

April, 1971

# Army Aviation



**Snoopy**

(see back cover...)



LYCOMING DIVISION  
STRATFORD, CONNECTICUT 06497

In a combat zone, you have ships to unload in hours, not days. And containerized supplies to deliver 50 miles inland in minutes, not hours.

You have heavy artillery, armored personnel carriers and bridging equipment to airlift over rivers, swamps, and mountain ridges.

Using podded and palletized packages, you have field hospitals and mess halls to establish. And long after operations are started, you have massive resupply needs, and downed aircraft to recover.

Many of these crucial airmobile needs simply can't be met with today's helicopters, limited to a 10-ton payload. They can be with a true Heavy Lift Helicopter. One with a 22.5-ton capacity. The one that will be developed under the Advanced Technology Components (ATC) program.

#### THE PURPOSE OF ATC

This long-range joint service program is designed to solve the technological problems of a heavy-lift helicopter. Its purpose is to develop and test the critical components that would be needed for large-payload helicopters—at minimum technical and cost risks.

The Hughes ATC program is addressed to: the development of a risk-free pressure-jet rotor system, cargo handling system, and subsystems to increase the operational suitability of the aircraft.

#### WHY HUGHES IS A CONTENDER

Several major manufacturers seek to participate in the ATC program. Hughes Tool Company is one of them. But not just because we're a leading helicopter maker. Our background in heavy lift reaches across almost two decades.

By 1951, we had built and flown the XH-17, under a military contract. This aircraft proved it is practical to develop a really big rotor (130-foot diameter). Far ahead of its time, it

was actually eight times as large as any production helicopter then in existence.

The XH-17 was also the first American helicopter to use a pressure-jet reaction drive propulsion system. The knowledge gained from the XH-17 led to a further development of the jet drive system in the XV-9A in 1965.



## The Case for the Heavy Lift Helicopter.

This advanced system uses a turbopan engine to feed high-energy gas through ducts in the rotor hub and blades, out to blade-tip nozzles where jets propel the rotor.

The rotor, then, becomes the power turbine for the gas generators, converting the energy of heated gases directly to rotor power.

Our experience with the XV-9A, and five more years of continuing R&D, have convinced us that jet-drive is a true breakthrough for heavy lift. Massive components, like shafting and gear boxes, are eliminated.

You get more payload per pound of airframe. Fuel demands and maintenance needs are reduced. And (unlike any conventional HLH) the jet-drive type is at its best with the heaviest loads.

#### WHAT KIND OF HLH DOES HUGHES PROPOSE?

One that meets the 22.5 ton payload requirement, of course.

One that is smaller, lighter in weight, and simpler than a gear-driven HLH.

One that has complete shipboard compatibility.

One that costs less. It will use off-the-shelf engines without modification; it eliminates transmission procurement and overhaul; its lighter-weight air frame is simpler to manufacture.



One that offers early proof of ATC concepts. The Hughes engine/whirl-test combination will utilize the same engine as the eventual HLH.

At Hughes Tool Company, we believe there is a strong case for the HLH. And for DOD's careful comparison of the major alternatives of geared vs. jet-drive. Hughes believes the benefits that can be derived from jet-drive will be self-evident.

## Hughes Helicopters



# Army Aviation

APRIL 22, 1971

Endorsed by the Army Aviation Ass'n of America

## CONTENTS

### WORD TO THE WARRANT

#### The Army Position: Equalize Flight Pay!

By Colonel Jack M. Tumlinson,  
Chief, Aviation Warrant Officer Branch, OPD .. 4

### OPERATIONS

#### Helicopter Vulnerability

A statement by GEN William C. Westmoreland .. 7

### DIRECTORATE

#### Looking back at LAMSON 719

By Brigadier General William J. Maddox, Jr.,  
Director of Army Aviation, OACSFOR, DA ..... 8

### OPINION

#### Man-Powered Flight

By Morris G. Rawlings ..... 6

#### Use G.I. Talent — A Bid for Army Maintenance!

By Lieutenant Colonel Howard J. Tuggey,  
Aircraft Maintenance Brigade, Hunter AAF .... 13

### AAAA

113 Prizes Offered in 5-Month, 7-Drawing  
1971 AAAA Grand Sweepstakes ..... Centerfold

### THE IN BOX

MGs G. P. Senef, Jr., and George W. Putnam,  
Jr., receive Master AA Badges ..... 32

### ON GUARD

#### Fourth TARS Unit Proposed

By Lieutenant Colonel Donald G. Andrews,  
Army Aviation Division, NGB ..... 38

### DEPARTMENTS

Command and Staff ..... 3

PCS — Changes of Residence ..... 33

## ADVERTISERS

Avco Lycoming Division ..... Cover I

Hepler & Gibney, Inc., New Haven, Connecticut

Bell Helicopter Company ..... 28-29

Lennen & Newell, Inc., Dallas, Texas

Boeing Vertol Division ..... Cover III

N.W. Ayer & Son, Inc., Philadelphia, Pennsylvania

Chandler Evans Control Systems Division ..... 5

G.F. Sweet & Co., Inc., Glastonbury, Connecticut

Computing Devices of Canada, Ltd. .... 11

D'Arcy, Mac Manus & Intermarco, Bimfld Hills, M.

Endevco Dynamic Instrument Division ..... 31

Berry Cullen Cohen, Los Angeles, California

Hughes Tool Co. — Aircraft Division ..... Cover II

Foot, Cone & Belding, Los Angeles, California

# Army Aviation



Snoopy

(see back cover...)



Sikorsky Aircraft Division ..... 14-15  
Cunningham & Walsh, Inc., New York, N.Y.

## Command and Staff

"Command and Staff" is a new column listing the forthcoming assignments and positions of those active and retired personnel affiliated with Army Aviation who are in the rank of colonel or above. Residence information on those listed may also appear in the "Takeoffs" column.

Major General George W. Putnam, Jr., to Office, Deputy Chief of Staff for Personnel, Department of the Army, Washington, D.C. 20310.

Brigadier General Eugene M. Lynch, as Commanding General, U.S. Army Flight Training Center & Fort Stewart, Georgia, Hunter Army Airfield, Georgia 31409.

Brigadier General George S. Patton, as assistant commandant of the U.S. Army Armor School, Fort Knox, Kentucky 40121.

ARMY AVIATION is published monthly by Army Aviation Publications, Inc., with Editorial and Business Offices at 1 Crestwood Road, Westport, Conn. 06880. Phone (203) 227-6266. Subscription rates for non-AAAA members: 1 year \$4.50, 2 years \$8.00 to CONUS and APO addresses only; add \$7.50 per year for all other addresses. The views and opinions expressed in the publication are not necessarily those of the Department of the Army or the staff of the publication. Publisher, Arthur H. Kesten; Managing Editor, Dorothy Kesten; Associate Editor, Deborah Waltersdorf; Fulfillment, Beryl Beaumont. Advertising information available from the Business Office or from Johnson, Jordan, Harrison & Scholtz, 1901 W. 8th St., Los Angeles, Calif. 90057, (213) 483-8530; or from JH&S, 57 Post Street, San Francisco, Calif. 94104, (415) 392-6794. Second class postage paid at Westport, Conn.



# Word to the Warrant

**I**N the not too distant past, several nations became quite concerned over highly qualified technicians and specialists who were leaving their countries and going to a foreign nation where there was a promise of a bright and successful future.

Today, an analogous situation exists in Army Aviation. Countless fine young aviation warrant officers, who have demonstrated outstanding performance and are rich in irreplaceable combat experience, are requesting release to the civilian community.

They offer many reasons for leaving the service, chief among which is recognition as epitomized by flight pay equity. "Why," they ask, "do we get less flight pay than the commissioned officer who is sitting beside us in the cockpit?"

## Question demands answer

This question demands an answer for there is no logical reason for continuing to differentiate between the two in the issuance of flight pay. More importantly, there is ample evidence to suggest that many aviation warrant officers would incline toward a military career if flight pay were equalized.

The Army's position on this issue is clear — flight pay *must* be equalized! The warrant officer is the "aviation specialist" and he should receive no less compensation for his special skills than his commissioned counterpart. There are some, for example, who suggest that Army Aviation must revolve around the warrant aviator because he is our only full-time aviator. His commissioned counter-

part is a generalist, who performs both in his branch and in aviation and is expected to become equally qualified for command and staff in both areas.

Consequently, there is no requirement that he acquire detailed and extensive aviation skills — and seldom does he have the opportunity. The aviation warrant officer, by contrast, serves in consecutive aviation assignments, each demanding increased skill and proficiency commensurate with his advancement to more complex and sophisticated aircraft. This specialization is necessary if we are to maintain the continuity of technical expertise necessary to the combat readiness and performance of aviation units.

Accepting this, it becomes mandatory that the man who devotes his entire military career to aviation should receive flight pay equal to his commissioned counterpart; otherwise, why should he dedicate himself to a military career in aviation when he could conceivably pursue a similar occupation as a civilian with financial recognition based on competitive performance, not rank?

## The super grades ...

Even so, flight pay equity is not enough to convince today's aviation warrant officer that he should make the military his career. If he can advance to the grade of W4 at approximately 11 to 13 years of service, and retire in that grade at twenty years service, why should he go for 30 years?

From his view, 17-18 years in grade is a  
(Continued on Page 27)

# Army position is clear: Equalize flight pay!

BY COLONEL JACK M. TUMLINSON  
Chief, Aviation Warrant Officer Branch, OPD, DA



FROM AN ORIGINAL PAINTING FOR CHANDLER EVANS BY KEITH FERRIS

## MAIN FUEL CONTROL by Chandler Evans



71002 Main Fuel Control

The MQM-74A, a new advanced target drone, is currently being produced in quantity for the U.S. Navy by the Ventura Division of Northrop Corporation. Capable of speeds to 460 m.p.h. and altitudes up to 38,000 feet, the MQM-74A is powered by a Williams Research Corporation WR24-6 turbojet equipped with a fuel control engineered and precision-produced by Chandler Evans.

This CECO product joins a distinguished line of pumps, main fuel controls, afterburner controls and other aerospace components in an array of important military aircraft as well as many of the latest missiles and commercial aircraft.

Chandler Evans is pleased to be "known by the company its products keep" and by the records those products establish.

**Colt Industries**



**Chandler Evans Control Systems Division**

WEST HARTFORD, CONNECTICUT 06101

GAS TURBINE CONTROLS/PUMPS • AIRCRAFT/MISSILE CONTROLS, VALVES AND ACTUATORS

Although monetary incentives lay unclaimed, there's a sweaty solution to the problems of cockpit noise and environmental pollution...

# Man-Powered Flight!

BY MORRIS G. RAWLINGS

*Lives there a pilot with a roar in his ears,  
Who never has wavered between two fears?  
One, that his engine would suddenly quit,  
The other, that it wouldn't . . . . ?*

**T**HE typical Army Aviator, his ears covered by a flight helmet, is expected to be able to identify the tone differences between a happy and an unhappy engine while receiving instrument flight instructions from a French air traffic controller speaking a strange version of English into a faulty microphone. The odd thing is that most of the professional pilots can do it.

Yet, outside of the cockpit, their hearing is no better than that of the average civilian; they have great difficulty hearing their wife's instructions or their children's gimme's.

So long as the pilot's future hangs on the ability of a machine to swallow kerosene and regurgitate energy, his ears will necessarily suffer from the clamor in the cockpit, and wives and children must bear the consequences.

There is a sweaty solution! *Remove the engine. Use manpower!*

The idea of man-powered flight has been around for a long time. Perhaps one of the earliest recorded flights was that performed by Icarus who supposedly melted his wings by flying too near the sun.

The story *lacks* credibility. After all, it

occurred in a Greek myth and it is rumored that the temperature of Grecians was about the same as that of Americans. Any young American myth can melt wax — with or without lisping. Icarus probably didn't even get off the ground.

At any rate, he certainly didn't leave enough hard data to convince today's brand of operations researchers, systems analysts, or legislators that man-powered flight is worth the trouble and expense. Icarus left no detailed cost record; he didn't establish a criterion for effectiveness; he failed to describe his design changes and/or cost overruns — he didn't even document the temperature at which his wings melted!

## Modern efforts

Later efforts have been more scientific in their approach and have left quantitative data all over the place. They have answered every possible question, except perhaps two:

- (1) *Just who is interested in man-powered flight?*
- (2) *Why?*

First things first. In 1935 and 1936, successful flights of man-powered aircraft were made by the Germans and the Italians (Haessler-Villinger and Bossi-Bonomi) but each was catapult-launched. Somehow, this seems

*(Continued on Page 25)*



# Operations

---

**QUESTION:** Have you seen anything, as a result of the operation in Laos, that's changing your feeling of helicopters? There was a radio story the other day that 600 helicopters had been damaged. There have been claims we've lost 100. Has all this changed the Army thinking, or in any way affected Army thinking on the future use of helicopters?

**GENERAL WESTMORELAND:** No, it hasn't changed our thinking in the least. In considering helicopter losses, one must appreciate that this operation was launched into what was—by several orders of magnitude—the most hostile enemy, low altitude air defense environment that friendly ground forces and their supporting helicopters have yet faced. The South Vietnamese were striking at the vitals of a determined and well-trained enemy in an area he had occupied and prepared for an extended period of time under adverse conditions of weather and hostile terrain.

Second, one must appreciate the magnitude of the air operations exposed to this threat. The fact that we only lost one-quarter of a helicopter per 1,000 sorties flown is a better indication of the capabilities of the helicopter to survive and carry out its mission in this and future operations than the loss figures considered in isolation.

Helicopter losses in this operation were somewhat—but not significantly—higher

than in earlier periods of intense combat, with the possible exception of the Ashau Valley campaign in the spring of 1968. One must realize that the loss of helicopters and the loss of other combat equipment and personnel can always be expected to vary with the intensity of combat.

Helicopters, including gunships, normally operate as an organic part of the ground force and are fully integrated with operations on the ground. Their survivability and effectiveness are dependent upon the very closest of coordination with maneuver and firepower of infantry, armor, and artillery weapons. This detailed coordination which has been so admirably achieved within the U.S. Army structure was understandably impeded, particularly in the heat of combat, by a language problem.

This language problem was, of course, the direct result of the lack of U.S. advisers with whom the Vietnamese divisions have long been accustomed to operate (although it is true that Airborne and Marine divisions had fought in Cambodia without accompanying U.S. advisers). In any case, the difficulties of communication between people fighting on the ground and those in the air providing fire and lift support reduced the effectiveness of the teamwork.

We learned some valuable lessons but the overall conclusion is that the helicopter played its most vital role effectively. Without it, the operation could not have achieved the success that it did. In fact, LAMSON 719—a penetration of 50 kilometres deep into an enemy stronghold—could not have been carried out in any other way.

*(Ed. Note: General Westmoreland's comments on helicopter vulnerability were prepared in answer to a question asked by a staff reporter of the ARMY TIMES, and were released for publication on April 9).*

---

In reply to a reporter's question, General William C. Westmoreland comments on LAMSON 719 and ...

## HELICOPTER VULNERABILITY

---

# Directorate

**L**AMSON 719, the Vietnamese Army operation which disrupted supply operations on the Ho Chi Minh Trail in Laos also should have impact on the ability of the North Vietnamese to continue operations in Cambodia and in the III and IV Corps areas in South Vietnam. We will be able to fully evaluate its impact in the fall at the end of the rainy season.

The helicopter losses in a heavy anti-aircraft environment are undergoing extensive analysis to determine the place of the helicopter in the higher intensities of warfare. Both joint and Army studies are under way to address doctrinal and organizational aspects of the Laos operation.

Initial Army analysis indicates that helicopter-delivered firepower was of considerable tactical value during the operation. The *Cobra* was able to hold its own with the other types of helicopters in the operation

despite the fact that the bulk of its mission time is spent searching for and attacking enemy targets.

More than half of the helicopter losses resulted from lift ships shot down in the landing zone or on short final or takeoff. This attests to the intensity of combat in the immediate vicinity of fire support bases. A number of losses occurred as the result of mortar fire in contested landing zones.

## Firsthand report

During one phase of the Laos operation *Lieutenant Colonel Bob Molinelli* came to Washington, fresh from commanding the 2d Squadron of the 17th Cavalry in Laos. As the officer in charge of aerial reconnaissance around the entire LAMSON operation, he had been dealing directly with U.S. XXIV Corps and ARVN I Corps headquarters, and the 1st ARVN and 1st ARVN Airborne Division headquarters, as well as being in the battlefield air space daily.

*Bob* spent more than thirty days in LAMSON 719 at the end of his year in command of the cavalry squadron. His credentials concerning helicopter capabilities and survivability are excellent. He was *Cobra* lead in the 114th Helicopter Company Gunship Platoon in 1965. That platoon, incidentally, gave its name to the current gunship. *Bob* worked on weaponization at Fort Rucker and later commanded the 3d Attack Company at Yuma prior to returning to Vietnam.

## Tank killings verified

Colonel Molinelli concludes that helicopters can operate in the high anti-aircraft environment and that they can effectively kill tanks. Criteria for destruction was very stringent. Only those tanks observed as blown up or on fire were considered destroyed. Those which had large pieces knocked off by rocket fire were considered to be damaged.

Rocket antitank warheads weigh only 6½

## LOOKING BACK ON

# AA IN LAOS: LAMSON 719

By Brigadier General  
**WILLIAM J. MADDUX, JR.**  
Director of Army Aviation,  
OACSFOR, DA



lbs and create their damage by blasting/melting a small hole through armor plate and creating a spalling effect inside the tanks. Damage from this type of attack is difficult to assess.

Colonel Molinelli indicated that one troop flew several times to Tchepone at nap-of-the-earth altitudes. The troop received substantial small arms damage but never lost an aircraft. Individual scout and gunship teams moved back and forth across this route for refueling many times a day. In fact, the average gunship pilot flew approximately 8 hours a day and sometimes peaked at 14 hours flight time per day. Four additional troops were attached to the squadron during a portion of the operation.

## TRICAP Division

As a means of consolidating the South Vietnam, Cambodia, and Laos experience, and translating it into force structure, organizations, and doctrine for the Army as a whole, the Army will convert the 1st Armored Division at Fort Hood into a test organization. This unit will be called **TRICAP**, for **TRiple CAPability**. The division will bear the colors and designations of the 1st Cavalry Division, which will be returned from Vietnam in time for a 5 May change of colors and command. Major General George W. Putnam will present the 1st Cavalry Division colors to Major General James C. Smith, former commander of the Hunter-Stewart Airfield complex.

The **TRICAP Division** will consist of an armored brigade, an airmobile infantry brigade, an air cavalry combat brigade, and such necessary combat and combat service support units. The division will test all three organizations plus a considerable amount of materiel. Testing will be accomplished under the direction of Major General George P. Seneff, Jr., of Project MASSTER (Mobile Army Sensor Systems Test Evaluation and Review), a special project to weigh doctrine concepts and materiel that might be used on future battlefields.

Throughout the formation and testing period personnel and equipment of the 1st Cav will be maintained in a high state of readiness

### BRIEFINGS? THERE WERE MANY!

LTC "Bob" Molinelli first briefed LTG Robert R. Williams, ACSFOR, on LAMSON 719, and many Defense officials thereafter. He briefed Dr. Kissinger at the White House, and then spoke with the Secretary of the Army, the Chief of Staff, and other members of the Army Staff. At DOD, he briefed Secretary of Defense Laird and Mr. Packard, the Deputy Secretary, as well as the Chairman of the Joint Chiefs, Admiral Moorer, and senior members of the Joint Staff.

Secretary Laird and Admiral Moorer then escorted LTC Molinelli to an executive session of the Senate Armed Services Committee which he addressed for about 30 minutes. He also spent nearly two hours with the DOD Subcommittee of the House Appropriations Committee.

He also spoke individually with Senators Ellender, Chairman of the Appropriations Committee, and Senator Young, Senior Minority Member of the same committee. Finally, he spoke with Senators Goldwater, Tower, MacIntyre, and Cannon of the Senate Armed Services Committee. The latter two are Subcommittee Chairmen who will consider the Cheyenne during this session of Congress. LTC Molinelli is on orders to the Air Cavalry Combat Brigade (ACCB) of the new experimental TRICAP Division, now forming at Ft. Hood, Tex.

—Editor

in the event it's called to meet NATO or other world-wide contingency commitments.

Considerable interest has been displayed by DOD officials and other members of the administration in this old/new test organization. It is felt that the Army is looking to the future aggressively and attempting to incorporate technological advances with its recent combat experience . . . And Army Aviation is in the forefront of this new concept.

## DOD Directive 5160.22

Department of Defense Directive 5160.22 is dead. (RIP) The directive was entitled, "Clarification of Roles and Missions of the Departments of the Army and Air Force Regarding the Use of Aircraft." DA Circular 310.13, which is a verbatim copy of the DOD Directive, also has been rescinded.

DOD Directive 5160.22 was issued in March of 1957 by Secretary of Defense Charles Wilson and imposed a number of limitations on Army aircraft to include a 5,000 lb. weight limitation for fixed-wing aircraft and a 20,000 lb. limitation on helicopters.

## LAMSON 719

(Continued from Page 9)

limitation for fixed-wing aircraft and a 20,000 lb. limitation on helicopters.

Principal other provisions were that the Army not provide aircraft for strategic or tactical airlift, tactical recon interdiction, or close air support. However, the Army was permitted to own and operate liaison, observation and aeromedical evacuation light aircraft within the combat zone. Deviations on these limitations, as well as weights, have been permitted on a case-by-case basis. In 1961 Secretary McNamara, in Congressional testimony, indicated that he intended to make decisions based on the merits of individual issues and that he was not utilizing the directive. The directive has been disregarded substantially since but has remained on the books. It now has been officially rescinded as part of the Secretary of Defense plan to abolish out-dated directives and paper work.

### Close air support

Research is considered important at this time because Mr. Packard, the Deputy Secretary of Defense, has stated that he will chair a review group to consider close air support. For purposes of the review, the Cheyenne, the Air Force conceptual aircraft, the A-X; and the Marine Corps Harrier V/STOL are considered to be close air support aircraft. In addition to Mr. Packard there are six members of the review group: Dr. John S. Foster, Jr., Director of Defense Research and Engineering (DDR&E); Dr. Gardiner L. Tucker, Assistant Secretary of Defense (Systems Analysis); General William L. Momyer, USAF; Vice Admiral John P. Weinle, J-5 of the JCS; Lieutenant General Robert R. Williams, USA; and Major General Homer S. Hill, USMC, Deputy for Air.

The first meeting of the review group was held 29 March and work is underway on four area scenarios to be utilized in the study. Completion is scheduled for 1 June with submission of the review group report to Congress on 14 June. The Cheyenne helicopter/A-X airplane issue also will be addressed by a special subcommittee of the Senate Armed

### ACCB

The air cavalry combat brigade (ACCB) is the third of the three major organizations proposed by General Hamilton H. Howze in 1963. The Army previously tested the 11th Air Assault Division and the 10th Air Transport Brigade, which preceded the deployment of the 1st Cavalry Division to Vietnam. The organization and structure of the ACCB will be formed around an aerially-mounted combined arms team of attack helicopters, air cavalry, airborne infantry, and supporting signal and engineers. The brigade is designed to be capable of independent operations.

Services Committee. Senator Cannon, who normally heads the Tactical Air Warfare Subcommittee, has been named by Chairman Stennis to the special subcommittee. This group probably will await the report of the Packard group before it begins deliberations.

In any case, the Aviation Directorate is in direct support of General Williams and will be almost totally committed to preparing the Army positions. I have been designated by General Williams to convene a special study group which will operate in parallel with the Aviation Directorate.

A third group looking into the same issue is a team from the General Accounting Office (GAO). The Directorate briefed the ten-man team in November and has provided constant input to the GAO effort. Members of the GAO team recently visited Hunter Army Airfield, Fort Rucker, Fort Benning, Fort Hood, Fort Knox, Fort Leavenworth and Yuma Proving Ground.

The two senior members of the team also have made trips to Europe and to Southeast Asia to evaluate Army requirements for close air support and its own organic attack helicopters. Lieutenant Colonel Jim Hegdahl, of this Directorate, has accompanied the traveling parties. This study effort also is to be completed about 1 June.

While at Fort Leavenworth the GAO team was briefed by non-aviators on the particular need of the Army for attack helicopters. I consider the points made by the Fort Leavenworth staff to be worthy of inclusion in this column. They were:

- The desire of the ground commander to talk to the "guy pulling the trigger" for close in fires, rather than working through a FAC.

(Continued on Page 12)



It's our now-famous Projected Map System, one of the first major avionics equipment to pass rigorous reliability demonstration and qualification testing for LTV Aerospace Corporation's Corsair II aircraft.

Backed by well over 50,000 flight hours, PMS is in action right now aboard the U.S. Navy's A-7E. There, it's cutting pilot work load to a minimum. It's boosting pilot confidence. Boosting mission flexibility, too. It's even making in-flight target reassignments easier.

All of which makes our PMS the most effective interface between pilot and navigation system ever devised.

Just ask the boys who fly the A-7E attack fighters. They won't leave the deck without us.

For details on our PMS, write to: Avionics Marketing, P.O. Box 508, Ottawa 4, Canada.

**If your avionics system just passed the reliability demonstration for the A-7D/E, could you keep it a secret?**



See us in the Canadian Pavilion —  
Paris Air Show

**Computing Devices  
of Canada Limited**  
a subsidiary of

**CONTROL DATA  
CORPORATION**

P.O. Box 508 • Ottawa 4 • Ontario • Canada



## LAMSON 719

(Continued from Page 10)

- The ability of a pair of gunships to provide continuous fire on a target without the break in fire associated with fixed wing aircraft.
- The ability of attack helicopter pilots to have "eyeball contact" with the enemy.
- The rapid response of attack helicopters.
- The ability to employ attack helicopters and artillery close together.
- The need for gunships to deliver discriminatory fires close to friendly troops because of the enemy's tactic of "bugging" friendly forces when close air support is called in.
- The importance of the ground commander and the pilot speaking "the same language" and the improved teamwork and mutual support that results when one aviation unit habitually supports one ground unit.
- The heightened sense of urgency and dedication that the Army pilot feels for his fellow "green suiters," — the team effort.
- The night and all-weather capability of the attack helicopter.
- The old concept of the "infantry-armor-artillery" team relationship has been changed in Vietnam to the "infantry-armor-artillery-Army Aviation" team.

### Army Aviation Program Review

In 1968 General Westmoreland directed that program reviews be conducted annually at a number of school and branch centers. The second Army Aviation review was conducted at Fort Rucker a year ago, and a third review was scheduled for this April.

However, because of reduced funds and the possibilities offered by consolidating certain reviews, this year's session will be held in conjunction with the Infantry review. The new schedule calls for the review to be

Have you an interesting Army Aviation anecdote or episode to pass along? A humorous incident or a hairy flight experience? Get it down on paper in 400 words or less and send it in to ARMY AVIATION . . . We'll reimburse you at 5¢ a word!



WASHINGTON, D.C. — Brigadier General William J. Maddox, Jr., (right), Director of Army Aviation, OACSFOR, DA, is shown swearing in his son, William J., IV, in the Aviation Warrant Officer Candidate Program . . . The newest father-son combination in Army Aviation. (USA photo)

held at Fort Benning on 14 and 15 September. I will cover this subject at greater length in future newsletters because the major problem areas in aviation will be addressed and given high level attention.

In the meantime, an AUSA symposium on STANO and Project MASSTER was conducted at Fort Hood, Texas 18-20 April. The symposium considered STANO (Surveillance Target Acquisition and Night Observation) and the organizational testing related to TRICAP discussed above. General Seneff, of Project MASSTER, presented a 45-minute helicopter demonstration centering on the training and testing of air cavalry organizations now under way.

### AAAA/Garmisch

The Laos operation and the Staff requirements which it generated kept me from making my scheduled visit to Europe the first week in March. I had looked forward eagerly to discussing aviation problems in Europe and, in particular, to meeting the aviation community at Garmisch during the AAAA regional convention. Lieutenant Colonel Hegdahl, who accompanied the GAO team to Europe, delivered my talk and noted the large and enthusiastic gathering. Colonel O. B. Butler, President of the AAAA's USAREUR Region, is to be commended for a fine turnout.

Best wishes for safe operations!

# Opinion

**R**OTATION base, Cadre base, or whatever, the Aircraft Maintenance Brigade at Hunter AAF is a unique organization that happily employs military aircraft maintenance mechanics at their chosen occupation — repairing fixed and rotary wing aircraft.

At a time when everyone in the chain of command would like to see a volunteer Army, the Maintenance Brigade at Hunter AAF is achieving many of these objectives now!

*First*, we provide a rotational base for filling worldwide aircraft mechanic requirements. *Second*, we maintain the skills of the aircraft mechanic and maintain an excellent cadre base of personnel in the Direct and General Support skills. In fact, we have the capability of accomplishing Depot level maintenance work, limited only by the tools on hand or obtainable, and authority to do the work.

*Third*, we have always accomplished the mission, never failing to provide the aircraft

**ARMY AVIATION** reader-subscribers are encouraged to present their viewpoints on any area related to Army Aviation. The writer's name will be withheld on his request.

necessary to insure timely graduation of all students at the USAAVNS Element. *Last but not least*, we provide support to the VOLAR concept. We have continually led the post in re-enlistments, despite a general feeling that this would be impossible due to the market in civilian life for the aircraft maintenance skills.

We would like to put in our *bid* for maintenance contracts offered in the Army. We have proved that it can be done over the past three-plus years and we have done it with possibly the *oldest* fleet of UH-1's and Cobra's currently in the Army's inventory.

## Cost is prime factor

The major argument against military maintenance is the cost. Of course, the costs on paper look greater and we concede the fact that we don't have the inherent profit incentive for maximum maintenance at minimum cost. However, we do have our *pride* in the full knowledge that we can do the job, efficiently and effectively and that we do not have to argue over the legal merits of an additional inspection and the added labor costs that may accrue.

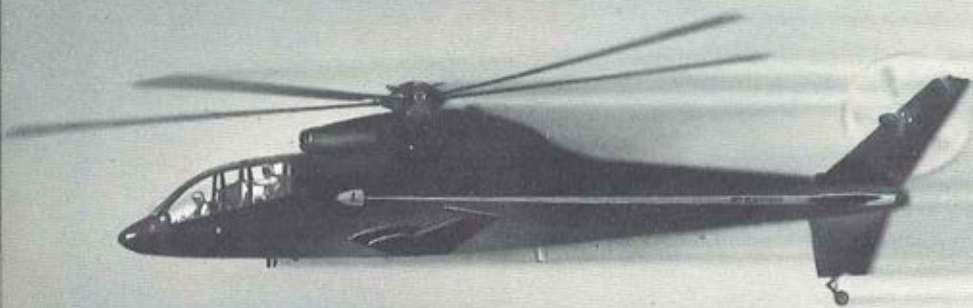
Costs, in the eyes of the Government watchdogs, are most important and appear on the surface to be much greater at a military facility than at a civilian contract maintenance facility. This factor has placed much of the CONUS Direct and General Support — and almost all of the Depot level effort for aircraft maintenance — in the hands of civilian contractors.

This circumstance normally excludes the military man when he arrives at a post, tool box in hand, and finds that he must work at something other than aircraft maintenance in order to work at all. This is not true every-

(Continued on Page 16)

# Use G.I. talent.

**A BID FOR ARMY MAINTENANCE  
BY LTC HOWARD J. TUGGEY  
AIRCRAFT MAINTENANCE BDE  
HUNTER AAF, GA.**





# Blackhawk™ sets speed record.

Sikorsky's S-67 Blackhawk, the low-cost helicopter gunship, is also the world's fastest helicopter. On December 19, 1970, it streaked to an official record, attaining 220.6 mph over a 15-25 kilometer course.

That's a good sign in a winged helicopter that must get in and out of the action quickly. But not so surprising when you consider some of its design innovations:

An airplane-type vertical fin and movable horizontal stabilizer. Swept-back rotor tips. A streamlined fairing over the rotor head. An overall slim, tapered silhouette. Wing-mounted speed brakes.

Speed is only one dividend of this far-advanced helicopter. Twin-turbine survivability is another. Agility is still another: it can out-manuever aircraft half its size while

carrying weapons fully equal to Army mission requirements. It has already performed the Split S and developed over 3 Gs in a turn.

Yet the Blackhawk costs substantially less than competitive systems. Why? Simplicity of design. Which also means easier, cheaper maintenance.

It has fully qualified power and rotor systems, taken directly from the versatile S-61 series, which have almost 1½ million flight hours, and have been used by military and civilian operators, astronauts and presidents.

The Blackhawk. A gunship combining proven technology and components with imaginative innovations. Built with company funds, demonstrating that it could be done at lower cost, on a "fly before you buy" basis.

**Sikorsky Aircraft**

DIVISION OF UNITED AIRCRAFT CORPORATION



## G.I. TALENT!

(Continued from Page 13)

where, but examples of support shops where we do find this are at Ft Rucker, Ala., Ft Eustis, Va., Atlanta General Depot, and ARADMAC at Corpus Christi, Texas, to name a few. These are fine contracts in the main, and provide continuity and quality that a frequently displaced GI may not provide. Costs, however, must be evaluated in relationship to the benefits.

### A critical shortage ...

If we ever learn a *lesson*, we must learn that we are faced in every critical situation with a shortage of qualified, deployable military aircraft mechanics. The civilian is not readily movable and we in the service are faced with a slow re-training cycle in getting additional mechanics ready for duty in the four corners of the earth.

We have been able to get civilian contractors to come in and take up some of the slack in these combat areas, but that is another story in costs when we try to maintain civilians in a hostile environment.

Aircraft are becoming increasingly more complicated, requiring experienced, qualified aircraft mechanics who can pick up and go

### AVAAAAAST!

ST. LOUIS, MO. — It may not be a seafaring organization, but the Lindbergh Chapter of the Army Aviation Ass'n (AAAA) can lay claim to having one member with a good set of sea legs.

He is Rear Admiral Russell R. Waesche, commander of the Second Coast Guard District, who recently joined the local AAAA chapter. As Carl D. Stephenson, Chapter president, puts it, "We're proud to have the Admiral aboard!"

when the whistle is blown. We must have the inherent capability to train others and that capability can only be kept up-to-date by working on aircraft and keeping current with the latest changes in technical publications.

At Hunter AAF, we have the demonstrated potential for doing now and in the future, just what the Army has failed to do in the past. We can maintain a skill base of aircraft maintenance experience who can do the Army's job and insure that qualified men are available to meet future contingencies. There are, of course, other units that can provide some of this capability, but in the higher skills, in the 68 MOS series and supervisory and technical inspection MOS's, we too often fail to provide these men with a mission.

Recalling complaints in the past from men in a TO&E General Support company stationed at an Army Depot, they said that they were performing duties that rarely involved aircraft maintenance. It is unthinkable that we would relegate the soldier to such a position and, in the same breath, talk about an all-volunteer Army.

### \$ Millions for re-training

As to costs — we spend millions of dollars at Ft. Rucker and Ft. Eustis annually, training and retraining personnel whom we seem to be hard-pressed to retain. Here at Hunter, we do the best job of retaining personnel on the post, despite workloads and hours that would defy retaining men in the service, regardless of the urgency of the country's situation. Our units have consistently led the post in re-enlistments and we must say that job satisfaction has to rate high on the list as a significant factor.

In the Maintenance Brigade, the enlisted  
(Continued on Page 28)

### POW YEARS RECALLED



MAJ James N. Rowe (2d from left), a prisoner of the Viet Cong for five years, was guest speaker at the March 71 meeting of AAAA's Army Aviation Center Chapter. He's shown with, l-r, MG Delk M. Oden, Ret., Senior VP, AAAA; MG Allen M. Burdett, Jr., Ft Rucker's CG and National Member-at-Large, AAAA National Executive Board; and COL Sidney W. Achee, Chapter President of AAAA's largest membership activity.



# Win one of 113 prizes in AAAA's 1971 Sweepstake



Win a lavish holiday in  
the Nation's Capital or  
anywhere in CONUS!\*



WIN YOUR OWN SET OF THREE TO 16 MODELS  
OF ARMY FIXED AND ROTARY WING AIRCRAFT!



# 1971 AAAA SWEEPSTAKES

SEVEN DRAWINGS! NO PURCHASE NECESSARY!  
ENROLL ONE NEW AAAA MEMBER TO QUALIFY!



#### BONUS!

All Sweepstakes Coupons not drawn in the "First AAAA Sweepstakes" will automatically be entered in the two "Second AAAA Sweepstakes" drawings to be held on Aug. 13 and 27.

#### "FIRST AAAA SWEEPSTAKES"

Five chances to win! Sign up **ONE** new AAAA member before July 1, using the AAAA application form on page 4, and enter your own Sweepstakes Coupon #1 for Model Set A (Lockheed AH-56 Cheyenne, Hughes OH-6 Cayuse, and Grumman OV-1 Mohawk) **OR** Coupon #2 for Set C (Beech U-21, Cessna T-41, and Bell AH-1G Cobra). The drawing for Set A will be held in Los Angeles on July 15 with a separate drawing for the Set C models to be held in Wichita, Kan. on July 29. Note the "Bonus" box at the left for **third** and **fourth** chances to win on one entry! Your coupon will also be entered in the '71 Grand Sweepstakes! A **fifth** chance!

#### "SECOND AAAA SWEEPSTAKES"

Three chances to win! Sign up **ONE** new AAAA member before Aug. 1, using the AAAA application form on page 4, and enter your own Sweepstakes Coupon #1 for Model Sets A plus B (Sikorsky CH-54 Crane, Bell OH-58 Kiowa, and Beech T-42, plus three-model Set A), **OR** Coupon #2 for Sets C plus D (Boeing CH-47 Chinook, Bell UH-1D Iroquois, and Hughes TH-55, plus three-model Set C). The drawing for the six-model fleet (Sets A and B) will be held at Bethpage, L.I., on Aug. 13 with another drawing for the Set C and D six-model fleet to be held in Philadelphia on Aug. 27. Note the "Bonus" box at the right for your **third** chance to win!



#### BONUS!

All Sweepstakes Coupons not drawn in the "Second AAAA Sweepstakes" will automatically be entered in the Oct. 1 drawing of the "Grand Sweepstakes." See p. 7 for full prize list!

### "THIRD AAAA SWEEPSTAKES"

Three chances to win! Sign up a **SECOND** new AAAA member before September 1 using the membership application form on the reverse side, and enter your own Sweepstakes' **Coupon #3** in the "Third AAAA Sweepstakes" for the **SIXTEEN-MODEL FLEET** of Army aircraft appearing on page 5. **The entire set is YOURS!** . . . A preliminary drawing will be held in Ft. Worth, Tex., on September 15 to select six coupons with the names of the three finalists to be entered in the "Fourth AAAA Sweepstakes" drawing to be held at the 13th AAAA Annual Meeting in Washington, D.C., on October 14. Sweepstakes Finalists need not be present to win.

### GENERAL RULES

No purchase is required. An AAAA member may submit as many entries as he wishes, but may only win one set of model aircraft. Entrants must be AAAA members at time of entry. All Federal, State, and Local regulations apply and entry void where prohibited by law. Sweepstakes' entry constitutes full permission to publish names, addresses, and photos of winners without further compensation. Entrants must be at least 18 years old.

### EASY TO ENTER!

Select Coupon #1 OR Coupon #2 on Page 6, complete it and submit it as your entry in the drawings for the "First, Second, and Grand AAAA Sweepstakes." Have your new member complete the remaining coupon (#1 or #2) as his entry in the "Grand AAAA Sweepstakes," and an AAAA application form on the reverse side, and submit both with his annual dues on or before the July 1 or the Aug. 1 closing dates.

### EXTRA BLANKS

This complete "Sweepstakes" leaflet will appear as a centerfold insert in both the May and the June, 1971 issue.

### "FOURTH AAAA SWEEPSTAKES"

Three chances to win! Sign up a **SECOND** new AAAA member before September 1 using the membership application form on the reverse side, and enter your own Sweepstakes' **Coupon #3** in the "Fourth AAAA Sweepstakes" for the **FLEET OF 16 MODELS** of Army aircraft that are shown on page 5. **You win the entire set!** . . . A preliminary drawing will be held in Fort Worth, Tex. on September 15 to select three finalists. Their coupons will be entered in the drawing for the "Fourth AAAA Sweepstakes" to be held at the AAAA's 13th Annual Meeting in the Sheraton-Park Hotel, Washington, D.C., October 14. Enter an additional coupon for each NEW member enrolled in excess of the first two! Enter as often as you wish!

### "AAAA GRAND SWEEPSTAKES"

Your **THIRD** chance to win, if you enroll **ONE** new member in AAAA . . . Entries of non-winners in the First and Second AAAA Sweepstakes will automatically be entered in the AAAA Grand Sweepstakes! . . . and to assist you in enrolling that ONE member, the latter may complete the coupon you do not use (#1 or #2) and we'll enter it for him in the Grand Sweepstakes, too . . . See page 7!







## ARMY AVIATION ASSOCIATION

1 Crestwood Road, Westport, Conn. 06880

I wish to become a member of the Army Aviation Association of America (AAAA). My past or current duties affiliate me with Army Aviation and I wish to further the aims and purposes of AAAA. I certify that I am a citizen of the U.S., and understand that the annual membership fee of \$8 includes an annual subscription to ARMY AVIATION MAGAZINE. I've made my check payable to the "AAAA."

Print Name \_\_\_\_\_ Rank \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

### CATEGORY OF AAAA MEMBERSHIP

- |  |   |
|--|---|
| <input type="checkbox"/> U.S. Government | <input type="checkbox"/> Aerospace Industry |
| <input type="checkbox"/> USA Active      | <input type="checkbox"/> Administration     |
| <input type="checkbox"/> Duty            | <input type="checkbox"/> Marketing          |
| <input type="checkbox"/> USA Civilian    | <input type="checkbox"/> Engineering        |
| <input type="checkbox"/> Army National   | <input type="checkbox"/> Manufacturing      |
| <input type="checkbox"/> Guard           | <input type="checkbox"/> R & D              |
| <input type="checkbox"/> Army Reserve    | <input type="checkbox"/> News Media         |
| <input type="checkbox"/> Army Retired    |   |
| <input type="checkbox"/> Other Services  |   |

- ☐ New Membership ☐ \$15 (2-Yr. Memb)  
☐ \$2 (Initiation Fee) ☐ \$8 (1-Yr. Memb)

The initiation fee applies to the applicant's first year membership only, and covers the one-time issue of a personal lapel pin and a membership decal. The individual membership will become effective on the first day of the month after the month of application.

**A Special Award for the Top Recruiter**  
**A JOSTEN'S ARMY AVIATION RING, WITH A VALUE OF**  
**\$52.50, AND A NEW JOSTEN'S MINIATURE ARMY AVIA-**  
**TION RING, VALUE \$38.00, FOR THE WINNER'S LADY!**



## ARMY AVIATION ASSOCIATION

1 Crestwood Road, Westport, Conn. 06880

I wish to become a member of the Army Aviation Association of America (AAAA). My past or current duties affiliate me with Army Aviation and I wish to further the aims and purposes of AAAA. I certify that I am a citizen of the U.S., and understand that the annual membership fee of \$8 includes an annual subscription to ARMY AVIATION MAGAZINE. I've made my check payable to the "AAAA."

Print Name \_\_\_\_\_ Rank \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

### CATEGORY OF AAAA MEMBERSHIP

- |  |   |
|--|---|
| <input type="checkbox"/> U.S. Government | <input type="checkbox"/> Aerospace Industry |
| <input type="checkbox"/> USA Active      | <input type="checkbox"/> Administration     |
| <input type="checkbox"/> Duty            | <input type="checkbox"/> Marketing          |
| <input type="checkbox"/> USA Civilian    | <input type="checkbox"/> Engineering        |
| <input type="checkbox"/> Army National   | <input type="checkbox"/> Manufacturing      |
| <input type="checkbox"/> Guard           | <input type="checkbox"/> R & D              |
| <input type="checkbox"/> Army Reserve    | <input type="checkbox"/> News Media         |
| <input type="checkbox"/> Army Retired    |   |
| <input type="checkbox"/> Other Services  |   |

- ☐ New Membership ☐ \$15 (2-Yr. Memb)  
☐ \$2 (Initiation Fee) ☐ \$8 (1-Yr. Memb)

The initiation fee applies to the applicant's first year membership only, and covers the one-time issue of a personal lapel pin and a membership decal. The individual membership will become effective on the first day of the month after the month of application.



## ARMY AVIATION ASSOCIATION

1 Crestwood Road, Westport, Conn. 06880

I wish to become a member of the Army Aviation Association of America (AAAA). My past or current duties affiliate me with Army Aviation and I wish to further the aims and purposes of AAAA. I certify that I am a citizen of the U.S., and understand that the annual membership fee of \$8 includes an annual subscription to ARMY AVIATION MAGAZINE. I've made my check payable to the "AAAA."

Print Name \_\_\_\_\_ Rank \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

### CATEGORY OF AAAA MEMBERSHIP

- |  |   |
|--|---|
| <input type="checkbox"/> U.S. Government | <input type="checkbox"/> Aerospace Industry |
| <input type="checkbox"/> USA Active      | <input type="checkbox"/> Administration     |
| <input type="checkbox"/> Duty            | <input type="checkbox"/> Marketing          |
| <input type="checkbox"/> USA Civilian    | <input type="checkbox"/> Engineering        |
| <input type="checkbox"/> Army National   | <input type="checkbox"/> Manufacturing      |
| <input type="checkbox"/> Guard           | <input type="checkbox"/> R & D              |
| <input type="checkbox"/> Army Reserve    | <input type="checkbox"/> News Media         |
| <input type="checkbox"/> Army Retired    |   |
| <input type="checkbox"/> Other Services  |   |

- ☐ New Membership ☐ \$15 (2-Yr. Memb)  
☐ \$2 (Initiation Fee) ☐ \$8 (1-Yr. Memb)

The initiation fee applies to the applicant's first year membership only, and covers the one-time issue of a personal lapel pin and a membership decal. The individual membership will become effective on the first day of the month after the month of application.

1971 AAAA SWEEPSTAKES #1

1971 AAAA SWEEPSTAKES #2

1971 AAAA SWEEPSTAKES #3





**FIRST AAAA SWEEPSTAKES  
SET A — THREE MODELS**

**HUGHES  
OH-6  
CAYUSE**

**LOCKHEED  
AH-56  
CHEYENNE**

**SECOND AAAA SWEEPSTAKES  
SIX MODELS (A + B)**

**SIKORSKY  
CH-54  
CRANE**

**BEECH  
T-42**

**3-MODEL  
SET "A"**

**GRUMMAN  
OV-1  
MOHAWK**

**BELL  
OH-58  
KIOWA**

**3-MODEL  
SET "B"**

**COUPON 1**



**FIRST AAAA SWEEPSTAKES  
SET C — THREE MODELS**

**BELL  
AH-1G  
COBRA**

**BEECH  
U-21**

**SECOND AAAA SWEEPSTAKES  
SIX MODELS (C + D)**

**BOEING  
CH-47  
CHINOOK**

**BELL  
UH-1D  
IROQUOIS**

**3-MODEL  
SET "C"**

**CESSNA  
T-41**

**HUGHES  
TH-55**

**3-MODEL  
SET "D"**

**COUPON 2**



**THIRD-FOURTH AAAA SWEEPSTAKES  
COMPLETE SET OF 16 MODELS SHOWN ON THIS PAGE!**

**3-MODEL  
SET "A"**

**DeHAVILLAND  
CV-7  
BUFFALO**

**3-MODEL  
SET "C"**

**BELL  
UH-1B  
IROQUOIS**

**CESSNA  
O-1  
BIRD DOG**

**3-MODEL  
SET "B"**

**LOCKHEED  
YO-3A**

**3-MODEL  
SET "D"**

**COUPON 3**



## 1971 AAAA SWEEPSTAKES

c/o AAAA, 1 Crestwood Road, Westport, Conn. 06880

As a member of AAAA and in accordance with the Sweepstakes' general rules, I wish to enter this coupon in the FIRST and the SECOND AAAA SWEEPSTAKES' drawings for Aircraft Model Sets A and B shown on the reverse side. I have enclosed the membership application form and the first year annual dues of a new AAAA member to qualify this coupon for the several Sweepstakes' drawings. I understand that this coupon will also be entered in the GRAND SWEEPSTAKES.

Print Name \_\_\_\_\_ Rank \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

**COUPON #1 — SETS A AND B**  
Entries postmarked in June and received at AAAA on or before July 1 will be entered in July 15, July 29, Aug. 13, Aug. 27, and September 15 Sweepstakes' drawings. Entries postmarked in July and received at AAAA on or before Aug. 1 will be entered in the AAAA Sweepstakes drawings held on Aug. 13 and 27, and September 15.

### GENERAL RULES

No purchase is necessary. A person may submit as many entries as he wishes, but only one "Sweepstakes" set of models will be provided to a winner. Entrants must be AAAA members at the time of entry. Renewals of April, 1970–September 1971 memberships are not considered as "new memberships."



## 1971 AAAA SWEEPSTAKES

c/o AAAA, 1 Crestwood Road, Westport, Conn. 06880

As a member of AAAA and in accordance with the Sweepstakes' general rules, I wish to enter this coupon in the FIRST and the SECOND AAAA SWEEPSTAKES' drawings for Aircraft Model Sets C and D shown on the reverse side. I have enclosed the membership application form and the first year annual dues of a new AAAA member to qualify this coupon for the several Sweepstakes' drawings. I understand that this coupon will also be entered in the GRAND SWEEPSTAKES.

Print Name \_\_\_\_\_ Rank \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

**COUPON #2 — SETS C AND D**  
Entries postmarked in June and received at AAAA on or before July 1 will be entered in July 15, July 29, Aug. 13, Aug. 27, and September 15 Sweepstakes' drawings. Entries postmarked in July and received at AAAA on or before Aug. 1 will be entered in the AAAA Sweepstakes drawings held on Aug. 13 and 27, and September 15.

### GENERAL RULES

Additional "AAAA Sweepstakes" leaflets/forms provided on request, or a same-size facsimile may be used. Payment of taxes on prizes is the responsibility of the winner, not the AAAA. All Federal, State, and Local regulations apply. Deliveries of model aircraft to be made by the AAAA starting Nov. 1, 1971.



## 1971 AAAA SWEEPSTAKES

c/o AAAA, 1 Crestwood Road, Westport, Conn. 06880

As a member of AAAA and in accordance with the Sweepstakes' general rules, I wish to enter this coupon in the THIRD and the FOURTH AAAA SWEEPSTAKES' drawings for one set of all the models shown on the reverse side. I have enclosed the membership application form and the first year annual dues of a SECOND new AAAA member to qualify this coupon for the several Sweepstakes' drawings. I understand that this coupon will also be entered in the GRAND SWEEPSTAKES.

Print Name \_\_\_\_\_ Rank \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

**COUPON #3 — FULL 16-MODEL SET**  
Entries postmarked during April–August and received at AAAA on or before Sept. 1 will be entered in the Sept. 15 drawing for the "Third AAAA Sweepstakes," with the Sept. 15 finalists to compete in the Oct. 14 "Fifth AAAA Sweepstakes." This coupon may only be submitted when forwarding a second or add'l new AAAA membership.

### GENERAL RULES

AAAA is not responsible for any damage incurred in the shipment of "Sweepstakes" models or prizes, or for the replacement of models that are damaged. A list of all winner's names and addresses will be published in the Nov., 1971 issue of ARMY AVIATION.



Win a lavish holiday in  
the Nation's Capital or  
anywhere in CONUS!\*

# AAAA's 1971 Grand Sweepstakes!



Three winners!

Open to those enrolling one new AAAA member during April-September, 1971  
and to the new AAAA member with his enrollment.

ROUND-TRIP, FIRST CLASS AIR TRANSPORTATION ON  
AMERICAN AIRLINES FOR TWO FROM ANYWHERE IN  
CONUS TO WASHINGTON, D.C., DURING OCT. 13-16!\*



TWIN BEDROOM ACCOMMODATIONS IN WASHINGTON,  
D.C.'S ALL-NEW SHERATON-PARK HOTEL DURING  
AAAA'S '71 ANNUAL MEETING — 4 DAYS, 3 NIGHTS!\*

A NEW PLYMOUTH FROM AVIS RENT-A-CAR, THE  
AAAA'S OFFICIAL CONVENTION RENT-A-CAR FIRM,  
DURING YOUR OCTOBER 13-16 STAY IN WASHINGTON!

**AVIS**



COMPLIMENTARY GUEST TICKETS FOR TWO TO ALL  
1971 AAAA ANNUAL MEETING FUNCTIONS, INCLUDING  
REGISTRATION, THREE RECEPTIONS, THREE LUNCHEONS!

AN AUTOGRAPHED COPY OF "THE WINGED  
S", THE AUTOBIOGRAPHY OF IGOR I. SIKORSKY, AVIA-  
TION PIONEER AND DESIGNER OF V/STOL AIRCRAFT.



GUEST DINNERS FOR TWO AT TWO OF WASHINGTON,  
D.C.'S FINEST RESTAURANTS — THE JOCKEY CLUB  
AND THE CHAPPARAL DURING OCTOBER 13-15!

## ALTERNATE HOLIDAY — SECOND AND THIRD PRIZES!

The 1st Runner-Up will receive guest tickets to all '71 Convention functions; the 2d Runner-Up will receive a ten-volume "Decade of Air-mobility" set of bound volumes of ARMY AVIATION covering the 1960-1970 period. \*Winner may use round trip, first class space for two on American Airlines between any two points

in CONUS served by American Airlines during the period Oct. 1, 1971-Sept. 30, 1972. Tickets are non-transferable, non-negotiable, and not for use on any other carrier. \*\*Winner may use twin bedroom accommodations for three nights at any Sheraton Hotel or Motor Inn in CONUS during Oct. 1, 1971-Sept. 30, 1972.





# AAAA's 1971 Sweepstakes!



**AVIS**

**Cessna**



**GRUMMAN**

**LOCKHEED**  
LOCKHEED AIRCRAFT CORPORATION

**Hughes Helicopters**



**Army  
Aviation**

**BOEING HELICOPTERS**

**113  
34  
21  
16  
7  
5  
1**

individual 1971 Sweepstakes' prizes!

models of U.S. Army aircraft as prizes!

separate 1971 AAAA Sweepstakes' winners!

model fleet of Army aircraft to one winner!

chances to win individual prizes!

month period in which to enter the Sweeps!

new AAAA member to enroll to qualify!

## Plus...the '71 Grand Sweepstake Prize!

Fly to and from a lavish, four-day holiday for two on American Airlines' new 747 LuxuryLiner . . . Enjoy first class, round-trip accommodations to the Nation's Capital during the Oct. 13-16 AAAA Convention, or fly anywhere on American Airlines' system during Oct. 1971-Spt. 1972 to a vacation spot of your choice! . . . In Washington, stay at the all-new Sheraton-Park Hotel during AAAA's 1971 Convention, or at any Sheraton Hotel or Motor Inn within the year! . . . See Washington, D.C.'s sites in a brand new Plymouth Avis Rent A Car! . . . Dine at two of Washington's most popular restaurants, the Jockey Club and Blackie's . . . See Page 7 for additional details!



**Beech**



**AA**



## MAN-POWERED

*Continued from Page 6*

like cheating. Anything will fly — for a time — if it finds itself in mid-air.

In 1961, an English machine (*Southampton*) which weighed about 130 pounds empty, was flown by a man who weighed 140. He, without outside assistance, got the whole package into the air. In 1962, a man named John Wimpenny got himself airborne and remained so for about two minutes and 995 yards. His machine, the *Hatfield Mark I*, weighed about 250 pounds when he began his takeoff run. He probably lost a pound or two going down the runway. Since then, the *Hatfield Mark II* has been flown, but its pilot was unable to crack the Wimpenny record.

### U.S. unsuccessful

Japan and Canada have each designed and built machines. The former, known as the *Linnet*, has successfully flown. The U.S. does not appear to have conducted a successful flight during the past decade despite the efforts of Dr. Lippisch and Jonathan Mead (1963-1964) and the present interest of Professor Harper at the Georgia Institute of Technology and John H. McMasters, a PhD candidate at Purdue. The U.S.S.R. has apparently been busy with other things, but may well have flown since the English last flight of 1968.

That's *who* is interested in man-powered flight. Now comes the difficult question: *Why?*

It could be because there is a prize. In 1959, Mr. Harry Kremer offered £5000 to the first Englishman who would man-power a flying machine in a figure-eight path around two pylons placed a half-mile apart. An interested group associated with the Royal Aeronautical Society offered an equal sum to assist a worthy designer/builder.

In 1967, Mr. Kremer doubled the ante and made it available to all nationalities. The offer is still open — and unwon. The British Royal Aeronautical Society which now administers the fund, is proposing a review of the rules on December 31, 1973. Time's a'wasting.

However, what with taxes and inflation, it is doubtful that \$24,000 is sufficient incentive

### ABOUT THE AUTHOR

Morris G. Rawlings, a frequent contributor to ARMY AVIATION, is a retired lieutenant colonel and former Senior Army Aviator, who admits to "being a bit too old to do the flap wing bit off the garage roof."

to pull nations into competition or cooperation. *Golfers do better.*

Perhaps, at least for the United States, our interest in reducing the environmental pollution will furnish the needed enthusiasm. According to Senator Proxmire (Page S 12472, *Congressional Record*, July 30), the Defense Department with its ships, planes, and surface vehicles is responsible for 80% of the pollution which the U.S. spreads around the world. Our 26,000 military aircraft (same reference, same speaker, same speech), most of which burn some form of kerosene, do cause the emission of hydrocarbons into the upper air.

### Man sweat as pollutant

Of course, these particles return to earth during the next local rainfall, but in the meantime they are no doubt offensive to flying birds and other passing air vehicles. It is possible that man sweat would be less offensive than processed animal oil — it is certain to be found in smaller quantities!

Still, the opportunity to reduce the atmospheric dropout by .003 percent through the grounding of 26,000 aircraft's engines is hardly adequate reason for building a new fleet of flitters — no matter how much the Department of Defense would like to please Senator Proxmire. There *must* be other reasons. Perhaps the proponents of man-powered aircraft simply wish to improve the efficiency of the human engine. It could stand improvement.

As you know, the immediate source of energy to motivate the muscles is the hydrolysis of compounds to form a useful chemical. Our storage battery, like those of automobiles, stores just enough energy to get us started on some of these lousy mornings. The continuing supply of energy is dependent upon the oxidation of foodstuffs, which means that without oxygen the mass of muscle just lies there.

There's quite an involved system used in



## MAN-POWERED

*Continued from Page 25*

assimilating the oxygen; from the lungs to the bloodstream, along complicated routings through varied channels to the point of need, and a considerable delay while the chemical changes take place at destination. The upshot of the whole thing is that we begin work with a small store of energy and replace the stuff as we go along. If we outrun the system, we become too pooped to proceed.

### Horses we ain't!

Exhaustive research (sorry) conducted by Mr. B. S. Shenstone, Honorary Fellow of the Royal Aeronautical Society, as published in the *Aeronautical Journal* of August 1968, averages out these capabilities to:

- (1) .6 horsepower for .6 minutes to deplete the battery, plus
- (2) .475-.500 horsepower for 25 minutes to use up the resupply.

Champion athletes, of course, do better, longer. One champion cyclist, for example, was still putting out .500 horsepower at the end of an hour after having drained his battery

of 1.2 horsepower during the first 36 seconds.

Two things are rather startling about this effort. First, the champion lost this particular race, which seems to imply that the winner was either accomplished at cheating or that he was more adept at getting great output from little input. Second, despite an effort twice as good as the average, the champion was still only 20-25% efficient in his use of chemical energy. His work output, measured in horsepower equivalents, was only an approximate one-fourth of the amount contained in the chemical energy he used.

*Changing breakfast cereals won't help!*

### No change foreseen

These deficiencies of the human engine may someday be the subject of a Congressional investigation, the results of which could aid the development of a truly cost-effective American myth or mythter. Meanwhile, Army Aviators and others who fly will continue to have a roaring in their ears. That isn't too bad. Today's noise is a recognized evil and, in some ways, a comforting sound. Man-powered engine noise will be less recognizable, less comforting, and it may even be frightening.

Who knows how a man in labor will sound?

## Mobile Training Team Ends In-Country Maintenance Instruction

FT. EUSTIS, VA. — A 27-man Mobile Training Team has returned home from the Republic of Vietnam after spending almost five months teaching VNAF and Royal Thai Army troops how to repair and maintain the CH-47 *Chinook*.

This step in Vietnamization was taken after training at the Transportation School in Huey helicopter maintenance was completed. Approximately 400 Vietnamese Air Force personnel attended these classes held in 1968 and 1969.

The instruction in Vietnam, however, was the VNAF's first introduction to the *Chinook*, a multi-purpose helicopter. Capt. Anthony Wotkyns, chief of the team, assisted by CW04 James H. Simpson and Master Sgt. Luke A. Fluker, explained that previously the Vietnamese had no capability for airlifting large amounts of troops, moving artillery or rescuing downed aircraft. Not with one field maintenance squadron fully operational, the VNAF are on their way to accomplishing these missions themselves.

Members of the team were hand-picked from the Aviation Maintenance Training Department of the Army Transportation School with the remainder of the team coming from Ft. Gordon, Ft. Rucker, and Hunter Army Airfield.

Two test pilots were trained to provide the squadron with personnel with in-depth knowledge of the components and flying capabilities of the aircraft. A rescue by one of these pilots of a downed Huey and a *Chinook* in Cambodia, where U.S. forces could not enter, proved the effectiveness of this training.

Capping off the training teams' efforts in Vietnam was the presentation by the commanding general of the Vietnamese Air Force of the Vietnamese Training Medal, Vietnam's highest award for training, to nine of the instructors in the team.

The Mobile Training Team, under control of the U.S. Army Force Advisory Group, Advisory Team No. 3, worked out of Bien Hoa and also Oai Nho

— U.S. Army Transportation School



## ARMY POSITION

(Continued from Page 4)

pretty dull prospect. From the Army's view, the loss of a still young man, trained at great expense, and replaced only at great expense, is a disastrous economic experience. One possible answer to this is the creation of pay grades W5 and W6 as career incentive goals beyond 20 years of service. These advanced grades not only would give our aviation warrant officer something to shoot for but also would be tangible recognition of their accomplishments.

### A changing profile

These innovations — flight pay equity and grades W5 and W6 — would recognize the changing profile of the typical aviation warrant officer. Prior to the initiation of the enlisted option for WOFT in 1965, candidates for flight school were selected only from the best qualified Senior NCO's. These men had considerable military service prior to receiving their appointments to warrant officer status, and advancement to CW4 prior to completion of 30 years service was an ambitious goal.

### WOW!

When the final 1970 attendance was tallied at the U.S. Army Aviation Museum at Ft. Rucker, the figure totaled 241,000 visitors, an average of nearly 21,000 a month! . . . The '70 figures place the Aviation Museum fifth in attendance of the 59 Army museums throughout the world, and dwarfs the '69 attendance of 131,000 and the first-year 1968 total of 17,500. Single day record crowds of over 6,000 were recorded in June, 1970.

We must recognize, however, that the senior NCO applicant is no longer typical of the new aviation warrant officer. Today, we are training young men right out of high school. We can no longer expect a grade structure with four pay grades to satisfy his ambitions since he did not enter the warrant officer ranks at 30-40 years of age.

On the contrary, our new aviation warrant officer is a little over 18 years old and expects to make CW4 in 13-14 years. If he reaches the highest pay grade some 6-7 years prior to his being eligible for retirement at twenty years service, where is the incentive to remain? Obviously, we must create the additional pay grades if there is to be career satisfaction in remaining beyond 20 years.

### Appropriate duty

It will also be necessary that duty positions be recognized which fully utilize and demand the training and experience associated with the full-time career aviator and these increased grades. The current concept envisages specific TO&E and TD positions requiring the career specialist's knowledge wherever the aviation warrant officer's particular expertise is needed, ranging from the company-sized unit to the DA staff.

These are steps the Army might take to enhance career incentives for the aviation warrant officer: *flight pay equity, position identification, and grades W5 and W6.*

The "Flight Pay Equity" bill has been submitted by the Army to DOD. The creation of grades W5 and W6, the feasibility of establishing warrant officer staff positions, and the grading of warrant officer positions on authorization documents are presently being re-studied by a special DCSPER/OPO study



FT. RUCKER — CW2 Albert McMullen (left), of the Dept of FW Tng, USAAVNS, gets an over-the-shoulder view of the new 15G16A Defice radar unit at the Skipperville, Ala. field site. SP5 Jerry Hoglund, seated, is the GCA controller. CW2 McMullen toured the site with about 20 others viewing the new equipment at the ATC School and the several field sites.

# The fanged HueyCobra...

*configured for Europe and mission-minded!*

Take a Bell HueyCobra, fast and tough from the ground up . . . figure it for European duty with the most advanced fire control and weapons and you have an anti-tank system that deploys 120 miles in 40 minutes—engages the enemy in 30 minutes—and returns to base all in a day's work, many times a day.

Build in a nose-mounted periscope sight; then the HueyCobra gunner delivers his ordnance with dead accuracy on targets over a mile away.

Give it the sting of highly accurate





missiles to defeat any known armor.

Mount a 30mm gun turret system effectively neutralizing thin-skinned targets, add complete mobility, and use the tough-to-get-to, hard-to-detect attack positions other anti-tank systems can't reach.

Taking advantage of terrain and weather, the Cobra team maneuvers under radar and over obstacles deterring detection until the attack.

The HueyCobra moves fast, avoids detection and speeds in up to 190 knots for its kill.



**BELL HELICOPTER**

FORT WORTH, TEXAS 76101 • A **Textron** COMPANY

***HueyCobra... from the combat know-how generation of Bells.***





group. The current effort will concentrate upon developing vertical echelons of successively greater responsibility to support the proposed grades. Estimated completion date is September, 1971.

Improvement of career incentives for the aviation warrant officer requires the full understanding and support of the Army as a whole. Without such support, we will continue to lose these irreplaceable assets. It is imperative that all of us do all that we can to influence the implementation of these improvements. Once this is accomplished we can take pride in our contributions to the continuation of a dynamic and effective aviation warrant officer program that will make a significant contribution to the ultimate goals of the Modern Volunteer Army.

*(Ed. Note: The foregoing article was received from MG G. P. Seneff, AAAA's V.P. for Army Affairs, with the tack-on note: "Let's let our fine Warrant Officers know that we are still working for them. I'll continue to report on the status of our AWO program through such articles.")*

## G.I. TALENT!

*(Continued from Page 16)*

man can look around him and see visible evidence that he can reach E-9 in the Maintenance field and for those men aspiring to be officers and those junior officers already in the unit, they can see a full colonel who has also made the grade doing aircraft maintenance. The tangible evidences of men that have made careers in the Maintenance field add great incentive to the young GI who wants to stick with the Army and make it a career.

In my opinion, we need to give additional training missions to the USAAVNS Element



## TOP RATING!

ATLANTA, GA. — James A. Rogers (right), Director, FAA, Southern Region, pins the Master Army Aviator Badge on CW4 Charles D. Hooks, in a recent ceremony held in the Southern Region Hqs. CW4 Hooks is the Assistant Department of the Army Regional Representative in the FAA's Southern Region offices in Atlanta. He holds ratings for FW, RW, single, and multi-engine aircraft. (FAA)

that insure development and maintenance of aviation support skills on all aircraft in the Army inventory. The Aircraft Maintenance Brigade has the capability to provide aircraft rehabilitation on a limited basis and has the facilities to augment and enhance the overall quality of the fleet throughout CONUS. If necessary, an area support mission could be given to the Brigade to insure that a mission exists that will utilize the military aircraft mechanic in his chosen field. We can read "Lessons Learned" forever, but if we don't act, we may be overlooking one of the best things going for aviation maintenance and the volunteer Army that we have seen in the past few years.

AAAA'S FIFTEENTH YEAR! — PLAN TO ATTEND!



# 1971 AAAA ANNUAL MEETING

OCTOBER 13-15

SHERATON-PARK HOTEL

WASHINGTON, D.C.



## fowl-up

It doesn't happen often, but it does happen: A fighter is grounded for maintenance when it should be flying. Not scheduled maintenance. The other kind. The unscheduled overhauls that play havoc with aircraft availability.

If you recognize the problem, we have a suggestion. Piezoelectric engine vibration monitoring. EVM. It's new but proven. In fact, our airborne piezoelectric EVM system has been eliminating fowl-ups on 747's for more than a year.

How? By providing continuous data on the vibration level of each engine throughout each flight. Data that

alerts ground crews to potential trouble. So they can pull maintenance between — not instead of — flight operations.

Because EVM helps ground crews schedule maintenance to the specific performance of each engine, it helps avoid scrubbed missions.

Are we saying that our EVM system is applicable to your fighters? We are. And, so are a lot of other people. Engine manufacturers. Bearing manufacturers. Military test facilities.

They're confirming the experience of 747 users: Vibration

data can be a reliable indicator of jet engine condition.

That may also mean that scheduling methods can be re-examined and improved. Instead of trying to give you the details here, we'd like to send you our new book about EVM and how it can contribute to aircraft availability. It's something you should really look into.

Just write to:

James L. Higgins  
Engine Monitoring  
Product Manager  
Endevco  
801 So. Arroyo Pkwy.  
Pasadena, California 91109

**ENDEVCO**  DYNAMIC INSTRUMENT  
TECHNOLOGY  
DIVISION OF BECKON, DICKSON AND COMPANY 



# The In Box

The publication welcomes brief letters from all subscribers. Letters submitted for publication should bear the signature of the writer. However, the correspondent's name will be withheld on request.

## RECOGNITION!

Dear Editor:

I've sent you some photos of MG G. P. "Phip" Seneff receiving his Master Aviator wings. I believe that this is one general who has truly earned his Master Wings, and is respected throughout the aviation community as a fully professional pilot.

He's flown everything the Army has and has flown it well. He has an outstanding combat record and was a true leader in the 1st Aviation Brigade which he formed and then forged into a magnificent fighting unit.

A few interesting facts on General Seneff's pinning ceremony . . . Although the ceremony was arranged on a few hours' notice, we were able to assemble from within the Pentagon twelve general officers who were Army Aviators. Five were lieutenant generals, with four of the five being ex-commanders of airmobile divisions in combat. Three of the generals were Master Army Aviators.

This would hardly have seemed possible at the time General Seneff entered the program as a student pilot sixteen years ago!

On the same day "Phip" Seneff became eligible for his wings, MG George Putnam, now commanding the 1st Cav Division (photo, top right) also pinned on his Master Aviator wings. LTG Jack Tolson will

## ... AND WEST IS WEST!



MG G. P. Seneff, Jr. (left), Deputy Director, Project MASSTER, Fort Hood, Tex., is shown receiving the Master Army Aviator Badge in recent Pentagon ceremonies. Making the presentation is LTG Robert R. Williams, Assistant Chief of Staff for Force Development, Dept. of the Army.

## EAST IS EAST...



On the other side of the world, MG George W. Putnam, Jr., CG of the 1st Cavalry Division (Airmobile) was awarded the Master Aviator Badge at Division Hqs in Phuoc Vinh. Making the presentation was LTC Edward E. Waldron, dep comdr of the 11th Combat Aviation Group and the divisions's senior Master Aviator.

After the presentation, General Putnam (center) was joined by other 1st Cav Master Aviators. From left to right in above photo are LTC William N. Tingler, CO, 11th GS Company; LTC George L. Martin, CO, 227th Avn Bn; General Putnam; LTC Waldron; and LTC Carl Putnam, CO, 1st Sqdn, 9th Cav.

not be too far behind, and LTG "Jack" Norton becomes eligible for the rating next year.

I noticed in your February issue you listed the father and son and brother combinations who were Army Aviators. I also noticed that you missed probably the most famous brother combination. Lloyd and Floyd Petty are both serving on the General Staff in the grade of colonel and are both Master Army Aviators. They are — as one might deduce from the names — twins.

Robert R. Williams  
Lieutenant General, USA  
Washington, D.C.

(Ed. Note: The reference to twelve rated general officers raised our eyebrows for a moment. It was difficult to believe at first, but true! Attending the ceremony were LTG William T. Knowles, LTG John Norton, LTG Williams, LTG John M. Wright, Jr., and LTG Melvin Zais; MG Francis S. Greenleaf, MG E. B. Roberts, and MG Ellis W. Williamson; BG Fred E. Karhohs, BG Eugene M. Lynch (since PCS'd to Hunter-Stewart), BG William J. Maddox, Jr., and BG Conrad L. Stansberry.)

Have an interesting Army Aviation anecdote to pass along? A humorous or hairy flight experience? Get it down on paper in 400 words or less and send it in to ARMY AVIATION . . . Share your experiences!

# Takeoffs

## PCS — GENERALS

LYNCH, Eugene M., BG  
1 Azalea Circle  
Savannah GA 31405

## COLONELS

BAKER, George I.  
Bx 12, Walter Reed Hosp.  
Washington DC 20012  
BOARDMAN, Dumas H., Jr.  
Deputy Installation Cmdr.  
Ft Bragg NC 28307  
BROCKMYER, James J.  
43 Ligon Place  
Newport News VA 23602  
FILBY, Robert A.  
615 Dawson, Schofield Brks  
APO San Francisco 96557  
HAMLET, James F.  
2101 Ottawa, Apt 302-B  
Leavenworth KS 66048  
KING, David B., II  
Qtrs 2, Plum Point Loop  
Aberdeen PG MD 21005  
MERRYMAN, James H.  
203 Virginia Street  
Fort Springs AR 71901  
PAULSON, Norman W.  
6 Azalea Circle  
Savannah GA 31405  
SOUTHWORTH, Roy B.  
Int'l Assoc, Chiefs Police  
Huntsville Field AL 35801  
STEVENSON, Robert D.  
2379 South Erie  
Wichita KS 67211  
WAGNER, Paul R.  
16965 Beverly Drive  
Brookfield WI 53005  
WELLS, Jack D.  
1682 Traveller Road  
Lexington KY 40504

## LT COLONELS

AYERS, Robert C.  
USAPG, Nvl Tag Dev Ctr.  
Orlando FL 32813  
BALLARD, Lowell L., Jr.  
900 Fairfield Avenue  
Kingston NC 28501  
BARRETT, Otrle B.  
4904 Taney Avenue  
Alexandria VA 22304  
BRETZ, Robert D.  
Quarters 8818  
Ft Rucker AL 36360  
BRIONES, Ronald S.  
Phillips AAF  
Aberdeen PG MD 21005  
BROWN, Sam E.  
101 Audubon Way  
Enterprise AL 36330  
BURRESS, Eugene W.  
1725 Cherokee  
Leavenworth KS 66048

## PCS — LTCS

BUSH, James K.  
125-B Birch Circle  
Eglin AFB FL 32542  
CANTWELL, Franklin D.  
566 Cascade Drive  
Newport News VA 23602  
CONNELL, Thomas E.  
9208 Bayard Place  
Fairfax VA 22030  
DAVIS, Clarence A., Jr.  
Hq, 4th US Army  
Ft Sam Houston TX 78234  
DAVIS, Willis E.  
3816 Caspian Drive, #23  
Columbus GA 31906  
DROSS, David D.  
1144 Picatinny Arsenal  
Dover NJ 07801  
GARRETT, McLain G., Jr.  
9 Megill Road  
Eatontown NJ 07724  
GRIFFITH, H. Lee  
Star Route, Hwy. 7, North  
Russellville AR 72801  
HEAD, Robert L.  
611 Brooks Street  
Dallas TX 75208  
HOEFENER, James R.  
3100 Parker Road  
Florissant MO 63033  
HUMPHRIES, James G.  
21-A Sheridan  
Ft Riley KS 66442  
JACKSON, Wilfred A.  
1616 No. Harrison Street  
Arlington VA 22205  
JAGGERS, Joseph N., Jr.  
4701 Weldon Drive  
Camp Springs MD 20031  
KENDALL, Mark C.  
28 Third Infantry Road  
Ft Leavenworth KS 66027  
LUCKENBILL, Robert E.  
7th Army, ODCSOPS  
APO New York 09403  
MATTHEWS, Ralph A.  
4212 Keams Street, Apt 2  
Honolulu HI 96816  
McLWAIN, George W.  
P.O. Box 442  
Butler AL 36904  
McKENZIE, Colin W., Jr.  
8003 Chanute, #6  
Falls Church VA 22042  
MERRITT, Ronald H.  
7011 Stone Mill Road  
Alexandria VA 22306  
MOLINELLI, Robert F.  
Box 1431  
Pocatello ID 83201  
NUTTALL, Richard W.  
Detachment IX, ARAG  
APO San Francisco 96303  
ORRELL, Herman M., III  
Box 7  
Wye Mills MD 21679

## PCS — LTCS

PARKER, Walter E.  
8406 Felton Lane  
Alexandria VA 22308  
PAULK, Charles M.  
4010 Kelden Court  
College Park GA 30337  
PEACHEY, William N.  
HHC, 158th Aviation Bn  
APO San Francisco 96383  
PORTER, Warren R.  
Office of the DPC  
Ft Campbell KY 42223  
RATCLIFF, Walter A.  
765th Trans Bn  
APO San Francisco 96291  
RAWLINGS, Harry E.  
14 Michael Street  
Ft Rucker AL 36360  
RENEGAR, Ray V.  
3215-1 Picatinny Arsenal  
Dover NJ 07801  
ROBERTS, Benjamin D.  
6786 Severisky Drive  
Edwards CA 93523  
ROGERS, David K.  
7528 Elba Road  
Alexandria VA 22306  
SALTEE, Lawrence T.  
531 East Lee  
Enterprise AL 36330  
SAMPSON, Eldon F.  
750-A Carter Circle  
Ft Gordon GA 30405  
SCOGGINS, John  
155 Rolling Wood Drive  
Athens GA 30601  
SMITH, John R.  
32 Anderson Street  
Ft Stewart GA 31313  
SMITH, Richard C.  
6038 Autumn Arbor  
Houston TX 77018  
STAMPS, John R.  
3403 Park Hill Place  
Fairfax VA 22030  
STOCKTON, Norman E.  
12 Adams Street  
Ft Bragg NC 28307  
TOURTELLOTT, R.J.  
Sig Spt Agency, Phu Lam  
APO San Francisco 96243  
TRIVELY, Thomas H.  
7 Habersham  
Ft Stewart GA 31313  
VAN WEERT, John H., Jr.  
554 Raemard Drive  
Colorado Springs CO 80911  
WATSON, Ronald J.  
R.F.D. 6, Box 198  
Aiken SC 29801  
WHITTEN, Millard  
9118 McNair Drive  
Alexandria VA 22309  
WILSON, Frank R.  
19 Gregg Way  
Ft Rucker AL 36360

## PCS — LTCS

WILSON, Robert E.  
1801 Old Stage Road  
Alexandria VA 22308

## MAJORS

ARRINGTON, Alvin D.  
WRAMA, MMD-1  
Robins AFB GA 31093  
BERNSTEIN, Donald  
1208 Mindoro  
Norfolk VA 23511  
BERTRAND, Paul U.  
306th Trans Company  
APO San Francisco 96271  
BOSTDORF, John M.  
4 Bn, Basic Tng, Cmbt Bde  
Ft Ord CA 93941  
BRANNING, Thomas E.  
11006 Jackson Street  
Omaha NE 68154  
BROWN, Charles L., Jr.  
1420 Oleander Avenue  
Chula Vista CA 92011  
BUDIG, Sherwood R.  
521-F Beluga Avenue  
Ft Richardson AK 99505  
BURROUGHS, Leonard H.  
P.O. Box 36  
Calhoun GA 30701  
BUTLER, Billy C.  
9607 Tamara  
Houston TX 77038  
CASEY, Thomas D.  
USAARL, Box 577  
Ft Rucker AL 36360  
CHARLES, John D.  
Hq, VII Corps (G3) Avn  
APO New York 09107  
COX, Marvin B., Jr.  
AFGP, DO  
APO San Francisco 96307  
DANIEL, James M.  
FWQ, Class 71-19  
Ft Stewart GA 31313  
DEAN, William R., Jr.  
240th Avn Co (Aslt Hel)  
APO San Francisco 96530  
DICK, William H.  
101 Abn Bn, 101 Abn Div  
APO San Francisco 96383  
DOLAN, Edmund J., Jr.  
HHC, 15th Aviation Group  
APO New York 09025  
DONALDSON, Orlov B., III  
4106 W. Osborne Avenue  
Tampa FL 33614  
ELLERTHORPE, Donald O.  
1237 Porter Road, AFSC  
Norfolk VA 23511  
ELLINGTON, Roy G.  
1372-B Kolekole Street  
APO San Francisco 96557  
FLEMING, Jerry L.  
USAG, UK, Box 65  
FPO New York 09510



**PCS — MAJORS**

GASTON, Joseph R.  
Office V Corps Cmdr  
APO New York 09079

GLENN, Thomas J.  
515 U.S. Lauman Avenue  
Ft Sill OK 73503

GNIAZDOWSKI, Francis S.  
HHC, 8th Infantry Div  
APO New York 09111

GONYER, Harold E.  
Qtrs 166, J Ave., NCAD  
New Cumberland PA 17070

GRAHAM, Charles M.  
1692 Sherwood Forest  
Florissant MO 63031

GRAY, Ted J.  
1341-F Stoneleigh Court  
Leavenworth KS 66048

HUDSON, Ronald E.  
101 Wells Avenue  
Daleville AL 36322

HUFF, Harold L., Jr.  
45th Trans Co (AM&GS)  
APO San Francisco 96271

JAMES, Jesse H.  
1454 Todds Lane, Apt B38  
Hampton VA 23366

KAST, Wilfried H.  
AUG 14Avn Co ATC AFOD  
APO New York 09102

KEATING, David W.  
3149 Baybrook Drive  
Corpus Christi TX 78419

KIMZEY, Guy S.  
212-A Mission Avenue  
San Rafael CA 94901

LANGSTON, James M.  
23 Johnson Street  
Ft Rucker AL 36360

LAW, Sherrill G.  
3707 Fourteenth Avenue  
Columbus GA 31904

LOBAN, Gary G.  
USARSO, Staff Aviation  
APO New York 09827

LOGUE, Jerry C.  
30 Johnson Street  
Ft Rucker AL 36360

MILLER, Richard E.  
31st Artillery Brigade  
Homestead AFB FL 33030

MILLERSON, James H.  
205 Candy Drive  
Enterprise AL 36330

MORGAN, George A.  
Dodge Hall, Room 107  
Ft Leavenworth KS 66027

MOSS, Pat L.  
2924 No. 83rd St., Apt 319  
Omaha NE 68134

O'NEAL, William F.  
2048 Bent Creek Way, 302  
Atlanta GA 30311

PARADES, Robert  
Kagnew Sta., ASMAR  
APO New York 09843

PHILLIPS, Robert L.  
4624-C Northtowne Blvd  
Columbus OH 43229

**PCS — MAJORS**

PHILSON, Maurice N.  
36 Ricky Road  
Mechanicsburg PA 17055

PRATT, Robert H.  
Hq, 85th Maint Bn  
APO New York 09165

ROEDER, Helmut A.  
USALMC, LEDC, 71-2  
Ft Lee VA 23801

SCAMAHORN, William E.  
Cmdt AHC Co., Box 92  
APO San Francisco 96530

SMITH, John A.  
51 McGill Circle  
Eatonville NJ 07724

SYNNOTT, Andrew J.  
7933 Ashboro Drive  
Alexandria VA 22309

TAYLOR, William R.  
311 Magruder Street  
Ft Wolters TX 76067

THIBODEAU, Charles A.  
120 Graceford Drive  
Aberdeen MD 21001

TRUSCOTT, James J.  
2807 Conn. Av., NW., #303  
Washington DC 20008

WILKINSON, Tary D.  
13 Wynn Avenue  
Ft Stewart GA 31313

WILLIAMS, James S.  
704 East Holston Avenue  
Johnson City TN 37601

WOLFE, Michael J.  
5393 Gainsborough Drive  
Fairfax VA 22030

WOLFE, Rodney D.  
Trp D, 3Sqn, 5th Cavalry  
APO San Francisco 96477

WONG, Walter B.  
14604 North Anderson  
Woodbridge VA 22191

WOOD, John L.  
111 Traynor Avenue  
Savannah GA 31405

YOUNG, Robert S.  
1009 Duvall Drive  
Killeen TX 76541

**CAPTAINS**

ALLEN, Michael R.  
746 Andrea Drive  
Columbus GA 31907

ALLEN, Norman R.  
3807 Pembroke Ct., Apt 3C  
Columbus GA 31907

AMOS, Franklin T., Jr.  
Brazos Villa, #131  
Mineral Wells TX 76067

AYTON, James S.  
2340-D Somervell Street  
Ft Eustis VA 23604

BEAUCHAMP, Charles E.  
111 Le Hardy Dr., Hunter  
Savannah GA 31405

BELL, Hubert J., Jr.  
1793 Dyson Drive  
Decatur GA 30030

**PCS — CAPTAINS**

BELL, Thomas C.  
363 Cove Neck Road  
Oyster Bay NY 11771

BENSON, Ronald R.  
Hq, TASCOC, DCSPER  
APO New York 09058

BIRMINGHAM, Mark A.  
13905 Stonemoss Drive  
Dallas TX 75240

BOHN, Peter N., II  
Box 302  
Ft Polk LA 71459

BONGART, Michael E.  
65 CSC, CMR 2, Box 5427  
Ft Rucker AL 36360

BOYD, Morris J.  
4810 Canary Drive  
Pleasanton CA 94556

BRIGHTWELL, Robert J.  
65th Co, CMR 2, Box 15177  
Ft Rucker AL 36360

BRISTOW, William D., Jr.  
4805 Ogeechee Rd., Lot 25  
Savannah GA 31405

BROWN, Jerry M.  
717 E. Lee St., Blissett, 1D  
Enterprise AL 36330

BRUNS, Thomas E.  
5680-1 Carter  
Ft Hood TX 76544

CAMPBELL, Richard L.  
101-A Butts  
Ft Benning GA 31905

CANON, Charles M., III  
601 Avenue "B"  
Opelika AL 36801

CAWTHON, Zed, Jr.  
105 Emerald Drive  
Enterprise AL 36330

CLAY, Dennis L.  
6742-A Spaulding  
Ft Sill OK 73503

COLSON, Robert S., Jr.  
Co B, 1 Bn, 4th AIT Bde  
Ft L. Wood MO 65473

COX, James M.  
29 Diamond Avenue  
Ft Rucker AL 36360

COYNER, Joe D., Jr.  
Apt 1169, Quail Run  
Columbia SC 29206

DALEY, Victor N.  
4383 Tarentum Drive  
Florissant MO 63033

DAMRON, Ronald K.  
232-B Lower Brick Row  
Ft Riley KS 66442

DAVE, Clarence, Jr.  
105 Carnegie Lane  
Enterprise AL 36330

DENNISON, Calvin B.  
Route 4, Box 1935-A  
Lutz FL 33549

DEPERRO, John F.  
724 South Avenue  
Youngstown OH 44512

DEWEY, Thomas O.  
507 Dolores  
Socorro NM 87801

**PCS — CAPTAINS**

DOWLING, Charles R.  
1813 Huffman Drive  
Columbus GA 31907

DYER, Richard W.  
1206 Webster  
Royal Oaks MI 48067

EADS, Larry V.  
305 N.E. 48th Street  
Lawton OK 73501

FRADY, Edwin N.  
Main P.O. Box 818  
Ft Wolters TX 76067

GABRIEL, Henry B.  
9952 No. Kendall Dr., #32  
Miami FL 33156

GERMANI, Joseph A.  
223d Cmbt Avn Bn  
APO San Francisco 96495

GOFORTH, James T.  
220 North Dougherty St.  
Ft Bragg NC 28307

GOREHAM, Kenneth C.  
430 West Maple Street  
Junction City KS 66441

GRAY, Jeffrey L.  
MATCOM, Co A, Sp Trps  
APO New York 09052

GRINER, Wayne L.  
1012-A Kessler Court  
Ft Benning GA 31905

GURSKI, William  
105 Pine View Court  
Ozark AL 36360

HAFNER, Stephen F.  
Air Troop, 2d AC Regt  
APO New York 09093

HARDIN, Steven L.  
242d Avn Co (AHS)  
APO San Francisco 96289

HARRIS, Stephen P.  
4114 East 65th Street  
Indianapolis IN 46220

HATCH, Larry G.  
674 Dresden Dr., Apt 2A  
Newport News VA 23601

HEARTQUEST, Richard E.  
5463-C Eustis Avenue  
Ft Knox KY 40121

HERGET, Craig N.  
5403-G Chaffee Avenue  
Ft Knox KY 40121

HOLT, Robert W.  
2105 Flat Shoals Rd., A-3  
Atlanta GA 30316

HOSMER, Albert S.  
Box 146  
Pleasantville OH 43148

HUMPHREY, Howard W.  
Delta Trp, 3Sqn, 7th Cav  
APO New York 09033

JACKSON, Andrew L., Jr.  
Hqs, V Corps, Cmd  
APO New York 09079

JOEST, Michael S.  
116 Shiley Avenue  
Savannah GA 31405

JOHNSON, Alan R.  
7116 Canary Court  
Lithia Springs GA 30057

**PCS — CAPTAINS**

JOHNSON, Robert G.  
4234 St. Mary's Road  
Columbus GA 31907

JOHNSON, Thomas F.  
1702 S.E. 12th Street  
Mineral Wells TX 76067

JONES, Samuel R., Jr.  
1507 N.W. 49th Street  
Lawton OK 73501

JORDAN, Elmore P.  
5551-H Folger Street  
Ft Knox KY 40121

KERR, John A.  
1419 Luna Drive  
Fountain CO 80817

KIMBRELL, Jesse D.  
59 Trailwinds, Rt.3, Bx 118  
Mineral Wells TX 76067

KIMZEY, Reed T.  
1708 Carol, N.E.  
Albuquerque NM 87112

LACY, Eugene L., Jr.  
HHC, 18th Aviation Bn  
APO New York 09165

LAMA, John  
179th Aviation Co (ASH)  
APO San Francisco 96383

LEACH, George Curtis  
17 Englewood Avenue  
Everett MA 02149

LEHRER, John B.  
5831-B Brett Drive  
Ft Knox KY 40121

LEWIS, John D.  
Trp D, 1/9 Cav, 1 AC Div  
APO San Francisco 96490

LINDSEY, Ian D.  
A Co, 123rd Aviation Bn  
APO San Francisco 96374

LUTHER, William H.  
1328 Simpson  
Hurst TX 76053

LUTZ, Joseph J., Jr.  
3101 Oakview Dr., Apt 28  
Tempe AZ 85281

MAGAW, Charles E.  
5704-A Society Park Blvd  
Tampa FL 33617

McADAMS, Charles O.  
19 Sheridan Avenue  
Ft Riley KS 66442

McFARLAND, Owen B., Jr.  
5029 Bisc Drive  
Columbus GA 31907

McGEE, George P.  
15th Aviation Group  
APO New York 09025

McLAUGHLIN, James O.  
1940 Franciscan Way, 216  
Alameda CA 94501

MEBANE, Eddie B.  
5770 Duffy Spur  
Ft Hood TX 76544

MEIER, Delbert E.  
HHC 1/67 Armor, 2d AD  
Ft Hood TX 76544

MEISBERGER, T.A.  
OMR, Bx 553, OSD USASCS  
Ft Monmouth NJ 07703

**PCS — CAPTAINS**

MELLOR, John L., Jr.  
6711-A Spaulding Avenue  
Ft Hill OK 73503

MEVIS, Gary L.  
37 Twin Lake Circle  
Hampton VA 23366

MILLER, William J.  
416 S.W. 21st Street  
Mineral Wells TX 76067

MOJICA, Simon T.  
15th Medical Det (RA)  
APO New York 09114

MORTON, Harry C.  
7655-A Fillmore Drive  
Buena Park CA 90620

MUHLTHALER, Robt. C.  
Bx 1295, Univ. of Tampa  
Tampa FL 33606

MURPHY, William F.  
111-G Triangle M/H Ct.  
Radcliff KY 40160

MYHRE, Jon F.  
649 S.E. Darwin Lane  
Palm Bay FL 32901

NELSON, Andrew R.  
1806 Clavey Road  
Highland Park IL 60035

NIAMTU, John E.  
Troop D, 3/7th Cavalry  
APO New York 09033

NORTON, William A.  
5477-D Kelley Street  
Ft Knox KY 40121

O'CONNELL, Lloyd M., III  
7007 Ingledale Ave., Apt 38  
Stockton CA 95207

OLSON, Robert A.  
Lynch Rd., Chaplin Apt D4  
North Windham CT 06256

OWEN, William D.  
5515 Cache Rd., Apt D2  
Lawton OK 73501

PEARSON, Peter T.  
1330 Little Bay Avenue  
Norfolk VA 23503

PETERSEN, Dale K.  
5656-B Corley Street  
Ft Knox KY 40121

PITT, Alan B.  
4079 W. Hawthorne Trace  
Brown Deer WI 53209

RAY, Lewis D.  
7228 Gilmore  
Kansas City KS 66111

RHODES, Edward A.  
P.O. Box 295  
Ft Knox KY 40121

RIGHTER, Bruce E.  
615 Anderson  
Weatherford TX 76086

ROBERSON, Carlton F.  
411 Union Street  
Thomasville GA 31792

ROBERTS, William R.  
9348 Cherry Hill Rd., #809  
College Park MD 20740

ROGERS, Benny C.  
5236 Weber Rd., Apt 201C  
Corpus Christi TX 78411

**PCS — CAPTAINS**

SAXTON, Elmer D., Jr.  
76 Welsh Tract Road  
Newark DE 19711

SCHEBER, Robert J.  
P.O. Box 7382, USAADS  
Ft Bliss TX 79916

SHANNON, James M.  
2613 Salcedo Avenue  
Savannah GA 31406

SHRYOCK, Robert W.  
2720 Wise Street  
Columbus GA 31903

SHTOGREN, Thomas A.  
5680-B Brett Drive  
Ft Knox KY 40121

SIENKIEWICZ, Richard J.  
1636-B Delaware Road  
Ft Belvoir VA 22060

SLINDE, Gary A.  
922 S.E. 2d Street, Lot 16  
Lawton OK 73501

SMITH, Cecil  
406 S.W. 17th Street  
Mineral Wells TX 76067

SMITH, William R.  
5868-B Adams  
Ft Knox KY 40121

SODERLUND, Paul R.  
19551 Linden Ave., North  
Seattle WA 98133

STANDLEY, John M.  
L Co, 4 Bn, Hunter AAF  
Savannah GA 31409

STEGEMANN, William G.  
67 Bullard Loop  
Ft Leavenworth KS 66027

STODDARD, Harry C.  
Embry Riddle, PO Bx 2411  
Daytona Beach FL 32015

STROBRIDGE, Rodney L.  
120 N.W. 44th Street  
Lawton OK 73501

SWANK, Leo A.  
Endale Est., #9  
Enterprise AL 36330

TAYLOR, Hershel L., II  
A Co, 188th Aviation Bn  
APO San Francisco 96383

TEEL, Calvin, Jr.  
3d Armored Div, Cmd Avn  
APO New York 09039

THIBAUT, Ernest G., II  
11004 N.W. Flager Lane  
Miami FL 33126

TIGGES, Kenneth D.  
HHC, MATCOM, Dir. Acft  
APO New York 09052

TOMLIN, Larry C.  
7th Engr Bde  
APO New York 09154

TRAVER, Robert L.  
118 McKinney Street  
Rogersville TN 37857

VOSS, Wallace R.  
P.O. Box 432  
Krebs OK 74554

VOTH, William F.  
Whighams Trl Pk., Lot 35  
Daleville AL 36322

**PCS — CAPTAINS**

WASSON, James C., III  
P.O. Box 105  
Statesville NC 28677

WATTS, Glen C.  
151st Med Det (Hel Amb)  
Ft Bragg NC 28307

WAUGH, Frank A.  
OSC, Class 71-14  
Ft Rucker AL 36360

WEATHERSPOON, S.R.  
Wood Haven Trl Pk., #34  
Urbana IL 61801

WEDDELL, James H.  
HHC, 3 Bn, 63 Armor, 11D  
APO New York 09029

WHITE, Steven L.  
303 Parker Hills Drive  
Ozark AL 36360

WHITED, Craig R.  
CMR 2, Box 5532  
Ft Rucker AL 36360

WILLIAMS, Robert B.  
4615 N.E. Columbia  
Lawton OK 73501

WILMS, Robert H.  
109 Yellow Leaf  
Enterprise AL 36330

WILSON, John R.  
4th Aviation Company  
APO New York 09025

WOLFINGER, William D.  
P.O. Box 256  
Aberdeen PG MD 21005

WOOD, Gail W.  
Route 1, Box 12  
Spiceswood TX 76669

WORCESTER, Wesley A.  
97 Red Cloud Road  
Ft Rucker AL 36360

WYROSICK, James D.  
117 Cahill Lane  
Oak Ridge TN 37830

**LIEUTENANTS**

ABELL, James M.  
10320 Westlake Dr., #206  
Bethesda MD 20034

BARFOOT, Van T., Jr.  
Co B, 5 Bn, 23d Infantry  
APO Seattle 98749

BOWERS, Robert W.  
30-B Oak Hill Trl Pk.  
Columbus GA 31906

CORRIGAN, Thomas S.  
4th USA Flight Det  
Randolph AFB TX 78148

ENDERLE, Gary B.  
5421-G Mulvaney Street  
Ft Knox KY 40121

ERDKAMP, Lawrence T.  
10469 "V" Street  
Omaha NE 68127

FREEMAN, Richard W.  
9880 Santos Drive  
Miami FL 33157

GRIFFIS, Thomas A.  
CMR 2, Box 6437  
Ft Rucker AL 36360



**PCS — LIEUTENANTS**

HAMMELL, John M.  
385 Woodland Drive  
Summit Park UT 84060

KIRK, Norbert W., Jr.  
91 Red Cloud Road  
Ft Rucker AL 36360

KOSZUTA, James F.  
102 Impala Dr, Blvd #98  
Newport News VA 23606

MEEKS, Thomas V.  
10615 Abercorn, Apt F3  
Savannah GA 31406

MORELON, Jesse N.  
349th Aviation Company  
APO New York 09277

MUSSULMAN, James E.  
6285 Breed St., R.R. 2  
Gables MI 49055

NICHOLS, Dean H.  
Route 2, Box 6, Lot 4  
Daleville AL 36322

PHILIPS, Thomas L.  
Route 1  
Boyle MS 38730

SCHULTZ, Bronson  
1180 Afton, Apt 445  
Houston TX 77055

SHIRLEY, John H., Jr.  
HHC, 15th Aviation Gp  
APO New York 09025

THOMAS, John D., Jr.  
HHB, 2d Inf Div, Arty  
APO San Francisco 96358

WIEBERSCH, Dominic J.  
316 Green Street  
Brandenburg KY 40108

WINGATE, James C.  
412 Oleary  
Weaver AL 36277

**CW4'S**

AHLSTEDT, Herbert A.J.  
Hq, Btry 4/77, 101 Abn Div  
APO San Francisco 96383

BRABEC, Ellis E.  
Armor Ctr, IA, WOUXAA  
Ft Knox KY 40121

CLEARY, William H.  
HHC, 16th Aviation Bn  
APO New York 09061

GAGNON, George S.  
15 Endl Avenue  
Ft Rucker AL 36360

GAY, Albert G.  
31 Edwards Street  
Ft Rucker AL 36360

HEREDIA, Francis N.  
TOPO Trng Team, Bx 400  
APO New York 09205

LARKIN, Charles E.  
741 Robin Drive  
Corte Madera CA 94925

LEONARD, Jesse W.  
Gemish, Box 600  
APO New York 09205

MILLER, Mervin W.  
8501 Rose Marie Drive  
Oxon Hill MD 20022

MILLEN, Richard D.  
P.O. Box 1322  
Ft Eustis VA 23604

MOODT, John C.  
10 Donovan Lane  
Ft Rucker AL 36360

SHAW, Paul L.  
AMOC 40-671B, C118-7  
Ft Eustis VA 23604

SHEFFLER, Robert J.  
601 Park Lane  
Joplin MO 64801

TURNER, Curtis W.  
30 Kirby Street  
Ft Rucker AL 36360

ULM, Arthur J., Jr.  
Hi-Way Host., Apt 56  
Ozark AL 36360

VERTREES, Carl R.  
70th Aviation Det  
APO San Francisco 96233

WARNER, Charles O.  
Co C, 3d S and T Bn  
APO New York 09031

WEISENBURGER, Edw. J.  
2 N.W. Compass Drive  
Lawton OK 73501

**PCS — CW4'S****CW3'S**

ARSENAL, Brian R.  
220 Patrick  
Mineral Wells TX 76067

BRIGHT, Jimmy D.  
1405 West College Ave.  
Enterprise AL 36330

CRABB, Wilbur L.  
119 Hartell Way  
Ft Rucker AL 36360

DAVISON, Lee F.  
4060 Sacramento Avenue  
Santa Rosa CA 95405

FERBER, Charles S.  
180th Aviation Company  
APO San Francisco 96316

FUREY, James, Jr.  
56th Aviation Det  
APO New York 09028

GOULD, Roger K.  
6702 Ballamy Avenue  
Springfield VA 22152

HARRIS, Dennis P.  
142 Red Cloud Road  
Ft Rucker AL 36360

KING, Clifford C.  
2175 Ravenna Street  
Simi CA 93065

LE RICHE, Manfred L.  
2 Carter Terrace  
Daytona Bch FL 32018

MAGONIGAL, Michael D.  
222 Patrick  
Mineral Wells TX 76067

McMULLAN, Robert W.  
205 East Hwy 134, R.R. 2  
Daleville AL 36322

METZGER, Donald W.  
236th ASH Co, Hvl Det  
APO Seattle 98731

**PCS — CW3'S**

MYERS, Maurice G.  
Route 1, Box 329-F  
Mineral Wells TX 76067

ADAIR, Ronnie L.  
P.O. Box 355  
Jacksonville OR 97530

ANDERSON, Peter C.  
6103 Turnabout Lane, #10  
Columbia MD 21043

BEALE, Christopher W.H.  
4149 Granby Road  
Woodbridge VA 22191

BERTHAUME, John A.  
9902 Ferguson Ave., #106  
Savannah GA 31406

BILLS, Allen C.  
C Trp, 7/1 Air Cavalry  
APO San Francisco 96357

BRANNON, Jerome W.  
30 Verna Circle  
Daleville AL 36322

COOK, Henry W.  
CMR 2, Box 7629  
Ft Rucker AL 36360

FOWLER, Henry J., Jr.  
107B Carriage Hse., Tibet  
Savannah GA 31406

GAGNE, Joseph R.  
334th Avn Co, 3/17th Cav  
APO San Francisco 96289

GEISENDORFF, Herbert R.  
26 Baker Street  
Ft Rucker AL 36360

GINGRAS, Vincent J., Jr.  
2206 E. Victory Dr., Apt 47  
Savannah GA 31404

GIRARD, William G.  
437 Davidson  
Mineral Wells TX 76067

HALPIN, Thomas P.  
12350 Mercy Blvd., #371  
Savannah GA 31406

HANSEN, Jacob A., Jr.  
HSC, Sch Bde, Box 10965  
Hunter AAF GA 31409

HARNAGE, Thomas A.  
16 Kyle Way  
Ft Rucker AL 36360

HARRIS, Richard L.  
206 Washington Avenue  
Ocean Springs MS 39564

HURD, Jason L.  
121-B Woodland Road  
Daleville AL 36322

IRWIN, Earle C.  
207 Rock Street  
Bowie TX 76230

JONES, Robert J., Jr.  
2530 H.Wurzbach Rd., #6A  
San Antonio TX 78209

KEALEY, David E.  
179th Aviation Co (ASH)  
APO San Francisco 96383

KINYON, John L.  
OSC 71-19, QS, 62B, TSBde  
Ft Eustis VA 23604

**CW2'S**

KNIGHT, Michael S.  
3D R.I. Bldg., Warwick St.  
Aberdeen MD 21001

KOLLAR, Eugene L.  
738 20th Street  
Sparks NV 89431

KOONE, Michael T.  
439 Davidson  
Mineral Wells TX 76067

KULBITSKY, Peter P.  
55 Meserole Road  
Brooklyn NY 11222

LEMAI, Leonard N.  
21-A Chelsea Apartments  
Savannah GA 31404

LEWIS, Jack E.  
Chateaugay, Bx 22, Lot 5  
Daleville AL 36322

McNAIR, Charles T.  
1132 North 25th Street  
Allentown PA 18104

MEEK, Duane B.  
355th Avn Co, Hvy Hel  
Ft Eustis VA 23604

MELESKY, Wayne A.  
2058 Cunningham Dr., 103  
Hampton VA 23366

MOORE, John E.  
122 Red Cloud Road  
Ft Rucker AL 36360

MOORE, William C.  
102 Dothan Highway  
Enterprise AL 36330

OWEN, Richard B.  
904 Spring Valley Road  
Altamonte Spg FL 32701

POPPE, Stephen W.  
3035 Wentworth Avenue  
Louisville KY 40206

PROSSER, Gary L.  
13111 Gravelly Lk Dr., SW  
Tacoma WA 98499

RACKSTRAW, Robert W.  
44 South Allison  
Daleville AL 36322

REESE, Lawrence D.  
295th Aviation Company  
APO New York 09185

SAYRIZI, Donald M.  
227 No. Burlington Avenue  
Los Angeles CA 90026

SCOTT, Donald L.  
HHC, S4, 15th Aviation Gp  
APO New York 09025

SCUDDER, Keith S.  
1273 Daleville, 2 Cedar Ct  
Ozark AL 36360

SEAGER, Carl E.  
1200 W. Cornwalis Drive  
Greensboro NC 27408

SHERMAN, Norman A., Jr.  
2152 Vicksburg Drive  
Savannah GA 31404

SIBERT, Daniel S.  
Route 2, Box 116  
Strassburg VA 22657

STAIGLE, James E.  
Camelot Village, Lot 11  
Enterprise AL 36330

PCS — CW2'S	PCS — WO'S	PCS — ENLISTED	PCS — RETIRED
STEIN, Richard W. Farmers Trl Ct., #38, Rt 2 Daleville AL 36322	CALLAHAN, Samuel T. General Delivery Grafton VA 23409	OGLETREE, Clarence, 1SG 308A Jastro Street Bakersfield CA 93307	THOMSEN, Wm.E., III, LTC 1605 Farnborn Street Crofton MD 21113
STONER, Donald L. Rural Delivery 3 Ligonier PA 15658	CLAUSON, John R. 215 Blauvelt Avenue Pearl River NY 10965	PARKINSON, Floyd J., SFC HHC, 18th Aviation Bn APO New York 09165	TILLERY, Samuel E., LTC 1543 Molehu Drive Honolulu HI 96818
TAYLOR, Joseph W. 2418 Norwood Lane, Apt N Arlington TX 76013	COULSON, Gary L. 530 West Alcott Street Webster City IA 50595	RHODES, Raymond G., SSG 1133 North Utah Street Arlington VA 22201	WILSON, Myron R., MAJ Box 341 Alamogordo NM 88310
THILL, David C. 12350 Mercy Blvd., #335 Savannah GA 31406	FISCHER, Alan K. Rural Route 2 Medford WI 54451	<b>RETIRED</b>	<b>ASSOCIATES</b>
THOMAS, James M. 102 Wanda Drive Enterprise AL 36330	GORDINIER, Richard E. 1520 Shunga Drive Topeka KS 66611	ARTHUR, Cecil D., LTC 501 N.E. 4th Avenue Mineral Wells TX 76067	BADGER, M.G., LTC 655Avn. Sqdn, Hobart Brks Detmold, Germany
TRAINOR, James D. 1200 Courthouse Road Arlington VA 22201	HANCOCK, Clifford A. 8321 Commonwealth Ave. Buena Park CA 90620	BLAIR, Russell T., LTC 2900 W. Illinois, Apt 28 Midland TX 79701	BROWN, Harvey N., COL 104 Country Club Road Shalimar FL 32579
TRENT, Ben, Jr. 104 Rebecca Lane Newton AL 36352	HANSEN, Randolph M. 1309 Rucker Blvd Enterprise AL 36330	CHAMBERS, H.W., LTC 43999 Gallon Drive Lancaster CA 93534	CREAGER, William, Jr. 1201 Brentwood Corpus Christi TX 78404
TROISI, Christopher M. Hqs, SASCOM, Box 2289 APO New York 09057	HOSMER, Jack L. 4 Lafayette Ct., Apt 701 Greenwich CT 06830	CHANDLER, Frank R., LTC 6590 East Lathrop Road Manteca CA 95336	HARTLIEB, R.J. 6633 Haim Los Angeles CA 90056
URWILLER, Charles E. 901 Joy Road, Lot 4K Columbus GA 31906	HUNEYCUTT, James H. 48 Carol Street Payetteville NC 28303	COGSWELL, David G., COL Forest Lake Road Lawrenceville GA 30245	HELLMERS, Theodore W. 6515 Costello Avenue Van Nuys CA 91401
WESTBROOK, Kay L. 508 N.W. 8th Street Mineral Wells TX 76067	JACKSON, James Box 35 Irrington VA 22480	DRESSLER, Stanley E., LTC 4638 Camden Court Stockton CA 95205	KARICHER, Robert C. 140 Weldon Parkway St Louis MO 63043
WHICHARD, Howard C. 118 Glenwood Lane Enterprise AL 36330	KALE, James R. 434 West College Ozark AL 36360	FORD, Eddie L., LTC 1706 British Blvd Grand Prairie TX 75050	KUHL, Philip J. 6312 Halifax Road Ft Worth TX 76116
ZAHN, Randy R. 10917 Woodward Avenue Sunland CA 91040	LEONARD, Michael G. Oakdale Ets., Lot 5, Bx 25 Daleville AL 36322	GLENNIE, Alfred K., SFC 1116 Wilder Ave., Apt A1 Honolulu HI 96822	LACKIE, R.W. Colt, 150 Hayslope Ave. Hartford CT 06102
ZAMZALI, David B. CMR 2, Box 16053 Ft Rucker AL 36360	OLIN, Randall L. 222 Victor Aurora CO 80010	HAMPTON, Wm. C., LTC P.O. Box 426 Gatlinburg TN 37738	LAUBERSHEIMER, R.M. 5114 South 3rd Avenue Afton MO 63123
<b>CWO'S</b>	ROBINSON, Don G. 2422 West 18th St., Apt 172 Houston TX 77068	JOHNSON, John P., LTC 24 West 9th Street Brooklyn IN 47012	LOVELACE, J.R. Litton, Mindef, Pearis His Singapore 2
NEAL, Billy D. 4215 E. Pikes Peak, Apt 2 Colorado Springs CO 80909	ROBINSON, Stephen M. Starlite Trl Pk., Lot 14 Elizabethtown KY 42701	KANE, Roy A., COL 2849 Dove Drive Sierra Vista AZ 85635	MALECKI, Arthur 1250 S. Maitland Ave., #213 Winter Park FL 32789
O'CAIN, Raymond F. 18 Irwin Street Ft Rucker AL 36360	RUIZ, Adolphe J. 110 South Hill Street Enterprise AL 36330	KRIVENSKY, Geo. R., CW4 1834 Oak Park Avenue Berwyn IL 60402	MANN, Charles R. 24 Catamaran Street Marina Del Rey CA 90291
PAUL, Harry L. 1758B 11th Av. Bethel Mnr Langley AFB VA 23365	SIMS, Richard A. 7917 Woolston Avenue Philadelphia PA 19150	LUTZ, George A., COL 4510 Deede Lane Orlando FL 32806	McMASTERS, John N. 1603 North Roberts Amarillo TX 79107
SULLIVAN, Harry P. 1605 Hatherleigh Drive Payetteville NC 28304	THOMPSON, Robert D. 3155 Brandy Lane, North Titusville FL 32780	PITTMAN, Charles D., LTC 114 60th Street Virginia Bch VA 23451	MEDAK, M.M. Hughes Aircraft Company Culver City CA 90230
TURNER, Charles R. Route 3, Box 190 Crossville TN 38555	THORN, Wilfred E. Box 87 Dayton WA 99328	ROBERTSON, L.C., COL 414 Hermitage Drive Seagin TX 78155	ROWE, John W. USAF Pos Bx 4301 APO New York 09633
<b>WO'S</b>	<b>ENLISTED</b>	ROBISON, Paul B., COL 144 Manthorne Road West Roxbury MA 02132	SIMPSON, George D. 9231 Lemona Drive St Louis MO 63123
BLACKBURN, Lewis M. 3 Murphy Street Newburyport MA 01950	BACON, Homer T., SP6 Route 7 Jonesboro TN 37659	ROSAS, Louis J., Jr., CW3 Route 3, Box 346, Lot 56 Enterprise AL 36330	STITLEY, A.H. P.O. Box NP Red Bank NJ 07701
BRASWELL, William T. 912 Jamestown Valdosta GA 31601	GUADALUPE, E., MSG Central Defenza 1, Buzon Caguas PR 00625	SHEPPARD, Orval H., COL Daleville Inn, Suite 18 Daleville AL 36322	TEAGUE, Gene A. 1311 Avenue "C" El Campo TX 77437
BREWINGTON, Darrell E. 121 Denver Street Salina KS 67401	HARRIS, Doyle, SFC 6830 Skidaway Rd., Apt 1 Savannah GA 31406	SHORES, Chas. V., Jr., MAJ P.O. Box 867 Leominster MA 01453	WESTOVER, Ralph P. 328 East 12th St., Apt A Anchorage AK 99501



# On Guard!

---

**A**LTHOUGH it is the type of work we like to do, the unprecedented surge of former active Army Aviators joining the Army National Guard has created a sizable backlog of individuals awaiting flight status orders. A recently published NGB information letter spelled out some measures aimed at streamlining and expediting procedures for obtaining Army National Guard Flying Status.

In addition to internal measures being implemented at NGB, the states were asked to (1) add as an inclosure to the Flying Evaluation Board a copy of the State Orders appointing an individual to the ARNG; (2) whenever possible, authenticate the Class II flight physical as being reviewed and approved by competent U.S. Army authority; and (3) forward Flying Evaluation Board proceedings to CNGB, ATTN: ARO-A. To further assist in this area an ARNG Warrant Officer Aviator is being placed on 90-day TDY to NGB to work exclusively on removing this backlog.

## Changes to NGR 95-3

NGR 95-3 is being rewritten to include the policy statement contained in a recent NGB letter on additional flight training periods (AFTP). The net effect will be to preclude aviators who are in a flight excusal status and serving in a non-aviation MOS from participating in AFTPs. Other changes to NGR 95-3 will be to broaden those eligible crew members for AFTPs to include gunners, airborne electronic sensory system operators and supervisors, and medical aidmen.

## GS level maintenance

The summary sheet action requesting authority for the ARNG to be responsible for its own aircraft maintenance thru GS level (as opposed to DS now) has been coordinated with the DA Staff and is now awaiting approval from the Army Chief of Staff. The proposal includes the addition of a fourth Transportation Aircraft Repair Shop (TARS)

located somewhere in the southeast to augment the three existing TARS at Fresno, CA; Springfield, MO; and Groton, CT. Hopefully, approval will be granted to coincide with the 1 July 71 date when GS responsibility shifts from AMC to CONARC.

## East-west conferences

To replace the ARNG Conferences that were conducted on an Army Area basis the NGB conducted two regional (east and west of MS River) management conferences this spring. The eastern conference was held at Knoxville, TN, on 30-31 March and the western conference was held 7-8 April at Colorado Springs, CO. The NGB aviation staff was particularly pleased that USABAAR was able to give its Senior Officer Aviation Safety presentation to the assembled Adjutants General and their State Aviation Officers.

## Chinook factory training

CH-47 factory training for maintenance technicians at the Boeing plant in Philadelphia commenced on 5 April. The training will be in three specialized areas covering powertrain-airframe, avionics, and electrical systems. The first CH-47s are now set for delivery to ARNG units in California, Iowa, and Texas during April. That's it from the Bureau!

---

# FOURTH ARNG TARS UNIT PROPOSED

By LTC DONALD G. ANDREWS  
Army Aviation Branch  
National Guard Bureau

---

# 1,000,000 FLIGHT HOURS. CHINOOK EXPERIENCE.

The CH-47C Chinook has the heaviest lift capability of any helicopter in service in the free world. Its versatility and proven performance in all climates and terrain—from Vietnam to Alaska; from Korea to Germany—give the armed services the mobility they need.

The Chinook carries its loads either internally or externally;

from recovering downed aircraft—over 10,000 recovered in Vietnam—to artillery placement; from troop movement to any imaginable load.

Chinooks are backed by 1,000,000 flying hours. During 1970, the fleet achieved over 75 percent readiness in the field while averaging more than 60 hours per month per aircraft.

This outstanding performance is evidence of the inherent reliability and maintainability of the Chinook.

Chinooks have proved, in the field, that they are the toughest and most productive helicopters of their size today.

And they have the growth development to keep up with the needs of the future.

**BOEING HELICOPTERS**





# ARMY AVIATION

EDITORIAL AND BUSINESS OFFICES: 1 CRESTWOOD ROAD, WESTPORT, CONN. 06880

**THE P.O. DOES NOT FORWARD  
ISSUES IF YOU CHANGE YOUR  
ADDRESS! TO RECEIVE ISSUES,  
SUBMIT A "CHANGE" NOTICE!**



## Snoopy

Almost any clearing in the woods worthy of the name can be a forward airfield for the Grumman Mohawk. With the tanks topped off, and a full payload of electrical snooping gear aboard it can leap out of small pastures and provide detection on the surprised enemy.

This kind of performance depends on gas turbines with plenty of get up and go. The twin Avco Lycoming T53 turboprops give the Mohawk its lift to measure up — and then some. Each engine delivers over 1400 horsepower for only 688 lbs. of weight.

Light in weight, these engines are heavyweights in ruggedness. They already have shown they can take it, from climate and from the enemy alike, in Southeast Asia combat theaters.

Whether you want to power a snoopy, a hedgehopper, or a chopper, it's a pretty good idea to begin with the gas turbines from Avco Lycoming.



**LYCOMING DIVISION**  
STRATFORD, CONNECTICUT 06497