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ARMY AVIATION

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ARMY AVIATION

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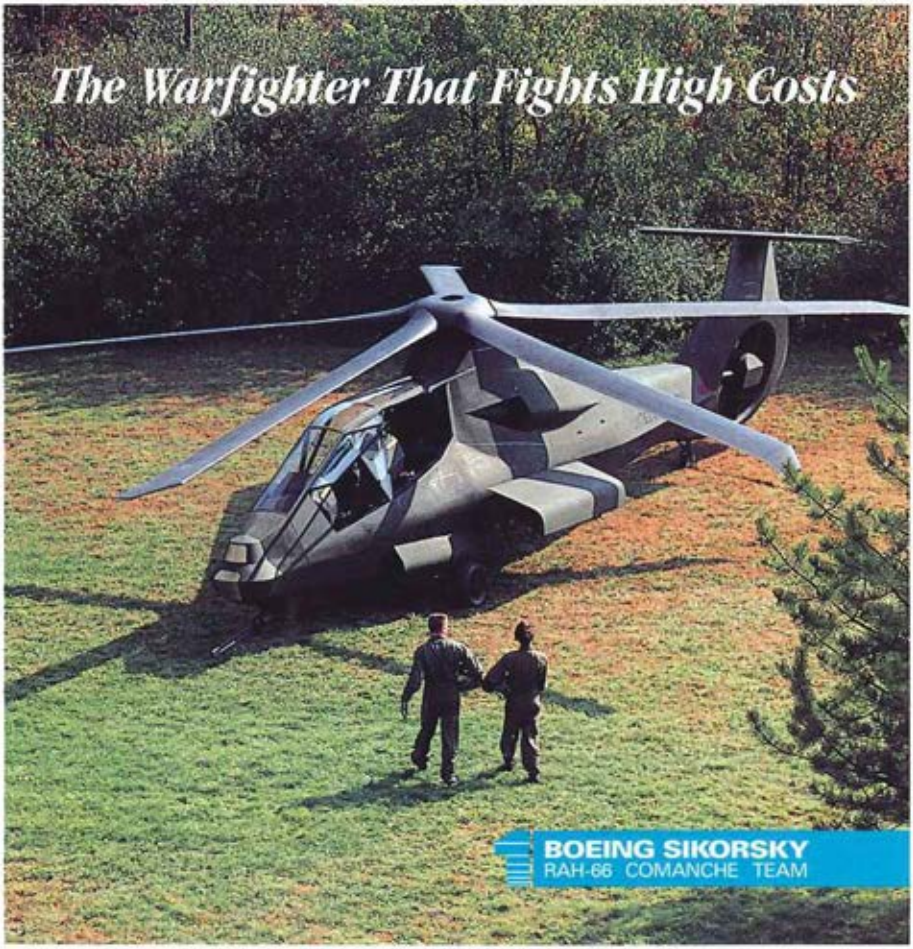

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ARMY AVIATION

VOLUME 41 NUMBER 1

Meeting the Modernization Challenge

By General Dennis J. Reimer

The leadership of the United States will do well in this changing world to take counsel from Winston Churchill's admonition that nations have no permanent friends or enemies. . . only permanent interests. Configuring the future Army to the Nation's strategic interests is a daunting task. The geo-political situation has changed dramatically in the past two and a half years and the specter of global nuclear holocaust is now fading. Our Army is changing correspondingly in size and complexion. Indeed, within ever tighter fiscal constraints, it is already evolving to meet the strategic demands of the United States' military role in the emerging world order. One thing will not change—when the Armed Forces are called upon, we must be prepared to win quickly and decisively with minimum loss of lives.

Our national strategy and objectives mandate a global capability for rapid response to regional crises and projection of national power with forces based primarily in the United States. The Army, in turn, must be ready to meet military challenges from a number of potential adversaries who have diverse and worldwide aims and interests. The complex and uncertain array of potential conflicts argues against large, rigidly structured, strategically unwieldy formations. The forward deployment of large, heavy forces disposed for primarily large-scale conventional military operations against pre-determined threats is no longer a clear necessity.

GEN Reimer is Vice Chief of Staff, U.S. Army, Washington, D.C.

The Army is preparing to meet tomorrow's varied threats with forces that can be tailored and targeted in specific response to the missions required. A flexible, focused response dictates an Army composed of soldiers and equipment that are equally flexible, and fully capable of quick, effective reaction to protect the Nation's global interests.

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The Army in 1996 will be nearly a third smaller than the Army of 1991, with the Defense investment at a 50 year low in terms of percentage of Gross National Product. Army force modernization must necessarily resolve the dichotomies of peacetime economy versus warfighting return on investment.

Economy at the expense of essential capability is illusory. The inevitable outcome of insufficient or inappropriate investment in Defense today will be the requirement for even greater investment sometime in the future. A potentially worse outcome is the further erosion of our Nation's global political and economic leadership—an outcome wholly inconsistent with stated national objectives. Simply put, Army force modernization must keep pace with and sustain the Army's requirement to support national strategies, objectives, and policies at the absolute minimum cost. The Nation and its soldiers deserve no less.

The American people have the right to expect and demand that the smaller Army of the future remain competent and capable. Hand in hand goes their right to demand continued fiscal prudence from those of us involved in the force modernization process. Especially in times of austere budgets, the maintenance of a cost-effective Army often requires re-evaluation of priorities, and revision or abandonment of programs that are no longer affordable.

Change, particularly drastic change, is neither easy nor without penalty. The successful conclusion of the Cold War and the global changes in its wake were bought by the Nation's determined investment in Defense over the past half century. Interest on that investment was paid with the blood and sacrifice of soldiers, in Korea, in Vietnam, and elsewhere—most recently in Iraq.

The changes needed to build the future Army require prudent investment in future warfighting systems whose superior-technological capabilities lead to far greater battlefield effectiveness in the hands of far fewer soldiers—soldiers who must be trained and led with the same dedication and intensity of commitment that allowed them to endure Korean winters and Vietnamese jungles, and to perform so magnificently in Operation DESERT STORM. From time to time—and now is such a time—the Nation's need and capacity to invest in arms and soldiers diminishes in size, but never in importance. Continued national security is the enduring dividend of a confident and victorious peace, and a truly renewable resource to sustain the Nation's welfare.

Tomorrow's Army will be a quality force, balanced, capable, versatile, deployable; and when called to combat, lethal. More than ever, the Army's commitment today to joint and combined arms doctrine, concepts, and sensible force modernization priorities will be vital to both its credibility and capability tomorrow. This same commitment will ensure the preservation of a dearly-purchased peace.

Army Aviation's Role

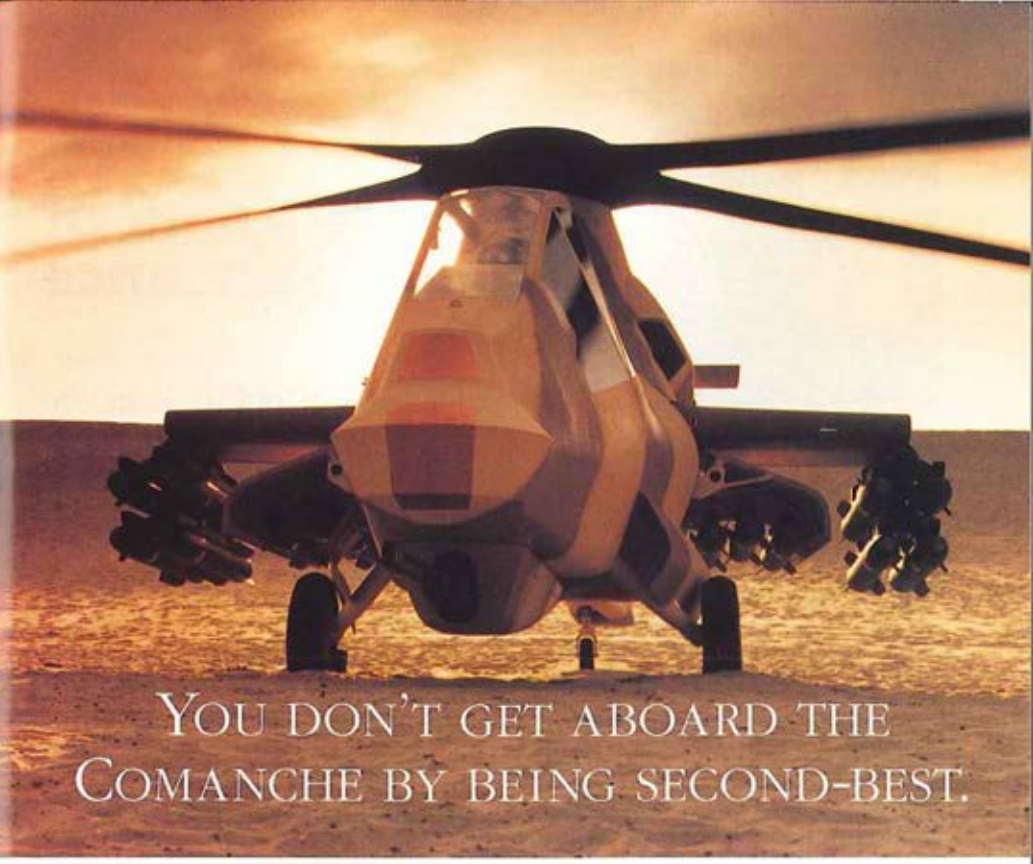
One of the most important and contentious elements of combined arms force modernization has been defining the appropriate role of Army Aviation, particularly its armed helicopters. Our Army's armed helicopters have a proud history, from the Huey gunship's first major trial by fire in the Ia Drang Valley in 1965, to the Apaches in Operation DESERT STORM, who initiated the air war, and who, alongside the venerable Cobra, went on to provide the decisive edge in the ground war.

The AH-1 Cobra, OH-6 Cayuse, and OH-58 Kiowa entered combat service in Vietnam shortly after the Ia Drang Valley campaign in 1965, and carried the brunt of the helicopter cavalry role for the remainder of that war. Today, a quarter of a century later, all three remain in service performing Army Aviation's cavalry and light attack missions.

Throughout those twenty-five years, Army Aviation's progress has remained focused on attaining its proper role in combined arms warfare. The RAH-66 Comanche fulfills Army Aviation's role as the fulcrum of land force maneuver.

Considering the resource dilemmas of

(Challenge — continued on page 11)



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The Value of Reconnaissance

By Major General John D. Robinson

The value of Comanche on the future battlefield is directly, and inseparably, linked to something commonly known as the "value of reconnaissance". The Comanche design combines the best sensor and communications packages available in any army, with the low signatures and survivability required to perform the reconnaissance mission in the midst of a technologically advanced enemy. While other articles in this issue will address the technical descriptions of the Comanche's capability, I will try to come to grips with this elusive "value of reconnaissance", and its changing nature on the battlefields of the future.

In the arena of conflict, there is no more valued commodity than good information. Any commander—of any military force—generally wants to know more than he can usually find out about the enemy. Unfortunately, the commander's picture of his own forces, and information about the terrain over which he is to operate, is usually scarce as well. Divisional-level operations in DESERT STORM, even with all the media images of high-tech wizardry, were still largely immersed in the classic "fog of war". Our successes on that battlefield were due directly to our limited ability to "purchase" good reconnaissance—coupled with the counter-reconnaissance effort that denied the enemy the ability to see the battlefield. After all the final reports are written, we will still be left with the question—"what is the value of reconnaissance, and how do we perceive it changing in the near future?".

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

Measuring Success

Until recently, the many attempts to numerically quantify the value of reconnaissance have failed. Most simulations measure force "goodness" in terms of killer-victim scoreboards and loss exchange ratios, and consequently the contribution of reconnaissance can only be implied by the results. In short, reconnaissance attributes are implicit while attrition scores are explicit.

In 1987, however, the RAND Corporation undertook a study on the value of reconnaissance at the Army's National Training Center in Ft. Irwin, California. The results of the study, eventually published as RAND Note N-2628A, "reveals substantial support for the hypothesis that reconnaissance and battle success are strongly correlated. . ." The success or failure of the main force had an 85% correlation with the success or failure of the reconnaissance effort. In the extreme case, the correlation was closer to 96%. Further, in those cases where the Opposing Force (OPFOR) reconnaissance did fail, it was predominately because the Blue Force (BLUFOR) security elements had killed, captured, or neutralized the OPFOR recon-

naissance elements.

The search for a quantifiable value of reconnaissance should be given renewed emphasis while the Army is being downsized. Certainly, better reconnaissance provides a smaller force with the precision and speed necessary to defeat a larger one. It should be possible, in fact, to conduct a series of simulations where information flow to the players is either restricted or enhanced, and then perform what's known as a "sensitivity analysis". In one case, a player might be given little knowledge of his opponent's location, capability or intent. In a subsequent run of the same scenario, a player would be given near-perfect information on the enemy. With these varying degrees of uncertainty, forces come together and attrition assessments are compiled. Comparison of resulting attrition scores should give the relative advantage of reconnaissance.

It is obvious that one must see the battlefield clearly (and prevent the enemy from doing the same) in order to succeed in combat. The RAND study found that problems associated with the "purchase" of good reconnaissance included a lack of adequate training, a lack of doctrinal emphasis, a lack of timeliness, and *a serious lack of the proper equipment to do the job.* Although these exact numerical correlations between reconnaissance and success of the main force can not yet be scientifically applied across the spectrum of conflict, or even uniformly for ground, naval and air forces—it is a sure bet that similar correlations do, indeed, exist. Furthermore, it is highly likely that such correlations have always existed, and will continue to be valid into the foreseeable future.

The force commander must perform reconnaissance with the full variety of assets available in order to be ensured of success. The reason for this seeming "overkill" of reconnaissance is the simple fact that each reconnaissance system has a different set of capabilities and shortfalls. Just as the combined arms team provides the enemy with a multitude of ways to perish (thus preventing him from concentrating on nullifying a single system), so must the reconnaissance "complex" used by the force commander provide a multitude of ways to "see" the enemy. Deliberate dependence on any single method or platform can create unacceptable gaps in the reconnaissance product—and foster the conditions favorable for the use of deception on the enemy's part, the subsequent failure of the reconnaissance effort, and the correlated failure of the main force.

Current Limitations

Even if reconnaissance is performed properly, it may not arrive in time to make a difference. For reconnaissance to be timely, it must obviously arrive in the hands of a commander or staff early enough to affect the course of the battle. The reconnaissance platform must also be flexible enough to react to changing battlefield conditions. In the case of current U.S. Army doctrine, the division commander must see at least a day ahead—and the corps commander 72 hours ahead—of the current operation in order to make timely decisions. A majority of the more accurate systems used to supply information to Corps level and above are rendered ineffective because of the time lag associated with getting the intelligence product down to the division and brigade levels.

On the AirLand battlefield, a division commander simply cannot stop the main body while the ground-based systems re-adjust across the battlefield to a new collection base line, or a new screen line at 30 kilometers per hour. Another shortfall of a ground-based system is the line-of-sight limitation caused by terrain. In general, ground-based systems at the division and corps must possess a direct line-of-sight to the enemy. As the distance to the enemy increases, the "dead space" caused by undulations in the terrain increases also. In essence, ground based systems see the tops of the hills, and miss the enemy in the valleys. Thus, the two largest limitations of ground-based reconnaissance—lack of flexibility and restricted range—are a result of the fact that these systems are bound to

"It got to the point where you couldn't do the tactical reconnaissance job any other way but with aviation."

the terrain for both movement and protection. This is not to imply that ground-based reconnaissance systems have no useful function. It is clear that all reconnaissance systems must be used in conjunction in order to provide the complete picture. Ground-based reconnaissance systems simply perform best when the situation is relatively stable, and the battlefield lacks appreciable depth.

If the force commander needs to gain an intelligence picture of an extended, confused battle area in a timely manner, he must use a system that offers a mobility above that of his own and the enemy's main force. The requirement to provide timely reconnaissance on a fast-moving, ill-defined battlefield is best performed by sufficient numbers of aerial platforms (manned and/or unmanned), resting in the immediate grip of the force commander. Such systems must be able to move with the force, establish their own support in rough field sites, and have the sensors, communications and processing to be able to relay the reconnaissance product real-time to any sized maneuver force on the ground. Other types of reconnaissance platforms, either ground or air—are still required to do the complete job. The inescapable conclusion, however, is that the helicopter occupies a particularly critical position in the ability to provide a timely intelligence product on the battlefields of the future.

DESERT STORM

The importance of helicopter reconnaissance was confirmed by our experience in Operation DESERT STORM. One Corps staff officer observed that the ground commanders were frustrated by the lack of good tactical reconnaissance in depth "...they had a lot of blind spots. The recon business started grinding to a halt—no one was satisfying the tactical commanders' need for intelligence. It got to the point where you couldn't do the tactical reconnaissance job any other way but with aviation. Aviation units began going deep, and reporting what they saw. Then, more and more, ground commanders started asking questions and requiring aviation to do more deep reconnaissance missions. It became a natural evolution once the capabilities became known."

There remains much to be defined. The world is changing. The Army is restructuring to meet the challenges of a strategically deployable force, and new technologies appear almost daily. While we cannot predict the exact nature or location of future conflicts, we feel certain that these conflicts will indeed occur. As a result of Operation DESERT STORM, the roles, missions, and functions of scout and attack helicopters are being re-examined, expanded, and refined.

Future Battlefield

From the discussion above, we are quite certain that there is a definite, quantifiable "value of reconnaissance". Helicopters have proven their worth in performing this mission, as an integral part of the combined arms team. In order to adequately judge the impact of the Comanche on future AirLand Operations, we must first try to envision what the battlefield of the future will be like:

- *We will deploy to the battlefield of the future.* Contingency missions and rapid world-wide deployment will characterize future operations. Equipment must be made smaller and lighter to allow mass transportability in a limited number of cargo aircraft or ships. In as many cases as possible, equipment must be self-deployable over long distances. Once deployed, equipment must be robust and reliable so that we avoid transporting a

large logistics tail. Any contingency force must have the organic capability to quickly and efficiently perform its own reconnaissance.

- *Future battle is highly likely to be characterized by decisive engagements at extended ranges.* Long-range, precision weapons (such as ATACMS BLOCK II) may make the traditional massing of forces prior to attack obsolete. Air Interdiction by either side, with modern munitions, can quickly reduce an exposed force to mission in effective status. New sensor systems can detect point targets at extreme ranges, making the battlefield nearly "transparent". The battlefield is expanding to tremendous depth, and the Army must retain the ability to see the deep battlefield and then project combat power throughout that depth.
- *The battlefield of the future will be non-linear, and characterized by tremendous tempo.* Greater space between units and higher rates of movement will quickly cause an intermixing of friendly and enemy units to a significant depth. In the low-intensity scenario, a foot-bound foe may use terrain and stealth to mass against a target we need to protect, thus requiring us to possess a higher relative tempo in order to effectively counter. The combined arms team must fully exploit the ability to "break friction with the ground" in order to be successful on a non-linear battlefield.
- *The battlefield of the future will be extremely lethal.* The two primary elements at work here are the proliferation of weapons and the advance of technology. Most developed industrial nations can claim a substantial arms export trade. The proliferation of high-technology weaponry into the third world holds the potential for disaster in any future contingency mission. Recent advances in digital processing and precision manufacturing will undoubtedly push critical technologies such as radar and IR sensor performance to new heights. The low-observable characteristics on Comanche is our best bet against the proliferation of these high-tech systems.
- *Supporting Battlefield Operating Systems may well dictate success or failure on the battlefield of the future.* The tremendous depth envisioned, coupled with the non-linearity of the battlefield, will put tremendous strain on combat support and service support elements. Real-time C^3I and robust, flexible logistic systems (or lack thereof) will certainly dictate the tempo and probably decide the outcome.

With some certainty, we can predict that the Comanche can get to the battlefield of the future—either by strategic air lift, or by its own self-deployment capability—in sufficient numbers to quickly influence the fight. After arrival, the sensor package and long-range communications capabilities of the Comanche will provide the force commander with the timely, accurate reconnaissance he needs to establish a very credible deterrent, or quickly prosecute a combat mission. The Comanche's armament suite can decisively deal with threats encountered on armed reconnaissance or light attack mission. Finally, the particular care given to development of Comanche supportability means that we can deploy far less of the "logistics tail" than was previously required.

The impact is this: Comanche deployability, Comanche reconnaissance, Comanche lethality—it allows the future force commander to make an immediate and fatal impact on our future enemies. In the hands of the American soldier, it gives us the decisive advantage—and that's just the way I like it. IIIII

Challenge

(continued from page 6)

force modernization, it's fortunate that the past 25 years have also produced tremendous improvements in armed helicopter and associated technologies. Capturing the benefits of those technologies is more than merely an opportunity for the Comanche—it is an obligation. Without the leverage of advanced technology, the Army's force modernization imperatives can never be met within force structure constraints. The Comanche provides the critical technological edge to respond quickly and defeat even the most sophisticated threat

with minimum loss.

Without the Comanche, the Army would be forced to retain the Vietnam era cavalry helicopter fleet indefinitely, placing tomorrow's combined arms forces at unnecessary risk due to reliance on aircraft that would be nearly forty years old at the millennium—aircraft that today are already technically and tactically obsolete, and whose support requirements are simply not sustainable in tomorrow's austere Army.

Army leadership must address the questions of balance among all combined arms force requirements. Programs such as Armored Systems Modernization and Deep Fires are also vital factors in the overall force modernization equation. Clearly, however, the continued development and production of the Comanche is a pivotal ingredient of the Army's strategy to prepare for the military challenges of tomorrow's changing world.

Our Army should be proud of the accomplishments of the Comanche program. It has been a difficult road to travel, and the goal is in sight, though not yet attained. It has also been a journey marked by unprecedented cooperation, dedication, and technological achievement by the entire U.S. military helicopter industry, which has proven itself second to none. The perceptive and forward looking support of our Nation's political leaders completes what has so far been an unbeatable team.

We are about to produce and field the world's most capable and cost-effective armed reconnaissance helicopter. The future Army's balance, capability, deployability, and lethality demand Comanche as part of a conventional force that can deter—and, if needed, defeat—those who would challenge our interests at the point of a gun. The leadership of the government, the Army, and industry are jointly striving to place the world's best helicopter in service with the world's finest Army. The voice of the Army's Aviation Branch, echoing from the Ia Drang Valley to the Iraqi desert, gives testimony that the Comanche will remain above the difficult currents of change to ensure this nation and her Army meet the military challenges of tomorrow's world.

Team Comanche

By Major General Dewitt T. Irby, Jr.

The Comanche weapon system is a prime example of the technological sophistication of next-generation rotorcraft. Managing this system through its life cycle is going to require next-generation leaders. Forward thinking leaders with vision, leaders who understand the pitfalls of traditional management and are willing to adapt to the dynamics of process management.

Adapting to change is no easy task. Today's leaders must walk a delicate tightrope balancing the "norms" of yesterday with the changes required to succeed in the Quality Management environment. Changes which, more often than not, run counter to traditional views. Getting the Comanche program through the Demonstration and Validation (Dem/Val) prototype is going to take innovative, focused leaders with the ability to manage change.

Upon assuming stewardship of the Program Executive Office, I began asking, "What is the Dem/Val Process?" Everyone I asked had an answer, all different, and some showed me three inch books or file drawers full of contractual documents. What's more, everybody knew they could do "it" because they had been doing "it" for years. This led me to believe it was time to take a hard look at how we were going to move through the Dem/Val Phase and build the most advanced helicopter system in the history of Army Aviation. It was time for change.

Over the past years, this mission area has evolved out of the aviation world of airframes, engines, transmissions, rotorblades, and gear boxes into a world of highly complex, avionics-intensive weapon systems. These highly technical mission packages and weapon systems must be acquired, managed, and sustained by an AVSCOM and PEO quite differently from what we have in place today. Nowhere is

MG Irby is Program Executive Officer, Aviation, St. Louis, MO.

TEAM COMANCHE

this more apparent than in the Comanche program which is "Pushing the Envelope", so to speak, when it comes to technology. Integration of the Mission Equipment Package alone provides unique challenges which cannot be met using the processes and management concepts we used to build helicopter systems in the 70s and 80s. It is not only time for change, it is essential.

The change process began with the establishment of Team Comanche. Team Comanche is based on an integrated Government and Contractor management strategy to assure effective and timely program execution. The concept is designed to:

- identify all processes required to accomplish the Comanche Dem/Val prototype phase;
- identify areas where processes or expertise are lacking;
- identify process owners, required resources, and performance measurement criteria;
- identify problems and develop solutions early on to assure accomplishment of all cost, schedule, performance, and supportability objectives;
- achievement of a successful Milestone II decision.

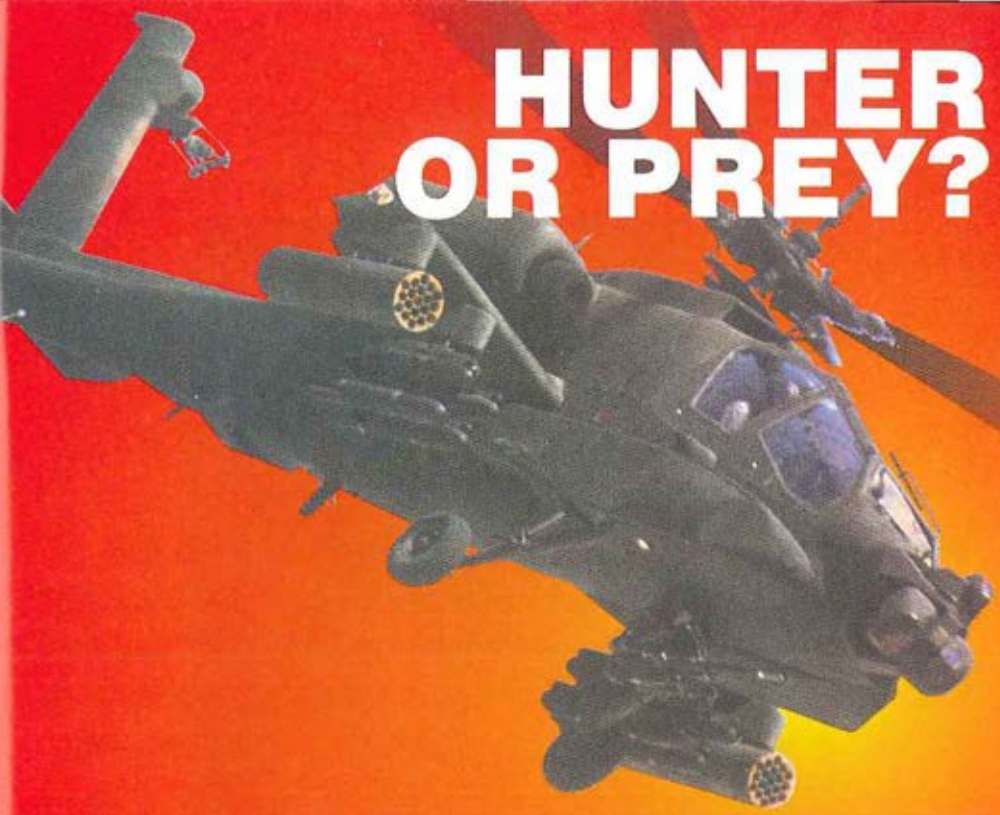
To implement this strategy, a joint Industry/Government Process Action Team was established. The team was tasked to:

- Identify Dem/Val processes
- Identify required resources
- Identify skills not available within Government
- Establish performance criteria
- Determine future Process Action Team (PAT) requirements (sub-process level)

This start-up PAT, comprised of members from the Comanche PM, AMC Matrix, and the Boeing Sikorsky First Team, is nearing completion of their tasking. We will take their recommendations and build the supporting PAT structure and processes needed to carry us through Dem/Val.

It's time to produce the promises. . . promises made by the contractors to Government. . . promises made by the developer to the soldiers we serve. . . and promises made by Government to the American Taxpayer. History has taught us that we can no longer afford to operate as islands within our own little "rice bowls". We have neither the people, time, or money to continue these practices. If we are going to overcome the constraints we are faced with today, we must find improvements within the systems and processes we are using to produce the Comanche. Teamwork, elimination of waste, open communication, cross-functional problem solving, and process management must become business as usual. Quality maxims will not get us there. Team Comanche, focused on leadership and pushing the change process, will. IIIII

HUNTER OR PREY?



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Comanche: On Track

By Brigadier General Orlin L. Mullen

The RAH-66 Comanche Program, formerly known as the Light Helicopter, continues to progress through the Demonstration/Validation (Dem/Val) phase of the system life cycle. A major source selection has been completed, and a Dem/Val Prototype phase has been initiated.

The program continues to receive strong support from Army and Department of Defense leadership, as well as in Congress.

This special Comanche edition of ARMY AVIATION Magazine provides a thorough picture of the program's status. Years of perseverance by the members of Team Comanche are now demonstrating tangible results.

In April 1991, the Boeing Sikorsky joint venture was announced as the winner of a tough competition to develop and build the Comanche. The development contract negotiated during the source selection process results in a 52 month Demonstration/Validation Prototype phase, followed by a 39 month Engineering and Manufacturing Development (EMD) phase. The EMD is included as a price contract option to be exercised after a successful Milestone II decision review, scheduled for August 1995. The objective of the Dem/Val Prototype phase is to complete the aircraft design, build prototype aircraft, and to conduct a flight test program that reduces risk and demonstrates system readiness for EMD. The Dem/Val Prototype phase provides a smooth transition to the EMD phase. During EMD, detailed development and user testing will demonstrate that Comanche meets its technical and operational requirements.

BG Mullen is RAH-66 Comanche Program Manager, St. Louis, MO.

A significant feature of the development contract is an award fee provision that addresses comprehensive program execution to include technical performance, supportability, producibility, and life cycle cost. All of these elements must be optimized in a balanced approach if the contractor is to

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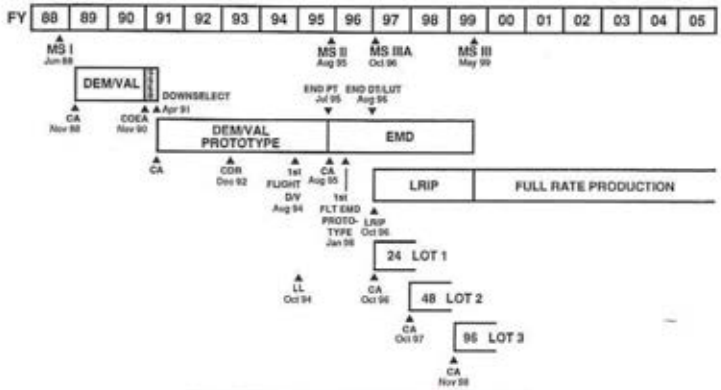
Chief, Mission Equipment Branch
(SFAE-AV-RAH-TM)

Mr. Robert L. Tomaine
Chief, Air Vehicle Branch
(SFAE-AV-RAH-TV)

Mr. Jeffrey A. Olson
Chief, Propulsion and Power Branch
(SFAE-AV-RAH-TP)

RAH-66 COMANCHE PROGRAM SCHEDULE



1st FLIGHT - AUGUST 1994

earn a maximum award fee. Sophisticated Government/contractor cost-sharing provisions are also included to provide incentives to control costs and overruns. The prime contractors are signed up to share 50-50 any overruns and to similarly re-invest profits from underruns. Boeing Sikorsky's design-to-cost commitment of $8.5 million per aircraft (in FY 1988 dollars), and design-to-operating-and-support-cost commitment of $422 per flying hour, contain valuable flexibility for the Government that contributes to the ease of administration, while providing for variations in annual production quantities.

The aircraft design offered by Boeing Sikorsky provides the Army with an extremely capable and survivable aircraft system. Flight performance will be enhanced by a main rotor diameter chosen to provide a large margin in vertical rate-of-climb capability. A high main rotor effective hinge offset and large diameter fantail will provide excellent maneuverability/agility.

The Comanche is designed to be exceptionally maintainable and easily transportable. Through the use of box-beam construction, numerous access panels, easily accessible Line Replaceable Units/Modules (LRUs/LRMs) and advanced diagnostics, the RAH-66 has designed-in maintainability. The Comanche is also easily transportable. It can be loaded or unloaded into a C-130 or C-141 in just twenty minutes.

Boeing Sikorsky has offered firm reliability commitments for which contract reliability values meet or exceed the minimum requirements specified by the Army. Boeing Sikorsky has agreed to fix all failures during development and, as necessary, to use a percentage of production profits to correct reliability problems. Also included is a highly integrated MANPRINT/Training program which drives the system design in order to optimize man-machine interface and total operational suitability.

The first flight for Comanche is scheduled for August 1994, following months of extensive ground testing. A total of four prototype aircraft will be built and flight-tested during the Dem/Val prototype phase, accumulating approximately 445 flight hours. Two additional prototypes will be added to the test program during the EMD phase. In all, a total of 2,820 hours are planned to be flown on all six prototypes.

The T800 engine development program is progressing toward its qualification milestone in the Spring of 1992. The Light Helicopter Turbine Engine Company (LHTEC) has accumulated over 7,000 engine qualification test hours since the engine source

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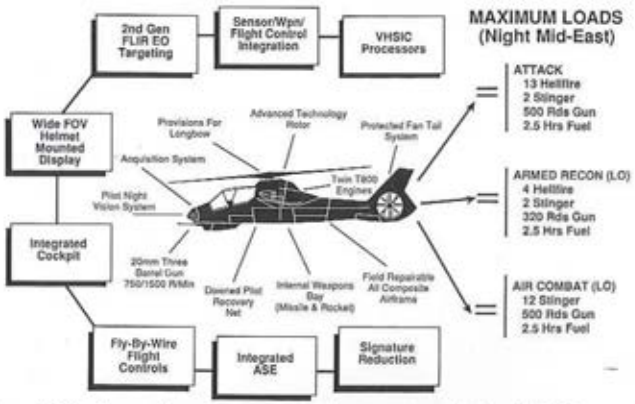
RAH-66 COMANCHE CAPABILITIES



selection in October 1988. Since June 1985, LHTEC has completed over 12,500 hours of its total engine test program. LHTEC has delivered six preliminary flight-rated Y-T800 engines that have supported the joint U.S. Coast Guard/U.S. Army HH-65A/T800 proof of concept program, as well as other alternate application programs, including the Westland Lynx and Augusta A-129 aircraft. This flight test experience will assure the Army of a mature engine design at the beginning of the Comanche flight test program. A successful engine critical design review was conducted in June 1991.

The opportunity for the contractor to continue design trades after contract award was included in the contract. This design flexibility allows the contractor to make trades as long as performance stays within agreed-to bands. The Government and Boeing Sikorsky have agreed to design flexibility in areas such as ballistic tolerance, acoustic signature, NBC protection, flight performance, and combat empty weight. These bands provide significant opportunities for cost savings and reduced program risk with minimum impact to the Comanche capabilities.

The benefit of this action is already apparent. Lessons learned from DESERT STORM revealed some capabilities that should be incorporated into the Comanche. This will result in a heavier combat empty weight. Preliminary designs indicate a combat empty weight of 7,800 pounds, with an additional 150 pound management reserve held by Army management.

This new combat empty weight with the addition of Longbow will require more engine power to retain the same performance. The T800 engine will take advantage of its inherent growth capability. A development program will grow the T800 approximately 12%. This growth will ensure the Comanche retains performance at heavier weights, and also provides the power to meet the ROC performance when the Longbow Fire Control Radar is added.

The Longbow Radar will provide automatic target recognition when sensor fused with the Comanche's second generation FLIR. Current plans call for the Longbow to be installed on 431 Comanches beginning during the 5th production lot.

As a result of the extensive competition conducted throughout concept exploration and Dem/Val, the Army has chosen the best light scout/attack helicopter design. It will meet user requirements, perform required missions, defeat the projected threat, and survive on the future battlefield. Capable, dedicated people in both Government and industry continue to work the Comanche solution every day. The dedication and professionalism demonstrated daily ensure the success of this vital aviation program. The Comanche will provide the additional margin of victory required by our soldiers on tomorrow's battlefield. IIIII

Armed Reconnaissance Efficiency

by

Colonel Stephen S. MacWillie & Lt. Colonel James M. Delashaw

As the Army evolves over the next five years into a high quality, smaller force, one of our strategic goals will focus on power projection from a CONUS-based contingency force. This force must be deployable, lethal, versatile, survivable, and supportable. It will be organized for rapid response and be able to fight across the continuum of conflict—from terrorism through conventional to strategic nuclear war—on non-linear battlefields. AirLand Battle doctrine, influenced by AirLand Operations concepts, requires the ability to rapidly deploy to and provide improved mobility throughout the battlefield, employ lethal weapon systems in combined arms engagements, survive, and be easy to support. Army Aviation is uniquely structured to provide enhanced, highly mobile, warfighting capabilities in support of the ground commander's scheme of maneuver. Aviation will field a modern weapon system capable of performing armed reconnaissance during night, adverse weather, and in battlefield obscurants. These new capabilities will provide near real-time battlefield intelligence necessary for the commander to make sound tactical decisions, decisively commit his forces, and destroy the enemy. The current light fleet of aircraft lacks these key operational capabilities. Consequently, Army Aviation is modernizing its reconnaissance force with the RAH-66 Comanche.

COL MacWillie is the TRADOC System Manager (TSM) for Comanche, Ft. Rucker, AL.

The Comanche is a lightweight, low cost, multimission advanced technology weapon system. It will be capable of performing the armed reconnaissance and attack missions with an embedded air combat capability. It features high battlefield survivability, increased worldwide

LTC Delashaw is Asst. TSM-Comanche, Logistics, Ft. Rucker, AL.

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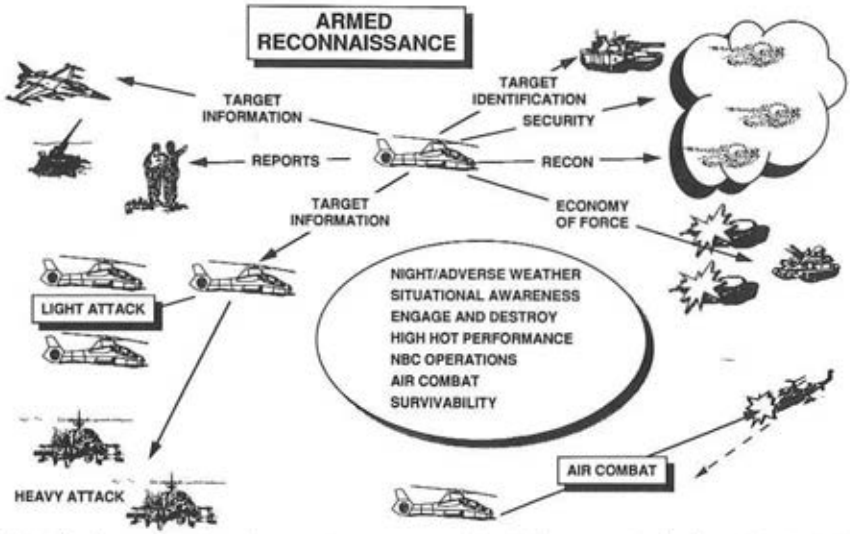


combat effectiveness, reduced support requirements, and improved safety. These warfighting capability enhancements will only be realized if the weapon system can be rapidly *deployed*, effectively *employed*, and continuously *sustained*.

Deployment

The strategy of power projection is based on a contingency force which can be rapidly deployed. The Comanche's design is optimized for self-deployment, transportability in USAF cargo aircraft, and sealift. Capable of 1,260 nautical mile distances, it can self-deploy into Europe using either the northern or southern route, and can also deploy to South America and the Pacific Rim. One Comanche can be airlifted in the C-130, three in the C-141B, four in the C-17, and eight in the C-5. It can be offloaded from a C-130 in seven minutes and be combat ready in less than 22 minutes. Deploying Comanches in the C-5 maintains unit integrity—a Cavalry troop or attack company of eight RAH-66 (future organizations) arrive together. The RAH-66 can be transported by a variety of sealift ships. Shipboard compatibility enables the Comanche to deploy and operate from Naval ships as part of a forced entry task force.

Employment

Arriving in the area of operations, the contingency force commander employs high technology weapons systems to achieve a quick and decisive victory. The RAH-66 within Cavalry troops performs armed reconnaissance to provide security, gather intelligence, report target locations, and shape the battlefield for the ground commander. In the light division's attack helicopter battalions, the Comanche performs both scout and attack functions in support of contingency force operations. Additionally, the Comanche will perform the scout function for Apaches in AH-64 battalions at division and corps. Air combat is an embedded capability which is always available to support the combined arms team.

Army Aviation currently owns the night and with the fielding of the Comanche will become "Masters of the Night." The RAH-66's sophisticated mission equipment package enables it to detect and engage targets at night, in adverse weather, and at extended ranges. Second generation Forward Looking Infrared (FLIR) sensors see

farther with a 35% wider field of view and twice the resolution of currently fielded systems. Multi-spectral night vision pilotage (2nd generation FLIR and I2) and targeting (2nd generation FLIR and TV) systems imagery is presented on biocular helmet mounted displays. The crew is capable of aggressive yet safe nap of the earth flight. The "heads up and eyes out" approach means situational awareness is maintained while the crew focuses on their battlefield tasks. Comanche Aided Target Detection and Classification (ATD/C) reduces aircraft exposure during target acquisition. Digital imagery from the Target Acquisition System (TAS) is stored and computer analyzed for target detection and classification. Imagery can be played back by the crew, or can be recorded for playback at the Tactical Operations Center (TOC). Additionally, the imagery can be digitized and databurst to the TOC. Near real-time intelligence becomes available to decision makers. The Comanche will engage and destroy the enemy. The RAH-66 has six integral weapon stations, with the capability to add eight additional weapon stations externally. Each station can carry one Hellfire, two Stingers, or four Hydra-70 rockets. Tri-service communications and automated target handover make Comanche a key combined arms team asset that enables coordinated engagement of the enemy by artillery, TAC AIR, Naval gunfire, Apaches, and other Comanches. There will be no place to hide.

Worldwide contingency operations require high/hot performance. Environmental conditions in DESERT STORM severely limited operations of the current light fleet of AH-1, OH-58, and OH-6 aircraft because they lack performance capability in the high/hot conditions. The Comanche, with twin T800 engines, is designed to operate in the high/hot climate (4000 feet and 35°C) with a mission load of four Hellfires, two Stingers, 320 rounds of 20mm gun ammunition, and 2.5 hours of fuel.

For Nuclear, Biological, and Chemical (NBC) operations the RAH-66 cockpit and avionics bays are pressurized. This feature inhibits the penetration of contaminants, sand, and dust. Point chemical detectors warn the crew of NBC hazards. Decontamination is enhanced by Comanche's low drag, internal weapons design which minimizes contaminant collection cavities associated with conventional high drag, external weapons helicopter design.

Standoff target acquisition and engagement capabilities enable the Comanche crew to detect and destroy air adversaries prior to being engaged themselves. In the event of close engagements, the Comanche power-to-weight ratio, maneuverability, and agility provide an embedded capability for air combat maneuvers. Flight performance, coupled with Stinger and a 20mm turreted gun system optimized for air combat accuracy, make the Comanche a formidable air adversary.

Battlefield survivability—a capability lacking on the current light fleet—is essential. Comanche has low infrared and radar signatures. These passive measures reduce the need for active countermeasures. If active countermeasures are needed, only small, low power devices will be required. Consequently, space, weight, power, and computer processing previously used for active countermeasures can be devoted to other mission functions. Flight and mission critical components, sensors, and the crew have ballistic, laser, and electromagnetic protection. Safety features include redundancy of critical systems (triple redundant flight and hydraulics, redundant night vision, and navigation), high crash impact tolerance (38 fps with pitch and roll), and a protected anti-torque system.

Supportability

A smaller, quality force will rely heavily on improved supportability to keep high value weapon systems in the fight. Comanche is designed for two levels of maintenance—user and depot. Through design the logistics tail is minimized. Comanche features reduced Peculiar Ground Support Equipment and lower Maintenance Man-hours per Flight Hour (MMH/FH)—the requirement is 2.6 MMH/FH. Hasty aerial recovery, by CH-47, can be completed in

(Efficiency — continued on page 30)

Comanche RAH-66

User Participation: T800 Maintenance Demo

by

Sergeant First Class William B. Doughty and Roy Longino

On 22 April 1987, the first user maintenance demonstration (M-DEMO I) for the U.S. Army's T800 Engine began in Indianapolis, IN. This was the first time Army maintainers performed selected maintenance tasks on the Light Helicopter Turbine Engine Company's (LHTEC) developmental T800 engine. The participants were four 68B engine mechanics, one 67V Cobra mechanic, and one 67N Huey mechanic. They all had recently graduated from the powerplant and aircraft repairers courses at Ft. Eustis, VA. During the two and a half weeks of the maintenance demonstration, selected tasks were completed in Nuclear, Biological, and Chemical (NBC) and Arctic gear, in decreased lighting, and with varying levels of accessibility (using a generic nacelle mockup). This first maintenance demonstration provided feedback to the government and industry on how well the T800 was designed for maintainability. They used the results of this to refine their design to make the T800 more maintainable. Six months later, in October of 1987, another maintainability demonstration (M-DEMO II) was conducted to again evaluate the T800 design for maintainability. The focus at the user level was to evaluate any design changes since M-DEMO I and to perform selected depot level tasks. The Army participants were two 67Y Cobra mechanics and one 67V Kiowa mechanic. They were also graduates from the aircraft repairers course at Ft. Eustis, VA. This resulted in additional feedback to the LHTEC designers in pursuit of an optimal design for maintainability.

The T800 engine is still being fine-tuned, with the

SFC Doughty was Asst. TSM-C (T800), Ft. Rucker, AL, when this article was written.

Mr. Longino is a General Engineer, RAM, Comanche PMO, St. Louis, MO.

user as a prime player in the process. The third T800 Engine Maintainability Demonstration IIA (M-DEMO IIA) began on 13 May 1991, in Indianapolis, IN. Five Army maintainers (three male and two female) participated in this demonstration. Three were 68B10 powerplant repairers, 1 67R10 AH-64 mechanic, and 1 67Y10 AH-1S Cobra mechanic. The soldiers ranged from a 5th percentile (small) female to a 95th percentile (large) male, as measured by the Army anthropometric guidelines. As in previous maintainability demonstrations, they were recent graduates of their respective Advanced Individual Training (AIT) School.

Prior to the start of M-DEMO IIA, T800 engine specific training was provided. The training consisted of 10 hours of classroom and 30 hours practical exercise that included T800 engine orientation and the removal/replacement of Line Replaceable Units (LRUs) and modules on a Qualification Test (QT) configured engine. This time was also used as an opportunity for the Army maintainers to familiarize themselves with the design differences associated with the T800 engine (metric design, six engine particular tools, and two level maintenance) versus the existing Army engines on which they had just completed training. The primary objectives for this demonstration were:

- Demonstrate the QT-configured engine meets the required specifications, i.e., LRU maximum time to repair (MaxTTR) of 13.5 minutes and module MaxTTR of 54 minutes.
- Verify the content of the Logistics Support Analysis Record (LSAR) for the specified tasks.
- Evaluate the progress of the M-DEMO IIA training materials.
- Allow LHTEC to validate the T800 Engine Technical Manual (TM).
- Verify the use of any additional user level tools needed in excess of the six required T800-unique maintainer tools.
- Address the maintainability concerns identified at the M-DEMO II in October of 1987.

One of the primary objectives of the previous demonstrations was to validate the LSAR procedures. However, this demonstration was unique in that both the LSAR and TMs were simultaneously evaluated at the user level. The Army maintainers used the TMs to perform each task. The LSAR task descriptions were reviewed along with the TMs to insure consistency between the two.

The QT configured engine used during the M-DEMO IIA completed a 150 hour endurance test prior to its use. The engine was operated at various engine stress levels to simulate field operation of the engine. The 150 hour test run provided accelerated (three to five times more) wear and tear on the internal components. This engine run was important so that Army user mechanics and contractor depot mechanics could experience hardware conditions associated with field type usage. During the two week user level portion of

the demonstration, 193 individual user tasks were accomplished. Several of the LRUs had been redesigned for the QT configuration. Most of these LRUs showed improvements in accessibility and overall ease of maintenance. For example, the torque sensor was redesigned to allow better access for maintainers with larger hands or for those wearing Arctic gloves.

After the user's phase of the demonstration, a depot level evaluation was successfully completed. The T800 engine was completely disassembled and reassembled. A total of 73 depot tasks were accomplished, along with two vendor component teardowns. After depot reassembly, the engine was put back in the test cell to verify post M-DEMO IIA performance. The engine showed little or no degradation in performance parameters; therefore, the M-DEMO IIA was considered complete.

Three T800 engine maintenance demonstrations have come and gone quite successfully. The quantitative MaxTTR specification values have been met. The demonstrated LRU MaxTTR of 12.8 minutes is better than the 13.5 minutes requirement. The demonstrated module MaxTTR of 34 minutes is well below the 54 minute requirement. Seventy eight tasks were accomplished in NBC and Arctic gear with only one LRU remove/replace time exceeding 13.5 minutes. The identification of problems during the early maintainability demonstrations and iterative design efforts have resulted in a greatly improved T800 design for ease of maintenance. The integration of the T800 into the RAH-66 Comanche will go much smoother based on the results of these three M-DEMOs and the dedicated team work shown by LHTEC and the Army. IIIII

Reconnaissance

(continued from page 27)

15 minutes using a mast collar and the existing unit maintenance aerial recovery kit. Battle Damage Assessment and Repair (BDAR), completed in three hours or less, will last at least 100 hours before permanent repair is required. These repairs can be completed using existing aviation BDAR kits, and the materials in each kit can be replenished from standard Army or DoD inventories. Refueling and rearming can be accomplished in 15 minutes by three personnel in full Mission Oriented Protective Posture (MOPP) or arctic gear.

The user's primary maintenance function will be pre-mission and post-inspections, coupled with remove and replace maintenance tasks for failed items. Inspections will be conducted using on-board diagnostics augmented with the Portable Intelligence Maintenance Aid (PIMA). The PIMA is a laptop computer sized piece of off-board test equipment which includes a "bit verifier" capability to eliminate returns to depot of good components. Additionally, the PIMA functions as the electronic troubleshooting manual, parts manual, repair manual, and is the Automated Log Book. Extensive and accurate onboard fault-isolation capability and prognostic trending alert the maintainer of impending component failure sufficiently in advance to order repair parts, thereby reducing time waiting for supply.

Operating costs, throughout the life of the Comanche, will be reduced over the existing fleet through increased component reliability (i.e., at least 3,000 hours mean-time-between-removal for mechanical components and 2,500 hours for electrical) and a user level Maximum Time To Repair (MTTR) of not more than two hours for unscheduled maintenance.

Operational effectiveness and suitability played a significant role in the design and selection process for the RAH-66 Comanche. The emphasis is to provide the soldier the most efficient and effective warfighting system technologically feasible. However, the success of technology integration is measured by the success achieved on the field of battle. The value of a weapon systems is measured in the context of *getting to the battle, fighting the battle, surviving, and sustaining to remain in the fight.* The Comanche embodies these values and provides the Army with increased warfighting capabilities in support of current and evolving doctrine. IIIII

Operational Testing

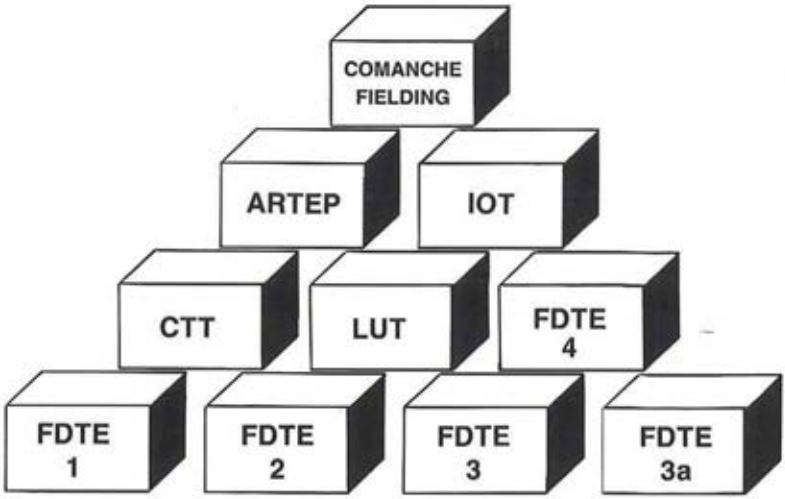
By Robert J. Szerszynski

Every aviator knows that a good landing starts with a good approach. So too, successful fielding of the RAH-66 Comanche will require a good approach to operational testing. The approach to operational testing of the Comanche is different from any previous system. It is recognized that hardware, training, and tactical development must be coordinated and occur, for the first time, concurrently. To accomplish this, the Test and Experimentation Command (TEXCOM) Aviation Test Directorate, along with TRADOC System Manager-Comanche and the Early Operational Capability (EOC) Unit, will conduct a series of Force Development Test and Experimentations (FDTE) to develop the tactics, techniques, and procedures for the Comanche. This approach is especially unique because testing will start before the first flight of even a prototype aircraft. These FDTEs will be the basis for the overall test program.

Mr. Szerszynski is Deputy Chief, Special Projects Test Division, TEXCOM, Ft. Hood, TX.

FDTE 1, 2, and 3 will be conducted in the AIRNET facility at Ft. Rucker, AL. FDTE 1 will lay the groundwork in Comanche tactics by developing crew tasks and duties internal to the cockpit. FDTE 2 will further refine these tactics, as well as provide data to determine team composition, responsibilities, and battle drills. FDTE 3 will look at the full Comanche team against a complete threat array. The results of FDTE 3 will be the basis for publishing the preliminary Comanche Tactics, Techniques, and Procedures (TTP) Manual. A follow-on test, FDTE 3a, is planned to validate the TTP using OH-58Ds (Kiowa Warriors) during a rotation at the National Training Center (NTC).

Another unique aspect of the Comanche program is the Combined Test Team (CTT). The Comanche Program Management Office and the Comanche Test Integration Working Group recognized that a single team was needed to facilitate daily test



operations at contractor facilities. The CTT will provide the Army an opportunity to evaluate the Comanche early in the developmental program. It will also avoid duplication of testing and provide a structure for immediate coordination of test missions.

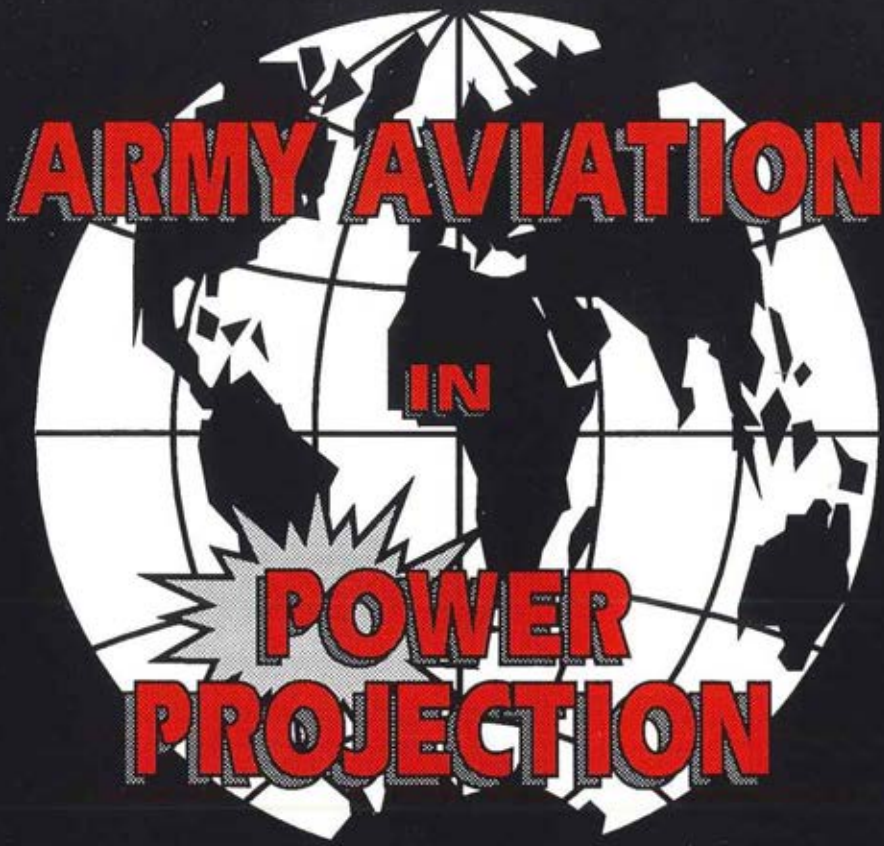
TEXCOM has gone a step further towards preparing for testing the Comanche. In the recent TEXCOM reorganization, the Aviation Test Directorate was structured with an additional test division, Special Projects Test Division, whose primary function is the testing of the Comanche.

Prior to the Milestone IIIa Low Rate Initial Production (LRIP) decision, the TEXCOM Aviation Test Directorate's Special Projects Test Division will conduct a Limited Users Test (LUT). The data collected will be provided to the evaluators at Operational Evaluation Command (OEC), for their review, to support the Milestone IIIa decision. This LUT will assess the Comanche's potential system effectiveness and suitability, using three prototype Comanches. The TTP created during the earlier FDTEs will be validated, and modified as necessary, in these prototypes.

Before an Initial Operational Test (IOT) can be done, the complete Comanche training package must be certified. FDTE 4 will be that training validation. After Initial Key Personnel Training (IKPT), the contractor provided Integrated Training System (ITS) will be evaluated during individual training. This assessment will be the basis for the government acceptance of the ITS. After the individuals are trained and the Comanche unit has worked on collective tasks, an ARTEP will evaluate the unit's readiness to begin the IOT.

Short of actual combat, the IOT will test the Comanche under as realistic threat conditions as possible. Using eight LRIP aircraft, the test unit will fly 750-1,200 hours to assess the operational effectiveness and suitability of an RAH-66 Comanche-equipped air cavalry troop.

Just as a good approach is the first step to a good landing, the approach we are taking in operational testing of the Comanche will help insure a quality fielded system. As the motto of the Aviation Test Directorate states: *Fidelis Operandi* (Fidelity to the Operator), we will be faithful to the Aviator by working toward making the Comanche the best aviation system ever. IIIII



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CARDHOLDER NAME AND SIGNATURE

❶ Spouse Badge for Professional Sessions is complimentary. ❷ AAAA Membership is required for all attendees, except spouses, who wish to attend the Professional Sessions. ❸ Admission fee waived for all active AAAA Greater Atlanta Chapter members and their spouses. ❹ Reserved Seating. Formal/Black Tie; Military Blues/Mess Jacket. Seating requests cannot be guaranteed.

This form, with the appropriate fees, must be completed and received by: AAAA, 49 Richmondville Avenue, Westport, CT 06880-2000 on or before FRIDAY, FEBRUARY 28, 1992. Phone: (203) 226-8184; Fax: (203) 222-9863. Note: Forms received without payment will not be processed.

C42adreg

AAAA OFFICIAL HOUSING FORM
AAAA ANNUAL CONVENTION
APRIL 8-12, 1992 • ATLANTA, GA

MAIL THIS OFFICIAL HOUSING FORM TO:

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

Please print all information. I understand that to receive a room at AAAA Convention rates, I must register for the professional sessions or exhibits or attend one of the functions of the AAAA Annual Convention. Room requests will be processed on a first come, first-served basis starting on January 15, 1992. The Housing Deadline is **FRIDAY, FEBRUARY 28**. Room requests received after **FRIDAY, FEBRUARY 28**, will be honored on a space-available basis. Please confirm your special needs directly with the hotel to which you have been assigned. If you have any questions, please contact the AAAA National Office at (203) 226-8184. **NOTE: For Military/DAC Housing, this Housing Form will NOT be processed by the AAAA National Office unless accompanied by a completed AAAA Registration Form.**

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

HOME MAILING ADDRESS OR NAME OF COMPANY, FIRM OR UNIT

STREET ADDRESS OR P.O. BOX NUMBER

CITY STATE ZIP

COUNTRY AREA CODE OFFICE TELEPHONE NUMBER

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

❷

INDUSTRY/CIVILIAN

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

☐ Hyatt Regency Atlanta $109-Single or Double
265 Peachtree Street, N.E., Atlanta, GA 30303 Tel: (404) 577-1234

☐ Westin Peachtree Plaza $109-Single or Double
Peachtree at International Blvd., Atlanta, GA 30343 Tel: (404) 659-1400

☐ Best Western American Hotel $55-Single or Double
160 Spring Street, Atlanta, GA 30303 Tel: (404) 688-8600

Above Rates Subject to Local Taxes.

MILITARY/DAC

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

☐ Hyatt Regency Atlanta $67-Single or Double
c/o AAAA, 49 Richmondville Avenue, Westport, CT 06880

☐ Westin Peachtree Plaza $69-Single or Double
c/o AAAA, 49 Richmondville Avenue, Westport, CT 06880

☐ Best Western American Hotel $49-Single or Double
c/o AAAA, 49 Richmondville Avenue, Westport, CT 06880

Above Rates Subject to Local Taxes.

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

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

1. _____ 2. _____ 3. _____

❺ PLEASE GUARANTEE MY RESERVATION WITH THE FOLLOWING CREDIT CARD:

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

Credit Card Number _____ Expiration Date _____

Signature of Cardholder _____

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

Have you made your airline reservation?
Call Travelmation, AAAA's official travel agent, at 1-800-753-6661 for the AAAA Group Savings!

C90-house

1992 ANNUAL AAAA CONVENTION
ATLANTA, GEORGIA — APRIL 8-12

Travelmation
The Official Travel Agency

Travelmation has been selected as AAAA's official travel agent. In order to help you get the lowest possible airfare call **Travelmation** at **(800) 753-6661**. Travelmation's computer system will keep checking for lower fares even after you book.

DELTA AIR LINES has been selected as the designated carrier for the AAAA Annual Convention in Atlanta.

The reduced fares to and from Atlanta will be 40% off Coach Class or 5% off the lowest Super Saver.

These apply to advance purchase requirements of the applicable fare.

To make your flight reservations, call DELTA directly **1-800-241-6760 (Cite File #H0536)**, or to ensure getting the lowest possible fare with a computer system that keeps checking for lower fares after you book, call **Travelmation (800) 753-6661 .**

The savings apply to reservations on Delta flights between Friday, April 3 and Tuesday, April 14, 1992.

HERTZ and AAAA Together!

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

Through the AAAA contract with Hertz CDP-ID-83438 — any card-holding members of AAAA may obtain the Hertz special convention rates while at the AAAA Annual Convention in Atlanta.

Discounts are on reservations made personally, through Travelmation (800) 753-6661 or call Hertz Meeting Sales Desk at **(800) 654-2240**.

Be sure to mention Meeting Account #3385 when making reservations.

REGISTRATION & FEES:

An Advance Registration Form must be completed by each individual who wishes to attend the professional sessions or social functions. The Advance Registration Form may be reproduced locally if additional copies are required.

All persons attending the Professional Sessions, except spouses, must pay the fee for admission to the Professional Sessions. For those attendees who are non-members and wish to attend the Professional Sessions, there is an additional $21.00 fee which includes a full-year AAAA membership. Admission to the Professional Sessions will be by Badge. Badges for admission to the Professional Sessions for the spouses of attendees are complimentary and the membership requirement for spouses of attendees is waived. AAAA members, non-members, guests, and their spouses who only wish to attend the exhibits or social functions need not pay the Professional Session or Membership fees. Admission to the Exhibit Hall is complimentary and will be by Badge.

Advance Registrations may be submitted to the AAAA National Office at any time prior to **Friday, February 28** together with full payment for the functions the individual wishes to attend. Advance Registrations received after **February 28** will be held for On Site Registration. Full refunds of function fees will be made if notification is received at the AAAA National Office by phone or mail on or before **Friday, March 27.**

For those members who sign up in advance for the Professional Sessions and pre-pay the fee, the AAAA will provide an attractive "take-home" convention souvenir.

Individuals may pick up their badges and function tickets at the AAAA Registration Center in the **Georgia World Congress Center.** Operational hours of the AAAA Registration Center are listed in the **"SCHEDULE OF EVENTS".**

DOD APPROVAL:

On reviewing the Army Aviation Association of America, Inc.'s plans for their 1992 Annual Convention, the Assistant Secretary of Defense (Public Affairs) "finds this event meets the standards for participation by DoD personnel under DoD instruction 5410.20 and DoD Standards of Conduct Directive 5500.7. This finding does not constitute DoD endorsement of attendance, which must be determined by each DoD component."

HOUSING:

The AAAA National Office has reserved room blocks at three hotels at AAAA Convention Rates. Room requests will be processed on a first-come, first-served basis starting on January 15, 1992. The Housing Deadline is **Friday, February 28.** Room requests received after **Friday, February 28,** will be honored on a space-available basis.

SUBMISSION OF THE ADVANCE REGISTRATION FORM IS REQUIRED TO RESERVE HOTEL ACCOMMODATIONS AT AAAA CONVENTION RATES.

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

PLEASE NOTE: Limited space is available at the hotels listed on the Official Housing Form. Indicate your hotel choices in order of preference: (1)—1st Choice to (3)—Last Choice. **Your Housing Request will not be processed unless your preferences are clearly indicated on the Housing Form.**

AIR FARE SAVINGS:

Travelmation has been selected as AAAA's official travel agent. In order to help you get the lowest possible airfare call **Travelmation** at (800) 753-6661. **Travelmation's** computer system will keep checking for lower fares even after you book.

Delta Airlines has been selected as the official air carrier for the AAAA Annual Convention and will offer significantly reduced fares for travel to the Convention. Certain restrictions apply. Savings apply to reservations on Delta flights between Friday, April 3 and Tuesday, April 14. If you prefer to book directly with **Delta,** call (800) 241-6760 (Cite File #H0536). Please consider using **Delta** and **Travelmation** to make your travel arrangements for the AAAA Convention.

RENT-A-CAR SAVINGS:

Through the AAAA contract with **HERTZ** — CDP-1D #83438, AAAA card-holding members attending the AAAA Convention may obtain the **HERTZ** special convention rates on reservations made personally, or through travel agencies or corporate travel departments.

Call **Travelmation** at **(800) 753-6661** Toll Free or call Hertz directly. The **HERTZ** toll-free number is **(800) 654-2240.** Cite **Hertz Meeting Account Number 3385** when making reservations.

BUS SHUTTLE:

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

DRESS CODE:

The AAAA suggests the following attire: **Wednesday, April 8:** Casual Attire. **Thursday, April 9:** Class B/Coat & Tie — Daytime; Coat & Tie — 50th Anniversary Dinner; Casual Attire — Chapter Receptions. **Friday, April 10:** Class B/Coat & Tie — Daytime; Coat & Tie — President's Reception. **Saturday, April 11:** Class B/Coat & Tie — Daytime; Dress Mess/Dress Blues/Black Tie — Awards Banquet. **Sunday, April 12:** Casual Attire.

PROFESSIONAL SESSIONS:

The Professional Sessions taking place on Thursday, April 9, through Saturday, April 11, at the Georgia World Congress Center, will be of special interest to all AAAA members, and are being arranged by **Major General John D. Robinson,** Aviation Branch Chief and Commanding General of the U.S. Army Aviation Center, Ft. Rucker, Alabama, who serves as the Presentations Committee Chairman. The Professional Sessions — all under the theme of **"Army Aviation In Power Projection"** — will officially commence at 8:00 a.m. on **April 9.** Admission will be by Badge.

EXHIBIT HALL DISPLAYS:

The Exhibit Hall Displays have become one of the most important segments of the AAAA Annual Convention — complementing the Professional Sessions with exhibits of Army Aviation products and services and providing opportunities to exchange vital information first-hand with the representatives of defense-related manufacturers. The Exhibit Hall Displays will be held in the Georgia World Congress Center. The hours of operation appear in the **"SCHEDULE OF EVENTS".**

SPOUSE PROGRAMS:

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

On **THURSDAY**, spouses are invited to tour the Governor's Mansion, an impressive Greek Revival structure. View the public rooms which are decorated with an outstanding collection of American Federal Period antiques. Next, you'll delight in visiting the Swan House, a magnificent Anglo Palladian villa built in 1928 and then tour the Tullie Smith Plantation, an authentic antebellum plantation-plain farmhouse. Buses will depart from the Georgia World Congress Center at 2:15 p.m. and return by 5:00 p.m.

On **FRIDAY**, the traditional Spouses Breakfast to honor the wives of the Awardees will be held at the Georgia World Congress Center at 9:00 a.m. Franklin M. Garrett, the official historian of the city of Atlanta, will take you back in time as he spins an intriguing web of anecdotes mixed with historical data.

FRIDAY afternoon will be free for individual exploration. Information on Atlanta points of interest will be available at the AAAA Registration Center. Also, on **FRIDAY** afternoon, the AAAA will sponsor a free program featuring Ann Crossley, author of "The Army Wife Handbook" who will share her vast knowledge of protocol and etiquette required by the military lifestyle.

On **SATURDAY**, spouses are invited to Shop 'Til You Drop. You'll start with the best bargain shopping in the country at Loehmann's Plaza and Outlet Square with over 40 discount stores to browse. Then, you'll ride to the most famous shopping area on Peachtree Street — Lenox Square, Atlanta's premiere mall, where you'll find 200 shops and restaurants. And if you like, your bus will drive you across the street to Phipps Plaza where you can continue to shop other fine stores. Buses will depart from the Georgia World Congress Center at 9:30 a.m. Buses will return by 3:00 p.m.

AAAA CHAPTER RECEPTIONS:

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

AAAA GOLF TOURNAMENT:

The AAAA Greater Atlanta Chapter is sponsoring a Golf Tournament on **Wednesday, April 8**. Space is limited and will be allocated on a first-come, first-served basis. Contact LTC Joseph P. Conley at (404) 362-3443.

AAAA EARLY BIRDS RECEPTION:

The Early Birds Reception will be held on **Wednesday** evening, **April 8**, at the Hyatt Regency Atlanta Hotel. Cash Bar. Live band. The Admission Fee is waived for all active AAAA Greater Atlanta Chapter members and their spouses.

AAAA HALL OF FAME LUNCHEON:

The AAAA Hall of Fame Luncheon will be held on **Thursday, April 9**, at the Georgia World Congress Center during which the seven candidates selected by eligible AAAA members will be inducted into the Army Aviation Hall of Fame. Seats are unreserved.

AAAA 50TH ANNIVERSARY RECEPTION & DINNER:

A cash bar reception and dinner will be held **Thursday, April 9** at the Hyatt Regency Atlanta Hotel to celebrate five decades of Army Aviation from the establishment of the Field Artillery School's Department of Air Training at Ft. Sill on June 6, 1942 to the present. Seats are unreserved.

AAAA AWARDS LUNCHEON:

The AAAA Awards Luncheon will be held at the Georgia World Congress Center on **Friday, April 10**. Senior Army representatives will present the AAAA's national individual awards. Seats at this luncheon are unreserved.

THE PRESIDENT'S RECEPTION:

On **Friday** evening, **April 10**, the President's Reception will take place at the Hyatt Regency Atlanta Hotel. Bus transportation will be provided from each of the "AAAA" hotels. The AAAA National President, **Major General Charles F. Drenz, Ret.**, and **Mrs. Drenz**; the AAAA Executive Director, **Terrence M. Coakley** and **Mrs. Coakley**; the Chief of the Aviation Branch and AAAA Presentations Chairman, **Major General John D. Robinson** and **Mrs. Robinson**, and the Deputy Commanding General of the Third U.S. Army and the AAAA Military Affairs Chairman, **Major General Robert S. Frix** and **Mrs. Frix**, are expected to form the Receiving Line.

AAAA MEMBERSHIP LUNCHEON:

The AAAA Membership Luncheon will be held on **Saturday, April 11**, at the Georgia World Congress Center, during which the AAAA will honor its "Top Chapter" and the winners of AAAA Membership Contests. Seats at this luncheon are unreserved.

AAAA AWARDS RECEPTION AND BANQUET:

The AAAA's Awards Reception and Banquet will be held on **Saturday, April 11**, at the Georgia World Congress Center. Senior Army representatives will present the AAAA's national unit awards.

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

Military and government dignitaries and AAAA senior military members and their spouses are invited as Banquet guests in accordance with DoD provisions to foster interchange between government and industry.

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

Invitations are non-transferable. Banquet acceptances must be received by **February 28**. If you are eligible to be a guest of industry and have not received an invitation by February 1, please contact the AAAA National Office.

AAAA FAREWELL DANCE:

On **Saturday** evening, **April 11**, the AAAA will host an informal dance with live music and cash bars at the Hyatt Regency Atlanta Hotel for all AAAA Convention attendees.

AAAA CHAMPAGNE TOAST & GET-AWAY BREAKFAST:

On **Sunday** morning, **April 12**, the AAAA invites AAAA Convention attendees to join the AAAA President in a Champagne Toast in the AAAA President's Suite at the Hyatt Regency Atlanta Hotel.

The Get-Away Breakfast, which is held simultaneously, offers AAAA attendees a chance to say their goodbyes until the next AAAA Convention, March 31 — April 4, 1993, in Fort Worth, TX.

THE 1992 AAAA CONVENTION GOLF TOURNAMENT

WEDNESDAY, APRIL 8, 1992 • ATLANTA, GEORGIA

The AAAA Greater Atlanta Chapter is planning a golfer's outing to be held in conjunction with the AAAA Annual Convention, April 8-12, 1992, in Atlanta, GA.

Arrangements have been made with the Fort McPherson Golf Course, located 30 minutes from the AAAA's Convention Hotels, to hold a morning and afternoon (0730/1230 Hours) Golf Tournament on Wednesday, April 8, 1992. There are 124 spaces available for the morning group and approximately 124 for the afternoon. Using this system, we have been able to hold the entry fee to $32.00 per player which includes greens fee, cart, and prize money.

The committee will select the tournament format and complete all other details after receiving responses to this invitation. Your earliest possible commitment will be greatly appreciated.

We want this event to be a fun day for all. We will do our best to see that it offers something for all golfers.

Payment is due with this application. Spaces will be allocated on a first-come, first-served basis. The entry fee is fully refundable up to April 1, 1992. Your reply to the following is requested **no later than March 13, 1992.**

(Please detach and return to address below)

I would like to play in the 1992 AAAA Greater Atlanta Chapter Golf Tournament.

I prefer the ☐ A.M. Group; ☐ P.M. Group; ☐ Either group if necessary to fully utilize the spaces available.

My handicap is _____; No handicap, but generally score is _____.

☐ Yes, my local AAAA Chapter would be interested in information about sponsoring a hole and providing a Chapter Team to compete against other Chapters for the "Chapter Golf Championship".

AAAA Chapter Name: _____

My Name: _____ Telephone #( ) _____

Address: _____

Return this form with check (no later than March 13, 1992) payable to AAAA Greater Atlanta Chapter, Attn: LTC Joseph P. Conley, 11977 Plantation Parkway, Fayetteville, Georgia 30214, Telephone (404) 362-3443.

AAAA 1992 ANNUAL CONVENTION SCHEDULE OF EVENTS
"ARMY AVIATION IN POWER PROJECTION"

TUESDAY, APRIL 7, 1992

1200-1700	Registration & Ticket Sales

WEDNESDAY, APRIL 8, 1992

0800-2000	Registration & Ticket Sales
0730-1230	AAAA Greater Atlanta Chapter Golf Tournament
1000-1700	Press Room Open (Sponsored by GE Aircraft Engines, Lynn, MA)
1130-1300	AAAA National Executive Board Luncheon
1230-1700	AAAA Greater Atlanta Chapter Golf Tournament
1300-1630	AAAA National Executive Board Meeting
1730-1930	Grand Opening of Exhibits
2100-2330	AAAA Early Birds Reception

THURSDAY, APRIL 9, 1992

0700-1830	Registration & Ticket Sales
0700-0800	Speakers & Panelists Breakfast
0700-0800	Eye-Opener Coffee Break
0730-1700	Press Room Open (Sponsored by GE Aircraft Engines, Lynn, MA)
0800-1000	**Opening Professional Session**
0800-0820	Welcome by AAAA President
0820-0900	Opening Address
0900-0930	Aviation Branch Chief's Address
0930-1000	AVSCOM Presentation
1000-1800	Exhibit Hall Displays Open
1000-1100	Exhibit Hall Refreshment Break
1000-1100	Chapter Presidents & Secretaries Session
1100-1600	PERSCOM Career Guidance
1100-1200	AAAA Hall Of Fame Reception
1200-1400	AAAA Hall of Fame Luncheon
1400-1430	Exhibit Hall Refreshment Break
1400-1700	AAAA Scholarship Board of Governors Meeting
1415-1700	Governor's Mansion/Swan House Spouse Tour
1430-1630	**Afternoon Professional Session**
1430-1515	Personnel Presentation
1515-1545	Safety Presentation
1545-1630	Tactical Presentation
1630-1800	Exhibit Hall Refreshment Break
1830-2130	AAAA 50th Anniversary Reception and Dinner
2100-0100	AAAA Chapter Receptions

FRIDAY, APRIL 10, 1992

0700-1730	Registration & Ticket Sales
0700-0800	Speakers & Panelists Breakfasts
0700-0800	Eye-Opener Coffee Break
0730-1700	Press Room Open (Sponsored by GE Aircraft Engines, Lynn, MA)
0800-1000	**Morning Professional Session**
0800-0830	FORSCOM Presentation
0830-0900	CENTCOM Presentation
0900-0930	EUSA Presentation
0930-1000	Special Operations Presentation
0800-1000	**Special Focus Session**
0800-1000	Aviation Enlisted Program
0900-1100	Spouse Breakfast in Honor of the Awardee Wives with address by Atlanta's Historian
1000-1700	Exhibit Hall Displays Open

FRIDAY, APRIL 10, 1992 — CONTINUED

1000-1100	Exhibit Hall Refreshment Break
1100-1700	PERSCOM Career Guidance
1100-1200	AAAA Awards Luncheon Reception
1200-1400	AAAA Awards Luncheon
1400-1430	Exhibit Hall Refreshment Break
1430-1630	**Afternoon Professional Session**
1430-1500	EUCOM Presentation
1500-1530	USAREUR Presentation
1530-1600	SOUTHCOM Presentation
1600-1630	PACOM Presentation
1430-1630	Spouse Professional Program with Ann Crossley, author of THE ARMY WIFE HANDBOOK
1630-1700	Exhibit Hall Refreshment Break
1830-2030	Registration and Ticket Sales
1900-2030	AAAA President's Reception
2100-0100	AAAA Chapter Receptions

SATURDAY, APRIL 11, 1992

0700-1700	Registration & Ticket Sales
0700-0800	First Light Breakfast (By Invitation)
0700-0800	Eye-Opener Coffee Break
0800-1000	**Morning Professional Session**
0800-0820	PEO Aviation
0820-0840	Comanche
0840-0850	OH-58D Kiowa Warrior
0850-0900	Apache — Today and Tomorrow
0900-0910	Longbow
0910-0920	SOA
0920-0930	Avionics
0930-0940	UH-60 Black Hawk
0940-0950	CH-47 Modernization
0950-1000	Aircraft Survivability Equipment Program
0930-1500	Spouse Shopping Tour of Lenox Square
1000-1630	Exhibit Hall Displays Open
1000-1030	Exhibit Hall Refreshment Break
1000-1600	PERSCOM Career Guidance
1030-1200	**Late Morning Professional Session**
1030-1100	Industry: Partners in Power Projection
1100-1115	Bell Helicopter Textron
1115-1130	Boeing Helicopters
1130-1145	McDonnell Douglas Helicopters
1145-1200	Sikorsky Aircraft Division, UTC
1030-1200	**Aviation Personnel Career Management Seminars**
1030-1200	Officers
1030-1200	Warrant Officers
1030-1200	Enlisted Soldiers
1200-1330	AAAA Membership Luncheon
1330-1630	Exhibit Hall Social/Chapter Photos
1730-1930	Registration & Ticket Sales
1800-1900	Awards Banquet Reception
1900-2200	AAAA Awards Banquet
2200-0130	AAAA Farewell Dance

SUNDAY, APRIL 12, 1992

0830-0930	AAAA National Executive Board Meeting
0930-1030	AAAA Champagne Toast
0930-1200	AAAA Get-Away Breakfast

*This Schedule is subject to change.

C-92Spksch 12/30/91

"Expect No Mercy" Apaches: A Potent Combat Multiplier

By Captain Timothy P. DeVito

"Gentlemen, you are about to fire the first shots of a war." Those were the words of my Battalion Commander, LTC Richard A. Cody, almost one year ago, in the northwestern corner of Saudi Arabia. Even now, as I reflect on the mission that commenced Operation DESERT STORM, I am in total awe. The mission seemed herculean, yet it was accomplished with ease. The soldiers faced the ultimate of tasks, and they performed brilliantly. Army Aviation was being tested, and it passed with flying colors. The AH-64 Apache was the platform; the 1-101st Aviation Regiment made it happen.

The "Expect No Mercy" battalion is not a Special Operations unit. It is simply one of the attack helicopter battalions in the 101st Airborne Division (Air Assault), at Fort Campbell, KY. Keep that fact in mind and you should be impressed with how this unit's efforts unleashed the potential of the Apache in unique ways. This unit has pioneered advancements in the Apache that will amaze you. It is obvious to me why this battalion fired the first shots, and why they were so successful in combat.

CPT DeVito was with the 1-101st during Operation DESERT STORM.

The 1-101st AVN REGT first enhanced the Apache by realizing that the Aviator's Night Vision Imaging System (ANVIS) must be integrated with the Pilot Night Vision Sensor (PNVS) for night operations. With approval from AVSCOM, in 1989, the unit was able to fly with ANVIS in the Copilot Gunner (CPG) station, thus increasing its night fighting capability. This not only allows the CPG increased flexibility enroute, it also provides a back-up Night Vision System (NVS) in case the PNVS was to fail, or the Forward Looking Infrared (FLIR) picture deteriorated to an unsafe level.

The next initiative was the battalion's bold usage of the Extended Range Fuel System (ERFS) on the Apache, also in 1989. The vision of the ERFS extending the combat arm of the Apache would prove to be

invaluable during Operation DESERT STORM. In that same year, the leadership of the battalion expressed the need to be able to fire the Hellfire missile, with ERFS installed. The ANVIS and ERFS on the Apache produced a night fighter with great might, and the unit trained to employ it effectively. With these magnified capabilities the unit created the deadliest warrior on the battlefield.

Over the next two years, 1-101st Avation Regiment trained extensively in deep operations, utilizing the ERFS constantly. One mission was a 210nm, over-the-water flight. Another battalion battle drill was a night, deep attack, to an airfield 350nm away. There were many other missions, all of which increased the combat effectiveness of the unit. However, the battalion's largest preparation for combat was still to come.

From September 1989 through June 1990, the 1-101st Aviation Regiment conducted two deployments to Fort Hunter-Liggett, CA to participate in Line Of Sight-Forward-Heavy (LOS-F-H) testing. There, almost as if Iraq's invasion was a premonition, the battalion conducted the most aggressive, force-on-force training in its history. The lessons learned were priceless in the deserts of Southwest Asia.

The unit's pace during LOS-F-H testing was incredible. The optempo required eight Apaches for the morning trial, and again for the afternoon trial. On average, 40 Apache hours were flown per day. The aggressive, NOE flying in this desert environment honed aviator skills to razor sharpness. Simultaneously, the battalion's soldiers were maintaining aircraft at an unbelievable rate. At this point, the battalion was probably more ready for combat in the desert than any attack helicopter unit in the Army.

During LOS-F-H recovery operations, at Ft. Campbell, the 1-101st was alerted for Operation DESERT SHIELD. The battalion deployed to Saudi Arabia on 16 August 1990. September saw the unit move well forward into the desert. We immediately realized that the ERFS would be our saving grace with such great distances to cover. The battalion was required to remain highly flexible as the theater matured and our AO constantly shifted. The 1-101st Apaches stood ready for anything that Iraq could send across the border, but nothing came. Meanwhile, a TOP SECRET mission was being planned at the highest level.

The Mission

In October 1990, LTC Cody briefed "selected crews" on a mission that only he had initially planned. The crews were called Task Force NORMANDY. It is important to explain why the battalion task-organized into two, distinct elements. Throughout the planning, training and execution of the TF NORMANDY mission, the battalion also maintained its mission for the Air Assault Division. It would have to complete this mission with remaining aircraft, if told to do so after TF NORMANDY had departed. I remember this being LTC Cody's major concern—insuring that he set the remainder of the battalion up for success.

The selection of the crews was an easy process. Any one of LTC Cody's Apache crews could excel at this mission. That was not even an issue! Yet, he could not deplete the battalion of all its Instructor Pilots and Pilots In Command, for if he "stacked the deck" for the TF NORMANDY mission, the battalion's Air Assault mission could be in jeopardy. LTC Cody selected battle rostered crews, crewmembers that flew together regularly. After the first training mission for the NORMANDY attack, the crew selections were verified, and there was no looking back.

From October 1990 through early January 1991, the NORMANDY crews conducted several night aerial gunnery missions and trained extensively on every facet of the attack. The Apache's video recording system provided a fantastic critique of training flights, and greatly contributed to the success of the mission. One of the greatest concerns of this operation was fuel requirements for the 700nm attack and the risk of having to establish a Forward Arming and Refuel Point (FARP) near the Iraqi border.

Once again, the battalion boldly took the initiative to insure mission accomplishment.

". . . integration of the ANVIS and ERFS into the Apache has helped realize the AH-64's true potential."

This time, the ERFS would increase the versatility of the Apache even more, as only one auxiliary fuel tank would be placed on each aircraft. After arduous weight and balance computations and limited approval from AVSCOM, the configuration was flight tested.

Soon after, a live fire was conducted with the auxiliary tank installed, and the Apaches functioned normally. The configuration for the TF Normandy aircraft was decided to be: 1200 rounds of 30mm, one 2.75" rocket pod, two Hellfire missile launchers, and one 230 gallon ERFS tank. With an additional 1500 pounds of fuel on one pylon the Apache handled quite differently; however, the crews flew with this configuration several times before the "actual" mission.

Maintenance Support

The crews were ready, but were the aircraft ready? You bet they were! Just as crews were assigned, so were crewchiefs to their aircraft. That was a "law" in this battalion long before the TF NORMANDY mission.

The aircraft would first have to fly 700nm to the staging airfield. Then they would have to attack the targets, deep in Iraq, and fly another 700nm back to the AA. This mission wouldn't even be conceivable, were it not for the dedicated crewchiefs who made it happen.

In my opinion, this is the biggest success story of this mission. TF NORMANDY departed from the AA with nine Apaches and one UH-60 Black Hawk, on 14 January 1991. The UH-60 contained a tailored maintenance package to support this huge effort. After the 700nm flight, those 10 aircraft were shutdown at the Task Force's staging airfield. On the night of 16 January all 10 aircraft departed, although only eight of the Apaches crossed the Iraqi border that night. After the attack that opened the air campaign, the aircraft refueled and began the 700nm journey home. All returned safely.

The Apaches flew in excess of 150 hours and covered over 1,500nm in just two days. The eight Apaches used in the attack were reloaded and ready to execute the Air Assault Division's mission, at once. The battalion was together again.

On 22 January 1991, the battalion deployed to a TAA 300nm away, in preparation for the ground war. Over the next month, the battalion operated mostly at night, conducting reconnaissance operations deep into Iraq. The depth of these operations was possible because of the ERFS. In fact, our sister Apache battalion for DESERT STORM (2-229th) soon had their Apaches configured with one auxiliary fuel tank, as well. The ERFS remained on the battalion's Apaches during attack operations throughout the ground war, though they were removed for an attack requiring maximum firepower. It would have been very difficult for the 1-101st to accomplish many of its missions without the ERFS.

Operation DESERT STORM allowed 1-101st AVN REGT to validate, in combat, ingenious ideas that had been exercised in training. The unity of the ERFS and ANVIS with the Apache was a bold, precise leap into a new era for Army Aviation. Certainly, the Apache will be seen in a new light and employed with increased vigor.

Army Aviation has definitely prospered from the "Expect No Mercy" battalion's efforts. 1-101st Aviation Regiment's unique integration of the ANVIS and ERFS into the Apache has helped realize the AH-64's true potential. Warrior mentality, coupled with a relentless drive for progress, ensured this battalion's achievements. This aggressive, innovative unit was clearly the right choice for initiating Operation DESERT STORM, by projecting the lethality of Army Aviation on the Iraqi Army. "EXPECT NO MERCY!" IIIII

Promotion Board Issues

By Command Sergeant Major Fredy Finch, Jr.

With the drawdown of the Army and Army Aviation in full swing, it is more important than ever to know what promotion boards are looking for. The board's mission was to select the best qualified NCOs at the Sergeant First Class (SFC) level to promote to Master Sergeant (MSG). The board completed its mission and then compiled a review and analysis.

Major Strengths & Weaknesses

The major strength of the SFCs in the Aviation Branch is in the secondary zone. There are many solid NCOs in the secondary zone. Although the Noncommissioned Officer Evaluation Report (NCOER) system is not perfect, the reports indicate that the NCOs are performing their assigned tasks to standards. With the quantity of reports in each file, the board could see the absence of quality counselling. Some NCOERs lost part of their influence due to confusing abbreviations. Duty descriptions must detail what is expected of the NCO and the magnitude of responsibilities. It is the rater's responsibility to report on the NCO's height/weight and physical condition, while it is the board's responsibility to compare that soldier with the others being considered for promotion. The NCOs did not fare well when they greatly exceeded the screening table weight and looked heavy in the photo, even though the soldier was within tape standards.

CSM Finch is Branch Sergeant Major, USAAVNC, Ft. Rucker, AL.

Improve NCOER

There are four things to do to NCOERs to improve the selection process: use bullet comments that are well thought out and supported by quality counseling. The Senior Rater must recommend the soldier for the best follow-on assignment based on demonstrated performance and then clearly express the potential for successful accom-

(Promotion — continued on page 56)

406 Combat Scout

By Lieutenant Colonel Stephen G. Kee

A great deal has been written (although much of the story remains untold) about the combat performance of U.S. Army helicopters in Southwest Asia (SWA). However, little has been written about the performance of the combat helicopters of our coalition allies. One of these Allies, Saudi Arabia, has a fledgling combat helicopter program. The Saudis recently activated a combat aviation battalion (1st Aviation Battalion), the first such unit in the Royal Saudi Land Forces (RSLF). The battalion is composed of an Attack Cavalry Troop (15 406 Combat Scout helicopters), a Combat Support Aviation Company (11 Desert Hawk helicopters and one VIP Desert Hawk helicopter), an Aviation Intermediate Maintenance Company, and a Headquarters and Support Company. Although it is too early to tell the complete story of the successful combat helicopter operations of this battalion, early reports from SWA indicate the new 406 Combat Scouts (406CS), which had no prior combat experience, performed extremely well.

LTC Kee is PM, Hyper Velocity Launcher, U.S. Army Strategic Defense Command, AL.

In the early 1980s, the RSLF formed the Army Aviation Command (RSLFAAC) to develop combat helicopter capability and to serve as higher headquarters for any future units (such as the Combat Aviation Battalion). In late 1984, the RSLFAAC conducted a competition to select a combat scout aircraft from among 11 candidates. A prototype Model 406 manufactured by Bell Helicopter Textron, Inc. (BHTI) won the competition. The RSLFAAC utilized the Foreign Military Sales (FMS) program to combine the purchase of 15 Combat Scouts with that of 12 Desert Hawks manufactured by Sikorsky Aircraft, and maintenance supply services for both aircraft by Sikorsky International Products, Inc. (SIPI).

The Directorate of International Logistics of the U.S. Army Aviation Systems

Command (AVSCOM) has management responsibility for the FMS program. FMS programs are normally used to sell items either already produced or in production. Minor modifications to items in production are common in order to meet the unique requirements of an FMS customer. However, the purchase of an aircraft for FMS which had never been in production (i.e., the 406CS) was a first for the U.S. Army. Due to the commonality between the 406CS and the OH-58D Kiowa Warrior, AVSCOM asked the Army Helicopter Improvement Plan (AHIP) Project Manager's Office (PMO) to manage the 406CS development and production program.

The FMS Letter of Offer and Acceptance (LOA) between the U.S. and the Kingdom of Saudi Arabia was signed in October 1987. The LOA required 15 406CS, three years concurrent spares, peculiar ground support equipment, Standardization Instructor Pilot (SIP) training, two HELITOW simulators, technical manuals, and three contractor technical representatives on-site for two years. BHTI developed a statement of work and a system specification for the 406CS which was approved by the AHIP PMO and the RSLFAAC. AVSCOM and BHTI signed the contract for the items required by the LOA in May 1988. The contract required delivery of the first two aircraft in two years (including a three month test program and a one month training program) with delivery of two aircraft per month thereafter.

Under the leadership of BG Hamood al-Rashoodi, Commander of the RSLFAAC, and Mr. Gary Fryman of AVSCOM, a strong team relationship was formed. Such diverse organizations as the RSLFAAC, the U.S. Military Training Mission (USMTM) in Saudi Arabia, AVSCOM, BHTI, SIPI, and the AHIP PMO were united in order to develop, manufacture, and deliver the 406CS on time and within budget.

The 406CS is a derivative of the OH-58D Kiowa Warrior. It has a maximum gross weight of 4,800 pounds. The engine (Allison 250-C30) and drive system are identical to those in the OH-58D. However, it does not have a mast mounted sight, nor does it utilize multifunction displays, which eliminate the need for the black boxes in the rear seat area of the OH-58D. Therefore, the 406CS can carry either three passengers or two passengers and a 34 gallon auxiliary fuel tank, in addition to the pilot and copilot/gunner. The 406CS can be armed with the Emerson HELITOW system (with roof mounted sight), 2.75 inch Hydra 70 rockets, or a 7.62 caliber Fabrique Nationale twin machine gun pod. These weapons can be mounted on pylon arms in any combination. The aircraft is equipped with rapid deployment landing gear which allows easier access to a C-130.

The Saudis specified the following unique avionics suite:

- 2 Racal FM Radios
- 1 ARC-186 VHF Radio
- 1 ARC-164 UHF Radio
- 1 ARC-174 HF Radio
- 1 APX-100 IFF System
- 1 APR-39 Radar Warning Receiver
- 1 APN-209 A Radar Altimeter
- 1 ARN-123 VOR/LOC Radio Nav System
- 1 ARN-89 ADF System
- 1 DME-42 DME System
- 1 LTN-211 VLF Omega Nav System
- 1 EBC-302HM Emergency Locator Beacon.

BHTI held a formal roll-out ceremony of the first production 406CS on 2 February 1990. BG Hamood al-Rashoodi flew the 406CS at the ceremony and pronounced the occasion as a great day for Saudi aviation. An extensive test program followed which included a preliminary airworthiness evaluation conducted by the Aviation Engineering Flight Activity (AEFA) and culminated in live firing of all the 406CS weapons systems at Ft. Hood, TX, in April 1990. The range was supported in an outstanding manner by 3d Squadron, 6th Cavalry Brigade.

With the completion of the test program, the training effort began at BHTI. TRADOC supplied four individuals to be trained in the 406CS and to serve as members of a USMTM Training Assistance Field Team (TAFT), commanded by MAJ Jeffrey Pete, for the RSLFAAC aviation program. Three U.S. Army SIPs, one Saudi IP, the Saudi

Attack Cavalry Troop Commander, and a U.S. Army maintenance NCO were trained by BHTI on the 406CS. These individuals were invaluable to the program because, in addition to their training, they reviewed training courseware and technical publications, thereby ensuring a quality product. Since live fire training in the 406CS at Ft. Hood in May 1990 and fielding of the first two aircraft in June 1990, the four U.S. TAFT members have served in Saudi Arabia training the RSLFAAC.

As with any new development there have been a few minor problems discovered either during testing or after fielding which have had to be corrected in country. BHTI has admirably demonstrated a willingness to make the corrections and retrofit all of the aircraft. Considering the short development and test schedule, the number of these problems have been surprisingly small. The 406CS has had a remarkable operational readiness rate since its fielding (better than 80% despite the small number of aircraft).

On 1 March 1991 the last two 406CS were delivered to the RSLFAAC. The last aircraft was equipped with an improved engine (modified diffuser) which was developed for the OH-58D Kiowa Warrior after the 406CS program had begun. The modified diffuser will improve the hot day performance of the 406CS.

During DESERT STORM, the 406CS supported the Pan Arab Forces composed of the 20th Saudi Armored Brigade, the 4th Saudi Armored Brigade, Egyptian Forces, and Syrian Forces. The 406CS performed each of its missions extremely well. They included:

- Screening and guard operations to the Pan Arab right flank during initial attack phase;
- Aerial observation and recon to Pan Arab Commander and Staff on Saudi/Kuwait border;
- Provided route recon for establishment of Main Supply Route (MSR) for VII Corps;
- Area security mission for Pan Arab Sector;
- Provided command and control for Pan Arab Commander and Staff during attack phase;
- Performed aerial security around a Saudi base to prevent terrorist activity;
- Forward air control of U.S. Air Force close air support during DESERT SHIELD and DESERT STORM.

One preliminary report described an engagement during which a 406CS fired two TOW missiles and hit two command bunkers. The survivors came out of the bunkers and surrendered. Another mission resulted in the destruction of a BMP with 2.75 inch rockets. The report estimated that 1,500 enemy soldiers were captured as a result of 406CS activity during DESERT STORM. All missions were completed without friendly casualties and without aircraft loss or damage.

Although it has been barely a year since it was fielded, the 406CS has already proven itself. Both as a trainer and in combat, the 406CS has definitely lived up to its name as a Combat Scout. IIIII

OPERATIONS:

GREETINGS FROM SOUTHWEST ASIA!

BY CAPTAIN MARK EVETTS & MAJOR JOSEPH DURSO

DHAHRAN, SAUDI ARABIA — The Echelons Above Corps (EAC) Aviation Brigade assigned to the Army Central Command (ARCENT) throughout Operation DESERT STORM is continuing its challenging and multifaceted mission here at West Heliport, Dhahran, Saudi Arabia. The 2nd Aviation Brigade, Lucky Wings, continues to provide command and control, utility, and MedEvac aviation support for the remaining U.S. Forces in Southwest Asia.

Our mission is truly diverse. For example, on any typical day (seven days per week), the 159th Medical Evacuation Company (Air Ambulance) provides medevac coverage throughout the theater of operations, from Riyadh, Saudi Arabia, west to King Khalid Military City (KKMC), and north into Kuwait. The Medevac Company also provides coverage for the convoys transporting heavy equipment and ammunition along the desert Tapline Road network.

A typical day for the C-12 Fixed Wing Detachment includes transporting personnel and high priority cargo throughout the Middle East, to Qatar, Riyadh, Jeddah, and Kuwait City. Our assault company, A Company, 7/158th Aviation Regiment, flies a variety of missions ranging from Search and Rescue (SAR) exercises with the U.S. Air Force to conducting range clearance throughout the desert, transporting soldiers, equipment, and numerous flag officers and VIPs.

As a matter of fact, past passenger manifests read like a Who's Who in the Department of Defense. For example, Lucky Wings Brigade has flown Secretary of State Baker, Secretary of Defense Richard B. Cheney, Secretary of Army Michael P.W. Stone, the former and present CinC CENTCOM, GEN Schwarzkopf and Gen Hoar, the CG, Army Materiel Command, GEN Tuttle, Sergeant Major of the Army SMA Kidd, and several congressional delegations.

Today, A 7/158th Aviation provides the aviation support for Task Force Victory II in Kuwait along with supporting the U.S. Embassy's Defense Restoration and Assistance Office in Kuwait City. The maintenance activity provided by DynCorp for the UH-60s and UH-1s and Beech Aerospace services, Inc. (BASI) for the C-12s never ceases. We continue to conduct extensive individual training, during day and night, aided and unaided. On any typical day, you can find aircraft practicing instrument ap-

MAJ Durso is Brigade S-3, 2nd Aviation Brigade, West Heliport, Dhahran, Saudi Arabia.

CPT Evetts is Adjutant, 2nd Aviation Brigade, West Heliport, Dhahran, Saudi Arabia.

proaches to Jubayl or Kuwait International.

Our mission is especially significant because of the soldiers making it all happen. The Lucky Wings Brigade consists of Active Component (AC), U.S. Army Reserves (USAR), and Army National Guard (ARNG) officers, NCOs, and soldiers all blended together into a cohesive team. Actually, anyone visiting us would have to be told that the brigade recently experienced a significant turnover of personnel.

For example, our utility aviation company was completely replaced by a full complement of pilots, crewchiefs, support personnel, commander, platoon leaders, and First Sergeant, all of which represented every component. Without missing a beat, A Co 7/158th Aviation was fully trained and mission capable even though the replacements were assembled from a variety of locations, the majority of which came from Virginia. Kentucky, and the North Carolina National Guard. Indeed, the Total Army concept, coupled with a solid aviation training and maintenance base, provided the means for this smooth and safe transition.

After some ten months in theater, the Lucky Wings Brigade has started planning redeployment for remaining units. As West Heliport closes, and our personnel, aircraft, and equipment depart, a significant chapter of the Total Army aviation story in Southwest Asia will end. Following Operation DESERT STORM, thousands of pilots, crewchiefs, soldiers, and aircraft have passed through West Heliport enroute to their final destination.

But the job of closing one of the largest heliports ever built and closing a magnificent chapter in Army Aviation belongs to us. We are certainly proud to know that the final Army aircraft and last aviation soldier to redeploy from a DESERT STORM unit would come from the 2nd Aviation Brigade, "Lucky Wings". IIIII

ARMY AVIATION BIRTHDAY
6 June 1942

Twenty five years ago, a bronze plaque was dedicated at LT Henry Post Army Airfield at Fort Sill, OK, commemorating the airfield's early history and its role in 1942 as the birthplace of modern Army aviation.

The dedication of the historical monument took place exactly 25 years after the Army Ground Forces approved the use of organic aviation for field artillery observation and established the Field Artillery School's Department of Air Training on 6 June 1942.

Distinguished guests at the Plaque Dedication included, l-r, then-MG R.R. Williams, J.T. Kerr, R.M. Leich, M.J. Fortner, members of the "Class before Class 1."

The plaque honored the history of flight at Ft. Sill, tracing the post's role during 1915-1942, and citing the later development of Army Aviation after 1942. Distinguished guests included those who served during these periods.

This year, the Army Aviation Association of America will celebrate the 50th Anniversary of the birth of Army Aviation in a number of ways. First, the Army Aviation 50th Anniversary Reception and Dinner will be held on Thursday night, 9 April 1992 at the AAAA Annual Convention in Atlanta, GA (see registration forms in the center of this issue). The event is expected to reflect on the highlights of the last five decades of Army Aviation.

In addition, the AAAA is making available cache envelope first day covers marking the 50th birthday which will be issued at the Ft. Rucker (Daleville) Post Office on 6 June 1992 (see facing page for details).

Finally, the December 1992 issue of ARMY AVIATION Magazine will be a special issue commemorating the half century since the founding of modern Army Aviation.

Happy Birthday, Army Aviation!

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OPERATIONS:

AVIATION IN THE CONTINGENCY DIV

BY COLONEL WILLIAM R. CLONTZ

FORT BRAGG, NC — Like many other aviation brigades, the 82nd Aviation Brigade has invested much of the last few months, following Southwest Asia operations, concentrating on training in selected skills and in maintenance recovery operations. What has been different for us, yet of interest to others, is our continuing focus on contingency operations and the particular requirements of a contingency-based unit.

As we enter the later half of the 20th century, increasing numbers of units will find themselves focused on world wide contingency operations, as opposed to a more traditional geographic focus. It has been said that we are in the process of creating a "Contingency Army." While this may be something of an overstatement, it is true that no unit can expect to have the luxury of focusing on just one set of missions or one theater of operations. Welcome to the world wide contingency arena.

Being prepared to go anywhere on 18 hours notice has long been the stock in trade for the 82nd Airborne Division, and the 82nd Aviation Brigade has amassed a substantial amount of practical expertise in the skills required to execute that mission. Although it is unlikely that any other aviation brigade will ever receive the call to deploy on such short notice, the principles we employ are equally valuable for any rapid deployment. For those interested in maintaining a realistic and flexible deployment capability, the following reminders are offered for your consideration:

You Can't Get Smart in 18 Hours: It's a truism in the 82nd but it's as valuable a frame of reference as you will ever encounter in contingency operations. No unit can expect to correct deficiencies in training, maintenance, or load planning in the time allocated between alert and deployment. In our case, that is usually between 14 and 18 hours, but even if you have a few days, this is not the time to make major corrections. If you have a contingency mission, assume you will go tomorrow, as you are right now. If that makes you uncomfortable, get to work—*NOW.*

You Can't Have Too Many Load Plans, Planners, or Teams: When an aviation brigade goes to war, it may or may not be part of the central focus on a theater or world wide basis. What else is going on and who else is going (and when) will determine how many and what sort of strategic airframes are available for you to deploy. Commanders cannot assume that the bulk of their forces will deploy by C-5 just because that makes sense in an isolated equation. Expect many changes in loads, aircraft, and configurations right up to the hour of deployment. Those units which plan thoroughly and early, and put load planners with rank and experience at the critical places above brigade level, will get their fair share of strategic airframes.

COL Clontz is Commander, 82nd Aviation Brigade, 82nd Airborne Division, Ft. Bragg, NC.

Thou Shalt Not Live by Strategic Air Alone: For those of us with long experience in contingency operations, movement by strategic airlift has always been a given, based on planning assumptions of rapid deployment and short duration operations. DESERT STORM/DESERT SHIELD reminded us that for long duration operations, sea lift is a critical factor that we must use. Planners must know how to prioritize and load sea lift assets.

Self Deployment Is Expensive But Necessary: Self Deployment of aviation assets is a panacea often sought by division and corps level planners, in that it greatly simplifies the allocation of strategic movement assets for the higher headquarters. I say panacea because use of self deployment can be a trap if it fails to account for the costs in maintenance and readiness in theater, the country clearances and support required enroute, and the need for follow-on

(Continued on page 56)

OPERATIONS:

HISTORY IN THE MAKING

BY CAPTAIN MARK L. WILSON

ILLESHEIM, GERMANY — 27 February 1991, a day that will live in the hearts and minds of the soldiers of the 2nd Squadron, 6th Cavalry (2-6 CAV), "The Fighting Sixth". Stationed at Illesheim Germany, it was assigned to the VII Corps 11th Aviation Brigade. 2-6 CAV was the Corps operational reserve during Operation DESERT STORM, waiting at their assembly area in southern Iraq, anxiously anticipating an execution order. 27 February 1991 was the day the Fighting Sixth would make it in the history books as the only AH-64 Squadron during Operation DESERT STORM to launch 18 assigned AH-64s on every mission. It was also the only unit to receive the highest Battle Damage Assessment—212 vehicles in 40 minutes of combined engagements—of any Squadron/Battalion-sized element participating in the campaign.

The Fighting Sixth attacked in conjunction with the 3rd Armored Division to destroy Iraqi forces and end the occupation of Kuwait. The Squadron was under operational control to the 3rd Armored Division at 0300 27 February 1991, at which time a Squadron Liaison Officer (LNO) was dispatched to make initial coordination for the day's mission. At 0730 the morning of the 27th, Saber 3 (the Squadron Operations Officer) entered the 4th Brigade, 3rd Armored Division's net to coordinate the mission of 2-6 CAV. Face-to-face coordination was necessary, so the Squadron commander and operations officer launched to 4th Brigade to discuss mission requirements and graphics. The attack troops launched at 0930 to a holding area in northern Saudi Arabia to reduce the reaction time once the mission was received.

At the holding area, final preparation and inspections were completed. The mission for the 2-6 CAV was to conduct an advanced guard for the 3rd Armored Division. Advance Guard operations for a moving force develops the situation to the front along specific routes or axes to prevent surprise or premature deployment of the main body (in this case, the 3rd Armored Division). The Advance Guard, with reaction time established, then engages the enemy and passes all intelligence gained to the supporting command. The division had to accomplish objective Minden by nightfall. The briefing was quick, and Air Movement Corridor and FARP locations were provided. Friendly locations, enemy disposition, and strengths were still unknown.

The Squadron led its attack with Charlie Troop to fix the enemy and friendly locations. Bravo and Alpha Troops launched 20 minutes later. The mission, executed under the control of the Squadron Commander, led the Division's movement by as much as 30 kilometers. When the AH-64s and OH-58s passed the Forward Line of Own Troops (FLOT), they were on their own; artillery was unavailable due to the pace at which the Division was moving. Enemy fire in front and friendly fire behind, the Squadron searched and systematically destroyed tanks, APCs, refuel and resupply trucks, and bunkers. The enemy sustained heavy losses from the Hellfire missiles, 2.75" rockets, and 30mm cannons of the Fighting Sixth. The Squadron received damage to only one aircraft, in a very close encounter with a revetted and camouflaged armor unit. The attack continued throughout the day and into the night, with the Squadron rotating Troops through the 3rd Armored Division's FARPs.

As a result of this mission, the 3rd Armored Division swept into Kuwait with relative ease and minimal losses. The Squadron displayed extraordinary heroism by attacking into the enemy's rear during the hours of daylight without hesitation. The Apaches attacked quickly and decisively, which did not allow the enemy time to react. The continuous flow of vital enemy intelligence was critical, and aided the 3rd Armored Division to react and achieve their objective. The 3rd Armored Division Commander

CPT Wilson is Commander, Bravo Troop, 2nd Squadron, 6th Cavalry, 11th Avn Brigade, Illesheim, Germany.

". . . the AH-64 crews were unable to use maximum standoff ranges due to battlefield obscurity and the possibility of committing fratricide. . . AH-64 crews [were forced to move in] uncomfortably close to targets in order to obtain positive identification. . ."

later stated the support received on 27 February from the 2nd Squadron, 6th Cavalry during the close battle provided the intelligence, outstanding BDA, and the best aviation support he had ever received.

Performance

Looking back on 27 February 1991, several key notes come to mind. The Squadron did not push its own organic FARP forward. This would have facilitated a much faster turnaround time in which the Squadron could have rearmed and refueled and helped provide increased station time in which to support the 3rd Armored Division. As it was, the Squadron utilized the FARPs provided by the 3rd AD which had sufficient Hellfire missiles and 30mm but had exhausted its supply of 2.75" rockets prior to the Squadron's arrival. The second and probably most important shortfall was the lack of correct friendly graphics. More than once a commander was assured friendlies were not in the area, only to have them show up in an AH-64's gunsights.

Additionally, the AH-64 crews were unable to use maximum standoff ranges due to battlefield obscurity and the possibility of committing fratricide. The lack of usable friendly graphics forced the AH-64 crews uncomfortably close to targets in order to obtain positive identification prior to target engagements.

The total success of the mission and its tremendous accomplishments must be credited to the maintenance and armament crews who kept the aircraft flying and shooting and the flight crews for their outstanding professionalism and proficiency displayed.

AAAA offers $108,000 in 1992
Two scholarships now open to upperclassmen

■■BACKGROUND:

The AAAA Scholarship Foundation, a separate non-profit, tax-exempt corporation created to render financial assistance to selected members of the Army Aviation Association of America, Inc. (AAAA) and selected spouses, unmarried siblings, and unmarried children of current and deceased AAAA members, expects to make available $108,000 in assistance funds for the 1992 college-entry year.

■■SCHOLARSHIP GRANTS AND LOANS:

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

In addition, one $2,000 scholarship will be "reserved" for selected spouses of AAAA members and two will be presented to upperclassmen ($1,000 a year).

■■AWARD PHILOSOPHY:

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

■■APPLICATION PROCEDURE:

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

■■ELIGIBILITY CRITERIA:

The applicant must be attending an accredited college or university for Fall entry as a Freshman, Sophomore, Junior, or Senior as a full-time student. No recipient can hold concurrent AAAA Scholarships. The AAAA member to which the applicant is related must have an effective date of membership on or before October 15 of the year preceding the year in which the applicant is seeking aid unless the member is deceased.

■■SELECTION AND NOTIFICATION:

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

Promotion
(continued from page 44)

plishment in the next higher grade. When there is a difference between the rater and the senior rater, the reviewer must take a stand and express his/her opinion. And lastly, the civilian raters, senior raters, and reviewers must complete the NCOER to the same standards as military personnel.

Photo

The official photograph is extremely important. It must present the soldier's best side and be current. Awards and rank must conform to microfiche. Common faults were missing awards or awards present but not supported by the records, improperly fitting uniforms, and incorrect rank when the NCO had been promoted two or three years earlier.

Education

There are many hardworking NCOs with no college. Civilian education above the high school level concurrent with tough military duties is indicative of dedication to self-improvement, effective time management, and potential for success. No college education generally equated to nonselection for promotion. The soldier should take time to ensure his/her record jacket is complete. There were many cases where the board could not verify training or schooling because of missing documents. The soldier is the loser when the records are incomplete.

Tough Assignments

The movement of the right NCO to the right job to support career development generally is not happening. The soldier and career managers must do what they can to avoid the soldier becoming a victim of easy assignments. For example, instructor duty is important to Aviation; however, four to five years as an instructor is considered excessive. With a reduction in Permanent Change of Station moves, we all need to look at career progression moves at the same installation. Tough leadership positions are not always clearly defined, but innovative NCOs are finding them. Job diversity made some NCOs more competitive for promotion because it demonstrated their ability to do the tough jobs. The board gave additional attention to those NCOs who performed well as recruiters, drill sergeants, and National Guard and Reserve advisors.

Using the whole soldier concept to select the best qualified Sergeant First Class to be a Master Sergeant, charged with leading subordinate soldiers, required considering many tough issues. The board looked very hard at the records of many NCOs who spent excessive amounts of time in less than challenging assignments to find those qualities indicating best qualified. Minimum time in less challenging assignments is the recommendation to improve competitiveness. IIIII

Contingency Division
(continued from page 52)

logistical and maintenance support to arrive almost simultaneously with the self deployed aircraft. Nevertheless, self deployment has its place in our operations and units must train to standards often and realistically. Long range navigation, use of ESSS fuel systems, and force packaging for self deployment all demand regular exercise if this is to be a serious capability.

Army Aviation offers major contributions in contingency operations. We represent, especially in light divisions, a level of tactical mobility, C2, and firepower unmatched by any other component of the division or the corps. We can get there quickly in substantial numbers and can influence the battle early and profoundly. Yet, this capacity is not without cost. Aviation units have to plan more thoroughly, and earlier, than do other units. Our capabilities and requirements are unique to the division and the corps. This means that higher level planners may not be as familiar as we, or they, would like to be with the parameters of aviation employment. It's up to us to make aviation the decisive factor it should be early in the process. **PLAN-EDUCATE-TRAIN.** Don't worry about "selling aviation" to your higher headquarters. Just do your homework, demonstrate the capabilities of your force, and the right decisions will follow naturally. AIRBORNE! IIIII

BRIEFINGS

Rudy Park III, Manager, Era Aviation Services, Lake Charles, LA, has been named Deputy Managing Director of the newly-formed **KLM/ERA Helikopters, B.V. Richard C. Oder** will follow him as Era Aviation Services Marketing Manager.

CPT Cory W. Mahanna, aide-de-camp to MG Donald R. Williamson, AVSCOM commander, received a **Broken Wing Safety Award** for safely landing his stricken CH-47D Chinook. While assigned to the 18th Aviation Brigade (Corps)(Airborne), Ft. Bragg, NC, CPT Mahanna was piloting a CH-47 in March 1990 carrying 15 people and a slingloaded 30-kilowatt generator. The aircraft was holding an altitude of 150 feet and 70 knots when a crewmember heard a loud grinding noise in the rear of the aircraft. Dark smoke was appearing in the aft pylon area, and the crewman immediately notified CPT Mahanna. Mahanna approached the nearest suitable landing area, turned on the vent blower, and directed the flight engineer to alert the passengers that the Chinook would be making an emergency landing. During the approach, Mahanna also made a mayday call, switched the transponder to emergency, and went over the checklist. Just before landing, he instructed the flight engineer to release the slingload, resulting in only minor damage to the generator. After touchdown, Mahanna directed passengers and crew to evacuate while he remained on board and performed an emergency shutdown.

A 36-month, $1,592,394 contract for the Weapons and Targeting Expert System (WATES) program has been awarded by the **Aviation Applied Technology Directorate (AATD)**, Ft. Eustis, VA, to **Sikorsky Aircraft**, Stratford, CT. The objective of the program is to create a realtime target acquisition and weapons system for a single-pilot Army combat helicopter. The emphasis is on an intelligent interface that interprets pilot actions, anticipates chronological events, coordinates data flow, and performs autonomous and pilot-directed tasks.

The Georgia Institute of Technology's Continuing Education Short Course on **Selective Fidelity and Validation Issues for Rotorcraft Flight Simulation** will be held between **6-8 April 1992 in Atlanta, GA**. The course will address fidelity and validation issues for rotorcraft flight simulation and will include presentations by experts in the field. A panel discussion on the morning of the last day will address issues raised during the short course. For more information, contact LTC Cliff McKeithan, Ret., (404) 894-2995.

MARKETPLACE DIRECTORY

The **MARKETPLACE DIRECTORY** is a reference guide that offers **ARMY AVIATION** readers easy access to the products and services they need most. Listings are sold on a semi-annual or annual basis at the rates outlined below.

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CH-47D MAINTENANCE TRAINING -- Boeing Helicopters is now offering a Total Maintenance Training Program at our factory Training Center in Philadelphia, PA. Courses provide our CH-47 customers with a low-cost, responsive alternative for CH-47 sustainment update training. For a free catalog and price listing, contact R. Neil, Boeing Helicopters, PO Box 16858, MS P38-43, Philadelphia, PA 19142, (215) 591-8744.

BRIEFINGS

The U.S. Army has proposed a fleet modernization plan for the **McDonnell Douglas AH-64 Apache** that will increase the effectiveness of the multi-mission combat helicopter across the board. The Army has recommended to Congress a plan that will give its 807 Apaches added punch in battle and enhance their reliability, availability, and maintainability. The proposed upgrades are designed to give the Apache the capabilities to remain the leading multi-mission combat helicopter in the world. Under the program, the Army would convert 535 AH-64A Apaches into the AH-64C/D configuration, and upgrade 254 AH-64As into AH-64B models with improvements derived from Operation DESERT STORM. Both the AH-64C and the AH-64D will be identical, with the exception of their engines and installation of the Longbow Fire Control Radar.

A contract has been awarded to **PROAV International Aviation Services Corporation** for the purchase and technical support of its Cable Warning System (CWS). The evaluations will be conducted by U.S. Army Aviation units in Germany and Korea. The CWS provides pilots with an aural and visual warning of the presence of energized power lines in their vicinity. The system has demonstrated the potential to provide pilots with sufficient warning to avoid the majority of current-carrying wires.

The **Westinghouse Electronic Systems Group** unveiled its Multi-Sensor Surveillance Aircraft (MSSA), a powerful new weapon against drug smugglers, illegal border traffic, and other enemies. Armed with proven military and commercial technology, the MSSA can be effectively utilized for law enforcement surveillance, border and fisheries patrol, airspace control and special operations, including search and rescue. The system is installed aboard a modified Pilatus Britten Norman (PBN) Islander.

Nick Kernstock has recently joined **Boeing Helicopters** as Manager, Media Relations, Navy Programs. He replaces **Jack Satterfield**, who assumes the duties of Media Relations Manager for Boeing Helicopters' Army programs, including the RAH-66 Comanche and CH-47D Chinook.

Lucas Aerospace has appointed **Gordon R. Walsh** as Managing Director of its Flight Control and Actuation Systems Division. Walsh joins Lucas Aerospace from The Interlake Corporation, where he was Group Vice President responsible for the Aerospace and Engineered Materials businesses. He will establish a Divisional Office in Reston, VA.

CAREER TRACK

If you'd like to take advantage of the Career Track employment referral service, but you're not yet a member of AAAA, the solution is simple: Fill out a membership form and send it in along with your request for a Career Track application. Your ad will run in the next available issue.

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

— Place your ad here —

The lift the Army needs.

The Army must soon choose between the old and the new for its light utility helicopter. By choosing a non-developmental item (NDI), the Army can obtain an operationally superior, cost-efficient fleet that will serve its forces well into the future.

The new Panther 800 is the light-lift helicopter that represents an effective, low-risk NDI solution. It will consume less than half the direct support resources of the UH-1. As a testament to its versatility, it easily satisfies the capability and survivability requirements of the future light utility helicopter.

As the NDI solution, the Panther 800 takes advantage of proven, modern technology. Its exceptional multirole capabilities will give the Army the lift it needs for many years to come.

LTV Aerospace and Defense aerospatiale IBM LHTEC

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Merritt Island, FL 32953

Svarrer, Norman H. MAJ
16 Glencourt Avenue
Edison Township, NJ 08837

Tekell, Robert S. LTC
14300 Statler Boulevard
Apt. 607
Fort Worth, TX 76155

Telfer, Jon R. COL
Benelux Chapter VP Memb.
NSA, PSC 79, Box 1641
APO AE 09724

Thomas, Charles L. LTC
4795 Meadow Wood Lane
Chantilly, VA 22021

Veal, Monte R. LTC
5512 Lakeshore Drive
Columbia, SC 29206

AAAA LOST MEMBERS

A quarterly listing of AAAA members whose mail has been returned to the National Office as "undeliverable." If you have a current address for any of these members, please contact the AAAA National Office, 49 Richmondville Avenue, Westport, CT 06880-2000 (203) 226-8184.

Ackerman, Charles J., WOC
Adams, James R. Jr, MAJ
Albers, John E., CW3
Alley, David, MAJ
Ambrose, David K., CW4
Amegin, Daniel G., WOC
Anderson, Corolyn, PFC
Anderson, David P., WO1
Anderson, Mark A., 1LT
Baldini, Riccardo, Mr.
Barbee, Brad A., SPC
Bateman, Thomas A., WOC
Bauman, David D., PV2
Beckons, Shane L., WOC
Bell, Dewayne, SGT
Bennett, George, SPC
Bittle, Sean, Mr.
Blackburn, John E., Mr.
Blackwell, William W., 2LT
Boehm, Scott A., CPT
Bowns, Nicolas D., LTC
Boyer, Patrick M., 2LT
Brokate, Ulrich, Mr.
Brown, James, SPC
Brown, Lisa M., SSG
Brown, Michael C., WOC
Brown, Robert W., WOC
Bruckart, James E., MAJ
Burke, James L., COL, Ret.
Busch, Dennis S., WOC
Byall, James T., 2LT
Byars, Mark, PFC
Cain, Rodney E., CW3
Calhoun, John C., SGT
Calhoun, Steven C., 2LT
Camperson, Cynthia J., CPT
Carpenter, Michael D., PFC
Carter, Theodore G., CW4
Castaneda, Ricardo L., CW4, Ret.
Castellano, Benedict D., 2LT
Castle, A. W., WOC
Caudle, Kelley D., WO1
Chapman, James R., CPT
Chapman, Jimmy R., MAJ
Charbonneau, Mark A., SPC
Chase, Deborah J., CPT
Choi, B.P., CPL
Christman, Darren F., WOC
Christman, Douglas M., MAJ
Clark, Robert H., SPC
Clinger, Jeffrey B., CW2
Collins, Boyd D., CPT
Combs, John J., 1LT
Connett, Jody, SGT
Connors, Scott P., CPT
Corcoran, Kevin P., CPT
Crane, Richard J., 2LT
Creech, Earl S., MAJ
Cross, Jeffrey M., WOC
Crossland, Ray, Mr.
Damon, Charles P., LTC, Ret.
Davis, Cory, PFC
Davis, Roger C., SPC
Dawson, Christopher, 2LT
Dawson, Lucia, Mrs.
Deane, Thomas B., WOC
Delong, Terrence P., 1LT
Deschaine, David Alan, CW2
Diamond, Marc W., SPC
Driesbach, Stuart K., CPT
Ducote, Michael, SPC
Dudick, Ronald A., PFC
Duft, Michael, CPT
Dulohery, Cynthia A., 2LT
Dumond, Jeffrey P, WOC
Duncan, Karl R., Mr.
Edelstein, Arthur, Mr.
Edwards, Rollie J., LTC
Egan, Kevin P., SPC
Elliot, Bruce A., 2LT
Ellis, Jeffrey D., WOC
Enriquez, Oscar R., Mr.
Evans, Mark A., 1LT
Evans, Samuel S., CPT
Evans, William K., SPC
Everitt, Don A., SSG
Eyre, Tait L., WOC
Fairburn, Ronald M., SFC
Farmer, Kevin S., SPC
Farnham, Jay S., SFC
Farroll, John E., SGT
Felder, Charles, Mr., Ret.
Fernandez, Gregory M., PV2
Ferrea, Albert J., COL
Figard, Cathy, PFC
Fiore, Kevin I., 1LT
Fish, Charles A., 1LT
Flame, Christopher, SPC
Forgie, David S., SPC
Fowler, Kevin J., 1LT
Franks, Samuel D., PFC
Freeman, Christopher, WOC
Fronk, Joel O., WO1
Furman, Darryl, PFC
Gadberry, Debbie L., CPT
Gager, Michael A., SGT
Galvin, Edward J., PFC
Gambel, Donald C., WOC
Gardner, Alfred H., SGT
Garza, Robert, Mr.
Gatch, Michael K., MAJ
Gattenby, Virgil L., WOC
German, Ronald D., SPC
Gillespie, Randal A.,
Gobble, Jonathen W., SPC
Gonzalez, Barry, PFC
Gray, Bryan, PV2
Gray, Charles W., Mr.
Greene, John C. S., CW3
Greenway, John R., MG, Ret.
Grider, II, Kenneth H., WOC
Grier, Blake A., SPC
Gruenig, Steven A., 2LT
Guerra, Joe R., WO1
Gumbs, Sherman, SPC
Gunderson, Brian S., WOC
Gutierrez, Eduardo, CPT
Haddix, Heike H., SPC
Hager, John L., WOC
Hall, Thomas Neil, SPC
Halpern, Susan S., Ms.
Hamm, Eric L., WOC
Hapner, Brian M., SGT
Harrick, Jeff P., 2LT
Harris, David E., SP4
Hassinger, James C., MAJ
Hausman, Daniel G., PFC
Hayes, Matthew C., CDT
Hazeldine, James E., SPC
Hellwig, Hermann, Mr.
Henderson, James R., Mr.
Hennessy, Roberto V., 2LT
Herman, Trevor S., PFC
Hickey, Martin J., CPT
Hinchion, Richard L., CPT
Hogans, William R., 2LT
Holder, James M., WO1
Hollingsworth, Scott W., CPT
Hooker, James E., LTC, Ret.
Hope, John K., 2LT
Hosien, Masuda T., PFC
Huber, Allan L., CPT
Hudson, John G., Sr. Mr.
Humphries, Travis L., MAJ
Hurst, John E., Mr.
Ilsa, Lee F., 1LT
Irvin, Dane L., WOC
Jayne, Robert K. Jr, COL
Jee, Derrick W., WOC
Jefferson, Adrienne, SPC
Jenkins, Gregory R., MAJ
Jennings, Lew, MAJ, Ret.
Jepson, Jeffrey F., 2LT
Johnson, Montie J., 1SG, Ret.
Johnson, Vanessa, PFC
Jones, Douglas L., 2LT
Juhn, Kwang In, Mr.
Jung, Yung Suk, CPL
Kain, Joel L., 2LT
Kallam, Kenneth, SPC
Kendon, Eve, Ms.
Kennedy, Kyran E., WOC
Kiellan, Scott, SPC
King, Edward J., LTC
Knapp, Gary K., MAJ
Knott, Jason, PFC
Kvanvig, Jeannie M., 2LT
Kyzer, Joel S., SPC
La Monica, Rich. S. Sr, CW4, Ret.
Ladlier, Bertrand, SPC
Lamb, Trent E., 1LT
Langhorn, Thomas, CW4
Larson, Edward D., Mr.
Lawrence, David L., MAJ
LeGault, Anne M., WOC
Leshinskas, Anton S., CPT
Lewis, Steve A., CPT
Lind, Greg A., 1LT(P)
Lindsley, Fred, CW4, Ret.
Long, Thomas D., WOC
Loomis, Paul A., CW3
Lopez, Steven R., WO1
Lopez-Soto, Domingo, SSG
Lyman, Richard G., SGT
Lynd, Allyn D., 2LT
Maas, Jeffrey R., PFC
Mabe, Kurtis T., SFC
Madden, Michael J., CW4, Ret.
Marcovsky, David, CPT
Martin, Gary R., CW4
Masarik, Jerry L., 1SG
McAlister, John A., CW2
McConnell, Robert C., PFC
McCumber, Ronald, PFC
McGann, Patrick D., WO1
McGee, Matthew B., CPT
McKnight, Lisa R., PV2
McLain, Darren A., WOC
McNamara, John M., MAJ
Mechels, Steven A., 1LT
Miel, Rodney E., CPL
Migl, Rodney E., SPC
Millering, Harold E., Mr.
Miller, Nathan C., PFC
Minichiello, Angela L., 1LT
Misseheimer, Ira W., SPC
Mooney, Herbert J., WOC
Morse, Thomas D., PFC
Moss, April J., 1LT
Murmann, Klaus E., Mr.
Murray, Randy, 2LT
Nair, Richard S., 2LT
Naylor, Sean P., Mr.
Nee, Richard M., WOC
Nelson, Jarred L., WO1
Newland, Bryan D., CW2
Nielsen, Anders R., WO1
Nightengale, Steve R., SPC
Noser, Russie L., PFC
O'Hearen, Scott D., 2LT
Olson, Charles S., 1LT
Oram, Charles J., COL
Ortleld, Tracy L., WOC
Ortiz, Camilo V., WOC
Osborne, Daniel E., CW4
Osburn, Stephen J., SPC
Papp, Gary, SPC
Paquette, Roger K., LTC
Park, Hyun, CPL
Pasco, Michael H., CPT
Patton, Kenneth E., WOC
Pearson, Craig H., LTC
Peppler, T.P., Mr.
Perez, John, SPC
Perkins, Scott M., 2LT
Perrich, Robert A., LTC
Periek, Sandra J., SPC
Phyall, William P., Mr.
Picardi, Mike, Mr.
Pierce, Karl, SGT
Pike, Daniel W., MAJ
Pinkham, Martin C., LTC
Pontious, Jeffrey L., CW2
Posey, James O., 2LT
Poston, Daniel A., LTC
Ray, John J., SPC
Rea, Norman, Mr.
Reese, Raymond, SPC
Reis, Frank J., SGT
Reynolds, Ronald, SFC
Richardson, James M., CPT
Richards, Juan, SPC
Richardson, Laura J., CPT
Riddle, Mark A., CW2
Ridgway, David P., MAJ
Rieder, Jeffrey A., 2LT
Riley, Gail M., MAJ
Riley, Richard D., CW4
Rizzo, John M., Mr.
Robinson, James M., 2LT
Rodgers, Matthew C., PFC
Rogers, Tommy, SPC
Rohrer, James A., CW4
Romandetto, R., Mr.
Ruppin, Richard C., WOC
Ruprecht, Jeremy, PFC
Saunders, Olin E., Jr, MAJ
Scarbrough, Kevin N., SPC
Scherzberg, Michael K., WO1
Schiltz, Thomas R., SPC
Schrobben, John H. III, MAJ
Schoenholer, Bruce E., WOC
Schuster, Kirsten N., WOC
Seindenfaden, Alton J., CPL
Shepherd, Johnnie L., COL
Sherlock, Richard J., CPT
Singer, Todd E., SPC
Sisk, Roby F., WO1
Sloan, Larry R., LTC(P)
Sloat, Michael P., WO1
Smith, David B., Mr.

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AIR ASSAULT CHAPTER
FORT CAMPBELL, KY
CPT Richard N. David
WO1 William E. Gray
CW3 Jeffrey L. Haddock
CPT James A. Muskopf
CPT Stephen S. Seitz
CW2 Frederick J. Tolerico
CW3 Terry L. Webb

ARIZONA CHAPTER
MESA, AZ
Mr. Thomas P. Tshudy
Mr. Frank J. Widmann

ARMY AVIATION CENTER CHAPTER
FORT RUCKER, AL
1LT James E. Baker
2LT Larry E. Bass
CPT Robert S. Brown
CW3 Willie C. Chance
2LT Francis J. DePriest
SPC Denise M. Griswold
CPT Curtis J. Maloy
2LT Lyle L.V. Martin
CPT Michael R. Pandol
1LT Matthew J. Phillips
2LT Robert K. Redd
CPT Eric R. Roberts
SFC Larry Rotzinger
COL Larry H. Shire
2LT David A. Swalwell

CEDAR RAPIDS CHAPTER
CEDAR RAPIDS, IOWA
Mr. Raymond C. Walaska

CENTRAL FLORIDA
ORLANDO, FL
Mr. Oscar J. Dorr
Mr. Richard C. Gilmour

CHESAPEAKE BAY CHAPTER
EDGEWOOD, MD
Ms. Rene Guanti
Ms. Deborah Hartman
Mr. Benedict F. Meckler
Mr. Mike Mersinger
Mr. Charles Ritz
2LT Carlos A. Santillan
Mr. Joseph Stelmack

CITADEL CHAPTER
CHARLESTON, SC
CDT Heath S. Bartlett
CDT Gray M. Buchanan
CDT William E. Davenport, Jr.
CDT Hugh D. Harvey
CDT Christopher M. Lake
CDT Eric E. Lochner

CONNECTICUT CHAPTER
STRATFORD, CT
Mr. David K. Randall

CORPUS CHRISTI CHAPTER
CORPUS CHRISTI, TX
Mr. Leonard A. Anderson
Ms. Lori Barrera
Mr. Elwyn J. Barrow
Mr. Jack A. Bell
Ms. Loretta Benavides
LT Thomas J. Boxberger, USN
Mr. Jack H. Brooks
Ms. Eva C.H. Brown
Mr. James R. Byrn
Ms. Kathleen S. Castor
MAJ Robert M. Combs, Ret.
Mr. Timothy J. Dart
Mr. John D. Day
Mr. Pramod J. Desai
Ms. Maria R. Evans
Mr. Leonel Farias
Mr. Jesus R. Figueroa
Mr. Abe Garcia
Mr. Abraham M. Garcia
Mr. Manuel V. Garcia
Mr. Juan Gonzalez
Mr. Eleazar B. Guajardo
Mr. Woodrow W. Harris
Ms. Virginia R. Hatley
Ms. Kay S. Johnson
Mr. Gary N. Kelly
Mr. Harold M. Kelm
Mr. Dewayne Knipstein
Ms. Catherine W. Lawrimore
Mr. Reynaldo R. Lichtenberger
Mr. Mario O. Lopez
Mr. Paul E. Marin
Mr. Jerry L. Millage
Mr. Raul Moreno
Mr. Dennis J. O'Brien
Mr. Anthony R. Ocasio
Mr. Leandro Perez, Jr.
Mr. Ignacio Ramirez
Ms. Brenda P. Richie
Mr. Jesus G. Rios
MSG Jimmy G. Ruiz
Mr. Rafael Saenz
Mr. Ramon San Juan
Mr. Alan L. Sarver
Mr. Ewell D. Scarlett
Mr. Norberto Sonchez
Ms. Tamara G. Stockton
Ms. Dolores G. Stoner
Mr. Charles E. Walker
Mr. Daniel M. Washa
Ms. Joanne L. Weier
Mr. Jamee M. Williams
Mr. A.E. Wohltman
Ms. Lydia Wohltman

EDWIN A. LINK MEMORIAL CHAPTER
BINGHAMTON NY AREA
Mr. Jerry C. Purser
Mr. Dennis J. Stevens

GREATER CHICAGO AREA CHAPTER
CHICAGO, IL
LTC John A. Arends
MAJ Larry V. Hook

HANAU CHAPTER
HANAU, GERMANY
CW2 Alvin P. Anderson

HIGH DESERT CHAPTER
FORT IRWIN, CA
CPT Jeff L. Mowery

HUDSON-MOHAWK CHAPTER
ALBANY, NY
CW2 Robert E. Facteau
CW3 Bruce A. Mesh

INDIANTOWN GAP CHAPTER
INDIANTOWN GAP, PA
Mr. Jerry R. Slick

ISTHMIAN CHAPTER
FT. CLAYTON, PANAMA
MAJ Juan Santiago-Marini

LINDBERGH CHAPTER
ST. LOUIS, MO
Mr. Charles E. Aldrich
Mr. Charles J. Ashley
Mr. Gerald T. Fisher
Mr. James G. Gossrau
CW3 Edward J. Notter, Ret.
CW4 Robert E. Sidaway, Ret.

MID-AMERICA CHAPTER
FORT RILEY, KS
CW2 John B. Hall
CW3 Gregory E. Stinson

MONTEREY BAY CHAPTER
FORT ORD, CA
1LT John Michael Morgan

MORNING CALM CHAPTER
SEOUL, KOREA
MAJ Kirk
Mr. Michael F. McShane
SGM James M. Paige
CPT Penny N. Zamora

MOUNT RAINIER CHAPTER
FORT LEWIS, WA
CW3 Ralph H. Donovan

NORTH COUNTRY CHAPTER
FORT DRUM, NY
CW2 Richard W. Wenthold

NORTH STAR CHAPTER
ST. PAUL, MN
Mr. Mark A. McCormick

NORTH TEXAS CHAPTER
DALLAS/FORT WORTH
CW2 David E. Bristol

PHANTOM CORPS CHAPTER
FORT HOOD, TX
WO1 Marc E.J. Meloen
CW2 Padraic E. O'Bryan
WO1 Joseph Perugini
CPT Bernardo A. Ploca

SAVANNAH CHAPTER
FT STEWART/HUNTER ARMY AIRFIELD, GA
COL James W. Bradin, Ret.
SPC Ronald Cooper
1LT David Gavanti
CPT Ryan E. Gossett
CW2 Ronald Johnson
CW2 Steven A. Morris
CW2 Nicholas J. Perfetto

SOUTHERN CALIFORNIA CHAPTER
LOS ANGELES, CA
Mr. Prince Powe

TENNESSEE VALLEY CHAPTER
HUNTSVILLE, AL
Mr. Mike Clowes

THUNDERHORSE CHAPTER
FULDA, GERMANY
PFC Craig J. Cada
PFC Lance W. Carter
PV2 Thomas R. Clark
SGT John W. Grace, III
PFC Shawn P. Hardman
PFC John W. Lambert
SPC Heath G. Scribner
SGT Kevin D. Templeton

WASHINGTON DC CHAPTER
WASHINGTON, DC
Mr. Iain S. Baird
Mr. Timothy F. Regan, Jr.
Mr. Willem Van Der Velden

LOST MEMBERS
(continued from page 63)

Smith, Gary S., CW3
Snead, Donnie W., SSG
Speal, Joseph F., WO1
Stephens, Madre R., PV2
Stuverude, Howard N., Mr
Suarez, Oliver C., SPC
Sullivan, Mark, SPC
Sullivan, Timothy S., CPT
Sullivan, Timothy, PFC
Susag, Jeffry T., CW2
Taylor, Brian M., PFC
Taylor, Kenneth R., CPT
Taylor, Richard P., MAJ
Templin, Roy D., 1LT
Thompson, Celessia, SPC
Thompson, Scott A., WOC
Thomsen, Dan B., SPC
Tinnesand, Scott B., 2LT
Tomlinson, Lance, PFC
Traeger, James, SPC
Trent, Ben, Jr, CW4
Tupper, Frank C., WOC
Tyrrell, Harriett G., WOC
Van Beek, Robert J., CPT
Vangulider, David D., PVT
Vereault, Edmund C., 2LT
Vtach, Gregory, SPC
Voelke, Walter E., SSG
Walker, Robin C., MAJ(P)
Wallace, Dennis D., CW4
Walsh, Steven D., WO1
Ware, Robert P., LTC
Warren, Donald E., Mr.
Wasdyke, James, SFC, Ret.
Watson, Andrew K., 1LT
Welch, Joseph, WOC
Wells, Vernon E., SPC
White, Robert D., 1LT
Whitehurst, Leon c., CW4
Wiesen, Robert, SPC
Wilhelm, Jay S., CW4
Williams, Michael B., MAJ
Willis, Kevin D., 1LT
Worrell, Homer W., LTC
Wotkyns, Anthony L., MAJ
Wright, Karen J., 1LT
Yeater, Daniel C., CPT
Yingling, Nelson C., WOC
Young, Luhit L., Mr.

NEB MINUTES

AAAA's National Executive Board (NEB) conducted its Fall meeting at the Lake Lodge at Fort Rucker, Alabama, on 6 December 1991. Major actions included:

AWARDS: THE ORDER OF ST. MICHAEL - STATUS. A motion was approved to 1) establish a Silver and Gold Awards program whereby the Gold Award would be presented to an awardee who had made a significant and lasting contribution to Army Aviation; the Silver Award would be presented to an awardee who had made an outstanding contribution to safety, unit operational readiness or force development in Army Aviation; and the Bronze Award would be presented to an awardee who had made an outstanding contribution to Army Aviation at the unit or directorate level through exemplary leadership or exceptional performance; 2) utilize the current supply of Bronze Medals for the Silver and Gold Medals and obtain proposals to down size the Bronze Medal to 1-3/4" diameter to lower the cost of the awards package; and 3) to remove the limitation that the Approving Authority may only approve two Bronze Medals per year and let there be no limitation.

AAAA 50th ANNIVERSARY DINNER. The Executive Group approved sponsoring an Army Aviation 50th Anniversary Dinner on the Thursday evening of the AAAA Convention on a pay-as-you-go basis (see page 50 for more details about the birth of Army Aviation).

COMPANY GRADE OFFICER AFFAIRS: MEMBERSHIP SURVEY. CPT Ludowese referred to the article she had written for publication in the December issue of ARMY AVIATION and re-emphasized the four areas mentioned most often by the respondents: 1) the need to eliminate command emphasis as the primary recruitment method and replace it with peer solicitation; 2) the need for a balance of professional, social, family, sports and recreational activities at the local level; 3) the need to strengthen the editorial content of the magazine lessening the focus on R&D, high technology and industry in favor of more tactics, "lessons learned", controversial, and historical subjects; and 4) the need to better publicize existing benefits as well as consider providing additional benefits.

CONVENTION: DESIGNATION OF HOST COMMAND FOR 1993 AAAA CONVENTION. MG Drenz advised the NEB that MG Williamson agreed to serve as Military Affairs Chairman and that AVSCOM would serve as the Host Command for the 1993 AAAA Convention in Ft. Worth, Texas, 31 Mar.- 4 Apr. 1993.

NOMINATIONS: STATUS. MG Stevens advised that five positions of Vice President would become available for the term 1992-1995. A motion was approved to accept the recommendation of the Nominations Committee that the names of MG Richard E. Stephenson, Ret., MG Charles F. Drenz, Ret., COL Gerald R. Kunde, Ret., MG Benjamin L. Harrison, Ret., and CW4 Joseph L. Pisano be placed on the ballot for election by the general membership at the AAAA Convention in Atlanta. In addition, a motion was approved to ratify the appointment of Mr. Thomas L. House as a National Member-at-Large on the NEB.

ENLISTED AFFAIRS: MEMBERSHIP SURVEY. CSM Finch's request to conduct a random survey of AAAA's enlisted members was approved.

AAAA NEB NOMINATIONS

In accordance with the AAAA By-Laws, notice is hereby given that in addition to the nominations recommended by the National Nominations Committee for those National Board offices in which vacancies occur at the time of annual election, floor nominations may be made at the general membership business meeting held at the Annual Meeting, provided that the name of the floor nominees appear on nomination petitions signed by twenty-five (25) members of the Association and said petitions are provided to the Chairman of the National Nominations Committee at the AAAA National Office at least (30) thirty days prior to the conduct of the Annual Meeting of the Association.

National Awards Presented at

The AAAA Howze Gunnery, Air Sea Rescue, and the Army Aviation Trainer of the Year Awards were presented at the Army Aviation Center Chapter Banquet, 5 December 1991.

Chapter award winners included: **CW4 Richard B. Osterlund**, the James H. McClellan Aviation Safety Award; **Robert C. Anderson**, the Outstanding Department of the Army Civilian Award; **CW4 Thomas M. Flynn**, the Robert M. Leich Award; **SFC William J. Baker**, the Army Aviation Soldier of the Year Award; **SGT William H. Brady, Jr.**, AAAA Trainer of the Year Award; and the **2/229th Aviation Regiment**, the Outstanding Aviation Unit Award.

After the Chapter level awards were made, the AAAA U.S. Military Academy Cadet of the Year, **2LT Christopher J. Watrud**, and the AAAA ROTC Cadet of the Year, **2LT Louis A. Birdsong**, were also recognized.

The Howze Gunnery Award was established in 1989 and is sponsored by GEN Hamilton H. Howze, Ret. It is awarded annually to the top AH-1 and AH-64 gunnery crews determined by the annual Howze Helicopter Gunnery Competition, which pits the best of the local top crews from posts around the world against each other during several days of rigorous competition at Ft. Rucker's simulation facilities.

This year's winning AH-1 crew was pilot **WO1 Jose E. Trejeda** and co-pilot/gunner **CW2 John L. Kercheville**, respectively of C and D Troops, 1-7 Cavalry, 1st Cavalry Division, Ft. Hood, TX. The top AH-64 crew was pilot **CW2 Jarrett R. Brewer** and co-pilot/gunner **WO1 Kevin E. Smith**, C Troop, 6th Cavalry Brigade, Ft. Hood, TX. Take-home trophies were provided by Rockwell International Corporation. Pictured above, left to right, are MG Charles F. Drenz, Ret., AAAA National President; WO1 Trejeda; COL Joseph W. Eszes, Commander, 6th Cavalry Brigade (Air Combat); CW2 Kercheville; and Joseph H. Garrett, Jr., VP Defense Government Electronic Affairs and Marketing, Rockwell International. Pictured below, left to right, are MG Drenz, Ret., AAAA National President; CW2 Brewer; COL Eszes; WO1 Smith; and Mr. Garrett.

Next, the AAAA Army Aviation Air/Sea Rescue Award, AAAA's newest functional award, was presented. Sponsored by Lucas Aerospace, this award is presented annually to "the crew or crew member who has performed a rescue using a personnel rescue hoist that saved the life or eased the suffering of an individual or individuals during the awards period encompassing October 1, 1990 through September 30, 1991."

CW3 Julian Council and **CW3 Scott Berrier**, A Troop, 4th Squadron, 17th Cavalry (AIR)(RECON) were recognized for rescuing two downed aviators in the Persian Gulf. On 20 September 1991 at 2315 local, the lead

Fort Rucker Ceremonies

aircraft of a flight of two OH-58D Kiowa Warriors experienced an engine failure, crashed, and sank in the Gulf. Council and Berrier, in the trail aircraft, circled over the two downed aviators. After more than 20 minutes, it became apparent that the nearest surface vessel could not reach the location before they would have to break station for fuel. If they left the scene it was unlikely that the crashed pilots could be relocated, so they jettisoned their rocket pod and lowered the caving ladders. With Council directing, Berrier maneuvered the aircraft over the pilots, allowing them to grab on to the ladders. They then made an NVG approach to a high hover over the USS *Stark* and lowered them to the flight deck. The entire rescue was performed under NVG conditions. Although a personnel rescue hoist was not specifically used, this rescue was considered so exceptional that this crew was deemed fully worthy of the award.

Above, standing left to right: Richard Murphey, District Manager, Lucas Aerospace; MG Charles F. Drenz, Ret., AAAA National President; CW3 Council; and CW3 Berrier.

The 1991 AAAA Trainer of the Year Award was presented to co-winners **CW3 John S. Moltenberry** and **SGT Christopher M. Pakutka**. Sponsored by CAE-Link Corporation, this AAAA National Award is presented to "the trainer who has made an outstanding contribution to Army Aviation during the awards period encompassing CY91."

CW3 Moltenberry, Track Chief, OH-58D Maintenance Test Pilot Course, Department of Aviation Systems Training, U.S. Army Aviation Logistics School, Ft. Eustis, VA, developed instructional programs and training support materials and concurrently participated in the development and fielding of the Kiowa Warrior. As the USAALS subject matter expert, he made invaluable contributions to training excellence.

SGT Pakutka, Aeroscout Observer, Palehorse 4/2 Armored Cavalry Regiment, Feucht, Germany, one of the first aeroscout observers to arrive in Germany, immediately started an Aeroscout training program for others to follow. He implemented a squadron Aeroscout Sergeant's Time Folder which proved extremely useful when the 2d Armored Cavalry Regiment deployed to Southwest Asia and new training was required. When the OH-58Ds joined his unit, he developed practical hands-on exercises that quickly got his soldiers proficient with this aircraft. In addition, SGT Pakutka was the first Aeroscout Observer to become a SGT Morales Member.

Pictured at right are, left to right: COL William J. Blair, TRADOC; MG Charles F. Drenz, Ret., AAAA National President; CW3 Moltenberry; SGT Pakutka; and George Houser, President, CAE-Link Corp.

New AAAA Chapter Officers

Aloha:
MAJ James A. Page (Treasurer)
High Desert:
CPT Perry N. Sosa (SrVP); CW2 Greg E. Inman (Treas); 2LT Christopher C. Prather (Secy); 1LT Richard J. Stroyan (VP, Programs)
Monmouth:
Vincent C. O'Donnell (VP, Prog); George Hogelin, Sr.(VP, Industrial Affairs)
Mount Rainier:
MAJ Thomas B. Peterman (Acting President)
Phantom Corps:
CW4 John R. Kemp (VP, Renewals)

Aviation Soldier of the Month

A Chapter Program to recognize Outstanding Aviation Soldiers on a monthly basis.

SPC Ronald Cooper
Savannah Chapter
November 1991

AAAA New Industry Member

Unitron Incorporated
Dallas, TX

AAAA New Sustaining Members

NCOA Service Center
Oak Grove, KY
L.C. Woodcrafts
Clarksville, TN
Embassy House, Inc.
Clarksville, TN
Cannon Tire & Auto Service
Clarksville, TN
ASAC Automotive
Clarksville, TN

LTG John J. Tolson, III

LTG John J. Tolson, III, Ret., died 2 December 1991. Cause of death was a heart attack. LTG Tolson was 76 years old.

As commander of the First Cavalry Division (Airmobile) in 1967 and 1968, LTG Tolson used helicopter air assault tactics to quickly transport soldiers and supplies to the scene of battles against elusive North Vietcong guerrillas and the North Vietnamese Army. More than 400 helicopters and 15,000 troops were under his command, and he deployed them in such major encounters as the relief of Khe Sanh and the counterthrust to the Communists' Tet Offensive of 1968. Through his skill as an aviator and his insight as a military strategist, he saw the helicopter's inherent value on the battlefield.

LTG Tolson retired from the Army in 1973. His decorations included the Distinguished Service Cross and the Distinguished Flying Cross. He had been president of the Association of the U.S. Army, chairman of the Army Aviation Museum Foundation, and a National Member-at-Large and National VP of the Army Aviation Association of America.

Survivors include his wife, the former Margaret Jordan Young; two sons, David C. Tolson of Atlanta, GA and John J. Tolson of Arlington, VA; and a daughter, Harriet B. Tolson, of East Haddam, CT.

MG Rudolph Ostovich, III, (left) former Branch Chief, receives a AAAA "wedge" from AAAA President MG Charles F. Drenz, Ret. as a token of the AAAA National Executive Board's appreciation for serving on the NEB while Aviation Branch Chief. MG Ostovich was assigned to the Joint Staff in Washington, D.C. in October.

The Colonial Virginia Chapter recently joined forces with AHS' Hampton Roads Chapter and the Naval Helicopter Association and presented the first multi-service and civilian rotorcraft display at the NASA/Langley Research Center, Hampton, VA.

The Corpus Christi Chapter recently held its Annual Awards Luncheon. Awardees included (Front, l-r): Mary Frazier, Community Service Award; SSG Steven L. Klatt, NCO of the Year; Lawrence A. Simone, Civilian of the Year; COL William S. Reeder, Jr. (Speaker); COL Thomas E. Johnson, Cdr, CCAD and Chapter President. Back, l-r: LTC James R. Boren (past President), Special Recognition Award; Nancy A. Alexander, Co-recipient, Top Gun; Jimmy B. Johnston, Best Supporting Industry; Joseph A. Caines, Co-recipient Top Gun; and James A. Tschoepe, President's Award.

2 for 1 Offer

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

Join the professionals!

Join AAAA.

See membership application on page 70.

AAAA CALENDAR

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

December, 1991

✓ **Dec. 13.** Morning Calm Chapter's Annual Christmas Ball. Seoul Intercontinental Hotel, Grand Celadon Ball Room. Guest Speaker: LTG Harry W.O. Kinnard, Ret.

January, 1992

✓ **Jan. 10.** The Savannah Chapter's Business-Social/ General Membership Meeting. Hyatt Regency, Savannah. Guest Speaker: MG George S. Beatty, Ret.

✓ **Jan.14.** The Iron Mike Chapter's Professional-Business Meeting. Fort Bragg Main NCO Club. Guest Speaker: COL William R. Clontz.

✓ **Jan. 15** First Coast Chapter Professional-Social Meeting. Hospitality Room, Anheuser-Busch Brewery.

✓ **Jan. 15.** The Lindbergh Chapter's Professional-Social Meeting, Winter Blues Happy Hour. Bunker II.

✓ **Jan. 16.** Chesapeake Bay Chapter Ski Trip to Salt Lake City, UT. Members and Guests invited.

✓ **Jan. 22.** Rhine Valley Chapter General Membership Meeting. Mannheim Officer's Club. Guest Speaker: LTG Michael F. Spigelmire.

February, 1992

✓ **Feb. 1.** AAAA National Awards Committee Meeting to select CY91 National Award Winners.

✓ **Feb. 5-6.** 18th Annual Joseph P. Cribbins Product Support Symposium sponsored by the AAAA Lindbergh Chapter. Stouffer Concourse Hotel, St. Louis, MO.

✓ **Feb. 5.** AAAA Outstanding Aviation Logistics Support Unit of the Year Award Presentation and AAAA Industry Award Presentations, Stouffer Concourse Hotel, St. Louis, MO.

✓ **Feb. 13-23.** Chesapeake Bay Chapter European Skiing Trip. Members and Guests invited.

✓ **Feb. 22-23.** Rhine Valley Chapter cosponsors IVV Volksmarch. 10 and 20 Km events. Volunteers needed.

April, 1992

✓ **April 8-12.** AAAA Annual Convention, Georgia World Congress Center, Atlanta, GA.

✓ **April 8.** AAAA National Executive Board Meeting, Georgia World Congress Center, GA.

✓ **April 9.** AAAA Scholarship Board of Governers Annual Meeting, Georgia World Congress Center, GA.

May 1992

✓ **May 7.** AAAA USAREUR Aviation Branch Ball, Heidelberg, Germany.

✓ **May 8.** AAAA USAREUR professional conference, Heidelberg, Germany.

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