat Life Saving
Cardiopulmonary Resuscitation
Stress Management
Operational Security
Map Preparation and Mission Planning
9D5 Crew Dunker Training
Water Extraction Training
Weapons Qualification: M9 and M16A2
Environmental Operations
NBC Mask Confidence Exercise (1)
Aviation Life Support Equipment
Diet and Nutrition
AIDS/HIV Seminar
Driver Training (1)
TDY Travel & Claims
Personal Financial Management (1)
Land Navigation (1)
Wills and Powers of Attorney
Travel Security (1)
Reenlistment (1)
Education Brief (1)
S-2 Brief and Physical Security
Military Equipment Operators Course (2)
Communications Equipment Overview (2)
Cockpit Coordination (2)
Air and Ground Safety
Battlefield Ethics (2)
VFR Regulation Seminar (2)
Ft. Campbell Reg 95-1 and Waivers
Semi-Annual Weather Brief (2)
Local Flying Area (2)
Naval Air Operations (2)
Operations Order (2)

(1) Enlisted Only **(2) Officer Only**

Enlisted Training

Academic instruction for enlisted soldiers is three weeks of classroom and field instruction tempered with intense physical fitness training (PT). This training is primarily designed to provide the commander with a soldier that is qualified and prepared for deployment immediately upon arrival in the unit. The instructional areas covered during this phase are listed at right.

Fitness training was designed using the Army's Master Fitness guidelines to develop the overall condition of incoming soldiers. It combines aerobic exercises, grass drills, running, and weight lifting. Officer and enlisted training are conducted concurrently to the greatest extent possible. This allows the officers and enlisted soldiers to gain the respect and trust of one another, as well as to develop valuable professional relationships.

Selected enlisted soldiers are sent to the 9D5 Crew Dunker at Naval Air Station Jacksonville, FL, and the Survival, Evasion, Resistance, and Escape (SERE) Level "C" High Risk Course at Fort Bragg, NC. These selections are based on duty position and deployability. The Crew Dunker provides valuable egress skills in the event the crew must ditch the aircraft over water. SERE helps soldiers recognize their responsibilities under the Code of Conduct; provides the requisite skills and knowledge

"Night Stalkers do not use electronic systems as a primary means of navigation."

to survive; plan and execute evasion and escape tactics; and resist enemy interrogation and exploitation in the event of capture.

Officer Training

After completing the required in-processing, most officers begin their training with SERE. Officers in support or non-deployable positions do not usually attend SERE.

Upon completion of SERE, officers return to Ft. Campbell for academic instruction. This training primarily focuses on aviation refresher and special operations unique subject areas. It provides students the necessary classroom instruction to successfully complete all subsequent phases of training to become BMQ. Strong emphasis is placed on combat weapons techniques, pre-mission planning, OPORD preparation and presentation, environmental operations, stress management, and operational security. The instructional areas covered during this phase are listed on the previous page.

Many training missions conducted by the 160th SOAR(A) involve overwater flight. For this reason, all newly assigned soldiers receive necessary training in survival swimming, aviation life support, emergency egress procedures, and extraction techniques. All officers in operationally deployable positions undergo 9D5 Crew Dunker and Helicopter Emergency Egress Device (HEEDS) qualification training.

Basic Navigation—Phase III

The first phase of flight training is basic navigation. Each pilot must successfully complete twenty hours of basic navigation training in the MH-6C aircraft. This phase develops or further refines the pilot's ability to perform NVG map navigation. They are allowed to use only a Joint Operations Graphic (Air) map, heading indicator, and clock. Each pilot will plan and fly between five and eight NVG routes during this two week phase. The pilot must meet or exceed the tasks, conditions, and standards outlined in the 160th SOAR(A) ATM. After approximately eighteen hours of navigation training the pilot is given a basic navigation evaluation by a SIP. A satisfactory evaluation completes this phase.

Basic navigation training develops the essential map navigation skills required of Army SOA aircrews. Night Stalkers do not use electronic systems as a primary means of navigation. There are no second chances in special operations.

Aircraft Specific—Phase IV

Validation of navigational skills moves the pilot into aircraft specific flight training. This six week phase qualifies each pilot in the base and special mission tasks for his respective aircraft. Four independent mission tracks are conducted: MH-6, AH-6, UH/MH-60, and CH/MH-47. The Flight Training Guides for these tracks outline all tasks to be performed on each training day. Pilots in the MH-6, UH/MH-60, and CH/MH-47 tracks fly approximately 45 hours in this track. Pilots in the AH-6 track fly 75 hours. MH-6/AH-6 pilots receive aircraft and NVG qualification training prior to advanced mission skills.

Systems used in the various aircraft include: FLIR, Collins Cockpit Management System (MH-60), Adverse Weather Cockpit (MH-47), weather radar, King 660, Doppler, Omega, INS, TACAN, and aerial refueling probes.

Pilots and crew chiefs of MH-60 and MH-47 aircraft learn how to conduct FARRP operations with equipment unique to special operations. AH-6 and MH-6 pilots learn on/off-load procedures for C-130 and C-141 aircraft. All pilots receive extensive training in high gross weight operations, emergency procedures, and enroute flight

while using the M43 protective mask. Each class performs joint operations training as resources are available.

Phase IV is the culmination of academic instruction, basic navigation, unique aircraft systems, and special mission task training to validate each pilot's detailed mission execution capability. A satisfactory phase evaluation advances the pilot to Readiness Level 1 with a status of BMQ.

Continuation Training

Mission training does not stop with the completion of an S&T qualification course. Enlisted soldiers complete their SQT and centralized Common Task Test (CTT) each year. They are required to maintain currency in any special skills which they may have attained since arrival, e.g. Crew Dunker and HEEDS. Continuation training for rated officers is inherently more complicated. As a BMQ pilot, he may perform as pilot on any mission that his aircraft may be tasked to perform, worldwide. This is where he will receive his flight and crew member training in desert, jungle, mountain, urban, and overwater operations. All mission pilots are expected to progress to Fully-Mission Qualified (FMQ) status. The FMQ is qualified to perform as pilot-in-command for any mission that his aircraft may be tasked to perform, worldwide.

The ultimate level of responsibility and demonstrated flight ability within the Regiment is Flight Lead (FL). The FL is selected because of his maturity, special operations experience, and unique ability to be a planner for training and contingency missions.

The Future

The training program for soldiers reporting to the 160th SOAR(A) has come a very long way since 1983. A proposed

(Brown — continued on page 38)

Augmentation Table of Distribution and Allowances (ATDA) was submitted to HQDA in January 1990 and the manpower survey for this proposal subsequently completed in May. With the formulation of the ATDA, the Training Section will evolve into sections compromising SOA simulation, Academic and Flight Training. The total training effort will employ a total of 58 military, civilian, and contract personnel.

The S&T Detachment currently owns and operates fifteen MH-6C aircraft for the purpose of aviator assessments, basic navigation training, and staff aviator support. As the MH-60K and MH-47E are fielded, the S&T Detachment will receive three of each type aircraft. These "training base" aircraft will be dedicated to aircraft qualification training for all of Army SOA. The S&T Detachment will staff and operate the MH-60K and MH-47E Special Operations Aviation Combat Mission Simulator (SOACMS) complex. Our Flight Simulation Section will operate the SOACMS and closely interface with the Regimental S-3 to facilitate continuation training as well as worldwide mission rehearsal capability.

MCA Projects

Military Construction-Army (MCA) projects are scheduled that will greatly enhance the training effectiveness of the Detachment. S&T will be located near all other elements of the 160th SOAR(A) to ease coordination, enhance OPSEC and physical security, as well as allowing easy access by the population requiring continued use of our facilities. Dedicated areas are planned for the following sections: Detachment Headquarters, Recruiting, Flight Simulation (SOACMS), Academic Training, Flight Training, Flight Support, and Aircraft Maintenance.

This summer, the S&T Detachment will hire Contractor Mission Instructors (CMIs) to perform initial qualification training. This training includes academic, simulator, and flight instruction. Approval to contract instructor augmentation was based on inadequacies of the force structure and the realization that SOA training must not be deployable. These CMIs free up mission pilots that, before now, had been pulled to perform IP duties in support of initial qualification. This program will significantly improve the combat readiness of the unit and ensure the standardization of instruction through continuity.

It is truly an exciting time to be an Army aviator. We are witnessing unprecedented equipment modernization and enhanced training techniques. The 160th Special Operations Aviation Regiment (Airborne) has the finest equipment, aviation and ground, that the world has to offer. Night Stalkers perform the most realistic training, to the highest standards, in the Department of Defense. When the time is right, the 160th will be alerted by the National Command Authority to engage in combat with an enemy that is a threat to our nation or its interests. It is for this moment that we prepare—Night Stalkers Don't Quit. IIIII

AAAA Army Aviation Electronics Symposium

Sponsored by the AAAA Monmouth Chapter, the Symposium will be held 11-13 September 1990 at the Berkeley-Carteret Hotel, Ocean Avenue, Asbury Park, NJ. "Integration and Automation Impact on Army Aviation" will be the theme. Call for papers POC is: Dr. John Niemela, Program Chairman, (201) 544-4635. Address written communications to: 1990 Symposium, AVRADA, Bldg. 2525, ATTN: SAVAA-P (PAONE), Ft. Monmouth, NJ 07703-5000.

SOA: Systems Integration

By Major James R. Myles

The 160th SOAR (Airborne) mission has consistently challenged the best Army Aviators to their very limits. As the missions have demanded the highest aviation skills, likewise, there has always been a critical need to continually modify special operations aircraft with state-of-the-art communication, navigation, and special mission equipment.

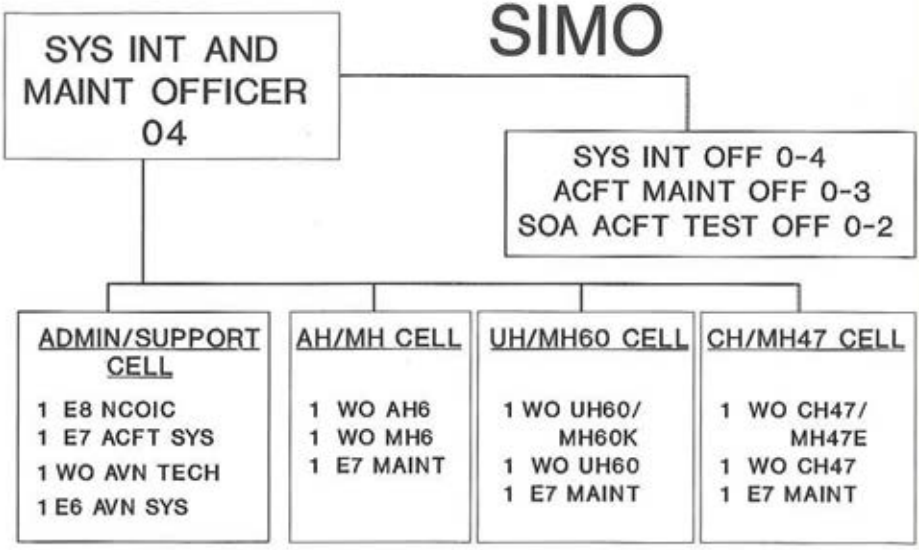
State-of-the-art mission equipment translates into better chances of mission success and safer operation in the challenging special operations environment. This rigid requirement has always been "customer" driven. As the changing needs of the customer evolve, special operations aviation must rapidly respond with the needed aviation support.

The typical eight years required to field aircraft systems under the Army standard acquisition process is detrimental for SOF aviation mission requirements. This forced the development of unique streamlined methods to state needs, validate, approve, fund, install, and maintain equipment of SOF aircraft.

MAJ Myles is the Systems Integration and Maintenance Officer for the 160th SOAR(A).

As the unit evolved from TF 160 to the 160th Special Operations Aviation Regiment (Airborne), so did the office responsible for new aircraft equipment. Today, the Systems Integration and Management Office (SIMO) is the 160th SOAR (A) focal point for all special operations aviation systems development, operational testing, acquisition, logistic support, and modernization of new aircraft equipment.

The unique SIMO office of seventeen people consists of some of the 160th SOAR's most experienced and best pilots. The SIMO warrant officers average more than five years of Flight Lead/Pilot In Command experience in the Regiment. Use of the "flight line pilots" as weapon system managers has ensured unit requirements are articulated to materiel



developers with the pilot still in the acquisition loop. The SIMO organization structure is a pending TDA recognized office and currently utilizes line units to fill its ad hoc SIMO warrant slots.

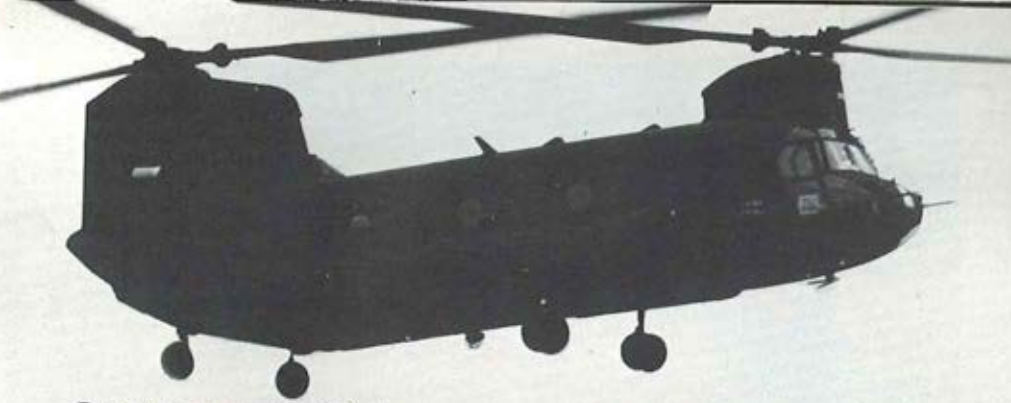
The creation of the SIMO has benefited conventional Army Aviation as well as special operations. There have been numerous items developed for the 160th SOAR (A) that have had direct application to other DoD aircraft systems.

Cockpit Integration

In the area of cockpit integration, there has been several developments that have increased the pilot's capability while simultaneously increasing his margin of safety. The AAQ-16 FLIR was developed for "Task Force 160" in 1984. It was designed as the first "true" navigation FLIR for SOF aircraft. Today, it remains the standard FLIR throughout the joint SOF arena. The AAQ-16 can be seen in future aircraft systems such as the USAF MH-60G PAVE HAWK and the SOA aircraft MH-60K/MH-47E.

The Night Vision Goggle (NVG) heads up display (HUD) has been recently developed and will be installed on 160th SOAR aircraft this year. This latest edition will keep the NVG aviators focused outside while still monitor-ng flight critical information. NVG HUDs will be on the MH-60K/MH-47E, MH-53J, MH-60G, and standard Army aircraft in the '90s. SOF aviation has pioneered the use of Fast Rope techniques for quick insertion of assault forces. A follow-on Fast Rope Insertion and Extraction System (FRIES) will be available later this year.

The success of a surgical special operation is directly related to the quality of its mission planning capability. The detailed assistance by the Avionics Research and Development Activity on automated mission planning systems will enable the system to be fielded during the last Fiscal Quarter. This portable system will be capable of printing the aviator's time-distance-heading cards, computing power, fuel required, printing colored map strips, and transfer flight data to each aircraft via a data transfer unit. This mission planner also will be compatible with the MH-47E/MH-60K.

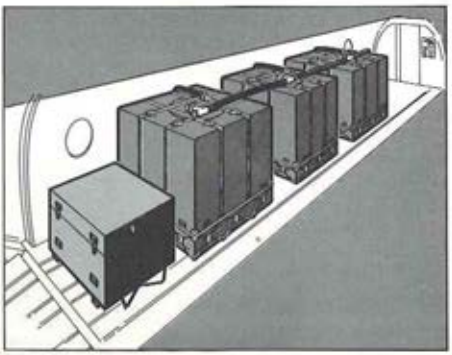


CHALLENGE:

TRIPLE THE RANGE AND PROVIDE FORWARD AREA FUEL.

SOLUTION: Install three 800 gallon *GUARDIAN*® auxiliary fuel tanks to triple the Chinook's range and the *ROBERTSON FARE*® System to provide forward area fuel.

CLEAN INSTALLATION.
The *GUARDIAN*® System secures neatly to the Chinook's tie-down rings, leaving a 25" wide clear aisle down the right side of the cargo compartment. There are no tie-down straps or bulky plumbing to trip over. After initial installation, tanks can be removed or reinstalled in 10 minutes or less without tools.



CRASHWORTHY, SELF-SEALING BLADDER.
The *GUARDIAN*®, the most dependable auxiliary fuel system available, exceeds stringent Army crashworthy and functional requirements. The highly tear-resistant bladder has passed the 65 ft. drop test without leaking, and is made of self-sealing material that has survived the .50 cal., 14.5mm and 20mm gunfire tests.

FARE SYSTEM.
The *ROBERTSON FARE*® (Forward Area Refueling Equipment) system utilizes a self-priming 120 gpm pump and two-inch dia., collapsible hoses with Unisex ends to provide safe, simultaneous refueling of two other aircraft 200 feet from the pump.

GO THE EXTRA DISTANCE.
Find out how to get more out of your aircraft. Call (602) 967-5185 now.
FAX (602) 968-3019 anytime, or write P.O. Box 968, Tempe, AZ 85280.

ROBERTSON
AVIATION
Range Extension Fuel Systems

Deployability and range extension have been increased through the development of the Army's first aerial refuelable aircraft (MH-47D) and through the development of crashworthy, ballistically tolerant "Robertson" fuel cells for the MH-60A and MH-47D. These internal tanks more than double the range of the standard fuel load. The MH-60A folding stabilator was developed to allow for quick on/off loading of USAF aircraft.

In the area of shipboard operations, an MH-47D blade fold technique has been developed in the 2nd Battalion 160th SOAR. Full blade fold operations are now being performed in less than thirty minutes.

With an eye toward the future, the SIMO office has been working closely with the MH-47E/MH-60K materiel developers.

This office has been involved in requirements documentation, scheduled in late FY91. Unique to SOA, and what has been our standard practice, is that 160th SOAR personnel responsible for providing user input will be the same aviators performing future "real world" missions. The MH-47E/MH-60K aircraft is the first Army aircraft built from the ground up for the challenging special operations missions.

Materiel development for the 160th SOAR has been a team effort by the entire Army materiel development community. The AMC community has been highly responsive to all SOF requirements. Army Aviation Systems Command (AVSCOM), Aviation Applied Technology Development (AATD), Corpus Christi Army Depot (CCAD), and AVRADA have provided indispensable and timely support. Contrary to popular belief, the special operations community does not have a different set of rules for airworthiness certification. All modifications must meet the stringent airworthiness criteria of AVSCOM engineers.

The SIMO office focuses only on equipment that significantly enhances mission success. Any equipment procured must enhance the mission in one of the following areas. It must:

- increase deployability;
- extend the operational range;
- improve pilot capabilities through workload reduction;
- improve aircraft survivability;
- improve target destruction.

In addition, all equipment must improve the safety of the operation.

The special operations aviation community recognizes its unique place in Army Aviation and looks forward to future force modernization procedures. IIIII

SOA: Safety

By CW4 John J. Swift

During the course of my travels as the 160th Special Operations Aviation Regiment (Airborne) Safety Officer, I come in contact with many people in Army Aviation. I ask many of them why they haven't, or if they would, consider assessment for a position in the 160th SOAR (ABN). Most often, their response is one of the following: "Too many pilots die in the unit"; "Too much travelling and time away from home"; and "I have, but didn't make it," or "I didn't meet the prerequisites." The purpose of this article is to dispel the misperception about accidents, and also give an overview of what steps we take in order to prevent accidents within special operations aviation.

The 160th Special Operations Aviation Regiment (Airborne), previously known as Task Force 160, was formed in 1980 following the ill-fated hostage rescue attempt in the Iranian desert. It was apparent then that a need existed for a highly trained aviation force capable of performing worldwide, precision aviation operations at night and in the widely diversified environments of jungle, mountain, overwater, desert, and urban areas. The mission was then, and still is, considered to be a high risk mission. Initially, pilots, aircrews, and support soldiers as well as most equipment were drawn from existing units of the 101st Airborne Division (Air Assault), at Fort Campbell, KY.

CW4 Swift is the Aviation Safety Officer of the 160th SOAR(A).

Since its formation in 1980, the unit has experienced 50 Class A through C accidents (graph at Fig. 1 shows breakdown of accidents). All except three of the Class A accidents were investigated by the U.S. Army Safety Center (USASC). Additionally, USASC investigated some of the Class B and C accidents. The remainder of the accidents were investigated and formally reported by boards appointed by the Task Force Commander. During the first three years,

ten Class A accidents resulted in 20 fatalities, with one additional fatality attributed to combat action in Grenada. During this period, there were approximately 38,000 flight hours. Since then, the 160th has had 12 Class A accidents. Two of these resulted in three fatalities. Also, two pilots were killed in action during Operation JUST CAUSE in Panama. During the last seven years, approximately 140,000 flight hours were recorded by the unit.

There is a significant disparity between the first three-year accident history and the last seven years. Why such a difference? Simply stated, it is because of people, equipment, and standardization.

People

In the early years of TF 160, there were no defined standards of prerequisites for special operations aviators. Initially the unit was not an all-volunteer force. It was manned from already existing personnel and units of the 101st Airborne Division. Some aviators had considerable flight experience, while many others were new aviators. None had experience in the types of mission training they were soon to receive. There were very few aviators with OH-6 experience and the UH-60 was still in its infancy in Army Aviation. Also, there were very few Night Vision Goggle (NVG) qualified aviators, and those that were NVG qualified possessed limited NVG experience.

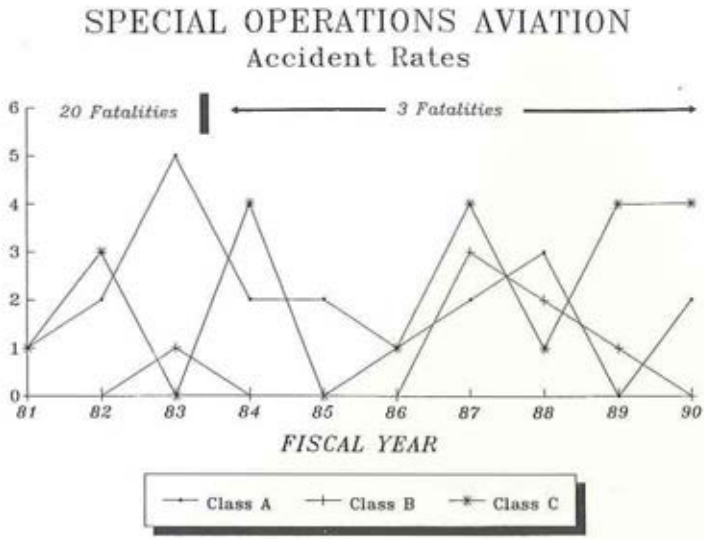
Today, an aviator must meet established prerequisites of flight experience and must complete an application which is used to determine motivation, attitude, financial situation, marital well-being, and accident history. After the application is examined and the aviator is determined acceptable for assessment, he will go to Fort Campbell for a four day assessment. At that point the aviator is either rejected and told why, or tentatively accepted pending successful completion of basic mission qualifications (BMQ) training.

Following BMQ training, which lasts approximately three months, the aviator will be integrated into a unit where he will receive training toward full mission qualification. FMQ progression takes approximately 12-18 months. The final phase of progression is flight lead (FL), normally taking three to four years, and not achieved by all fully mission qualified aviators. Each of the three training programs is well defined by SOP and the unit ATM, and rigidly adhered to. Before progression can be made, the aviator is required to meet all other annual requirements and is subject to the requirements of all flight, safety, and medical regulations.

Equipment

When originally formed, the 160th was composed of the UH-60A, CH-47C, and OH-6B helicopters. That same mix exists today with the MH-60A, the MH-47D, MH-6J, and the AH-6J. On the outside, they appear, with few exceptions, similar to their early predecessors. The exceptions are T-tails on the MH/AH-6s, inflight refueling probes on the MH-47, FLIR, and different antennae on all aircraft. Inside, the modifications are vast and range from navigation to fuel management systems. Modifications were not made solely for the sake of change, but rather as a result of lessons learned from early accidents. All modifications have undergone extensive research and development reviews and actual testing on unit aircraft in various mission profiles before implementation. One of the necessities of any new piece of equipment is that it must be an enhancement to mission completion.

In addition to aircraft improvements, personal equipment has also been modified, upgraded, and improved. The 160th began its mission training with the full-face PNVS-5 night vision goggles. Pilot recommendations soon brought about the cutaway version of the PNVS-5, and ultimately, the visor-mounted flip-up mount. In 1984, the ANVS-6 was introduced, and since then, there have not been any NVG-related accidents where goggles have been responsible.



Aviation Life Support Equipment (ALSE) is another area that receives constant attention in the unit. The ALSE shop supplies individual crews with everything considered necessary for the safe return of crewmembers in the event of an emergency. The long list of equipment includes immersion suits, survival suits, kevlar body armor, Helicopter Emergency Egress Device (HEED), vest-mounted rescue harnesses, rafts, and individual flotation devices. Also, ALSE conducts all repairs and periodic inspections of issued equipment. The shop personnel work in conjunction with Natick Laboratory and manufacturers to ensure only the best equipment is procured.

Standardization

When initially formed, the 160th was presented with mission parameters considered to be necessary for completion of the unit's assigned special operations missions. These parameters or standards, addressed comprehensive planning and briefings, precision route flying, and precision time on objective. It was the unit's responsibility to develop the procedures necessary to accomplish these tasks within the established parameters. This was new territory to the aviators of TF 160. It was not an easy task and it did not occur overnight. Lessons learned through trial and error and as the result of accidents were the building blocks to the Standardization SOP and the 160th Aircrew Training Manual which exist today. These procedures, once learned, are rehearsed to the point they become second nature. The standardization program gives the assurance to other crews and to supported units that a specific task will be conducted within specific parameters regardless of who is at the controls.

Summary

Through all of the changes, there is one thing that has remained constant—the high risk environments where we conduct operations. Every effort is made to improve the unit's posture in the high risk environment. This is done by ensuring only the most highly-skilled volunteers are selected, by establishing rigid standards, by conducting repetitive training to those standards, and by having a systematic program of equipment improvement. IIIII

□ SPECIAL □
OPERATIONS

The Family Support System Team

By Chaplain (Captain) Steven A. Zinser

In a recent pastoral letter written by the Army Chief of Chaplains, Chaplain (MG) Norris Einertson, cites a study done by researchers at Walter Reed Army Institute of Research that documented that soldiers with family problems are more likely to become casualties.

According to Chaplain Einertson, there is a thin line between "the home front and the front lines." No one at the 160th would argue that statement. In fact, it is taken seriously because the Night Stalkers have proven it to be true in the cauldron of real-world operations.

To deal with family issues which do arise, the 160th has a unique family support system which has been carefully designed and adapted over the years. This includes their own religious family support group, headed by the Regimental Chaplain; their own medical support group, headed by the Regimental Flight Surgeon; and, unique to any similarly sized unit in the military, their own psychological support group, headed by the Regimental Psychologist. The summer arrival of a Lawyer will complete the makeup of our Family Support Group.

In addition to all of these official avenues of support, the 160th is blessed with a private organization which has taken the concerns of Night Stalker families to heart.

The first encounter an incoming soldier has with the 160th Unit Ministry Team is during "Green Platoon" training. One of the classes is entitled "Battlefield Ethics." The subject of the class actually encompasses more than wartime ethics, it considers ethical issues in day-to-day military living. The need for such a class has been proven by the battlefields the Night Stalkers Regiment has seen over the past few years, including Operation JUST CAUSE, in Panama.

The first encounter an incoming family has with the Unit Ministry Team is at the Family Welcome Program sponsored by the Selection and Training Detachment. At this meeting, the Chaplain Section discusses

CH Zinser was the Regimental Chaplain for the 160th prior to his departure to Korea in June.

faith, family, and friendship, which make up the vital portion of our contribution to the family support group.

Facilitating the opportunity for all soldiers to practice their faith is the primary mission of any chaplain. There is no exception at the 160th. Whether at Ft. Campbell, KY, or Hunter Army Airfield, GA, the Chaplain Section offers a full range of worship studies. Catholic, Protestant, Jewish, and other faith groups are accommodated. Weddings, baptisms, confirmations, bar mitzvahs, and special services are widely available.

One other faith issue which has arisen over the years with the Night Stalkers, as it does with any military unit, is the need to memorialize the dead. The 160th Ministry Team most recently conducted Memorial Services in Panama and at Fort Campbell in memory of 1LT John Hunter and CW2 Sonny Owens, who gave their lives for their country during Operation JUST CAUSE.

Since chaplains are also school-trained professionals in many counseling areas, the Unit Ministry Team is also a resource for the family or for individuals when special or trying situations arise. And, as with any religious professional, confidentiality is a strictly observed principle. Because of this, the chaplain often counsels on subjects as wide-ranging as family finances, divorce, and child behavior and, if necessary, suggests other professionals or helping agencies to anyone seeking advice. Other means of aiding families are mini-marriage retreats, long-distance parenting ideas and workshops, and clinics on grief or child rearing.

In the 160th, friendship means more than Webster's dictionary definition. It means an organization of families ready at a moment's notice to help each other out. This "reach out" attitude has developed over the years because of the special demands placed on Night Stalker families. The chain-of-concern support network among Night Stalker homes is so efficient that families can be updated in hours as to the disposition of deployed loved ones.

During JUST CAUSE when it became clear at the last minute that a supply aircraft was going to leave Ft. Campbell in time to reach Panama by Christmas Eve, the spouse support network went to work. Within hours, packages of cookies, candies, cakes, and those all-important letters came pouring in. Rounding out this giant "care package" was a Santa suit.

As Santa handed out those packages to all our soldiers just hours later in Panama, it was clear what a necessity friendship is in the Night Stalker Regiment. It is more than a concept. . .it is a way of life.

The Flight Surgeon

The medical section of the 160th Special Operations Aviation Group consists of a flight surgeon, an aeromedical physician's assistant, and four medics. Each of the subordinate battalions have their own medical section and 1/160 and 3/160 each have an assigned Flight Surgeon.

The medical section's mission covers a wide range of activities including sick call, medical and immunization records maintenance, medical equipment maintenance and supply. Also, they provide drop zone and range coverage, and support to the Selection and Training Detachment. Physicals, dependent care, and even occasional house calls are also medical staff missions. Aircraft accident coverage, training mission, and real-world deployment coverage are included.

The enlisted medics assigned to the 160th are highly motivated, intelligent, and competent soldiers. Their collective training includes aviation aidman and Expert Field Medical Badge (EFMB) qualification, Emergency Medical Technician training, SERE, and airborne and air assault schools. Their skills have been tested and proven on many exercises worldwide. Recently they received their trial by fire during Operation JUST CAUSE.

The medical officers of the 160th also exemplify the high motivation of the unit. They must be prepared to provide medical care in environments not familiar to the average military physician. To accomplish this, they require a strong foundation in aviation, preventive, and tropical medicine,

as well as skills in trauma medicine and the ability to operate in isolated areas.

The medical team is also prepared to deliver competent care to family members. To accomplish this requires continual attention to family practice skills and involvement with the installation hospitals or medical care delivery systems.
Every Night Stalker family member is automatically enrolled in Family Practice on their arrival at Ft. Campbell. The benefits of this level of personalized medical care in the Army medical systems are well known.

The 160th medical section is part of a new "specialty" recognized by the U.S. Army known as Special Operations Medicine. The medicine is not special, but the environments and situations in which it is practiced is.

The Psychologist

A supportive and healthy family environment is of critical importance in determining a soldier's effectiveness, and the ultimate success of the unit to which he or she belongs. Successful family functioning becomes even more imperative when the soldier is frequently required to be away from home or trains to perform dangerous or classified missions. The 160th is the only aviation unit which has its own clinical psychologist.

The command of the 160th SOAR strongly emphasizes the importance of the family in the successful accomplishment of the Night Stalkers' mission. For this reason, one of the integral roles of the clinical psychologist in the unit is to ensure the mental health needs of the unit members and their families are met.

The clinical psychologist is heavily involved in the selection and training process of unit members. The comprehensive psychological evaluation accomplished in the selection phase includes collecting data related to the soldier's family functioning. The stability of the marriage, relationships with children, and overall satisfaction with family life are important pieces of data. Before a soldier arrives for duty with the Night Stalkers, he must realize the potential strain such duty can have on his family. Therefore, applicants are fully informed of these possible stressors. This "up front" honesty prevents many difficulties by eliminating those individuals whose families are not likely to react well to additional stress.

Soon after arriving at the 160th, soldiers and their families attend the Family Welcome Program. Preventive care is accomplished by providing information on what to expect, where to obtain help, and how to survive life in the 160th. The message of the orientation is loud and sincere—"we care about families."

The initial training of unit members involves instruction in stress management provided by the psychologist. The sources, and symptoms of stress in individuals and families are extensively discussed. Soldiers are taught not only how to identify possible problems, but also potential remedies. The soldiers graduating on to full Night Stalker status are thus trained in both military mission essential skills and skills for maintaining healthy family functioning.

The day to day mission of the clinical psychologist involves the provision of mental health services to the unit members and their families. Soldiers or family members may be command referred, self-referred, or referred by other health care providers. Depending on the problem, the psychologist can provide individual, marital, or family psychotherapy. The psychologist works closely with other health care providers to ensure the needs of individuals and families are met. He also consults with local school systems in cases involving children. Often, circumstances are such that the unit psychologist would not be the most effective service provider. In these situations, he ensures the family is connected with a more appropriate mental health professional either within the military or the civilian community.

Credibility is gained by quickly and effectively intervening in problem situations. Demonstrating honest concern and professionalism earns the trust and respect of the dedicated warriors of the 160th. Frequent visits to the flight line, participation in training exercises, and attendance at

social gatherings help the psychologist become a professional the unit members know and feel comfortable with.

The Lawyer

The newest acquisition to our Family Support System is a Staff Judge Advocate Officer. The lawyer provides capabilities in such areas as Operational and International Law, Administrative and Civil Law, Legal Assistance, and Criminal Law.

It is in the area of Legal Assistance that the SJA provides the greatest contributions to our Family Support Group. The 160th Legal Office prepares and executes wills and powers of attorney to ensure that all soldiers assigned to the 160th are fully deployable at all times. They also ensure that the families of soldiers who have either been deployed, or who have become incapacitated as a result of an operation, receive adequate legal advice. Emergency legal services to deployed soldiers are available in such areas as Family and Consumer Law.

The Night Stalker Association

The Night Stalker Association was officially recognized by the Internal Revenue Service as a not-for-profit, private veteran's organization in 1989. Its work, however, had already been ongoing by that time for over eighteen months. NSA provides a professional and charitable organization dedicated to furthering the "Night Stalkers Don't Quit" philosophy. The organization is comprised of 160th veterans, active members, and military and corporate friends. All of them have united to provide outstanding support to Night Stalker families. Our families have been assisted by the Night Stalker Association in times of grief and extreme need.

Outside the Headquarters building of the 160th SOAR at Ft. Campbell, Kentucky, stands a monument with the inscribed names of twenty-eight eternal Night Stalkers. The monument reads, *"In memory of those who have given their lives during training or combat operations."*

There would be no "stone of remembrance" if the NSA had not purchased the dignified black granite, or contracted for the natural landscaping. After diligently raising funds for more than a year, the Night Stalker Association dedicated the monument in November 1988. At a special ceremony attended by family members of our honored deceased and by hundreds from the special operations community, the monument was officially made a gift to the unit. When 1LT Hunter and Mr. Owens were added to the monument this past March, the Night Stalker Association paid for the inscription and the travel expenses of the Hunter and Owens families. In a moving Inscription Ceremony, our fallen were honored and our families touched by a charitable hand they would never forget.

The NSA has also reached out to lend a helping hand to families in the unit which have been shocked by personal tragedy or hardship. When a young family was devastated by hospital bills brought on by a child continually hospitalized at Vanderbilt Hospital, the NSA granted hundreds of dollars to make ends meet. When another young family was shocked by the sudden loss of a child, the NSA was there. Money was given to assist with transportation and funeral costs. Another young family had a dangerously premature child, and the monitoring and hospitalization needs added significant extra cost to the family budget. The NSA stepped in to help. The lesson is simple. The Night Stalker Association is an invaluable member of our family support group.

Discussions are now taking place on starting a scholarship fund for Night Stalker families, and especially for the families of those whose loved ones have lost their lives while serving with the Night Stalkers.

For membership information, contact:
The Night Stalker Association
P.O. Box 2296
ATTN: Membership
Clarksville, TN 37042-2296
or phone: 615-648-0193, c/o Mrs. Hansen

The unit especially would like to hear from former Night Stalkers, retired or active duty, who have lost touch with the unit. IIIII

1990 Aviation Noncommissioned Officer Symposium (AVNCOS 90)

SFC Gregory C. Brooks

FT. RUCKER, AL — The 1990 Aviation Noncommissioned Officer Symposium (AVNCOS 90) is open to both active and reserve component aviation command, brigade, and separate battalion command sergeants major by invitation from the Aviation Branch Command Sergeant Major. This year's symposium was hosted by the U.S. Army Aviation Center (USAAVNC) at Fort Rucker, AL, in June 1990.

This year's symposium theme, 'Army Aviation Warfighting 2000,' focused on the role of the Aviation Branch in support of the AirLand Battle future. With the prospect of defense budget cuts on the horizon, particularly in personnel and military hardware acquisition programs, adaptation to fighting against a threat in a low- to high-intensity conflict with fewer assets having high-tech sophisticated systems, is becoming imminent.

AVNCOS 90, as well as previous symposiums, provided a forum in which aviation senior noncommissioned officers could discuss current and future proponency issues, modernization plans, concepts and initiatives affecting the aviation force. It gives Aviation Branch planners a different perspective on the 'field impact' of ongoing aviation branch initiatives from those who are responsible for the leadership and training of our enlisted soldiers today, the 'cream of the crop' of the aviation force. It also reinforces USAAVNC efforts to provide leadership in the field with a continuing update on current and future trends affecting the Army's worldwide aviation combat mission.

Highlights of the AVNCOS 90 agenda included a presentation from the TRADOC Command Sergeant Major, CSM Henry Goodwin; a PERSCOM update on aviation CSM/SGM and other enlisted soldier issues; an Army Aviation apprentice mechanic update from the U.S. Army Aviation Logistic School (Fort Eustis, VA); a briefing from both the 228th Aviation Brigade (Panama) and Task Force 160 (Fort Campbell, KY) on Operation JUST CAUSE, executed in Panama; and an Army Aviation safety update from the U.S. Army Safety Center (Fort Rucker, AL).

Once the presentations were concluded, the attendees were divided into separate work groups to examine areas of concern having a crucial impact on Army Aviation at present and beyond. So far, four areas of concern have been identified which include personnel, training (institution), training (field units), and systems acquisition. Attendees were asked to submit issues they would like discussed in the symposium forum.

Each group was headed by at least two to three chairmen who have proponency for that particular issue (example: Personnel was headed by representatives from PERSCOM, the Directorate for Aviation Proponency, DAP, Fort Rucker, AL; and Proponency Office, Fort Eustis, VA). After discussing and consolidating recommendations and solutions, the work group chairmen then presented their findings to the entire symposium forum.

Invitations were distributed to the field on 30 March 1990 with a response deadline of 1 May 1990. For more information on future symposiums, contact SFC Brooks (AVNCOS 90 coordinator), telephone number (AUTOVON) 558-2470/2361 or commercial (205) 255-2470/2361.

SFC Brooks is an Operations Project NCO for the Department of Enlisted Training, USAAVNC, Fort Rucker, Alabama.

93P Battle Focus SQT Implementation

Mr. Donald L. Funkhouser

FT. RUCKER, AL — The Department of Enlisted Training (DOET) at Fort Rucker, AL, received its first battle-focus directive in November 1988. The directive was enforced by guidance in FM 25-100. During the next few months, work started in earnest to review all critical task lists and start the process of battle focusing each list. From January 1989 through April 1989 the Directorate of Training and Doctrine (DOTD) and DOET held task and site selection boards to review the 93B, 93C, 93P, 67N, and 67V critical task lists. Each MOS was broken down into one or more tracks based upon the type of units each MOS would be assigned to. Each critical task was analyzed and then placed in one or more of the tracks. A 'murder board' performed the final review of the new battle-focused critical task list.

The new approved battle-focused critical task list was initiated for inclusion in the next revision of the Programs of Instruction (POIs), Soldier's Manuals (SMs) and Skill Qualification Tests (SQTs). The first DOET implementation into an SQT was the 93P, Aviation Operations Specialist. The 93P SQT was conducted in January-March 1990. Results of the tests were analyzed and feedback was released to DOTD in April 1990.

Results of the analysis were quite impressive when reviewed for the first time. Each track and skill level was reviewed and the scores ranged as follows: mean score ranged from 83 through 91, and the median score ranged from 84 through 93. These scores are higher than those recorded in previous years.

Mr. Funkhouser is the Education Specialist for Department of Enlisted Training, USAAVNC, Ft. Rucker, AL.

From the results of the SQT one could jump to the conclusion that we are doing a better job of training our soldiers in the institution and in the units. However, several other factors must be considered and analyzed before making any final determination.

First, the possibility exists that the higher test scores were the result of soldiers being tested on jobs they actually performed in their units on a regular basis. This would lend credence to the concept that the institution and unit training and working environments are extremely effective. Lower test scores in previous years could have been the result of the soldiers being tested on their entire MOS. In some cases, soldiers had not performed some of these tasks for several years.

Second, were the tests easier? It is the responsibility of DOET to assign highly qualified personnel with recent field experience to write the test questions. These questions reflect those tasks a person needs to know in a working environment. All questions are written to test the soldiers' understanding and knowledge of the battle-focused critical tasks. No test question is ever intentionally written to make it easier.

Third, were enough tasks selected for the SQT? This was the first 93P battle-focused SQT. As a result of the critical task board selection, there was an overall reduction of tasks in each track. As the number of tasks declined, the number of test questions per task had to be increased. The decline in the total number of tasks has created a need to increase the total number of critical battle-focused tasks selected for the next SQT.

(Battle Focus — continued on next page)

AVIATION SOLDIERS

Training Tomorrow's Observer

SSG Michael Wood & SGT Christopher McHorney

FT. RUCKER, AL — As Army Aviation enters the 1990s, new helicopters are not the only examples of new technology being used to its fullest potential in an effort to improve combat effectiveness. New technologies are also being introduced during advanced individual training. One school making full use of the available technologies is the 93B Aeroscout Observer Course. The aeroscout observer works with the pilot of the OH-58 A/C Kiowa and, together, they serve as the 'eyes and ears' of the battlefield commander. With a role as vital as this, it is important that the aeroscout observer has a thorough understanding of the types of missions that will be performed in an effort to serve in this capacity.

One example of new technology being incorporated into the aeroscout observer course is the Electric Information Delivery System (EIDS). There are currently nine two-part exercises available for use with EIDS. Entitled 'The Aeroscout Observer Course,' the flight training exercises range from basic terrain flight mission planning and execution to simulated night vision goggle flight. Mission and tactics exercises include route and area reconnaissance, call and adjust indirect fire, threat and allied vehicle identification. Each exercise will immediately follow academic classes, which allows practical application and reinforcement prior to performance in the actual aircraft.

SIMNET is another technology that is being considered for possible application to the Aeroscout Observer Course. SIMNET is a realistic, computer-generated flight simulation system that allows aircrews to interact with ground and air assets in a simulated battlefield environment. Aeroscout observer students in navigation and tactical training may benefit from the use of SIMNET. Studies have been conducted and the data is being compiled.

The proper use of new and existing technologies in the training of the individual soldier can greatly enhance the learning process. This will allow future aeroscout observers to apply more complex procedures while using more technologically advanced equipment, resulting in well-trained soldiers who are better equipped to accomplish their mission on tomorrow's battlefield. IIIII

SSG Wood and SGT McHorney are Aeroscout Observer Instructors for the DOET, USAAVNC, Ft. Rucker, AL.

Battle Focus

(continued from previous page)

At present the subject matter experts are writing the SQT questions for the FY 91 test. A murder board will be conducted to review the test questions. The concerns mentioned above will be discussed to determine if there are any faults with the test or if it can be improved.

The last battle-focused SQT did seem to indicate an improvement in SQT scores as a result of battle-focusing the test. Our soldiers, after training in the schoolhouse and working on job tasks in their MOS, are highly skilled and qualified. Perhaps the next 93P SQT results will support the first test that tracking and battle-focusing the SQT is a better way of testing our soldiers' proficiency, knowledge, and understanding on the job. IIIII

AVIATION SOLDIERS

93C Advanced and Individual Training: Now and Beyond

SFC Alexander C. Kurpes, Jr.

FT. RUCKER, AL — The Army is changing, budgets are being reduced, personnel restrictions have been imposed and assignments curtailed. These were some of the problems facing the air traffic control (ATC) field in the late 80s and will be the order into the 90s. ATC has had to adapt and must continue to do so to meet all problems head-on with solutions. This article is an effort to summarize the modifications made at the ATC school in order to meet those needs as well as plans for the future.

The Army, until recently, had two ATC MOSs: 93H ATC Tower Operator and 93J ATC Radar Operator. The problems with this system were primarily experienced at the unit level. It seemed that the MOS authorizations rarely matched the needs at unit level. Frequently a unit would have too many 93Js and not enough 93Hs to meet its mission requirements. The solution to this problem was merging the two MOSs into the 93C Air Traffic Control Operator MOS.

The Air Operations Training Division of the Department of Enlisted Training, U.S. Army Aviation Center, Fort Rucker, is now training soldiers on both tower and radar procedures. This training is in addition to the FAA-peculiar tasks which are needed for the FAA Control Tower Operator Exam. Instruction is also provided on such subjects as weather, flight information publications, nonradar Instrument Flight Rule (IFR) operations, and the newly introduced subject of flight following. The flight following training need was identified as a result of unit feedback to the school. Through site visits and the school's instructor staff experience, this subject was incorporated into the curriculum. This was accomplished by aligning training as closely as possible to what is expected of the soldier in the unit. The school adopted a grid matrix map and flight-following system similar to that used at Fort Hood and other installations throughout the world. In addition, the 93C student receives training on the type of tactical ATC facilities and equipment used at the unit level. This same equipment is also used during the Field Training Exercise (FTX) conducted by the school. The FTX is an exercise that gives the student a chance to apply the knowledge he has received in a field environment.

Planning for the future of ATC training is ongoing. New projects include the acquisition of a fully integrated, computer-generated ATC tower simulator. This simulator will be capable of immediate response to a student's control instructions. These instructions can be modified, frozen, or deleted from the instructor control console. This simulator may either be programmed by instructor personnel or is capable of running preprogrammed lab scenarios. This type of simulator will greatly enhance the realistic training from both the instructor's and student's standpoint. Plans are also underway to incorporate a Field Site Training (FST) program into the curriculum. During FST the student will be given training in an actual ATC facility in the Fort Rucker area. This training will provide the student with invaluable experience as well as be a great confidence booster.

Plans, philosophies, doctrine and curriculum are changing constantly. To keep pace with this change, we at the Department of Enlisted Training are always evaluating and revising the curriculum of the MOSs that we are responsible for teaching. We solicit and encourage any and all comments on the strengths or weaknesses of our efforts, as well as any suggestions on how to improve our training. Our job is training soldiers, so tell us how we can better serve you.

SFC Kurpes is currently assigned as Tower Team Leader, Department of Enlisted Training, USAAVNC, Ft. Rucker, AL.

AVIATION SOLDIERS

93P Aviation Operations Specialist

SFC Michael A. LeBleu

FT. RUCKER, AL — The Department of Enlisted Training and the Directorate of Evaluation and Standardization (DES) are collaborating on the development of a more advanced computer program designed specifically to automate, streamline, and enhance the Army's aviation flight record management system.

This system is better known as the Automated Flight Record System (AFRS). Although still in its infant stage, AFRS allows aviation operations personnel to input data from an aviator's flight record (DA Form 2408-12) into a unit data base. This information, once properly entered, automatically updates all forms and records with a decimal accuracy of tenths.

DES has provided the Aviation Operations Specialist Course, the targeted test site activity, with version 2.1.1 as a basis for developing academic instructional and examination material. This material is presently being validated. The finalized product is expected to be implemented in the academic environment on or about 1 October 1990. Electronic Information Delivery Systems (EIDS) have been procured as the instructional media for the academic indoctrination of AFRS.

Version 2.1.1 addressed many problems encountered during the initial AFRS validation period. Presently, DES is involved in designing version 3.0 which, when fielded, will further simplify the procedures for updating aviator/nonaviator flight records. Version 3.0 provides for social security number control when accessing and updating flight records. This procedure eliminates the repetitious typing of social security numbers for updating each individual portion of the flight records.

This version also incorporates automated flight pay computation for nonaviator personnel. This process, when accessed, will increase the overall accuracy of computing flight pay information provided to the finance and accounting officer. DES projects this version will be available on or about 1 September 1990. They are also in the process of developing a user-friendly operation manual for version 3.0.

Directly associated with AFRS is a block of instruction on keyboard fundamentals designed to familiarize the student with a computer keyboard. Keyboard fundamentals will eventually replace the conventional typing course taught in the current program of instruction.

With the implementation of AFRS, procedural changes governing the manual preparation of flight records had to be incorporated. This required that FM 1-300 be revised as TC 1-300. Included in this revision is the introduction of a new mission symbol, 'D,' for imminent danger flights. This allows aviators and nonaviators to log combat-type flight time. A recommended change to DA Forms 759-1 and 759-3 has been submitted to incorporate the new mission symbol. Procedures for logging flight time under this type of condition will be the same as for combat missions.

The new manual, to be fielded as TC 1-300, is presently in draft form awaiting worldwide staffing. Once the draft is fielded, comments from tactical and fixed base users for improving the final product will be solicited. The TC is scheduled for publication in the fourth quarter FY 91. IIIII

SFC LeBleu is Team Leader, Aeroscout Observer Instructor, Air Operations Branch, DOET, USAAVNC, Ft. Rucker, AL.

AVIATION SOLDIERS

Reserve Component Course Configuration (RC³) Program

SFC(P) Ronald W. Bedford

FT. RUCKER, AL — The RC Course Configuration Program provides exportable, institutional-quality training material for Military Occupational Specialty Qualification (MOSQ) and Noncommissioned Officer Education System (NCOES) courses to be taught by Army National Guard (ARNG) academies, Reserve Forces (RF) schools, Intelligence Training Army Area Schools (ITAAS), and Consolidated Training Activities (CTA). The program also provides officer and warrant officer technical and professional development courses for these training facilities. In addition, the program provides sustainment and transition courses for presentation in Regional Training Sites-Maintenance (RTS-M).

The training material is configured from resident courseware—or developed, if no resident course exists—to fit the time, equipment, and facility constraints of the RC training environment.

The RC-Configured Courseware (RC³) contains tasks that proponents deem critical to prepare the reservist for mobilization. These courses must train to the same task standards as their counterpart TRADOC school resident courses. The RC courses are resident exportable in the sense that they are designed for use by RC training institutions as formal, group-paced instruction.

However, the courses are not normally exported to individuals or Troop Program Units (TPUs), although an individual or TPU may be supported on an exception basis. The courseware is sent to the appropriate schools or academies through a Basis Of Issue Plan (BOIP) based on requisitions generated by those institutions.

RC Training Institutions (RCTI) function as an extension of the TRADOC proponent schools. These institutions include ARNG academies and schools, RF schools, ITAAS, and RTS-M. There are presently 54 ARNG state academies, 5 ARNG regional academies, 90 RF schools, 5 ITAAS, and 8 RTS-M. Each Continental U.S. Army (CONUSA) has developed a CTA which uses RF school instructors to train RC soldiers. There are an additional 13 RTS-M facilities scheduled for construction. The RTS-M teaches only sustainment and transition courses; however, RF schools may use the RTS-M equipment and facilities, when available, to teach Skill Level (SL) 1 courses.

The mission of all these organizations is to provide a means for RC personnel to meet military education and proficiency standards. At these institutions, training facilities in most cases are very austere. Frequently the classroom is in a U.S. Army Reserve (USAR) center or ARNG armory. Unlike the classrooms at the TRADOC service schools, the teaching area might have only a chalkboard, screen, and overhead projector.

If the course is taught in a field environment, the conditions are frequently less desirable. Many RCTI do not have ready access to ranges and training areas during Inactive Duty Training (IDT). Therefore, blocks of instruction requiring such facilities must be put in the Active Duty for Training (ADT) phase.

The goals of the RC Course Configuration Program are to provide standardized, quality exportable courseware for the RC that will train the critical tasks required for MOS qualification, as well as courseware for sustainment or transition training. Also, it provides professional development training programs for officers, warrant officers, and noncommissioned officers.

SFC(P) Bedford was Chief, Reserve Component Courseware Configuration Section, USAAVNC, Ft. Rucker, AL.

RC³ is necessary in order to meet the time, equipment, and facilities constraints of the citizen-soldier. RC soldiers can devote only a portion of their time to Reserve matters and training. The RC training institutions meet this critical time requirement by providing instruction in small blocks at times and places convenient to the students. Enlisted MOSQ and NCOES professional development courses are structured to allow for completion within one training year, to include IDT and ADT.

Inactive Duty Training

The RC School Year (SY) is the same as the current FY. Normally, during the period 1 Oct through 31 May, the RF school conducts IDT for eligible personnel within its geographic area of responsibility. TRADOC policy allows a maximum of 128 hours (there is no minimum) for the IDT phase. For MOS SL 1 courses, the IDT will train only MOS-specific tasks. However, for RC-configured Basic Noncommissioned Officer Courses (BNCOC) or Advanced Noncommissioned Officer Courses (ANCOC), the IDT phase will consist of the Common Leader Training (CLT) 'common core' developed by the Sergeants Major Academy (SMA). The BNCOC CLT contains 47 hours, the ANCOC CLT 109 hours. This training comprises Phase I.

Phase II is MOS-specific and is to be trained during the 2-week ADT period.

The RCTI faculty presents instruction at the school facility or satellite teaching location. Satellite teaching locations provide the same caliber of instruction found at resident and nonresident schoolhouses, but they accommodate the students by sending the school to them. The IDT may be presented in unit training assemblies (4 hours, 1 night per week) or in multiple-unit training assemblies (16 hours, 1 weekend per month). Such flexibility to meet RC training needs requires that the training material be suitable for teaching in 4-hour blocks.

These blocks may be taught individually or combined into blocks lasting up to 16 hours. The IDT courseware must focus on the individual soldier's proficiency at critical tasks which can be taught in a classroom using equipment available during the drill weekend.

RC training can also take place during 2-week Annual Training (AT) periods (14-17 days); these periods are normally scheduled between 1 June and 30 September, but may occur any time during the year. Such periods, identified as ADT in the course POI, may consist of a maximum of 120 hours of instruction, including examinations. Thus, BNCOC or ANCOC may contain as much as 135 hours ADT, or 150 hours with a 24-hour or longer FTX. The RF school staff conducts ADT training at the proponent service school or another training location with the necessary facilities and equipment, while the ARNG academy normally conducts its training at a state or regional location.

There are currently 10 enlisted courses already developed by the Department of Enlisted Training (DOET), Fort Rucker, AL, with six more due out in 4th Quarter FY 90.

(* Denotes courses that will be complete in 4th Quarter FY 90.)

RC³ AIT COURSES

*** 68N10 Avionic Mechanic**
128 hours IDT
80 hours ADT
82 hours Home Study

93B10 Aeroscout Observer
121 hours IDT
80 hours ADT
84 hours
21 Additional Flight Training Periods (AFTPs)

93C10 Air Traffic Control Operator
97 hours IDT
101 hours ADT

93P10 Aviation Operations Specialist
103 hours IDT/ADT

RC³ BNCOC COURSES

Phase I - Common Leader Training (CLT)
47 hours

Phase II - MOS Specific
*** 68L30 Avionic Communications Basic NCO Course**
61 hours ADT

*** 68N30 Avionic Line Supervisor Basic NCO Course**
54 hours ADT

*** 68Q30**
Avionic Flight Systems Basic NCO Course
54 hours ADT

*** 68R30**
Avionic Radar Repairer Basic NCO Course
54 hours ADT

93B30
Aeroscout Observer, BNCOC
59 hours

93C30
Air Traffic Control Operator, BNCOC
57 hours

*** 93D30**
Air Traffic Control Systems, Subsystems, and Equipment Repairer Course, BNCOC
55 hours ADT

93P30
Aviation Operations Specialist, BNCOC
60 hours

RC³ ANCOC COURSES
Phase I - Common Leader Training
109 hours
Phase II - MOS Specific
68P40
Avionic Maintenance Supervisor, ANCOC
69 hours

93C40
Air Traffic Control Operator, ANCOC
67 hours

93D40
Air Traffic Control Systems, Subsystems, and Equipment Repairer Supervisor, ANCOC
50 hours

93P40
Aviation Operations Specialist, ANCOC
43 hours

There are currently in excess of 150 students presently enrolled in the RC³ programs that have been developed and feedback from the units indicates no major problems. Remember that 65 percent of our fighting force is made up by the reserves, and every effort will be made to train them for mobilization. Any questions concerning this article should be directed to Commander, United States Army Aviation Center, ATTN: ATZQ-DET-RC3, Fort Rucker, Alabama 36362, Commercial (205) 255-3602, Extension #4008, AUTOVON 558-3602, #4008.

AVIATION SOLDIERS

The Backbone of Army Aviation

Directory Sample

LAST NAME, First Name, M.I., (Rank) (Initial Membership Year) (Nickname) Residence Address. Dy: Duty Phone. Res: Residence Phone. S: Spouse's Name. B: Date of Birth. Dy: Duty Assignment. MOS. AAAA Offices Held.

* A professional-personal roster of Enlisted AAAA members. Data sheets were sent to all AAAA enlisted members, requesting information for the following directory. Only those members who responded are listed.

A The 1990 Aviation Soldier

Adrales, Loreto R., (SPC) (M89) (Lito) T Troop, 4/11th Acr, APO New York 09146. Dy: Acft Armt Missile Systems Repairer. MOS: 68JX1.

Alexander, Ronald W., (CSM) (M85) (Ron) HHC, 7th Aviation Brigade, Fort Ord, CA 93941. Dy: (408) 242-5325. S: Corky. MOS: 00Z. Past Vice President, Taunus Chapter. Vice President, Enlisted Affairs, Taunus.

Ancheta, Jeffrey M., (SGT) (M90) 3900-C Hewitt Street, Wahiawa, HI 96786. Dy: (808) 656-1177. S: Kathleen. Dy: 98G KP-Voice Interceptor, C Co, 53rd Avn Bn. MOS: 98G2FKD.

Arnett, Leslie, (SGT) (M89) 171 Wallace Boulevard, Apt. D-2, Clarksville, TN 37042. Dy: C Co, 160th SOAR.

Arnold, William J., (SSG) (1989) (Will) 201 Slagle Place, Ft. Bragg, NC 28307. Dy: (919) 396-9377. Res: (919) 497-6028. S: Beverly Dawn. Dy: Tactical Transport Helicopter Technical Inspector, D Co. 2/82 Avn Bn. MOS: 67T3.

B

Bae, John H., (MSG) (M83) HQ, 17th Aviation Brigade, APO San Francisco 96301-0043. Dy: (000) 736-4017. S: Joyce. Dy: NCOIC H208 VIP Heliport. MOS: 93P. VP, Morning Calm Chapter. Past VP, Morning Calm Chapter.

Bailey, Kim G., (PFC) (M89) C Company, 2/4 Aviation Regiment, APO New York 09185. Dy: Firthen Army Airfield, Germany. MOS: 93B10.

Baker, William E., (MSG) (M89) (Bill) 15616 Weathervane Terrace, Woodbridge, VA 22191. Dy: (703) 664-1366. Res: (703) 878-2682. Dy: CAASO, HHC, USADAC. MOS: 93P50.

Barnett, Douglas R., (SPC) (M88) (Barn) A Company, 2/4 Aviation Regiment, APO New York 09185. Dy: 67v Observation Scout Hcptr Repairer. MOS: 67V10.

Barone, Dean A., (SPC) (M90) Co. C 1-101 Avn. Regt., Fort Campbell, KY 42223. Dy: (502) 798-2700. Res: (502) 798-2951. Dy: Aeroscout Observer. MOS: 93B.

Barrington, Aubrey D., (MSG) (M85) (Bear) P.O. Box 819, Bastrop, TX 78602. S: Eloise. MOS: 67Z.

Baugh, Kelly H., (SGT) (M89) 4733-F Lee Village, Fort Campbell, KY 42223. Dy: (502) 798-5549. Dy: Avionic Mechanic, E Co, 50AR.

Beal, Jackie Lee, (CSM) (M79) (Jack) 494 Harrington Drive, Fort Belvoir, VA 22060. Dy: (703) 664-2701. Res: (703) 781-4157. S: Ruth. Dy: Davison Avn Cmd. MOS: 00Z. Past VP, Washington DC Chapter. VP Enl Afrs, Hanau.

Beck, John J., (CSM) (M88) 432 Old Ironsides, Apt. B, Fort Knox, KY 40121. Dy: (502) 624-4713. Res: (502) 942-3327. S: Sally. Dy: Command Sergeant Major, 1st Bn, 10th Cavalry. MOS: 00Z50. Past VP, Hanau Chapter.

Becko, Jeffrey S., (SGT) (M87) (Becks) A Company, 1/501st Aviation, APO San Francisco 96301-0011. Dy: UH-60 Crew Chief, CINC HAWK. MOS: 67T2F.

Bednarz, Andrew J., (SSG) (M89) (Andy) 69 Thorne Street, Fort Rucker, AL 36362. Dy: (205) 255-2888. Res: (205) 598-1553. S: Donna I. Dy: D/1-13th Avn. MOS: 153B.

Belt, Cynthia E., (SGT) (M90) (Cyn) HHC, 4/159th Avn. Regt., P.O. Box 182, APO New York 09359. Dy: Combat Signal Team Chief. MOS: 31K20.

Benton, Carl J., (SPC) (M89) 2006 South Ann, Lot 8, Harker Heights, TX 76543. Dy: (817) 287-2000. Res: (817) 690-4126. S: Anita. Dy: Crewchief, CH-47D, B Co, 2/158th Avn Regt. MOS: 67U.

Benton, Raymond C., (SSG) (M89) Task Force 23, Service Co. Box 60, APO New York 09182. S: Jacqueline. Dy: Hcptr Tech Inspector.

Best, Robert R., (SSG) (M89) P.O. Box 4226, Fort Eustis, VA 23604. Dy: (804) 878-6608. Res: (804) 887-3952. Dy: New Systems Trng NCO, 1st Staff & Faculty Co. MOS: 68B30H.

Bezore, Jeffrey, (SFC) (M86) (Beez) 55 Beaver Run Drive, Savannah, GA 31419-9528. Dy: (912) 352-5641. Res: (912) 920-1704. S: Jean Marie. Dy: Service Platoon Sergeant, A Co, 224th MI Bn (AE), HAAF. MOS: 67H.

Bingham, Eugene H., (SGM) (M88) (Eab) 31 Baker Street, Fort Rucker, AL 36362. Dy: (205) 255-8002. Res: (205) 598-5456. S: Kum. Dy: USAAVNDTA. MOS: 67Z.

Bingham, John C., (CSM) (M90) HQ, 7-159 Avn Regt., P.O. Box 274, APO New York 09061. MOS: 00Z5P.

Blindauer, Thomas, (SPC) (M90) (Jethro) 5125 Mueller Road, Sheboygan, WI 53083. Dy: (414) 753-6926. Res: (414) 458-4367. Dy: A Co, 2/501st Avn, Camp Humphreys. MOS: 68B10.

Blyden, Alphonso V., (SSG) (M90) (Al) P.O. Box 7738, Fort Gordon, GA 30905. Dy: (404) 791-3151. Dy: Avionics Communications Repairer, HQ & A Co, 336th Sig Bde. MOS: 68L3H.

Bodily, Cecil L., (1SG) (M85) HHC 4th Bde, Box 1756, APO New York 09250. Dy: 467-2880. Res: 09802-7114. Dy: Asst S-3 NCOIC. MOS: 67Z.

Boese, Ronald L., (1SG) (M82) (Ron) T Troop, 4/11 ACR, APO New York 09146. S: Petra. Dy:3213-786. Res: 0661-44600. MOS: 67Z.

Bowling, Arthur A., (SSG) (M89) AVUM Troop, 4/2 ACR, Box 161, APO New York 09092. S: Pamela. Res: (919) 772-8430. Dy: 66V ABSN/Scout TI. MOS: 66V3P.

C The 1990 Aviation Soldier

Boyce, Steven D., (SFC) (M89) 1661-B York Road, Fort Belvoir, VA 22060. Dy: (703) 664-5010. Res: (703) 780-6547. S: Susan. Dy: Sr Acft Maint Supvr, USA Davison Aviation Command. MOS: 67T40.

Bragg, Michael R., (SFC) (M89) (Mike) 5246 Sudberry Lane, Woodbridge, VA 22193-3463. Dy: (703) 664-2991. Res: (703) 670-0662. S: Marjorie. Dy: HQS Co, Davison Avn Cmd, Ft. Belvoir, ATC Chief. MOS: 93C40.

Brennan, Donald R., (SPC) (M88) 91 Maple Street, Northboro, MA 01532. Res: (508) 393-8144. Dy: Observation/Scout Helicopter Mechanic, A Trp 3/6 Cav, 6TH Cav Bde AC. MOS: 67U.

Brooks, Gregory C., (SFC) (M89) B Company, 1-10th Aviation, Fort Rucker, AL 36362-5255. Dy: (205) 255-2470. Res: (205) 598-5403. S: Vanessa. Dy: Project NCO, 93 Series CMF, Dept of Enl Trng. MOS: 93C40.

Burbank, Devin C., (SFC) (M89) (Finbo) Route 1, Box 798-A, Enterprise, AL 36360. Dy: (205) 255-6573. S: Wol Suk. Dy: Small Group Ldr, Avn Center NCO Academy. MOS: 93C4H.

CCCCCCCCCC

Caddy, Steve W., (SFC) (M87) 2813 Thrush Drive, Clarksville, TN 37040. Dy: (502) 798-9673. Res: (615) 648-3204. S: Julie. Dy: S-3 Ops, 2/160th SOAR, Fort Campbell. MOS: 93P40S.

Caffey, Roy O. III, (SPC) (M90) (Lupus) 2-501st Aviation, APO San Francisco 96271. Dy: 753-6984. Res: 753-6952. MOS: 67U10Y1F.

Campanas, James P., (SPC) (M87) A Co, 8/158th Avn Regt., USMCA-WSB, Box 1333, APO New York 09457. Res: 06121 719963. Dy: Acft Electrician. MOS: 68F10.

Campbell, Douglas W., (SSG) (M89) (Chester) 4702 Mesa Drive, Killeen, TX 76542. Dy: (817) 287-2085. Res: (817) 699-5674. S: Kim. Dy: 175th CAC, 6th Cav Bde. MOS: 67N30.

Campbell, Wesley, Jr., (CSM) (M89) (Wes) 7903 Tyrel Drive, Killeen, TX 76542. Dy: (817) 287-5119. Res: (817) 628-1705. S: Margo. Dy: HHT, 6 Cav Bde.

Campbell, William K., (1SG) (M89) (Ken) 100 Beels Subdiv, Oak Grove, KY 42262. Dy: (502) 798-5523. Res: (502) 439-3406. S: Judy. Dy: HHC Avn Bde, 101st Abn Div. MOS: 11H5M.

Campolo, Robert J., (SSG) (M88) 94-1123 Ka-Uka Boulevard, Apt. B-204, Waipahu, HI 96797. Dy: (808) 656-1328. Res: (808) 656-1328. S: Martina. Dy: C Co, 53rd Avn. Bn., Schofield Bks. MOS: 67V30.

Carroll, Clarence L., (SGT) (M89) 4252-C La-Pointe, Ft Campbell, KY 42223-1446. Dy: (502) 798-3578. Res: (502) 439-7421. S: Michelle. Dy: HSC, 160th SOAG (Abn). MOS: 93P2P.

Castillo, Fabian M., (SPC) (M87) F Co, 24th Avn. Regt., Box 370, Hunter A.A.F., Savannah, GA 31409-5102. Dy: (912) 352-5405. Res: (912) 352-6227. Dy: Aircraft Pneudralics Repairer. MOS: 68H.

Cavanaugh, Ingrid M., (SGT) (M88) 330 Barrister Court, Bel Air, MD 21014. Dy: (301) 671-2741. Res: (301) 836-7892. S: Kevin. Dy: Animal Care Specialist, USAMRICD. MOS: 91T2R.

Charboneau, Chris J., (SGT) (M89) 13709 Lynn Street, Apt. 8, Woodbridge, VA 22191. Dy: (703) 664-3491. S: Wynter. Dy: RW Pat Div Ft. Belvoir, Va. MOS: 67N2F.

Charlier, Martin F., (SFC) (M90) (Marty) 1589 Armistead Drive, Clarksville, TN 37042. Dy: (502) 798-4699. Res: (615) 647-0432. S: Debra. Dy: Platoon Sergeant A Co., 6th Bn, 101st Avn Regt, Ft. Campbell. MOS: 67T40.

Cheseldine, Everett A., (SFC) (M88) I Co, 227th Avn, Box 240, APO NY 09165. S: Patricia. Dy: Atk Helicopter Repairer, I Co., 227 Avn. MOS: 67Y10.

Ciboth, Johann, (CSM) (M87) 494 Harrington Drive, Fort Belvoir, VA 22060. Dy: (703) 664-5564. Res: (703) 781-4157. S: Linda. Dy: USA Davison Avn Cmd. MOS: 00Z5. VP, Washington DC Chapter.

Clark, David A., (SFC) (M89) 206 Hazelnut Court, Clarksville, TN 37042. Dy: (502) 798-2060. Dy: E Co, 160th.

Clifford, Harold E., (SSG) (M87) (Cliff) I Co, 3rd Avn Regt. Box 23, APO New York 09182. Dy: 011 49-09334-8-7292. Res: 011 49-0931-661528. S: Helga. Dy: Acrft Struct Repair. MOS: 68G30.

Clopton, Thomas M., (PV2) (M90) (Tom) D Co., 5/101 Avn Regt., Fort Campbell, KY 42223-5000. Dy: (502) 798-2726. Dy: Tactical Transport Helicopter Repairer, 5/101 Avn Regt. MOS: 67T10.

Cohill, Larry, (1SG) (M86) B Company, 3-1 Avn. Regt., Box 2489, APO New York 09250. Dy: 4672-612. Res: 09802-1206. S: Annetta. MOS: 67Z.

Colchamiro, Eric M., (SGT) (M88) RR 1, Box 84, Pembroke, GA 31321. Dy: (912) 352-6719. Res: (912) 858-2697. S: Jeri A. Dy: C Co, 124th Avn, Hunter AAF. MOS: 67R.

Cole, Walter, (SGM) (M87) (Walt) 4128 Point Hollow Lane, Fairfax, VA 22033. Dy: (703) 325-8324. S: Sandra. Dy: Aviation/Transportation Br. PERSCOM. MOS: 67Z.

Collins, John C., (SFC) (M90) 5758-F Village Green Dr., Alexandria, VA 22309. Dy: (703) 325-8322. Res: (703) 780-3518. S: Suki. Dy: Career Advisor, USA PERSCOM Aviation Branch. MOS: 67T.

Combs, Donald C., (SSG) (M86) 9102-B James Madison Ct., Schofield Barracks, HI 96786. Dy: (808) 656-1136. Res: (808) 624-4918. S: Susan. Dy: NCOIC Project OLR, E Co, 214th Avn Regt. MOS: 67T.

Connor, Johnny D., (SPC) (M90) HHC 17th Aviation Brigade, APO San Francisco 96301. Dy: (000) 736-4714. Res: (000) 738-5408. S: Trischel. MOS: 93P.

Conyers, John W., (SFC) (M89) 16 Booker Street, Fort Rucker, AL 36362. Dy: (205) 255-5670. Res: (205) 598-4016. S: Anne. Dy: ATC Systems Mgr, USAATCA. MOS: 93D.

Cooper, Rickey L., (SSG) (M89) T Troop, 4/11 ACR, APO New York 09146. Dy: UH-60A Technical Inspector. MOS: 66T3.

Cordeiro, Glenn C., (CSM) (M87) 95-342 Pohina Place, Mililani, HI 96789. Dy: (808) 656-2742. Res: (808) 625-2055. S: Inge. Dy: Command Sergeant Major, Avn Bde, 25th ID(L) Schofield Barracks. MOS: 0025P. VP, Aloha Chapter.

Corica, Shane S., (SPC) (M89) 45th Medical Company (AA), Box 97, APO New York 09061-3625. Dy: Tactical Transport Hcptr Repairer. MOS: 67T.

Corrales, Eugene R., (SGT) (M88) (Geno) 4552 D. Santa Fe Street, Wahiawa, HI 96786. Dy: (808) 656-1204. Res: (808) 624-5057. S: Marta. Dy: Acft Powertrain Mech, H Co, 25th Avn Regt. MOS: 68D20.

Coultas, Hal J., (CSM) (M89) (Buck) 8041 General Patton St., Apt. C, Fort Drum, NY 13603-2027. Dy: (315) 772-4290. Res: (315) 773-6523. S: Jane. Dy: 3-25th Assault Hcptr Bn.

Courteau, Kenneth M., (SGT) (M88) Cmr 2, Box C-12082, Fort Rucker, AL 36362. Dy: Warrant Officer Candidate.

Cox, Kenneth A., (SFC) (M90) (Ken) E Co. 4/159 Avn. Regt., APO New York 09359. S: Gisela. Dy: 421-4239. Res: 07031 279-590. Dy: Platoon Sgt/UH-1 Maintenance Supervisor. MOS: 67T4X.

Crawford, Brice, (SPC) (M90) (Icee Brice) D Company, 5/501st Aviation Bn., APO San Francisco 96397. S: Lisa Dianne. Dy: 011-82-371-82-387. Res: 011-82-371-82-490. MOS: 68N10.

Creed, Daniel F., (SFC) (M81) 200th TAMMC, Box 255, APO New York 09052. S: Margaret. Dy: 494-6628. Res: 06332-15118. Dy: Aviation Logistics/Maintenance NCO. MOS: 67T.

Crocco, Kevin R., (Spc) (M89) (Crock) 3-1 Aviation, D Company, Box 2317, APO New York 09250-5085. Dy: Apache Mechanic. MOS: 67R10.

Crocker, John C., (CSM) (M89) (JC) 4823-B, Fort Carson, CO 80913. Dy: (303) 579-4944. Res: (303) 527-9682. S: Nellie. Dy: 1-4 Avn Regt. MOS: 00Z.

Crouch, Terry L., (SFC) (M85) HHC, 4/58th Avn Regt., APO San Francisco 96301. S: Chong Ae. Dy: AV 724-4005. Res: AV 728-1186. Dy: ATC Maintenance Chief. MOS: 93D.

Curry, Towery D., (SPC) (M89) D Troop, 3/4 Cavalry, Box 105, APO New York 09702. S: Rhonda. Dy: 354-6318. Res: FRG 09727-875. Dy: Aero Scout Observer. MOS: 93B.

Curtice, Donald J., (1SG) (M85) 7355 Waterwheel Street, Colorado Springs, CO 80911. Dy: (719) 579-2526. S: Colleen. Dy: First Sergeant, E Co, 4th Avn Regt, Ft. Carson. MOS: 67Z.

DDDDD - GGGGG

Danzy, Alford, (SPC) (M90) (Chucky) B Company, 1/11 Avn ATB, Fort Rucker, Al 36362. S: Litisia. MOS: 93C.

Davis, Donald S., (SSG) (M89) HHC 7-159th Aviation Regt, Box 506, APO New York,09061. Dy: Helicopter Repair Supervisor.

Davis, Errol, (SPC) (M86) (SGT Excellence) Box B-309, 733 South Hindry Street, Inglewood, CA 90307. Dy: (213) 493-8272. Res: (213) 337-5660. Dy: 1/214 Aviation Regiment, Los Alamitos. MOS: 67N20 ASI x1.

H The 1990 Aviation Soldier

Davison, Lloyd, (SFC) (M80) (Hal) Box 99, 800th CMMC, APO New York 09061. S: Karen. Dy: AV 421-6624. Dy: Operations Sgt. 800th MMC Aviation Division. MOS: 67T40. Past VP, Stuttgart Chapter.

Dunn, Lawrence F., (SFC) (M86) (Hawkeye) P.O. Box 4214, Fort Eustis, VA 23604. Dy: (804) 878-6240. Res: (804) 886-1154. Dy: 1st Staff Faculty Co, Trng Dev. MOS: 67T4H.

Edwards, Victor C., (SFC) (M87) P.O. Box 236, Fort Campbell, KY 42223. Dy: (502) 798-6565. Res: (502) 439-7675. Dy: A Co, 1st Battalion, 58th Aviation. MOS: 93C4H.

Elzie, Danny L., (MSG) (M80) (Danny) 4873 Hurley Drive, Fayetteville, NC 28304. Dy: (919) 396-6008. S: Hilde. Dy: TF118, Fort Bragg. MOS: 67Z. Past VP, Fort Bragg Chapter.

Engler, Terry J., (SFC) (M88) Box 469, R Troop, 4/11th ACR, APO New York 09146. S: So Chin. Dy: First Sergeant, R Trp, 4/11th ACR. MOS: 68K4H.

Esquivel-Mort, Olga D., (SPC) (M90) (Demy) B Co. 2 MI, Box 734, APO New York 09359. S: Eric. Dy: EW/SIGINT Warfare Voice Intercept Operator.

Everitt, Don A. Sr., (SSG) (M89) (Cat) 1007 Hammond Drive, North Augusta, SC 29841. Dy: (404) 791-6412. Res: (803) 278-5718. S: Sandra. Dy: Inst/Writer, Spec Equip Repair, HQ&A Co, 366th Sig Bn, 15th Sig Bde, Ft. Gordon. MOS: 68R.

Fietz, Kenneth A., (SPC) (M89) Svc Co., 3/3 Avn. Regt., Box 100, APO New York 09182. S: Sheila M.. Dy: 352-7455. Res: 09334-1748. Dy: Utility Hcptr Repairer. MOS: 67N.

Finch, Fredy, Jr., (CSM) (M89) (Fred) HHC Avn Bde, 101st Avn, Fort Campbell, KY 42223. Dy: (502) 798-7243. Res: (502) 439-3378. S: Sukyong. Dy: Bde/Regiment CSM, 101st Abn Div (AASLT). VP, Air Assault Chapter. Past VP, Air Assault Chapter.

Floyd, Clyde L., (CSM) (M85) 4385-R 9th Street, Fort Wainwright, AK 99703. Dy: (907) 353-2544. Res: (907) 356-3006. S: Diana. Dy: HHC, 4th Bn, 123rd Avn. MOS: 00Z50.

Frost, John R., (SPC) (M89) 530 Hickory Street, P.O. Box 195, Wakefield, KS 67487. Dy: (913) 239-3981. Res: (913) 461-5247. S: Barbara. Dy: Aviation Pneudraulic Repairman, F Co, 1ST Avn Regt, Ft. Riley. MOS: 68H10x1.

Gahley, Paul E., (SGM) (M88) 7446 Beaver Run Drive, Fayetteville, NC 28304. Dy: (919) 396-5611. Res: (919) 368-9811. Dy: XVIII Airborne Corps, Avn Sergeant Major. MOS: 93P50A2.

Garcia, Ramon H., (1SG) (M89) 1303 Sorrento Street, Colorado Springs, CO 80910. Dy: (719) 579-3689. Res: (719) 473-4229. S: Kathy F. Dy: F Co, 4th Avn Regt, Ft Carson.

Gassett, Joe E., (CSM) (M90) H Co. 227th Aviation, TFV CAB, Box 165, APO New York 09165. S: Suzanne. Dy: ETS: 322-7577. Dy: HQ Task Force Viper. MOS: 00Z.

Gilbert, Dennis A., (SGT) (M81) 1502 Diplomat Drive, Fayetteville, NC 28304. Dy: (919) 396-5133. Res: (919) 487-1248. S: Nancy. Dy: HHC 37th Engr Bn, Ft. Bragg. MOS: 81B.

Glatt, Regina M., (PFC) (M89) (Gina) HSC 1-227th Avn Regt, 1CD, Fort Hood, TX 76545. Dy: (817) 287-8270. Res: (817) 287-1622. Dy: Supply Specialist. MOS: 76Y.

Gonzales, David, (SGT) (M89) 939E Barlow Road, Fort Belvoir, VA 22060. Dy: (000) 664-3491. S: Thelma. Dy: RW PAT USADAC. MOS: 67N20.

Goode, Anthony, (SPC) (M90) (Tony) B Company, 2/2 Aviation Regiment, APO San Francisco 96524. Dy: 732-1602. Res: 732-1436. S: Vanessa. MOS: 67T2P.

Gordon, Darrell, (PFC) (M90) A Co., 7/101st Avn Regt, Fort Campbell, KY 42223.

Graves, John D., (SGM) (M89) 52129-2 Teton Court, Fort Hood, TX 76544. Dy: (817) 287-8337. Res: (817) 539-0942. Dy: III Corps, G-3 Avn Div SGM.

Gunder, Rick D., (1SG) (M89) 518 Stryker Village, No. B, Fort Campbell, KY 42223. Dy: (502) 798-2781. Res: (615) 431-3339. S: Cleta. Dy: Co B, 1st Bn, 101st Avn Regt. MOS: 67Z5M.

Gustafson, Gary G., (SFC) (M90) (Gus) 3934 Willowood Drive, Martinez, GA 30907. Dy: (404) 791-3532. S: Doreen. Dy: ASI W6 Course NCOIC For ASE, HQS, A Co, 366th Sig. Bn. Ft. Gordon. MOS: 68P4H.

Gurthrie, Thomas W., (MSG) (M87) (Tom) 103 E Silveroak, Enterprise, AL 36330. Dy: (205) 255-5532. Res: (205) 393-1580. S: Linda. Dy: Flt Inspection Technician A Co, 10th Aviation Regiment. MOS: 93D5F.

HHHHH - JJJJJ

Hall, Kerry D., (SFC) (M74) (Bam Bam) 431-E Tradewinds Drive, Fayetteville, NC 28314. Dy: (919) 396-3717. Res: (919) 867-0591. Dy: 1st Sgt, D Trp, 1/17 Cav, Fort Bragg. MOS: 67Y4P.

Hall, Thomas Neil, (SPC) (M88) I Co, 227th Avn, Box 103, APO New York 09165. Dy: Avionics Special Equipment Repairer.

Halley, Gilles A., (SGT) (M89) 3rd Armored Division, Aviation Support Bn, APO New York 09165. Dy: Aircraft Weapons Technical Inspector, AH-1 & AH-64. MOS: 68JX1.

Hancock, Alan D., (SFC) (M83) 8322 Milwaukee, Fort Lewis, WA 98433. Dy: (206) 967-4769. Res: (206) 964-1632. S: Maggie. Dy: C Co, 214th Avn Regt. MOS: 67U4.

Hardy, Ann S., (SSG(P)) (M86) P.O. Box 724, Dexter, NY 13634. Dy: (315) 772-6209. Res: (315) 639-6473. Dy: D Co, 3/25 AHB, Ft. Drum. MOS: 67N.

Harford, Gregory E., (SFC) (M88) (Greg) 707 Inver Lane, Clarksville, TN 37042. Dy: (502) 798-7722. Res: (615) 647-9400. S: Penny. Dy: USA Special Operations Command, F Co, 160th, Ft. Campbell. MOS: 68P40.

Harris, David E., (SP4) (M88) (Zap) 400 Forest Park Road, Apt. A1-4L, Madison, TN 37115. Dy: (502) 798-6635. Res: (615) 865-5249. S: Linda. Dy: Aircraft Electrician, C Co, 160 SOAR. MOS: 68F.

Harris, Eric J., (SSG) (M87) (Big 6) PTrp 4/2 ACR, Box 200, APO, NY 09092. Dy: 49-9128-70-827. Res: 49-911-718937. S: Camilla. Dy: Aereo Scout. Plt Sgt. MOS: 67V30.

Hart, James C., (CSM) (M89) (JC) 7 Overland Cove, Savannah, GA 31419. Dy: (912) 352-5312. Res: (912) 925-3272. S: Patsy. Dy: 1st Bn, 24th AHR. MOS: 00Z50. Past VP, Talon Chapter.

Harville, John W., (SFC) (M90) Bowman St. P.O. Box 162, Castorland, NY 13620. Dy: (315) 772-8172. Res: (315) 376-4225. S: Susan. Dy: Quick Fix (EH-60) Plt. Sgt., C/3-25 AHB. MOS: 98G4LCZGM.

Hawker, Linda M., (E4) (M88) P.O. Box 138, Fort Campbell, KY 42223. Dy: (502) 798-2888. Dy: Mil Intel Analyst, AH-64 CMS. MOS: 96B.

Helgerud, Jon F., (SSG) (M87) (Lefty) 610 Elk Drive, Clarksville, TN 37043. Dy: (502) 798-7515. Dy: Technical Inspector (QC Shop), D Co, 9/101st Avn Regt. MOS: 67T3F2A.

Herriman, James A., (1SG) (M83) (Jim) 2707 Knob Court, Clarksville, TN 37043. Dy: (502) 798-2858. Res: (615) 552-0441. S: Pam. Dy: A Co 4-101st Avn Regt. MOS: 67Z.

Hiebert, Philip J., (PFC) (M89) (Phil) B Co., 8/158th Avn. Regt., Box 285, APO New York 09165. Dy: 322-7770. S: Danielle. MOS: 67R.

Hinton, Jimmy S., (SGT) (M88) (Stan) 4280 Pebble Ridge Circle, Apt. 120, Colorado Springs, CO 80906. Dy: (719) 579-2753. Res: (719) 576-0047. S: Marcelle. Dy: A Co, 1-4 Aviation Regiment, Ft. Carson. MOS: 67V.

Horn, Charles D., (SFC) (M86) 17 Hilltop Court, Toano, VA 23168. Dy: (804) 878-4963. Res: (804) 566-1908. S: Sharon. Dy: 1st S&F Co OOTD/UTD. MOS: 67Y.

Howdeshell, Mark A., (SGT) (M86) (Howdy) B Company, 4/159th Aviation Regiment, APO New York 09359. Dy: 0711-729-4217. Res: 07164-2858. S: Jo Handinero. Dy: Senior UH-1H Crew Chief. MOS: 67N20Z.

Hughes, Gordon A., (SGT) (M89) (Gordie) 104 Yellow Leaf Drive, Enterprise, AL 36330. Res: (205) 347-4005. S: Debra. Dy: WOC, B Co, 1/145th.

Ingraham, George E., (SFC) (M88) P.O. Box 4608, Fort Eustis, VA 23604. Dy: (804) 878-6656. Res: (804) 877-2689. S: Vicky. Dy: Project Nco, 1st Staff & Faculty.

Iverson, Steven K., (MSG) (M83) HQ, V Corps, Attn: Aviation Section, APO New York 09079-0700. Dy: ETS 320-5509/5919. Res: 069-528218. S: Ayten. Dy: Corps Aviation Operations. MOS: 93P.

Jackson, James M., (CSM) (M87) (Jack) 2nd Squadron, 6th Cavalry, Box D94, APO New York 09140. S: Sally. Dy: Cmd Sergeant Major.

Jareo, Patrick R., (SPC) (M88) O Trp, 4/2 ACR, Box 10172, APO New York 09092. S: Shalli Lyn. Dy: Attack Hcptr Repairman. MOS: 67Y.

Jeffcoat, Larry, (1SG) (M88) 4026-C Hewitt Street, Schofield Barracks, HI 96857. Dy: (808) 656-1240. Res: (808) 624-5281. S: Anelia Mae. Dy: 1SG, B Co, 25th Avn Bn Attk. MOS: 67Z5M.

Johnston, Becky L., (SGT) (M86) 4-228th Aviation Regiment, APO Miami 34042-5000. Dy: Flight Opns NCO, Soto Cano AFB, Honduras. MOS: 93P20.

Joiner, Timothy R., (SPC) (M89) (Fozzie) R.R. 1, Box 100, Chesterfield, IL 62630. Dy: (217) 324-5973. Res: (618) 753-3110. S: Abbe. Dy: Machinist, Worksaver, Inc.

Jones, Kenneth C., (SSG) (M85) (K.C.) 20 Sevier Street, Clarksville, TN 37042. Dy: (798)

L The 1990 Aviation Soldier

593-2000. S: Beverly. Dy: B Troop, 2/17 Cavalry. MOS: 67V.

Juarbe, Richard, (SGT) (M88) 128 N. Franklin Street, Lancaster, PA 17602. Dy: (717) 865-8780. Res: (717) 397-6929. S: Bernice. Dy: Trng Support Sgt, Eastern Avn Army Tng Site. MOS: 93P20.

KKKKK - LLLLL

Kaurich, Steven J., (SGT) (M87) (Snake) B Company, 1/5th Aviation Regiment, Leesville, LA 71459. Dy: (318) 531-7931. Res: (318) 531-2333. Dy: Cobra Plt Sgt. MOS: 67Y20A2.

Kelderman, Jarrod W., (SPC) (M88) (K-Rock) C Co. 1-25th Aviation Reg, Box 986, Schofield Barracks, HI 96857-6064. Dy: (808) 656-2624. Res: (808) 624-4975. S: Suzanna. Dy: Crew Chief. MOS: 67Y.

Keyes, Rodney, (SGT) (M88) (Mr. O) Co C, 6/159 Aviation Regt, APO New York 09025. Dy: 4264 820. Res: 0791-45698.

Kiggen, Gerd A.P., (SFC) (M90) (Jerry) 538-B Stryker Village, Fort Campbell, KY 42223. Dy: (502) 798-5541. Res: (615) 431-6703. S: Shirlene. Dy: Maint Plt Sgt, D/5-101st Avn Regt. MOS: 67T4FA2.

Kleppe, Michael W., (Spc) (M90) P.O. Box 617, Fort Drum, NY 13602. Dy: (315) 772-7974. Res: (315) 773-7679. Dy: Electronic Warfare/Avn Intercept Equipment Repairer, C Co 3/25th AHB. MOS: 33R10.

Kosanke, Daniel P., (SPC) (M90) (Zonk) B Troop, 2/9 Cavalry (RECON), Fort Ord, CA 93941. Dy: (408) 242-4022. Res: (408) 394-9844. Dy: 67V10 Observ. Scout Hcptr Repairer. MOS: 67V10.

Krebs, Allie F., (SFC) (M87) HHC 3d COSCOM, APO New York 09457. Dy: 337-5035. Res: 06121-528-142. S: Dale. MOS: 96B40.

Ksau, Kunio, (CSM) (M85) (Kunio) 6th Battalion, 101st Aviation Regiment, Fort Campbell, KY 42223. Dy: (502) 798-3960. Res: (502) 798-2498.

LaFleur, John E., (SGT) (M90) 1903 Stardust Street, Killeen, TX 76543-3363. Dy: (817) 287-3266. S: Mary Lynn. Dy: UH-1 Crew Chief, 175th Command Aviation Company.

Lange, Roger, (SPC) (M90) (Ramjet) D Trp, 2/9 Cavalry, Fort Ord, CA 93941. Dy: (408) 242-3534. Res: (408) 242-4206. S: Annie. MOS: 67Y10.

Lanier, Joel E., (CSM) (M85) 6323-1 Anderson Street, Fort Hood, TX 76544. Dy: (817) 287-1621. Res: (817) 539-6920. S: Marva. Dy: HHC, 1st Battalion, 227th Aviation Regiment. MOS: 00Z.

Lay, Mark A., (SPC) (M89) (Frito) B Co. 7/159 Aviation Regt. Box 149, APO New York 09061. Dy: 0711-348-806/801. Res: 214-785-3226. Dy: Aircraft Structural Repairer. MOS: 68G10.

Leonard, James L., (1SG) (M88) (Jim) HHC 4th Aviation Brigade, APO New York 09185. Dy: 334-3877. Res: 06136-6165. S: Francesca. Dy: First Sergeant. MOS: 67Z5M.

Lindgren, Lester J., (SFC) (M83) (Les) S Troop, 4th Sqdn 2nd ACR, Box 181, APO New York 09092-0216. Dy: 4614-822-. Res: 0911-484923. S: Edith. Dy: Platoon Sergeant. MOS: 67T4F. Past VP, Redcatcher Chapter. VP Enl Affrs, Redcatcher.

Livingston, Philip G., (SFC) (M87) (Gunny) 95-110 Moenamanu Street, Apt. 443, Mililani, HI 96789. Dy: (808) 656-2795. Res: (808) 625-2918. S: Wendy. Dy: Q.C. Supervisor, E Co., 214th Avn. Regt. MOS: 67T4.

Loomis, Howard A., (SFC) (M88) (Robo Top) 102 Snow Circle, Fort Bragg, NC 28307. Dy: (919) 396-1820. Res: (919) 436-9121. S: Marlene. Dy: 1SG, C Trp, 1/17 Cav. MOS: 67T4P.

Loomis, James J., (SGT) (M89) (Loomitoid) N Troop, 4/11 Acr, APO New York 09146. Dy: 0661/321-3408. Res: 0661/ 46-348. S: Kathryn M. Dy: 67Y2Q2 Atk Hcptr Crew Chief. MOS: 67Y2Q.

Lopez, Lorraine A., (SFC) (M89) Box 94, Town & Country Estates, Midland City, AL 36350. Dy: (205) 255-5422. Res: (205) 983-1656. Dy: Opns Chief, NCO Academy. MOS: 93P4Q.

Lord, Troy W., (SGT) (M90) 2-501st Aviation, APO San Francisco 96271. Dy: 753-7806. Res: 011-82-333-50-7806. MOS: 66U20.

Lozier, Garrett J., (SFC) (M83) 643 Ululani Street, Kailua, HI 96734. Dy: (808) 656-2619. Res: (808) 625-0952. Dy: Aero-Sct Plt Sgt, A Co, 1-25 Avn (Atk), 25th Inf Div (L). MOS: 67Y.

MMMMMMMMM

Manatan, Gregory A., (SSG) (M90) HHC 17th Aviation Brigade, APO San Francisco 96301. Dy: (000) 734-4714. Res: (000) 754-8021. MOS: 93P30.

Mariotti, Richard, (SSG) (M86) (Fury) P.O. Box 3, Fort Drum, NY 13602. Dy: (315) 772-7131. Res: (315) 686-4038. S: Jutta. Dy: Plt Sgt, C Co, 3-25 AHB. MOS: 67V.

Masarik, Jerry L., (1SG) (M87) S Troop, 4/11 ACR, APO New York 09146. Dy: 3213-568. Res: 0661-79781. S: Norma. MOS: 67Z50.

Mastrian, Mark K., (SGT) (M89) N Troop, 4/11th ACR, APO New York 09146. S: Becki. Dy: OH-58 Mechanic Crew Chief.

Mathews, William, (1SG) (M88) (Bill) 22 Pointer Place, Savannah, GA 31419-3549. Dy: (912) 352-6956. Res: (912) 927-0763. S: Linda. Dy: 3/160 Nightstalker. MOS: 67T4M.

Maxe, Curtis J., (SPC) (M90) HHC 17th Aviation Bde, APO San Francisco 96301. Dy: (000) 736-4714. Res: (000) 738-5408. S: Peggy A. MOS: 93P.

McCarthy, Helen M., (SPC) (M89) (Green) I Co. 227th Avn Regt., Box 361, APO New York 09165. Dy: OH-58 Mechanic, 3DASB C-361. MOS: 67V10.

McCormes, Roy, (CSM) (M89) (Mac) P.O. Box 94, Fort Rucker, AL 36362. Dy: (205) 255-4800. Res: (205) 598-4625. S: Adessa. Dy: Post CSM USAAVNC. MOS: 00Z50. NEB.

McCoy, Herbert W., (SFC) (M88) (Mac) 4933-B New Hammond Hgts., Fort Campbell, KY 42223-5000. Dy: (502) 798-6704. S: Tangerine. Dy: Flt Plt Sgt, C Co, 5/101st Avn Regt. MOS: 67T4F.

McKernan, Justin L., (SGT) (M90) (Mac) Co A, 1-25th Avn Regt., P.O. Box 944, Schofield Barracks, HI 96857. Dy: (808) 656-2618. Res: (808) 655-6445. Dy: AH-1P Helicopter Crewchief. MOS: 67Y20.

McKinney, William D., (SFC) (M87) (Dave) P.O. Box 366, Rindge, NH 03461. Dy: (603) 796-2882. Res: (603) 899-3044. S: Kathy. Dy: Trng Dev NCO For Avn Sys Intel School. MOS: 98J.

Medlin, William Lee, (SPC) (M88) PSC Box 466, APO New York 09611. Dy: 819-BM-5447. Res: 813-6280. S: Cheryl Ann. Dy: Avn Det Bde, 67 N Service Hcptr Repairer. Sec, Checkpoint Charlie Chapter.

Merica, Michael S., (PFC) (M89) (Spike) C Co. 3-227th Avn Regt., APO New York 09165. Dy: ETS: 322-7617. ETS: 322-7763. MOS: 67V10.

Michael, Allen, (SGT) (M90) B Company, 4/501st Aviation, APO San Francisco 96208. Dy: (000) 721-5043. MOS: 67Y20.

Miller, Thomas J., (SPC) (M90) B Co., 3/3 Avn. Regt., APO New York 09182. Dy: 09334-87362. Dy: Attack Helicopter Crew Chief. MOS: 67Y.

Mitchell, Larry W., (MSG) (M88) 844 Yorkshire Lane, Newport News, VA 23602. Dy: (804) 878-3698. S: Kim. Dy: BNCOC Branch Chief, USAALS, 3rd Staff & Faculty. MOS: 67Z5H.

Moore, Mary B., (SPC) (M89) (Peaches) D Company, 2-4 Aviation Regiment, APO New York 09185. Dy: ETS 334-3789. Dy: OH-58 Crew Chief. MOS: 67V.

Moore, Stephen M., (SFC) (M88) (Steve) PSC Box 683, APO Miami 34001. Dy: Quality Control Supvr. MOS: 66N.

Moran, Mark E., (SSG) (M88) 1042 Westwood Drive, Leesville, LA 71446. Dy: (318) 535-4616. Res: (318) 239-6410. S: Susan. Dy: Maintenance Platoon Sergeant, 36th Medical Detachment (AA). MOS: 66T3F.

Morgan, Thomas W., (SSG) (M87) 101 Fairview Lane, Daleville, AL 36322-Q. Dy: (205) 255-6640. Dy: A/1-13th Avn Regt. MOS: 67V3F.

Morgan, Travis C., (SSG) (M89) (Magnum TI) A Company, 1-288th Aviation, APO Miami 34006-5000. Res: (408) 883-1280. S: Mary. Dy: UH-60 Hcptr Tech Inspector. MOS: 67T3F Q2.

Moseley, Bernard L., (SFC) (M89) D Troop, 4th Squadron, 7th Cavalry, APO New York 09076. Dy: 321-48-49. 06181-55-458. S: Marilyn. Dy: First Sergeant. MOS: 6725M.

Mosher, Darrell R., (SSG) (M89) I Co, 227th Avn Regt., Box 44, APO New York 09165. S: Kathleen. Dy: UH-60 Technical Inspector. MOS: 67T3T.

Mullen, Richard P., (CSM) (M83) (Moon) HQ, AVSCOM, 4300 Goodfellow Blvd., St. Louis, MO 63120. Dy: (314) 263-1018. Res: (618) 452-2810. S: Gloria. Dy: Command Sergeant Major, AVSCOM. MOS: 00Z. Past VP, Hanau Chapter. Vp Enl Afrs, Lindbergh Chapter.

Mullins, Charles W., (CSM) (M87) (Chuck) HHC, 3-58th Aviation, APO New York 09025. S: Peggy.

Mullins, Larry J., (MSG) (M89) (Moon) C Company, 7/158th Aviation Regiment, APO New York 09457. Dy: 06-121-397-5597. Res: 06-121-343261. Dy: HHC, 12th Avn Bde AMO NCOIC. MOS: 6725M.

00000 - PPPPP

Ortiz Casiano, Luis G., (1SG) (M85) (Lou) 911 Erwin Court, Ft. Wainwright, AK 99703. Dy:

R The 1990 Aviation Soldier

(907) 353-6657. Res: (907) 356-3229. S: Suzan. Dy: Troop 1SG, C Troop 4-9 Cav. MOS: 67T4P.

Owens, Lawrence J., (MSG) (M87) (Larry) Box 1667, Class 35, USASMA, Fort Bliss, TX 79918-1270. S: Kathy. Dy: 5th Bn, 229th Avn. MOS: 6725M.

Paige, James M., (1SG) (M89) (Jim) HHC, 2-2d Aviation Regt., Box 33, APO San Francisco 96524-0460. Dy: (000) 732-1435. Res: (000) 732-0133. S: Lee. MOS: 93P.

Pearce, William E., (SGT) (M90) (Bill) T Troop, 4/11 ACR, P.O. Box 546, APO New York 09146. Dy: 011-49-661-86786. Res: 011-49-661-75786. S: Dana. Dy: ALSE Technician. MOS: 19D.

Perez, Rafael, (SGT) (M88) (Ralph) A Co., 5/159 Avn. Regt., Box 243, APO New York 09025-0254. Dy: 4264-550. Res: 0791-2279. S: Norma. Dy: Helicopter Repairer. MOS: 67U30Y.

Peterson, Steven L., (SSG) (M89) (Pete) A Co, 7th Battalion, 159th Aviation Regiment, APO New York 09140. S: Ursula. Dy: Aircraft Armament Technical Inspector. MOS: 68J40.

Pierce, Albert F., (SPC) (M89) 3220 Gettysburg Court, Fort Ord, CA 93941. Res: (408) 384-4484. S: Jean. Dy: C Co, 3/123rd Aviation Regiment. MOS: 98G.

Pigue, Randall H., (SPC) (M89) (Randy) D Company, 3/123rd Aviation Regiment, Fort Ord, CA 93941. Dy: Tactical Transport Helicopter Repairer/Mechanic. MOS: 67T20.

Pike, Dan E., (SPC) (M90) (Pyksta) B Troop 2/9 Cav. (RECON), Fort Ord, CA 93941. Dy: (408) 242-2318. Res: (408) 394-9844. Dy: Scout Hcptr Repairer. MOS: 67V10.

Porter, Donnald L., (SFC) (M87) (Don) 907 E. Park Avenue, Enterprise, AL 36330. Dy: (205) 255-3706. Res: (205) 393-3105. S: Shirley. Dy: Aircraft Maint, D Co, 2-229th Avn Regt. MOS: 67R.

Prather, George E. Jr., (1SG) (M90) B Co., 3/501 Avn. Regt., APO San Francisco 96271-0453. Dy: 011-82-333-50-50-7992. Res: 82-333-50-8559. S: Yong Hui. MOS: 67Z50.

Prescott, Joe D., (MSG) (M87) (PJ) 8298 Peterson Loop, Fort Belvoir, VA 22060. Dy: (703) 325-8322. S: Ruby. Dy: Career Advisor, DA, PERSCOM, Alexandria. MOS: 93P.

Prince, Joel L., (SFC) (M90) 67331-B Kalea Place, Waialua, HI 96791. Dy: (808) 656-1177. Res: (808) 637-4232. Dy: Quickfix Plt Sgt, C Co, 53rd Avn Bn. MOS: 98G4LRU.

Pruett, Michael W., (SPC) (M89) 8575 Richmond Highway, Apt. 301, Alexandria, VA 22309. Dy: (703) 664-3161. Res: (703) 780-7760. S: Nydia. Dy: Helicopter Mechanic, CAC(H) USADAC.

QQQQQ - RRRRR

Quinn, Thomas W., (CSM) (M86) (Tom) HHC 4/159th Aviation Regt, APO New York 09359. S: Linda. Dy: Command Sergeant Major. MOS: 6725M 00Z50.

Rafteseth, Troy D., (SPC) (M90) B Co, 2-501st Avn. Regt., APO San Francisco 96271. MOS: 67U.

Rentz, Thomas, (SFC(P)) (M87) (Tom) 8 Colony North Blvd, Apt 305, Wilmington, DE 19802. Dy: (215) 591-7275. Res: (302) 762-3406. S: Sue. Dy: US Army Plant Rep, Boeing Helicopters. MOS: 67U40.

Reyes, Homero, (SSG) (M89) (Calaca) B Company, 8/158 Aviation, APO New York 09165. Dy: (000) 322-7575. Dy: FRG 322-7575. S: Mary. Dy: Fire Control Supervisor. MOS: 68J.

Richerson, Ronald W., (SPC) (M90) (Ron) S Troop, 4/2 ACR, Box 55, APO New York 09092. S: Charlene. Dy: UH-60 Crew Chief. MOS: 67T.

Ridpath, James G.,Jr, (SSG) (M89) (Rip) I Company, 227th Aviation, Box 343, APO New York 09165. S: Pansy. MOS: 67N30.

Roberts, Godrey D., (1SG) (M86) (Jeff) B Co. 7-159th Avn Regt., P.O. Box 313, APO New York 09061. Dy: 49-0711-3488806. Res: 49-0711-473663. S: Barbara. MOS: 67Z5M.

Rockwell, Scott F., (MSG) (M84) (Rocky) 17 Carey Street, Fort Rucker, AL 36362. Dy: (205) 255-2454. Res: (205) 598-8552. S: Pat. Dy: Deputy Director, DOET. MOS: 6725H.

Rogers, James E., (SPC) (M90) (Roger) A Trp, 5th Sqdn, 6th Cav, APO New York 09457. S: Lisa Kay. Dy: AH-64 Apache Crew Engineer. MOS: 67R10.

Rossicoe, Douglas D., (SPC) (M90) (B.D.D.) B Company, 4/58th Avn Regt (ATC), APO San Francisco 96301. Dy: Korea 739-5064. Res: Korea 724-8627. S: Sheila R.. MOS: 93D.

Ruhnke, Richard, (SGM) (M87) (Richie) 6444 Freeport Road, Fayetteville, NC 28303. Dy: (919) 396-6101. Res: (919) 867-7436. S: Sandra. Dy: SGM, HHC, 8th Avn Bde, Fort Bragg. MOS: 67Z5P.

SSSSS - TTTTT

Schlicht, Erwin W.,Jr, (1SG) (M85) (Bill) 4983 A Harrison Street, Fort Campbell, KY 42223-1418. Dy: (502) 798-5466. Res: (502) 439-1342. S: Bonnie. Dy: HHc Avn Bde, 101st Abn Div (ASSLT). MOS: 31Z.

Schultz, Michael L., (1SG) (M84) 403 Montrose Drive, Clarksville, TN 37040. Dy: (502) 798-5932. Res: (615) 645-2261. S: Gail. Dy: D Co, 1-101st Avn Regt. MOS: 67T.

Selders, James R., (SGT) (M89) Box 2324, APO New York 09224-5000. S: Jana D.. Dy: Quality Control, Land Southeast Avn Det. MOS: 66N.

Sheffer, Roy E., III, (SGT) (M86) (Cool Roy) A Co, 1st MI Bn-AE, APO New York 09457. S: Wendie. MOS: 67H30A.

Shelton, James F., (1SG) (M83) (Jim) 15 Dorchester Court, Savannah, GA 31406-4404. Dy: (912) 352-6716. Res: (912) 927-2971. S: Nita. Dy: First Sergeant, HSC, 1-24th Aviation Regiment. MOS: 67Z5M. VP, Coastal Empire Chapter.

Shepard, Glenn E., (SFC) (M90) (Glenn) 2369-A Smith Circle, Fort Eustis, VA 23604. Dy: (804) 878-6653. Res: (804) 887-5014. S: Pamela. Dy: Sr Opns NCO, DOTD, USAALS.

Sherman, Edward C., (SSG) (M84) (Rocket Man) 207th Avn Co, APO New York 09102-3737. S: Ulrike. Dy: AVUM Production Control NCOIC. MOS: 67N30.

The 1990 Aviation Soldier

Sims, Lenny P., (SFC) (M87) Apache Training Brigade, 5-229th AHB, Fort Hood, TX 76545. S: Anna. MOS: 68JMA2.

Singh, Ashok K., (SPC) (M90) C Company, 1/501st Aviation, APO San Francisco 96208. Dy:721-5002. S: Manjula. MOS: 67T.

Siples, William E., (MSG) (M85) (Bill) B Co, 7/159 Avn Regt, Box 325, APO New York 09061. DyL421-6643. Res: 0711-349639. S: Margarete. MOS: 67Z.

Smedley, Russell E., (SGT) (M89) (Russ) 13 Culpepper Street, Daleville, AL 36322. Dy: (205) 255-2169. Res: (205) 598-3727. S: Connie. Dy: DOET. MOS: 93P.

Smith, Kenneth D., (SPC) (M90) A Co. 1st Military Intel., Battalion (AE), APO, New York 09457. Dy: 00149-06121785286. Res: 49-06121-400436. S: Christina. Dy: Crew chief on OV-1D Aircraft. MOS: 67H10.

Smith, Robert P., (E8) (M88) 1433 South Dale Court, Denver, CO 80219. Dy: (502) 798-5544. Res: (303) 934-1881. S: Theresa. Dy: F Co, 160th SOAG /Abn/, Ft. Campbell, KY.

Spring, Larry L. Jr., (SSG) (M87) (Al) 512 Kellia Drive, Clarksville, TN 37042. Dy: (502) 798-9307. Res: (615) 645-8663. S: Manuela. Dy: Atk Hcptr Plt Sgt, B Co, 3/101st Avn Regt, Ft. Campbell. MOS: 66Y30.

Stallings, Kerry D., (SGT) (M89) (Twig) S Troop, 4th Sqdn 11 ACR, APO New York 09146. S: Michaela. Dy: UH-60A Crew Chief. MOS: 67T20.

Stearnes, Michael G., (SGT) (M87) (Spanky) R Troop, 4th Squadron, 3rd ACR, Fort Bliss, TX 79916-1152. Dy: (915) 568-8839. Res: (915) 568-8232. Dy: Flt Line Supvr, Crew Chief AH-1. MOS: 67Y20.

Stender, Lee, (SGT) (M90) RR 1, P.O. Box 10892-B, Baldwin Circle, Fort Drum, NY 13603. Dy: (315) 772-8172. Res: (315) 773-2117. S: Laura. Dy: EW/SIGINT Voice Intercept Operator, C Co, 3-25 AHB. MOS: 98G2P.

Stevens, Timothy L., (SFC) (M89) 941-C Barlow Road, Fort Belvoir, VA 22060. Dy: (703) 664-2841. Res: (703) 781-8718. S: Rhondala. Dy: Flight Ops NCOIC. MOS: 93P40.

Still, Edward A., (SGT) (M89) (Pooh) D Company, 2/4th Aviation Regiment, APO New York 09185. MOS: 67Y20.

Stills, Rufus L., (SGM) (M88) (Ruf) 320 Colony Road, Newport News, VA 23602. Dy: (804) 878-6563. Res: (804) 877-4825. S: Shirley. Dy: Proponency SGM, Logistic School.. MOS: 6725X. Past VP, Mainz Chapter.

Strachan, James E., (1SG) (M89) B Co. 2-4 Aviation Regt., APO New York 09185. Dy: 334-3842. 06131-683785. Dy: First Sergeant. MOS: 6725M.

Sucharski, Patrick, (1SG) (M85) (Ski) 4766 Dover Road, Indian Mound, TN 37079. Dy: 011-82-333-50-6956. Res: (615) 552-6162. S: Kimmie. Dy: B/2-501 Avn, Korea. MOS: 67Z.

Sullivan, John D., (SPC) (M90) 39 Epps Street, Fort Rucker, AL 36362. Dy: (205) 255-2529. Res: (205) 598-4012. S: Tina. Dy: Enlisted Aerial Observer C Co. 2/229th Avn Regt. MOS: 93B.

Supit, Adriaan, (SSG) (M88) B Company, 1/5 Aviation, Box 4591, Fort Polk, LA 71459. Dy: (318) 535-4534. Res: (318) 238-4441. S: Raden. Dy: OH-58C Scouts PSG. MOS: 67V3LJN.

Talavera, Jaime W., (PFC) (M89) C Co, 24th Avn Regt., P.O. Box 7392, Hunter Army Airfield, GA 31409. Dy: (912) 352-5580. Res: (912) 352-6227. Dy: Fire Control Rep (Acft). MOS: 68J10X1.

Tanna, Sanford C., (1SG) (M89) (Stan) 22 Baker Street, Fort Rucker, AL 36362-2252. Dy: (205) 255-4612. Res: (205) 598-6235. S: Song. Dy: 256th Signal Support Co. (AMSF). MOS: 93D5M.

Taylor, John E., (SGT) (M89) ("T") 4/2 ACR, Box 59, APO New York 09092-0216. Dy: 4614-653. S: Elizabeth. Dy: Armament Tl. MOS: 68J20X1.

Taylor, Melvin P., (CSM) (M86) (Mel) 104 West Hickory Bend Rd., Enterprise, AL 36330. Dy: (205) 255-3405. Res: (205) 393-4213. S: Mercy. Dy: CSM 1st Avn Bde. MOS: 00Z50.

Tester, Jackie M, (SFC) (M90) B Co. 4/159th Avn. Regt., P.O. Box 449, APO New York 09359. S: Kim. Dy: Platoon Sergeant. MOS: 67Y40.

Thomas, David F., (SSG) (M89) 16 Gibson, Fort Rucker, AL 36362. Dy: (205) 255-5407. Res: (205) 598-4153. S: Karen. Dy: ANCOC Inst/writer, USAANCO Academy. MOS: 93PAZ.

Thronburg, Paul S., (PFC) (M89) (Kid Delta) G Co. 227th Avn Regt., APO New York 09165. Dy: 322-7542. Res: 322-7766. Dy: Division Artillery Support Platoon. MOS: 67V.

Turner, Arnold T., (SPC) (M89) (Terry) A Company, 8/158th Avn, Box 1108, APO New York 09457. S: Cindy. Dy: 67 Yankee Atk Hcptr Mechanic.

VVVVV - ZZZZZ

Vandusen, Gary R., (1SG) (M89) 200 Barbara Drive, Ozark, AL 36360-8704. Dy: (205) 255-4937. Res: (205) 774-5360. S: Christine. Dy: AD USAAC NCOA. MOS: 67Z5M.

Vega, Justino, Jr, (SFC) (M87) (Jay) 2563-E Pratt Place, Fort Eustis, VA 23604. Dy: (804) 878-3338. Res: (804) 888-2290. S: Renita. Dy: Sr. Instrutor, AHD/DAHT, 3rd S&F Co., 765th Trans. Bn. MOS: 67Y4P.

Vegoren, Kenny R., (CSM) (M88) HHC, 12th Aviation Bde, APO New York 09457. S: Eileen. MOS: 00Z50.

Von Gortler, Fred C., (SFC) (M89) 240 Anne Drive, Newport News, VA 23601. Dy: (804) 878-6763. Res: (804) 596-3085. S: Renie. Dy: Sr Writer/Instr, USAALS, DOTD, NSTD, New Systems Project NCO. MOS: 68J4H.

Wandling, Thomas L., (SSG) (M89) 2905 Persimmon Drive, Killeen, TX 76543. Dy: (817) 287-3715. Res: (817) 628-7641. S: Toni. Dy: Squad Ldr, B/2-158th Avn Regt. MOS: 67U.

Warner, Paul D., (SGT) (M89) H Co., 4th Avn Regt, APO New York 09457. Dy: Tactical Transport Helicopter Repairer. MOS: 67T20.

Weast, Kenneth R., (CSM) (M88) (Ken) 4th Brigade, 1st AD, APO New York 09250. S: Rose. MOS: 00Z50.

Weaver, Richard A., (SSG) (M85) (Rick) 5035-A Hammond Heights, Fort Campbell, KY 42223. S: Betty. Dy: D Trp, 2/17th Cavalry Regiment. MOS: 67T.

Weiss, Raymond A., (SGT) (M86) (Ray) Post Trailer Pk, #31, Ft Rucker, AL 36362. Dy: (205) 255-6301. Res: (205) 598-4144. S: Dorothy. Dy: B Co, 1-10th Avn Regt, 1st Avn Bde (AA).

Wells, Richard P., (PFC) (M90) (Wildman) 303 Judy Lane, Apt. 176, Copperas Cove, TX 76522. Res: (817) 542-2667. S: Justine. Dy: AH-64 Apache Crewman, 6-6 Cavalry, D Troop.

Werline, Lawrence F., (SSG) (M89) (Larry) 1310 Duval Drive, Killeen, TX 76541. Dy: (817) 288-3514. Res: (817) 699-5936. S: Tae Wan. Dy: OH-58 Maint Supvr, APACHE Trng Bde, A/2-227th. MOS: 67V3HA2.

Westrate, Garry S., (SGT) (M90) (Grand Wazoo) B Company, 2-501st Aviation Regt, APO San Francisco 96271. S: Kyong Cha. MOS: 68D20.

White, David G., (SFC) (M89) (Dave) 51234-1 Mohave Court, Fort Hood, TX 76544. Dy: (817) 288-5149. Res: (817) 539-2096. S: Mary Ann. Dy: 2/227th Avn.. MOS: 7574M.

Williams, James C., (CSM) (M87) (Tim) 31 Blunt Road, Rock Island, IL 61201. Dy: (309) 782-4648. Res: (309) 786-4707. S: Margaret. Dy: HQ AMCCOM. MOS: 00Z50. Past SRVP, Checkpoint Charlie Chapter.

Williams, Michael A., (SGT) (M90) (Willie) D Company, 4/501st Aviation, APO San Francisco 96208. Dy: (000) 721-5070. Res: (206) 456-4768. S: Karmen. MOS: 67T20.

Wilson, Hartwell B., (CSM) (M86) (Willy) 617 Morgan Lane, Enterprise, AL 36330. Dy: (205) 255-2454. Res: (205) 347-1051. S: Debbie. Dy: Director, Department of Enlisted Training. MOS: 00Z50. VP, Army Avn Center Chapter.

Wilson, Roy B., (SFC) (M89) HHC, DAC CAASO, Ft Belvoir, VA 22060. Dy: (703) 664-1394. S: Tammie. Dy: NCOIC East Coast MODS, CAASO. MOS: 93P40.

Wirick, Ernest J,Jr, (SSG) (M87) (Ernie) 1980 Swearinger Drive, Colorado Springs, CO 80906. Dy: (719) 579-2253. Res: (719) 576-8093. S: Christianne. Dy: AH-1E Plt Sergeant, Charlie Trp 2-7 Cavalry. MOS: 67Y30.

Worthen, David B., (SGT) (M89) I Co., 227th Avn Regt, Box 264, APO New York 09165. Res: (000) 322-7547. Dy: Phase Maint Team Ldr. MOS: 67N20.

Wright, Gary L., (CSM) (M82) (Lee) 4th Battalion, 228th Aviation Regiment, APO Miami 34042-5000. S: Melitta. Dy: SOTO Cano AFB, Honduras. MOS: 00Z50.

Ybarbo, Joe R., (1SG) (M87) 154 Ashley Street, Fort Bragg, NC 28307. Dy: (919) 396-4343. Res: (919) 497-3055. S: Monica. Dy: C Co, 1/820 Avn Bn. MOS: 67Z50.

Young, Jonathan P., (SSG) (M89) (Jon) 2390-C Marshall Street, Fort Eustis, VA 23604. Dy: (804) 878-5332. Res: (804) 887-8343. S: Annette. Dy: Instructor/Writer, 1st Staff & Faculty, Blackhawk Repairer. MOS: 67T3HQ2.

Youngs, Michael E., (SSG) (M90) (Mike) B Co. 7-159 Avn. Regt., P.O. Box 432, APO New York 09061. Dy: 0711-3488-801. Dy: Technical Inspector. MOS: 66V30.

A Quick History of the U.S. Army's Aviation Night Vision Goggles

By Major Jack L. Kimberly, Jr.

Providing aviators with the proper night vision capabilities has always been a challenge. Prior to the late 1960s flying missions using the unaided eye was the norm. However, supplemental lighting was mounted to provide better visual cues (i.e.,landing light and/or searchlight) when needed. Military research in the development of an active or passive night vision aid for pilots has been ongoing since the 1950s. This research expanded in the 1960's when night vision scientists developed the technology which would permit design of a passive, helmet mounted system.

By the early 1970s, Army aviation capitalized on this new technology by flying a head-mounted night vision goggle. The U.S. Army has been the lead service for developing night vision equipment for aviation and has continued to exploit this technology with the current AN/AVS-6 Aviator's Night Vision Imaging System (ANVIS).

MAJ Kimberly is Assistant PM, Night Vision and Electro Optics, Ft. Belvoir, VA.

At the time the helicopter became the mode of transportation in current warfare doctrine, night vision research had taken giant steps in development and fielding of devices from the famous infrared Sniperscope of World War II to helmet mounted night vision aids for soldiers.

By the 1950s an active helmet mounted Infrared (IR) converter called the AT-6 was in the Army inventory for night combat operations. Infrared (IR) can't be seen by the naked eye, but viewing devices, such as the Sniperscope or AT-6, could convert an invisible beam of IR energy to visible light. A limitation though was any soldier using one of these detection devices could see the infrared beam as if it were a searchlight and could trace it back to its source.

This deficiency was noted by the U.S. Army which began research in 1952 into a

Need help finding what you're looking for?

...anytime, day or night.

Find it with our 445G Gimballed Aerial FLIR

- 9 inch diameter
- 30 pounds
- Rate stabilization
- Closed cycle cooler
- Two fields of view

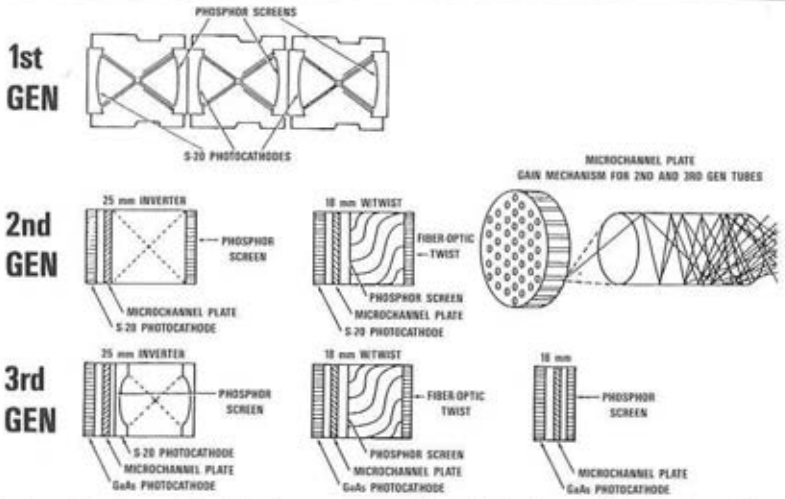
plus

Electro-optical zoom

inframetrics The Infrared Specialists

16 Esquire Road, No. Billerica MA 01862-2598 • (508) 670-5555
FAX (508) 667-1046 • TWX 710-326-0659 • *Offices worldwide*

IMAGE INTENSIFICATION



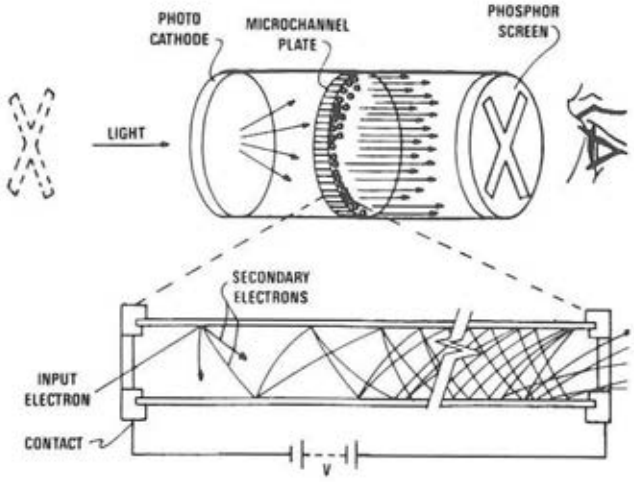
field called passive image intensification that used only natural illumination.

Night vision research was given a mega-boost in 1961 when Dr. Louis Alvarez reported to President Kennedy that our Army was unprepared to fight at night. At the time Dr. Alvarez chaired a committee that investigated the ability of the U.S. Army to engage in limited war. This study recognized that if the Army were to be effective in a limited warfare situation it needed, above all, night vision equipment. Suddenly, the Army's Night Vision scientists located at Fort Belvoir, Va., found themselves with a multi-million dollar RDT&E budget and an order: Develop a piece of hardware that provides night vision capability.

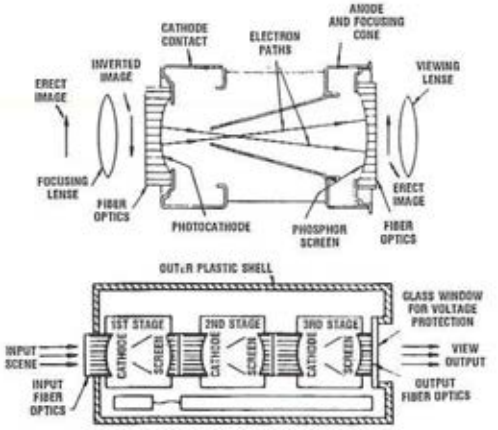
The first passive night vision acquisition plan was outlined in 1962 by the Warfare Vision Branch of the Engineering Development Center, Fort Belovir Va. Three successive phases or Generations of image intensification technology were planned for development. The first phase pushed the developing image intensification tube technology quickly, leading to production of the 1st Generation (GEN I) tube for immediate combat use in Vietnam. The GEN I tube had been developed in a laboratory setting during the 1950s but it was not until the 1960s that a specific military product was designed.

The reason that the program expedited fielding was to field night vision systems providing passive night vision and to give the Army time to develop training and doctrine to use such equipment. The GEN I development centered on weapon sights and for ground surveillance units. The Starlight Scope, crew served weapon sights, and the Night Observation Device (NOD) became the first pieces of passive night vision equipment to use this early tube, and all went into production in 1964.

The new image intensification systems fielded during the Vietnam war performed well enough to accomplish the mission, but they had some limitations. The GEN I systems gave the soldier a night image but

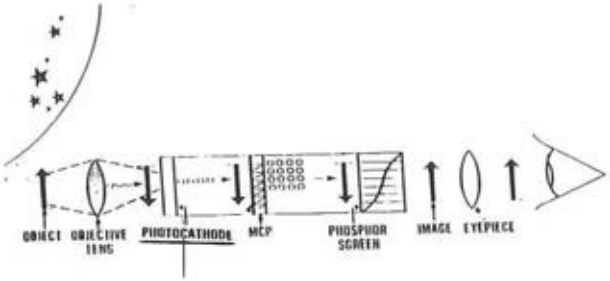


MICROCHANNEL PLATE (MCP) USED IN SECOND GENERATION IMAGE INTENSIFIER TUBES

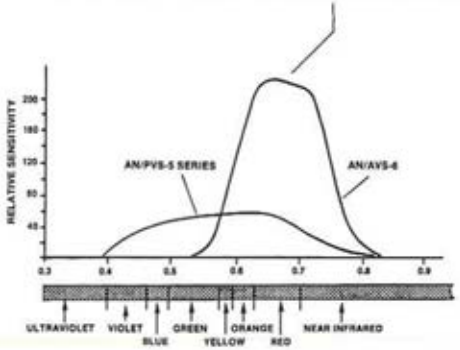


FIRST GENERATION IMAGE INTENSIFIER TUBE

IMAGE INTENSIFIER OVERVIEW



PHOTOCATHODE ELECTROMAGNETIC SPECTRUM



the image intensifier tube was very large and heavy. Further it was subject to image blurring when exposed to ammunition bursts and battlefield lighting. No helmet mounted system was ever planned around the GEN I tube because of the size, weight, and design constraints inside of the tube. The helmet-mounted device was to be a goal for the next generation of tubes.

The next phase of night vision was called Second Generation (GEN II). This program miniaturized the tube to reduce size and weight and improve its performance. This approach was based on using the newly advanced Microchannel Plate (MCP) (see diagram on previous page) or wafer tube technology integration developed under contract by the Night Vision Laboratory (NVL). The MCP development provided the GEN II tube its greater intensification power by means of a thin wafer which multiplied electrons to achieve necessary light gain instead of the GEN I tube technology which used cascaded divided tubes for amplification (see diagram on previous page) which was achieved by stacking three I tubes together to achieve the necessary level of electron multiplication.

The size of the MCP design also allowed a smaller packaging which resulted in enough size/weight reduction to enable production of a head-mounted night vision device, the goggle. The first helmet mounted Night Vision Goggle (NVG) which used the new second generation tube was called the SU-50. The SU-50 was developed and purchased under an accelerated South East Asia Night Operations (SEANITEOPS) program in 1968 to replace the AN/PAS-5 Infrared (IR) converter driving binoculars. The SU-50 developmental efforts were terminated in the early 1970's because of poor GEN II tube performance and life during operational tests.

In 1970, the AN/PVS-5 NVG was developed under contract by the Night

Vision Laboratory using the same GEN II technology found in the SU-50. The GEN II technology was proven in the early SU-50 but the technology could not be fully demonstrated until the AN/PVS-5 engineering development in 1971. The main areas that caused the SU-50 system to be unusable for operational use was the poor resolution and short life span of its early GEN II tube. The AN/PVS-5 system engineers noted these shortcomings that failed to meet the stated requirements and developed a longer lasting GEN II tube integrated with improved optics. The AN/PVS-5 improvements over the SU-50 proved in later operational tests to meet the Army's operational requirements. The AN/PVS-5 NVG and GEN II tube development moved into production under a government contract in 1973.

The GEN III development began in 1970. The approach used during this phase was to capitalize on the GEN II wafer technology while moving the intensifier tube's sensitivity into the infrared spectrum where more ambient light or natural star light energy was available. This quantum capability leap took advantage of the great spectral range by providing a new and highly sensitive gallium arsenide photocathode. This new approach gave the GEN III tube the ability to operate down to low star light and provide better resolution than the AN/PVS-5 GEN II tube. The first night vision device to receive this GEN III tube was the ANVIS. The ANVIS system with GEN III tubes moved into production under two government contracts in 1982. Because of difficult manufacturing requirements this new photocathode technology resulted in initial low manufacturing yields, thereby delaying fielding of the first GEN III tubes by two years.

Flight Application of Helmet-Mounted Night Vision Technology

Pilotage of an aircraft by night vision aids began as early as the 1950's. The Army looked at flying a helicopter by means of the AT-6 infrared goggles. The AT-6 goggles were used with a infrared searchlight mounted on the bottom of the aircraft to illuminate the flying area. Obviously this approach to night operations countermanded the tactical advantage of surprise, for if the enemy had infrared technology he could also see the aircraft light. Consequently, the active infrared approach to piloting a helicopter was dropped. Although the AT-6 did not make it into the Army inventory as a night vision aid for flight, the concept of piloting an aircraft with night eyes still represented an interesting option to be explored.

The Vietnam war brought Army aviation warfare to new heights. Airmobility became the buzz word of the day and the helicopter became the work horse. The evolution of the helicopter as a source of combat power also brought defenses against them. The development of air defense systems to combat helicopters pushed all flight operations down to the tree tops. The U.S. Army had to fly day or night at tree top level or below. This low flying requirement, called Nap of the Earth (NOE), had to be supported, so in 1970 the Army—through its Modern Army Selected Systems Test Evaluation Review (MASSTER)—began looking at a Night Vision Goggle (NVG) for night operations again.

One of the early flight tests to evaluate goggle aided night operations for MASSTER was the Combat Air Vehicle Navigation and Vision Study (CAVNAV). This study was performed in April 1971 by the Army's Land Warfare Laboratory (LWL) and focused on evaluating the following three approaches: Use of visual light searchlights; Use of an IR light with the GEN II AN/PVS-5 NVG; and the Use of the GEN II AN/PVS-5 NVG alone.

Based on LWL's findings and the successful testing by MASSTER the AN/PVS-5 night vision goggle was recommended in 1973 for immediate adoption as an aid to flight during night NOE operations. As a side note, the U.S. Air Force also noted the advantage of a night vision aid for the pilot and prior to its

termination used the SU-50 for helicopter pilots during some rescue attempts and special operations in Vietnam. In 1972, unrelated to the MASSTER study, the Air Force also evaluated the AN/PVS-5 but against the SU-50 and found it superior as a night pilotage aid.

Even when the decision was made to use the AN/PVS-5 back in 1973 it was known that the AN/PVS-5 was not totally human engineered for the aviator and the GEN II intensifier tube had limited lowlight performance. In 1976 the Night Vision Laboratory initiated advanced development of a lightweight, high performance goggle system specifically designed for the aviators, which would correct the shortcomings of the AN/PVS-5. The system was call the Aviator's Night Vision Imaging System or ANVIS.

Design specifications demanded that the system be mounted onto the standard SPH-4 helmet. There were also requirements for independent adjustments on interpupillary distance (IPD), eye relief, vertical height, and binocular tilt. Safety considerations demanded that the binocular portion of the system break away during a crash landing and flip up easily to a stowed position in case of emergency.

The final ANVIS configuration consisted of a visor mount, goggle assembly with GEN III tubes, and a dual battery pack.

The ANVIS plastic parts and optics were designed and developed in the early 1980s under an NVL Advance Development (AD) contract to Bell and Howell. The initial ANVIS producers for the Army were ITT Corporation, Electro Optics Products Division, Roanoke, VA (ITT) and VARIAN Associates Inc. Image Tube Division, Palo Alto, CA (VARIAN). Each contractor received a production contract in 1982 for 1104 and 1106 ANVIS respectively. The Army portion of the contracts included only 684 from ITT and 682 from VARIAN. Army aviation units began receiving ANVIS in 1985 from the initial production buy of 1366 systems.

During the years from 1975-1984 Army

aviation operations was influenced by the night vision goggle. The first AN/PVS-5 NVG arrived at the U.S. Army Aviation Center, Ft Rucker (USAAVNC) in 1975. USAAVNC Instructor Pilots (IP) developed Methods of Instruction (MOI) for the first NVG IP course (1977) as well as providing familiarization training for the undergraduate student pilots (1978). At first NVG training at Fort Rucker was limited to the stagefield traffic pattern while USAAVNC instructor pilots continued to expand NVG training tasks. In 1982 an exportable training packet for field units was finalized and distributed. By 1983 all students graduating from Ft. Rucker were qualified by the approved Program Of Instruction (POI) on AN/PVS-5. By 1984 the Aircrew Training Manual (ATM) for Night Vision Goggles (FC-219) was issued and outlined NVG qualification/continuation training requirements for all Army aviators on the cutaway AN/PVS-5 and the soon to be issued ANVIS systems.

The U.S. Army Aeromedical Research Laboratory (ARL) provided extensive research into flight operation and human factors and flew many hours on the AN/PVS-5 (1975-1986). The scope of the research effort at ARL centered on studying the effects of NVGs on Army aviators as well as addressing the night helicopter flight performance with and without the aid of NVGs. A total of 11 tests were completed between 1975-1986 using the AN/PVS-5. All the evaluations substantiated the earlier tests with results indicating the NVGs could be used as a pilotage aid.

Testing by ARL also pointed out some limitations of the goggles which had to be managed. One of the main limitations was the full faceplate which limited the pilot's peripheral vision. A major ARL recommendation was to correct it by modifying the AN/PVS-5 full faceplate to a cutaway AN/PVS-5 NVG which provided better peripheral vision for the aviator. This recommendation was accepted by the Army and became the standard configuration in 1983.

The responsibility for U.S. Army procurement of Night Vision aids currently rests with the Project Manager, Night Vision and Electro Optics (PM-NVEO), Fort Belvoir, VA. The Project office falls under the Program Executive Officer for Intelligence and Electronic Warfare (PEO-IEW) located in Vint Hill Farms, VA. The current Project Manager (PM) for PM-NVEO is Col. Martin J. Michlik.

The PM-NVEO is presently managing 3 ANVIS night vision contracts. The OMNIBUS I, which was awarded in 1985 to ITT and VARO A Joint Venture, Garland, TX. This effort is a 5 year firm fixed price production contract with a dollar amount of over $100M. This contract is currently ongoing and will deliver 6037 ANVIS units to the Army by April 1991. The second contract called the MINIBUS contract was awarded to ITT in 1987 for a little over $56M. The MINIBUS contract primary bought ANVIS for multi-services but the Army put in 12.5M for their own systems. This production contract is a 3 year firm fixed price and will deliver to the Army 1159 systems by January 1992. The latest contracts awarded under the OMNIBUS II program were awarded in March 1990. Two contracts were awarded to ITT and VARIAN for a total price to the Army of over $92.8M. These contracts will deliver to the Army 8204 ANVIS by April 1994. The total amount of ANVIS currently under contract, including the 1982 buy of 1366 systems, is 16,766.

The PM-NVEO is fielding modifications to the aviation AN/PVS-5 series NVG and investigating new improvements for the ANVIS. Currently the PM-NVEO is fielding the Guard Mount Six (GM-6) which provides aviation AN/PVS-5 NVGs a new mounting system centered around the ANVIS concept. The GM-6 kit comes complete with a ANVIS Visor mount, dual battery pack, and a mounting bracket for the PVS-5 series NVG. The ANVIS is also being looked at for improvements which include modifying the GEN III tube for better performance, re-looking human engineering changes to the ANVIS, and placing a Heads-Up Display (HUD) unit on the goggles. The ANVIS improvements though are on-going and should begin to be system-integrated by the mid-1990s. IIIII

HARDWARE:

LH EASES MAINTENANCE BURDEN

BY LIEUTENANT COLONEL JAMES DELASHAW

FORT RUCKER, AL — Fielding of the Light Helicopter (LH) will be a major milestone for the personnel who are directly responsible for the success or failure of an aviation unit—the maintainers and supporters. These are the unsung heroes who keep the aircraft flying in spite of overly complicated repair procedures, too frequent inspection criteria, tool and support equipment shortages, and ambiguous troubleshooting. The LH is considering the impacts of maintenance and support requirements during the design phase of the program in order to engineer away problems.

In past programs the supportability aspects are all too frequently among the first to be cut when the budget axe falls. Program managers faced with cost overruns or budget cuts will save the engineering (design)—after all, that's the product the customer is buying. The support design can always be figured out at a later date. Unfortunately, it is a "pay me now or pay me later" situation. And as the commercial indicates, it is less expensive to pay now. Experience throughout the DoD indicates that the majority of a program's life cycle cost (approximately 80%) is the result of the design decisions made during Full Scale Development (FSD). All too often those decisions are made without regard to the full supportability issues. The LH program takes the importance of supportability seriously and considers it to be one of the design drivers. The seriousness is reflected in the scoring criteria for the source selection of a winning LH criteria contractor. Supportability is roughly equal to technical design; this is a first for DoD programs.

The burning question at this point for many readers is probably "So what?" Well, the importance of having an easy to maintain and support weapon system is to reduce the logistics tail that commanders drag around the battlefield (or training areas) filled with special tools, peculiar support equipment, ground support equipment, prescribed load list repair parts, common benchstock, technical publications, historical records, and calibration records. Naturally these same commanders are faced with the problem of having too few personnel to be perimeter guards and truck driver/mechanics, not to mention having enough manhours left over for aircraft repair. Today, we're in a situation where we don't have the resources (personnel or Class IX) to waste. When I consider the limited availability obtained on today's aircraft and the amount of resources expended to achieve that level, I think of the frog trying to jump out of the well. For every six inches he jumps up, he slides back three. Army Aviation, as part of its modernization, has to modernize maintenance and support.

LTC Delashaw is Assistant TRADOC System Manager, Ft. Rucker, AL.

LH is modernizing supportability in numerous ways but I want to concentrate on three—tools, troubleshooting, and technical publications. The sheer volume of different tools, special tools, and calibration of tools and test equipment becomes mind-boggling. For every hour that I spend repairing a fault, I usually spend two or more troubleshooting. And the cubic feet of tech pubs associated with a weapon system are directly proportional to the cubic feet of the weapon system.

What is the Light Helicopter doing for the maintainer in reducing tool count? Requiring the contractors to minimize the use of tools and special tools, and backing up the requirement with penalties for the use of special tools. Whenever the use of special tools is necessary the contractors look at using existing support equipment rather than creating new special tools. And since the LH will be maintained under the Two-level Maintenance Concept, the tools associated with Aviation Intermediate Maintenance (AVIM) tasks are not required. Use of common size fasteners throughout the aircraft cuts down on the number of tools needed.

Before I can fix the LH with my small and lightweight tool kit, I must determine what is at fault. This becomes a particularly thorny problem since this weapon system is very similar to a flying computer—very similar!

Logic Trees

Experience has shown that troubleshooting logic trees are not complicated but are a lengthy exercise in applying the process of elimination. Something reminiscent of *"disconnect connector C314 at the K34 relay in the J7 junction box, attach the red connector of the XYZ special tester to pin 37, attach the black connector of the XYZ special tester to pin 15. Energize the system and read the dial of the XYZ special tester. If the reading is +/– 9 then the fragmentation oscillator is bad—replace the fragmentation oscillator IAW instructions at Paragraph 2.3.2.6.8a(5)c. If there is no reading, then return the components to their before test condition and proceed to step 2."*

This check can probably be done with the use of the onboard computer in a couple of millionths of a second. If the fragmentation oscillator fails the test, the computer can tell me to replace the fragmentation oscillator—otherwise, leave it alone.

This approach is not revolutionary. It was marginally used with the AH-64 and more successfully used on the F-16 and F-18. The difference is in the learning curve process since then, and the manner in which the LH systems architecture is composed.

Probably upwards of 90% of the electronic faults (the ones we maintainers sometimes spend days chasing) will be automatically detected by the system and be accurately isolated. This is done with the use of onboard sensors and shared computer time. No more neat yellow boxes of test equipment and the care and feeding of those boxes. Many times in the past troubleshooting procedures ended up creating additional faults, such as broken pins or connectors.

Over time the sequence of checks in the LH troubleshooting tree can be modified to first reflect the highest likelihood fault based upon experience data gathered from the field. How can this update occur? Through the LH innovative approach to tech pubs!

Technical Publications

Instead of lugging reams of printed material around the flightline, the LH maintainer will use a small, lightweight computer which contains the repair manuals. Not just the text, but quality graphics, as well.

So now that my troubleshooting routine tells me to replace the fragmentation oscillator, my automatic tech pub, having just received the "data dump" from the weapon system via a RC-232 interface, shows me where the oscillator is located and provides the steps for removal and replacement.

Cross referencing between separate volumes is performed automatically. All the user performs is clean, inspect, remove and replace tasks.

At the end of the maintenance actions my automatic tech pub will update the system data base (Yes, HAL, you're well now) and store pertinent information for upload to the National Maintenance Point (NMP) and the National Inventory Control Point (NICP) through the Unit Level Logistics System-Aviation (ULLS-A) using the Standard Army Maintenance System (SAMS) and the Standard Army Retail Supply System (SARSS). Changes and updates to tech pubs will be distributed electronically over the Computer-Aided Logistics System (CALS) or by optical disc.

Designed Supportability

The Light Helicopter is not yet to the point where all that is needed to keep it flying is a Swiss Army knife and a roll of 160 km tape (remember, this is a metric program). But we (the government and the contractors) are working on it. There probably will be some growing pains as the system is fielded. However, many will be eliminated because supportability is being designed into the system. The technology exists to make a weapon system that is quick and easy to repair, enabling it to spend more time on the battlefield and less time in the hangar.

Because the LH Program Manager is emphasizing the goodness of supportability, the technology which always goes into making a "gee-whiz" aircraft is also being placed into reducing the support burden. His leverage to ensure this happens is competition between industry teams and warranties/guarantees. And from what I've seen in the last three years, that leverage is working. And as a tired old maintenance officer, all I can say is, "It's about time!" IIIII

OPERATIONS:

AERIAL RECOVERY OF CH-47D

BY LIEUTENANT COLONEL BRUCE K. BELL

FORT KOBBE, PANAMA — The damaged CH-47D sat on the ground at Fort Sherman on the Atlantic side of the Isthmus of Panama. The challenge was to somehow get the downed aircraft to the maintenance facility at Fort Kobbe on the Pacific side, some 50 difficult miles away.

Originally manufactured in 1968, the air frame had seen action as a C model in Vietnam for four years. In 1989 the aircraft was inducted into the CH-47D Modernization Program, and in March of this year joined the fleet of the 1st Battalion, 228th Aviation Regiment in Panama. A month later an accident left the helicopter at Fort Sherman, out of reach of its unit, Company C, 1-228th Aviation and Company E, 193rd Support Battalion, the intermediate maintenance unit responsible for its recovery.

Realistic Solution

On-site repair was out of the question, yet attempting to make the overland trip across the isthmus was so logistically difficult, it was a virtual impossibility, most certainly resulting in additional damage to the aircraft. The only realistic solution seemed to be an aerial recovery. The problem was, however, that never before had a repairable D model been sling-loaded by another CH-47D. There were no established procedures for tandem rigging and sling loading a D model CHINOOK.

Immediately the aviation unit contacted Boeing Helicopter engineers to develop necessary procedures. This included calculating length of the sling sets, angles for the rigging and stress that the load could withstand. Engineers from the U.S. Army Aviation Systems Command reviewed all the recommended procedures and modifications and approved their use.

Preparation

At that point, Staff Sergeant John Edwards of Company E, 1-228th Aviation, began preparing the crippled aircraft for movement. Master Warrant Officer Richard Houde, pilot-in-command, was given overall responsibility for the mission, while CW3 Joseph Pearson was pilot. Staff Sergeant Eric Joslin, Sergeant James Morton, and Corporal Michael Hayden were selected as flight engineers for the recovery mission. The planning and preparation had to be complete to the smallest detail. "We planned for everything," said Houde, "so the actual flight seemed easy."

Five 25,000 pound capacity sling sets were linked end to end, with grabhook assemblies used only on the last sling set. The chain lengths were adjusted accordingly to achieve the necessary length for each sling, 65 feet for the forward sling and 63 feet for the aft. To determine the actual weight of the damaged aircraft, the weight and balance file for the helicopter was obtained. The six rotor blades were removed for the move, as were all cockpit instruments and avionics. The earlier accident had already eliminated the entire right electrical pod and both chin windows. The final weight of the aircraft, including 600 pounds of rigging equipment, was calculated to be 21,400 pounds. That allowed Houde to carry a maximum of 3,900 pounds of fuel for the mission and stay within the maximum gross weight allowance of 50,000 pounds for the D model.

Houde spent several hours planning the rigging layout and briefing the hookup crew. The soldiers went through several dry runs to ensure they knew what to expect and to eliminate as many risks as possible.

"Safety was a key concern," said Houde. "We reviewed all the emergency procedures and determined criteria by which we would jettison the load. Fortunately, it wasn't necessary."

On the morning of the mission, the crew departed the Pacific side, near Panama City, at 0445. Arriving at Fort Sherman, they all went through a final briefing and inspected all rigging. Early morning had been chosen as the ideal time for the recovery, due to the more moderate temperatures at that hour, +25 C PA +180. By 0630, all was ready and the operation began.

(Continued on page 78)

LTC Bell is the Public Affairs Officer, U.S. Army, South Comand, APO Miami.

HARDWARE

WHY LOW OBSERVABLE TECHNOLOGY?

BY LIEUTENANT COLONEL PAUL J. FARDINK

ADELPHI, MD — When speaking of the technology needs of Army Aviation for the remainder of this century and into the 21st Century, then Major General Ellis D. Parker, former Commanding General of the U.S. Army Aviation Center, made the following statement in Army Aviation Magazine (Oct 1987): "Two significant needs of our branch will be in the areas of robotics and low observable technology (stealth)."

In its January 1989 report, "Discriminate Deterrance", the DoD Commission on Integrated Long-Term Strategy, declared that four technology programs were especially urgent and should be given the highest priority. Low observable technology was number one.

In April 1989, the "Army Technology Master Plan" was released. Low observable technology was identified as one of the 13 "Key Emerging Technologies" which are those technology base areas appearing to have a greater impact than others on future war-fighting capabilities.

Why is the interest in low observable (signal reduction) technology so pronounced? Frankly, low observable technology is revolutionary! It can shift both the tactical and strategic advantage to the holder. For example, radar is the most effective tool ever created for detecting moving targets. It has a multitude of uses from early warning and identification to tracking and homing, all of which work on the same principles. Radar systems today are relatively inexpensive and enormously effective except when aircraft incorporate low observables (in this case, Radar Cross Section reduction). Aircraft that incorporate enough low observable technology make existing radars rather ineffective. Replacing those radars with systems that can detect, track, and fuze against low observable aircraft is technically difficult, expensive, and time consuming (more so since low observable technology is still evolving).

The Army specifically defines low observable technology as the technology related to the reduction of radar cross section, infrared signature, acoustic and visual cues, or other signatures for system detection and tracking. Many people think low observable technology means something expensive and technically exotic, such as "invisible aircraft." Actually, it can also include using a moderate level of technology to gain a significant increase in survivability at a reasonable expense. This is a key point since Army Aviation normally operates in a high clutter environment.

LTC Fardink was Deputy Director, Office of Low Observable Technology, LABCOM, Adelphi, MD, when this article was written.

Mission effectiveness of a helicopter or any combat system is a function of both lethality and survivability. Survivability is both susceptibility reduction (preventing the hit) and vulnerability reduction (surviving the hit). Low observables reduce the probability of a hit through signature reduction or, put another way, by shifting the signal-to-interference ratio in our favor by reducing the signal, whether it is radar, infrared, acoustical, or something else. Another option is to enhance interference making use of environmental clutter which occurs naturally, such as electronic noise generated by the sensor itself, or man-made interferences induced by decoys and jammers. Since Army Aviation normally operates in a high clutter environment (terrain flight techniques), even moderate levels of signature reduction can have significant payoffs.

Many people think that low observable technology applies only to detection. In reality, low observable technology applies anywhere within the engagement chain of events leading to the ultimate demise of the target: acquisition, identification, tracking, ranging, fuzing, and kill. Completely breaking any link in this chain is unrealistic; however, we can reduce the effectiveness of each link.

In addition, since expense often prohibits concentrating

(Continued on page 78)

PERSONNEL

THE SKY IS *NOT* FALLING

BY COLONEL MICHAEL D. DALLAS

ALEXANDRIA, VA — It would be a gross understatement to say that a great deal has happened in the last year. Not only has the Berlin Wall come down, but while we were in Germany on a branch visit, Hungary asked to join NATO. Talk about forward deployed forces!

I have had the opportunity to talk to many of you over the past few months, and my sensing is that some of you feel that the Army is unraveling and we will all be out of jobs soon. Nothing could be further from the truth!

The Chief of Staff has established six imperatives which will shape the Army for the rest of this decade and beyond:

1. Continue to recruit and retain a quality force.
2. Refine our warfighting doctrine.
3. Maintain an appropriate mix of heavy, light, and special operations forces.
4. Continue tough, realistic training.
5. Continue modernization.
6. Develop confident, competent leaders.

I think it is important to note that four of the six imperatives are related to people. You must all know that people—soldiers and their families—will come first. There *is* a personnel reduction strategy for the 90s. It includes the following programs:

- **Reduced Accessions.** This is nothing new. We began reducing accessions in 1986. For FY 90, accessions have been reduced from 5,700 to 4,400 to meet future force structure needs. Aviation Branch will access 425 officers in FY 90, 42 of which will come from other branches. Those who do make it in will be of extremely high quality.
- **Let Volunteers Go First By Waiving Service Obligations.** The target for FY 90 was about 1100 officers Army-wide through the Voluntary Early Release Program and the Conditional Voluntary Indefinite/Regular Army (CVI/RA) Retention Board. About 130 Aviation Officers, most in the grade of captain, have volunteered for early release in FY 90. Most of these requests are being approved by the Secretary of the Army. This program will probably continue into FY 91.
- **Forced Reductions.** There are still many issues to be resolved in this category but the bottom line is all reductions will be handled with dignity and sensitivity. The following initiatives, all of which require legislation, have been proposed:

COL Dallas is the Branch Chief of the U.S. Army Total Army Personnel Command, Alexandria, VA.

1. Regular Army/Other Than Regular Army (RA/OTRA) Reduction in Force. This would include warrant officers and a provision to increase separation pay.

2. Expanded Selected Early Retirement Board from the current COL-four years time in grade/two time nonselect to LTC to COL-two years time in grade and one time nonselect to LTC.

3. All reductions will be accomplished by a DA selection board process.

Between FY 90 and FY 94, the Army expects to reduce the size of the commissioned force by about 10,000, which is slightly more than 10 percent. That means that 90 percent of us will still be around! Sure, the Army will be smaller, but if you love what you're doing, hang in there.

- Promotions and selections will continue at a steady flow. The goal is to exhaust all lists within one year.
- Quality of life will remain an Army priority. Opportunites for personal and professional growth will continue. The possibility of fewer forces forward deployed means increased CONUS stability and fewer family disruptions.
- Professional development will continue. The goal is to maintain the current number of training seats for all service schools.

In summary, maintaining readiness will continue to be the Army's top priority, with emphasis on maintaining stability and minimizing turbulence. The Army will continue to develop leaders. Those who must leave and those that choose to leave will be treated fairly and professionally.

Is there a bright future for you? I think so, and it continues to be a bright one. IIIII

Recovery continued from page 74

Houde approached the downed Chinook at a 60 degree angle from the right to allow the forward sling to be attached to the forward hook without much effort. He raised the hookup aircraft a bit to allow the aft hook to be placed over the aft pylon. Houde said, "We didn't feel it was safe to approach straight over the aft pylon, because of proximity of the forward landing gear to the forward hook. There just wouldn't have been enough clearance for the hook up crew."

It took less than five minutes to accomplish the hookup, and the pilot prepared to lift the load. According to Houde, the actual lift-off was accomplished with 92 percent torque. A stabilized hover of 20 feet aft gear height for the load, 120 feet for the lifting aircraft, was accomplished at 92 percent. A 10 knot direct headwind eased the pickup.

The acceleration through the translational lift and climb were normal. The pitch and roll stability were good, although the damaged helicopter did have a tendency to yaw left and right of the centerline about 10 feet, probably the result of damage to the right electrical pod and the fact that both chin windows were out.

The pilot maintained a cruise speed of 55 knots throughout the 50 minute flight. At 7:30 the two Chinooks hovered momentarily in the sky over Fort Kobbe as the damaged aircraft was slowly set down. It was important to allow the slings and sling hardware to settle over the lower helicopter gently. Once enough slack was present, the rescue aircraft hovered to the left and the slings were released from the cargo hooks.

A post flight inspection was immediately conducted, and there was no damage at all caused by the recovery procedure. The mission was a success. "I think we showed clearly that aerial recovery of a CH-47D by another D model is a safe and realistic procedure," said Houde. "At least in a peacetime environment."

He cautioned, however, that preparation of the aircraft for such a recovery is both extensive and time-consuming. Also, the 65 foot sling lengths make aerial recovery an unrealistic option in a hostile environment.

The damaged Chinook is being repaired at the time of this writing and will soon be back in the fleet of the 228th Aviation in Panama. IIIII

Challenges continued from page 10

attendant opportunities. I know that Army Aviation can and will be a dominant force on the battlefield. I know that each aviator in the U.S. Army will find the future.

I am personally committed to a strong Aviation Branch, a strong force structure, and an outstanding inventory of high quality aircraft. I have made the commitment because of the great effect aviation has had upon me during my time in command in combat, contingency operations, and peacetime, in Europe, Korea, Vietnam, the Middle East, and latin America.

Congratulations to the Army Aviation Association of America. AAAA can be justly proud of its role in shaping Army Aviation, and I am sure it will meet the challenges ahead. Thank you very much for your contributions to your country. IIIII

Hardware continued from page 76

all our efforts on breaking a single link, material developers have discovered that the same result is possible in a more cost effective manner by spreading resources all along the chain.

As the cost of our aviation systems continues to rise, it makes sense to make them as survivable as possible. Low observable technology can help the Army find new, less expensive ways to keep our forces fighting against an increasingly sophisticated threat sensor/weapon array that the technology of modern warfare has placed not only in the hands of our major adversaries, but in the Third World also. IIIII

NEW MEMBERS

AIR ASSAULT CHAPTER
FORT CAMPBELL, KY

SSG William D. Harrison
CSM Larry E. Ryles

AMERICA'S FIRST COAST CHAP
JACKSONVILLE, FL

CW4 Jeffrey L. Cox

ARMY AVN CENTER CHAPTER
FORT RUCKER, AL

2LT Jayson A. Altieri
CW2 Charles W. Dick
2LT Randall M. Dooley
1LT Christopher S. Nowak
2LT Yong Park
SGT Frank J. Reis

CENTRAL FLORIDA CHAPTER
ORLANDO, FL

Mr. James F. Bodine
Mr. John E. Loudermilk
Mr. William P. Wesley

CHESAPEAKE BAY CHAPTER
EDGEWOOD, MD

Mr. Randy L. Brennan
MAJ Thomas H. Craig
Ms. Agnes J. Eisenhart
COL Butch Fuller
Mr. Douglas A. Guanti
Mr. Edward C. Jackson
2LT Thomas R. Katzenberger
SSG James D. Knopp
CW3 Tim T. Lawry
Mr. Doug J. Polt
1LT Lloyd D. Whitehead

COLONIAL VIRGINIA CHAPTER
FORT EUSTIS, VA

SSG Reynaldo C. Holder

CORPUS CHRISTI CHAPTER
CORPUS CHRISTI, TX

Mr. William W. Klingelhoefler
Ms. Rosie Ruiz
Ms. Mary Carmen Salazar

EDWIN A. LINK MEM CHAP.
BINGHAMTON, NY

Mr. Jeffrey F. Bideaux
Mr. Jerome B. Heiser
Ms. Susan H. Rocker
Mr. Alan H. Roggenbaum
Mr. Ronald J. Zembek

FOLLOW ME CHAPTER
FORT BENNING, GA

CW2 John E. Crosby

GREATER CHICAGO AREA
CHICAGO, IL

Mr. Armand L. Coppe
Mr. Elmer W. Hill
Mr. Robert T. Radica
Mr. Richard C. Reiner
Mr. Francis X. Trainor

GREATER ATLANTA CHAPTER
ATLANTA, GA

Mr. Bruce Erion

INDIANTOWN GAP CHAPTER
INDIANTOWN GAP, PA

SGT Theresa L. Peterson

LINDBERGH CHAPTER
ST. LOUIS, MO

Mr. Alton P.H. Brewer, Jr.
Mr. Benedict M. Bubala
Mr. Derrel L. Dempsey
Ms. Judy A. Fernandez
SFC Dennis E. Goggin
Mr. David H. Kelso
Ms. Mary L. Sekyra

MONMOUTH CHAPTER
FORT MONMOUTH, NJ

Ms. M. Suzanne Feinberg
Mr. Thomas J. Flieger
Mr. Joseph E. Friedel
Ms. Priscilla B. Ransohoff

MONTEREY BAY CHAPTER
FORT ORD, CA

Mr. Barry D. Smith

MORNING CALM CHAPTER
SEOUL, KOREA

SPC James R. Ashbridge
SPC Brian K. Campbell
SGT Darryl T. Clark
SPC John M. Click
SPC Michael Forney
SPC Ellis A. Godbee
CPL C.J. Kim
Mr. Young Wan Kim
SGT Kellow K. King
SSG Brian P. Luben
SPC Edward McMillian
PFC Richard Miles
SGT Jeffrey S. Paulson
PV2 David Pellman
SGT Jimmy D. Phillips
CPT Allison R. Reinwald
MAJ Rick J. Russell
SGT Akihiko Siegfried
SGT Robin S. Simino

MOUNT RAINIER CHAPTER
FORT LEWIS, WA

SGT Franklin M. Bamba

NORTH COUNTY CHAPTER
FORT DRUM, NY

1LT John M. Mitchell

NORTH TEXAS CHAPTER
DALLAS/FORT WORTH, TX

MAJ Francis J. Minden
Mr. Orval W. Parker, USN Ret.

PHANTOM CORPS CHAPTER
FORT HOOD, TX

1SG Robert J. Volpitta

SAN JACINTO CHAPTER
ELLINGTON FLD, HOUSTON, TX

1LT Scott H. Kingsley

S. CALIFORNIA CHAPTER
LOS ANGELES, CA

CW2 Vitaly Khalemsky
Mr. Jerrold Levy
Mr. Terry L. Schutt

STUTTGART CHAPTER
STUTTGART, GERMANY

SPC Lisa R. Mansker
CPT Anthony B. Robinson
CPT Leslie C. Wrigleswerth

TENNESSEE VALLEY CHAP
HUNTSVILLE, AL

Ms. Lisa M. Mason

THUNDERHORSE CHAPTER
FULDA, GERMANY

CPT Vernon E. O'Donnell

WASHINGTON, DC CHAPTER
WASHINGTON, DC

Mr. Thomas L. Albee, Jr.
Mr. Peter T. Comey
SGT Gary T. Elam
Mr. Jim Frigiola
MAJ Michael A. Garretson
Mr. William J. Wight
Mr. John B. Zimmerman

MEMBERS WITHOUT
CHAPTER AFFILIATION

Mr. Ed Alber
Mr. Al Calabrese
Mr. Keith A. Campbell
Mr. Angelo A. Catani
Mr. Phillipe Chabot
Mr. Steve Gurba
Mr. Bill Kamper
CW3 Joseph T. Kuntz, Ret.
Mr. James A. Love
Mr. Jeff Loy
Mr. Tim McAuliffe
Ms. Kristin Schulze
SSG Terry M. Taylor
Mr. Gerry Wetzel
Mr. Michael Wilson
TSGT Hank F. Wiswell

CAREER TRACK

Active AAAA members may have a 30-word classified employment ad published in two consecutive issues of ARMY AVIATION free of charge. Write to AAAA, 49 Richmondville Avenue, Westport, CT 06880-2000, or call (203) 226-8184 for Career Track applications. Inquiring organizations, please contact the National Office.

CW4 retiring April. Extensive safety, writing, and platform instructor experience, some line unit investigation. Qualified in AH-1, OH-58, UH-1. BS Sociology, Safety Course and resident Senior Course. Prefer Ft. Rucker area. 07-90-01

MAILBOX

Share your opinion on matters of interest to the Army Aviation Community. The Publisher reserves the right to edit letters for style, accuracy or space limitations. All letters must be signed and authors identified. The publisher will withhold the author's name upon request. The opinions expressed are those of the authors, and do not reflect the opinion of ARMY AVIATION MAGAZINE. Send letters to: AAAA MAILBOX, 49 Richmondville Avenue, Westport, CT, 06880-2000.

To the Editor: I'd like to take this opportunity to thank the Army Aviation Association of America and particularly the USAREUR region for selecting me as the Army Aviator of the Year, USAREUR Region. I was taken totally by surprise and I am honored to have been chosen from all the other possible candidates. I don't feel as though I've really done anything worthy of the honor and I certainly would not have been chosen without the aid and teamwork of my United States Precision Helicopter Team (USPHT) copilot, CW2 Ken Wright. I feel he is more worthy of the award than I. I just happen to have been the pilot of the crew, but it was he who originally got us into the competition in 1986 and he is the one that pushed for absolute perfection during our training, which helped us capture the 1989 U.S. National Championship and ultimately to our second place finish in the World Helicopter Competition. I wish there were some way that we could have received the award together.

I would also like to thank the Redcatcher Chapter for submitting me as a candidate for the USAREUR Region Aviator of the Year. Their faith in me has resulted in my receiving the award and has given me the opportunity to retire from the Army on a very positive note. I don't think I could be leaving under better conditions. Again, I am truly honored and my sincere appreciation goes out to all the members of the Redcatcher Chapter.

I would especially like to thank several individuals. First, LTC Robert JH Anderson and LTC Donald C. Olson, my two squadron commanders during my time with the USPHT, and COL James Steele, then commander of the 2nd Armored Cavalry Regiment. Nowhere in my 22 years of military service have I been shown the faith and support that these three commanders gave Ken and me during our time with the team. They vividly stand out in my mind and I will be forever grateful to them. I want to thank my wife and Ken's wife for allowing us to be competitors again. I'm sure some might think we were on a big picnic, but there is more stress on the team than in some combat situations, believe me, I've now experienced two plus years of combat and over a year's worth of helicopter competition. To be successful, you must live the competition and it becomes all-consuming. Your mind is on only one thing and all else is shoved aside. Our spouses showed true support by tolerating us. They too, should share our awards.

I would be remiss if I didn't take the time to thank LTC Harry and the staff of the USPHT. They were verbally beaten upon regularly by the competitors because this wasn't done right or that was not done right, but we would not have done so well without their efforts. The training cell was behind the power curve from the beginning because there were so many competitors returning from the 1986 contest and the remaining competitors had received some training from them, unlike 1986 when we all just showed up and let the training cell tell us what we needed to do. No matter what our gripes were, they withstood it all and we remained World Champions, received all the accolades and they received none. Again, many thanks to the USPHT staff.

I hope there is a part for me in future competitions. I know it will not be as a military competitor as I am writing only 17 days from my retirement. Hopefully, though, I will be able to compete again as a civilian or at least aid in the training in some way. I have over 200 pages of action reports available that I will gladly share.

Finally, I want to thank the AAAA as a whole. Your efforts in fundraising to help pay expenses such as registration fees and uniforms eliminated that worry from the competitors. Seven crews entered with finishes in first through seventh place. As I move into retirement, I know that there will be many things I will miss. Hopefully, I will be able to maintain some contact with Army Aviation through the AAAA. Can't think of a better way than by seeing all my old friends at the convention in April.

Sincerely,
John E. Loftice

[Editor's Note: CW4 Loftice and CW2 Ken Wright scored 793 out of a total 800 possible points in the 1989 competition.]

BRIEFINGS

MG Carl H. McNair, Jr., Ret., has been named President of Support Services for **DynCorp Government Services Group** in Reston, VA. MG McNair is a Vice President on AAAA's National Executive Board, and was Commanding General of Fort Rucker from July 1980 to June 1983. He is a thirty-two year member of AAAA.

The prototype U.S. Army **MH-47E special operations Chinook** lifted off for the first time on 1 June 1990 at **Boeing Helicopters** in Ridley Township, PA. The initial production program is for 11 aircraft, with planned follow-on procurement of an additional 39 helicopters.

Four companies have been named to complete development of the **McDonnell Douglas/Bell Helicopter SuperTeam's** suite of computerized training devices for the LH. The SuperTeam has selected **Grumman Electronics** of Bohemia, NY, and **Loral Defense Systems** of Akron, Ohio, to develop, build, and integrate high-fidelity training devices for LH helicopter aircrews, and **AAI Corp.** of Maitland, FL, and **Hughes Simulation Systems** of West Covina, CA, to develop, build, and test training devices for LH maintenance and support personnel.

In other McDonnell Douglas news, the company has announced that it is transferring its military aircraft weapons carriage work and some subassembly work for the MD-80 twin-jet from its **Douglas Aircraft** division in Long Beach, CA, to its **McDonnell Douglas Helicopter** division. **Thomas M. Gunn**, President, McDonnell Douglas Helicopter Company, Mesa, AZ, commented, "These contracts contribute to employment stability within the helicopter company and an expansion of our aerospace manufacturing capabilities. That's good news for all of us."

In yet another news item, it has been released that the **Mexican Navy** has selected **McDonnell Douglas MD 500E** helicopters for use in flight training for its pilots.

Tobyhanna Army Depot, Tobyhanna, PA, is currently involved in the total package fielding of 80 different systems, ranging from countermeasure sets to radios and computers. Recently the depot, New Cumberland Army Depot, and the Project Manager **Joint STARS** fielded the first six **Joint Surveillance Target Attack Radar Systems (JSTARS)** Ground Station modules to battalions in Germany. A similar fielding to Korea is scheduled for August.

JSTARS is a sophisticated intelligence system used in conjunction with the Army's OV-1D aircraft and other airborne sensors.

William E. Thurman has been named vice president of Business Development for **Boeing Defense and Space Group's helicopter division**, replacing John F. Hayden who was appointed vice president of The Boeing Company's Washington, D.C. Office.

The **U.S. Coast Guard** recently took delivery of 35 **HH-60J JAYHAWK** helicopters powered by GE's T-700-GE-401C turboshaft engines. With sophisticated navigation and weather radar systems, the JAYHAWK, a Coast Guard version of the U.S. Navy SEAHAWK, will be used for search and rescue missions, as well as intercepting drug smugglers.

LTG Thurman D. Rodgers, USA, has assumed command of the **Defense Communications Agency**. LTG John T. Myers, USA, relinquished command to Rodgers 15 June 90.

General Rodgers comes to the Defense Communications Agency from Fort Huachuca, AZ, where he served as the Commanding General, U.S. Information Systems.

Lt. Generals

Parker, Ellis D.
VP, Nat'l Executive Board
Qtrs 7, Ft Lesly J McNair
Washington, DC 20024

Maj. Generals

Brady, Patrick H.
Deputy Commanding General
Sixth U.S. Army
Presidio of San Fran, CA 94129
Reimer, Dennis J.
Quarters 2
Fort Myers, VA 22211

Colonels

Dodson, Michael L.
99 Schofield Circle
Fort Riley, KS 66442
Eckel, Haako K.W
4501 Jensen Place
Fairfax, VA 22032
Gibson, Emmitt E.
HHC, 12th Aviation Bde.
APO New York 09457
Ginn, Jerry W.
128 Logan Loop
Fort Sheridan, IL 60037
Jones, Alan F.
1925 Septiembre Street
El Paso, TX 79935
Regalado, Raul L.
1250 Aviation Avenue
Suite 200-F
San Jose, CA 95110
Thomas, John D.,jr.
Quarters 12
Fort Huachuca, AZ 85613
Truscott, James J.
12847 Castle Bend
San Antonio, TX 78230

Lt. Colonels

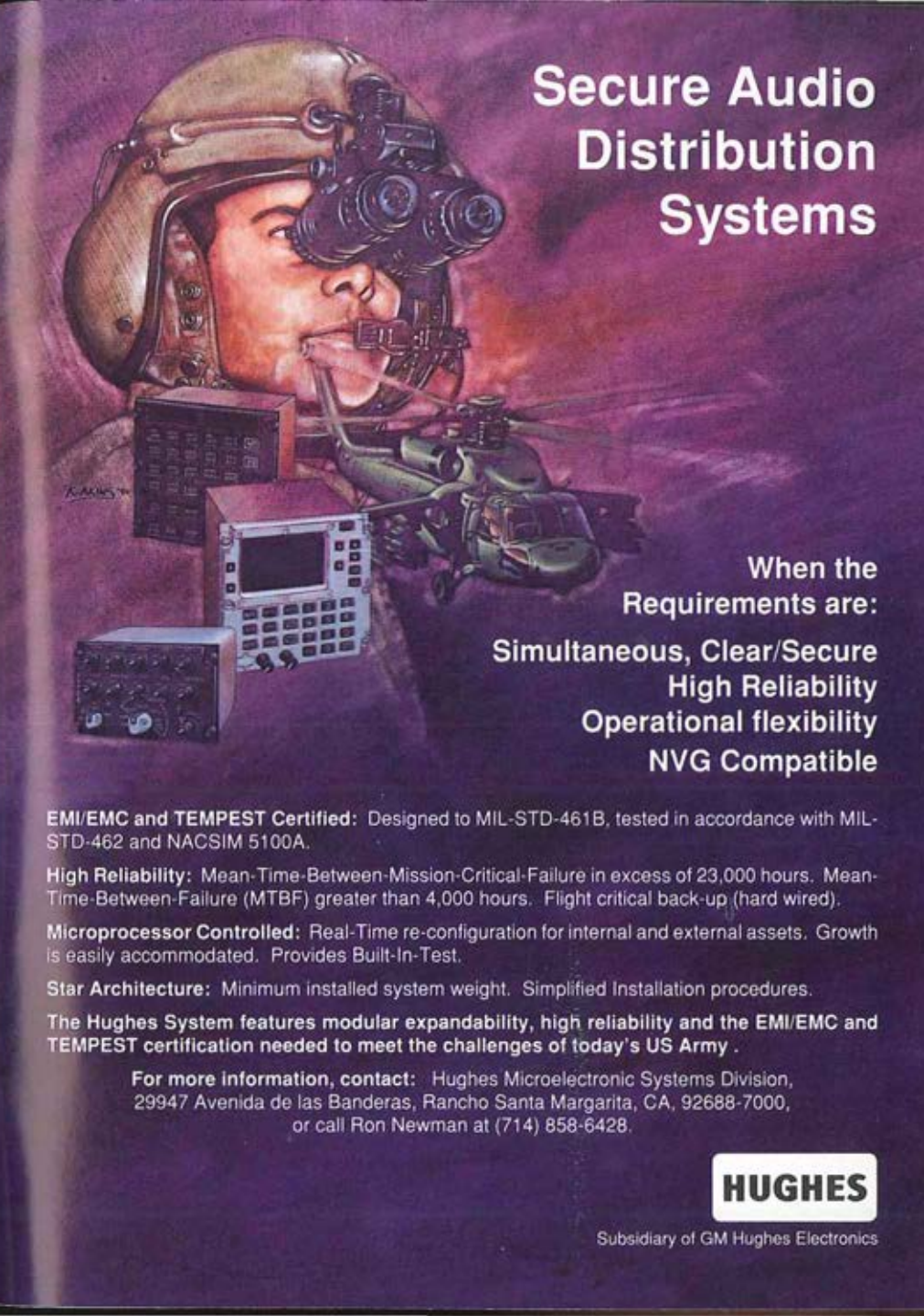
Anderson, Robert J.
24 Forbes Avenue
Bay C
Carlisle Barracks, PA 17013
Booze, David R.
3910 Tiefort Drive
Fort Irwin, CA 92310
Brecher, H. Jerry
HHC East-IG
APO San Francisco 96204
Burton, Richard E.
120 West Alvin Drive, Apt. L
Solinas, CA 93906
Chopin, Theodore G.
P.O. Box 106
APO New York 09458
Clark, Michael B.
329 Capri Arc
Las Cruces, NM 88005
Crews, Thomas M.
1422 Oak Ridge Road
Kernersville, NC 27284
Cripps, Dennis L.
P.O. Box 1534
Rome, NY 13440
Cross, Dennis D.
489 Cooke Drive
Redstone Arsenal, AL 35808
Curtis, Phillip L.
409 West South Street
Carlisle, PA 17013
Den Beste, Edwin J.
CGSC-CAS 3
Fort Leavenworth, KS 66027
Downs, Curtis H.
1109 Edgewood Boulevard
Papillion, NE 68128
Fardink, Paul J.
R.D. 2 Fardink Road
Box 636
Ashville, NY 14710
Foulk, Tom B.
HHC 7-159th Aviation Regt
APO New York 09061
Fox, Timothy J.
HQ-JUSMAG-K
Box 54
APO San Francisco 96302
Fucci, Joseph A.
211 Oakridge Avenue
Fayetteville, NC 28305
Gibbs, Harold N.
1024 Dogwood
Daphne, AL 36526
Hayne, John
1329 Frontier Lane
Manhattan, KS 66502
Heuser, Gary E.
HQS, V Corps
ATTN: AETV-STB-CD
APO New York 09079
Johnson, James E
Hq USEUCOM
Box 707
APO New York 09128
Lacoste, Gene M.
9745 South Park Circle
Fairfax Station, VA 22039
Lustig, Michael L.
2nd Mi Battalion (AE)
Box 66
APO New York 09359
McCleland, Howard A.
HHC, 7th Corps
APO New York 09107
Pangman, Myron E.
Hq USEVCOM
P.O. Box 763
APO New York 09128
Petersen, Robert P.
PSSC Box 381
APO San Francisco 96206
Pickett, David H.
CDR, 4-228th AVN BN
Soto Cano A.B., Honduras
APO Miami 34042
Rees, Chester L.
552 Timberidge Drive
St. Charles, MO 63303
Richter, Henry J.,jr
546 Pershing Road
Carlisle, PA 17013
Rudy, James J.
P.O. Box 392
Sunbury, PA 17801
Stewart, Thomas F.
P.O. Box 30178
Savannah, GA 31410
Townsend, Donald P.
3D ASB, Box H-10
APO New York 09165

Majors

Andino, Manuel
301 Brookshire Drive
Enterprise, AL 36330
Bishop, Gary M.
HHC, 1-2 Aviation Regt.
APO San Francisco 96524
Blunk, James B.
336 Salem
Mascoutah, IL 62258
Bost, Joseph W.
6th AV Detachment
APO New York 09221
Britt, Robert E.
18412 Mount Stewart Cir.
Fountain Valley, CA 92708
Campbell, Lynnette G.
11400 Washington Plaza
No. 803
Reston, VA 22090
Carr, Regis J.
3435 Aquia Drive
Stafford, VA 22554
Cash, Stanley V.
HSC, 2/4th Aviation Regt.
APO New York 09185
Clark, Julius E.
C/O The Matzengers
208 Stillwood Lane
Mobile, AL 36608
Coleman, Gary S.
C/o Mr. C.R. Gregory
P.O. Box 41
Howard, GA 31039
Douglas, William H.
398 Old Quarry Road
St. Augustine, FL 32084
Fillmanda, Marsha F.
13308 Hillindale
Dale City, VA 22193
Fluke, Bryan C.
Usae Box 144
Hq, AFCENT
APO New York 09011
Inman, Michael T.
C/o Post Locator
Fort Campbell, KY 42223
Kristick, David M.
Total Army Personnel Cmd.
ATTN:TAPC-PLO,200 Stovall
Alexandria, VA 22332
Leyden, Richard G.
95-601 Kanamee Street
Apt. 316
Mililani, HI 96789
Martin, John R.
Morning Calm Vp North
Psc 759
APO San Francisco 96206
McGary, Michael L.
265 South Pickett St., Apt. 302
Alexandria, VA 22304
McQuary, Thomas C.
305 Canton Court
Louisville, KY 40222
Morgan, James D.
30897 Vanderbilt Street
Hayward, CA 94544
Pike, Daniel W.
1-1 Aviation
Fort Riley, KS 66442
Randolph, William J.
Brigade Headquarters
419th Avn. Gp., POB 8628
Jacksonville, FL 32239
Richardson, Paul V.
713 Walnut Hill Road
Hockessin, DE 19707
Schatte, Thomas L.
HHC, III Corps & Ft. Hood
Attn: G5
Fort Hood, TX 76544
Schloesser, Jeffrey J.
47 3rd Infantry Road
Fort Leavenworth, KS 66027
Schumm, Brian M.
P.O. Box 47072
Washington, DC 20050
Simmons, Hollis E.
3110 East Westcliff
Colorado Springs, CO 80906
Sumner, Gordon, Jr.
PMS, Dept. Military Sci.
Kearney State Col., NE 68847
Walker, Gary S.
1405 34th Avenue B
Moline, IL 61265
Walters, Wesley F.
Box 3432
Fort Leavenworth, KS 66027
Wiecks, Thomas W.
P.O. Box 620603
Fort Rucker, AL 36362
Wilkerson, Philip L.Jr
HQ's, 4th Battalion
1st Aviation Regiment
Fort Riley, KS 66442

Captains

Buckner, Eugene R.
28 Casarena Court
Winter Haven, FL 33881
Campbell, Kyle D.
508 Clyde Avenue
Fruitland, MD 21826
Cheney, Owen W., II
USARI
APO New York 09053
Church, Jason K.
2718 Woodline
San Antonio, TX 78251
Contarino, Joseph III
DAO, U.S. Embassy Venezuela
APO Miami 34037
Culp, Martin J. II
B Troop, 5/6 Cavalry
Box 135
APO New York 09457
Dolby, Michael I.
Almc, Building 12500
Box 1831
Fort Lee, VA 23801
Fields, Edward S.
C Co., 2d Avn Regt (AVIM)
P.O. Box 149
APO San Francisco 96524
Garner, Kenneth D.
A Company, 2d MI Bn.
Box 352
APO New York 09359
Gaslin, Robin L.
505 Mall Boulevard
Apt. 619
Savannah, GA 31406
Gavora, William M.
2709 Folsom Avenue
Leavenworth, KS 66048
Gibbons, Thomas J.
24 Winterton Road
Bloomingburg, NY 12721
Graham, William J.
1310 Sanders
Leavenworth, KS 66048



Secure Audio Distribution Systems

When the Requirements are:

Simultaneous, Clear/Secure
High Reliability
Operational flexibility
NVG Compatible

EMI/EMC and TEMPEST Certified: Designed to MIL-STD-461B, tested in accordance with MIL-STD-462 and NACSIM 5100A.

High Reliability: Mean-Time-Between-Mission-Critical-Failure in excess of 23,000 hours. Mean-Time-Between-Failure (MTBF) greater than 4,000 hours. Flight critical back-up (hard wired).

Microprocessor Controlled: Real-Time re-configuration for internal and external assets. Growth is easily accommodated. Provides Built-In-Test.

Star Architecture: Minimum installed system weight. Simplified Installation procedures.

The Hughes System features modular expandability, high reliability and the EMI/EMC and TEMPEST certification needed to meet the challenges of today's US Army .

For more information, contact: Hughes Microelectronic Systems Division, 29947 Avenida de las Banderas, Rancho Santa Margarita, CA, 92688-7000, or call Ron Newman at (714) 858-6428.

HUGHES

Subsidiary of GM Hughes Electronics

Hadad, Mitchel E.
124 Gunter Lane
Enterprise, AL 36330
Hardin, Robert F.
6215 Lake Trail Drive
Fayetteville, NC 28304
Harrell, William D.
141 South Macon Street
Jesup, GA 31545
Hoffman, Alice A.
4025 Paddock Road
Apt. 101
Cincinnati, OH 45229
Hoffman, Matthew D.
13932 Hunterwood Road
Jacksonville, FL 32225
Hoffpauer, Steven P.
235 State Street
P.O. Box 132
Springfield, MA 01103
Hollingsworth, Scott W.
6 Bunker Hill Road
Clarksville, TN 37042
Jacobson, William C.
D Company, 2-228 Avn.
JTF-BRAVO
APO Miami 34042
Kickbusch, David A.
P.O. Box 1243
Platte City, MO 64079
Lamorgese, Antonio G.
218 East Wheeler Avenue
Garden City, NY 11530
Lawrence, David L.
1708 Evergreen Street
Leavenworth, KS 66048
Long, Stephen W.
256 Bay Bury Lane
Jackson, MS 39212
Lytle, Michael T.
2801 Rigney Road
Apt. L-11
Sleilacoom, WA 98433
McConville, James C.
178 Nottingham Trail
Newport News, VA 23602
McMahon, Jeanette M.
D/502nd Aviation Company
APO New York 09028
Neal, Gordon S.
3409 Laura Ashley Circle
Fuquay-Varina, NC 27526
O'Brien, Janice M.
3137 Seacrest Avenue
Apt. 4
Marina, CA 93933
Oliver, Edward B.
Box 277
Dadeville, AL 36853
O'Shea, Barry M.
6164 Montarbor Drive
Colorado Springs, CO 80918
Oxer, Van T.
3206 Cripple Creek
Apt. 23-A
San Antonio, TX 78209
Paquette, Derek J.
HST 5/6 Cavalry
APO New York 09457
Parker, David K.
Army Avn Eng Flt Activity
Route P, ATTN: CPT Parker
Edwards AFB, CA 93523
Reichelt, Richard H.
902-d Shepard Terrace
Patuxent NAS MD 20670
Reis, Joaquin F.
101 Watson Drive
Ozark, AL 36360
Saunders, Robert S.
HHD 8-158th Aviation
APO New York 09165
Schwarz, Charles R.
6646 Cypress Point Road
Alexandria, VA 22312
Sherlock, Nancy J.
1201 Enterprise Avenue
League City, TX 77573
Veselicky, Frank
107 Blancas Drive
Copperas Cove, TX 76522
White, Richard D.
2003 Harris Road
Clyde, TX 79510
Yomant, Charles M.
1218 Pebble Court
Clarksville, TN 37042
Youngblood, Sonya G.
462 Oak Glen Drive
Manchester, MO 63021

1st Lieutenants

Brown, James E.
A Company
1-2 Aviation Regiment
APO San Francisco 96524
Camacho, Thomas M.
5321 Masonboro Loop Road
Wilmington, NC 28409
Distler, Donald E.
PSC Box 5427
APO Miami 34001
Fizer, Anthony D.
10 Olsen Drive
Fort Rucker, AL 36362
Haraldsen, Johan C.
715 West 4th Avenue
Oshkosh, WI 54901
Lynch, James G.
100 A.M. Windham
Apt. 711
Daleville, AL 36322
Minichiello, Angela L.
706 Wyndmere Place
Garden City, GA 31408
Moore, Chris
409 Antler
Enterprise, AL 36330
Orzetti, Edward H.
3300 Effingham
Manhattan, KS 66502
Parker, Dennis M.
Hst 5/6 Cavalry
APO New York 09457
Patterson, Robert K.
522 Renee Lane
DeSoto, TX 75115
Ponce, Joseph A.
P.O. Box 2485
Fort Benning, GA 31905
Powers, Michael S.
107-b Winrow Road
Fort Huachuca, AZ 85613
Taylor, Mark C.
414 Baumann Drive
Killeen, TX 76543
Williams, Richard L.
A Troop, 2-6 Cavalry
Box C-131
APO New York 09140

2nd Lieutenants

Bianchi, Joseph S.
573 Bridgewood Drive
Rochester, NY 14612
Brunson, Kerry P.
700 Melbourne
Enterprise, AL 36330
Busteed, Michael P.
408-F Woodstream Trail
Fayetteville, NC 28314
Dellert, Todd A.
29 Strowbridge Street
Trumansburg, NY 14886
Demiro, Nicholas R.
Aviation Center Apt. 306
Daleville, AL 36322
Diamond, Andrew W.
2921 Spruce Street
Apt. 3-F
Philadelphia, PA 19104
Evans, Frederick
1010 Livingston Street
Daleville, AL 36322
Felstner, Curt D.
705 Birchwood Avenue
White Bear Lake, MN 55110
Fisher, Michael T.
205 Dominion Drive
Newport News, VA 23602
Fultz, Richard T.
R.R. 2, Box 2311
Lewistown, PA 17044
Graham, Scott A.
P.O. Box 115
Barlow, OH 45712
Hinds, Mark A.
Route 6, Box 602
Enid, OK 73701
Jacobs, Steven A.
219 Tunisia Road
Fort Ord CA 93941
Johnson, Todd G.
31 Cornell Avenue
Spotswood, NJ 08884
Kenney, Christopher
Psc Box 4514
APO Miami 34001
Lindburg, Michael P.
5721 120th Avenue West
Milan, IL 61264
Lynd, Allyn D.
20 Simpson Drive
Daleville, AL 36322
Mehrer, Kelly L.
14412 Acacia Drive
Tustin, CA 92680
Morzano, Gregory S.
S Troop, 4/2 ACR
Box 433
APO New York 09092
Noles, James L.
Route 7, Box 93
Florence, AL 35630
Odom, Michael S.
543 Lesmar Drive
La Verne, CA 91750
Piett, William T.
1405 Duff Lane
Milford, MI 48042
Russo, Arnold P.
119 Gina Lane
Elkton, MD 21921
Schaffner, Jill R.
5753 M-52
Manchester, MI 48158
Thompson, Brian L.
100 Dixie Drive
Apt. 4
Enterprise, AL 36330

MW4s

Priddy, Donald E.
621 Weeping Willow
St. Charles, MO 63303
Story, Thomas A.
PSC Box 1185
APO Miami 34004
Wilkinson, Byron M.
HHC, Aviation Brigade
2nd Infantry Division
APO San Francisco 96524

CW4s

Amatrudo, Gary T.
3 Gravatt Circle
Clarksburg, NJ 08510
Clark, Daniel E.
612-B Brittany Place
Fayetteville, NC 28314
Coleman, George L.
HSC 3rd MI Battalion (AE)
APO San Francisco 96271
Garrett, Michael E.
9 Windrush Drive N.W.
Rome, GA 30161
Kale, James R.
107 Banbury Drive
Wilmington, DE 19803
Kaylor, Robert S.
6249 Stoney Point Loop
Fayetteville, NC 28306
Keel, Raymond L.
P.O. Box 620176
Fort Rucker, AL 36362
Merrill, Gary A.
C/O Post Locator
Fort Campbell, KY 42223
Penrose, Tommy T.
700 Clinton Drive
Effingham, IL 62401
Robinson, Lee M.
4948 197th Avenue East
Bonney Lake, WA 98390
Schofield, George R.
2273 Farnsworth Drive
Colorado Springs, CO 80916
Skinner, Timothy B.
HHC 1st PERSCOM
Attn: OPMD
APO New York 09081
Stokes, George H.
9459 Hunters Creek Road
Cincinnati, OH 45242
Sutton, John W.
94-1025 Hoholia Street
Waipahu, HI 96797

CW3s

Benson, Bruce D.
505 Choctaw Drive
Enterprise, AL 36330
Billings, Merlin D.
1109-c Thompson Circle
Fort Eustis, VA 23604
Cochran, Thomas S.
148 Rock Garden Terrace
Marietta, GA 30064
Finocchiaro, Albert J.
31-2 Queens Way
Camillus, NY 13031
Knapp, Kent A.
9111 N. Crane Hawk Place
Tucson, AZ 85741
Meany, Donald
C Company, 228th Aviation
Fort Wainwright, AK 99703
Smith, Steve E.
T Troop
4/2 ACR
APO New York 09092

CW2s

Bradford, Ronald F.
348 Sunset Court
Cadiz, KY 42211
Dawson, Michael J.
51 Endl Avenue
Fort Rucker, AL 36362
Day, Ralph W.
A Company, 2/1 Avn. Regt.
P.O. Box 3323
APO New York 09250
Hazelrigg, Danny R.
F Company
1st Aviation
Fort Riley, KS 66442
Lambert, Garry W.
C Company
1-4 AHB
Fort Carson, CO 80913
McGahen, Neil R, Jr
P.O. Box 2201
Fort Riley, KS 66442
Negle, William S.
D Company
1/13th Aviation
Fort Rucker, AL 36362
Oslund, Stephen R.
Route 3, Lot 205
Holiday Village
Enterprise, AL 36330
Simoneau, Terri K.
225 Sprink Creek Lane Ne
Albuquerque, NM 87122
Wojtala, Thomas J.
7522 Gerald Avenue
Calcium, NY 13616

WO1s

Ashworth, Olin R.
Route 7, Box 651
De Ridder, LA 70634
Blood, Jack E.
501st Aviation Regiment
APO San Francisco 96208

Bodin, Errol P.
S Troop, 4/11 ACR
Box 498
APO New York 09146
Brah, Patrick T.
P Troop
4/11th Cavalry
APO New York 09146
Brown, Trevor C.
Box 2239
APO Miami 34001
Dietrich, Edwyn
B Company
4-501st Aviation
APO San Francisco 96208
Dotson, Daniel S.
C Troop, 3-7th Cavalry
APO New York 09028
Francis, Leon M.
396 Roselawn Drive
Clarksville, TN 37042
Hetzell, Allen W.
2114-E Haven Road
Wilmington, DE 19809
Huser, Harold M.
240 Maplewood Drive
Clarksville, TN 37042
Kremer, Terry J.
616 North James Street
Apt I
Rome, NY 13440
Kuhr, Paul E.
1525-b Werner Park
Fort Campbell, KY 42223
Lewis, Arglearild
1708 Kodiak Drive
Colorado Springs, CO 80910
McManus, Evan E.
5200 Coe Avenue, Apt. 1107
Fort Ord, CA 93941
Morgan, Kenneth L.
C Troop, 4-7 Cavalry
APO New York 09076
Murray, Alexander E
A Troop, 2/6 Cavalry
Box H-345
APO New York 09457
Musser, John R.
313 Hatten Road
Fort Ord CA 93941
Newhouse, Gregory A.
C Troop
4-7 Air Cavalry
APO New York 09076
Nocera, Francesco
P.O. Box 3286
Fort Polk, LA 71459
Norton, Thomas J.
417 Andros Drive
Fayetteville, NC 28314
Quirindongo, Pablo
211 Carswell Street
Fort Ord, CA 93941
Sutton, Timothy F.
Route 4, Box 787
Hillsboro, OR 97123
Swan, Stephen A.
4908-1 Forrest Road
Fort Riley, KS 66442
Taurino, David M.
11830 Colman Road
Philadelphia, PA 19154
Thom, Michael E.
2502 New Bacon Ranch Road
Apt. 710
Killeen, TX 76542
Volk, Michael C.
Route 1 Cutler Road
Eagle, MI 48822
Walker, Lawrence B.
C Troop, 4/7 Cavalry
APO New York 09076
White, David L.
A Company
2/2 Aviation Regiment
APO San Francisco 96524

WOCs

Breunig, Gregory G.
209 Dallas Street
Sauk City, WI 53583

Erwin, Keith W.
4/11 ACR
APO New York 09146
Howard, Kenneth B.
33 North Avenue
Lake Bluff, IL 60044
Jinks, Lee J.
5896 Fisher Avenue
Apt. 2
Fort Hood, TX 76544
Santaniello, Fiorangelo
232 Park Terrace
S. Chicago Heights, IL 60411
Stewart, Caley J.
4749 Chester Harris Road
Woodlawn, TN 37191

Enlisted

Aperans, James A. SSG
625 Helton Drive
Clarksville, TN 37042
Berg, Ronald D. 1SG
24216 103rd Avenue E.
Graham, WA 98338
Blackmon, Ruben A. CSM
HQ, 3rd Squadron
4th Cavalry
APO New York 09702
Hardy, Ann S. SSG(p)
P.O. Box 724
Dexter, NY 13634
Joiner, Timothy R. Spc
R.R. 1, Box 100
Chesterfield, IL 62630
Keller, David W. CSM
3103 Lundin Drive
Apt. 10
Manhattan, KS 66502
Mitchell, Larry W. MSG
844 Yorkshire Lane
Newport News, VA 23602
Petch, Douglas M. SSG
131 Saratoga
Clarksville, TN 37042
Reyes, Homero SSG
B Company, 8/158 Aviation
APO New York 09165
Rogers, David B. Spc
Hhc 17th Aviation Brigade
APO San Francisco 96301
Sims, Lenny P. SFC
Apache Training Brigade
5-229th AHB
Fort Hood, TX 76545
Smith, George SGT
HHC 17th Aviation Brigade
APO San Francisco 96301
Soileau, Howard 1SG
930 Moyer Road
Newport News, VA 23602
Wheelock, Raymond H. SSG
A Company
1-10 Aviation Regiment
Fort Rucker, AL 36362

DACs

Adamakos, Julya Ms.
1196 Union Street
Manchester, NH 03104
Andrews, Joseph L. Mr.
P.O. Box 5160
Fort Hood, TX 76544
Emahiser, Nancy L. Ms.
14 Eagle Court
Edwardsville, IL 62025
Gavora, Jill D. Ms.
2709 Folsom Avenue
Leavenworth, KS 66048
Ginn, Susan B. Ms.
128 Logan Loop
Fort Sheridan, IL 60037
Glasgow, Linda J. Ms.
7602 Ledford Street
Apt. 3
Falls Church, VA 22043
Griesemer, Kevin H. Mr.
AVSCOM
P.O. Box 94
Fort Campbell, KY 42223

Hoffman, Roger P. Mr.
Lindbergh Chap VP Renewal
8 Brookshire
Edwardsville, IL 62025
Hoffman, Sharron K. Ms.
8 Brookshire
Edwardsville, IL 62025
Khemchand, Frederick Mr.
Aviation Detachment
Tempelhof Central Airport
APO New York 09611
Perry, Constance M Ms.
2255 Black Hammock Road
Oviedo, FL 32765
Reid, Debra T. Ms.
2006 Flagstone Drive
Apt. 603
Madison, AL 35758
Waddy, Ronald E. Mr.
R.R. 2, 257H
Waterloo, IL 62298
Webb, Lewis S. Mr.
Sikorsky Aircraft
6900 Main, MS S-415-A
Stratford, CT 06601
Wong, Douglas C. Mr.
254-D Harding Road
Freehold Township, NJ 07728

Civilian

Barton, Ronald F.
768 Oyster Point Road
Apt. 10-b
Newport News, VA 23602
Beauchamp, Rene I.
6315 E. Star Valley Cir.
Mesa, AZ 85205
Bell, Nelson E.
P.O. Box 464
Killeen, TX 76542
Borneman, James F.
1034 Hawthorne Road
Allentown, PA 18103
Brazelton, David H.
1403 Cochise Drive
Arlington, TX 76012
Briggs, Ray
14196 Arbolitos Drive
Poway, CA 92064
Campbell, Joseph M.
12343 Sardina Cove
San Diego, CA 92130
Conlisk, Raimon L.
Conlisk Associates
399 Main Street
Los Altos, CA 94022
Dalton, Travis L.
901 20th Avenue East
Jerome, ID 83338
Follet, Donald C.
CAE-Link, M/s 799a
P.O. Box 1237
Kirkwood, NY 13902
Fugitt, Billy W.
Magnavox Govt & Ind Elect
1313 Production,M/S 10-40
Fort Wayne, IN 46808
Garner, Sanford,III
1925 College Avenue
San Bernardino, CA 92407
Griffiths, Thomas H.
CAE-Link Corp.
Link Flight Sim, POB 1237
Binghamton, NY 13902
Kaplan, David H.
P.O. Box 45081
St. Louis, MO 63145
Langworthy, Everett W.
Nat'l Aeronautic Assoc.
1815 N. Ft.Myer Dr,Ste700
Arlington, VA 22209
Ludwig, Jacque H.
26 Jason Drive
Binghamton, NY 13901
Mann, Arthur R.
98 Ocean Vista
Newport Beach, CA 92660

Mazur, Michael J.
20 North Hills Drive
Parkersburg, WV 26101
Mecklin, Ron
546 Rosemary Circle
Media, PA 19063
Nimblett, Don W.
6807 Blake Drive
Arlington, TX 76017
Parker, Thomas O.
ROute 6, Box 832
Crestview, FL 32536
Riehlman, Robert
10025 E. Perch Court
Inverness, FL 32650
Skapik, Stephen J.
Apartment 508
17700 El Camino Real
Houston, TX 77058
Weeks, Lindell M.
Sikorsky Aircraft
6900 Main St., M/S 707A
Stratford, CT 06601
Wessel, James A.
P.O. Box 189
Goldenrod, FL 32733
Yando, Arthur N.
AIL Systems, Inc.
1755 Jeff Davis Hwy, 509
Arlington, VA 22202

Retired

Blanchard, George S. GEN
166 Dewberry Drive
Whispering Pines, NC 28327
Clark, William H. MAJ
1635 Eagle Nest Circle
Winter Springs, FL 32708
Diamond, Richard LTC
5126 Timberview Terrace
Orlando, FL 32819
Faast, Eldon F. CW4
1252 Eight Mile Road
Cincinnati, OH 45255
Franseen, Leonard R. COL
Route 1, Box 34-p
Central Lake, MI 49622
Gile, Richard E. LTC
206 Azalea Terrace
Dothan, AL 36303
Goodwin, Norman W. LTC
Box 594-B LOW
Locust Grove, VA 22508
Greer, James S. CW4
DynCorp
A Co., 3/501st Avn. Regt.
APO San Francisco 96271
Jones, W. Hayden CW3
436-B Beverly Road
Martinez, GA 30907
Lama, John A. MAJ
C/O F. Short
11903 S.W. 44th Street
Davie, FL 33330
McElroy, James M. SSG
25 North Belcher Road
Apt. L-170
Clearwater, FL 34625
Mills, James J. COL
909 Beechgrove Court
Charlotte, NC 28212
Moffett, Joe U. LTC
1529 Nicklaus Drive
Fayetteville, NC 28303
Stookey, Frank T. MAJ
USAS-Peace Shield, #210
5301 Wisconsin Ave., N.W.
Washington, DC 20015
Tackett, John A. LTC
8409 Lakeland Circle
Wichita, KS 67207
Tanner, Warren M. MAJ
Box 58338
Fairbanks, AK 99711
Young, Ray A. COL
Suite B, 3350 Watt Avenue
Sacramento, CA 95821

AWARDS AND HONORS

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

Initial Courses:

Class 89-19 UH-1 Track (04/12/90): 2LT William R. Wygal, Dist. Grad.

Class 89-19 UH-1 Track (04/12/90): WO David A. Boylan, Dist. Grad.; WOs Robert H. Hamaker, Robert J. Steinbauer, III, & Richard F. Hebert, Honor Grads.

Class 89-19 OH-58 Track (04/12/90): 2LT Christopher B. Carlile, Dist. Grad.

Class 89-19 OH-58 Track (04/12/90): WO Robert B. Brownlee, Dist. Grad.; WOs Andrew J. Bednarz & Bradley D. Oleson, Honor Grads.

Class 89-18 UH-60 Track (04/12/90): WO Howard S. Kunselman, III, Dist. Grad.

Class 89-17 AH-1 Track (04/12/90): 1LT Matthew D. Brown, Dist. Grad; 1LT John W. Newton, III, Honor Grad.

Class 89-17 AH-1 Track (04/12/90): WO Harry A. Normington, Dist. Grad.

Class 89-20 UH-1 Track (04/26/90): 2LT Timothy R. DeHaas, Dist. Grad.

Class 89-20 UH-1 Track (04/26/90): WO Shawn J. Adkins, Dist. Grad.; WO John E. Garlinghouse, Honor Grad.

Class 89-20 OH-58 Track (04/26/90): 2LT Mitchel L. Hudson, Dist. Grad.; 2LT Lee A. Powell, Honor Grad.

Class 89-20 OH-58 Track (04/26/90): WO Carlos R. Rivera, III, Dist. Grad.; WO Thomas C. Gentry, Honor Grad.

Class 89-19 UH-60 Track (04/26/90): 2LT George R. Berry, Dist. Grad.

Class 89-19 UH-60 Track (04/26/90): WO Jim F. Harshfield, Dist. Grad. and Leadership Award.

Class 89-18 AH-1 Track (04/26/90): 1LT Andrew L. Nord, Dist. Grad.

Class 89-18 AH-1 Track (04/26/90): WO Brian A. Lennarz, Dist. Grad.; WOs Ronald E. Looney & James P. Supernaw, Honors Grads.

Class 89-21 UH-1 Track (05/10/90): 2LT Sean P. Sullivan, Dist. Grad; 1LTs Stephen B. Cook & William W. Whitecotton, Honor Grads.

Class 89-21 UH-1 Track (05/10/90): WO Terry L. Tress, Dist. Grad.; WO Rodney B. Swanson, Honor Grad.

Class 89-21 OH-58 Track (05/10/90): 2LT Arnold P. Russo, Dist. Grad.

Class 89-21 OH-58 Track (05/10/90): WO Scott C. Wainwright, Dist. Grad.; WOs Steven D. Hamilton & Kenneth R. Ford, Honor Grad.

Class 89-20 UH-60 Track (05/10/90): 2LT Kevin T.K. Sullivan, Dist. Grad.

Class 89-19 AH-1 Track (05/10/90): WO Kenneth L. Morgan, Dist. Graduate; WOs Paul B. George & Robert J. Brown, Jr., Honor Grads.

Class 89-22 UH-1 Track (05/23/90): CPT Kyle D. Campbell, Dist. Grad.

Class 89-22 UH-1 Track (05/23/90): WO Timothy J. Burke, Dist. Grad.; WOs Raymond B. Harwell, Tammy M. Clunk, & Gary C. Lavers, Honor Grads.

Class 89-22 OH-58 Track (05/23/90): 2LT Robert A. Hoekstra, Dist. Grad.

Class 89-22 OH-58 Track (05/23/90): WO Jacob H. Lofty, Dist. Grad.; WO Jerry D. Sartin, Honor Grad.

Class 89-21 UH-60 Track (05/23/90): WO Francisco J. Ruiz, Dist. Grad.

Class 89-20 AH-1 Track (05/23/90): WO Michael A. Rovenolt, Dist. Grad; WOs Robert W. Brown & David R. San Agustin, Honor Grads.

Class 89-23 UH-1 Track (06/08/90): CPT Austin L. D'Aulton, Jr., Dist. Grad; 2LT Gregory A. Thingvold, Honor Grad.

Class 90-2 Aviation Senior WO Training Course (03/30/90): CW4 Ronald B. Alexander, Dist. Grad.; CW2 Wyatt L. Reaves, CW3 Anthony A. Bizzell, CW4 James R. Garrett, CW2 Valentino A. Asuncion, Honor Grads.

Avionic Communication Equipment Repairer Advanced NCO Course (05/16/90): SSG Horacio Pedraza, Dist. Grad.

Air Traffic Control Operator Basic NCO Course (05/16/90): SGT Walter G. Tisdale, Dist. Grad.

Air Traffic Control Systems, Subsystems, and Equipment Repairer Basic NCO Course (05/16/90): SSG Martin R. Doss, Dist. Grad.

Aviation Operations Specialist Basic NCO Course (05/16/90): SSG Justin E. Stephens, Dist. Grad.

Class 90-3 Aviation Senior WO Training Course (05/24/90): CW3 Robert M. Hilarides, Dist. Grad; CW4 Jorg-Leo Berge, CW4 Gary W. Norton, CW3 Michael L. Chase, and CW2 Michael W. Melton, Honor Grads.

Class 90-1 Aviation Officer Advanced Course (05/25/90): CPTs John M. Anderson, Randall G. Anderson, Franklin P. Broadhurst, Richard S. Daum, Jr., Scott M. Fitzgerald, John J. Heller, Robert S. Hume, John F. Iampietro, Timothy L. Kopra, Douglas D. Lilly, John J. Lonergan, Jr., Anne R. Mackie, Layne B. Merritt, William K. Miller, Patrick H. O'Hara, III, Charles J. Packard, Chris H. Palmer, Roy R. Peters, Kevin P. Polczynski, Robert B. Quackenbush, Michael J. Rung, Miracle D. Solley, Ronald K. Taylor, Jr., Edwin R. Tifre, John M. Till, Martin J. Tower, Christopher H. White, Richard S. Williams, Timothy D. Wilsey, 1LTs David C. Meyer, Peter Palumbo, and Michael J. Pepe all Exceeded Course Standards.

SFC Michael Marquez

1990 Drill Sergeant of the Year

On March 1990, Sergeant First Class Michael Marquez was recognized as the Fort Eustis Drill Sergeant of the Year.

In recognition of his outstanding achievement, the Colonial Virginia Chapter of AAAA is sponsoring Sergeant First Class Marquez as their honored guest to the 1990 Army Aviation Ball. In addition, he will receive a year's free membership to AAAA.

Sergeant First Class Marquez is assigned to Company C, 1st Battalion, 222d Aviation Regiment. He is an Aircraft Components Repair Supervisor, and has earned a Bachelor's Degree in Professional Aeronautics from Embry-Riddle Aeronautical University.

His previous assignment was with the 1st Squadron, 17th Cavalry, Fort Bragg, North Carolina. Sergeant First Class Marquez is married and has a three year old daughter.

CHAPTER NEWS

America's First Coast Chapter hosted a special screening of the movie "FIREBIRDS" on 25 May 1990. The chapter chartered an entire 300 seat theater at a local shopping mall. Attendance exceeded 350 people, who devoured more than 20 gallons of punch and hundreds of dollars of hors d'oeuvres in less than 30 minutes. Everyone enjoyed the movie and had a great time.

The **Corpus Christi Chapter** held its winter meeting at the Corpus Christi Bay Club. Among the topics discussed was the very active chapter awards program. The chapter will be recognizing the following individuals at a Chapter Awards Banquet in October: Outstanding Aviator of the Year, Outstanding NCO/Soldier of the Year, Top Gun Award (for member recruiting most new members), Outstanding Volunteer of the Year, Community Service Award, Maintenance Supervisor of the Year, Outstanding Industry of the Year, the Leadership Award, the Government Civilian of the Year Award, and the President's Award. The President's Award will be the Man/Woman of the Year Award.

In other Corpus Christi news, Chapter secretary Lois Contreras reports that 15 chapter members worked the phone bank at the **Driscoll Foundation's Children's Miracle Telethon** on 2 June 1990 from midnight to 2 a.m. This is the second year that the chapter has participated as a team in this event.

The **Old Ironsides Chapter** Executive Council convened its quarterly meeting at the Katterbach Officers Club on 4 April 1990. Fund raising opportunities were discussed. The Council decided to organize committees from the general membership with each chairperson being assigned by unit. These committees would develop ideas/plans to conduct fund raising activities such as food and beverage sales during the Spring Bazaar, 1AD Barbeque and AAAA Family Day Picnic, and ice cream sales during the Leuterhausen and Katterbach Fests.

The **Taunus Chapter** held a general membership meeting on 15 March 1990 and presented the following **Taunus Chapter Awards:** Aviation Unit of the Year, *5/158th, Commander, LTC Brian L. Thom;* Aviation Maintenance Unit of the Year, *E Company, 5/158th;* Aviation Safety Officer of the Year, *CW2(P) Bouchard;* Aviation Trainer of the Year, *CW2 Clements;* Aviation Soldier of the Year, *SGT Jones;* Aviation Soldier of the Month for October 1989, *Specialist Frank A. Ammirata;* Aviation Soldier of the Month for November 1989, *Specialist Michael B. Yost;* Aviation Soldier of the Month for February 1990, *Specialist James E. Rogers.*

BEAT THE INCREASE

There hasn't been a AAAA membership dues increase since 1980!

Each member's dues fall $10 short of covering the cost of supplying services to that member—the difference is made up by AAAA Annual Convention exhibit revenues.

To correct for ten years of inflation and just maintain the $10 per-member subsidy, a new Two-Tier Dues Structure will be implemented **1 January 1991.**

TIER I: Includes all Full-Time Students, all Enlisted, Warrant Officer Candidates, GS-8 DACs and below, and Wage Board 12 DACs and below at a rate of $14 for one year, $25 for two years, and $36 for three years.

TIER II: Includes all other members at a rate of $21 for one year, $39 for two years, and $57 for three years.

RE-UP NOW AND SAVE

Use the form below.

Renewals and new member applications at the old rate must be postmarked by 1 January 1991.

ARMY AVIATION ASSOCIATION OF AMERICA (AAAA)

49 RICHMONDVILLE AVE., WESTPORT, CT 06880 ● PHONE: (203) 226-8184 ● FAX (203) 222-9863

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

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

Rank/GS Grade First Name MI Last Name Sex

Mailing Address

Mailing Address (Continued)

City State Zip + 4 Code

Active Duty or Civilian Job Title

Unit or Firm Name

( ) ( )

Area Code Office Phone Area Code Residence Phone

Nickname Spouse's Name

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

Office Use: DIF:APPLSD 06/15/90

AAAA ANNUAL DUES

Applicants other than those listed below:
( ) 1 yr, $15; ( ) 2 yrs, $29; ( ) 3 yrs, $43
Enlisted; GS-6 & below; Wage Board 12 DAC's and below:
( ) 1 yr, $10; ( ) 2 yrs, $19; ( ) 3 yrs, $28
Add $5 per year if you have a foreign, non-APO address.
Add $15 if your check is drawn on a foreign bank.

[ ] Check enclosed made payable to "AAAA."
or charge to: [ ] Mastercard; [ ] Visa

Card No.

Amt $ Exp. Date

Signature Date

Check (✓) Your Professional Qualification

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

Are you a former AAAA member? ☐ Yes ☐ No

If yes, what year did you join?

Print Name of Recruiter

New AAAA Chapter Officers

Army Aviation Center:

COL Ralph Hiatt (Senior VP); COL Troy E. Burrow (VP Enrollment); LTC James M. Diamond (VP Prog.); COL Michael H. Abbott (VP Center/School); COL Brian P. Mullady (VP 1st Avn. Bde.); CSM Melvin P. Taylor (VP Enl.).

Bonn Area:

LTC Russell N. Robinson (President); LTC William D. Gee (VP, Membership); CPT Manfred Szogas (Asst VP, Membership); 1LT Peter Schultz (VP, Special Opns).

North Country:

COL Warren C. Edwards (President); LTC Dennis L. Cripps (Senior VP); CPT Mark C. Foster (VP for Ft Drum); CW2 Dennis L. Niles (VP for Programs); 1LT John M. Mitchell (Treas).

Wings of the Devil:

LTC James P. Hogan (President); CPT Bryan S. Eckstein (Secretary); CPT Donald L. Kaeser (Treas.); CW3 Geoffery T. Schwind.

Aces

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

Ms. Terry E. Cunningham
CPT Matthew J. Herholtz

Aviation Soldier of the Month

SGT Theresa L. Peterson
Indiantown Gap (March).

New Industry Members

Olin Ordnance
St. Petersburg, FL

ABOVE: MG Rudolph Ostovich, III, Commanding General U.S. Army Aviation Center and Fort Rucker, AL and Commandant U.S. Army Aviation Logistics School was guest speaker at the 24 April 1990 Connecticut Chapter Professional Dinner meeting. MG Ostovich (left) is seen receiving a model of Igor Sikorsky's first successful helicopter, the VS-300, from Vincent Nitido (right), Connecticut Chapter President, as a token of the chapter's appreciation.

BELOW: 1989 AAAA Scholarship winner Tricia S. Howe (right) is seen receiving the Mitchell Award from the Iowa Wing Civil Air Patrol Commander, COL Ramona Shaver (left). The award is the seventh achievement in the Civil Air Patrol and marks the passage of a cadet from a NCO rank to an officer. Ms Howe is a student at Luther College in Decorah, IA.

The Washington, D.C. Chapter's winter meeting featured BG Robert Stewart, who gave a fascinating account of his astronaut experiences. Above: During the meeting BG James M. Hesson, Ret. (left), AAAA President, presented a Certificate of Chapter Honorary AAAA Membership to MG Donald C. Hilbert (right), CG of the U.S. Army Military District of Washington. BG Arvid West, CG, Ft. Belvoir, also received a Chapter Honorary Membership.

MG Donald R. Williamson, CG AVSCOM, was guest speaker at the Monmouth Chapter professional luncheon winter meeting. Below, MG Donald R. Williamson (left) discussed AVSCOM goals with David Gaggin (right), Monmouth Chapter President and Director, AVRADA, Ft. Monmouth, NJ; COL Leo N. Fanning, Jr. (center, left), Airborne Electronics Research Activity, Lakehurst, NJ; and LTC John R. Wrinkle (center right), CECOM.

CHAMPUS Supplement Available

As a AAAA member, you may now apply for CommandCare, the superior CHAMPUS health supplement, which offers 100% coverage to retired military personnel and their dependents, as well as to the dependents of active duty personnel.

The program is administered by Membership Services, Inc., 1304 Vincent Place, McLean, VA 22101, a company specializing in providing services to leading associations.

To receive more details about this new benefit, call Membership Services toll free 1-800-234-1304 (or, in the Washington, D.C. metro area, 821-0555) and ask for CommandCare information.

AAAA Army Aviation Electronics Symposium

Sponsored by the AAAA Monmouth Chapter, the Symposium will be held 11-13 September 1990 at the Berkeley-Carteret Hotel, Ocean Avenue, Asbury Park, NJ. "Integration and Automation Impact on Army Aviation" will be the theme. Call for papers POC is: Dr. John Niemela, Program Chairman, (201) 544-4635. Address written communications to: 1990 Symposium, AVRADA, Bldg. 2525, ATTN: SAVAA-P (PAONE), Ft. Monmouth, NJ 07703-5000.

West Point Memorial to Flight

BACKGROUND: In the Spring of 1911, Orville Wright guided his aircraft into the air with his young student, Henry "Hap" Arnold, West Point graduate, Class of 1907, aboard. At that time in 1911, neither West Point nor Orville Wright himself could imagine what this young student would have to do with flying in the future.

Arnold went on to become the Chief of the Army Air Corps, achieve five-star rank in both the Army and Air Force, and to become the architect of the United States Air Force. Arnold is the most famous and best known, but only one of the thousands of sons of West Point who served their country in the air.

For almost 80 years, West Point did not recognize the contributions these graduates made because they had not followed traditional career paths. Finally, the current Superintendent of West Point, LTG Dave R. Palmer, decided that it was time for West Point to recognize her sons who sought careers in the sky.

Innumerable graduates have demonstrated outstanding leadership in the various phases of the evolution of aerial service to include flight testing, exploration, training and combat. Of all such leaders however, none better exemplifies the link between West Point and aviation than General of the Air Force Henry H. Arnold, Class of 1907. His brilliant leadership of the Air Corps from 1938 to 1946 was instrumental in our nation's victory in World War II. To honor him, Arnold Auditorium in Mahan Hall was dedicated in November of 1988.

In the foyer outside Arnold Auditorium will be displays showing examples of leadership in flight by other West Point graduates.

MEMORIAL TO FLIGHT: A monument, the Flight Memorial, will be erected near the Air Cadet Memorial in the glade at the north end of Lusk Reservoir to honor all West Point graduates who have died in flight. The natural sylvan beauty of this site will be preserved. The solitude of this glade is fitting since death was often met alone in the sky. It will be a place of peace and reflection. The monument was designed to be ageless and to represent those of all eras who sacrificed their lives. It is in the classic heroic tradition.

The AAAA National Executive Board approved a $5000 donation to support this worthy project.

On 28 May 1990, in ceremonies pictured at left, Superintendent of West Point, LTG Dave R. Palmer (left) accepts the $5000 AAAA contribution to the Memorial to Flight from BG James M. Hesson, Ret. (right), AAAA President. The Memorial to Flight at Lusk is scheduled to be completed by September 1991.

Checkpoint Charlie Celebrates Flight

At 1042 hours on 25 May 1990, a CH-47D Chinook, call sign LOAD 66, became the first U.S. Army rotary wing aircraft to transit East German airspace from West Germany to West Berlin. The aircraft, which departed Coleman Barracks at 0745 hours, was flown through the center Berlin corridor, nonstop, by CW4 Gary Hall (Pilot in Command) of the USAREUR Standardization and Evaluation Board located in Heidelberg, Germany. Also at the controls were CW4 Jim Humphries (Pilot), D Company, 502nd Aviation Regiment, Coleman Barracks and CW4 (Ret.) Lester Feutz (GS-13, Berlin Corridor Flight Examiner) of the Berlin Brigade Aviation Detachment. Other crew members drawing honors were SSG Anthony Bledsoe (Flight Engineer) and SGT Carl Smith (Crew Chief), both from D Company, 502nd Aviation Regiment, Coleman Barracks. On hand to receive this historic flight were members of the Checkpoint Charlie Chapter, AAAA, who celebrated the moment by showering the crew members in champagne.

The mission on 25 May was multi-purposed. First the flight was to determine the feasibility of providing medium lift rotary wing support to Berlin. Next, the mission provided maintenance materials to the Berlin Brigade Flight Detachment. Finally, the aircraft was used as a static display at the Tempelhof Control Airport Open House.

On 29 May, the same crew became the first U.S. Army rotary wing aviators to fly outbound, via the south corridor, from Berlin to the FRG. The CH-47D, equipped with internal auxiliary tanks, made the round-trip flight without refueling.

Left to right — Kneeling: MAJ (P) Doug Powell (Checkpoint Charlie Pres.), CW4 Bill Inman, CW4 Jim Humphries (Co-Pilot), Mr. Sonny Khemchand, Mr. Frank Reynolds, Sr., and CW2 Nic Davidson and son Andrew. Standing: SSG Rick Wommack, SGT Jeff Kendall, SPC Rick Stafford, CW4(P) Darrell Pope (Treas.), SSG Anthony Bledsoe (Flight Engineer), SGT Carl Smith (Crew Chief), CW4 Gary Hall (PIC), CW4 (Ret) Lester Feutz (Berlin Corridor Examiner), CPT Wilbur Wolf (Sr. VP), SFC Bill McCutcheon, Mr. Frank Reynolds, Jr., and CW3 Ken Breedon.

AAAA ASE Symposium Set

The Eighth Annual Aircraft Survivability Equipment (ASE) Symposium will be held in Lansdale, PA, 30-31 October 1990. Hosted by American Electronics Laboratories (AEL), this year's theme is "ASE Technology, Integration, and Training for the Future Battlefield."

The 1990 Symposium is open to all interested AAAA members who possess a minimum SECRET level clearance. Contact the AAAA National Office at (203) 226-8184 for Registration and Housing Forms.

1990 Aircraft Survivability Equipment (ASE) Award Call for Nominations

Sponsored by Loral Electronics Systems, the AAAA ASE Award will be presented at the 1990 Symposium "to the person who has made an outstanding individual contribution to Army Aviation in the area of Aircraft Survivability Equipment during the awards period encompassing the previous calendar year."

Eligibility: A candidate for this award may be military or civilian and must be actively involved in the field of Aircraft Survivability Equipment. Membership in the AAAA is not a requirement for consideration.

Suspense Date: All nominations must be made on the official ASE Awards Nomination Form obtainable from the AAAA National Office at (203) 226-8184. Nominations must be returned by 1 September 1990 to the AAAA National Office.

AAAA CALENDAR

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

August, 1990

Aug. 11. AAAA Connecticut Chapter Wing Ding Lobster Bake. Westport, CT.

September, 1990

Sept. 11-13. AAAA Army Aviation Electronics Symposium. Sponsored by AAAA Monmouth Chapter. Berkeley Carteret Hotel, Asbury Park, NJ.

October, 1990

Oct. 15-19. AAAA Nat'l Executive Board Meeting, Sheraton Washington Hotel, Washington, D.C.

Oct. 16-19. AAAA Scholarship Board of Governors Meeting, Econo Lodge, Arlington, VA.

Oct. 30-31. Eighth AAAA Aircraft Survivability Equipment Symposium. Hosted by American Electronics Laboratories (AEL). Lansdale, PA.

Oct. 30 AAAA ASE Award Presentation, Holiday Inn, Fort Washington, PA.

December, 1990

Dec. 6. AAAA Aviation Trainer of the Year Award Presentation & AAAA ROTC Award Presentation, Fort Rucker, AL.

Dec. 7. AAAA NEB Meeting, Fort Rucker, AL.

February, 1991

Feb. 2. AAAA Nat'l Awards Committee Meeting to select CY90 Nat'l Award Winners.

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.

NEVER SAY 'SAY AGAIN' AGAIN.

COLLINS ATHS.

The Collins CP-1516/ASQ Automatic Target Handoff System (ATHS) helps ensure clear, quick, C^3I communications. It facilitates air/air and air/ground interoperability, and provides target steering cues on HUDs or CRT displays.

Instead of vulnerable voice communications, Collins ATHS uses digital data bursts to minimize jamming and to reduce enemy detection while speeding the transfer of accurate battle information.

The system uses any MIL-STD-1553B or ARINC 429 transceiver to resolve target location and exchange target information between force elements. It's totally transparent to the system architecture.

ATHS provides data for such HUD symbols as target I.D., range and steerpoint.

Now flying on U.S. Army OH-58D and AH-64s, the 10 lb. Collins ATHS can be easily integrated into aircraft and ground vehicles. And it's interoperable with TACFIRE and the Battery Computer System.

For more information contact: Collins Government Avionics Division, Rockwell International, Cedar Rapids, Iowa 52498. (319) 395-2208. Telex 464-421 COLLENGR CDR.

COLLINS AVIONICS

Rockwell International

...where science gets down to business

Aerospace / Electronics / Automotive
General Industries / A-B Industrial Automation

Starstreak on Apache: Air-to-Air Superiority!

Attack capabilities of the Apache helicopter are greatly enhanced with the deadly, high-velocity Starstreak air-to-air missile.

McDonnell Douglas Helicopter Company, Martin Marietta Electronic Systems and Shorts are working together to integrate Starstreak into the Apache weapons platform.

Starstreak's exceptionally short pre-launch sequence and time of flight mean survivability! An accurate and lethal 3-warhead punch means effectiveness!

In addition, the multi-purpose Starstreak is used as a shoulder-launched and vehicular-mounted ground-to-air system. Flexibility means lower costs!

For more information, contact Short Brothers (USA), Inc., 2011 Crystal Drive, Suite 713, Arlington, VA 22202-3719. Or call us at (703) 769-8700.

BOMBARDIER SHORTS