

ARMY AVIATION

SEPTEMBER 16



1966

No moment for a cavalry steed to stumble



(See back cover)

AVCO

LYCOMING DIVISION
STRATFORD, CONN.

The word "chipook" is written in a stylized, lowercase, sans-serif font. The letters are bold and have a slightly irregular, hand-drawn appearance. A horizontal line runs through the middle of the letters. To the right of the word, there is a stylized silhouette of a helicopter's main rotor and tail rotor, with lines extending from the rotors towards the right edge of the page.

PROGRESS

ARMED CHINOOKS MAKE DEBUT IN COMBAT IN VIETNAM

The armed Chinook helicopter, developed by Boeing's Vertol Division, has gone through its combat debut in Vietnam.

Three armed and armored Chinooks, assigned to the 53rd Aviation Field Evaluation Detachment, provided additional firepower for the 1st Infantry Division in operations near Quan Loi.

Prior to that assignment, armed Chinooks were credited with VC "kills" while on training runs over the jungles north of Saigon.

After the initial tour of duty, the Chinooks will be transferred to the 1st Cavalry Division in An Khe.

Unveiled last November in Boeing's Vertol Flight Center in Philadelphia, the armed craft was sent to Aberdeen Proving Grounds for evaluation. It then underwent a period of unit training at Fort Benning, Georgia.

Providing flexibility in the choice of weapons, the armed Chinook carries a 40mm grenade launcher in the nose; five 50 cal. or 7.62mm machine guns (four waist guns and one rear mounted); a pair of 20mm cannons (fixed forward firing) and two rocket pods for 2.75 in. ordnance.

Two 7.62mm machine guns can be used in place of the rocket pods if desired. Total armament weight is less than two tons.



BOEING Helicopters

VERTOL DIVISION / MORTON, PENNSYLVANIA, U.S.A.



SPEAKING OUT



THE GREAT BEAVER CONTROVERSY

OLD wives' tales aren't peculiar to old wives. Old aviators spin some pretty good tales, too.

In fact, the amount of misinformation, hoaxes, and myths that otherwise experienced and knowledgeable aviators carry around in their hip pocket and pass off as gospel around the bar boggles the imagination.

Take the GREAT BEAVER CONTROVERSY, for example. This Old Gray Head has heard variations of this classic bit of misinformation heatedly discussed from the Arctic to Baja California, and from the Orient to the Occident for more than a decade.

The argument goes something like this: Given an average load in the U-6A Beaver and plenty of runway, is it better to use full takeoff power—36" Hg

and 2300 rpm, or 30" Hg and 2000 rpm, which is essentially climb power?

The proponents for the LOWER take-off power setting argue that:

the lower power settings prolong the life of the engine,

smoother, "airliner" type takeoffs can be made which are more comfortable to the passengers,

once off the ground no further power control manipulation is needed to establish climb power settings.

If the reader will bear with me while I unsheath my combat slide rule, I'd like to spear the low power setting myth and dump it into a timely grave.

Paradoxically, the use of the "20-30" power settings on the Beaver for take-off actually SHORTENS engine life. The published maximum takeoff settings, "23-36", actually are easier on the engine and will lead to prolonged engine life. And here's why:

There are two important factors to

(Continued on Page 22)

By

CAPTAIN WILLIAM F. GABELLA
USAPHS, Ft. Wolters, Texas

ARMY AVIATION

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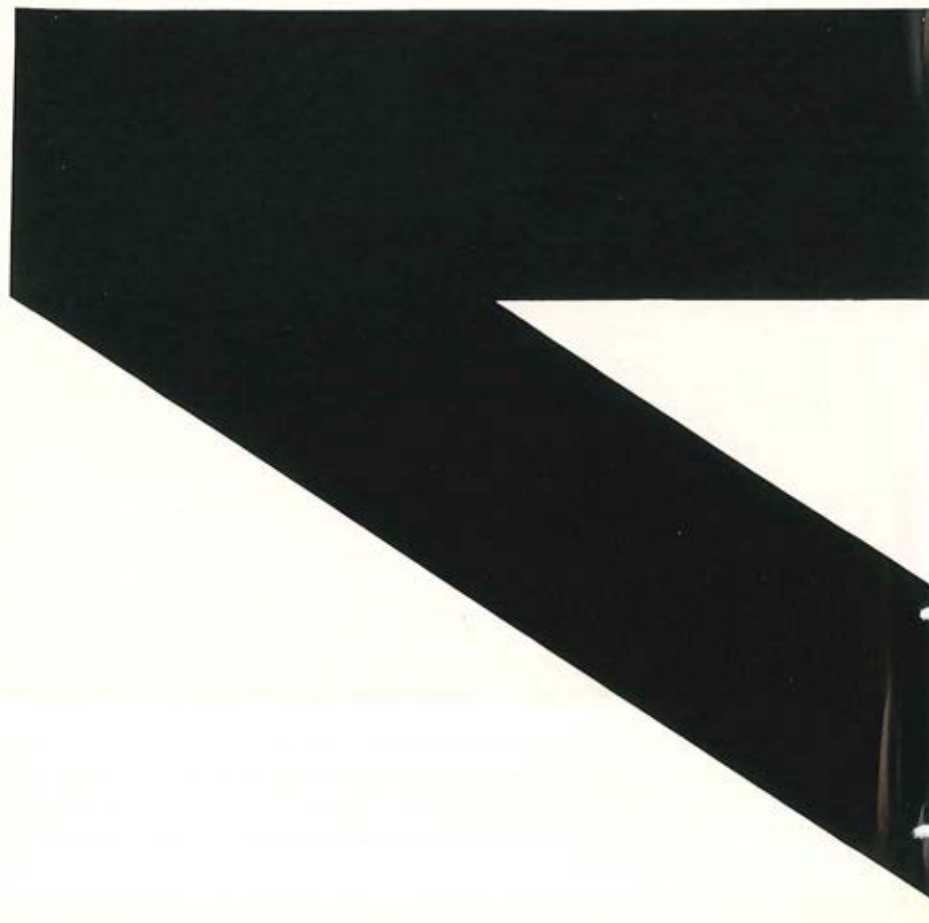
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ARMY MOHAWK SETS

The United States Army and Grumman claimed four world aviation records in 1966 with the OV-1 Mohawk, reconnaissance and surveillance intelligence aircraft.

The Mohawk accomplished these records for turbo-prop aircraft weighing between 13,227 lbs. and 17,636 lbs.:

Time to climb to 3,000 meters (9,842 ft.) 3 minutes and 46 seconds

Time to climb to 6,000 meters (19,685 ft.) 9 minutes and 9 seconds

Sustained altitude in horizontal flight, 32,000 ft. Pilot: James Peters, Grumman)

100 KM closed-circuit course at 5,000 feet in 12 minutes 44.8 seconds, for average speed of 292 miles per hour (Pilot: Col. Edward Nielsen, U.S. Army)



NEW RECORDS

Other records are being set by the Army's Mohawks in day-in, night-out operations in SLAR, IR, photo and eyeball reconnaissance in Vietnam. Working as a team, the OV-1B SLAR and OV-1C Infrared Mohawks see what's ahead for the Army's assault groups in Vietnam. These aircraft play a vital part in identifying enemy installations and movements. Field commanders need this type of air-to-ground reporting to establish tactical superiority.

Pilots Colonel Edward L. Nielsen, USA, and James Peters, Grumman. In center NAA observer Ron Ellico.

GRUMMAN AIRCRAFT



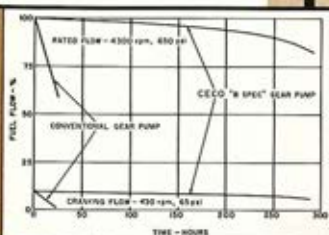
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FOR the first time in several months I am able to start this article with a favorable personnel action concerning aviator officer personnel. While recent articles have highlighted such unpleasant facts as repetitive tours in Vietnam, suspension of ground duty tours, and attendance at branch career courses, I am now happy to pass to you that

achieve a "lean and mean" posture. We have subsequently been able to evaluate the performance of this equipment under combat conditions with the 1st Cavalry Division in Vietnam.

Generally speaking, most of the equipment has proven to be quite reliable and highly advantageous to the type airmobile

A FAVORABLE ACTION

OPO will be able to send some aviators to their branch career courses during the remainder of FY 67.

While this number will not be great, as many as possible will be permitted to attend without restricting our ability to meet Vietnam and other high priority commitments. All aviators selected will be Vietnam-returns with availability being the next paramount factor.

Realizing the shortness between tours in Vietnam as many as possible will be sent in a PCS basis with TDY attendance being limited to those who are willing to accept this status.

Department of the Army will continue to closely monitor all aviator requirements and where possible aviator officer personnel will be allowed to attend their career courses. I hasten to add, however, that the picture isn't rosy yet and won't be for quite some time.

Lightweight equipment for Vietnam aviation units

One of the significant "fall outs" from the air assault concept tested by the 11th Air Assault Division was the significant substitution of compact lightweight material to

operations being conducted by the 1st Cavalry. Of the 177 developmental items authorized the division only 17 have proven to be undesirable or requiring complete replacement items.

In order to provide the same degree of mobility and flexibility to the other aviation units in Vietnam, USARV has requested the procurement of 35 selected non-standard items for other aviation units in or scheduled for Vietnam.

We expect that this action, when completed, will greatly enhance the overall combat effectiveness of the Army aviation effort in Vietnam by allowing units to relocate more rapidly to operate from field positions co-located with units being supported — and to perform adequate aircraft maintenance under true field conditions.

In addition to this large action, the units in Vietnam have from time to time initiated requirements for other non-standard items. These items carry the title of *ENSURE (Expediting Non-Standard Urgent Requirements for Equipment)*.

These items are not restricted entirely to the aviation area; however, a great many of them have impact on aviation operations. While many of these are seemingly insignificant requests (i.e., a better helicopter cargo net with which to transport artillery ammunition, lightweight individual survival kits, and gross weight indicators for CH-47's), some of them will have considerable impact

By Brigadier General
ROBERT R. WILLIAMS
Director of Army Aviation,
OACSFOR, D/A

on our operations in Vietnam as well as future employment of Army aviation.

Such items as airborne bullet detection devices and devices for night helicopter operations will unquestionably influence the path taken in future development and tactics.

While we are "crashing" on these items, it will be months in some cases before a product is in the hands of the user. The state-of-art, the complexity of the equipment, plus the requirement for at least safety testing prior to development, controls the availability date.

Progress in facilities

As you may know, the Directorate has one officer assigned to monitor facilities and construction used to support Army aviation. We have been following the development of the T-17 membrane as well as the new aluminum landing mats.

Another important project has been the monitoring of materials to provide dust palliation in and around landing areas. In conjunction with the construction materials development, we are also monitoring the development of portable lighting including condenser discharge lights (strobes) that are battery operated, extremely lightweight, and easily adaptable for use at either fixed wing or rotary wing airfields.

We have made significant progress in providing large quantities of the T-17 membrane to units in RVN. For example, there is over 3 million square feet of the membrane being used at C-130 retail delivery airfields for the 1st Cav Division. This membrane provides protection from dust and a waterproof surface. Although the new aluminum landing mats are being used primarily by Air Force and Marines, the Army has received benefit from this development by utilizing airfields constructed with aluminum mats.

One of the problems associated with new developments is to provide adequate publications to assist planning and operations personnel in the use of these materials.

For your information, the Chief of En-

gineers has published an excellent technical manual, TM 5-366, dated November 1965, dealing with planning and design of airfield construction in the theater of operations and we have had TB 5-330-1 printed dealing with fortifications for parked Army aircraft. We now have underway, on a priority basis, the data gathering for early printing of a manual on helicopter facilities in the theater of operations.

While these developments are usually considered rather mundane actions, anyone who has had to operate in dust or mud over a long period of time can appreciate the importance we attach to these requirements. As soon as the new TM on helicopter facilities is printed, I will notify you in the newsletter of the appropriate number of the TM.

CV-2/7 transfer

Action to implement the agreement between the Army and Air Force Chiefs of Staff, transferring the Army CV-2/7 mission and resources to the Air Force is progressing in a highly satisfactory manner.

The joint DA/USAF plan for the transfer was published 1 June 66 and has been distributed to the Army and Air Force major commands concerned. Detailed implementing plans are in the final stages of preparation at this writing, while numerous actions are concurrently in progress directed toward completion of the transfer by the 31 Dec. 66 target date.

In this regard, the CV-7 program, including all materiel assets and funds, was turned over to the Air Force on 6 July 66. The Air Force's Tactical Air Command has established an interim combat crew training school (CCTS) at Fort Benning, Georgia and has assumed responsibility from CONARC for CV-2 air crew training effective 25 July 1966.

An Air Force field training detachment (FTD) commenced formal training operations at Fort Benning on 1 August 66, a full 15 days ahead of schedule. This activity will turn out Air Force higher echelon CV-2 maintenance personnel.

The entire project has proceeded smoothly

and expeditiously from the start. Naturally, a great amount of detailed coordination and joint effort remains to be accomplished. However, our progress to date has established an excellent framework for the efficient and timely completion of the transfer.

Updated aircraft distribution plan

On 26 July TAG gave world-wide distribution to the latest aircraft distribution plan. This document reflects proposed distribution by type aircraft, by fiscal quarter, by major command through FY 1968. This document represents our best estimate of what aircraft assets will be where during this period. I hasten to add that this is a plan and as such will be subjected to such unforeseen factors as additional requirements for Vietnam, changes in aviation training base requirements and changes in relative priorities of the various major commands.

Of particular interest will be introduction of the utility airplane, the trainer airplane, the OH-6, and the AH-1G as well as the phase-out of certain older aircraft systems. The document is classified confidential and carries the file symbol AGAM-P (M) (25 Jul 66) FOR AV PLP. It should provide aviation planners with an adequate basis for both operational and logistical plans as well as facility construction.

First FW Class Starts at Ft. Stewart

The first major class for Fixed Wing Flight Training began its training at Fort Stewart in early August, after a brief ceremony in the Post Theater.

The recently re-located Aviation School Element from Fort Rucker, Ala. initiated training with a 55-member student class. Following a welcome by MG John J. Tolson, Commander of Fort Rucker and Commandant of the Army Aviation School and introductory remarks by COL Lyle H. Wright, Aviation School Element Commander, the 55 students departed for Liberty Army Airfield where they were divided into groups of two and met their flight in-



Warrant Officer Candidate James T. Alexander (second from right), one of the first Fixed Wing Flight Training students to be airborne in the initial Aviation School Element class at Fort Stewart, goes over his pre-flight check list with Colonel George C. Putnam (second from left), assistant commander of the Aviation School at Fort Rucker, Alabama, and Louis H. Adams (right), civilian flight instructor. Looking on is Colonel Lyle H. Wright, (left), Fort Stewart Aviation School Element commander.

AAAA Recognition

On another subject, I believe it is noteworthy that the Army Aviation Association is really "big time."

Our AAAA Annual Awards Luncheon on 14 October is again listed among 15 important unofficial functions recently listed by the Chief of Information as events at which attendance by Army invitees is desirable.

structors who'll take them through their first 20 weeks of fixed-wing flight training.

The honor of being the first student in the air went to WOC James T. Alexander of Oak Hill, WV.

For the 20-week Fixed Wing Aviator Course at Fort Stewart, there will be four classes of 55 students each at peak strength in November with the School remaining at this strength for the remainder of the year.

Upon completion of their training at Fort Stewart, the students will go to Fort Rucker for their final 12 weeks of training.

THE HELICOPT

*An inter
Aircraft*



M. Carl Haddon



ER ISN'T DEAD YET!

How with M. Carl Haddon, group VP of Lockheed Corporation, keeps the helicopter "front center"



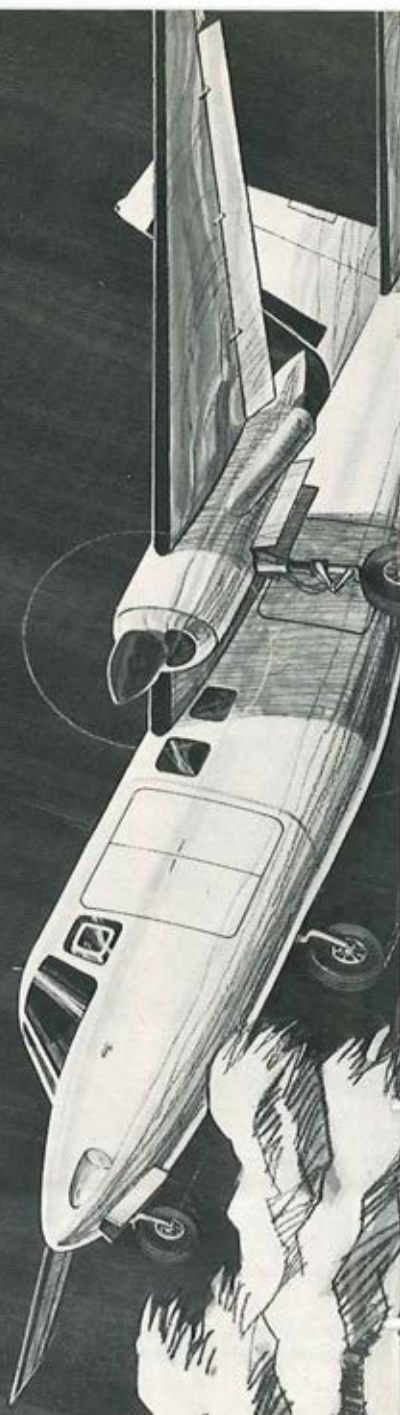
Q. What do you see as the future of the helicopter? Will it be replaced eventually by something without a rotary-wing? If not, how do you think it will evolve?

A. The future of the helicopter appears unlimited. Daily reports evidence its accomplishments in Viet Nam. Recent military contracts for the light observation helicopter, AAFSS and Huey-Cobra substantiate continued belief by the military that certain airborne requirements can best be handled by helicopters. Government and industry research and development programs are expanding greatly the total capabilities of rotary-wing systems.

The helicopter today provides an operational vehicle for military and commercial vertical-lift requirements that, as yet, is unmatched by any other VTOL design. This fact, coupled with growing emphasis on VTOL applications, guarantees continued usage and development of rotary-wing systems. Today's most dynamic development area involves efforts to design a system (the composite) that blends the higher performance characteristics of conventional fixed-wing aircraft with the vertical flight capabilities of the helicopter.

It is clear that rotary-wing systems will be candidates for any subsonic VTOL requirements in the future. The helicopter and such rotary-wing ve-

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hicles as the compound helicopter will not be replaced by other VTOL concepts in the foreseeable future — certainly not in the next two decades.

This is not to say that other VTOL designs will not continue to be developed and will go into service, but such designs will share the VTOL market with rotary-wing machines. The rotary-wing aircraft in the form of the compound helicopter has now broken out of its speed-limited envelope in dramatic fashion. For example, the Lockheed XH-51A compound recently flew 272 mph, a speed never before attained by a rotary-wing design.

The next generation of helicopters will eliminate or reduce substantially current problems and limitations by achieving higher speeds, lower drag, higher lift/drag ratios, inherent stability and excellent control. Progress is being made in reducing complexity, maintenance and cost by such developments as the rigid rotor.

*

Q. In the non-helicopter area, do you think VTOL technology is sufficiently advanced at present to permit selecting one or more vehicles for construction as operational aircraft, or are additional experimental vehicles needed?

A. I believe that the joint U.S. Air Force-Federal Republic of Germany VTOL fighter program represents a timely application of non-rotary-wing technology to a specific mission. This program envisions construction of prototypes that will lead to operational

aircraft. And it has the further advantage of pooling the requirements and technical knowledge of two free world nations that are already in the forefront of VTOL research and development.

In addition to this joint program, I feel that construction of a variety of experimental VTOL vehicles should continue. In a new field, there is no substitute for actual construction and flight of the most promising concepts as a necessary part of the "survival of the fittest" selection process leading to eventual production and expanding markets. Construction and flight of experimental vehicles should be encouraged. Such vehicles should be configured with specific missions in mind.

The several VTOL experimental vehicles now flying throughout the world are proving extremely effective in advancing the state of the art. It is likely that one or more of these concepts will advance to the production prototype stage and on to production. In addition, as propulsion systems improve, new experimental designs should be built and thoroughly flight-tested.

*

Q. Do you think that a single VTOL concept will emerge as the most practical for a variety of missions such as heavy lift, surveillance and airline use, or will we end up with a "family" of vehicles?

A. A single VTOL concept for a variety of missions is unlikely in the near future, as there is such a wide variety in the concepts offered. Compounding this is the fact that future military and commercial VTOL requirements are still being defined.

There is no question in my mind that the rotary-wing concept — which already dominates the VTOL field — will be in wide use for years to come. There is and will continue to be a family of rotary-wing vehicles for a broad range of missions. So the question is, "Will a



non-rotary-wing concept move into extensive operational use concurrent with rotary-wing craft?"

In the non-rotary-wing field, it is more likely that, rather than a family with great similarity in the means of achieving verticle-lift, there will be a number of distinctly different concepts. These will reach various stages of development and maturity. Perhaps during the second or third generation we will see a narrowing-down to one or two dominant types. In other words, the low-disc-loading vehicle, represented by the helicopter and its derivatives, will remain, and some form of high-disc-loading craft will move into the picture.

The choice between rotary-wing and other types depends on how much hovering time is required, the amount of fuel consumed, stability and control problems, and noise produced. Rotary-wing currently has advantages in the short-haul transport field, where there seems to be a need to hover for fairly long periods of time and where a low noise level is mandatory.

*

Q. We often hear military people say, in effect, that they cannot spell out a requirement for a VTOL aircraft because they do not know what capabilities are possible. Industry, on the other hand, says it can build almost any kind of an aircraft if a requirement is spelled out. What is your position?

A. I have already mentioned one current and specific vertical-lift requirement — the joint U.S.-German fighter. In addition, other military missions exist here and abroad that justify VTOL capabilities, including utility, rescue, surveillance, fire support, ASW (Anti-submarine Warfare) and intra-theatre airlift.

As to your general question — should the specific requirements be initiated by the military or by the industry — this is the familiar "chicken or egg" dilemma. In the long run, the problem can



"A single VTOL concept for a variety of missions is unlikely . . ."

be attacked by determining what we want and need and by establishing a list of "desirements" without regard to the current technical state of the art. Once these are formulated, we can work back from the "desirements" to identify the technical obstacles in our path. Generally, we find that such obstacles will yield to persistence, knowledge, experimentation and time. Thus, eventually, we achieve the results we have set forth in our list of "desirements."

As an example, I see no reason why this approach could not lead to development of a system that pays no penalty whatever for its vertical-lift capability as part of an overall military or commercial system.

*

Q. Is there really a need for vertical-lift capability over and above that offered by the helicopter? Is it possible that STOL, rather than VTOL, ultimately may be the answer?

A. Vertical-lift capabilities over and above those offered by the pure helicopter definitely are needed for future military and commercial requirements. Rotary-wing systems for pure helicopter configurations pose limitations on speed, load and altitude performance. Certain new and more demanding VTOL requirements necessitate increased performance that would appear possible

only with non-helicopter VTOL designs.

While cost and complexity of proposed VTOL systems are high, the fact that VTOL mission requirements do exist demands continued effort and development. And we can expect cost problems to diminish with eventual state-of-the-art advances such as have characterized periods of new development within the aerospace industry.

With regard to STOL, I believe a variety of vehicles will be developed. But for most uses, the VTOL vehicle with STOL capability will prove more usable, versatile and saleable than a pure STOL design. For example, it should be noted that terminal requirement costs are much higher for STOL compared to VTOL. The recent MIT report indicated that, for a specific commercial application in the northeast corridor, the advantage of not requiring an airfield was the decisive factor in the conclusion that VTOL has a definite economic advantage over STOL.

*

Q. Do you feel vertical-lift vehicles will ever be able to compete with conventional aircraft in initial cost, operating costs and maintenance requirements?

A. Current VTOL development indicates eventual maintenance and operating costs could be practical and compe-

"It is clear that rotary-wing systems will be candidates for any subsonic VTOL requirement in the future . . ."

titive with conventional fixed-wing values. The MIT report was very encouraging along these lines. It estimated that eventual maintenance and other indirect costs would be lower than current levels. In addition, the report pointed out that fare levels could be kept down to 5¢ per seat mile for 100-mi. stage lengths. The significant cost is the overall trip cost to the passenger. This can be lower with VTOL as the surface travel cost portion is reduced by virtue of close-in V-ports.

*

Q. Do you feel airframe progress is being held back by lack of suitable engines? Or vice versa?

A. Powerplant development has been excellent for helicopters, and has not restricted rotary-wing progress. More development, however, is needed for other VTOL types, and this has been a major consideration in adding high-speed flight to vertical-lift capabilities. In most VTOL systems of today, an inherent power mismatch exists whereby a portion of powerplant potential becomes parasitic in either the vertical or cruise mode. Consequently, development of more efficient composite powerplant systems is needed.

*

Q. What about noise and the related problems of downwash and reingestion?

A. Noise, downward disturbance and reingestion are problems which currently are less troublesome with rotary-wing VTOLs than with the higher disc-loading of the non-rotary-wing vehicle. The noise factor could be the most critical item when it comes to using VTOL vehicles in a short-haul transportation system. Both industry and government are spending tremendous sums of money for air vehicle noise investigation and its suppression, and we feel that real progress is being made along these lines. The vehicles themselves can be

23 world records.

And guess who put them up to it?

The power behind the record-shattering performance of the Hughes OH-6A is a turboshaft engine. The Allison T63, under 140 pounds, a little over a yard long, yet it helped the OH-6A to rack up 23 new world records. Twelve for speed, five for distance and three each for climbing and altitude.

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Allison AEROSPACE



M. Carl Haddon, group VP of Lockheed Aircraft Corp., has been associated with the aerospace industry for more than 30 years and has guided Lockheed's efforts in the vertical-lift aircraft field.

A 1931 graduate of the University of Michigan, he joined Lockheed in 1940 and served as project engineer on the XP-38A, the XP-49 experimental version of the P-38 and the famed Constellation. When Lockheed-California Co. was formed in 1961, he became its first president, and in 1963 he was elevated to corporate VP-science and engineering.

Reporting to Haddon in his present post are Lockheed-California, which is developing the Advanced Aerial Fire Support System (AAFSS) for the Army and is competing for the Army's composite VTOL research aircraft and the U.S.-West German VTOL fighter project; Lockheed-Georgia, which built the XV-4A Hummingbird VTOL and now is building the world's largest VTOL wind tunnel; Lockheed Air Terminal, and Lockheed Propulsion Co.

Haddon is a member of a number of aviation organizations, including the American Helicopter Society and the Vertical-Lift Aircraft Council of Aerospace Industries Assn. He was interviewed by American Aviation's Danna K. Henderson.

designed to operate quietly, especially the helicopter types, and it will not be long before the other VTOL types can be designed to operate as "good neighbors."

In my opinion, the operation of both high- and low-disc-loading VTOL vehicles always will be less troublesome from prepared areas. The lower the disc-loading, the less preparation is necessary, as witness current operation of low-disc-loading machines (helicopters) from totally unprepared areas.

*

Q. On the commercial side, what steps do you think the government should be taking to advance the cause of vertical-lift aircraft for short-haul transportation?

A. We need to have low-altitude en route and landing navigational systems developed and proven. We need actual terminal construction in downtown or close-in suburban areas. Logically, construction of terminals might be carried out as part of present urban renewal programs, and perhaps should be planned as part of these programs. I think this kind of planning should be under way now.

With regard to demonstrations, we already are witnessing successful trials of helicopter VTOLs at several worldwide locations under differing circumstances, including the significant Pan Am V-port in Manhattan. As other types of VTOL aircraft become operational and competitive with rotary-wing designs, they can fit into the facilities developed for helicopters without major redesign of such facilities.

*

Q. How do you regard the various VTOL studies now under way or recently completed?

A. The MIT study is the latest but not the last of many valuable studies concerning solutions to the short-haul air transportation problem. MIT recom-



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HELICOPTER/Continued

mends a vehicle with VTOL capability, primarily because of total system economics. There is general agreement that much remains to be done in such areas as navigational systems, traffic control, and all-weather operation if a VTOL system is to achieve its full potential.

I don't feel that progress is being hampered by a proliferation of studies. On the contrary, a wide and many-faceted examination of VTOL needs and capabilities is of great benefit.

*

Q. Is industry getting good feedback from the National Aeronautics and Space Administration and military agencies on the various experimental VTOL programs? What do you think of NASA's approach of building a number of relatively inexpensive test vehicles to test specific problems?

A. Industry is getting good feedback

BEAVER CONTROVERSY

(Continued from Page 4)

consider, power and piston travel. Power is work performed per unit of time — and the advocates of low power takeoffs **CONSISTENTLY** neglect this fact. Piston travel is directly related to wear on the engine — obviously the more piston travel, the greater the wear.

A Simple Test

Okay now. Let's run a simple test with a Beaver. Let's try one takeoff at "23-36" and one at "20-30".

At the **HIGHER** power setting we find it takes 15 seconds to break ground, while at the **LOWER** power setting it takes 20 seconds to break ground.

Since the pistons of the R-985 have a five inch stroke, each piston travels 10 inches in one complete revolution of the crankshaft. In the high power, 15 second takeoff run the total piston travel is 517,500 inches. In the 20 second take-

off run at the lower power settings, the total piston travel is (Surprise!) 600,000 inches, even though the engine rpm is lower at the lower power setting.

Government support of VTOL R&D programs over a period of many years now is beginning to pay off. Aerodynamic and propulsion research, followed up with experimental flight vehicles, is an effective governmental means of accelerating the pace of industrial activity. Therefore I endorse and commend the NASA approach.

*

Q. Do you think industry is doing enough to sell the concept of a VTOL system?

A. I think industry is doing the only thing it can do. It is selling the VTOL concept by proving that it works. You don't sell something like VTOL with words and pictures. You sell it by demonstration, Lockheed's experience with our rigid rotor concept is typical. We couldn't interest anyone in the idea until we built a test vehicle and proved it did what we said it would do. ■

off run at the lower power settings, the total piston travel is (Surprise!) 600,000 inches, even though the engine rpm is lower at the lower power setting.

In round figures this is equivalent to 1.3 miles of **EXTRA** piston travel, or wear, even though the ground run is only 5 seconds longer!

Logical Conclusion

Extend this mathematical logic a step further and it is easy to show that 10 low power takeoffs will result in over 13 **EXTRA** miles piston travel. Prothis over a period of a year or two and the result is a foreshortened engine life and premature engine change.

The "airliner" type takeoff and the present climb power arguments cited by low power advocates really don't apply, and, I have the sneaking suspicion, are cover-ups for lazy pilot techniques.

We hope this will end the **GREAT BEAVER CONTROVERSY** once and for all.

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- Can operate from shortest, roughest fields.
- Nonstop ranges to 1,565 miles.
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- Easily operated by one pilot—even under the most difficult trip conditions. Big plane "positive feel."
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excess of required load factors. Converts quickly to carry high-priority cargo... or for use as aerial ambulance.

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CESSNA AWARDED CONTRACT FOR 255 AIRCRAFT

Cessna Aircraft Company has announced receipt of a letter contract from the U.S. Army Aviation Materiel Command for 255 T-41-type aircraft.

While the total contract is expected to amount to more than \$4,000,000, the letter contract specified an initial amount of \$2,150,000. In addition to aircraft, the contract also included procurement of data, training, and spare parts. The Army version of the T-41 is similar to Cessna's commercial Model 172 and has not yet been given any official Army designation.

The Army plans to use the aircraft to perform missions of primary and advanced training for Army student aviators and for installation support roles. The Cessna O-1 *Bird Dog* currently is in use as the Army's primary fixed-wing trainer. Purchase of the new aircraft will permit the Army to release more of the O-1 observation aircraft to other support missions.

The Army's T-41 aircraft will have a constant speed prop, a top speed of 153 miles per hour and a cruising speed of 146 mph.

Service ceiling is in excess of 17,000 feet. Depending on the mission, useful loads for the two to three-place aircraft range from 700 to 1,000 pounds. Gross weight is 2,500 pounds. Take-off over a 50-foot obstacle is 1,250 feet and landing distance over the same obstacle is 1,450 feet.

The U.S. Air Force adopted the T-41 as its official primary trainer in 1964 with an initial order for 170 aircraft. Air Force cadet training in the aircraft started in August, 1965. The Peruvian government recently acquired 26 T-41s for use as primary military trainers and for government sponsored flying clubs. In 1965, the Ecuadorian Air Force purchased eight of the aircraft for use as basic flight trainers.

Commercial versions of the aircraft have been in production at Cessna since late 1955 and more than 11,900 of the *Cessna 172* and *Skyhawk* series have been manufactured since that time, making it the world's most popular airplane. The *Cessna 172* also holds the world's flight endurance record by remaining continuously in the air for 64 days and 22 hours.

**The OV-10A is tough, reliable, versatile,
and easy to maintain.**

**So are its AiResearch T76
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Garrett-AiResearch turboprops are fixed-shaft engines: that means fewer parts and simpler logistic support, easier maintenance, and greater reliability.

The T76 weighs approximately 300 pounds, and produces over 680 ESHP (still more powerful versions are now being run-in). This power-to-weight ratio means bigger

payloads, higher performance, and longer-range tactical and support missions.

If you'd like to know more about the design and performance of the T76 turboprop engine, write: Aircraft Engine Sales, AiResearch Manufacturing Company, 402 S. 36th Street, Phoenix, Arizona 85034.



**AIRESEARCH
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AIRCRAFT
PROPULSION**

The old o

(Dear Editor), This letter is in reply to the published letter of Gen. H. H. Howze appearing in the July issue of "AA." We do not expect anything for this effort except consideration and possibly it will give the General an insight into the views held by the so-called "peon-pilots" of the lower ranks, who, in the future may rise sufficiently in Army aviation to have a somewhat stronger voice.

In the July letter, the General stated the need for aviators to participate as platoon leaders and CO's. One of the STRONG reasons for volunteering for aviation in the Army is to depart more or less from "Gravel-Agitating" duties. We live to fly and love to fly. That's why we allow ourselves to be hazed at Gary and develop "checkitis" at Rucker.

This view was aptly put in a previous issue by a non-rated field grader who stated that he wanted to be flown by a FULL TIME pilot and not by a 50-50 pilot. True, Gen. Howze mentioned that branch participation was not to interfere with pilot proficiency but TRY to get that point across to more than a few high level CO's.

Platoon leading by aviators occurred in a recent maneuver and you never heard a more disgruntled group. This unit had its share of branch orientation and by the looks and remarks of the pilots the amount of interest aroused by the program was readily discernible.

Pilots are a funny breed. They will go to the limit on any subject pertaining to the air but as far as the latest breech mechanism on a 155 is concerned or where to employ the 3rd platoon in the attack, most of us



covered that phase generally in the ranks, in OCS, or in Basic Branch School. We do not expect a non-rated Company Commander or BC to show up at our Aviation Hq and take over our maintenance or tactical operations for a week. He has his own specialty.

In reference to the General's letter where he mentions the enthusiasm and good morale displayed by the School at Rucker. We can only say that nothing but enthusiasm is rendered a visiting V.I.P. We know that Gen. Hutton has the school at heart and is very intent upon making it the best and it darn near is already BUT get to the lower echelons, the "peons," and listen to the instructors, both civilian and Army grumble. For the civilians, it's low pay and long hours. For the GI instructors, it's long hours and the fact that a good percentage would give anything for re-assignment. They have been there (Sill and Rucker) too long and many didn't want to instruct in the first place.

They have grown stale. As a result, the students absorb the bad effects. A poll on this point by high level officers will no doubt reveal "bliss" but in peon-to-peon conversations, "bliss" doesn't enter the conversation at any point. Our suggestion (for what it is worth) is to open up instructor positions on a volunteer basis. We know several men with many, many hours who would be glad to submit applications.

Concerning uniforms, we agree with the General that sloppy attire should be relegated to the garbage can but why do so many

OCTOBER, 1955 COMMENTS:

A MANY SIDED THING!

er changeth..



CO's frown on units having their own insignia for flight jackets and aircraft? If a man didn't feel that he was in the "fly-in'est" unit in Army aviation, he wouldn't give a darn about the outfit. However, when he feels that he is and the CO nixes the idea of distinctive insignia for the jackets or planes, then where are the little odds and ends of morale going?

Please do not think that we have adopted the "poor downtrodden masses" attitude for we haven't but we are being forced to consider discharges after 8, 10, and 12 years' service because of many local empire builders who more or less look down on aviators. For the hundreds who are trained in aviation each year there are hundreds more discharged because of "deviation" from air activities and increasing stress on branch familiarization. We eagerly await the day we become branch immaterial or a separate air arm.

If there were some way the General on his command inspections could get to the "little guys," all of the above would be clearly substantiated. By having lower ranking officers accompany the inspection team, "peon-to-peon" talk would be facilitated considerably and a true picture would be secured. Unsigned by 3 for OEI reasons.

(Ed. Note: Viewpoints on any subject are important if a periodical is to represent its readership and is not to be considered as a "kept" publication. However, we wish to stress that Gen. Howze renders a distinct courtesy when he permits us to reprint his periodic personal letters. These informal let-

ters go to the Aviation Officers of the major commands. The general morale and enthusiasm of Army aviation personnel are of prime importance to General Howze and we can assure you that he welcomes your constructive opinions. With particular reference to the problems mentioned above. Gen. Howze's views are presented on the following page.)

THE REPLY . . .

DEPARTMENT OF THE ARMY
Office of the Assistant Chief of Staff
G-3, Operations
Washington 25, D.C.

The editor of this periodical sent me a galley of the preceding letter asking if I had any objection to publishing it. The three officers who wrote the letter will perhaps suspect that this is evidence that "Army Aviation" is not a free journal. It is free—the editor may print what he pleases, but apparently he felt that since I make certain material available to him, it would be reasonable to let me see in advance adverse reactions to that material.

So I asked the editor to print the letter, and this reply, together.

First, let me assure the writers that the general well-being of the rated officer is of utmost concern to the Army. My own office and that of G-1 and CMD devote much labor and thought to the matter, but I will confess in the next breath that our efforts

ARMY AVIATION MAGAZINE 29

MANY SIDED THING

OCTOBER, 1955

have so far produced few tangible results. What we have done could probably have been done better; what we shall do will probably be imperfect. But though the actions of those in "high authority" may appear superficial and inadequate to the company grade officer, I will deny vociferously any charge of indifference.

In particular regard to the Aviation School: First, we are making a hard try, against obstacles, towards improving facilities and living conditions. Second, I have been made painfully aware by General Hutton of the treadmill nature of the work of the instructor; certain measures are underway which should *partially* alleviate it. Imperfect solutions? Certainly. The 3 authors should have a try at prying additional money and additional spaces out of a shrinking budget and a shrinking Army. But, nevertheless, we shall make headway.

The letter makes a strong attack against a principle which I personally espouse, that is, that a certain amount of ground training is necessary to the Army aviator.

Well, my reasoning, right or wrong, is simple enough. First, I want the aviator to be developed to the point that he is acceptable in the highest jobs the Army has to offer. Training for these high positions requires experience—wide experience, including staff and command. Where will the aviator get this? Can you imagine a rated

officer (in days to come) being considered for command of a Field Army when his highest previous tactical command was that of flight detachment?

The career program, on which many of us in the Pentagon have worked long and hard, provides that the aviator get perhaps 15 or 20% of his service with ground troops, keeping flying proficiency the while. This will not produce a 50-50 aviator, but at the very worst an 85-15 or 80-20 aviator. In addition, I am urging that flying officers be required periodically to participate in field exercises in a non-flying capacity. Perhaps the Army can use a limited number of flyers who can only fly—maybe our career program should make allowance for these, including the 3 writers. But the flyer who will do the best job for the Army is the one who knows something of the problems and difficulties which beset the combat unit, for only thus can he contribute fully and wisely to the overall effort. He must not be contemptuous of what the writers call the "gravel agitators". And *only* the flyer who knows both sides of the game can assist in the vital task of developing the great latent potential of aviation, and only he will gain the insight and wisdom necessary for the successful command of large units.

It is worthy of note that the Air Force has not gained its present stature exclusively by the *pilot* technique exhibited by Arnold and Spaatz and Cannon and Doolittle and Vandenberg and Twining and LeMay and Norstad—and others.

But the authors wish to be 100% pilots! As stated earlier, we can probably use them, to make the airplanes go—but we need others, of wider interest and wider vision, to make Army Aviation go.

Very disheartening is the inference in the letter that the low morale of the authors is transmitted to the students at Rucker. By this device a disgruntled junior officer can put Army Aviation over a barrel. Perhaps I draw the wrong inference—I hope so. In any case, there is no doubt that we have got to pull together if we are to surmount all our difficulties; if some members of the team, through "poor morale" or otherwise, are undermining the efforts of the majority, we shall be seriously weakened thereby.

Finally, let me say that I retain great faith in the character and courage and skill of the Army aviator. I know that he needs and deserves help. He will get some—if it is inadequate, it won't be for lack of trying on the part of those who represent him in the Pentagon. In the meanwhile, I must



**"As that oft quoted phrase has it,
'back to the old drawing board'"**

for a reasonable show of patience and understanding—and continued faithful effort to improve the caliber of Army Aviation in all its component parts. The road may be rocky and hard, but we are still moving.

HAMILTON H. HOWZE
Brigadier General, GS
Chief, Army Aviation Division, G-3

A GREAT DEAL UNSAID

Dear Editor: In the October issue of *Army Aviation* letters were published under the heading of "A Many Sided Thing." To be perfectly frank both articles seem to me to leave a great deal unsaid. The three anonymous aviators have perhaps missed their strongest points and General Howze was possibly poorly advised if he is of the opinion that an Army aviator (or any flyer) is in the true-sense solely an "airplane driver." True, there are those with little contact in aviation who do little more than "drive" their winged machines but one in aviation as a business soon realizes that it is a business and a rather serious business at that. It is all the more true where mass operation of men and machines is concerned. Not only are we faced with technical problems of supply and maintenance but also technical problems of men, their abilities, and their limitations.

I voice my amazement at the lack of scientific, methodical research in the development of the AA program. There seems to have been little or no advance planning to the extent of coordination and enlightenment sought from the other services. Flight regulations and initial training methods apparently found their origin from the older air establishments, but what of the numerous other phases of the program?

One of the biggest bug-a-boo's I have heard expressed is the supply-maintenance problem. Certainly a program of the size and scope of Army aviation should have its own technically trained supply and maintenance officers and enlisted personnel. And if it is claimed they have these trained people why is it that so many people continually bemoan the lack of coordination and the lack of any organized program in this area?

To me this is where the three anonymous aviators missed a strong point of discussion. For its very existence it would seem that Army aviation requires personnel specifically trained in these and many other fields. What

PLAN NOW TO ATTEND!

AAAA ANNUAL MEETING
OCTOBER 12-14, 1966
Shoreham Hotel, Washington, D.C.

of air traffic control, meteorology, aviation medicine, aviation psychology, communications, and the countless other supporting elements that work to form a coordinated team with the ultimate purpose of keeping the aircraft and its "driver" operational? Would these aspects perhaps function best if conducted and supervised by individuals who are rated or have been rated or have sufficient interest to keep abreast of the multitudinous facets of an enterprise of this nature?

Mention was made of the need of "troop assignments" to give the aviator much needed experience in command to permit a high degree of leadership in years to come. What is "command"? Does not the present and future aviation program encompass many people? Isn't the coordination and maintenance of this program "command"? Is it necessary for each officer who is to aspire to a pair of stars on his shoulders to display a pair of combat boots as symbolic of leadership ability? This is being somewhat dogmatic in an approach to a problem which affects several thousand people. And of leadership, what is *leadership*? Is it something innate? Is it learned? Or is it a combination? If a combination, to what degree? One gathers from the discussion that a portion of the criteria for leadership is age (years of experience) and troop duty.

The inference from General Howze's letter seems to be that one aspect of military leadership is command of a specific unit of personnel; in this case one composed of individuals *not* directly concerned with aviation matters. This has been further substantiated by remarks which indicate that the future leaders of the Army Aviation Program will—by the nature of the requirements—come from this group. If this premise be true I am loath to predict the future of our great land. Is it not true that the mean age for the great military leaders of world history is well below 35? Is it not also true that a high percentage of these men had

(Continued on the Next Page)

NEW INSIGNIA



■ Brigadier General G.P. Seneff, Jr., Commander of Vietnam's First Aviation Brigade, pins the new Brigade insignia on the shoulder of Rudy L. Summers, Brigade Sergeant Major. Approval by the Army Institute of Heraldry marked the first time since the "Army Air Corps" that an Army aviation command has received recognition of a distinctive patch.

FIRST HAND



■ Shown during a recent tour of GE's Flight Propulsion Division in Lynn, Mass., BG Robert R. Williams (r.), Director of Army Aviation, hears Edward Woll, General Manager of Military Production Engine Programs, describe the newly enlarged assembly area for the production of T64 engines. The latter are slated to power the AAFSS helicopter.

MANY SIDED THING

OCTOBER, 1955

comparatively short periods of command experience over smaller units before assuming very high Army commands?

What this letter pleads for is rational, logical foresight among our military leaders so that it will stimulate the continuance of clear thinking, ambitious young career officers. Thank you, A subscriber.

YOUR DAYS NUMBERED?

Dear Editor: I read with considerable interest the contrasting views in October's *A Many Sided Thing*. I sincerely believe that both sides were fairly presented but I do think that each party overlooked important facts. Gen. Howze stressed branch participation as preparation for higher assignments. I go along with this thought and I believe most career AAs also do. However, Gen. Howze intimated command of a *field army*. In doing so his views then were no longer directed to the career Reservist but to the Regular Army AA. Assignments on this level go for the most part to RA officers and rightly so. Exhorting a career Reservist to prepare himself for command of a field army detracted from his views. Urging him to prepare for an eventual assignment as a Trans Bn CO, an Engr Gp CO, or CO of a large supply-maintenance unit would have been more in line with the career Reservist's limitations. I face the facts squarely; I don't anticipate a star as a Reservist. By the same token, urging RA officers to prepare for *high* assignments is unnecessary. They realize their future responsibilities.

The three pilots whose joint opinion seems to be "We're in the Army to fly and only to fly" also overlooked an important fact. Flying per se is not a difficult art to master. However, the combination of flying experience along with technical qualifications in an allied field—meteorology, communications, operations, maintenance—is not an easily earned combination. Had these three pilots said "We're in aviation to specialize in aviation" their argument would have been stronger. Had they said it is important for us to prepare ourselves for ground assignments *allied* to the aviation field I think their argument would not fall on deaf ears. It is logical to assume that the meteorologists, communicators, repair technicians, and logis-

(Continued in Next Column)

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AIRCREW

September 9, 1966



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Large Midw Beechcraft distributor wants man w/business acumen & proven mgmt abil to reorg, manage & develop an FAA-approved radio shop to profitable level. Technical abil also essential. 30-yr old firm in prime service activity area. \$175-\$200 week to start.

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46 Available: July 8

PILOT, AIR TAXI. For employnt w/mid-Atl fixed base opn. Sched air taxi opns, charter svcs, flt trng sch. Most work as air taxi. Familiarity w/hi density air traffic opns desirable but not necessary. Work 6 days on, 2 off. Reqd: 1,000 hrs min (FW); 100 hrs MEL; Coml, S/MEL Instrument, and Instructor ratings.

80 Available: Aug. 8

PILOT, CHIEF (and Student Instructor). Midwstn FBO needs top man to head flt dept, supervsn ground sch, flyg customers acft. Some charter work. Coml & Flt Instr rtings essential. Salary open.

34 Available: July 1

PILOT, HELICOPTER. Major RW oper speclazg in constr wk on entire East Coast needs hi-time pilot w/exper in S55 (H19) w/Wright 1300; will accept hi-timer in stand S55 or S58 (H34). Mtn fig & slung cargo exper desirable. Year round posn. \$9,600 to start + all field expenses w/\$900 mo after 60 days.

43 Available: July 7

PILOT, HELICOPTER. Large offshore oper needs Bell-experd pilots w/1,000 hr min. Perm job; home every nite. Must be neat, personable. 180 lb limit. Paid vac, hospitalizn availbl, life insur furnished. \$9,120

40 Available: July 15

PILOT, HELICOPTER. For ag flyg instruction, charter. Bell exper desired, but will train for ag work. Well estab East Coast oper. Coml & hptr lic reqd. Pilot to double in sales capacity.

53 Available: July 15

PILOT, HELICOPTER. Seasonal employnt ending Oct 15 doing fire suppressn wk in mtn states. 1,000 hr min w/at least 500 RW. Bell 47Gs used. Pay averages \$200 wk w/base at \$725 mo + \$5 per flyg hr + \$250 bonus at end of season.

18 Available: Aug. 1

PILOT, HELICOPTER. Immed jobs for career-minded RW pilots with sochd pass svc opn in eastern state. Min 1,000 hrs w/coml, hptr rtings, ability to fly Bell 47J now, turbine equip later. Competitive salary, paid vacation, home every night.

48 Available: Sept. 1

PILOT, HELICOPTER. For Canadian bush opns from flt camp with temps about 30-40 deg below zero. Min 1,000 flt hrs reqd w/abil to operate Bell 47G2. \$650 for trial 1st mo + \$5/hr flyg time after 50 hrs. \$750 mo w/2d mo. Ideal for cand with fishing bent. Eastern province.

36 Available: Sept. 1

PILOT-MANAGER, HELICOPTER. Min 1,000 hrs Bell 47 essential, & personality & superior moral qual. Project mgr for lg terr in eastern state w/control flyg requiring area travl for 2 wks (home Tues+Fri nites +wkends) w/relief pilot supplied ea. 3d wk. Admin abil necs w/complnt of expense & flight reports reqd. Modern Bell equipment & top maint assured. \$8,400 to start.

54 Available: July 15

REPRESENTATIVE (Avionics Sales) Direct customer selling, bidding, cost estimat on maj lines avionics equip. Supervsn of installations to verify cust receives work as per contract. FCC First Class RTO lic w/Radar Endors needed. Midw loc. \$175-\$200 week to start.

67 Available: Aug. 15

SHOP FOREMAN (Rotary & Fixed-Wing Maintenance). Qualification

in Bell 47 series, Lycoming engines necessary. Prefer man who has complit Bell Svc Schl; will accept overhaul overhaul man. New shop, good loc, competitive salary. A&P lic needed. \$150-\$175 wk to start. Mtn States.

62 Available: July 22

SUPERVISOR (Helicopter Maintenance). A&P with min 10 yrs exper & competence in Bell G3Bi or equiv needed by Amer firm for Middle East posn. Contract, with family. Liberal benefits. \$15,000 year.

39 Available: July 8

TECHNICIAN, A&P. Needed by aggressive East Coast orgn to fill sev openings caused by expansion. A&P license reqd. Paid vacation, good salary, rapid advncmt for ambit persons.

55 Available: July 18

TECHNICIANS, A&P. Large West Coast airplane distributor has sev openings for A&P licensed men. Offers diversified work from single eng acft to pressurized twin turb. Perm employnt on qualification.

63 Available: July 25

TECHNICIANS, A&P. Major northeast facility lookg for sev carburator, hydraulic maint & electronic techs. Min 2 yrs exper or related exper. FAA tickets prefd. Overhaul & test various components used in coml & mil acft, both jet & piston. Fixed loc, no travl. Salary commensurate w/exper.

84 Available: July 25

TECHNICIAN, A&P. Major Pacific Coast RW operator needs A&P with maintenance experience on both Hughes & Hiller helicopters. FAA-approved school for RW ratings. Perm employnt. Salary open.

74 Available: Aug. 1

TECHNICIANS, A&P. Long backgd in trouble-shootg, maj repair wk,

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normal maint, periodics in light twins & single engine acft. FAA A & P prefd. Brochure, pay rates, benefits furd on req. All inquiries

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38 Available: July 8
TECHNICIAN, AVIONICS. Growing & progressive med-sized open needs good man who wants a secure, but ambit future. FCC 2d Class/better for FAA-apprvd shop on East Coast.

47 Available: July 9
TECHNICIAN, AVIONICS. Major E states corp needs techn for maint/repair all phases of genl avionics includ comm, navig, autopilots, & pulse equip. Exper neces in at least one phase avionics repair w/2nd CI FCC RTO lic reqd. Repairs to be perf'd to FCC, FAA & mfg specs.

64 Available: July 25
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75 Available: Aug. 1
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76 Available: Aug. 1
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88 Available: July 17
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41 Available: July 6
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12



Shown inspecting the flight log for the first modified OV-1C Mohawk is LTG William B. Bunker, Deputy CG, Army Materiel Command, while COL Edward L. Nielsen, Mohawk Program Officer (left), Arthur Melrose, Manager of the Grumman Aircraft facility at Stuart, Fla.; and Frank Wach, Martin County, Fla. official (far right) look on. The log was presented to Gen. Bunker as a symbol of the acceptance of the first modified OV-1C in a ceremony held recently at Grumman's Stuart, Fla. facility. (Grumman photo)



The only tandem-seat helicopter of its kind, the experimental Bell "Sioux Scout" has been loaned by the company to USAAVNS for familiarization purposes. The "loan" - prior to the Army's receipt of the AH-1G HueyCobras in mid-1967 - will enable USAAVNS to obtain advanced knowledge of the conditions to be encountered during flight and gunnery instruction in tandem-seat helicopters. The streamlined, tandem-seat HueyCobra will eventually replace Army UH-1B's as weapons platforms to escort troop carriers and provide covering fire support in landing zones. (U.S. Army photo)



MATERIEL ISSUE

Additional copies of the ARMY AVIATION Materiel Issue may be ordered at \$1 per copy postpaid payable in advance, or at \$0.75 per copy postpaid when ordered on a list of 25 or more for one addressee. Checks payable to be made payable to Army Aviation Publications, Inc., and forwarded to 1 Crestwood Road, Westport, Conn. Allow 4-5 weeks for second class postage delivery.

tic specialists needed in the future for Army aviation should come from the ranks of experienced pilots. It is logical to assume that if a pilot is rotated to ground duty he can best serve his ground duty in an aviation capacity. Yet this view was not presented by the three pilots. They held to the dogmatic "Airplane Driver" view and weakened their argument. With a constantly growing strength Army aviation may shortly reach the point where pilots exceed the billets. Couple this with the fact that physical failure may curtail a flying career at any point and you cannot help but come to one conclusion: If you are in this field to fly and fly alone, your days are numbered. . . . A subscriber.

A FORTHRIGHT POLICY

Dear Editor: To my way of thinking the October '55 issue marked a milestone in Army aviation. In this issue three officers expressed a joint opinion on a subject that was very close to them. Their views were answered by the TOP authority in this field in a lucid, down to earth way. There was no bitterness in either view, just a candid presentation of their respective opinions.

I do not think that most people in Army aviation realize that in this publication they have an opportunity to speak out on a pressing problem. Nor do I feel that the leaders in Army aviation grasp the fact that they have a media in which to reach the greater mass of AA personnel. This realization will come in time if the publication's staff continues its present forthright editorial policy of publishing controversial letters and letting the chips fall where they may.

As a person well versed in mass media I know that the temptation is great to be a "middle of the roader" and thereby alienate no one. It is quite obvious that when a "touchy" letter is published the periodical runs the gauntlet and may miff quite a few people and lose considerable support. The easy way out is to pigeonhole all "controversial" material, and I am happy to find that *Army Aviation* is not taking the easy way out.

I personally am quite satisfied with my lot in Army aviation and consider it an excellent career opportunity. The chances are that I will not submit a future controversial letter. But, believe me, it is nice to know that after all of these years I do have a place where my personal views will be presented. Although I do not feel that the pub-

MANY SIDED THING

OCTOBER, 1955

lication of my name will add anything to the above, I sincerely hope that you will publish my thoughts. A longtime AA. . . .

HORDES OF PILOTS!

Dear Editor: Please accept the opinions of one non-rated writer for what they are worth. I can't help but be amused at the way pilots bristle the moment you draw the "truck driver" analogy. I'll grant that today's pilot is a competent, thoroughly trained craftsman but just how far is this phrase from *the truth*?

A look at tomorrow's Army, i.e., the Army portrayed by the papers and magazines reveals these points. Trucks will be obsolete. Mobility and movement will be provided by giant copters. OPs will be replaced by Flying Platforms . . . Ambulances? . . . Korea proved the litter copter. . . . VTO aircraft with a powerful wallop will augment if not supplant front-line artillery. Logistics? Call in the air drops! Reconnaissance patrols? . . . No—air scooters! Fire fights? *Combat Forces Journal* has helicopter cavalry demolishing everything with multiple-rocket platforms.

And so on. . . . Combat photos will be taken by drones (Here they've gone so far as to replace the craftsman entirely.) When they couple the tank to the Flying Platform, the Armor will takeoff into the blue!

No longer will bridges and rivers stall the attack. We'll soar over them! Everything in the Army will be winged or it won't be Army.

What does all of this mean? Simply that hordes of pilots will be needed to the extent that the word—"driver"—will not be far from the truth by sheer weight of numbers alone. I'll wager that you *won't* print this in your *pilot's* handbook. Sincerely, Non-Rated.

(Ed. Pay off, friend! You lose! Pilot or driver, call them what you will. But we'll make this wager with you. Stanine tests or similar tests will weed out the men drivers from the boy drivers. Primary driver school will still be on a voluntary basis and despite the largesse of the government in offering considerable driver pay, hordes of would-be drivers will still not storm the primary driver schools. You want to bet?)



THE MONTH'S TAKEOFFS

COLONELS

BUSH, Harry L.
AVLABS
Fort Eustis, Va. 23604

COREY, Robert H.
2904 Greencastle
Arlington, Va. 22207

DIBBLE, John, Jr.
1st Aviation Brigade
APO San Fran 96307

HANBURGER, Christian
456 Williamsburg Lane
Odenton, Md. 21113

HANKINS, Curtis L.
Box 149
Juneau, Alaska 99801

KRISMAN, Michael J.
HQ, USAREUR, DCSOFS
APO New York 09483

MERRITT, Charles A.
Headquarters FFV II
APO San Fran 96266

MERTEL, Kenneth D.
P.O. Box 2175
Fort Benning, Ga. 31905

POWELL, Edwin L., Jr.
3059 N. Military Road
Arlington, Va. 22207

SCHMIDT, William T.
Ass'lt. Comdr. USAFPC
Fl. Wolters, Texas 76067

SHEA, Gerald H.
Dept. of RW Training
Fort Rucker, Ala. 36360

LT. COLONELS

BARNES, Wilman D.
1236 Glenwood Road
Columbus, Ga. 31906

BENEFIELD, Ralph O.
Btry E (Avn) 82 Arty 1 CD
APO San Fran 96490

BOYLE, Garrison J., III
Box 84
Landsburg, Pa. 17049

BUTLER, Oiva B.
2903 Weyman, Apt. 5
Sheeppoint, La. 71184

CINQUANTA, Florino A.
HQ, Sixth U.S. Army
Pres of San Fran, Calif.

CULBERTSON, Robert G.
JUSMAG, Box 167
APO San Fran 96346

DELAVAN, Patrick N.
3032 S. 87th Street
Omaha, Nebraska 68124

LT. COLONELS

DUNN, Thomas M., Jr.
25 Irwin Street
Fort Rucker, Ala. 36360

DYSENBERG, William C.
16 Gregg Way
Fort Rucker, Ala. 36360

FLADMARK, Lorentz W.
4501 Sarasota
Dovecroft Grove, Ill 60515

GEARAN, William K.
29 Lexington Lane
New Windsor, New York

GRAVES, Theodore J.
HQ, TECOM AMSTE-BG
Aberdeen Prov Gd, Md.

HAMMACK, J.Y.
116 Eames Avenue
Fort Benning, Ga. 31905

HARRELL, William F.
HQ, III MAF FMFFAC
FPO San Fran, Calif

HENSON, Virgil A., Jr.
USACCAVNA
Fort Rucker, Ala. 36360

HEERMANN, Ulrich
16 Endl Avenue
Fort Rucker, Ala. 36360

JONES, Robert L.
USA Elm MAAG
APO New York 09319

KALAGIAN, Samuel P.
HHD 14th Aviation Bn
APO San Fran 96238

KELLAR, Robert S.
8703 Waterford Road
Alexandria, Va. 22308

KENT, George S.
USAS-MD
APO New York 09052

KRAKOWER, Albert M.
HQ 55th Maint Bn (DS)
APO San Fran 96271

LAIR, Herley D.
8813 Hospital Quarters
Fort Rucker, Ala. 36360

LAUTERBACH, John W.
c/o Nicholls-16 N Drexel
Woodbury, New Jersey

LEHRER, Charles R., Jr.
AAFS-USAAC
Washington, D.C. 20315

MERSWA, Myles H.
314 B Sherman Avenue
Leavenworth, Kan. 66048

MOORE, Howard M.
15 N. Village Green Dr.
Lawton, Oklahoma 73501

OGILVY, Hubert W.
HQ 12th Combat Avn Gp
APO San Fran 96491

LT. COLONELS

OPENSEAW, Robert G.
413 Whisler Avenue
Olympia, Washington

PONDER, William R.
Box 164
Williston, S.C. 29853

FRATER, Robert M.
4134 Timberlake Drive
Columbia, S.C. 29205

RANKIN, Edward
1020 Fowler Street
Falls Church, Va. 22045

REDMOND, Delyle G.
253 Inverness Lane
Washington, D.C. 20022

RESACHER, Robert W.
11 Am Gp 1 Cav Div (AM)
APO San Fran 96490

REYNOLDS, Herschel E.
Box 625
Fl. Wolters, Texas 76067

RICE, Foy
52 Avn Bn USA Vietnam
APO San Fran 96318

RUSK, Richard A.
HQ 224th Avn Bn (RR)
APO San Fran 96307

SANDERS, Neal W.
USAFPC
Fl. Wolters, Texas 76067

SILLS, Charles W.
880 Lacon Drive
Denhigh, Virginia

SENCLAIR, Christopher
US Army Armored Center
Fort Knox, Ky. 40121

SMITH, Howard C.
US CONARC Spt Elem
Fort Monroe, Va. 23351

STEELE, Clyde K.
57 Redford Drive
Newport News, Va. 23602

TAYLOR, Dale W.
US Element CENVO
APO New York 09254

THOMPSON, Thomas E.
HQ MACV Office of Info
APO San Fran 96243

THOMPSON, Arlington C.
11 Gregg Way
Fort Rucker, Ala. 36360

TORGENSEN, Thorvald R.
Class 40, AFSC
Norfolk, Va. 23511

TUMLINSON, Jack M.
2650 Fisk Road
Montgomery, Ala. 36111

WAINER, Douglas S.
2513 36th Street S.E.
Washington, D.C. 20020

LT. COLONELS

WILLIAMS, Robert H.
537 Batson Avenue
Fort Sill, Okla. 73303

ZEPFENFELD, Bernard M.
9 Wynn Place
Fort Stewart, Georgia

MAJORS

ANDERSON, Nils B.
3725th Aviation Detach.
APO New York 09102

ANDERSON, Robert D.
Capital Avn Battalion
APO San Fran 96307

AVET, James F.
USA Elm JUSMAAG
APO New York 09223

BALLARD, William G.
312 Meadow Road
Blount, Miss. 39531

BALTZELL, Lowell F.
14 Wilson Street
Ozark, Alabama 36360

BARNITT, George W., Jr.
305-3 3rd Street
Fl. Leavenworth, Kansas

BASTIAN, Richard K.
5312 Moultrie Road
Springfield, Va. 22151

BENNETT, Willard M.
1341 E. Skneleigh Court
Leavenworth, Kan 66048

BILLMAN, Ervin L.
246 Caswell Avenue W.
Twin Falls, Idaho 83301

BLACKBURN, Bobby L.
3rd Aviation Detachment
APO San Fran 96212

BLANCHARD, Howard B.
14th Trans Bn (AMS-QS)
APO San Fran 96340

BOND, John S., Jr.
18 Johnson Street
Fort Rucker, Ala. 36360

BONNETT, William B.
3737 Flight Ops Fac
APO New York 09102

BOUNDS, Merle E.
102 Oxford Road
Williamsburg, Va. 23185

BOURNE, Harold O.
Student Detachment
Fl. Leavenworth, Kansas

BRADLEY, Glenn W.
1102 Spruce
Alamosordo, N.M. 88310

BRANSFORD, Thomas
1935 Albert Lee Pkwy
Winder Park, Fla. 32789

MAJORS

BRIOT, William R.
11006 S.E. Stephens St.
Portland, Oregon 97216

BROADY, William
4939 Renovo St., Apt. 4
Los Angeles, Calif 90032

BROOKS, William D.
32 Logan Street
Fort Rucker, Ala. 36360

BROWN, George A.
43 Third Infantry Road
Ft. Leavenworth, Kansas

BURRESS, Eugene W.
Box 104, Dodge Hall
Ft. Leavenworth, Kansas

BURTON, James
23 Diamond Circle
Fort Rucker, Ala. 36360

BUTLER, Don A.
1216 East 27th
Tulsa, Oklahoma

CALVERT, Charles L.
Co B 15 Trans Bn AM&S
APO San Fran 96490

CARLISLE, John C.
1723 Seneca
Leavenworth, Kan. 66048

CARROLL, Anthony
US Army Avn Test Bd
Fort Rucker, Ala. 36360

CARTER, William C.
176th Aviation Co (AML)
Fort Benning, Ga. 31905

CHRISTENSEN, George F.
810 Court Street
Dallas, Oregon 97338

CLARK, Denzel L.
100 Dublinsky Street
Fort Benning, Ga. 31905

CLINE, Richard T.
c/o O. Karrels, Faith Rte
Sturgis, South Dakota

COLBURN, Edward A.
315 E. 8th Street
San Juan, Texas 78589

COLLINS, Benjamin L.
1377 Glacier Drive
San Jose, Calif. 95118

COMINOS, Anthony M.
2414 Atlanta Avenue
Lawton, Oklahoma 73505

COOK, Harold E.
Co C 15 Trans Bn AM&S
APO San Fran 96490

COOK, James R.
c/o E Schrum, 1140 Main
Desloge, Missouri

COOPER, Robert G.
Colonial Arms Apts
Jacksonville, Ala. 36265

CORLISS, Reginald H.
1910 B Scott Circle
P. George G. Meade, Md

CORSER, Lawrence E., Jr.
5950 Windsor Drive
Columbus, Ga. 31904

GRANDALL, Bruce P.
195th AML, 5th Inf Div
Fort Carson, Colo. 80913

CROUCH, William E., Jr.
106 Argyle Court
California, Md. 20619

MAJORS

CROWELL, William B.
6040 Richmond Road, 112
Alexandria, Va. 22303

CURRY, Paul R.
150 S. Irving Avenue
Tucson, Arizona 85711

DALE, Ronald E.
2911 Harwick Drive
Lansing, Michigan

DAVIS, Robert B.
11th Aviation Bn USARV
APO San Fran 96239

DETWILER, Harvey C.
USATSCH
Fort Eustis, Va. 23604

DIAMOND, Eugene M.
Route 3, Meadowfield Rd.
Yorktown, Va. 23490

DILLARD, William H.
107 Magruder
Mineral Wells, Texas

DISTEFANO, Joseph
1920 Rose Street
Leavenworth, Kan 66048

DOTSON, Larry D.
320 Pasture Lane
Hampton, Va. 23369

DOWNNEY, Paul W.
225th Aviation Company
Ft. Lewis, Wash. 98433

DUGAN, John E.
101-A Gulfvue Drive
Ft. Walton Beach, Fla.

DUNNE, Robert V.
30th Headquarters Co.
APO San Fran 96240

ECRETTE, Joe D.
HHC 11th Aviation Bn
APO San Fran 96289

ERHARDT, Chris
USARV Pit Detachment
APO San Fran 96307

EVANS, Vernon R.
3769 Wilson S.W.
Grandville, Mich. 49418

FAUROT, Billie C.
5945 Ranger Way
Carmichael, Calif. 95608

FELLERHOFF, John H.
1496 N. Morningside Dr.
Atlanta, Georgia 30306

FLICKINGER, Robert E.
65 Endl Avenue
Fort Rucker, Ala. 36360

FLINT, Robert W.
308 Cedar Drive
Enterprise, Ala. 36330

FREEMAN, Charles G.
79th Trans Co (AD5)
APO San Fran 96238

FROELICH, James W.
563 Magazine Avenue
New Braunfels, Texas

FRYE, William H.
74th Aviation Co USARV
APO San Fran 96227

FURNEY, Robert M.
10621 Hummel Court
Birmingham, Mich 48009

GIESE, William
116 Lois Street
Ft. Walton Beach, Fla.

MAJORS

GLIDDEN, Harry R.
Co A 227th Avn Bn 1 CD
APO San Fran 96490

GOSS, Ephraim M.
1606 Terry
Leavenworth, Kan. 66048

GRAHAM, William A., Jr.
170 Town Creek Drive
Lexington Pk, Md. 20653

HAFERS, Ernest R.
1st Signal Bde, Strat Com
APO San Fran 96307

HALLER, Douglas L.
21 Fairfield Road
Claymont, Da. 19703

HARRIS, Fred G.
18 Habersham
Pt. Stewart, Ga. 31313

HAWS, Elbert D.
USATSCH-AMOC 67-1
Fort Eustis, Virginia

HEISS, Clarence L.
245 Deverill Street
Ludlow, Ky. 41016

HENRY, Frank L.
Headquarters USARPAC
APO San Fran 96558

HILL, Jack D.
220 Beck Street
Valdosta, Georgia

HILL, Thomas R.
110 Third Infantry Road
Ft. Leavenworth, Kansas

HOELTZEL, Norman E.
Box 162
Daleville, Ala. 36322

HOLZER, Kenneth W.
14 Trans Bn (AM&S&GS)
APO San Fran 96240

HUNSUCKER, Charles L.
Route 4, Box 411-A
Kannapolis, N.C.

HUSKEY, James E.
1st Cavalry Div. (AM)
APO San Fran 96490

JANSSEN, Arlo D.
Route 5
Kingfisher, Okla. 73750

JARVIS, James W., Jr.
175 West Lexington
Astoria, Oregon 97103

JOHNSON, Edward K.
35124 Euclid, Apt. 208H
Willoughby, Ohio 44094

JOHNSON, Jack O.
312-2 3rd Street
Ft. Leavenworth, Kansas

JOHNSTON, Francis E.
P.O. Box 102
Buford, Georgia 30518

JOHNSTON, John A.
ACTIV
APO San Fran 96243

JONES, Clyde T.
1339-A Ohio Street
Leavenworth, Kan. 66048

JONES, Glen W.
1608 S.E. 24-1/2 Avenue
Mineral Wells, Texas

JONES, Herschel C.
179th Avn Co (Med Hel)
APO San Fran 96318

MAJORS

JONES, Roy C.
8008 Morley Drive
El Paso, Texas 79925

JORDAN, Donald R.
2779 Tracy Place
Fort Eustis, Va. 23604

KASER, William T.
9208 Springhill Lane
Greenbelt, Md. 20770

KEATING, Richard P.
244th Aviation Co (Surv)
Fort Lewis, Wash. 98432

KEENAN, Daniel R.
2873 Calvin Road
Oceanside, N.Y. 11572

KENYON, Robert B.
2508 Middle River Drive
Ft. Lauderdale, Florida

KING, Edward
1st CD 15th Trans Bn
APO San Fran 96490

KIRKLIGHTER, Gerald
510 Joy Circle
Glen Burnie, Maryland

KOEHLE, Joseph R.
2624 Parklawn Dr, Apt 8
Dayton, Ohio 45440

LEFEBVRE, Bernard R.
113 Virginia Drive
Ft. Walton Beach, Fla.

LOGERQUIST, Benjamin A.
Quarters 559-A USMA
West Point, N.Y. 10996

LOHMANN, Harlan W.
318 Magruder
Mineral Wells, Texas

MARSH, Elgin R., Jr.
255th Transportation Det
APO San Fran 96291

MARTIN, Dale S.
2203 Haymaker Road
Monroeville, Pa. 15146

MASSENGILL, James R.
1205 Meadowwood Road
Kinston, North Carolina

MCDONALD, James A.
1312 South 2nd Street
Leavenworth, Kansas

McELRATH, William T.
7390 S. Eldon Court
Hanover, Md. 21076

McGEE, Calvin A.
330th Trans Co (GS)
APO San Fran 96291

McGEE, Charles F.
146 Truman Court
Salina, Kansas

McILWAIN, George W.
Trp A 1/9th Cav 1 CD
APO San Fran 96490

McKENZIE, Colin W., Jr.
Hq USARHAW Avn Sect
APO San Fran 96558

McLENNAN, Stuart G., Jr.
15 Defense Hill Road
Shoreham, N.Y. 11786

MIELKE, Virgil E.
711 Karen Lane
San Antonio, Texas 78218

MAJORS

MILLER, Richard E.
411 Aberdeen Avenue
Dayton, Ohio 45419

MILLER, Roy L.
USAATC Fort Greely
APO Seattle 98733

MODICA, Donald
Student Det USACGSC
Ft. Leavenworth, Kansas

MOORE, Raymond E.
224th Aviation Bn (RR)
APO San Fran 96307

MOSHER, David L.
2601 South Magnolia
Sioux City, Iowa 51106

MOYERS, George A.
4825 Adams Drive, S.E.
Washington, D.C. 20023

NASCIMBENI, Frank P.
USAAVNS
Fort Rucker, Ala. 36360

NICHOLSON, Allison L.
3023 Neff Street
Elkhart, Indiana 46518

NICHOLSON, Rowland J.
4508 19th Street
San Fran, Calif 94114

OBBERG, Robert E.
13209 Manship Lane
Bowie, Maryland 20715

OGBURN, John R.
219th Avn Co 52nd Avn Bn
APO San Fran 96318

OKANE, Robert F.
P.O. Box 46
Carmel, Calif. 93921

OSHESKY, Gerald K.
179th Aviation Co (MH)
APO San Fran 96312

PANAGEAS, Dan P.
4443 Zeron Court
Columbus, Ga. 31907

PATTON, Robert S.
392 Harbor Street
Conneaut, Ohio 44030

PAYNE, Thomas L.
6 Carly Avenue
Ft Monmouth, N.J. 07703

PIERCE, Fred W., Jr.
128th Avn Co 11th Avn Bn
APO San Fran 96289

PIERCE, Samuel M.
7807 76th Avenue S.W.
Tacoma, Wash. 98498

POLLARD, Arnold R.
C Btry 2/20th Arty 1 CD
APO San Fran 96490

POPE, John B.
1st CD (Air) USARV
APO San Fran 96490

PORTER, Edward J.
311 Magruder
Mineral Wells, Texas

PRIEM, Charles M.
75 Third Infantry Road
Ft. Leavenworth, Kansas

PROIETTI, Raymond A.
15 Lake Avenue
Hazlet, N.J. 07730

MAJORS

REINHARDT, John A.
310-B Carpenter Court
Fort Riley, Kansas 66442

RHYAN, Ernest W., Jr.
1 Johnston Place
Fort Stewart, Georgia

RICE, Donis E.
Glenrochie, Route 1
Abingdon, Virginia 24210

ROSE, Gerald S.
24421 Madison Street
Torrance, California

ROUSSE, William C.
Armor Br OPD OPO DA
Washington, D.C. 20310

RUEBSAMEN, Dale G.
342 Curtis Tignor Road
Newport News, Virginia

RUSH, Robert P.
13 Johnson Street
Fort Rucker, Ala. 36360

RUSKAUFF, Donald R.
2103-A Irwin
Fort Eustis, Va. 23604

RUTHERFORD, Billy E.
Hq DA OPXAA Pentagon
Washington, D.C. 20310

RYMUS, James O.
USACDC Avn Agency-CD
Fort Rucker, Ala. 36360

SAMPSON, Eldon F.
RR #2 Box 216K
California, Md. 20619

SANDERS, James R.
170th Avn Co 52nd Avn Bn
APO San Fran 96318

SCANLAN, William H.
ACTIV
APO San Fran 96243

SCHELHORN, Carlton L.
2608 Davis Avenue
Alexandria, Virginia

SCHWARTZ, James L.
350 S. 19th Street
Terre Haute, Ind. 47807

SCULLY, Robert C.
USAAVNS
Fort Rucker, Ala. 36360

SEGUIN, Raymond J.
20 Menchville Road
Newport News, Virginia

SIEBERT, Robert W., Jr.
102 Dilbeck Street
Fort Benning, Ga. 31905

SMITH, Raymond L.
184th Aviation Company
Fort Sill, Oklahoma

SMITH, Thomas R.
Box 675
Alamosa, Colo. 81101

STEARNS, Robert D.
Hq 17th Aviation Group
APO San Fran 96240

STENEHJEM, George N.
13th Aviation Battalion
APO San Fran 96215

STEVENSON, Carl B.
MACV COC 4
APO San Fran 96243

STOBBE, Roman J.
310 Magruder
Mineral Wells, Texas

MAJORS

SWAN, Vally A.
2619 N.W. 97th
Seattle, Wash. 98107

TANNER, Eugene P.
1253 Kentucky Street
Bowling Green, Ky 42101

TATE, Wallace L.
2677 South Citrus
West Covina, California

TERRY, Vaughn L.
2520 East Park Circle
Salt Lake City, Utah

THOMAS, Richard W., Jr.
D Troop 3/4th Cavalry
APO San Fran 96225

THOMPSON, Raymond M.
2082-A Werner Park
Ft. Campbell, Ky. 42223

TRUBY, Allen G.
2242 Cadden Road
Augusta, Georgia 30906

URBACH, Walter, Jr.
67th Aviation Company
APO New York 09107

VAN WINKLE, Daniel G.
183 Oakland Avenue
Somerset, N.J. 08873

VASSAR, Robert B.
28 Melville Avenue
Greenville, S.C. 29605

VINSON, Bobby G.
1411 North Eye
Fort Smith, Arkansas

VOELZOW, Eugene F.
50 Boyce Lane
Fort Rucker, Ala. 36360

WALKER, Jack A.
3538 Princeton Road
Montgomery, Ala. 36111

WALKER, James F.
Qtrs 675-B Infantry Post
Fort Sam Houston, Texas

WALKER, Paul S.
P.O. Box 371
Fort Rucker, Ala. 36360

WARD, John E.
23 King Avenue
Ft. Leavenworth, Kansas

WATSON, Norman T.
412 N. James Street
Jacksonville, Ark. 72076

WEBBER, Herbert M.
1st Infantry Division
APO San Fran 96345

WEDDINGTON, David H.
Wd 1 USAH Camp Zama
APO San Fran 96343

WEINBENDER, William A.
2415 Wise Street
Columbus, Georgia

WHALEN, John J., Jr.
Hq Radio Research Unit
APO San Fran 96307

WHITE, Leroy
2 Carty Avenue
Ft Monmouth, N.J. 07703

WHITE, Robert L., III
2205 Argo Drive
Florissant, Mo. 63031

WILLEY, Donald E.
65 Diamond Avenue
Fort Rucker, Ala. 36360

MAJORS

WILSON, Carl A.
Qtrs 3606-B Schofield Bks
APO San Fran 96557

WINKEL, Paul P., Jr.
3308 Carolina Place
Alexandria, Va. 22305

WRIGHT, William J.
2011 Seneca, Apt. B
Leavenworth, Kansas

YATES, John C.
1309 Galaxie Drive
Dothan, Alabama

YOUNG, Ray A.
21 Diamond Circle
Fort Rucker, Ala. 36360

CAPTAINS

ADAMSKI, Richard G.
1404 Pine Street
Sturgis, S.D. 57785

ADLER, John S., Sr.
23 Hahersham Street
Ft. Stewart, Ga. 31313

AICKEN, Larry B.
2550 Wedgefield Court
Columbus, Ga. 31903

ALLEN, Teddy G.
116 Cuesta Vista Drive
Monterey, Calif. 93940

ALVIS, John M.
101 Moss Street
College Station, Texas

BACON, William G.
203 Deerpeth Road
Ozark, Alabama 36360

BAILEY, Ellis M.
3rd Avn Det EADC-EAR
APO San Fran 96212

BASS, Louis R.
5879 McCully
Fort Hood, Texas

BEASLEY, Rodney S.
3506 Minden Avenue
Texarkana, Ark. 75501

BEATY, William E.
303 Patrick
Mineral Wells, Tx. 76067

BEAUMONT, Marion E.
1st Cavalry Div (Air)
APO San Fran 96490

BERDUX, Sylvester C.
1606 Heritage Lane, 18B
Indianapolis, Ind. 46256

BERGERON, Andrew L.
55th Aviation Company
APO San Fran 96301

BERGERON, Gary P.
213th Med Hel Company
Fort Benning, Ga. 31905

BEST, David M.
C Trp 1 Sgdn 9 Cav 1 CD
APO San Fran 96490

BISHOP, Paul E.
307 Highland Drive
Cullman, Alabama 35055

BLANCHARD, Joseph H.
5207 Moriner Drive
Columbus, Ga. 31904

BONNER, Marvin E.
1606 W. 24th Street
Pine Bluff, Ark. 71601

JAMES Q. AYDLETT

First Lieutenant James Q. Aydlett, an Army Aviator assigned to the 121st Aviation Company, Vietnam, sustained fatal injuries due to hostile action in the Republic of Vietnam on July 11, 1966. He is survived by his widow, Mrs. Barbara K. Aydlett of 140 Morningside Drive, Akron, O.

DONALD R. BRYANT

Captain Donald R. Bryant, an Army Aviator on assignment to the 161st Aviation Company, Vietnam, died as a result of injuries received in the crash of his UH-1B helicopter on June 27, 1966. He is survived by his widow, Mrs. Jackleen S. Bryant, 2967 Dresden Street, Columbus, Ohio.

DONALD C. ESTES

Chief Warrant Officer Donald C. Estes, assigned to the 1st Cavalry Division (Airmobile), sustained fatal injuries when his UH-1D helicopter crashed during the conduct of a combat mission on June 24, 1966. He is survived by his widow, Mrs. Sally B. Estes of 4249 South Kenny Street, Seattle, Washington.

LEON D. FLANDERS

Lieutenant Leon D. Flanders, on assignment with the U.S. Army in the Republic of Vietnam, was killed in action in Vietnam on April 17, 1966. He is survived by his widow, Mrs. Gloria J. Flanders, 1505 South Murray Avenue, Anderson, South Carolina.

CHARLES L. GETMAN

Captain Charles L. Getman, an Army Aviator assigned to the 219th Aviation Company, Vietnam, sustained fatal injuries in the crash of his UH-1D helicopter. The fatal accident took place during the conduct of a combat mission on July 19, 1966. He is survived by his widow, Mrs. Terry A. Getman, 106B Walding Street, Enterprise, Alabama.

FRANK J. GUNDAKER

Major Frank J. Gundaker, an Army Aviator on assignment in Vietnam, sustained fatal injuries in the crash of a UH-1 helicopter on Aug. 1, 1966. He is survived by his widow, Mrs. Natalie K. Gundaker of 52 Stanley Drive, Newport News, Va., and three children, Frank, Karen, and Dan. He was buried in Arlington National Cemetery on August 12. A Memorial Fund has been established in his honor to assist the School Library of Walsingham Academy, Williamsburg, Va.

PAUL W. JOHNSON

Captain Paul W. Johnson, assigned to the 221st Aviation Company, died in Vietnam as a result of the injuries he received when the aircraft of which he was pilot crashed after being hit by small arms fire during combat operations. He is survived by his widow, Mrs. Jill C. John-

OBITUARIES

son, of 6518 East 8th Street, Tulsa, Oklahoma, and a son, Martin Thomas, 4 months. The family requests that in lieu of flowers donations be made to a memorial fund in the name of Captain Johnson at the First Lutheran Church, 13th and Utica Streets, Tulsa, Oklahoma.

JACKIE D. JONES

Warrant Officer Jackie D. Jones, an Army Aviator on assignment to the 219th Aviation Company, Vietnam, died as a result of hostile action in the Republic of Vietnam, on July 11, 1966. He is survived by his widow, Mrs. Evelyn A. Jones of 535 Manhattan Avenue, Indianapolis, Indiana.

RONALD J. KINKEADE

Chief Warrant Officer Ronald J. Kinkeade, assigned to the 68th Assault Helicopter Company, Vietnam, sustained fatal injuries when his UH-1 helicopter crashed six miles west of Saigon during the conduct of a combat mission on July 20, 1966. He is survived by his widow, Mrs. DeLores J. Kinkeade, 112 East D Street, Tehachapi, California.

JERRY W. McNABB

Captain Jerry W. McNabb, on assignment with the 161st Aviation Company, Vietnam, died as a result of injuries received in the crash of his UH-1B helicopter during the conduct of a combat mission on June 27, 1966. He is survived by his widow, Mrs. Ann D. McNabb of 803 South 4th Street, Gadsden, Alabama.

BILLY J. NAVE

Major Billy J. Nave, an Army Aviator assigned to the 1st Cavalry Division (Airmobile), Vietnam, sustained fatal injuries in the crash of his UH-1B helicopter. The fatal accident took place during a combat mission on June 27, 1966. He is survived by his widow, Mrs. Nan Lee Nave, 2252 Sharon Avenue, Columbus, Georgia.

RICHARD T. PERRIN

Captain Richard T. Perrin, an Army Aviator on assignment to the 1st Cavalry Division (Airmobile), Vietnam, died as a result of injuries received in the crash of his UH-1D helicopter during the conduct of a combat mission on June 27, 1966. He is survived by his widow, Mrs. Judith R. Perrin of 4845 William, Omaha, Nebraska.

OBITUARIES (Continued)

NIEL G. REUTER

Captain Niel G. Reuter, assigned to the 502d Aviation Battalion, Vietnam, sustained fatal injuries due to hostile action in the Republic of Vietnam on July 5, 1966. He is survived by his widow, Mrs. Irene P. Reuter, 6223 West Kaul Avenue, Milwaukee, Wisconsin.

JERRY A. ROBERTS

First Lieutenant Jerry A. Roberts, on assignment with the 502d Aviation Battalion, Vietnam, died as a result of hostile action in the Republic of Vietnam on July 5, 1966. He is survived by his widow, Mrs. Rita E. Roberts of Lafayette, Ky.

JOHN S. SEELEY

Captain John S. Seeley, an Army Aviator assigned to the 178th Aviation Company, Vietnam, sustained fatal injuries in the crash of his CH-47 helicopter. The fatal accident took place during a combat mission on June 27, 1966. He is survived by his widow, Mrs. Alice M. Seeley, 5845 Zion Court, Sunset Whitney Ranch, California.

DELMAR S. TOWNSEND

Chief Warrant Officer Delmar S. Townsend, an Army Aviator on assignment to the 1st Cavalry Division (Airmobile), Vietnam, died as a result of injuries received in the crash of his UH-1D helicopter during a combat mission on June 24, 1966. He is survived by his widow, Mrs. Ursula M. Townsend of Southwind Mobileville, Daleville, Alabama.

CHARLES R. WILLIAMS

Captain Charles R. Williams, assigned to the 145th Aviation Battalion, Vietnam, sustained fatal injuries when his UH-1B helicopter crashed during a combat mission on July 12, 1966. He is survived by his widow, Mrs. Charlotte L. Williams, 350A Brooklyn Avenue, Forsyth, Georgia.

LAWRENCE D. WOODS

Captain Lawrence D. Woods, on assignment with the B Company, 229th Assault Bn, 1st Cavalry Division, sustained fatal injuries when his helicopter was struck by hostile ground fire on June 24, 1966. He is survived by his widow, Mrs. Selah H. Woods, 3 Thompson Hill Road, Portland, Connecticut.



AAAA NATIONAL NOMINEES



HOWZE

AAAA's NATIONAL Nominating Committee met in Washington on August 26 to select a slate of four nominees to fill those National Executive Board elective offices to be vacated at the time of the Eighth Annual Meeting by Colonel Robert H. Schulz, Lewis E. Casner, William A. Richards, and Brigadier General O. Glenn Goodhand, USA (Ret.).

Under the staggered election system pursued by the AAAA at the National level, three to four new officers are elected to the National Executive Board for 3-year terms each year, the overlapping terms of office providing year to year continuity to the affairs of the Board in governing the Association.

The terms of General Goodhand, National President; Colonel Schulz, Senior Vice President; Lewis Casner, National Treasurer; and Bill Richards, VP, Army National Guard Affairs, end during the forthcoming '66 Annual Meeting, each of the four officers having served the Association with distinction since 1963.

Proposed for 1966-1969 office

by the AAAA National Nominating Committee (consisting of the incumbent president, the Assn's past president, and the executive vice president) are the following nominees:

General Hamilton H. Howze, USA (Ret.), the Vice President - Operations at Bell Helicopter Company, Ft. Worth, Texas, and the first Director of Army Aviation in Department of the Army.

Colonel Allen M. Burdett, Jr. (Brigadier General Designate), Office of the Director of Defense Research & Engineering, Washington, D.C., and a former National Member-at-Large on the AAAA National Executive Board.

Brigadier General O. Glenn Goodhand, USA (Ret.), Assistant to the Vice President & General Manager, Boeing Vertol Division, and an incumbent member of the National Executive Board.

Colonel Richard L. Long, USA (Ret.), Asst to the Vice President, Engineering, for R&D Planning at the Sikorsky Aircraft Division, Stratford, Conn., and a present National Member-at-Large of the AAAA National Executive Board.



GOODHAND

LONG



BURDETT

CAPTAINS

BORTH, Alfred G.
50th Med Det (Hel Amb)
Fort Polk, Louisiana

BRADLEY, David B.
Woodstock,
New Hampshire

BRANDT, Robert J.
1322 Sandstone Drive
Corpus Christi, Texas

BRAZEALE, Charles R.
210 Magruder
Mineral Wells, Texas

BROKAW, Robert P., Jr.
113-B Arrowhead Road
Fort Benning, Ga. 31905

BROWN, John L.
Hq Svc Co CMR 2 Bx 5863
Fort Rucker, Ala. 36360

BURNS, Charles S., III
26 Titus Avenue
Carle Place, L.L., N.Y.

BURNETT, Richard J.
1637 Burnwood Road
Baltimore, Md. 21212

CACOLICE, John P.
863 Marshall Avenue
Pittsburgh, Pa. 15214

CAMPBELL, Richard E.
Box 104 So. Main Street
Waterbury, Vermont

CARTER, Harold M.
3436 South Perry Street
Montgomery, Ala. 36105

CASS, Stanley D.
A Btry 2/20th Arty 1 CD
APO San Fran 96490

CEDOLA, Vincent J.
3718 Van Dyke
San Antonio, Texas

CHANCELLOR, Robert L.
USAAVNS
Fort Rucker, Ala. 36360

CHAPMAN, James E.
327 Rainier Drive
Fayetteville, N.C. 28304

CHLADEK, Richard M.
4557 N. 103rd Street
Milwaukee, Wisc. 53225

CHOCK, Linus G.K.
Adv Tm 37 183rd Avn Co
APO San Fran 96317

COATES, Thomas E.
Advisory Team 37
APO San Fran 96317

CODDINGTON, Floyd L.
57th Medical Det (HA)
APO San Fran 96307

COLELLO, Joseph, Jr.
USAPHC
Fort Wolters, Tex. 76067

COOKE, Charles B.
1st Cavalry Div USARV
APO San Fran 96490

COTTRELL, David D.
Box 355
Round Rock, Texas 78664

CRAIG, Donald G.
103 Harrison Avenue
New Canaan, Conn. 06840

CROWL, Ronald C.
453 Mathews Road
Youngstown, Ohio 44512

CAPTAINS

DAVIS, Charles E.
P.O. Box 17
Mt. Vernon, Ala. 36560

DELOACH, Javan M.
3462 Coronado Court
Mineral Wells, Texas

DENNISON, Gary V.
853 S. Kickapoo Street
Springfield, Mo. 65804

DEXTER, Charles E.
101 Van Fleet Drive
Florence, Alabama

DEY, Robert A.
Lawtonwood
Seattle 99, Washington

DUFF, John A.
4154 Roman Court
Columbus, Georgia

DUKE, Walter B., Jr.
4650 N.E. 2nd Terrace
Ft Lauderdale, Fla 33308

DUNNCLIFF, Steven L.
Advisory Team 70
APO San Fran 96314

EATON, Kenneth C.
USATSC TOCC 67-1
Fort Eustis, Va. 23604

EGGLESTON, Carl B.
Rte 1 Box 590 Johnson Rd
Stevensville, Mich 49127

FARMER, Arthur J.
418 Cologne Drive, N.E.
Atlanta, Georgia 30315

FEIT, John E.
9 Admin Co 9 Inf Div
Fort Riley, Kansas 66442

FICKLIN, Marvin D.
116th Asst Hel Company
APO San Fran 96289

FLETCHER, William F.
128 Red Cloud Road
Fort Rucker, Ala. 36360

FRANK, Laurence A., Jr.
IAGS U.S. Embassy
Caracas, Venezuela

FREDRICK, Gilbert H.
P.O. Box 745
Fort Rucker, Ala. 36360

FREEMAN, Eidon V.
498th Med Co (Air Amb)
APO San Fran 96240

PRENTZ, Austin D.
Staff & Faculty Battery
Fort Sill, Okla. 73503

FRY, Loyal A.
114th Aviation Company
APO San Fran 96357

FULTON, Charles F.
1609 W. Kensington Dr.
Peoria, Illinois 61614

FUNK, David L.
Hq 145th Aviation Bn
APO San Fran 96227

GASTON, Joseph R.
933 S. Old Orchard
Springfield, Missouri

GILLIAM, Frank H., Jr.
HSC 15 Med Bn 1 CD
APO San Fran 96490

GNAZDOWSKI, Francis
517th Trans Co (AS)
Fort Bragg, N.C. 28307

CAPTAINS

GOODIN, Donald K.
Off Stu Co Trp Bde-Prov
Fort Rucker, Ala. 36360

GRIFFIN, Arthur R.
Box 942
Sanford, N.C. 27331

HALL, Arthur J.
607 Dauphin Street
Enterprise, Ala. 36330

HANCOCK, Barney P.
Route 3
Thomaston, Ga. 32086

HANEY, Howard E.
45 Diamond Avenue
Fort Rucker, Ala. 36360

HARDEMAN, Billy J.
7240 Jon Paul, Apt. 101
Alexandria, Va. 22311

HARPER, Ben L.
2833 N. Bristol, Apt 12B
Santa Ana, Calif. 92706

HARRIS, Robert E.
282nd Avn Co Drawer 15
APO San Fran 96337

HERRON, Roy H.
126A Arrowhead Road
Fort Benning, Ga. 31905

HESTER, Thomas L.
N. Gate Apts 5249 Wren
El Paso, Texas 79924

HIGGINBOTHAM, James L.
509 Rosedale Street
Brunswick, Ga. 31520

HOLLABAUGH, Kenneth W.
15 Montiehl Lane
Fort Rucker, Ala. 36360

HOLLANS, Lester H.
2306 Longview Avenue
Roanoke, Va. 24014

HOLLIDAY, Jerry B.
12 Mackay
Fort Stewart, Ga. 31313

HOLMES, Ernest L.
416A Nicholson Road
Ft. Sheridan, Ill. 60037

HOPKINS, John A.
145th CSA Bn 5th Inf Div
Fort Carson, Colo. 80913

HOSLEY, Morrison J., Jr.
Long Lake,
New York 12847

IRBY, Dewitt T., Jr.
Route 2, Box 32
Greenville, Miss. 38701

JEWEL, James S.
1313 3rd Avenue S.W.
Aberdeen, South Dakota

JOHNSON, Larry E.
General Delivery
Ft. Wolters, Tex. 76067

JONES, Louis R., Jr.
Co C 228 Avn Bn 1 CD
APO San Fran 96490

KEARNS, James T.
2620 Marywood Drive
Dubuque, Iowa 52001

KELLY, Patrick O.
1829 Dee Avenue
Columbus, Ga. 31902

KENNEDY, John P.
249 Palmer Street
New Bedford, Mass.

CAPTAINS

KENYON, Richard D.
534A Winans Rd., USMA
West Point, N.Y. 10996

KILPATRICK, Thomas M.
1116 South Villa Drive
Evansville, Ind. 47714

KNIGHT, Clarence E.
208 Magruder, WV
Mineral Wells, Texas

LAILAW, William F.
3430 Grandview Avenue
Louisville, Ky. 40207

LAMBERT, Jerry V.
Strong,
Maine 04983

LAMPPIN, Douglas W.
97th General Hospital
APO New York 09757

LEFORE, Charles J.
326 Delaware Avenue
West Pittston, Pa.

LITTLE, George W.
1058 Spruce Street
Clarkdale, Miss. 38614

LITTLETON, Walter M.
5249 Wren, Apt. 70
El Paso, Texas

LOVELETT, Norman D.
700 West 1st Ave, Apt 1
Cheyenne, Wyo. 82001

MANTHEI, John E.
2230 E. Covert Road
Leslie, Michigan

MARSHALL, William K.
3718 Robinhood
Houston, Texas 77005

MASSEY, Lee T.
1637 N. 27th Street
Lawton, Oklahoma

MATHEWS, Charles H.
119th Aviation Company
APO San Fran 96318

McBRIDE, Dennis P.
18th Aviation Company
APO San Fran 96318

McCALL, Leroy W.
196th Aviation Company
Fort Sill, Okla. 73503

McCord, Thomas L.
507 West Minton Street
Phoenix, Arizona

McGRAW, Jimmy J.
225 Sasser Drive
Clovis, N.M. 88101

McINERNEY, Bernard M.
301 Greenwood Street
Geneva, Alabama 36340

MELVIN, Robert A., III
68th Aviation Co (RW)
APO San Fran 96291

MERRILL, Bruce W.
370H Delaura Drive
Newport News, Va. 23602

MILLS, Jon R.
159 Stafford Avenue
Battle Creek, Michigan

MOGENSEN, Donald K.
Co B 8 Avn Bn 8 Inf Div
APO New York 09111

CAPTAINS

MONROE, Robert E.
635 Ohio Avenue
Sellersburg, Ind. 47172

MORGAN, Lowell E.
73rd Surlv Airplane Co
APO San Fran 96291

MULLEN, Warren E.
U.S. Army Avn School
Fort Rucker, Ala. 36360

MURAKAMI, Roy K.
HHD 2nd Signal Group
APO San Fran 96307

MURPHY, Claud H.
2407 Craig Road
Columbia, S.C. 29204

NAGELHOUT, Maynard A.
911 7th Avenue
Brookings, S.D. 57006

NELSON, Raymond W.
Box 207
Roosevelt, Okla. 73564

NIELSEN, Kenneth G.
Hq 1st Maintenance Bn
APO New York 09154

O'BRIEN, Robert M., Jr.
219th Avn Co 52nd Avn Bn
APO San Fran 96318

O'DONNELL, Robert V.
4029 McKoon Avenue
Niagara Falls, New York

OHLENBURGER, Chiff C.
Box 858
Daleville, Alabama

PEELE, William G.
USARV Flt Detachment
APO San Fran 96307

PETERS, John W.
American Embassy IAGS
Guatemala City

PHELPS, Jon H.
1903 SE 24th Avenue MW
Mineral Wells, Texas

POOL, Russell F.
400 Ridgecrest Road NE
Atlanta, Georgia 30307

POPKIN, Steven J.
811 Mohawk Street
Morristown, Tennessee

PRUETT, Joe F.
2435 Chapman Sprgs Rd
College Park, Ga. 30022

PURVIS, Marida R.
137 Whitman Road
Newport News, Virginia

RAYMOND, Henry J.
Room 35 BOQ 400
Fort Wolters, Tex. 76067

REBER, Clark L.
Box 126
Mesquite, Nevada 89024

RECHER, R.R., c/o Auf-
dermarsh, 44 Oakside Dr
Toms River, N.J. 08753

RENPRO, Ronald D.
US Army Flt Opns Fac
APO New York 09102

RENTMEESTER, Richard
c/o Liebman, 1457 Crook
Green Bay, Wisconsin

CAPTAINS

ROWLAND, Jerry D.
238th Aviation Co (AML)
Fl. Carson, Colo. 80913

RUNNION, Lawrence G.
810 North Main Street
Erwin, Tennessee 37650

RUX, William A., II
131st Aviation Company
APO San Fran 96308

SANDERS, Ernest W.
403 Spruce Street
Dowagiac, Mich. 49047

SAVILLE, Duane E.
Braddock,
North Dakota 58524

SCAVO, Sam A.
120 Vernon Street
Belle Vernon, Pa. 15012

SCHUMACKER, Charles S.
120 84th Street
Niagara Falls, NY 14304

SCOTT, Augustus D.
Box 161
Kenly, N.C. 27542

SELMAN, Steven E.
4 Hodges Place
Fl. Stewart, Ga. 31313

SHEFFIELD, Ronald L.
D Trp 2nd Sqdn 9th Cav
APO New York 09029

SHORT, Robert E.
9th Infantry Division
Fort Riley, Kansas 66442

SHRADER, Cecil T.
801 Debus Drive
Taylor, Texas 76574

SIEGLING, William A., Jr.
64B Lenwood Boulevard
Charleston, S.C. 29401

SILVA, Charles E.
128 ASHC 11 Cmbt Avn Bn
APO San Fran 96289

SIMS, Dan F.
Box 43
Fort Wolters, Tex 76067

SOTHCOTT, Myron F.
7004 Leesville Blvd.
N. Springfield, Virginia

SQUIRE, Joseph W.
105 Elaine Court
Laurel, Maryland 20810

STANFORD, John H.
450 Forrest Ave., F201
Norristown, Pa. 1901

STANLEY, Norman L.
102 Apt Pndrosa, 14 Ave
Canyon, Texas

STENGLE, Robert E., Jr.
AOCC 17-A-C23
Fort Knox, Ky. 40122

STILES, Howard J.
129th Aviation Company
APO San Fran 96312

STONE, James E.
324 S. Second Avenue
Marfreesboro, Tenn.

SUNDQUIST, Jack D.
108 12 Oaks Motel
Mineral Wells, Texas

TERRY, Frederick G.
Daleville Inn
Daleville, Ala. 36322

CAPTAINS

THOMPSON, James B.
804 Frances Drive
Garner, N.C. 27529

THORNTON, Tommy W.
118th Aviation Company
APO San Fran 96227

THURGOOD, Leon C.
Route One Box 635
Clearfield, Utah

TOMPKINS, William G.
901 17th Avenue S.E.
Cedar Rapids, Iowa

TRENT, William E.
1502 Northwood Road
Austin, Texas 78703

TRICKLER, Roger D.
209 Magruder
Mineral Wells, Texas

TURNER, Erwin E., Jr.
11 Gen Spt Avn Co 1 CD
APO San Fran 96490

ULZHEIMER, Robert
3026 Avondale Road
Columbus, Ga. 31903

VAUGHN, Ronald L.
718 Countryside Road
Junction City, Kansas

WALKER, James M.
1921 B Butler
Fort Eustis, Va. 23604

WEBB, Charles L.
4426 Bikini Drive
San Antonio, Texas 78218

WEBER, Victor A.
306B Stewart Avenue
Fort Benning, Ga. 31905

WINTERS, Donald L.
Hq 25 Avn Bn 25 Inf Div
APO San Fran 96225

WISBY, James M.
141 Magruder
Fort Wolters, Texas

WOLFE, Rodney D.
Hq 11th Armd Cav Regt
Ft George G. Meade, Md.

WOOD, John L.
Avn Sec Hq 173 Abn Bde
APO San Fran 96250

ZIMMERMAN, Richard K.
2613 SE 6th Street
Mineral Wells, Texas

LIEUTENANTS

CARTER, Willard T.
FTD Box 9312 Area A
Wright Patterns AFB, Oh

CLARY, Jim H.
3501-44 Street
Lubbock, Texas 79413

COOLEY, Bill C.
15 SE 195th
Portland, Oregon 97233

DUCKWORTH, Robert G.
2270 Dallas Street, Apt 6
Aurora, Colorado 80010

ELLISON, Fred R.
1816 S.E. 20th Street
Mineral Wells, Texas

GALLACHER, James J.
220th Avn Co, Box 90
APO San Fran 96258

LIEUTENANTS

GARFUNKEL, Ronald A.
2 Flt 219 Avn Co STZ 24
APO San Fran 96499

GENTLE, Howard B., Jr.
Oakwood Trlr Pk, Lot 16
Hinesville, Georgia

GRASHUIS, Frank
E Btry 82 Arty 1 Cav Div
APO San Fran 96490

HASTINGS, John H.
P.O. Box 395
Fort Rucker, Ala. 36360

HOOK, Billy H.
30 Habersham Street
Fort Stewart, Ga. 31313

HUETTIG, Keith A.
2100 S.E. 15th Avenue
Mineral Wells, Texas

JANECEK, Frank J.
11 GIS C ASTA Flt 1 CD
APO San Fran 96490

KELLER, Paul R.
7568 Deerpath
Hudson, Ohio 44236

LELAND, Howard L.
Skaar Route
Sidney, Montana 59270

McCLOUD, Harry E.
601 S.E. 13th Avenue MW
Mineral Wells, Texas

McKEE, James C.
7th Avn Bn 7th Inf Div
APO San Fran 96207

REED, Burwin P.
20th ASTA Detachment
APO San Fran 96240

SCHROEDER, Thomas W.
104 Keren Court, 7B
West Dundee, Ill. 60118

STRINGFELLOW, Crist J.
245th Aviation Company
Fort Lewis, Wash. 98433

WARD, Forrest L.
1418 So. 73 East Avenue
Tulsa, Oklahoma 74112

WEAVER, John W.
606 South 23rd Street
Arlington, Va. 22202

CWO'S

ALLEN, Thomas E.
2907 S. Murco Drive, MW
Mineral Wells, Texas

BADIA, Albert F.
Co B 228 Avn Bn 1 CD
APO San Fran 96490

BEARDEN, Quincy A.
257 Wesson Circle
Redstone Arsenal, Ala.

BECKER, Miles S.
154th Aviation Company
Fort Sill, Okla. 73504

BLOM, Jay D.
7725 B Nelson Loop
Ft George G. Meade, Md.

BLUMEN, David J.
259 Modern Lane
Marina, Calif. 93933

BRADLEY, Clifford T.
RW Squadron DUSAA
Ft. Belvoir, Va. 228

CWO'S

BRAZIL, John E.
230 North Lowe
Hobart, Oklahoma 73651

BRENDLE, Leroy E.
147th Asit Spt Hel Co
APO San Fran 96291

BRITTON, Irving E.
206 Sylvan Drive
Enterprise, Ala. 36330

CARLETON, Welby A., Jr.
208 Fairview Drive
Ozark, Alabama 36360

CLAPP, John W.
1209 S.E. 13th Street
Mineral Wells, Texas

CLARK, Richard D.
Co C 228 Avn Bn 1 CD
APO San Fran 96490

CLEARY, William H.
900 N.E. 4th Avenue
Mineral Wells, Texas

COGBURN, John C.
Co A 227 AHB 1 CD (AM)
APO San Fran 96490

CORSON, Clarence D., Jr.
211 Woodland Hills Drive
Ozark, Alabama 36360

CROTHERS, William E.
220 Patrick
Mineral Wells, Texas

DAVIS, Michael J.
1207 S.E. 13th Street
Mineral Wells, Texas

DEASON, Thomas B.
G-3 MKS Branch
Ft Leonard Wood, Mo.

DEIS, Donald J.
15 Denbigh Blvd.
Newport News, Virginia

DORIS, Cornelius J.
946 Springfield Road
Collingdale, Pa. 19023

ELLS, George F., III
Route 2, Box 54C
Newton, Alabama 36352

FILIPOWSKI, Robert J.
19 Duke
Fort Rucker, Ala. 36360

FITCH, Ralph M., Jr.
2452 Walker Street
Columbus, Ga. 31903

FORD, Larry K.
Room 17, Mesa Motel
Mineral Wells, Texas

FRAIN, Philip V.
Box 235B N.E. 23rd St
Mineral Wells, Texas

FREBERG, George H.
Room 45, BOQ 400
Fort Wolters, Texas

GARRETT, Cluria L.
13 Wheeler Avenue
Fort Stewart, Ga. 31313

GOWAN, Paul E.
USAAVNS
Fort Rucker, Ala. 36360

GRAHAM, Donald E.
7th Army SUPCOM Mtn
APO New York 09160

HASART, Rex M.
211 W. Josephine W.
Mineral Wells, Texas

CWO'S

HATTER, Richard L.
173rd Asit Hel Company
APO San Fran 96289

HILDRETH, Donald P.
23 Fauquier Place
Newport News, Va. 23602

HOLMES, Thomas E.
USATSCH AMOC 6-66
Fort Kustis, Va. 23604

HUDSON, Andrew C.
227 Hobbins Drive
Dublin, Ga. 31021

HUNTER, Carl M.
154th Aviation Company
Fort Sill, Okla. 73503

IRVINE, Ian C.
44 Harris Drive, East
Fort Rucker, Ala. 36360

JACHENS, Bruce W.
102 Taj Mahal, FW
Mineral Wells, Texas

JACKSON, Roy D.
319 Godfrey
Mineral Wells, Texas

JAMES, John T.
202 Magruder
Mineral Wells, Texas

JARDINE, David C.
2915 Ramsey Road
Columbus, Ga. 31903

JARRARD, Richard D.
113 Brazos Villa
Mineral Wells, Texas

JESKA, Ramon S.
20 Edwards Street
Fort Rucker, Ala. 36360

JONES, Pat W.
Route 1, Box 228A
Mineral Wells, Texas

JOYCE, Donald R.
362 Morningside Avenue
Fairview, N.J. 07022

JOYNER, Gary W.
1402 S.E. 21st Street
Mineral Wells, Texas

KAMMERER, Larry E.
251 Magruder
Mineral Wells, Texas

KETCHERSID, Foy R.
98 Security Circle
Security, Colorado 80911

KING, Thomas J.
2 Florida Place
Jackson, N.J. 08527

LARSON, Walter C.
1419 Lassen Avenue
Salinas, Calif. 93901

LINVILLE, Kenneth E.
111 Patrick
Mineral Wells, Texas

LONG, William L.
1202 Wayne Street
Cape Girardeau, Mo.

McCUNE, James P.
600 S.E. 26th Avenue
Mineral Wells, Texas

McDONALD, Fritz J.
P.O. Box 1073
Albrook AFB, Canal Zone

McLAUGHLIN, John E.
20 St. Thomas Street
Thompsonville, Conn.

CWO'S

McLEISH, Ronald W.
703 Bellwood Road
Enterprise, Alabama

McTIER, Lindy D.
117th Aviation Company
Fort Benning, Ga. 31905

McVEY, Curtis A.
12 Chestnut Street
Lewiston, Maine

MEASLES, Larondal B.
214 Cardinal Lane, Rte 2
Enterprise, Ala. 36330

MILLER, Dion H.
10 Oakridge Apt, MW
Mineral Wells, Texas

MILLER, Terry L.
600 N.E. 23rd Avenue
Mineral Wells, Texas

MITCHELL, Clifford J.
119 Brazos Villa, MW
Mineral Wells, Texas

MOSSER, Kent A.
Room 39, BOQ 400
Fort Wolters, Texas

MOULTON, James E.
25 Maryann Court
Florissant, Missouri

MURPHY, Louis F.
15 Bucker Street
Fort Rucker, Ala. 36360

MURRAY, George, Jr.
1608 6th Street
Hartsville, S.C. 29550

NICHOLSON, Thomas W.
17 Azalea Drive
Newport News, Va. 23602

NIPPERT, Wayne N.
2106 S.E. 24th Avenue
Mineral Wells, Texas

PENNINGTON, Newton F.
136 Magruder, WV
Mineral Wells, Texas

PICKEL, James P.
General Delivery
Daleville, Ala. 36322

POULTON, Charles R., II
119 Brazos Villa, MW
Mineral Wells, Texas

RIECK, Stanley E.
2544 Ridgeman Blvd, #12
Mineral Wells, Texas

SCHRAMM, Walter J.
USAAVNS RW CI 67-2
Fort Rucker, Ala. 36360

SCOTT, Clyde E.
Meadowbrook Hms, Rte 1
Daleville, Alabama

SHEAFFER, Martin K.
308 Beverly Court
Reading, Pa. 19607

SOVIA, Ray E.
210 Blessing Street
Fort Benning, Ga. 31905

STEVENS, Jacob H.
29th Trans Co (AM)
APO New York 0904f

TERRY, William L.
1905 S.E. 11th Street
Mineral Wells, Texas

TRUCHON, Michael
1101 Rosemary Lane
Ozark, Alabama 3636

CWO'S

VENTSAM, Carl P.
Coliseum Hotel
Los Angeles, Calif. 90037

WHITE, Grady T., Jr.
2101 Pullman Circle
Pensacola, Fla. 32502

WOLF, Wallace D.
31 Trailux Mobile Vige
Denbigh, Virginia

YORK, John, Jr.
15 Antalok
Fort Rucker, Ala. 36360

W/O'S

ABPLANALP, Robert H.
115 Crescent Drive
Enterprise, Ala. 36330

ARSENAULT, Brian R.
P.O. Box 341
Daleville, Ala. 36322

BEDLINGMAIER, J.F., Jr.
USAAVNS Element
Ft. Stewart, Ga. 31313

BURTNESS, Hamlin W.
502 Morningside Drive
Mineral Wells, Texas

CARPENTER, Billy R.
1804 S.E. 21st Street
Mineral Wells, Texas

CLIFTON, Floyd M.
196th Aviation Co (MH)
Fort Sill, Okla. 73503

COWEN, Robert H.
602 S.E. 18th Street, MW
Mineral Wells, Texas

DAILEY, Charles L.
207 Woodhaven Road
Newport News, Virginia

DOLL, Lawrence W.
314 East Lincoln
Woodburn, Oregon 97071

FORREST, Robert R.
420 Inglewood Drive
Savannah, Georgia 31406

FOUCH, Jerry
184th Aviation Company
APO San Fran 96317

FRANKLIN, Ronald J.
1304 Bowman Road
Birmingham, Ala. 35235

HAMM, Joseph L.
1209 E. Huntington
Beeville, Texas 78102

HELM, Pruet B.
13565 West Center Drive
Denver, Colorado 80223

HOLZER, James R.
USAAVNS
Fort Rucker, Ala. 36360

JOHNS, Darrel R.
c/o Heath, P.O. Box 112
Sycamore, Alabama

KEY, John D.
1934 Valley Avenue
Springfield, Mo. 65804

KOOUTH, Robert J.
7109 146th S.W. Box 7
Tacoma, Washington

WO'S

McBEATH, Thomas A.
521 E. Garfield Street
Cadillac, Michigan 49601

MITCHELL, Clifford J.
1017 N.W. 7th Avenue
Mineral Wells, Texas

MORRIS, Kenneth J.
1171 Hull Street
Ypsilanti, Mich. 48197

NELSON, Richard P.
BOQ 400
Fort Wolters, Tex 76067

REDMON, John D.
413 Baldinger
Houston, Texas

RICE, Leslie Dale
974-28th Street
Huntington, W. Va. 25705

SIMMONS, Robert W.
1205 Pershing Highway
Smackover, Ark. 71762

THOMAS, Edward W.
5th WOC Co, Trp Comd
Fort Wolters, Texas

TIBBETS, Hoya D.
1906 S.E. 6th Avenue
Mineral Wells, Texas

WAGNER, Charles
Box 182 Old Military Hwy
Gales Ferry, Conn.

WEIMER, Robert E.
155th Aviation Company
APO San Fran 96297

WEST, Jerry L.
2 Mackay Street
Fort Stewart, Ga. 31313

YOUNG, Billy G., Sr.
Route 2, Box 173A MW
Mineral Wells, Texas

WO CANDIDATES

ASHABRANNER, Wesley J.
1712 Summer Street
Hot Springs, Ark. 71901

BROADLEY, Harold V., Jr.
Route 1, Box 162A
Mays Landing, NJ 08330

CARSON, Stephen M.
2117 S.E. 185th Avenue
Portland, Oregon 97233

CHURCH, Frederick W., Jr.
427 Beechwood Circle
Greenwood, S.C. 29646

CORBETT, Daniel W.
CMR #2, Box 6554
Fort Rucker, Ala. 36360

HUNTER, Thomas H.
2199 Nokomis Avenue
St. Paul, Minn. 55119

JOHNSON, Roy A.
8175 Hyannisport Drive
Cupertino, Calif. 95014

IPPERT, Allan L.
P.O. Box 304
Palmetto, Florida 33561

PEZ, Michael S.
CMR 2 Bx 6843 Cl 66-15
Fort Rucker, Ala. 36360

WOC'S

MARTINSON, James L.
Lamberton,
Minnesota 56152

MATTHEWS, Ernest C.
P.O. Box 484
Moorhead, Miss. 38761

MILLIANS, Dan R.
1507 Sylvan Circle
Atlanta, Ga. 30310

OWENS, Steve
512 W. Church Street
Kershaw, S.C. 29067

PEECOOK, Jeffrey M.
153 Inwood Boulevard
Avon Lake, Ohio 44012

RITTER, Jack H.
P.O. Box 1723
Huntington, W. Va. 25718

ROBERTS, Bobby L.
4316 Wilson Street
Columbus, Ga. 31907

TORRE CARYAGENA, J.L.
10 NE 1222 Puerto Nuevo
San Juan, Puerto Rico

USHER, Raymond C.
4814 Japonica Road
Fayetteville, N.C. 28304

WALL, John J.
307 Syrcle Avenue
Milton, Florida 32570

WALLACE, Tommy R.
5512 Ridgewood Road
Jackson, Miss. 39211

WILLEY, James M.
40 Hobbs Road
Hampton, N.H. 03842

MSG'S

MARTIN, James P.
Rm 1709, 111 Liberty Av
Pittsburg, Pa. 15222

SFC'S

DIXON, David R., Jr.
134 Ransone Street
Hampton, Va. 23369

PAUL, Rex L.
1041 N. Locust
Red Cloud, Nr. 68970

SCHUETTE, Arvie W.
HHC US Army Trans Sch
Fort Eustis, Va. 23604

SSG'S

SISLER, George W.
3rd Student Company
Fort Eustis, Va. 23604

SP6'S

FURR, Leon W., Jr.
166 T-Det 173 Abn Bde
APO San Fran 96250

SP5'S

HAWKINS, Charles R.
179th Aviation Company
APO San Fran 96312

PFC'S

KNIGHT, Robert B.
179th Aviation Company
APO San Fran 96312

ASSOCIATES

BARNES, Mr. Vera M.
1313 Peterson
Corpus Christi, Texas

BREITHAUPT, Mr. J.J.
3415 Northaven Road
Dallas, Texas 75229

COBB, Mr. Kelley B.
12922 East Redbird Lane
Corpus Christi, Texas

FAUST, Mr. Henry M.
3418 Mercer
Houston, Texas 77027

FITTS, Mrs. Ella C.
2026 Mill Creek Drive
Arlington, Texas 76010

GALIPAULT, Mr. John B.
505 Lambourne Avenue
Worthington, Ohio 43085

HALL, Mrs. Claudette
28 Samoset Road
Rockland, Maine 04841

KAPPENMAN, Mr. Eugene
311 N. Wayland
Sioux Falls, S.D. 57103

LEFLER, Mr. James H.
6647 Aberdeen
Wichita, Kansas 67206

ASSOCIATES

McCRARY, Mr. Richard D.
Route 2
Newville, Ala. 36353

O'BANNON, Mr. S.W.
132 Pinebloom Drive
Jesup, Georgia 31545

ROYER, Mr. Robert F.
2860 Pose Boulevard
Thornton, Colo. 80229

STUDEBAKER, Mr. Wayne
1002 Palmer Rd., Apt. 2
Oxon Hill, Md. 20022

WOOLNOUGH, Mr. James
6133 N. Morgan Street
Alexandria, Va. 22312

RETIRED

GRAUL, William H., Maj
8919 Sylvania Street
Lorton, Virginia 22079

HUNTER, Roy V., LCol
917 N. 11th Street
Rogers, Arkansas 72756

PACKER, Jacob L., Maj
5620 Ammons Street
Haltom City, Tex. 76117

REYNOLDS, Robt. H.LCol
5050 Porz-Ensen
Kolner Str 159 W Germ

WEGGELAND, H.N., LCol
2545 Barbey Drive
Salt Lake City, Ut. 84109

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In the photo above Warrant Officer Candidates of "Tiger Flight" 67-1A-4 mark the breaking of the 100,000 figure. Standing from left are WOC Flight students Ferenc Szerzo, William Shirk, Philip Berg, William Brayshaw, Mike Knapp, and Robert Edelhell. They hold up CPT Thomas Castro (left), and CPT Kennard F. Hill, two military flight instructors of the class.



PLAN NOW TO ATTEND!

**AAAA ANNUAL MEETING
OCTOBER 12-14, 1966
Shoreham Hotel, Washington, D.C.**

Early Bird Reception

Panel Presentations:

"Army Aviation in Vietnam"

President's Reception

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AAAA PANEL PRESENTATION "Army Aviation in Vietnam"

Thursday, October 13, 1966 - 1415-1630 Hours
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1415-1435

Operations of the 1st Cavalry Division
(Airmobile) in Vietnam
Major General Harry W.O. Kinnard
OACSFOR, Department of the Army
Washington, D.C.



1435-1455

Materiel Developments and Requirements
Brigadier General Alvin E. Cowan
Former Chief, Joint Research and Test
Agency (Vietnam)



1455-1515

Safety and Survivability
Lieutenant Colonel Jack Ray
U.S. Army Board for Aviation Accident Research
Fort Rucker, Alabama



1525-1540

Project FLATTOP
Colonel John F. Sullivan
Hqs, First Materiel Group, ARADCOM
Corpus Christi, Texas



1540-1605

Logistic Support of Army Aviation
Brigadier General Howard F. Schiltz
Hqs, U.S. Army Aviation Materiel Command
St. Louis, Missouri



1605-1630

Questions and Answers
Mod: Col. John L. Klingenhagen
Headquarters, Army Materiel Command
Washington, D.C.

OTHER PANELISTS:
COL. JOHN BABBS
DR. GEORGE CHERNOWITZ
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ARMY AVIATION

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

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