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COMMUNICATION & TEAMWORK

Maj. General Daniel J. Petrosky

The Aviation Leaders' Training Conference (ALTC) and the upcoming AAAA National Convention represent unique opportunities for our branch and members of the Army Aviation community. Collectively, it is a chance to interact with one another, build the team, and focus on what is important today as well as project toward the future.

The first week of February, Fort Rucker and the USAAVNC Command Group hosted Army Aviation's brigade commanders and their command sergeants major (active duty and reserve component) to the "1998 Aviation Leaders Training Conference." Additionally, active and retired Army Aviation general officers and senior executive services (SES') were in attendance. These senior aviators' insights were key and added immeasurable value to the command teams who are meeting the mission in the field on a daily basis.

Once again, this year's conference asked brigade commanders and their respective command sergeants major to identify pertinent issues in all areas of Army Aviation that might require immediate attention. We achieved this goal through a series of open forum discussions. By design, this forum not only updated conference participants on what Army Aviation's current challenges are but more importantly, it allowed us to receive feedback from

System (ERFS II) for the CH-47 (FATCOW) aircraft, and funding for the HF NOE Communications System. Again this year we will take conference issues and begin our support work.

Our leaders can leave the home of Army Aviation knowing that the United States Army Aviation Center is working on their tough issues. Modernization within Army Aviation is continuing to move forward at a rapid pace, but we can never lose focus on what is required to give us success every day in our brigades and squadrons.

In addition to the professional sessions, we hosted two significant social events to honor our aviation soldiers—the annual Department of the Army LTG(R) Ellis D. Parker Awards luncheon and the AAAA awards dinner, sponsored by our local Fort Rucker chapter. I can not think of a better time than during this conference, with all of Army Aviation's leaders present, to recognize our outstanding soldiers and units who are meeting the challenges of today.

The AAAA National Convention scheduled for this April in Charlotte, NC, will be the forum in which we focus on the future. This year's theme "Army Aviation: A Force of Change, A Force of Dominance" captures the essence of our branch moving through Army XXI toward Army After Next. It will be a great event.

"[the 1998 Aviation Leaders Training Conference] allowed us to receive feedback from recent operations and gain insight from our commanders in the field."

recent operations and gain insight from our commanders in the field. We wanted to hear their concerns—their issues, so that we can together work toward solving them. Through this process we will become a healthier branch, and better equipped to meet CINC priorities/goals. To do this we focused on the CSA's priorities.

Last year's conference proved very beneficial with issues surfacing that initiated fielding of systems developments such as the Aircraft Cleaning and Deicing System (ACDS), the Extended Range Fuel

The AAAA conference provides a setting where we can foster our partnership with industry and relay to them what capabilities we need to accomplish our future mission. It is also a time for industry to show what they have on the shelf as well as on the drawing board. This is just another step in the right direction toward providing our deserving aviation soldiers the best training and resources available to accomplish their mission.

The Army Aviation Team (USAAVNC, PEO, AMCOM, & Industry) is committed to keeping our branch, brigade commanders and their CSM's above the best. We are proud of what they do for our great soldiers every day.



Maj. Gen. Petrosky is Aviation Branch Chief and CG, U.S. Army Aviation Center (USAAVNC) and Ft. Rucker, AL, and Commandant, U.S. Army Aviation Logistics School (USAALS), Ft. Eustis, VA.



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COMANCHE FULL-SPECTRUM DOMINANCE

By Brig. Gen. Joseph L. Bergantz

The Comanche team is actively pursuing dominance across the range of military operations. The development program reveals that the Comanche has the potential to be not only the centerpiece of the digital battlefield, but, more importantly, to become a full-spectrum dominance platform for the nation. It provides critical leap-ahead technologies which will contribute significantly to the overall force effectiveness of combined and joint forces in the years ahead. The Comanche's informational capabilities - coupled with its lethality, survivability and supportability - will ensure decisive victory while precluding collateral damage and fratricide. The Comanche will provide the maneuver commander the situational awareness necessary to lead successfully and win on the extended, non-linear battlefields of tomorrow.

To back up the assertions above, let's examine the essential elements of the Comanche program as they relate to emerging doctrine.

Comanche and Emerging Doctrine

As the technology of tomorrow's battlefield begins to take shape, the fog of war concerning future weapon systems is beginning to slowly lift. The Army is helping clear that fog by actively pursuing Force XXI experimentation activities. From these activities several interesting conclusions are starting to gel about future weapons systems. First, information dominance will be a key factor in winning future conflicts. Second, speed and agility will be equally, if not more important. And third, a weapon system that can combine these goals throughout the full spectrum of war - from peacetime engagement scenarios through full-scale war - will be an invaluable asset.

A full-spectrum weapon system will become a true combat multiplier and enable U.S. forces to decisively win any conflict with minimum losses. Such a weapon system is especially suited for the conflicts the U.S. Army sees on the horizon. But this weapon system must provide leap-ahead technologies that are open in architecture, support and enhance worldwide deployability, enable it to dominate on an asymmetrical battlefield and provide a smaller logistics footprint. This type of system will quickly become a decisive force capability for the nation.

The Comanche helicopter is the type of revolutionary weapon system that can satisfy the goals outlined above. Its development and production timelines position it to be

a leader through the crucial years from now through 2010, which are dedicated to Army XXI development. Comanche will also be a leader well into the following Army After Next (AAN) generation, which is now considered to be in the 2020 to 2025 timeframe.

Being a completely digitally designed platform, Comanche is well suited for experimentation work associated with the development of Force XXI systems and doctrine. The aircraft's digital systems are leading Army platforms into the 21st century. Furthermore, its inherent survivability characteristics - coupled with its smaller yet more efficient logistics footprint - will provide a quantum leap in overall force effectiveness. Comanche will be the Army's world-class reconnaissance aircraft for decades to come. In the near-term years of its development and early production Comanche will participate in Force XXI activities through simulation, technology transfer and provisions for Early Operational Capability (EOC) aircraft.

Comanche will play an active part with the First Digital Division exercises, primarily through simulation. At the same time, developmental efforts will digitize the first six Early Operational Capability aircraft to be available for participation in the First Digitized Corps experimentation activities, along with other exercises with first-to-fight, high-priority units. During this period other promising
(Full Spectrum Dominance continued on page 39)

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Puzzlement: Who Invented the Helicopter

by Lt. Col. E. J. Everett-Heath

Former British Liaison Officer, USAAVNC, Fort Rucker, Ala.

Reprinted from the July 30, 1977 edition of Army Aviation Magazine



It was not easy to decide who was the first aviator. Was it perhaps Bellerophon, who presumptuously tried to soar to Mount Olympus astride his winged horse, Pegasus?

The great god Zeus was on the mountain at the time and did not wish to be disturbed by the puny Pegasus. He therefore dispatched a gadfly, the most impressive in his fleet, to intercept the unfortunate — and unsuspecting — animal.

The resulting sting so upset the horse that it threw Bellerophon, who can now gracefully fade from the story. Pegasus, meanwhile, gathering every ounce of determination and flying skill, managed a safe — if unorthodox — landing on Olympus.

The Greek Claim

Reputable Greek mythologists may argue that the first aviators were Daedalus and his son, Icarus, who achieved the added distinction of inventing accident statistics. Both were imprisoned by King Minos on the island of Crete. Determined to escape, Daedalus laboriously made wings out of feathers and wax for himself and his son.

At a moment when the guards were slaking their thirst in the hot sun Daedalus and Icarus flapped (or feathered) their way out of captivity and up into the wide, blue Grecian skies. Overcome with excitement at his new-found skill and courage, Icarus flew higher and higher until he got so close to the sun that the wax melted, and he plunged to his death in the sea far below.

China-watchers will certainly put forward the claim of Chang-Heng (78-139), Imperial astronomer and self-styled master of the mechanical arts, who reported to the emperor that he had risen in a contraption with moving rotors and a built-in power mechanism. The more historically aware will remember that this alleged event was supposed to have occurred during the reign of the notoriously gullible Emperor Hoo Floo.

Progress over the next thousand years was, to say the least, hardly dramatic. The noted English philosopher Roger Bacon (1220-1292) may have been the first of the technical speculators when he quaintly suggested that a flying machine was possible: "...the wings, being artificially composed, may beate the ayre after the manner of a flying birde."

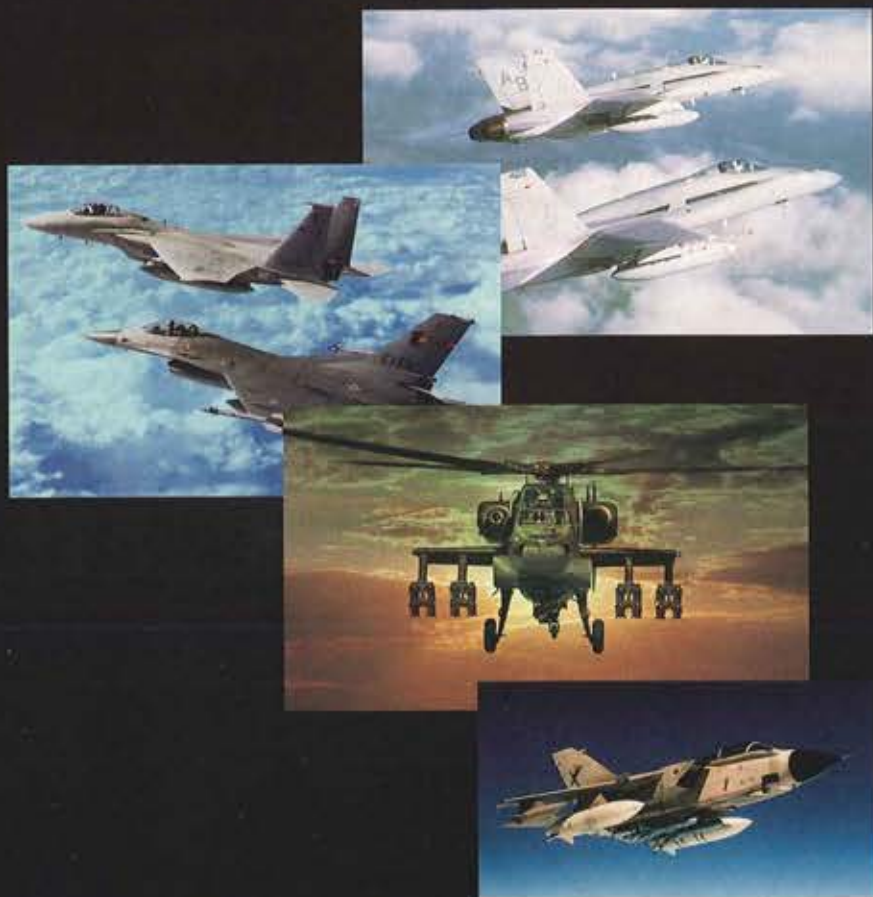
Further fruitless conjecture followed — as did many broken

Note From the Author:

The notes you now read deal with the historical development of the helicopter and should be studied with care as some obscure facts are revealed here for the very first time.

Lt. Col. E. J. Everett-Heath, Ret.

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arms and legs — until a genius in the shape of Leonardo da Vinci (1452-1519), stepped forward. This inventor and engineer-extraordinary was also a humanitarian. The thought of all those broken limbs upset him, so he invented the parachute. Due to an administrative oversight he quite forgot to tell anyone of this technological breakthrough, and so the parachute had to be re-invented some 300 years later.

Nevertheless, da Vinci's questing mind did not rest there and he soon realized that air and water behave in very similar ways. He likened the flight of a bird to the swimming of a fish. By means of some tortuous logic, this conclusion led to his sketches and notes of a lifting airscrew, or primitive helicopter, written in mirror (reversed) script in 1483.

Regrettably, these writings also failed to make much of an impression at the time — nobody could read them!

A Chopper Might Have Helped

Leonardo da Vinci's absentmindedness was keenly felt by King Richard III of England. Fighting desperately during the last important battle of the Wars of the Roses in 1485, the king (according to Shakespeare) was heard to yell: "A horse, a horse, my kingdom for a horse."

How much better off he would have been with one of da Vinci's helicopters! But without helicopter or horse King Richard was killed and the Plantagenet line died out. One man's negligence and a throne is lost; on such twists of fate turns the course of history!

The 17th and 18th centuries saw the greatest brains in Europe turned towards the problems of flight. One such was the lord bishop's of Chester, in England, one John Wilkins. In about 1660 he set his ideas down for posterity, perceptively explaining that he had certain reservations about the first three of his four proposals.

Man might fly, Wilkins observed, with first, the spirit of angels; second, with the help of fowls; third, with wings fastened to the body; or, fourth, in a flying chariot. The AH-1 Cobra is, after all, nothing if not a flying chariot.

Leonardo da Vinci left his manuscripts and drawings to a friend who, unable to decipher them, did not bother to have them published. It was not until 1797 that the material began to receive serious attention, work having been curtailed on Wilkins proposals due to the difficulty experienced in harnessing the power of angels and fowls.

In 1784, however, two Frenchmen, Launoy and Bienvenu, had built a small twin-rotor model helicopter. Turning in opposite directions and driven by a spring on a single shaft, the rotor blades were made of feathers, exhibiting a degree of survivability not since reached by any subsequent rotor blade. The model gave a spirited flying demonstration in front of the French Academy of Sciences in the same year.

A Man of Many Parts

It was this model that Sir George Cayley (1773-1857) copied in 1796 and which led directly to the development of the helicopter. Sir George was a man of many parts: an English baronet, member of Parliament, scientist, engineer, writer, anti-slavery campaigner, and designer of railroad equipment and artillery shells.

As an afterthought one afternoon, he decided also to become the greatest of all the early aeronautical pioneers. He invented the basic principles of the modern aeroplane and assumed the title of "father of aerial navigation." While concerned mainly with fixed-wing — as opposed to flapping-wing — machines, Cayley also saw the need for vertical flight.

Turning his attention to rotary-wing design, he wrote in 1843: "Aerial navigation by mechanical means must depend upon surfaces moving with considerable velocity through the air, but these vehicles will ever be inconvenient, not to say, absolutely, inefficient ... they must be capable of landing at any place where there is space to receive them, and of ascending again from that point.

They should likewise be capable of remaining stationary, or nearly so, in the air, when required."

Now Sir George was a man who quite clearly had read Sir Isaac Newton's remarks, a century earlier, on tail rotors. He knew that any single-rotor helicopter he constructed would have to have a tail rotor. Sir George considered such devices to be aesthetically inappropriate, so he decided instead to have four rotors — two on either side amidships,

mounted one above the other. Foreshadowing the AH-56 Cheyenne, this design had not one, but two pusher propellers at the rear.

But two things conspired to keep Cayley's principles strictly theoretical: the lack of a suitable engine and his distressing inability to untie the red tape to be found liberally strewn along the corridors of power.



Who Coined the Term "Helicopter?"

The great scientific minds of the day were, sadly, less competent when it came to naming their inventions. It was a simple Frenchman, the Viscomte Gustave de Ponton d'Amecourt from Issyles-Moulineaux, who in 1863 coined the word helicopter, supposedly deriving it from the Greek words heliko and pteron, meaning helical or helic wing.

We may be thankful that this name has fought off such other challengers as pterophore, siralifere, stropheor, helicogyre or cynnottero.

Helicopter research continued despite the occasional set-

back. The steam engines of the mid-19th century were not sufficiently powerful in proportion to their weight for use in a helicopter, for example, so would-be aeronauts went looking for other means of locomotion. The pioneering Wright Brothers soon realized that a much more powerful engine was needed for a rotary-wing machine than for a fixed-wing aircraft of the same weight, but ultimately decided not to be the first helicopter pilots after all.

In 1860 the gas engine was invented in France, and in 1876 the German engineer Otto produced his immortal cycle from which all of today's gas-piston engines are descended. Nine years later the future of the helicopter was assured when Carl Benz and Gottlieb Daimler built, independently, the first practical gas engines.



the Von Baumhauer

The First Intrepid Aviator

The distinction of eventually building a machine able to rise vertically in free flight fell to another Frenchman. On Nov. 13, 1907, Paul Cornu ascended to the unprecedented height of 12 inches! Flying for endurance, Cornu remained aloft for 20 seconds! His craft had two 20-foot diameter rotors mounted in tandem, both belt-driven by a 24 hp Antoinette engine.

A few hours later, flushed with success and champagne, Cornu was able to coax the machine to the record-breaking height of five feet! On landing safely, he was immediately awarded the title "The Intrepid" by the assembled onlookers.

Enter Igor Sikorsky!

At about the same time young Igor Sikorsky (1889-1972) built a twin-rotor helicopter which could lift its own weight — but not a pilot as well. His second design failed to fly a year later, in 1910, and the disgruntled young Russian turned to real aeroplanes to preserve his sanity.

The First World War slowed helicopter development. Those designs that did evolve were unimpressive and only a few could be persuaded, after a great deal of thrashing about, to leave terra firma. Once airborne, these machines appeared to have a remarkable affinity to rabbits, hopping with gay abandon wherever the spirit, or wind, moved them.

In 1921 the U.S. Army decided to take a hand in helicopter design and try to bring order to the prevailing chaos. The Army commissioned a bearded Russian emigre, Dr. de Bothezat, to design and construct something appropriate. Due to a rather poorly drafted "Required Operational Capability" the learned doctor built a helicopter over 60 feet wide with four huge six-bladed rotors mounted at each corner. The doctor was at the controls for the first flight on Dec. 18, 1922. The ascent lasted barely 90 seconds and the craft staggered

drunkenly to an altitude of six feet, then proceeded to drift 150 meters downwind.

Col. Thurman H. Bane later flew this machine, becoming the first helicopter pilot in the U.S. Army. He pronounced de Bothezat's craft to be "outstanding," though this judgement unfortunately proved to be somewhat premature. In its wisdom the Army abandoned the \$200,000 program because of its general mechanical complexity and the many unsatisfactory characteristics of the vehicle.

The "Thing"

The day of Jan. 9, 1923, dawned bright and clear at Cuatro Vientos, near Madrid, Spain. The local peanut pickers were surprised later in the morning to see a strange-looking contraption leave the ground, fly steadily across the field, then land safely.

The thing resembled an aeroplane, but it had a second propeller in the horizontal plane above the driver's head. Also watching this historic first flight of a practical autogiro was its designer, Juan de la Cierva (1896-1936).

An autogiro, of course, is unlike a helicopter in that its rotor blades free-wheel and are not driven by the engine. The blades turn because of autorotation, which results from the flow of air generated by flight. The rotor mast is tilted back slightly so that the relative air flow through the disc is always from the front and below; the blades are thus autorotating all the time. To get airborne, however, the autogiro needs a conventional propeller and cannot hover or ascend vertically.

Before that first successful flight Cierva had built three earlier models. All had stubbornly refused to fly. As they'd gathered speed they'd exhibited all the right tendencies — until just before liftoff. Then, to the consternation of Cierva and the unfortunate pilot, each machine had lifted on one side and begun to roll over.

It did not take the acute Cierva long to discover that the cause of this distressing phenomenon was dissymmetry of lift — the advancing blades were gaining more lift than the retreating blades on the other side.



the d'Ascanio



*Focke FW-61
(experimental stage)*

Having installed a set of rotor blades on a modified fixed-wing aircraft, Cierva's solution to the problem of dissymmetry of lift was simple: he fitted hinges to his blades so that they were free to flap and thus equalize lift. This made his pilot very happy; it also considerably increased his life expectancy.

Cierva's new rotor design was the forerunner of today's conventional rotors - and this is why he is important. He was also, of course, the first to confound those skeptics who believed that a helicopter would crash if the engine stopped.

It was Cierva's successful autogiro that spurred other helicopter designers on to renewed efforts. In 1925 a Dutchman, von Baumhauer (see previous page), built and flew the first single-rotor helicopter. He, too, was a disciple of Newton, so his craft had the mandatory tail rotor.

But how to make that rotor turn? Newton had never thought of that! Why, a tail rotor engine, of course. The bemused pilot remained forever bemused and finally ended up in a heap of twisted metal.

Renewed U.S. Interest

During all this time aviation in the United States had failed to keep up with European development. However, that changed dramatically with the formation of the U.S. Army Air Corps on July 2, 1926 (though others argue that it was Lindbergh's May 1927 trans-Atlantic flight that sparked the change). Whichever event it was, it made a decisive impact on aviation in this country. It took off, as the saying goes.

On Oct. 8, 1930, an Italian helicopter designed by Corradino d'Ascanio established three new world records: an altitude of 59 feet, an endurance of eight minutes and 45 seconds, and a distance of 1,150 meters.

It is interesting to note the extent of progress in rotary-wing performance 23 years after the first helicopter flew in 1907. For example, while most early helicopters could undeniably get off the ground, they weren't too good at going anywhere. Indeed, d'Ascanio's average speed was a breathtaking 4.6 mph. On the other hand, 23 years after the Wright brothers got airborne at Kitty Hawk, flights from England to Australia and back had taken place.

Nevertheless, the race to produce a helicopter that could actually outpace a man was on!

The theory of rotor hinges was known and the autogiro had demonstrated that a helicopter could descend safely without the benefit of an engine. France, Great Britain, Germany, the Soviet Union and the United States were in the forefront of the race. Contrary to popular opinion, Germany was not the first country to produce a practical helicopter. This honor was, in fact, claimed by two Frenchmen.

A Devastating Speed

On Jun. 26, 1935, the Breguet-Dorand 314 with twin co-axial rotors leapt nimbly into the air. Within six months it set a devastating speed record of 67 mph. By the end of 1936, it had established an altitude record of 517 feet, an endurance of 62 minutes and a distance record of 27.5 miles.

Could helicopter technology ever be taken any further?

Exactly a year to the day after the first flight of this French machine the famous German-built Focke-Engelberts Fa-61 made its debut. It remained aloft for 28 seconds, and within a year it had set a new speed record of 77 mph and had climbed to the unbelievable altitude of 7,800 feet. Soon, long cross-country flights were being made.

At pains to demonstrate the helicopter's excellent slow-speed controllability, Hanna Reitsch, a female German test pilot, flew the Fa-61 inside Berlin's Deutschlandhalle in February 1938. But despite the success of the Fa-61 the helicopter was still generally regarded by the public as an invention of the devil.

Who could really take seriously such an outlandish and noisy collection of rotating metal?

Re-enter Igor Sikorsky!

It took Igor Sikorsky to show that this invention had enormous potential. On May 13, 1940, he took off in his VS-300, a single-rotor helicopter loosely resembling Baumhauer's 1925 design. It flew, but with rather less precision than its designer had hoped for. Several modifications were made. Sikorsky thought the torque was a bit fierce and so fitted at one time no fewer than three tail rotors. But while the machine then flew competently in all other directions it steadfastly refused to fly forward in a responsible manner.

Finally, after further work, on Aug. 14, 1941, a satisfactory version was flown, and it soon outshone the Fa-61. Five months later the production version, the R-4, flew for the first time. During World War II it was operated by the U.S. Army, Navy and Coast Guard, and by the Royal Air Force.

And from this date, the helicopter rapidly established itself as a workhorse ... just like Pegasus, the horse we mentioned 63 paragraphs back.



This article is reprinted from the July 30, 1977 edition of Army Aviation Magazine.

Aviation Operations in Support of SFOR

By Maj. Warren Phipps

Organization

MND(N), commanded by elements of the U.S. 1st Infantry Division, is one of the three multinational divisions supporting SFOR in Bosnia-Herzegovina during Operation Joint Guard. Task Force Tiger was specifically organized to meet the varied aviation combat, combat support and combat service support missions that would be required of it upon its arrival in the former Yugoslavia.

The task force thus contained components from all facets of Army aviation — both active and reserve component, from both the continental United States and overseas. The nucleus of the task force came from XVIII Airborne Corps at Fort Bragg, N.C. The 229th Aviation Regiment served as the brigade headquarters with its 1st Battalion, an attack helicopter battalion, providing the attack capability. Task Force 1st Bn., 159th Avn., (TF 1-159) served as the lift battalion with two general-support companies and one air-assault company. TF 1-159 also contained an OH-58C scout platoon from the West Virginia Army National Guard.

Maintenance support for Task Force Tiger's deployment and transition through Europe's Central Region was provided by TM/4-159, which also provided critical augmentation to the AVUMs and AVIM once in theater. TM A/3-58 from 12th Avn. Brigade provided key air traffic services throughout the area of operations. A civil affairs team from the California National Guard and a firefighting team from the South Carolina and Ohio Army Guards rounded out the brigade. The brigade also provided oversight of the air ambulances of the Fort Benning-based 498th Medical Company.

Once in Bosnia Task Force Tiger operated from Comanche Base, four kilometers south of Tuzla. The environmental conditions in the region were familiar to the Task Force members: Bosnia is about the same size as North Carolina and has similar mountainous terrain. Comanche Base is also about the same size as Fort Bragg's Simmons Army Airfield. The big adjustment, of course, was getting used to the war-torn nature of Bosnia-Herzegovina.

Task Force Tiger assumed the mission as the Multi-National Division (North), or MND(N), Aviation Brigade on May 15, 1997 near Tuzla, Bosnia-Herzegovina. Assuming the NATO Stabilization Force (SFOR) aviation mission as part of Operation Joint Guard was the culmination of an intense three-month pre-deployment training effort and a 5,000-mile strategic deployment by land, sea and air through six countries.

Operations

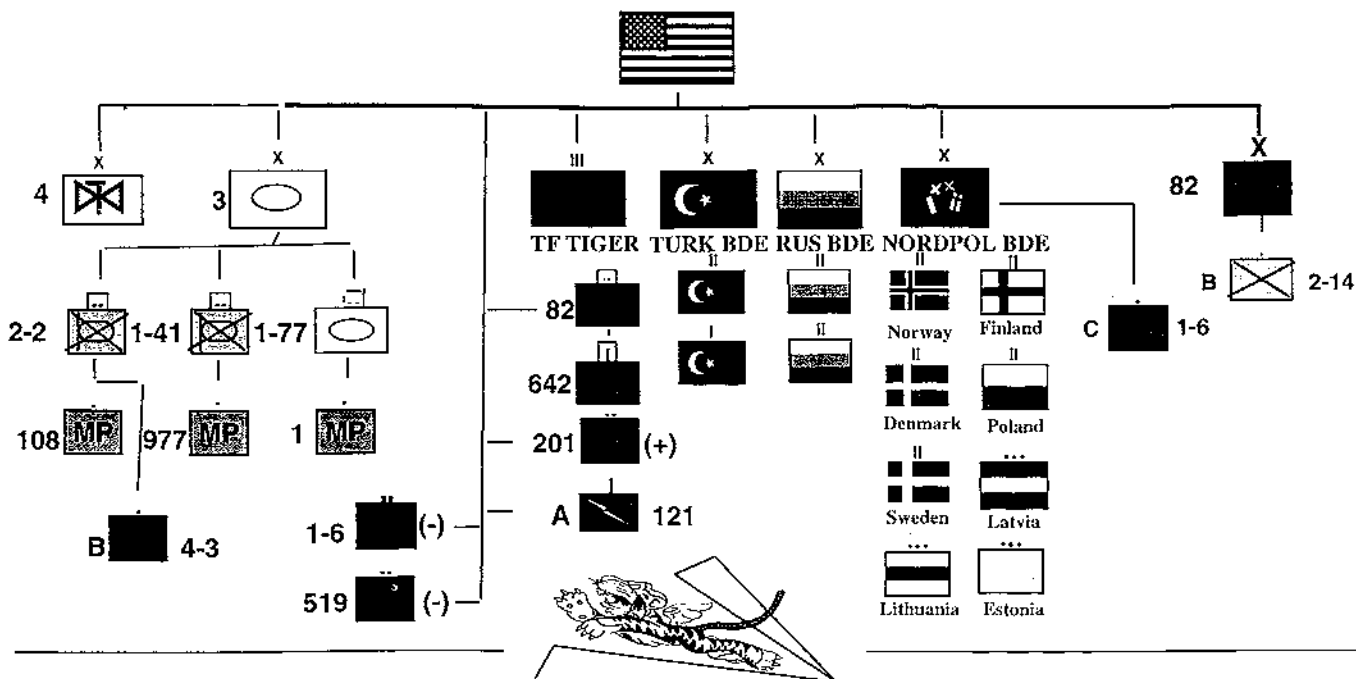
In the five months following its arrival in Bosnia Task Force Tiger flew over 11,000 hours, pumped 1.4 million gallons of JP-8, and drove more than 250,000 miles supporting the MND(N) and its four multinational ground maneuver brigades. Task Force Tiger's employment touched every aspect of stabilization operations in MND(N), which were aimed at securing regional peace and stability in accordance with the General Framework for Peace signed in Dayton, Ohio, by all the warring factions. Stabilization operations undertaken by SFOR during Task Force Tiger's deployment to Bosnia included the resettlement of Bosniacs (Muslims), Serbs and Croats in the suburbs of Brcko and Doboj, reduction of each formerly warring faction's military weapons and equipment, and the successful execution of the municipal elections.

The QRF

One cornerstone of Task Force Tiger's participation in Operation Joint Guard was flexibility and responsiveness to the division commander. Quick Reaction Forces (QRF) provided the foundation of this responsiveness for the Task Force. Both the attack and lift battalions played active roles in the QRFs. The attack missions for the QRF were principally reconnaissance, force presence and overwatch. Two AH-64s stood ready 24 hours a day to respond within one hour to any incident within the division sector.

This two-aircraft team served as the division commander's eyes both day and night. With the AH-64's target acquisition capabilities and gun tape, the team provided the division not only with updated situational awareness, but also documented incidents for later negotiations. The AH-64s also served as a quick show of force to discourage violence and encourage factional compliance with the international mandates.

TF 1-159 augmented the QRF with other capabilities as well: rapid movement of the Division Documentation Team, execution of airborne loudspeaker system mis-



sions, and the recovery of downed aircraft. The Documentation Team was assembled to document the factions' noncompliance with any aspect of the Dayton Accords. The airborne loudspeaker system provided the ground commander one more tool to diffuse potential violent situations, and the downed-aircraft recovery team stood ready to respond whenever aircraft were in flight.

The requirement to be able to sustain a QRF presence for 18 to 24 hours after its initial commitment cost Task Force Tiger about one-third of its total force. Once the QRF was committed, a second team was quickly spun up to provide relief for the first team in order to maintain a continued presence. The continual presence capability came with a cost that impacted all operations and challenged our battlefield calculus and risk management.

Daily Support

A second cornerstone of our operations was dependable daily support to the division. This support translated into conducting over 200 reconnaissance and surveillance (R&S) missions and over 400 general support missions during Task Force Tiger's five months in Bosnia.

In terms of reconnaissance, the AH-64 was one of three primary collection platforms used in MND(N) (national reconnaissance assets and Predator unmanned aerial vehicle were the others). The division collection plan focused on resettlement activities, freedom of movement, the activities of the Republika Srpska (Bosnian Serb) Specialist Police, and each faction's military cantonment site compliance with the military and civil provisions of the Dayton Peace Accords. Typically, the attack battalion's Apaches would have from three to six named areas of interest to observe daily.

The Virginia Guard OH-58C scout platoon also proved to be a valuable asset for aerial reconnaissance. The OH-58Cs were very popular with ground maneuver brigades, for the Kiowas gave them an opportunity to conduct

route and point reconnaissance within their sectors. All aircraft, whatever their primary mission, augmented R&S efforts through their transmission of periodic spot reports and through thorough mission debriefs by the battalion S-2s. "Complete, Accurate, Timely Reporting" was a motto used throughout the division.

The Task Force moved by air more than 160 tons of supplies and some 650 personnel in general support of the division. TF 1-159 provided command-and-control aircraft for division and assistant division commanders. The TF also supported 69 VIP missions, with each mission requiring a minimum of two aircraft. In addition to general support to the division, TF 1-159 supported the testing of an airborne minefield detection system and provided support to forces external to the division.

Planning and Coordination

The third cornerstone of Task Force Tiger's operations was detailed planning and coordination. The TF maintained a library of thirteen separate contingency plans, each with its specific triggers and each supported by a film library of images provided through aerial reconnaissance.

The planning staffs had to balance their contingency operation planning and coordination with the demands of current operations. Building target folders and conducting route reconnaissance were incorporated into the daily missions. The CONPLANS provided a solid foundation for the development of future operations with minimal planning time. In addition to playing an active role in the development of the division R&S plan, S-2s developed their internal plans to support contingency planning.

Deliberate Operations

The Task Force's deliberately planned and executed operations included overwatch of weapon storage site inspections, security of international officials along

railway routes, providing a force presence to diffuse civil unrest, and shows of force to enforce the compliance of the Republika Srpska Specialist Police with all aspects of the Dayton Accords. In total, the Task Force participated in eleven deliberately planned major operations.

The Task Force also conducted five air assaults (including full rehearsals), lifting more than 380 soldiers from four nations and 13 tons of equipment and supplies. The planning for the contingency plans and deliberate operations included numerous, detailed rehearsals, evolving from battalion commander backbriefs through full rehearsals with crews flying offset routes.

Maintaining the Focus

A final and equally important aspect of Task Force Tiger's operations in Bosnia was maintenance of the warfighter's focus.

Warfighting skills such as aerial gunnery tend to atrophy during peace-keeping operations. Moreover, the repetitive nature of daily operations can easily lull soldiers into complacency — possibly one of the greatest threats in the course of such operations. Task Force Tiger thus made a dedicated effort to sustain its warfighting skills and focus by conducting several ground- and aerial-gunnery exercises. This training not only sustained our critical gunnery skills, but also kept our soldiers focused.

The Task Force completed a Table VII/VIII AH-64 crew aerial gunnery and UH-60 door gunnery at Resolute Barbara Range in Glamoc, Bosnia. Additionally, the 1st Bn., 229th Avn., conducted two live-fire CALFEXs with Russian, Czech, British and U. S. forces.

Summary

Task Force Tiger's success during Operation Joint Guard cannot be characterized by any revolutionary development of tactics or doctrine. Current aviation doctrine, a review of CALL publications and FM 25-100 were the basis for the preparation for execution of our mission in Bosnia. In particular, the Task Force's deliberate decision-making process was the vehicle for our development of detailed plans configured to meet the specific needs of the Bosnia theater.

Detailed mission planning, multi-echelon risk management, comprehensive rehearsals and skillful execution by our soldiers were the keys to our success. Those

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who helped prepare us also share in the Task Force's success: XVIII Airborne Corps, the Army Aviation Center, both Eagle and Falcon Teams, V Corps and TAACOM. Our participation in Operation Joint Guard was a true team effort and success story for Army aviation in support of stabilization operations.



Maj. Phipps served initially as the Task Force Tiger S-3, then later shifted to the Task Force Tiger XO. He is now Program Manager, Office of the Army Chief of Staff, Programs, Analysis, and Evaluation in Washington, D.C.

Army Aeromedical Evacuation in Stability and Support Operations

by Lt. Col. Kenneth R. Crook



Army aeromedical evacuation (MEDEVAC) units are frequently deployed piecemeal during stability and support operations (SASO), but rarely enjoy the opportunity to train collectively.

For "DUSTOFF Europe," collective training in SASO has become an integral part of the MEDEVAC battle focus and operations. Over the past two fiscal years the 421st Medical Battalion deployed or self-deployed UH-60 forward support medical teams (FSMT) to Albania, Romania, Italy, Macedonia, Moldova, Slovenia and Egypt while also supporting Partnership for Peace and other foreign military interactions. Most significantly, each of the 421st's three 15-aircraft UH-60 companies has also been deployed in support of Operations Joint Endeavor and Joint Guard.

MEDEVAC Support to Operation Joint Endeavor

MEDEVAC was tasked to provide evacuation support to multinational forces operating in the OJE theater. The normal basis of allocation of corps-level MEDEVAC companies is one per division (DS) and one per corps (GS). The first elements of the 236th Med. Company (Air Ambulance) self-deployed to Tazar, Hungary, on Dec. 20, 1995, with the 1st Armored Division. The company was augmented with two additional forward support teams. The unit was eventually dispersed to five locations in three countries in order to provide coverage throughout the OJE area of responsibility (AOR). The normal flying OPTEMPO for the 20 aircraft was between 21 and 35 hours per month.

Current Concept of Support

Operation Joint Guard brought the transition from NATO's Implementation Force (IFOR) to the Stabilization Force (SFOR) in November 1996. Concurrently, the number of U.S. troops assigned to the operation was reduced (to approximately 8,500 in the Balkans and 5,300 in Hungary), and several base camps were closed. Although the size of the MEDEVAC support element was also reduced from an augmented company of 20 aircraft to a reduced company of 13 aircraft,

the area of responsibility for MEDEVAC coverage remained unchanged.

The deployment of the 45th Med. Co. (AA) in October 1996 marked the shift away from direct support, in which FSMTs were co-located with or near the brigade support area and some units in remote sites during OJE, to operations on an area support basis for the 1st Infantry Div. Aircraft were consolidated in three locations to provide continuous and responsive MEDEVAC coverage over the same AOR. The 159th Med. Com. (AA) currently provides continuous aeromedical support on an area basis to U.S. and NATO forces from Kaposjulak, Hungary; Slavonski Brod, Croatia; and Tuzla, Bosnia-Herzegovina.

The three overlapping areas were selected based on METT-T (mission, enemy, terrain, troops and time available), weather considerations, troop population densities, location of medical treatment facilities and response times. Even the most remote base camps in Bosnia and Croatia are within 30 minutes of a MEDEVAC helicopter. This provides great ability to flex MEDEVAC assets to meet specific planning requirements and launch MEDEVAC aircraft from multiple sites when local weather conditions at the primary field site are unfavorable.

MEDEVAC Initiatives

MEDEVAC aircrews participating in the Balkans are significantly involved in combined training and operational initiatives with other multinational forces. These initiatives range from working closely with medical personnel in the Norwegian Medical Company (NORMEDCO) to conducting live hoist training and operations with Swedish explosive ordnance disposal (EOD) teams.

In the early phases of OJE Army MEDEVAC crews were co-located with NORMEDCO near Tuzla, and the medical operations centers remain in adjacent offices. The exchange of information between NORMEDCO and the DUSTOFF crews is extremely valuable in receiving, translating and processing urgent requests for evacuation of multinational patients. NORMEDCO physicians augment MEDEVAC aircraft and provide en route care to patients from the point of injury or pick-up to the treatment facility.

Land mines continue to be a major concern for MEDEVAC crews. Over the past two years MEDEVAC crews participated in several live-hoist rescue operations to extract wounded multinational soldiers and civilians from mine fields. In early 1997 Swedish EOD teams and Army MEDEVAC crews developed a concept, later approved, to train Swedish EOD personnel and their EOD dogs. The MEDEVAC aircraft delivers the EOD team to a site near the mine field so the Swedish personnel can clear a path to the casualty. The MEDEVAC crews then work in tandem with the EOD team to hoist patients onto the aircraft and then fly them to higher-level medical care facilities.

Challenges

Supporting OJE and OJG — as well as SOSA operations in seven other countries over the past two years while maintaining normal training and support relationships with V Corps units — presented numerous challenges for Army MEDEVAC personnel.

In continuous SASO at least three MEDEVAC companies are required to sustain SASO based on a six-month rotation policy. While one company is deployed another is in some stage of training, validation, load-out, conducting a right-seat program (transition overlap and knowledge transfer), or post-deployment recovery operations. Based on a very aggressive 60-to-90 recovery timeline, only one company is available to support mission taskings in Germany's central region, support Partnership for Peace operations, and support contingency operations and training. This one company is also the replacement pool for its deployed sister unit and is usually the next organization scheduled to head "down range."

This observation is true not just for MEDEVAC com-

panies, but for any similar-size or type organization deploying on a rotation basis. After the second rotation of European-based MEDEVAC support (which lasted 17 months), a CONUS-based MEDEVAC unit provided interim relief for six months. After that brief pause, the 421st Med. Bn. resumed the mission in October 1997.

The Bottom Line

SASO offers great collective training opportunities for MEDEVAC companies that rarely deploy as complete organizations. MEDEVAC companies typically employ a three-aircraft FSMT in direct support to a maneuver brigade. Thus, in addition to its installation-support requirements one company may be simultaneously sup-



porting two or three exercises (at the Combat Maneuver Training Center) and/or deployments (Partnership for Peace and/or CONOPS) as part of the division-support slice. The SASO is a rare opportunity for a MEDEVAC company to collectively deploy, train and operate while contribut-

ing to the U.S. national military strategy. The deployments outside Germany thus proved a value-added training benefit not only to the 421st Med. Bn. companies, but also to the battalion as a whole. It appears SOSA will remain an integral part of the European MEDEVAC battle focus and operations for some time to come.



Lt. Col. Kenneth R. Crook is commander of the 421st Medical Evacuation Battalion in Germany and has supported multiple SASO operations including Operations Joint Endeavor and Joint Guard.

21ST CENTURY

MEDEVAC TAKES SHAPE

by Lt. Col. Eugene H. Pfeiffer

The requirement for the UH-60Q originated from experience gained through many years of worldwide operational use of the UH-1 and UH-60A, including combat operations in Vietnam, Granada, Panama and Operation Desert Storm. The UH-1 had five generally agreed upon deficiencies in the medical evacuation (MEDEVAC) role. First, it lacked perfor-

mance in terms of lift and airspeed. Second, it proved to be difficult to support in contingencies because the task forces it was to support often did not have the capability to maintain it.

The first two deficiencies — airframe performance and supportability — are being addressed by the replacement of UH-1V helicopters with UH-60As. The current UH-60A fielding plan replaces all UH-1Vs with UH-60As in the warfighting MEDEVAC units by fiscal year 2000. The three remaining deficiencies, discussed below, are addressed by the UH-60Q.

The third deficiency, a combination of the lack of a long-range, non-line-of-sight voice communications and the inability to talk to U.S. Navy ships and civilian authorities, has long been an operational limitation. Additionally, in moving from the UH-1 to the UH-60A, the ability for the crew members in the cabin to communicate without having to push a microphone button and to communicate in the private mode were lost. These are extremely important capabilities in the MEDEVAC role. Both the medic and crew chief often have both hands occupied when providing care to casualties and must be able to coordinate medical care in the back of the aircraft by voice at the same time the pilots communicate by voice in the cockpit. These three communications deficiencies are being addressed through the integration of modern radios and the Improved Data Modem (IDM) into a bussed cockpit. The systems are controlled through a computer display unit (CDU). The modification of the intercommunications system (ICS) to allow a voice-activated microphone and private mode will solve the cabin communications deficiencies.

The fourth deficiency involves navigation systems. Some of the navigation deficiencies are common to those experienced by the utility fleet at large



and will be addressed through the AN/ASN-128C, a busbed version of the AN/ASN-128B Doppler with Global Positioning System (GPS). It will be used by the UH-60Q and other digitized utility and cargo aircraft. Additional capabilities were needed to help locate and identify casualty-evacuation locations at night and in adverse weather and to participate in combat search-and-rescue missions. Enhancing safety and crew coordination during hoist operations over water, sand, grass and other surfaces that lack visual cues for maintaining hover position was also essential. Installation of a forward-looking infrared (FLIR) system with look-down capability and multiple fields of view will address these issues.

Fifth, the medical kits currently used in the UH-1 and UH-60A exhibit similar deficiencies. Access to the casualties by the medical aidman is severely

limited by the litter system designs, which in turn restricts the medical treatment that can be provided. In both aircraft, installation of the internal rescue hoist cuts the maximum number of litter patients that can be carried from six to three. In both the UH-1 and UH-60A, oxygen is supplied in bottles which are difficult to resupply in combat and are awkward and dangerous to use.

The medical systems on

the UH-60Q address these deficiencies. An improved litter system which provides access to the casualties by the crew is combined with an oxygen-production system, a medical suction system, a power-distribution system, an external hoist and an organized equipment-storage system to provide an improved medical treatment platform.

The UH-60Q program directly addresses the requirements document and is structured in three phases. Phase I resulted in the development of a proof of principle (POP) aircraft. This POP aircraft was used to demonstrate how the UH-60 airframe could be modified to provide the capabilities needed for the MEDEVAC mission on current and future battlefields. A number of limited user evaluations were conducted on this aircraft and led to the change of one of the requirements document and phase two of the UH-60Q program.

"The current UH-60A fielding plan replaces all UH-1Vs with UH-60As in the warfighting MEDEVAC units by fiscal year 2000."



The program is currently nearing the end of Phase II, Integration and Qualification. It is producing four UH-60Q helicopters. These are UH-60A airframes which have communication, navigation and medical improvements made to them to provide a fix for current battlefield deficiencies and provide the ability to support a digitized force in the 21st century. These aircraft will function similar to low-rate initial production (LRIP) UH-60Qs. Phase III (Production and Fielding) is currently scheduled to begin in FY 02. There will be an opportunity to gain several years of early operational experience with the Phase II aircraft prior to entering Phase III. This has the effect of reducing long-term programmatic risk in that any



desired changes can be made at the front end of production rather than through a change after large-scale fielding has begun.

The UH-60Q program makes considerable use of the principles of acquisition reform and tailoring. In many ways this is a leading-edge program. It incorporates navigation and communication systems which are, in some cases, still maturing and incorporates them into a UH-60 for the first time. For example, the ARC-220 high frequency radio recently completed its Milestone III (production) decision. The Improved Data Modem (IDM) is another example. The Embedded Battle Command (EBC) version of the IDM software will be developed in about FY 00 to FY 02 and added to the UH-60Q and other platforms at that time. Developing these systems and concurrently incorporating them into aircraft is the essence of acquisition reform. While this parallel approach in Phase II is more demanding than it otherwise might be, developing these systems concurrently, rather than sequentially, saves a tremendous amount of time and money and allows the required capability to be fielded much sooner than it otherwise could be.

"The UH-60Q program specifically provides the capabilities to accomplish the MEDEVAC mission on current and future battlefields. It does not extend the life of the airframe itself."

As I write this article the integration of the hardware is complete and developmental testing has been accomplished. One of the aircraft is currently at the Naval Surface Warfare Center at Dahlgren, Va., undergoing electromagnetic vulnerability testing. The program is event-driven rather than schedule-driven. Target time frames indicate that review and verification of technical manuals should have taken place last month, with a logistics demonstration to be accomplished early this month. Operational testing is to be accomplished between Feb. 17 and April 18, 1998, at Fort Campbell, Ky. Type classification

of the UH-60Q is expected by the end of this July, with materiel release by the end of August.

An element of acquisition reform and tailoring that is worthy of special mention is the combined contractor and government developmental testing. This effort between the U.S. Army Aviation Technical Test Center (ATTC) at Fort Rucker, Ala., and Sikorsky Aircraft Corporation, the prime contractor, was considered highly successful by both parties. It saved significant time and money in this resource-constrained program.

The UH-60Q program specifically provides the capabilities to accomplish the MEDEVAC mission on current and future battlefields. It does not extend the life of the airframe itself. The Aviation Center is currently developing the requirements for the future Black Hawk helicopter. Early indications are that there may be many similarities in capability between the UH-60Q and the modernized Black Hawk. For example, if the modernized Black Hawk requirement calls for a digitized cockpit, it is likely that maximum cost and technical risk reduction can be achieved in the modernized UH-60 by leveraging the UH-60Q design.

The life-extension possibilities of the modernized Black Hawk program will be applicable to the older UH-60A airframes to which the UH-60Q modification was intended to be applied. The UH-60Q and modernized Black Hawk programs are currently forecast to begin in the FY 02 time frame. There is a tremendous potential for synergy between the two programs that promises to provide extremely capable, yet cost-effective, aircraft through 2025. This scenario is truly win-win for everyone: especially for the wounded soldiers who will rely on the UH-60Q to be there day or night, rain or shine, on the future battlefield.



Lt. Col. Eugene H. Pfeiffer is the UH-60Q assistant project manager in U.S. Army Aviation and Missile Command's Utility Helicopters PMO at Redstone Arsenal, Ala.

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SYSTEM TRENDS IN THE U.S. ARMY Air Traffic SERVICES

by CWO4 Alfred L. Rice

Photos courtesy of U.S. Army

The current state of Army air traffic services (ATS) is directly proportional to the resources allocated to it. The effects of resource reductions have become very visible to those who inspect Army ATS.

The United States Army Air Traffic Control Activity's Systems Evaluation Branch — which serves as part of the Aviation Branch's Aviation Resource Management Survey (ARMS) team — has noted that among the effects of resource reductions are poorly maintained navigational aids (NAVAIDS), critical shortages of maintenance technicians, poor documentation of ATC maintenance, control towers operating at emergency manning levels as the norm, loss of experienced personnel, lack of fully qualified controllers, inadequate training opportunities for tactical ATS units and reduced hours of operation. These trends are present, in varying degrees, at both tactical and fixed-base ATS units. All these indicators paint a bleak picture of a poor harvest: We haven't applied the resources necessary to ensure a bumper crop and are therefore reaping what we have sown.

ATS is a critical element in force protection, force projection and in supporting the warfighter. It is therefore imperative that the ATS community — both tactical and fixed base — counter these negative trends. Doing that is an exercise in resource management, and it requires getting the right people with the right training, teaching them the correct standards, giving them the right tools to do the job, making sure they know the right contacts to turn to when they run into trouble, and providing them with leadership follow-up. The

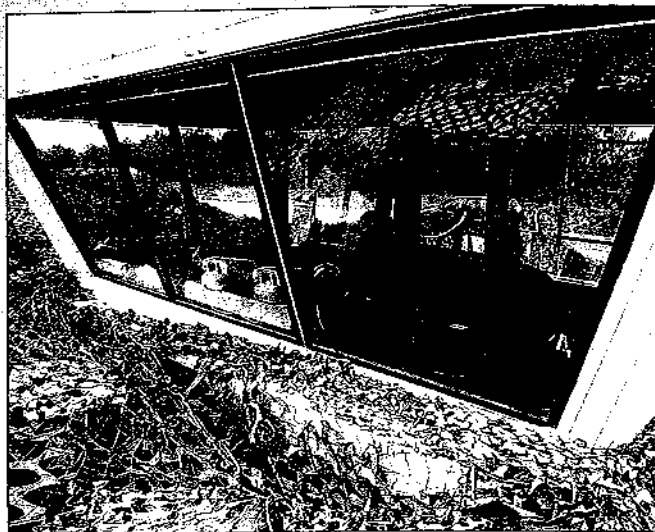
following reference guide is designed to assist resource managers and leaders in implementing these solutions.

The Right People

ATS units must be properly resourced to perform their missions. Paragraph 2-28g of AR 750-1 states that "Commanders at all levels will exercise management controls sufficient to ensure prudent and efficient utilization of all resources required to perform assigned maintenance missions." Commanders and sergeants major must therefore continuously look ahead and make the effort to acquire new personnel.

However, filling ATS positions can be difficult — particularly for National Guard units — and resource managers should bear in mind that their units' current per-





sonnel status is the result of actions taken last year. That means, of course, that efforts to acquire new personnel now may not bear fruit for another year or so.

To facilitate the process, resource managers should ensure that Emergency Manning Level (EML) memoranda are submitted through command channels to the U.S. Army Air Traffic Control Activity (USAATCA) in a timely manner. This serves to remind those in the command chain of future ATS personnel requirements. Bear in mind, however, that operating under EML should be the exception rather than the rule, due to the higher inherent risk associated with continuous EML operations. Operating under EML is only good for 60 days, after which a decision must be made as to which services must be curtailed.

Once units have the right people, leaders should assure they are performing the right jobs. Using NAVAID maintenance technicians as audio visual technicians, for example, is both inefficient and a waste of scarce resources.

The Right Training

After their initial MOS training, ATS soldiers must be afforded the opportunity to receive continuation training. "Sergeants' Time," when authorized, should be utilized to its maximum potential to provide this training. For example, when a unit sets up a tactical radar the Terminal Instrument Procedures (TERPS) package for the approach is often not completed. "Sergeants' Time" could readily be used to train soldiers on how to complete a TERPS package and at the same time would provide the unit with a functional, mission-ready TERPS

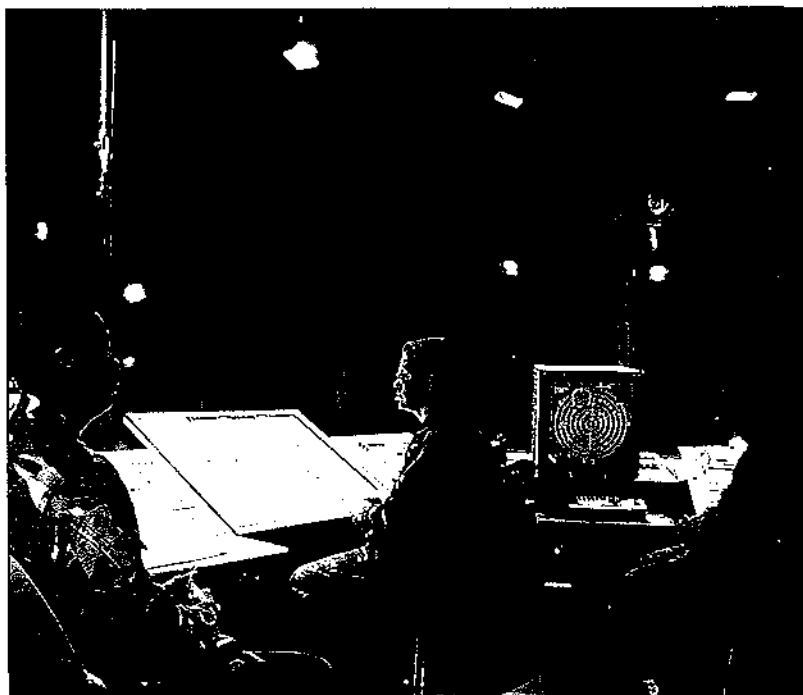
package. Continuing education is also available from sources such as the Federal Aviation Administration (FAA) Academy, U.S. Air Force schools and the Aviation Center's NCO Academy.

Air traffic controllers have a perishable skill that must be exercised. To ensure a high level of proficiency leaders should constantly look for training opportunities for their controllers. Leaders with low-density ground-controlled approach (GCA) traffic must establish links — formal or informal — with leaders of aviation units to increase controller proficiency. Many aviation commanders would willingly support ATC commanders by asking their pilots to perform one or two GCA approaches upon termination of tactical training. Controllers should routinely ask arriving aircraft if they have time to conduct a GCA approach for controller training when weather, time and traffic density allow. Leaders should ensure that all training, such as initial weather certification or equipment certification, are properly documented in training records.

The Correct Standards

All ATS units should have access to the appropriate inspection checklists. The USAATCA checklist is available on the USAATCA electronic Bulletin Board Service at (DSN) 558-3494. Hard copies are available by calling USAATCA at (334) 255-3258 or (DSN) 558-9333.

The primary step in knowing the standard comes from



having the most current and up-to-date set of publications with all the changes posted. The unit publications NCO plays a critical role here since all the standards appear in publications and AIG messages.

AR 95-2 and FM 1-303 contain most of the standards for ATS units. For example, if a facility does not have a

current, updated Minimum Vectoring Altitude chart, the standards in FM 1-303 explain how to proceed. Some standards involve submitting appropriate reports. Leaders should confirm that reports — such as DA Form 3479-6-R — are being submitted. TMs for each item of equipment contain the applicable technical standards. Leaders can determine which standards need focus by reviewing previous ARMS, assistance visit reports and Command Inspection Program results.

The Right Tools

ATS unit equipment must be based on Tables of Distribution Allowances and Tables of Equipment (TDA/MTOE). Leaders should review the appropriate technical manuals and external directives to ensure that unit TDA/MTOE reflect the test, measurement and diagnostic equipment (TMDE) and tools required to maintain the assigned equipment. The appropriate level commander must approve stockage of non-demand supported prescribed load list (PLL) items. Ensure navigational aids TMDE is undergoing proper calibration; that all work on equipment has proper documentation; that all operator and crew preventive maintenance checks and services (PMCS) are recorded on DA Form 2404 or DA Form 5988-E, as appropriate; and that organizational maintenance is logged on FAA Form 6030-1.

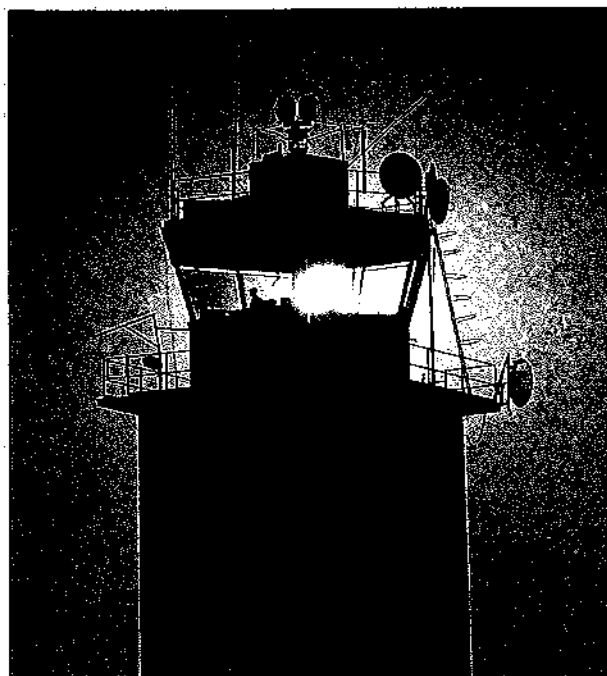
Much of the Army's test equipment has been modernized and units must compare their TDA/MTOE with AR 750-43 and TB 11-6625-3263-25 to ensure that the on-hand test equipment is the best available. If commanders feel they do not have the right tools, they should bring the situation to USAATCA's attention so that solutions may be pursued to assist the commander in accomplishing the mission.

The Right Contacts

ATS units must develop contacts with their appropriate links. The POCs for ATC intermediate maintenance support teams are Company F, 58th Aviation Regiment (for tactical equipment) at (334) 558-2806 or (DSN) 558-3242; Area Maintenance Support Facility, Germany (for Europe only), at (DSN) 352-4186; and USAATCA Area Maintenance Facility at (DSN) 558-9078.

For matters pertaining to Special Use Airspace and the National Airspace System, contact the Department of the Army Regional Representative (DARR) office using the phone list in the most current issue of the Army Flight Information Bulletin (FIB). Communications with other ATS units and sites can be established using the addresses and phone numbers in the FIB.

Problems with antennas may be addressed through the Oklahoma Air National Guard's 205th Engineering Installation Squadron, or the Oklahoma City antenna maintenance team at (DSN) 940-5740/5266. Both units may also be contacted by OCONUS sites. The FAA publication's representative is Mr. Palmer at (703) 806-4868 or (DSN) 656-4868. Flight information publications queries can be addressed to the U.S. Army Aeronautical Services Agency (USAASA) at (703) 806-4867 or (DSN) 656-4867.



Remember: A healthy ATS unit requires links and inter-connectivity with other aviation organizations.

Follow Up

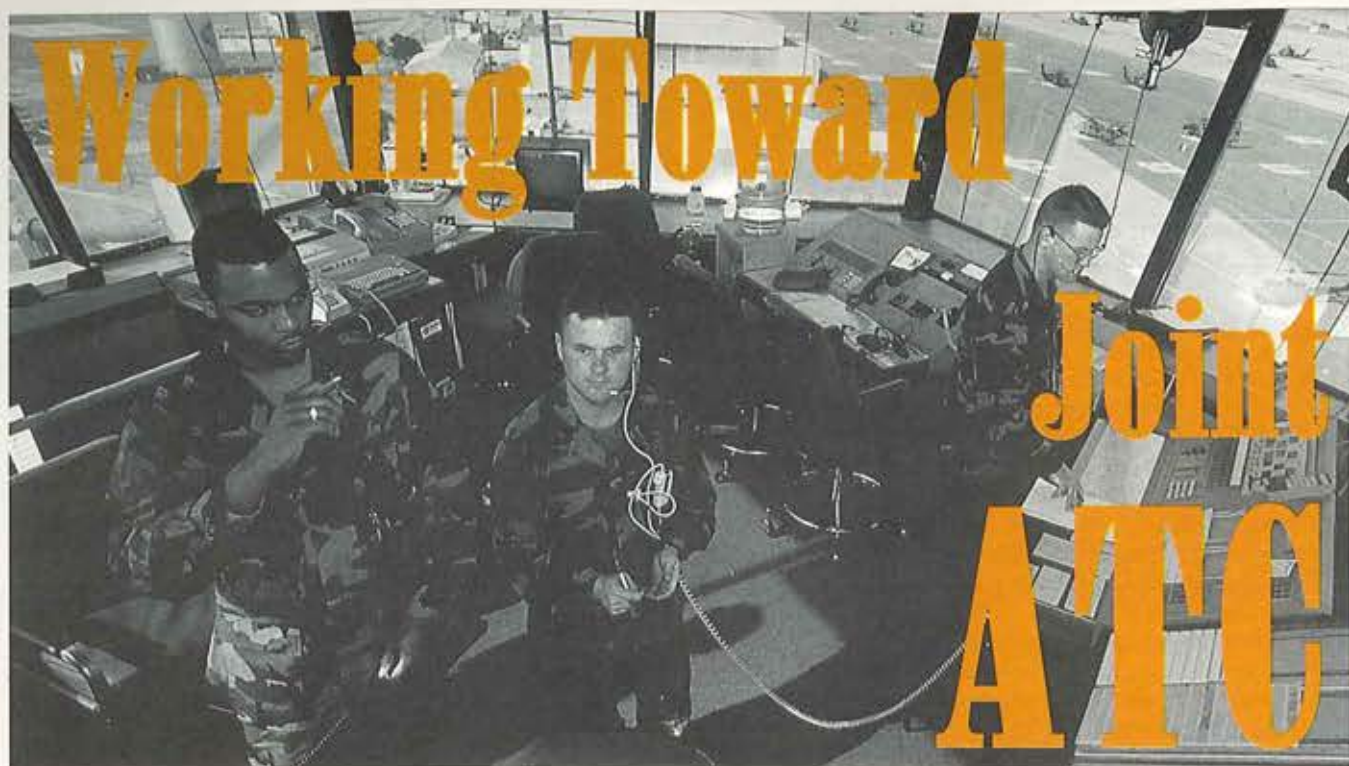
Follow-up action is a leadership issue. Following up on actions to correct deficiencies noted during evaluations is critical. Leaders must also follow up to ensure soldiers are complying with, adhering to and understanding the required standards. Follow up can also provide leaders with the opportunity to praise subordinates and learn about their problems.

Conclusion

Although a comprehensive, solution-based reference guide for ATS units cannot be thoroughly outlined in a short article, I have tried to address some basic guidelines that will aid in ensuring robust ATS units. The USAATCA is committed to supporting efforts to strengthen the ATS community. Although the resources (seeds) we have been given are few, with the intelligent assignment (planting) of the right people with the right training (nutrients), armed with the tools of knowledge of standards (water), we can cultivate our crops and ensure a bountiful harvest. The warfighter armed with the force-protection and force-projection elements provided by air traffic systems and services is more lethal. A healthy ATS community will continue to nourish Army aviation.

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At the time he wrote this article CWO 4 Alfred L. Rice was assigned to USAATCA's Systems Evaluation Branch at Fort Rucker, Ala.



by 1st Sgt. William J. Baker
and
Lt. Col. Michael Powell

Imagine yourself as a joint planner responsible for establishing an airhead at a remote location. The weather gods have predicted zero visibility and you have only a limited number of C-130s to move the equipment you might need. Now ask yourself: Which service will be able to provide initial operations the quickest using the fewest aircraft? And which service has the capability you need for follow-on operations to establish a fully instrumented airfield?

The Air Land Sea Application (ALSA) Center was tasked by the commanders of the U.S. Army Training and Doctrine Command (TRADOC), the Marine Corps Combat Development Command (MCCDC), the Naval Doctrine Command (NDC) and the Air Force Doctrine Center (AFDC) to answer these questions by developing a multiservice Tactics, Techniques and Procedures (MTTP) manual entitled "Joint Air Traffic Control (JATC)."

To fulfill this tasking ALSA established a Joint Working Group (JWG), which met for the first time in July 1997. The JWG's members had a tough task as they started from scratch to develop an MTTP that would provide joint planners with a framework to plan for joint use of airspace. The MTTP manual would also cover the employment of each service's air traffic service (ATS) assets more effectively and efficiently on the joint bat-

tlefield. The JWG consisted of ATS representatives from each service. The Army was well represented by active duty and reserve component ATS personnel, as well as by ATS representatives from TRADOC and the U.S. Army Air Traffic Control Activity (USAATCA).

Each of the military services is currently providing air traffic control (ATC) support worldwide for a number of military and non-military operations, as required by joint force commanders. These missions have generally required task-organized and tailored ATS force packages that have been deployed from the outset of operations. These capabilities, facilities and procedures had to be matured as follow-on forces deployed and the Theater Air Ground System (TAGS) was implemented. During the entire maturing process ATC liaison personnel had to establish ATC coordination for communications, employment of navigational aids (NAVAIDS),

airspace command and control, and procedural development with joint planners and host-nation personnel.

Since each service was capable of providing different skills and capabilities, the efficiency and effectiveness of planning and execution were solely dependent on the personal knowledge of individual joint planners, on the availability of ATC liaison personnel and on how quickly these personnel were brought into the joint planning process.

Joint planners have long had joint doctrine that addressed the larger issue of responsibility for joint airspace and use of the airspace, but what was missing was the "how" of ATS asset integration and synchronization. This was the outline given to the JWG to produce the MTTP.

It was clear to the JWG members from the beginning that a void existed across the services in terms of a common understanding of ATS capabilities, equipment, training and employment. As the JWG members began to educate each other in these areas it became apparent that such an interservice dialogue was an important part of the MTTP, and it ultimately became the basis for the MTTP.

By the time of the JWG's second meeting — in November 1997 — the manual had come to include a scenario-driven format for joint ATS force integration and synchronization built on the earlier discussion of overall capabilities. By the time the second JWG ended its work it was evident the effort was a significant step toward improving joint employment of ATS for control of joint airspace and use of specific services resources to meet the needs of joint force commanders. The second JWG also clearly established a requirement for continued interservice dialogue on compatibility, complimentary capabilities versus redundant capabilities, and "tailorable" ATS force structure in each service for the future of joint ATS.

Once completed, the JATC MTTP will provide the joint planner with a useable document that not only details ATS differences and similarities in each service, but also provides an outline to demonstrate how planners might integrate and synchronize these capabilities. It will also meet the needs of the services by providing procedures on JATC employment, and will detail service relationships for initial, follow-on and sustained JATC operations within the theater or area of responsibility. It will act as a reference source to consolidate ATC service guidance on responsibilities, procedures and employment in a joint environment. This publication will be unclassified and will provide a general description of how ATC forces conduct air traffic control operations during each phase of air operations.

Because of the significant downsizing of all military forces, Force XXI will focus more and more on joint planning. Future ATS operations undertaken in a joint world will be rapid, will use the fewest air assets and will have the capability needed for follow-on operations to establish a fully instrumented airfield.

FM 100-104 (JATC MTTP) will be ready for worldwide review in February 1998. Commanders are asked to staff the draft document with the appropriate orga-

"Each of the military services is currently providing air traffic control (ATC) support worldwide for a number of military and non-military operations..."

nizations and provide consolidated comments. Electronic comments are preferred, though hard copy is acceptable. These comments can be forwarded to the ALSA points of contact for this project, Lt. Col. Myers and Maj. Vehr, at (DSN) 574-5934, (757) 764-5934 or by e-mail at leander.myers@langley.af.mil and mary.vehr@langley.af.mil. ALSA's address is 114 Andrews Street, Langley AFB, VA 23665-2785.



1st Sgt. William J. Baker served on both Joint Working Groups for JATC MTTP and is currently first sergeant for Headquarters Company, 3rd Battalion, 229th Aviation Regiment, at Fort Bragg, N.C.

Lt. Col. Michael Powell also served on both Joint Working Groups for JATC MTTP and is currently commander of 1st Bn., 58th Avn. Regt., at Fort Bragg.

EQUIPPING ARMY ATS TODAY FOR THE NEXT CENTURY



by Lt. Col. Joseph Williams, Ret.

Prior to 1996, the last time a new Army tactical air traffic control system was developed and fielded was in the 1970s. Most of the equipment from this era was large and bulky, requiring 2-ton trucks for transport. Many of the components had not been manufactured for years, causing great difficulty in maintenance.

Fixed-base ATC has fared somewhat better, though such major systems as the FPN-40 Precision Approach Radar (PAR), which is still widely used, operate with 1940s vacuum-tube technology. The tactical PARs are somewhat newer, but still use early 1960s technology. This same equipment, with relatively few modifications, supported tactical aviation operations from the Vietnam conflict all the way through the most recent operations in Bosnia-Herzegovina.

Missions were successfully accomplished because of the great ingenuity and resourcefulness of many highly motivated Army Air Traffic Services (ATS) soldiers. However, Army ATS has received much recent criticism because of its inability to contribute measurably to the warfight. Even though the merits of this criticism are open to debate, there is no question that the capabilities of our ATS units have been severely constrained by obsolete and unsupportable equipment.

The good news is that PM-ATC is on the brink of replacing all of these obsolete systems with state-of-the-art equipment that will significantly enhance the tactical commander's real-time airspace and battlefield information management capability. Replacements for major ATS systems are just over the horizon. These emerging systems are much more than just updated tower and radar facilities. They will allow the Army to become a full and equal partner in the Theater Air Ground System (TAGS).

TTCS

The Tactical Terminal Control System (TTCS) — which replaces the TSQ-97 portable air traffic control tower and the interim GRC-206 mobile tower system — was issued to the schoolhouse at Fort Rucker, Ala., in October 1996 and is now being fielded to tactical ATS units worldwide.

The TTCS was designed to provide greater mobility and reliability than the TSQ-97. Until now, the TSQ-97 was the most mobile and rapidly employed ATS system. Even though it was a good piece of equipment, the TSQ-97 required four people to carry and at least 20 minutes to

install with an experienced team. As an interim system, the GRC-206 provided greater mobility, but was designed for Air Force forward air controllers rather than Army ATS needs.

The TTCS provides mobile, instant, simultaneous and secure communication on all air-to-ground radios. It allows the aviation commander to have instant air traffic control in Forward Area Rearming and Refueling Points (FARPs), remote landing zones, drop zones, pick-up zones and temporary helicopter operating sites. The first two systems were fielded to the training base at Fort Rucker in October 1996. Fort Bragg, N.C., and U.S. Army, Europe, (USAREUR) have already received their TTCS systems, and all ATS units are scheduled to receive their systems by the fourth quarter of fiscal year 1998.

The centerpiece of the new ATS systems is the Tactical Airspace Integration System (TAIS). TAIS will move airspace management from a manual "grease pencil and acetate" process to a real-time, three-dimensional visual display of the battlespace. The TAIS will allow commanders to plug into the entire TAGS system and be active players in the decision-making process for airspace management. It also gives them the ability to communicate with all other airspace users in theater.

No longer will commanders have to depend on manually sorting through late-arriving, hard-copy Air Tasking Orders (ATOs) and Airspace Control Orders (ACOs) to understand the airspace situation. TAIS will have a voice and data link with the Battlefield Control Detachment (BCD) in the Air Operations Center (AOC) for processing and disseminating this information. It will also interface with other nodes in the TAGS as well as within the Army Tactical Command and Control System (ATCCS), allowing the commander to manage and visualize his airspace in near real-time. This will give the aviation commander much greater freedom to maneuver in his battlespace since he will no longer have to be restricted by pre-planned and inflexible airspace control measures.

TAIS also gives MOS 93C soldiers the tools to move from being predominantly air traffic controllers to being airspace managers and exponentially increases the contri-

Above, Tactical Airspace Integration System (TAIS) at Fort Hood, Texas, during Division Advanced Warfighting Experiment (AWE).

butions of the ATS unit to the warfight.

A prototype TAIS developed by Motorola recently participated in the Division XXI Advanced Warfighting Experiment (AWE) at Fort Hood, Texas. It has already successfully operated in the deep operations cell in AWE, Prairie Warrior 1996. The milestone III decision for TAIS is scheduled for July of this year. The first unit is scheduled to be equipped in the first quarter of FY 00.

ATNAVICS

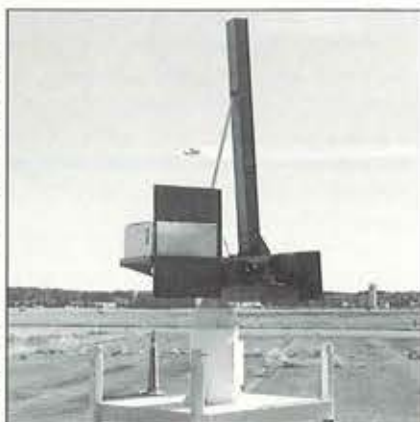
The replacement for the 1960s-vintage tactical ground control approach radar is the Air Traffic Navigation, Integration and Coordination System (ATNAVICS). The ATNAVICS uses a state-of-the-art, HMMWV-transportable, surveillance and precision approach radar system. It is designed to provide near all weather approach and landing control to aircraft operating in the division and corps areas. ATNAVICS is currently in the Engineering and Manufacturing Development (EMD) Phase, and the first units are scheduled to be equipped in February 1999.

MOTS

The fourth tactical ATS system on the horizon is the Mobile Tower System (MOTS) which will replace the TSQ-70A and TSW-7A towers. MOTS will be a HMMWV-transportable, three-position tower designed to operate primarily in division and corps areas. It will interconnect with ATNAVICS to provide IFR capable terminal ATS service in tactical environments. The Mission Needs Statement (MNS) for MOTS has been approved and the ORD is currently in staffing. The first system should be fielded in FY 02.

All of the new tactical ATS systems, including MOTS, have the HMMWV as the prime mover and can be air transported by helicopters or C-130s. These capabilities, coupled with the fact that all of these systems can be installed and operated in minutes rather than hours, gives

Right: Fixed-Base Precision Approach Radar (FBPAR) Testing as part of the Air Traffic Navigation Integration and Coordination System (ATNAVICS) at Bedford, Mass.



Below: Tactical Terminal Control System (TTCS), Redstone Arsenal, Ala.



commanders a highly mobile and reliable means to manage airspace and protect high-value aviation assets.

On the Horizon

A few years ago, our Army air traffic controllers were operating fixed base airfields using 1940s and 1950s vintage equipment. We have already made great progress in updating this equipment to state-of-the-art, maintainable systems. Much of this progress has been possible because of a joint Department of Defense/Federal Aviation Administration initiative to develop common systems for air traffic control facilities operating in the National Airspace System (NAS).

Economies have been achieved by developing single logistics support structures for these systems instead of each service/agency having separate maintenance and supply arrangements. The NAS procurement program includes the Enhanced Terminal Voice Switch (ETVS), Standard Terminal Automation Replacement System (STARS), the FPN-66 Surveillance Radar Digitization and the Digital Airport Surveillance Radar (DASR). DOD and FAA are jointly fielding other non-NAS systems including the Communications Console System (CCS) and the Digital Voice Recording System (DVRS), to take advantage of the standardization and economies of joint procurement. Additionally, PM-ATC will field a new Fixed Base Precision Approach Radar (FBPAR) as an Army-unique system to replace our existing obsolete and unsupportable PARs.

The ETVS system will provide digital air-to-ground and ground-to-ground communication connectivity in Army ATC towers, radars and flight-following facilities. It is scheduled to be installed at 35 Army airfields that operate in the NAS. This program will install 50 digital, touch screen, voice switches in fixed base tower, radar control, and flight-following facilities. The first system will be installed in the Fort Rucker radar approach control facility, which will save the Army \$150,000 annually in leasing fees for the current system. All systems are scheduled to be installed by FY 04.

The FPN-66 surveillance radar systems were first fielded with analog technology which is now incompatible with much of our newer terminal ATC equipment. The short-term solution is to upgrade the radars with digital technology. A contract was awarded in December 1996 to upgrade these systems to ensure they are compatible with future NAS equipment. The first unit was equipped in December 1997 and all systems are scheduled to be completed by April 1999. Over the long term, a Digital Airport Surveillance Radar (DASR) is under consideration by FAA/DOD and would replace the FPN-66.

Fielding of state-of-the-art NAS systems will continue after the turn of the century, ensuring that our fixed-base facilities remain compatible and supportable within the DOD/FAA network. The Standard Terminal Automation Replacement System (STARS) will provide fully digital, fault tolerant, controller workstations with visual displays, designed to greatly reduce workload. STARS is scheduled to be installed at 40 different facilities between FY 99 and FY 05.

The CCS is a state-of-the-art ATC radio and landline electronic communications switching system. It replaces the obsolete manual consoles used for years in most of our smaller control towers, radar and flight-following facili-

ties. CCS equipment is currently being installed at 34 different active and reserve component Army airfields. The first CCS systems were installed in March 1995 and all systems should be installed by the fourth quarter of FY 98.

For years, the standard voice recorders in our ATC facilities used magnetic tape technology that is now obsolete and unsupportable. The DVRS will replace all of these obsolete recorders with state-of-the-art digital technology that records multiple voice channels on a hard drive. Fielding began in March 1996 and is scheduled to be completed in the fourth quarter of FY 98.

The Joint Precision Approach and Landing System (JPALS) is another Joint DOD/FAA initiative to field a precision approach system that is mobile and reliable enough to be used in tactical, fixed base or special operations scenarios. It must be compatible with the en route navigational structure of the 21st century, which may be satellite-based rather than today's ground navigational aid-based structure. The joint Operational Requirements Document (ORD) is currently in staffing and a milestone I decision is expected in May, with fielding to begin during the next decade.

The FPN-40 ground control radar system is the most common radar system used at fixed-base Army airfields. This system was first designed for the Navy in the 1940s and is essentially unchanged in its present day configuration. When components fail, they must be rebuilt at substantial cost or cannibalized from other float FPN-40s. The replacement for this system is a fixed-base version of the precision approach feature of ATNAVICS called the Fixed Base Precision Approach Radar (FBPAR). By combining these two programs, nontactical and tactical radar training will be transparent and a single logistics-support structure will support both programs. FBPAR is currently in production with the first unit scheduled to be equipped in the second quarter of FY 98. This system will be used in conjunction with current surveillance radar systems (FPN-66 and ASR-9) or other host systems.

With the advent of these state-of-the-art tactical and fixed base systems, Army Air Traffic Services will have the capability to contribute immeasurably to the warfight. These soldiers will gain technical experience and certification handling live air traffic in the NAS while operating out of technologically advanced, FAA-compatible, fixed-base ATC facilities. This technical experience and certification will carry over to tactical operations, where these soldiers will be the key link in managing the battlespace in near real-time. They will also launch and recover our multimillion dollar aircraft in near all weather conditions, operating out of highly mobile and supportable equipment with secure communications, capable of rapidly deploying in response to any contingency from Military Operations Other Than War (MOOTW) to fully developed theater operations.

The bottom line is this: Army ATS gives the commander the means to synchronize all dimensions of his battlespace and enhance Army aviation's ability to maneuver and sustain operations as an integral partner in the fight.



Lt. Col. Joseph Williams, Ret., is Sr. Analyst, Support Product Manager for Air Traffic Control, Dynamic Research Corporation, Redstone Arsenal, Ala.

briefings

Raytheon TI Systems Inc. has announced the successful first flight of a "smart" artillery round the company is developing under a joint independent research and development program with **Primex Technologies Inc.** Described as part artillery round and part missile, the projectile is intended to have the accuracy of a "smart bomb" at significantly greater range than that of current artillery rounds. During the test, conducted at the Naval Weapons Center at China Lake, Calif., the projectile was released from an aircraft at 22,500 feet and flew a series of pre-programmed maneuvers during approximately 30 seconds of fully controlled flight.

The Pentagon has announced that the **red identification cards** long carried by Selected Reserve, Individual Ready Reserve and active Standby Reserve personnel will be replaced by the green ID card carried by active duty military members. The change, to be phased in over two to five years, could begin as soon as this June and will affect the cards carried by active-status members of the Army National Guard, Army Reserve, Naval Reserve, Marine Corps Reserve, Air National Guard, Air Force Reserve and Coast Guard Reserve. Though intended to help eliminate the barriers to full integration of the active and reserve components, the switch will not give reserve members any additional benefits and will not apply to Reservists' family members.

Boeing Sikorsky Aircraft Support (BSAS) has opened a new office near Fort Rucker, Ala. The joint venture company, formed in 1992 through the alliance of **Boeing Aerospace Operations and Sikorsky Support Services, Inc.**, builds on 15 years of Boeing-Sikorsky partnership in the development of the RAH-66 Comanche. BSAS and its team members have established working relationships with U.S. Special Operations Command and the 160th Special Operations Aviation Regiment at Fort Campbell, Ky., and the new Slocumb, Ala., office joins existing offices in Lexington, Ky., and Clarksville, Tenn.

Hughes Aircraft Company has been awarded a \$6.8 million subcontract to provide the UHF and VHF "front end" for a new foliage-penetrating synthetic aperture radar under development by Lockheed Martin Tactical Defense Systems for the Army, Air Force and DARPA. The Hughes-provided elements and an automated signal processor that will automatically locate concealed targets will be integrated with a Lockheed Martin-developed FOPEN computer system. The integrated system will then be demonstrated on a manned aircraft, and may eventually be incorporated on the Global Hawk (Tier II Plus) high-altitude unmanned aerial vehicle.

John H. Moellering has been named president and chief executive officer of Lear Siegler Services, Inc. A retired Army lieutenant general whose last military assignment was as assistant to the chairman of the Joint Chiefs of Staff, Moellering was formerly the executive vice president of UNC Inc. and president of UNC's Aviation Services Division.

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See you in Charlotte!

AAAA Annual Convention Charlotte, NC April 1-4, 1998



AAAA NEWS

New Chapter Officers

Aviation Center:

CWO3 Raymond A. Quinones,
VP Warrant Officers Affairs.

Aloha:

Lt. Col. Curtis D. Potts, President.

Bavarian:

Lt. Col. David B. Booth, President;
Capt. Gary D. Stephens, Treasurer.

Corpus Christi:

Keith L. Martin, Sr. Vice President; Laurie Simcik, V.P. Activities; Bill Cary, V.P. Membership; Jo Ann Sujansky, V. P. Membership Renewals; Tammy H. Tuttle, V.P. Publicity; CWO3 Tommy V. Northcutt, V.P. Military Affairs.

Iron Mike:

SFC Frank Garcia, V.P. Enlisted Affairs.

Land of Lincoln:

Lt. Col. Leonard H. Jansen
CSM John C. Starbody, Sr. Vice President;
CWO2 David W. Hammon, Treasurer; Maj. George W. O'Bryan, V. P. Membership Enrollment; Capt. Chris J. McIntyre, V. P. Programs

Mission Ready:

CWO4 Gregory S. Schneider, Acting President; CWO4 Barry A. Worstell, Secretary; Capt. Phillip E. Smallwood, Treasurer; CSM Willie F. Williams, V.P. Membership Enrollment; Capt. Craig A. Wilhelm, V.P. at Large; Capt. Thomas J. Smedley, V. P. at Large.

Morning Calm:

Maj. Michael J. Sinatra, V.P. Activities

Aces

The following members have been recognized as Aces for their signing up five new members each.

Mr. Kresten L. Cook

Maj. Kim Graham Fuschak

SSgt. Scott A. Gibson

CWO3 Keith L. Langewisch

Ms. Liz A. Murtaugh

New AAAA Industry Members

Extex, Ltd.
Mesa, Ariz.

Heat Max, Inc.
Stone Mountain, Ga.

Northrop Grumman Corp., ESID
Rolling Meadows, Ill.

1997 Chapter Membership Enrollment Competition

The tabulations on the 1997 "Chapter Membership Enrollment Competition" have been completed. They are:

Master Chapter Category

Arizona Chapter

Mesa, Ariz.

CY97 Net Member Gain of 33 members

Col. Charles A. Vehlow, Ret., Chapter President

CWO3 Robert M. Kelly, Ret., VP Membership

Senior Chapter Category

Iron Eagle Chapter

Hanau, Germany

CY97 Net Member Gain of 44 members

Lt. Col. William M. Wilkinson, Chapter President

Maj. Darryl T. Shamblin, VP Membership

AAAA Chapter Category

Ragin' Cajun Chapter

CY97 Net Member Gain of 16 members

Lt. Col. Glenn T. Tetreault, Chapter President

1stLt. Nicholas H. Gist, VP Membership

AAAA "Top Gun" Individual Membership Recruitment

Mr. John H. Bae, Morning Calm Chapter

enrolled 411 new members

CWO2 John P. Garske, Aviation Center Chapter

enrolled 164 new members

Mr. William J. Cannon, Aviation Center Chapter

enrolled 110 new members

Capt. Susan M. Lind, Morning Calm Chapter

enrolled 99 new members

Capt. Daryl A. Doberstein, Aviation Center Chapter

enrolled 89 new members

The Chapter and Individual Members will receive their awards at the AAAA Annual Membership Meeting, Thursday, April 2, 1998, at the Charlotte Convention Center in Charlotte, North Carolina.

AAAA National Executive Board Nominations

In accordance with the AAAA By-Laws, notice is hereby given that in addition to the nominations recommended by the Nominations Committee for those NEB offices in which vacancies occur at the time of the annual election, floor nominations may be made at the Annual Convention, provided that the name of the floor nominee appear on nomination petitions signed by 25 AAAA members and said petitions are provided to the Chairman of the Nominations Committee at the AAAA National Office at least 30 days prior to the conduct of the AAAA Annual Meeting.

AAAA Annual Essay Contest

The Fifth Annual AAAA Essay Contest is underway. The contest is designed to encourage the writing of original essays on topics that further the general knowledge of U.S. Army Aviation. Suspense date is 1 July 1998.

DOCUMENTATION

The official application form should be used and is attainable from the AAAA National Office, 49 Richmondville Avenue, Westport, CT 06880-2000; Telephone (203) 226-8184; FAX (203) 222-9863. The forms may be reproduced locally.

AWARD PRIZE

First prize earns \$500 honorarium; second prize earns a \$300 honorarium; and a third prize earns a \$200 honorarium.

PRESENTATION

The three winning essays will be published in ARMY AVIATION Magazine. Essays not awarded prizes may also be published in ARMY AVIATION. The winning essay may also be considered for presentation at the AAAA Annual Convention.

Robert Bandel

Robert Francis Bandel, 37, Fort Campbell, died Friday, Jan. 23, 1998, at Wright-Patterson Air Force Hospital, Wright-Patterson Air Force Base, Ohio.

He was born Feb. 8, 1960, in Inglewood, Calif., son of Norman Bandel and Noreen Grant Tracey.

Mr. Bandel was a chief warrant officer in the United States Army.

In addition to his mother of Cannon Lake, Calif., survivors include his stepfather, John Tracey, Cannon Lake; his wife, Nancy Bandel, Fort Campbell; four daughters, Jessica, Stephanie, Megan and Sarah, all of Fort Campbell; and a brother, Ron, Tulsa, Okla.

Memorials may be made to the American Cancer Society.



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Legislative Report

Col. Sylvester C. Berdux, Jr., Retired
AAAA Representative to The Military Coalition (TMC)



The President signed the 1998 Defense Bill in November and The Military Coalition (TMC) was successful with the help of numerous member organizations in persuading Congressional members to support a number of Bills of importance to AAAA and TMC.

TMC's single most important legislative priority for 1998 (FY99) is winning at least a test of allowing Medicare-eligible service beneficiaries to enroll in the Federal Employees Health Benefits program (FEHBP-65) although we won on passing a military subvention test. 1998 is the year of opportunity to win this test -- the same health plan the government already extends to every other retired federal employee. See related article and USA Letters - letter writing campaign on facing page.

The rest of TMC's agenda is too long to list, but here's a sample of topics on which we see prospects for progress in 1998.

VA Medicare Subvention

Despite passing a military subvention test, Congress failed to approve a similar test for Medicare-eligible who use VA health care facilities. The rationale given was the VA wasn't as far along in the planning process as DoD. TMC is convinced subvention makes sense for the VA as well, and that it will help open more care to deserving veterans and retirees. TMC will be working to secure VA test legislation in 1998. In supporting the 1998 Medicare subvention test, DoD also agreed to maintain its current level of space-available care for Medicare-eligible as a condition of receiving any reimbursement from Medicare.

Concurrent Receipt

Past efforts to eliminate the current dollar-for-dollar offset between uniformed service retired pay and Department of Veterans Affairs (VA) disability compensation have foundered on cost concerns (estimated at up to \$1.8 billion per year). TMC is supporting Rep Bilirakis' (R-FL) H.R. 44 as a first step to break the logjam of resistance. It would provide an additional \$100-300 per month to 20-year retirees with severe disabilities that have kept them from a post-service career. It applies only to retirees who incurred at least a 70% VA disability within four years after leaving service. We're convinced a modest "first step" bill like H.R. 44 is our only hope for gaining a legislative foothold that could eventually address the broader group of disabled retirees.

Active Duty Pay Raise

Current law caps military pay raises one-half percentage point below the average American's raise every year. In 1997, the House proposed restoring full-comparability raises, but opponents claimed it wouldn't be fair to have different raises for military vs. federal civilians. But both military and federal civilian pay raises are capped below private sector pay growth. TMC will be working with Federal civilian employee groups to try to prevent the Administration and Congress from pursuing this kind of "divide and conquer" pay cap strategy in 1998.

Mail-Order Pharmacy Service

As budget cuts have shrunk the size of formularies in remaining military pharmacies, older retirees have lost access to prescription drug benefits, which Medicare doesn't cover. Retirees affected by base realignment and closure (BRAC) actions qualify for a special BRAC mail-order pharmacy service, but most Medicare-eligible are excluded. There are two bills (Rep. Karen Thurman's (D-FL) and Sen. Bob Graham's (D-FL) H.R. 1773 and S.1273) that would authorize all Medicare-eligible uniformed services beneficiaries to use the mail-order pharmacy program. We'll be pushing hard for its enactment.

Medicare part B Late-Enrollment Penalty

Generations of members retired near military medical facilities to take advantage of long-promised "lifetime health care." That promise led many retirees to decline Medicare Part B upon attaining age 65. But budget cuts and base closures have locked more and more Medicare-eligible out of the military health care system and forced them back to Medicare. Now, many older retirees are shocked at having to pay a 10-percent late-enrollment penalty for each year that has passed since age 65. Rep. Ensign (R-NV) and Sen. Bond (R-MO) introduced bills (H.R. 598 and S. 912) to waive the late enrollment penalty for such members. TMC and TROA didn't win last year, but we'll be back for 1998.

30-Year "Paid-Up" Survivor Benefit Plan (SBP) Coverage

Congress intended that the government would subsidize 40 percent of SBP benefit costs, with retiree premiums covering the other 60 percent. But pay raises and COLAs have been lower than first projected, so premiums have covered a bigger share of the costs, and the government subsidy has dropped to 26 percent. TMC, TROA and others support granting "paid-up SBP" status for retirees who have attained age 70 and paid SBP premiums for 30 years. They could stop paying premiums while retaining survivors' SBP coverage. Senate staffers think we have a good shot in 1998 as we barely missed victory last year.

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Dear Senator/Representative:

I am writing to urge you to cosponsor (S. 1334/H.R. 1766), to authorize a test of allowing Medicare-eligible uniformed services beneficiaries to enroll in the Federal Employees Health Benefits Program (FEHBP-65). This legislation is essential to ensure the government keeps its promise of lifetime health care for the men and women who dedicated themselves to careers in service to their country.

It is truly ironic that, despite their many sacrifices, retired service members lose their military health insurance at age 65. In contrast, large corporations like GM, Ford, IBM, and Exxon offer their retirees heavily subsidized Medicare supplement plans, most including dental and drug coverage. The government subsidizes lifetime FEHBP coverage for every other federal retiree—including retired Members of Congress and their staffers—often after as little as 5 years of federal service! Those who served decades in uniform deserve no less.

FEHBP-65 is affordable. The government is able to find \$3 billion a year to provide FEHBP for Medicare-eligible federal civilian retirees. FEHBP-65 for service retirees will only cost about one-tenth that amount, and a test will prove it.

Correction of this severe inequity is long overdue. Please cosponsor (S. 1334/H.R. 1766) and do all you can to ensure Congress enacts at least a test of FEHBP-65 in 1998. I look forward to your early reply.

Sincerely,

(Your signature and a handwritten "P.S." lets Washington know of your personal interest in this legislation.)

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However, you can still participate by sending your name, address (active military must include their voting ZIP code), and a check or money order for \$5.95 to MC/USA Letters, P.O. Box 9865, Washington, D.C. 20016.

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Army Aviation Center Chapter

by Maj. James Bullinger, Vice President, Publicity

AAAA
Chapter Corner

Last month Army Aviation Magazine began a new regular feature called "Chapter Corner" as part of your reformatted professional journal. In each issue we will profile a local AAAA chapter and highlight some of their history and programs. This month we spotlight AAAA's largest and oldest chapter – the Army Aviation Center chapter at Fort Rucker, Ala.

The Army Aviation Center chapter dates back 40 years to October 30, 1957, when it was established as AAAA's first chapter activity. Some 85 members attended their first meeting at the Lake Tholocco Lodge. A second chapter, the Combined Test Activities chapter, was established at Fort Rucker in December, 1957 by the AAAA members of the USA Aviation Test Board, the USA Transportation Aviation Test Support Activity, and the USA Signal Aviation Test and Support Activity. The CTA chapter was later deactivated in September, 1960 and its members joined with the Army Aviation Center chapter.

During the '60s and '70s, the AAC chapter continued to grow and prosper. The biggest increase in members occurred during the Vietnam War. As Fort Rucker geared up to supply pilots and crewchiefs for the emerging air mobility warfare in Vietnam, so did the chapter. Nearly every flight class in training had a 100 percent membership in AAAA.

The AAC chapter's membership has numbered as high as 2,457 in the early '90s, but has steadily tapered off as a result of the six year reduction of Army and Aviation personnel. Today, the AAC chapter boasts a membership of over 1,600 members at any given time.

Col. Lee Gore, commander of the Aviation Training Brigade, serves as the chapter's president. He is assisted by an executive board comprised of a senior vice president, secretary, treasurer, ten vice presidents, and 11 members-at-large who represent many of the major organizations at Fort Rucker. The ten vice presidents are responsible for awards, membership, programs, publicity, scholarships, enlisted affairs, warrant officer affairs, DA Civilian affairs, industry affairs, and retired affairs. All board members serve terms which begin or end in cycle with the government fiscal year.

The AAC chapter sponsors many activities throughout the year. General membership meetings are held, in conjunction with a member appreciation night, on a quarterly basis. After the membership meeting and professional session members and guests are treated to a complimentary open buffet of finger foods, light snacks, and beverages.

The chapter hosts a spring, summer, and fall classic golf tournament with some great prizes for the winning teams. These are very popular events and are limited to 36 teams (144 golfers) on a first-come, first-registered basis.

Recently, the chapter sponsored a new event in February called the AAAA Shotgun Spectacular. It was an open competition which combined skeet and trap shooting, with medals and prizes being awarded to individuals and teams in various categories.

The chapter also hosts Fort Rucker's annual Army Birthday Ball in June.

On the last Saturday of October, the chapter holds its annual AAAA Chili 5K festival. This event combines a five kilometer race with a chili cook-off competition.

During the 1997 6th annual Chili 5K 587 runners registered for the race and 31 chili teams competed in the cook-off. The 5K's registration fees, chili sales, and local sponsor contributions helped to raise \$10,881 for the chapter's various activities and programs.

The AAC chapter also supports AAAA at the national level. Every year the chapter hosts the annual AAAA National Functional Awards presentation banquet in conjunction with the Aviation Leaders Training Conference (formerly the Aviation Brigade Commanders' conference). During the annual AAAA Convention, the chapter also hosts a hospitality suite as part of the nightly chapter receptions. The AAC chapter usually combines its resources with several of AAAA's smaller chapters to throw a dynamite party.

The AAC chapter is exceedingly proud of its awards and scholarship programs. Special recognition awards are presented by the chapter to the distinguished graduates of various enlisted, warrant officer, and commissioned officer courses at Fort Rucker.

The scholarship program provides \$3,000 for local Wiregrass area students who are AAAA members, or for spouses and dependents of AAAA members. Last year two \$1,500 one year scholarships were awarded. This year the chapter plans to locally award three \$1,000 one year scholarships. Currently the chapter is studying the feasibility of increasing the number and dollar amount of scholarships it awards in the future.

According to Col. Gore, the Army Aviation Center chapter is working hard to improve its programs and support to its members. "We have a very energetic and dedicated executive board actively pursuing ways and means to make our chapter the best in AAAA," explained Gore. "We try to take the 'What's-In-It-For-Me' approach to addressing member, industry, and corporate sponsor issues. It's a philosophy that works well to satisfy what our chapter members want and expect."

Gore also praises the local Wiregrass area citizens, community leaders, and businesses for the terrific support they provide to the chapter, as well as to Fort Rucker in general. "We are very fortunate that we have such great and loyal friends around our area who help our AAAA chapter," said Gore. "We are indeed indebted to their generosity and commitment."

To all AAAA members the Army Aviation Center chapter extends a warm welcome to come and join them in any of their scheduled events. To learn more about AAC chapter happenings and who to contact, visit the AAAA website Calendar & Upcoming Events page at: <http://www.quad-a.org/calendar.htm>, or check the AAAA Calendar listed in Army Aviation magazine.

A special thank you goes to Arthur Kesten, AAAA Archivist, for his help on the history of the Army Aviation Center chapter.

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calendar

- ☛ **Apr 1-4.** AAAA Annual Convention, Charlotte Convention Center, Charlotte, NC.
- ☛ **Apr 1.** AAAA National Executive Board Meeting, Charlotte Convention Center, Charlotte, NC.
- ☛ **Apr 2.** AAAA Scholarship Foundation, Inc. Governors Meeting, Charlotte Convention Center, Charlotte, NC.
- ☛ **Apr 7-11.** Naval Helicopter Association Symposium, Jacksonville, FL.
- ☛ **Apr 7-9.** Navy League Sea-Air-Space Expo, Washington, DC.
- ☛ **Apr 24.** Army Aviation Center Chapter Spring Golf Classic, Silver Wings Golf Course, Ft. Rucker, AL. Contact CW2 Jim Kennedy, 334-255-3411.
- ☛ **May 12-14.** Cargo Helicopter Users Conference, Holiday Inn Research Park, Huntsville, Ala.
- ☛ **May 27.** Army Aviation Center Chapter General Membership Meeting and Member Appreciation Night, Ft. Rucker O'Club. Contact Jim Kennedy, 334-255-3411.
- ☛ **May 18-24.** International Aerospace Exhibition, Berlin-Brandenburg, German.
- ☛ **July 17-18.** AAAA Scholarship Foundation, Inc. Scholarship Selection Meeting, Arlington, VA.
- ☛ **Aug 19-23.** The Army Otter-Caribou Association 13th Annual Reunion. Contact Bruce Silvey, P.O. Box 20471, St. Petersburg, FL 33742. Tel: 800-626-8194.

(continued from page 6)

technologies, in which Comanche has the lead, will be transitioned to the rest of the force. Examples of these technologies include the nuclear, biological and chemical (NBC) regenerative filter, flexible manufacturing and commercial production of communications systems hardware, commercial glass efforts in the area of Multi-Function Displays (MFDs), and new materials such as beryllium aluminum.

Developing Comanche Doctrine

The Army has typically fielded systems before developing the tactics and doctrine for their use. The Comanche development program is changing that. The Comanche Portable Cockpit has already participated in two major Force XXI exercises, and will be a key player in the planned structured development process planned for Comanche tactics, techniques and procedures. The Comanche Limited User Test (LUT) during the fiscal year 2002 to 2003 timeframe will allow experimentation with the aircraft and refinement of tactics, techniques and procedures. This LUT will also serve as the preparatory work for First Digitized Corps experiments.

However, the current Comanche development schedule is roughly two years out of synch with the Force XXI First Digitized Corps timeline. This two-year disconnect can be resolved by accelerating those digitization efforts needed to integrate the Comanche EOC configuration in time for the First Digitized Corps experiments. These acceleration efforts will also focus on providing supportability improvements and improving the digital capabilities of the EOC aircraft, including reconnaissance mission-equipment packages and digital communications links such as non line-of-sight radios and tactical internet capabilities.

A parallel acceleration effort intended to enhance the fault-detection and fault-isolation capabilities of the six EOC aircraft to approximately the 90 percent level is also under development. The EOC aircraft, although not in the final-production configuration, will then have sufficient inherent supportability features to allow them to be left behind with the host unit for follow-on activities with later planned updates to the production configuration.

The communications improvements include accelerating the Improved High Frequency Radio (IHFR), the Satellite Communication (SATCOM) radio and the Enhanced Position Location Radio System (EPLRS) onto the EOC aircraft. The mission-equipment package capability will be improved by accelerating several key elements. Among the systems developed earlier will be the moving target indicator, the back-up pilotage system and search-on-the-move capabilities for the Target Acquisition System (TAS), the image-intensification capability for the pilotage system itself, and the Radio Frequency Interferometer (RFI) capability for detecting active radar emitters.

These digitally improved Comanches will greatly enhance the value of the experimentation work done during the Force XXI activities, while providing the road map to the AAN and final Comanche production configuration. In addition, these EOC aircraft will showcase the near-production capability of the reconnaissance suite of sensors and associated equipment and their role in

achieving full spectrum dominance. Just as the Longbow Apache proved its mettle in the Task Force XXI exercise, the Comanche will do the same with EOC aircraft in the First Digitized Corps experiments.

Enhanced Survivability

In the area of survivability, Comanche's signatures have been reduced to lower its detectability. The radar signature is about 400 times less than that of current Army aircraft. Comanche's infrared signature is also significantly lower, a feat accomplished by mixing ambient air with the hot exhaust gases from the engine in a tail-cone mixing chamber. The acoustic signature is roughly one half that of an Apache. Finally, the visual signature has also been addressed to reduce aircraft glint.

Though these signature reductions have all been done passively, Comanche also has provisions for such active aircraft survivability equipment as the Advanced Threat Infrared Counter Measures (ATIRCM) and the Suite of Integrated Radio Frequency Countermeasures (SIRFC). Comanche has thus taken a balanced approach to signature reduction through both passive and active measures.

Logistics, Training & Sustainment

The Comanche program has taken an aggressive approach to logistics, training and sustainment. Among the key elements of the program is the development of an integrated training system, which is being developed and fielded in parallel with the aircraft. This will be the first major training system to be fielded at the same time as a primary weapon system. It will also be used to train the Initial Operational Test and Evaluation personnel.

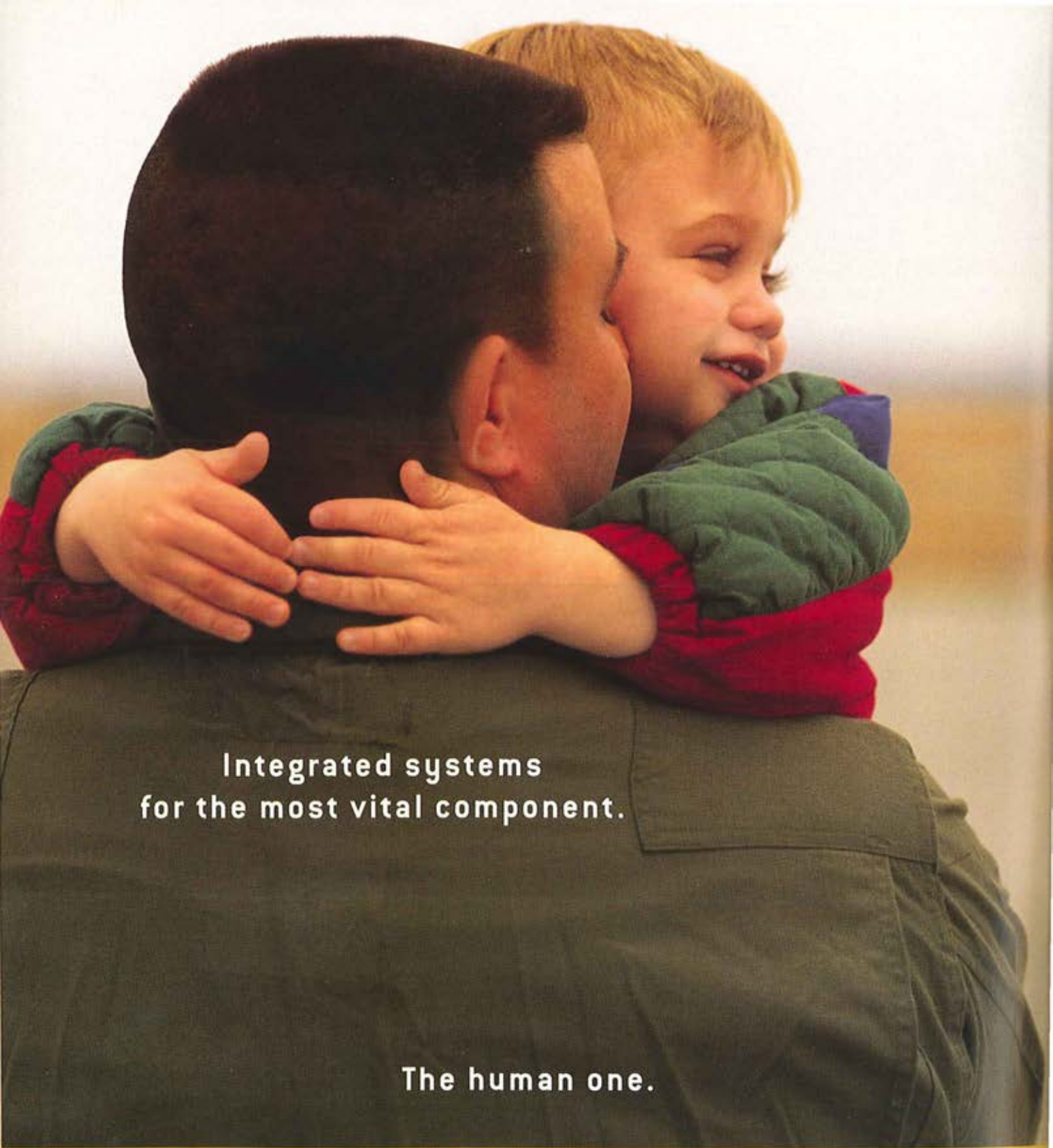
The Comanche has been designed for two-level maintenance support - another first. All the intermediate-level maintenance tasks have been designed away. Comanche maintenance will be performed at unit and depot level. This, along with a lower maintenance man-hour-per-flight-hour requirement, greatly reduces Comanche's operation and support costs. Other maintenance improvements include fewer total aircraft parts, fewer pieces of peculiar support equipment, fewer tools, increased reliability of parts, and a comprehensive fault diagnostic and isolation system. All these initiatives reduce Comanche's overall logistic footprint and make the aircraft more affordable.

A Full-Spectrum Platform

In summary, the Comanche is designed to be a full-spectrum platform. To maximize its capability, tactics, techniques and procedures are being developed in parallel with the leap-ahead technologies being built into the aircraft. When the Comanche achieves initial operational capability, it will not be an IOC asset in name only. Intellectual integration into the First Digitized Corps through simulation and EOC aircraft will insure a seamless transition to the force and provide our young men and women a tool to keep the U.S. Army number one in a field of one.



Brig. Gen. Joseph L. Bergantz is the Comanche program manager at Redstone Arsenal, Ala.



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