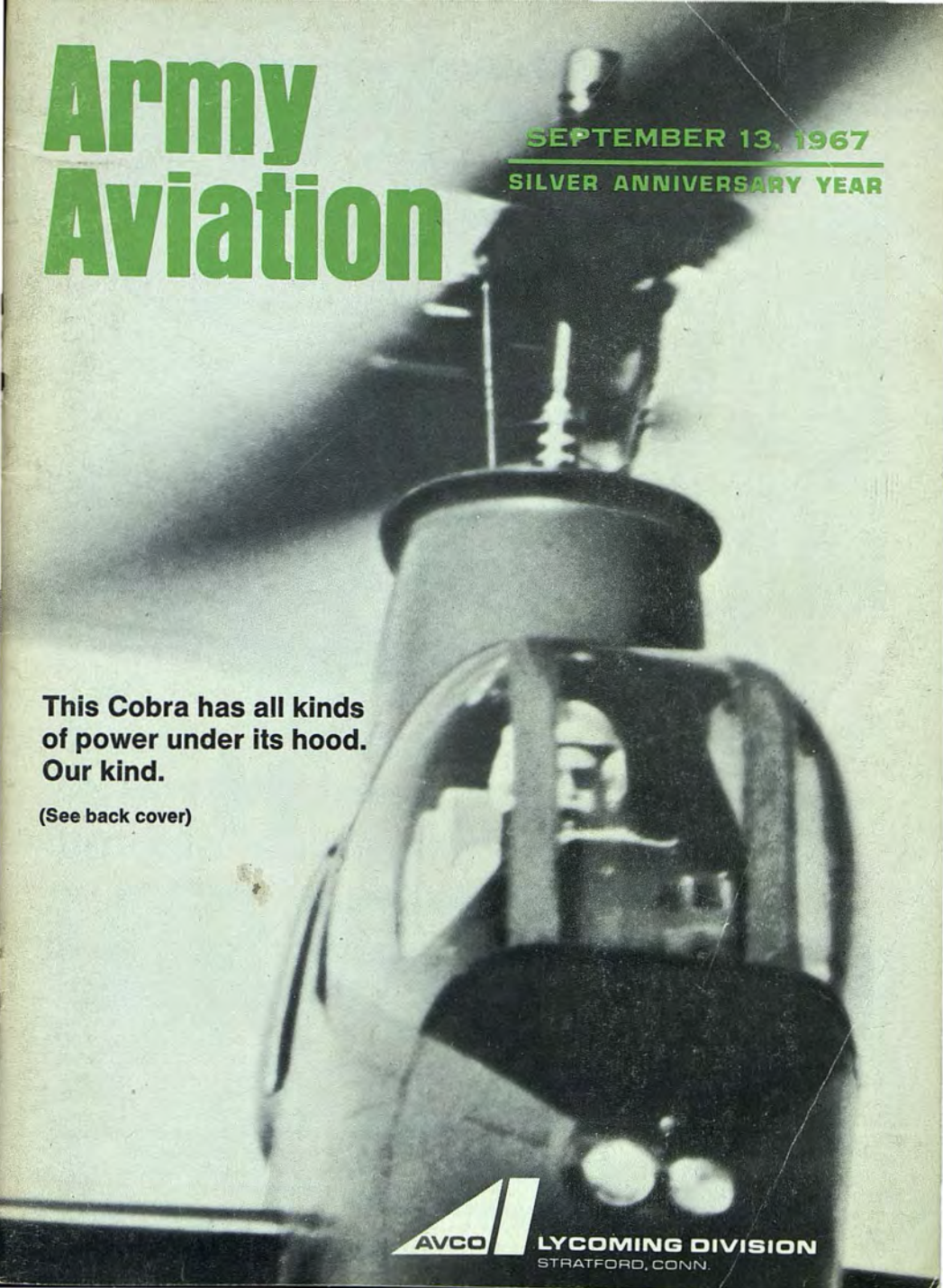
Army Aviation

SEPTEMBER 13, 1967

SILVER ANNIVERSARY YEAR



The ABC's of the Chinook.

The Chinook began as a superior helicopter. And it has been further improved by constant introduction of new developments.

The Chinook story begins with the CH-47A—the Army's dependable medium transport helicopter. Since its first flight in September, 1961 it has logged well over 125,000 hours—close to half of them under the toughest, roughest, combat conditions imaginable. It has all-weather, day-night capabilities, excellent hovering characteristics and it lifts 10,500 lbs. on a 100-nautical mile mission. Also, maintenance is easy.

But we wanted to make the Chinook better. So in May, 1967 the first CH-47B will come off the production line and enter Army service. It will have two new gas turbine engines, each one rated at 2,850 shaft horsepower, 200 shaft horsepower more powerful than the CH-47A's engines—plus a new rotor configuration which will boost payload to 14,500 lbs. and increase cruise speed by 25 knots.

Then it is planned that in Spring, 1968 the CH-47C Chinook (a still further improvement of the CH-47B) will be delivered to the Army with power per engine increased from 2,850 to 3,750 HP. These uprated engines and a strengthened drive system will increase carrying capacity to 19,100 lbs. and raise the Chinook's overall speed capabilities.

When the Army finds new requirements for the Chinook, we'll make whatever changes are needed. It's all part of our continued program to keep the Chinook a superior helicopter.

The Boeing Company, Vertol Division, Morton, Pennsylvania 19070

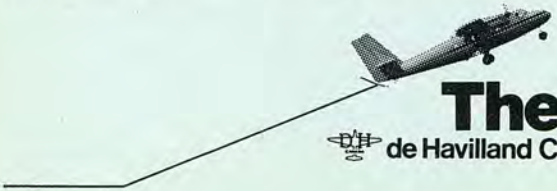
BOEING
Helicopters

The STOL Military Success Story: The Twin Otter hurries 19 troops, or two tons of supplies into 1,000-foot makeshift strips. Handles photo and ambulance missions easily.

Paradrops supplies or 14 paratroops. Powered by twin United Aircraft PT6A-20 turbo prop engines.

Interior converts to ambulance for 9 stretcher cases plus attendants. Also converts to a navigational trainer.

Large double doors (56" x 50") facilitate cargo handling. Carries up to 4,450-lb. payloads, or cargo/troop combinations.



The Twin Otter

de Havilland Canada, world leaders in STOL

AIRMOBILE LOGISTICS

By LIEUTENANT COLONEL KENNETH D. MERTEL
Army War College, Carlisle Barracks, Pennsylvania

AN Airmobile trooper is on foot in the jungle — stripped to his fighting weight. Attired in jungle fatigues, jungle boots, steel helmet, loadbearing harness, belt with double canteen, and light combat pack.

Armed with the deadly, black M-16 rifle, carrying three to five hundred rounds of rifle ammunition, two hand grenades, and one-third of a "C". In his pack, limited toilet articles, a change of socks, a rubber air mattress, and a poncho.

His buddy is similarly equipped, except that he carries a lightweight poncho liner to complement the mattress for only one man sleeps at a time. Don't bother with underwear, either wearing or carrying a change. Just in the way, and always wet, rubbing you raw either from ever-present sweat or rain. Easier to dry out rapidly wearing just lightweight jungle fatigues. Total weight wearing and carrying, including weapons, about 35 pounds.

Never before has a trooper, the fighting Infantryman, been able to lighten his load as he does in Vietnam today. Airmobility not only moves him around on the battlefield, as required, easily and quickly according to the battle plan, but it has also lightened his traditional overburden and given him new ground mobility on foot in the jungle, the mountains, and the swamps. He is backed up by an airmobile logistics system that has truly come of age in this war. Let us take a look and see how it functions at the rifle company and battalion level.

An airmobile Infantry battalion has conducted an air assault into an objective area to conduct an offensive operation. The initial landing has been made to establish a forward base and a landing zone. The entire battalion is finally in and the rifle companies are moving out on a series of search and destroy operations.

Meanwhile, at the landing zone, the battalion forward base is secured by elements of a rifle company. Also in place is an artillery battery from the direct support artillery battalion. This is the forward command post of the airmobile Infantry battalion. The Battalion Commander is probably out in his command UH-1D helicopter or on the ground with a rifle company, overseeing the movement of the battalion.

Primary item: ammunition

What is happening now in the logistics picture as the battalion logistics team begins operations to continue the support of the battalion? The primary supplies needed are ammunition; the quantity will depend on the degree of enemy contact, but certainly resupply will be needed for the M-16 rifles, the M-60 machine guns, explosive rounds for the M-79 grenade launchers, hand grenades, and claymores. Additional demolitions will be required. 81mm mortar ammunition will be

needed in large quantities at the end of the day when the companies establish company bases for nightime operations.

Batteries for the PRC-25 radios are a daily requirement. Resupply of water will not be a major problem until approaching nightfall. Depending on the situation, it may be available in local streams. In a particularly dry area, water must be a supply item that will have to be brought into the company bases to replenish the individual soldier's water supply.

As for food, "C" rations are used for at least two meals per day. If the tactical situation permits, a hot meal will be brought in that evening, perhaps even a cold beer. POL resupply is not a specific problem for the troops themselves, but is required to establish a refueling point at least for the OH-13 helicopters that are flying in support of the battalion and perhaps a five hundred gallon drum or two of JP-4 for the command helicopter.

The Forward Support Element

Most important will be medical evacuation throughout the day and night. One of the very outstanding systems that has grown out of the Vietnam war is the excellent medical evacuation employing the helicopter. When a combat soldier is wounded, either a medical evacuation helicopter or a "slick" is available within a matter of minutes to move the soldier back to the battalion forward base and probably to the *Forward Support Element (FSE)* at the brigade forward base where a clearing station from the division medical battalion provides whatever is required medically.

In the event maintenance or repairs are needed for equipment, a contact team and/or necessary replacement parts can be flown up from the rear. Perhaps the item itself will be replaced, and the damaged one evacuated further to the rear for repairs, reducing expenditure of both time and transportation.

Controlled by a major, the *FSE* is a small team that habitually works with the same brigade. It is made up of a medical company with air ambulance, a maintenance detachment, a supply platoon, and as needed, a water point, an aircraft maintenance DS team, and a graves registration team. The *FSE* commander from the Division Support Command Headquarters with his small staff of logistics and movement control personnel and the units under his control, is charged with providing support to the brigade and all divisional and attached units operating in the brigade area. At the beginning of an operation during a reconnaissance conducted by the Brigade Executive Officer, the S-1, and the S-4, accompanied by a representative of the *FSE*, locate facilities for both the brigade and the elements of the *FSE*.

STRATFORD, CONN. — The Army has placed an August, 1967 order for 22 additional "universal pod systems" for use with its CH-54A Flying Cranes. 1st Cav configures include a tactical operations center, a medical-surgical facility, and a multi-purpose pod.

On-the-spot decisions

At battalion level, the Battalion S-4 and the Service Platoon (which is part of the battalion headquarters and headquarters company) are the key factors in the battalion resupply. The Battalion S-4 is habitually located with the Battalion Commander at the forward battalion base. He must be there where he is aware of what is going on tactically. He is completely abreast of the battalion's current and future plans and is able to make on-the-spot decisions to coordinate the movement of needed supplies.

His primary operators in the Service Pla-

(LOGISTICS / Continued on Page 27)

making the best better...

MORE COMBAT POWER PER FLYING HOUR-THE TWIN D

In the world's most demanding vertical lift mission, the heroic Huey Delta is acclaimed the best. To make the best better, Bell has combined this battle-proven helicopter with the Continental T67 twin-turbine powerplant to assure all of the twin engine safety and reliability advantages plus:

- Fifty percent increase in troop payload on typical Vietnam troop lifts
- Thirty-five percent increase in sustained troop delivery capability
- Sling-load capability for lift of M-102, 105mm howitzers.

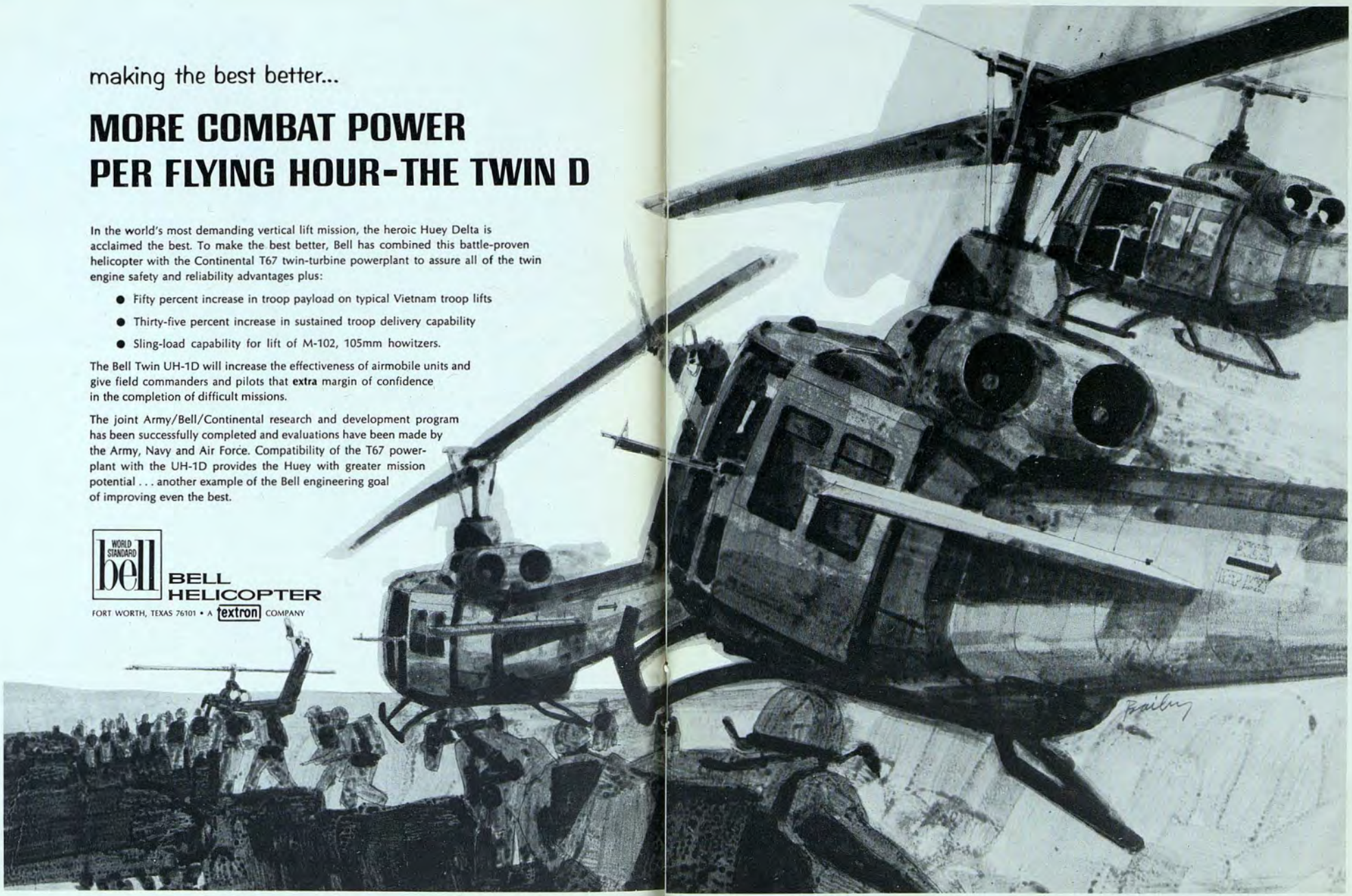
The Bell Twin UH-1D will increase the effectiveness of airmobile units and give field commanders and pilots that **extra** margin of confidence in the completion of difficult missions.

The joint Army/Bell/Continental research and development program has been successfully completed and evaluations have been made by the Army, Navy and Air Force. Compatibility of the T67 powerplant with the UH-1D provides the Huey with greater mission potential . . . another example of the Bell engineering goal of improving even the best.

WORLD STANDARD bell

BELL HELICOPTER

FORT WORTH, TEXAS 76101 • A textron COMPANY



VOLUME 16, NUMBER 9

ARMY AVIATION

SEPTEMBER 13, 1967

Endorsed by the Army Aviation Ass'n of America

CONTENTS

ADVERTISERS

ARMY AVIATION is published monthly by Army Aviation Publications, Inc., with Editorial and Business Offices at 1 Crestwood Road, Westport, Conn. 06880. Phone (203) 227-8266. Subscription rates for non-AAAA members: 1 year $3.50, 2 years $6.00 to CONUS and APO addresses only; add $7.00 per year for all other addresses. The views and opinions expressed in the publication are not necessarily those of the Department of the Army. Publisher, Arthur H. Kesten; Managing Editor, Dorothy Kesten; Associate Editor, Jessie Borck; Subscription Fulfillment: Beryl Beaumont. Exclusive articles pertinent to any Army aviation subject, except industry, AAAA, unit, or major command articles, are reimbursible at the rate of three cents to five cents per word for the first 2,000 words published. Second class postage paid at Westport, Conn.

THE 11TH DIRECTOR

The eleventh Director of Army Aviation, Colonel Edwin L. "Spec" Powell, Jr., has served in a wide variety of Army aviation assignments since completing his primary training in 1956.

Born January 11, 1920, in Washington, D.C., Colonel Powell graduated from Central H.S. in Washington, D.C. in 1936, being appointed to the Military Academy in 1957 by the D.C. Commissioners as a result of competitive academic examinations.

Dual rated, he's a 1941 graduate of USMA, where he ranked 5th in his class of 424. The Brigadier General-designate has also completed USCGSC (1944), and the USAF War College (1960), and holds an MS in Civil Engineering from the University of California (1948).

Since 1961, he's served as Deputy Chief of the Air Mobility Division in OCRD, as military assistant to the Assistant Director of Defense Research and Engineering in DOD, as CO of the USA Tactical Mobility Office during 1963-1965 evaluation of the 11th Air Assault Division, and as military assistant to the Assistant Secretary General, Scientific Affairs, NATO, Paris.

Colonel Powell and his wife, Clelia ("Cleo"), have three children, Jill, a junior at Syracuse University; Denny, a freshman at Stetson University; and Douglas, a senior at Yorktown H.S.

DSC Awards

Warrant Officer Jack E. Grimmer, assigned to the 336th Assault Helicopter Company, received the Distinguished Service Cross from **General Harold K. Johnson** in ceremonies held at Soc Trang, Vietnam, on August 4.

Grimmer received his DSC for his actions on February 15, 1967, while flying a helicopter during the airlift of Vietnamese troops into an unsecure landing zone. As the flight of troop ships started to land, they came under intense hostile fire which crippled **Warrant Officer Grimmer's** aircraft. Exiting from the helicopter, he noticed that the lead ship had also crashed and was only fifty meters from the VC positions.

After directing his crew to safety, he fearlessly ran and crawled through a hail of bullets and exploding mortar rounds to remove the surviving crew members from the downed lead ship. As they moved back, one of the men was wounded seriously in legs. Unmindful of the extreme dangers, **Grimmer** helped to carry the stricken man to cover behind a low dike and administered first aid. He then began to engage the enemy with all available weapons, to include a machine gun he had retrieved from a dead Vietnamese soldier.

Moving throughout the ravaged area to coordinate the defense, **Grimmer** continued to provide accurate suppressive fire, allowing a relief force to land. Once the insurgent positions had been partially silenced, he again returned to the lead aircraft to put out a fire and to remove the dead pilot from the wreckage. After being evacuated to the staging field, **Grimmer** volunteered to fly a perilous mission back into the landing zone where during the remainder of the afternoon and into the night, he repeatedly flew through hostile sniper and mortar fire until all of the downed helicopters were rigged properly and recovered.

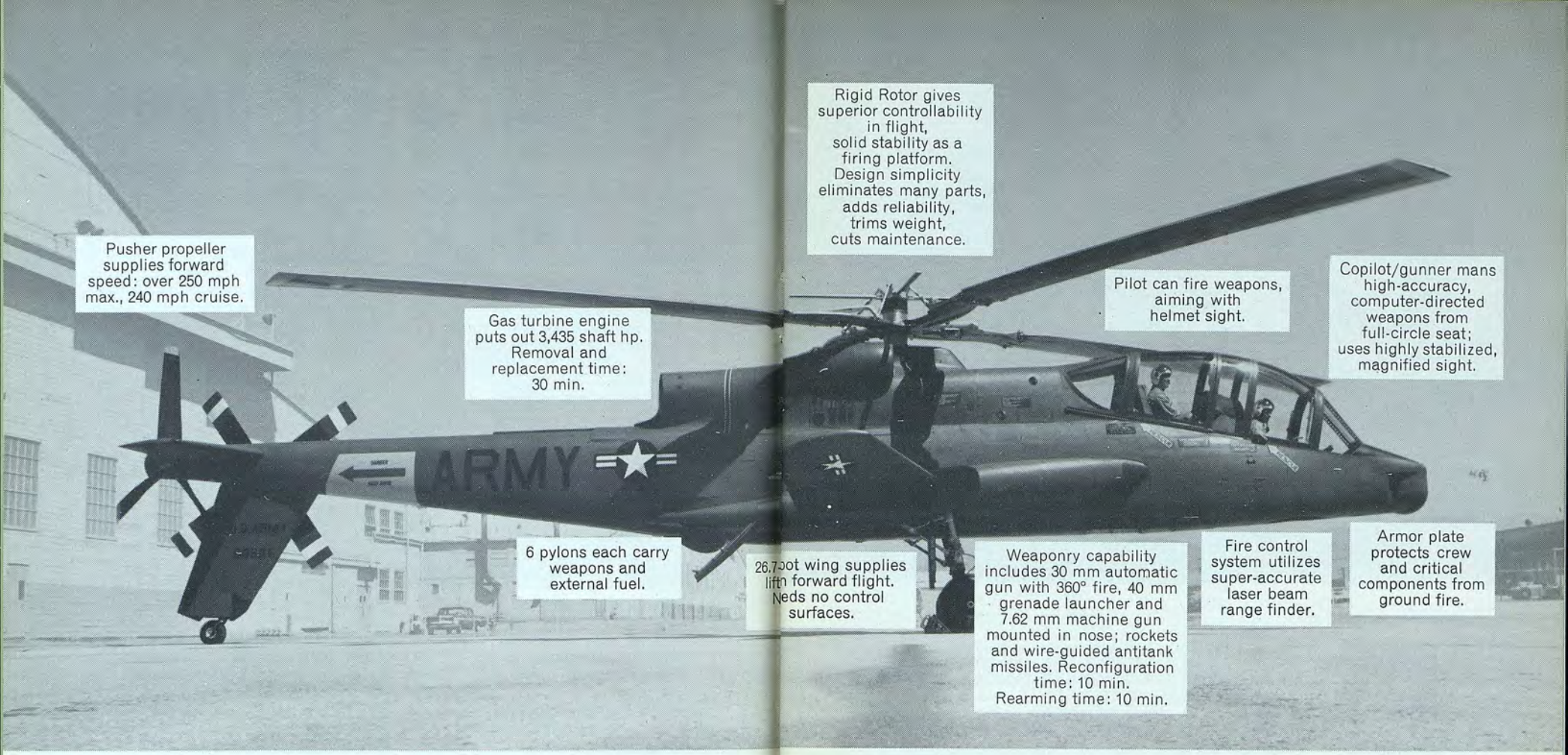
Chief Warrant Officer Jerome R. Daly, 121st Helicopter Company, 13th Combat Aviation (Delta) Battalion, received the Distinguished Service Cross from **General Harold K. Johnson** in ceremonies held August 4 at Soc Trang, Vietnam.

Daly was cited for his actions on March 26, 1967, while serving as commander of a smoke-dispensing helicopter during the rescue of three downed helicopter crews who were threatened by two VC battalions.

The three helicopters had been shot down in a contested landing zone near Vinh Long and all rescue attempts had been thwarted by intense enemy fire from fortified emplacements in a treeline 100 meters from the aircraft. Although it was imperative to reach the crews before nightfall, ground armor reinforcing units were unable to reach the besieged men in time.

With the pickup aircraft right behind him, **Daly** descended to 10 feet above the ground and flew in front of the incredible VC firepower, completing a smoke run and concealing the rescue area in thick smoke. On finding the downed men spread throughout the landing area and more evacuation aircraft needed, **Daly** circled eleven more times, completing twelve separate smoke runs through a hail of enemy fire, and allowing the rescue ships to recover the downed crewmen.

Warrant Officer Daly and his crew escaped unscatched, but his aircraft was so damaged that it was judged beyond repair.



New breed of bird breaks the time barrier

The compound Cheyenne—part airplane, part helicopter and all weapon—recently rolled out at Lockheed-California Company's Van Nuys plant ahead of schedule. This speeded the day when it can be supporting U. S. Army men in the battlefield.

The AH-56A Cheyenne is Lockheed's answer to the Army's call for an advanced aerial fire support system. Cheyenne can see action convoying troop-carrying helicopters; providing accurate, discriminative firepower against a variety of targets; and escorting advancing troops. As a compound aircraft, it will take off, land and hover like a helicopter; fly with the speed, range and maneuverability of an airplane. And can give field commanders greater firepower mobility than ever before possible.

Built for action, Cheyenne can be fully serviced and armed, ready to return to battle in 10 minutes. At the organizational level, it needs only 1.9 maintenance man-hours per flight hour; including overhauls, it needs only 3.9 active maintenance man-hours per flight hour—measured in "touch time."

The proven ability to understand present mission requirements and anticipate future ones, coupled with technological competence, enables Lockheed to respond to the needs of the nation in a divided world.

LOCKHEED

LOCKHEED AIRCRAFT CORPORATION

From an original painting for Chandler Evans by Keith Ferris

MAIN FUEL PUMPS by Chandler Evans

Lockheed's SR-71 is a Mach 3, long-range, strategic recon aircraft. Carrying a wide variety of advanced observation equipment, it is capable of 2,000 m.p.h. speeds at altitudes of 80,000 feet for the USAF. The SR-71 is powered by two Pratt & Whitney Aircraft J58 turbojets equipped with main fuel pumps engineered and precision-produced by Chandler Evans.

This Chandler Evans product on the SR-71 joins a distinguished line of pumps, main fuel controls, afterburner controls and other aerospace components in an array of important military aircraft and missiles as well as many of the latest and finest commercial aircraft.

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

Colt Industries

Chandler Evans Control Systems Division

WEST HARTFORD, CONNECTICUT 06101

GAS TURBINE FUEL CONTROLS/PUMPS • MISSILE CONTROL SYSTEMS/SERVOS • AIRCRAFT/ENGINE ACCESSORIES

Beatty

Powell

TWO PROMOTIONS HIGHLIGHT MONTH

IT is always good to be able to lead off the monthly news with a report on promotions. This month, I am particularly pleased to announce that two very fine Army aviators have been selected for promotion to Brigadier General: *COL George Beatty*, who is the Deputy Chief of Legislative Liaison and *COL Spec Powell*, my deputy here in the Aviation Directorate.

Both these officers have outstanding careers behind them which augers future benefits to the Army in general, and Army aviation in particular, on their entry into general officer ranks.

COL Beatty, an infantry officer, has been an Army Aviator since 1960. In this relatively short period of time in the aviation program, he has acquired extensive aviation command and staff experience.

Following assignments in the Army Aviation School at Fort Rucker, he joined the 11th Air Assault Division where he served in succession as a brigade commander, aviation group commander, and division Chief of Staff. Prior to coming to his current assignment, he was chief of staff of the 1st Cavalry Division in Vietnam.

By
MAJOR GENERAL
ROBERT R. WILLIAMS
Director of Army Aviation
OACSFOR, D/A

R & D oriented

COL Powell, an engineer officer, entered Army aviation in 1956. His initial aviation assignment was as Director of Development Guidance, U.S. Army Aviation Board. Following this assignment, he attended the Air War College. He was then posted to Iran, where he spent two years building a large jet airfield near Hamadan.

His succeeding assignments have for the most part been R&D oriented, including key jobs in the Office of the Chief of Research & Development, DA; Office of the Director of Defense Research and Engineering; and Office of the Assistant Secretary General, Scientific Affairs, NATO. Included in this period was a two-year stint as Commanding Officer of the U.S. Army Tactical Mobility Office in Fort Benning. He has been Deputy Director of Army Aviation for just over a year.

To both of these officers, I offer my heartiest congratulations.

TWO PROMOTIONS

(Continued from Page 13)

The flying hour program

We have been receiving inquiries here in DA about the flying hour program. Typical of these inquiries are questions such as:

"*Am I restricted to a monthly rate of 25 hours for the OH-23?*"

"*If I underfly the OH-23, can I overfly the OH-13?*"

These and other questions indicate that there is still a general misunderstanding of the purpose and use of the DA flying hour program. I would like, therefore, to clarify the subject for you.

The functions of the flying hour program are to:

- Provide the basis for establishment of budget, procurement and supply, and maintenance support for Army aircraft.
- Provide a means of programming and controlling aircraft operations, when appropriate, to be compatible with the support and budget programs above.

The ACSFOR is charged with developing and disseminating the flying hour program in accordance with *Section III, AR 37-16*, "*Accounting and Reporting for Operations, Maintenance and Flying Hours of Army Aircraft.*" ACSFOR's objective is to provide all commands, units, and detachments with adequate flying hours to meet all of their requirements.

The flying hour program is published in *Annex V* to *Vol II* of the *DA Program and Budget Guidance* for each major command. The program is provided in bulk hours by type aircraft for the entire fiscal year. For example, USAREUR was provided 50,600 OH-13 flying hours in FY 68. Funds to support the flying hour program are provided in the appropriate budget program for each major command.

The published flying hour program may be exceeded by 2% without DA approval. Authority for commands to overfly above 2% for each type aircraft must be requested of DA. This procedure is necessary to insure that there is adequate logistical support for the published flying hour program.

DA has not rejected any request for increases in flying hours in the past four years. At the present time UH-1 flying hours are being controlled on a monthly basis because of a critical engine situation. However, our objective is to fill all requirements for UH-1 flying hours.

Fleet rates in effect

There is a common tendency to apply the DA planned or programmed flying hour rate to individual aircraft. This is wholly incorrect. The DA flying hour program is a *fleet* program and the rates used are *fleet* rates. There may be times when it is necessary to restrict flying of certain aircraft to certain monthly or quarterly rates, for specific purposes of limited duration. However, these restrictions are not a part of the DA flying hour program and are regarded by DA as extraordinary.

The confusion surrounding monthly rates by type aircraft emanates from control of flying hour programs at major command level and below. Some commands use a monthly rate to control their program. This proced-

WORLD RECORD

MAJ T. J. Clarke (2d from left), and CWO Ulyess V. Brown (3rd from left) are awarded FAI Certificates for having set three altitude records in the CH-54A helicopter in April, 1965 at the Sikorsky Aircraft Division plant in Stratford, Conn. Presenting the Federation Aeronautique Internationale Certificates are COL M. H. Parson (l.), asst commandant of USAAVNS, and Ralph P. Alex, chief of research & development marketing at Sikorsky. Both aviators are assigned to the School's Department of Rotary Wing Training.

DFC AWARDS

CW2 Jerome R. Daly (center), 121st ASH Company, is awarded the Distinguished Service Cross by GEN Harold K. Johnson, Army Chief of Staff, at Soc Trang, Vietnam, ceremonies on August 4. WO Jack E. Grimmer (right), also received a DSC for gallantry in action. (USA photo)

ure is workable as long as it does not assume that all units in the command have the same flying hour requirements.

It is possible that some units in a major command could require a rate twice that of another unit, e.g., mission support aircraft which, in CONUS, should normally fly a much higher rate than the same type aircraft in a TOE STRAF unit.

DA uses flying hour rates for programming future requirements and for analyzing past performance. Each command should analyze the best method to control its program. One method would be to monitor the command flying hour performance on a monthly basis and compare total hours flown with the DA program. If overflying is anticipated, DA should be contacted prior to placing any restriction on flying. You may overfly, but another command may underfly, permitting DA to reallocate hours.

The DOD analyzes our performance by comparing the flying hours authorized against hours flown. We usually do not meet our authorized program; however, we came quite close in the last two years. Actual percentages of accomplishment were 99% in fiscal years 67 and 66 and 95% in FY 65. We are aiming for 100% in FY 68.

The magnitude of the current program is shown in the table below. Note that the FY 69 projection is 300% higher than the actual hours flown in FY 65.

ACTUAL HOURS FLOWN WORLDWIDE
(Millions of Hours)

FY 65	2.17
FY 66	2.72
FY 67	3.79

(Continued on Page 18)

It's a cargo carrier!
It's a troop transport!
It's a staff transport!
It's a flying ambulance!

It's the Beechcraft U-21A...now in continuous production!

Huge double doors and hefty one-and-three-quarter ton useful load enhance its capability as a high-priority cargo carrier. In-the-field conversion to any of its other utility configurations is quick and easy.

This remarkable versatility combines with proven dependability and exceptional performance to make the U-21A the ideal multi-mission airplane. Now in daily use, the traditionally rugged Beechcraft construction is meeting the diversified demands of urgent front-line operations.

Twin turboprop power provides quiet, efficient, trouble-free operation at both high and low flight levels. Amazing short and rugged field capability. Full all-weather dependability.

Big plane range, payload and positive "feel". Yet the U-21A will save its cost over and over again when operated instead of larger aircraft.

The worldwide Beechcraft service organization provides easily accessible parts and expert service, eliminating the need for an expensive logistic support program.

The U-21A is just one member of the Beechcraft family of utility aircraft. Each is built with growth potential in mind, to be quickly adaptable to meet the demands of the future. Write now for full information, performance data, mission profiles and growth factors. Address Beech Aerospace Division, Beech Aircraft Corporation, Wichita, Kansas 67201, U.S.A.

Beech Aerospace Division

BEECH AIRCRAFT CORPORATION • WICHITA, KANSAS 67201

TWO PROMOTIONS

(Continued from Page 15)

PROJECTED WORLDWIDE FLYING HOURS
(Millions of Hours)

FY 68	5.59
FY 69	6.88

The point I would like to leave uppermost in your mind is that the DA flying hour program is not intended to act as a restriction on legitimate operational requirements and it is never a bar to accomplishing the mission.

As a management tool, it may, of course, be used as a deliberate control measure when necessary. However, this should not be allowed to obscure the central objective of the flying hour program, which is to insure an orderly and adequate flow of support to Army aviation operations.

Minor mishaps

The margin between an uneventful precautionary landing and a catastrophic major accident is sometimes very small and is often the result of pilot experience, terrain, or pure chance.

In the past eight years, there have been many thousands of incidents, precautionary landings, and forced landings reported. However, to the knowledge of the personnel of the *United States Army Board for Aviation Accident Research (USABAAR)*, there has not been a single report forwarded to *USABAAR* on human factors involved in these mishaps, even though *AR 385-40 (para 25d (3))* directs it in certain cases involving human factors or injuries.

Since reports of major accidents have shown an overwhelming majority of human factors involved, one can but wonder why, in all these other occurrences, there have been no human factors reported. If it takes a major or perhaps tragic accident to bring a factor to our attention when we could know about it through numerous minor occurrences, much is lacking in our preventive concept.

Much valuable information in the human factors field is forever lost in the case of mishaps other than major accidents, since *AR 385-40* requires a flight surgeon's technical report *(DA Forms 2397-7 and -8)* only for major accidents. For incidents, forced landings, and precautionary landings, only a message is required.

This loss of information is especially poignant in cases where there are:

a. disorientation and other physiological factors,
b. psychological factors,
c. personal injuries in incidents, etc.,
d. aircraft design factors,
e. technique to preclude further aircraft damage and/or injuries,
f. rescue or survival factors,
g. personal equipment deficiencies.

One wonders, "Why?"

If the flight surgeon does *not* participate in the investigation of incidents, one wonders why. Is it because of the prevalence of too limited an understanding of the definition of human factors, or the functions and usefulness of the flight surgeon?

Perhaps you, as the commander, safety officer, investigating officer, or flight surgeon of your unit, should clarify your understanding of this situation and see to it that proper procedures are instituted in this regard. You should understand that such investigations and reports should be directed toward the effects of normal mental and physical reactions, not just bizarre abnormalities.

It must be understood that what may appear to be simple, obvious observations of normal responses to an emergency situation may be quite significant. An example would be the apparently trivial event of an APH-5 visor knob catching the face curtain handle in an OV-1. As inconsequential as such an event may appear, an inadvertent ejection could possibly be prevented if it were

NEW NAMES

Last "Indians" to join the Army Aviation tribe are the CH-54A Tarhe, T-42A Cochise, U-21A Ute, T-41B Mescalero, and TH-55A Osage. Hqs, AMC, has been asked by the Army staff to propose a new family of aircraft names with the exhaustion of the "Indian" list.

brought to the attention of the proper agency.

As another case in point, an accident occurred involving a light helicopter in which the pilot, at a relatively low altitude and in a hovering attitude, experienced a malfunction of his boost control system. At his altitude and attitude, it was impossible to release either of his hand controls to turn off the boost, as the handbook directs. Finding himself unable to control the aircraft and unable to correct the situation, the pilot inevitably experienced an accident.

A plan in mind

Why did it take an accident to bring this deficiency to our attention when many other helicopter pilots had long been aware of it? Upon questioning the other pilots, it was found that they *already* had a plan in mind in order to cope with this situation if and when it occurred.

As the commander, safety officer, or flight surgeon, you have only to talk with your pilots and observe them in flight to become aware of such deficiencies. You need not wait for a forced landing or some other incident, much less a major accident. Regard these deficiencies as symptoms of accidents yet to occur, accidents which need not occur if those deficiencies are identified and corrected.

Consider this responsibility an integral and necessary part of your job and report your findings to *USABAAR*. In doing so, give more than what appears to be enough information. What may appear obvious and easily understood by you is not necessarily so for those removed from the situation.

CORRECTION

Thanks to our many sharp-eyed readers! On page 92 of the August 16, 1967 issue in "The Logistic Support of Army Aviation" by BG John L. Klingenhagen, the article reads, ". . . it's expected that the avionics equipment installed in the AH-56 (AAFSS) will exceed 2.4% of its total cost." The correct percentage is 12.4%.

P.S. Since writing the foregoing, I have been informed that I am being reassigned as Commander of the 1st Aviation Brigade in Vietnam. Accordingly, this will be my last letter to you and, in fact, I expect I will be well on my way as you read this.

Replacing me as Director of Army Aviation is Colonel (soon to be Brigadier General) "*Spec*" Powell, I am happy to announce. Needless to say, I am very pleased with my new assignment and at the same time happy to be able to leave my present duties in such competent hands. I appreciate all the support I have had from the members of the Aviation Directorate, the Army Staff, and from all of you in the field. Good luck.

PERSONNEL CHANGES

Major General George P. Seneff, Jr. (left), CG of the 1st Aviation Brigade since its activation in Vietnam, has been assigned as CG of the 3rd Infantry Division in USAREUR. **Colonel E. Pearce Fleming, Jr.** (right), USAPHC commander, is the new Deputy Director of Army Aviation, OACSFOR, Department of the Army.

SUMMITRY

A modified Army CH-47 **Chinook** from the Army Aviation Test Board swings around Pikes Peak in a late July altitude flight prior to lifting 30,205 lbs. above the 14,110-foot peak. This weight includes the helicopter and its contents. A more powerful motor and different rotor blades and head comprise the modifications.

Design Features

that affect accident cause factors

A report by USABAAR Director, Colonel Warren R. Williams, Jr. clarifies the many relationships between design features and safety.

In recent years, the Army has been putting more and more emphasis of its aviation safety program on the design stage of the development cycle. It is here that the most good for the effort expended can be accomplished.

The *System Safety Engineering Program* is specifically designed to provide a systematic, independent engineering approach to insure that safety aspects have been considered throughout all phases of a design. The program insures that such things as putting identical switches side by side (one to cut on landing lights, the other to cut off fuel flow), the two hydraulic systems operated by a single quill shaft, or the hiding of items which must be checked on preflight behind something that is only moved by third echelon maintenance personnel, do not occur.

This same program must also consider the very basic design parameters. I would like to show the relationship between accident cause factors and some of these basic design parameters or features.

The example I wish to use in which to show this relationship between design features and accident cause factors is "*Should our helicopters be power limited or materiel limited?*" Put another way, "*What determines the maximum gross weight for hovering? Power available, or some material consideration such as maximum torque that can be continuously transmitted by the transmission?*"

Army study

A study of Army aviation accident experience shows the results of designing an aircraft to be either power limited or materiel limited. The type of limitation *affects* the type of accident experienced. In other words, the basic feature or type limitation and accident cause factors have a definite relationship.

What I say here should not be taken as an indorsement of any specific aircraft. USABAAR's opinion is based entirely upon accident research. There are other considerations which also determine what kind or type aircraft the Army buys.

Part of the statistics I will use are from

DESIGN FEATURES

(Continued from Page 21)

Vietnam and part from CONUS. The figures from Vietnam are taken from the *Aviation Pamphlet* published by Headquarters, U.S. Army Vietnam. They are essentially correct although at times we may not agree with USARV on the exact cause of individual accidents.

A comparison between Vietnam and CONUS accident cause factors reveals two different pictures. Probably the main reason for this difference is the difference in the "Degree of Urgency" to accomplish the mission. Many missions must be accomplished in a hostile environment that would be considered unsafe under peacetime conditions.

Shown in *Figure 1* is the number of flight hours for each type of aircraft flown in Vietnam, and the exposure to accidents for each aircraft. The 0-1 aircraft flies about 50% of the total hours for fixed wing, while the UH-1B, C, and D model aircraft account for 80% of the rotary wing flight hours.

FIGURE 1
AIRCRAFT HOURS FLOWN
BY MODEL AIRCRAFT
JULY THRU JANUARY, FY 67

Model of Aircraft	Month of January	July through January
FIXED WING		
0-1	16,227	104,765
U-1A	2,130	17,140
U-6	1,779	16,102
U-8	1,715	15,102
CV-2B	—	44,325
OV-1	2,457	18,190
Total	24,308	215,624
ROTARY WING		
UH-1B/C	26,718	180,396
UH-1D	64,941	390,025
OH-13	9,397	59,139
OH-23	7,614	24,829
CH-47	5,242	31,757
CH-54	115	894
Total	114,027	690,040

FIGURE 2
ACCIDENT CAUSE FACTORS
IN USARV BY MAJOR AREAS
OF CLASSIFICATION
1 JAN 66 THRU 30 NOV 66

Cause Factors	Percent of Accidents
Pilot factors	78.7%
Maintenance factors	2.5%
Materiel failure	14.8%
Other	4.0%
Total	100.0%

Figure 2 gives the basic breakdown of the accident cause factors for accidents in Vietnam from 1 Jan 66 through 30 Nov 66. Pilot factors accounted for 78.7% of the accidents. This is not materially different than figures for the other services so it is not meant to infer that we have poor pilots.

"Deficient judgment or skill"

The Army defines *pilot error accidents* as those accidents caused by deficient judgment or skill on the part of the pilot. This judgment or skill is considered deficient when compared to the perfect pilot who makes no mistakes. Since we cannot always count on that perfect pilot in each cockpit, the solution must be to make the aircraft more forgiving. We must design the aircraft with the thought in mind that some pilots will err, and design it so that it will not crash too frequently, if they do err.

Figure 3 provides a more detailed breakdown of the accident cause factors than is shown in *Figure 2*. *Figure 3* shows the accident cause factors in order of magnitude and the cost of the accidents. The main cause of accidents is "lost RPM, high density altitude, over gross weight" for the existing atmospheric conditions.

These accidents are classified as pilot error accidents because the pilot exceeded the performance limitations of the helicopter. Most of our helicopters are power limited, not

FIGURE 3
USARV COST BY TYPE OF ACCIDENT AND THE PERCENTAGE OF TOTAL 1 JAN 66 THRU 30 NOV 66

Cause Factors	Nr	Per Cent	Total Cost (Add 000)
Lost RPM, high density altitude, Over gross weight	62	17.4	$11,105,
Struck obstacle	51	14.0	4,374,
Faulty autorotative technique	28	7.6	2,431,
Materiel failure	27	7.3	6,102,
Engine failure without suitable landing area (Materiel Failure)	26	7.1	3.388,
Engine failure with suitable landing area	20	5.4	2,149,
Lost directional control	20	5.4	1,159,
Hard landing	18	4.9	1,064,
Weather	16	4.3	6,037,
Meshed rotor blades	15	4.0	2,889,
Landed long or short	12	3.2	1,960,
Maintenance error	11	3.0	2,067,
Foreign object struck tail rotor	10	2.7	3,363,
Stalled	8	2.1	1,024,
Wire strike	7	1.9	696,
Flew into the ground	6	1.6	1,464,
Mid-air collision	4	1.1	2,375,
Flew into water	4	1.1	961,
Faulty sling technique	4	1.1	980,
Unknown	4	1.1	1,515,
Faulty slope landing technique	4	1.1	150,
Fuel exhaustion	3	.8	265,
Damage by propwash or rotor downwash from larger aircraft	2	.5	20,
Ground collision	2	.5	127,
Uncontrollable sling load	1	.27	1,800,
Premature landing gear retraction	1	.27	210,
Total	366	100.00	$59,685,

* Total cost includes parts and man hours expended. Aircraft accidents during the month of November cost $7,403,761.55.

structurally limited. In the hostile environment, most aircraft consistently operate at maximum gross weight.

With power limited aircraft, there is no margin for "pilot error," no excess horsepower available. The result is a large number of accidents due to being over gross for the existing conditions. This type of accident continues to occur at a steady rate even though constant command emphasis has been placed to reduce this type of accident. If a particular type of accident continues to occur, is the cause still "pilot error," or is it really "design error"?

I would like now to compare two basic helicopter designs. Hypothetical *helicopter number one* has one engine, one main rotor, one main transmission, and performance is limited by power. By performance, I mean hovering performance. *Helicopter number two* has two engines, two main rotors, several transmissions and performance is limited by structural or materiel considerations.

The data in *Figure 4* has been extracted from *Figure 5* and pertains to helicopters similar in design to our hypothetical *helicopter number one* or to single engine fixed

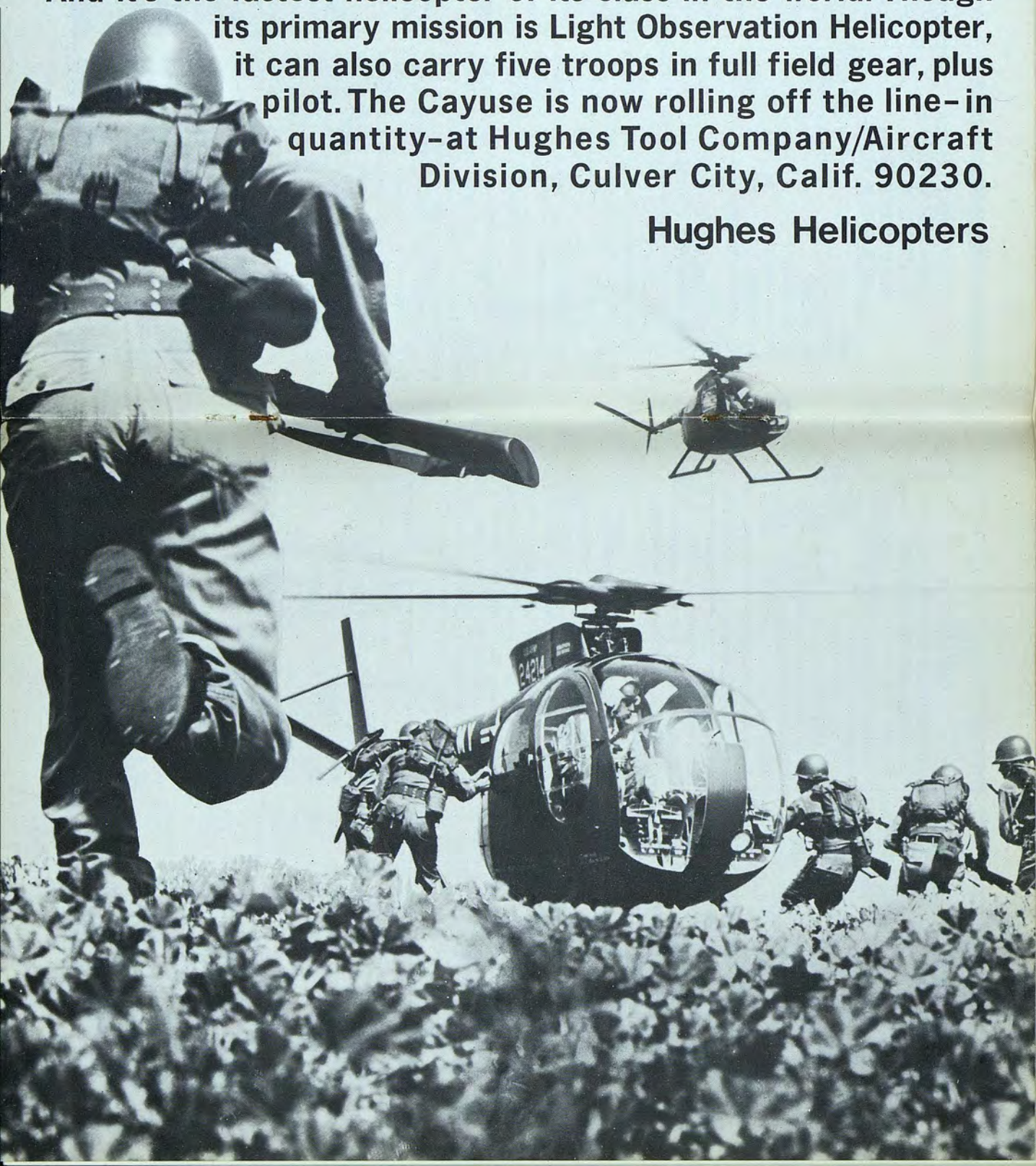
FIGURE 4
HELICOPTER NO.1 USARV COST BY TYPE OF ACCIDENT AND THE PERCENTAGE OF TOTAL 1 JAN 66 THRU 30 NOV 66

Cause Factors	Nr	Per Cent	Total Cost (Add 000)
Lost RPM, high density altitude, Over gross weight	62	17.4	$11,105,
Faulty autorotation technique	28	7.6	2,431,
Engine failure without suitable landing area (Materiel Failure)	26	7.1	3,388,
Engine failure with suitable landing area	20	5.4	2,149,
Total	136	37.5	$19,075,

Cayuse!

Like its namesake—the tough, swift range horse of the West—the Army's new OH-6A Cayuse needs no coddling. It's a rugged craft, designed for maximum air time, minimum maintenance. And it's the fastest helicopter of its class in the world. Though its primary mission is Light Observation Helicopter, it can also carry five troops in full field gear, plus pilot. The Cayuse is now rolling off the line–in quantity–at Hughes Tool Company/Aircraft Division, Culver City, Calif. 90230.

Hughes Helicopters



DESIGN FEATURES

(Continued from Page 23)

wing aircraft. All factors except the first concern accidents caused by engine failure or from practicing autorotations. Accident studies of our peacetime operations show engine failure in single engine aircraft account for about 20% of all accidents. This factor seems to remain the same for Vietnam. *Figure 4* also shows that 37.4% of the accidents in Vietnam occur in aircraft that have only one engine and are power limited.

Helicopter No. 2 results

Figure 5 gives the accident cause factors for a helicopter similar to *helicopter number two* for all accidents both in CONUS and in Vietnam for the time period 1 Jul 62 through 30 Jun 66. 41% of the major accidents are caused by materiel failures. A detailed breakdown of these materiel failure accidents is shown in *Figure 6*.

Transmission problems accounted for a number of major accidents (none experienced in helicopter number one). Also, all of the power plant mishaps resulted in forced landings with no damage to the aircraft with the exception of one. In this mishap, a short in the electrically operated fuel shut off valve cycled the valves and cut off fuel to both engines. No autorotation accidents have occurred in helicopter number two since this maneuver is only demonstrated during flight school or transition training because of the slight chance of a total power failure occurring.

FIGURE 7
COMPARISON OF ACCIDENT CAUSE FACTORS (PER CENT OF ACCIDENTS)

Cause Factors	Helicopter Number One	Helicopter Number Two
Pilot Factors	78.7%	36.4%
Materiel Failure	14.8%	40.9%
Maintenance Factors	2.5%	4.5%
Other	4.0%	18.2%

No. 1 / No. 2 comparisons

Figure 7 gives a comparison between accident cause factors for *helicopter one* and *helicopter two*. The point that I have been leading up to is "basic design parameters greatly affect an aircraft's accident experience." It was shown that 37.5% of the accidents in *helicopter number one* involved limited or no power and an imperfect pilot. The helicopter was power limited. These

FIGURE 5
HELICOPTER NO. 2
ACCIDENT CAUSE FACTORS, 1 JUL 62 THRU 30 JUN 66

Cause Factors	Major	Minor	Incidents	F/L*	P/L**	Total
Materiel failure or malfunction	9	1	12	28	120	170
Pilot/Crew	4		22		3	29
Instructor Pilot	4		2		1	7
Supervision	2					2
Maintenance	1		2	4	5	12
Cause unknown or not reported	2		3	1	5	11
Other			4			4
Weather			1			1
Total	22	1	46	33	134	236

*Forced Landings, **Precautionary Landings

FIGURE 6
MATERIEL FAILURES IN HELICOPTER NUMBER 2
1 JUL 62 THRU 30 JUN 66

Location	Number
Transmission	56
Hydraulic	29
Power Plant	30
Electrical	7
Oil	1
Flight Controls	12
Fuel	4
Instrument	17
Airframe	14

accidents were mostly charged to pilot error, but are they really pilot error or design error?

Helicopter number two shows a completely different story. Here, the accident causes for *helicopter number one* have been virtually eliminated by simply changing one design parameter, i.e., adding an additional engine for more power and reliability. However, a different problem has now appeared; an increase in accidents caused by materiel failures has been experienced.

Mechanical complexity will normally lead to an increase in accidents caused by materiel failures. This type of accident is particularly serious in that many times the result is catastrophic. However, we seem much more able to correct materiel failures than human failures. In combat, the materiel does not suffer the added "adrenalin" factor which any human suffers.

In summary, it has been shown that basic design parameters definitely affect accident cause factors in a particular aircraft. Power limited helicopters are involved in more pilot error accidents while mechanically complex helicopters experience more accidents caused by materiel failure.

Accidents cost the government in money and personnel losses. Safety and the prevention of accidents must be considered in the future design of aircraft, starting at the initial design stage.

ABOUT THE AUTHOR

COLONEL WARREN R. WILLIAMS, JR.

The present Director of the U.S. Army Board for Aviation Accident Research, Colonel Williams has served in a wide variety of command and staff positions within Army aviation, to include tours as Aviation Officer, Hqs, U.S. Army Europe, and Deputy Director of Army Aviation, OACSFOR, D/A.

AIRMOBILE LOGISTICS

(Continued from Page 5)

toon are a first lieutenant, Platoon Leader, and a warrant officer, Supply Officer. The platoon has a mess section to operate the battalion mess in a location where hot food may be served and to provide the necessary "C" rations. The supply section provides the clothing and equipment required and also maintains that portion of the battalion basic load of ammunition which remains with the battalion.

Generally, two UH-1D helicopters are in constant logistical support of the battalion. Tactical situation permitting, these two birds are usually made available to the Battalion S-4 in the early morning hours and in the late evening for resupply purposes. By employing the two birds, the necessary ammunition, food, water, and whatever else is needed can be brought into the company bases and the battalion forward base prior to dark.

Night operations

In the event the enemy situation does not permit resupply during daylight hours, the same system is easily adaptable to night operations. In this case, the resupply is probably brought forward from the *FSE* to the battalion forward base during daylight hours. As soon as the tactical situation permits and a landing zone has been selected by the company commander, the helicopters fly in with the resupply.

Coordinated with the supply aircraft is the movement back, permitting personnel who are ill, or those who for any reason, must be evacuated back to the battalion forward base. Similarly, further evacuation from the battalion forward base to the brigade base is facilitated with the return trip of the resupply aircraft. Any resupply of staple items required during the day, as ordered by the company commander through his executive officer, either at the battalion forward base or through his first sergeant, can also be brought forward.

The key figures at company level are the Company Commander, who provides the

AIRMOBILE LOGISTICS

(Continued from Page 27)

necessary command guidance, and specifically the Executive Officer, the First Sergeant, and the Supply Sergeant. Customarily the Executive Officer is at one end of the supply chain with the company with the First Sergeant at the battalion forward base, or vice versa. The Supply Sergeant is located where he may best perform his job, usually at the battalion forward base.

The responsibility for assuring that supply requirements are moved forward where needed and when needed rests upon the Executive Officer's shoulders. This task is accomplished by moving resupply on the UH-1D helicopters through coordination with the Battalion S-4. Usually one helicopter is sufficient for each rifle company, although two birds will fly together as a matter of procedure.

When hot food is served, marmite cans and light weight containers, including two or three new experimental kinds made of a plastic foam of the expendable type, are employed to bring the food forward to the company and the platoon locations where the men return individually from forward positions, one or two at a time, for the hot food. Cold beer brought forward in marmite cans or wet sandbags is a marvelous morale factor. Usually it is a good idea to open the can as the soldier passes through the chow line, thus assuring control of the consumption of the beer itself at the desired time. Soft drinks are in great demand at all times, especially when beer cannot be served. These are brought forward whenever possible.

There are several other methods of resupply to supplement the use of the UH-1D helicopter. For artillery ammunition, one of the best methods is to use a sling load with the CH-47 *Chinook*, the prime mover of the 105mm howitzer, or by employing the *Flying Crane* (CH-54). The large quantities of artillery and mortar ammunition necessary to support an intensive fire preparation or a good H & I program at night is easily moved forward in this manner.

If the landing zone is large enough and has minimum obstacles at either end, a USAF *Caribou* can be used to parachute-drop ammunition, rations, and other hard-type items by use of the Lolex method. The accuracy of this system is exceptional, with an experienced pilot being able to pinpoint a ton of 105mm artillery ammunition within a few meters of the gun positions.

To facilitate the construction of landing zones or to improve an existing one, the *Flying Crane* is useful in bringing in a small airmobile bulldozer in one load. With this baby bulldozer, an operator can construct a single bird landing zone in a matter of a very few minutes, especially on the top of a hill. Much of the terrain, particularly in the II Corps Tactical Zone in Vietnam, includes "bald-headed" mountains, the peaks of which can easily be made into one- or two-bird landing zones with the airmobile bulldozer.

Use of cable and winch

When time does not permit the construction of a landing zone and the trees are rather sparse, helicopters may successfully drop water, rations, and ammunition from a high hover of 20-30 feet with little damage. Where the jungle vegetation is more dense, both resupply and medical evacuation can be accomplished with the *Chinook* using cable and winch. This system is very useful in medical evacuation when the trees are too thick to evacuate a casualty, except by lowering a winch-operated, horizontal basket type stretcher in which the casualty is placed, and then hoisted back up, aboard the *Chinook*. Rations and water may be lowered in the same way to small units, especially those on long range patrols.

An airmobile system of battalion level logistics, supported by an efficient *FSE*, similar to the system narrated above, will enable the fighting infantryman to employ airmobility to lighten his load, secure in the knowledge that his combat supply requirements will be provided at the time and place needed. Thus, he can conserve and devote his energies towards his primary mission — the destruction of the enemy.

Now a student at the War College, Colonel Mertel has completed two tours of duty in U.S. Army, Vietnam, the second with the 1st Cavalry Division (Airmobile).

Crewchief Brings Chopper Home After Both Pilots Are Wounded

WHAT had begun as a routine combat assault mission for the 187th Assault Helicopter Company's *Blackhawks*, suddenly became a life and death drama for the four crewmembers of the number four ship in the formation.

The flight had just taken off from a landing zone, ten miles north of Saigon, where troops had been unloaded. A burst of enemy fire raked the ship, wounding both the pilot and the aircraft commander in the legs, and the aircraft went into a decending left turn while the pilot fought to regain control before the ship crashed into the ground.

Although unable to use his legs, the pilot succeeded in regaining control and starting a climb away from the hostile fire.

Meanwhile, Specialist Fourth Class Larry W. Mackey and Specialist Fourth Class John W. Burke rushed forward to remove the aircraft commander from his seat. SP4 Mackey then climbed into the vacant seat while SP4 Burke administered first aid to the aircraft commander who was suffering temporary muscular spasms of his arms and legs resulting from a bullet damaging a nerve.

Although he had no flying experience, Specialist Mackey took control of the aircraft while the pilot tried to stop the flow of blood from his wounds. Mackey headed the aircraft toward Cu Chi while another aircraft piloted by Captain Jerry Wagner provided close escort and reassuring radio messages.

Unable to stop the flow of blood, the pilot soon began to turn very pale. Mackey then flew the aircraft with his left hand while he applied direct pressure on one of the pilot's leg wounds with his right hand in an effort to stop the bleeding.

Concern for the two wounded aviators prompted Mackey to take the aircraft to the small helipad at the Twelfth Evacuation Hospital at Cu Chi, rather than the longer runway of the airfield.

A smooth landing . . .

The fact that Mackey had no flying experience did not deter him; he was too interested in getting the two wounded aviators to a medical facility. With advice from Captain Wagner and the pilot, Mackey accomplished a normal approach and a smooth landing on the small hospital pad.

Waiting medical personnel rushed both inside for treatment, and Mackey's ordeal was over. Captain Wagner, who had landed his own aircraft, came forward and flew the aircraft to the maintenance area at Cu Chi airfield. Still unruffled, Mackey then began a survey of the damage to the aircraft.

Soon after, groups of amazed officers and enlisted men found him and the showers of congratulations began. The two words most often heard in describing Mackey's feat were "fantastic" and "unbelievable." The most rewarding congratulations for Mackey and Burke came two hours later when they visited the aircraft commander and pilot in the hospital where no flowery words of gracious phrases were spoken. The simple words, handshakes, and looks on the pilots' faces said more than any words could hope to express.

OBITUARIES

JUNE - AUGUST, 1967

Captain Charles S. Abel, assigned to the 68th Aviation Company, Vietnam, died on September 13, 1966 due to hostile action. He was originally reported as missing in action. He is survived by his widow, Mrs. Mary Abel, of [redacted]

Warrant Officer (WO-W1) Gerald D. Boyd, an Army Aviator on assignment to the 1st Cavalry Division (Airmobile) in Vietnam, died due to hostile action on June 21, 1967. He is survived by his mother, Mrs. Mary A. Boyd, of [redacted]

Major Dale D. Dwyer, an Army Aviator serving with the 11th General Support Aviation Company (Vietnam), died as a result of an aircraft accident on June 18, 1967. He is survived by his widow, Mrs. Marilyn F. Dwyer, of [redacted]

Warrant Officer (WO-W1) Michael G. Harvey, on assignment with the 176th Aviation Company in Vietnam, died as a result of hostile action on June 23, 1967. He is survived by his widow, Mrs. Catherine A. Harvey, of Box [redacted]

Warrant Officer (WO-W1) Edwin R. Higgins, of the 68th Aviation Company (Vietnam), died due to hostile action on September 13, 1966. He was originally reported as missing in action. He is survived by his widow, Mrs. Kay Higgins, of [redacted]

Major Charles R. Latta, an Army Aviator on assignment in the Republic of Vietnam, was killed in an air accident on August 9, 1967. He is survived by his widow, Mrs. Patsy R. Latta, of [redacted]

Major Lowell E. Morgan, an Army Aviator assigned to the 73rd Aviation Company (USARV), was killed in an aircraft accident on June 3, 1967. He is survived by his widow, Mrs. Barbara A. Morgan, of 905 Jefferson Street, Hillsboro, Tex.

Captain Alfred W. Murphy, on assignment to the 1st Infantry Division, Vietnam, died as a result of hostile action on June 25, 1967. He is survived by his parents, Mr. and Mrs. G. E. Murphy, of [redacted]

Warrant Officer (WO-W1) Allen Truman Newman, assigned to the 73rd Aviation Company (USARV), was killed in an aircraft accident on June 3, 1967. He is survived by his widow, Mrs. Judy A. Newman, of [redacted].

Warrant Officer (WO-W1) James R. Simpson, an Army Aviator assigned to the 25th Infantry Division (USARV), was killed in an aircraft accident on June 1, 1967. He is survived by his parents, Mr. and Mrs. James R. Simpson, of [redacted]

Major Charles E. Sauer, a member of the 187th Assault Helicopter Company in Vietnam, was killed in the crash of an Army helicopter on July 7, 1967. He is survived by his widow and two daughters, Alda, five, and Marianne, four, of Mineral Wells, Texas, and by his parents, Mr. and Mrs. Charles R. Sauer, of [redacted].

First Lieutenant George F. Sodaitis, an Army Aviator assigned to the 17th Aviation Company (AML) in Vietnam, was killed in Vietnam. He is survived by his widow, Mrs. Laura M. Sodaitis, of [redacted]

A LOT OF LETTUCE!

VUNG TAU, RVN – The 490th General Supply Company scores a Vietnam "1st" as it flies fresh vegetables in sling loads between land and ships at sea. The 3- to 4-ton loads are rigged into cargo nets for pickup by CH-47 Chinooks. Refrigerated ships speed the vegetables to US and Free World Forces in the Mekong Delta.

AERIAL GUNNERY COURSE AN ARMY "FIRST"

FOR the first time in its history the U.S. Army has a course especially designed for training gun pilots, greatly reducing further gunnery instruction after they arrive in Vietnam.

Warrant officers and officers learning to fly the UH-1 at USAAVNS, previously had only three hours of gunnery instruction to familiarize them with the capability of their ship's weapons.

With some reshuffling of schedules, the Department of Tactics' *Aviation Armament Division* now has the students for 12 days. The change was made without extending the present 32 week rotary wing aviator course. By combining some of the training previously conducted by the Employment Division, *Armament* was allotted the additional instructional time.

NO WASTED TIME

During the 12 days, half of the instruction is devoted to flying and tactics, and the other half to gunnery. Little time is wasted for in flying to the firing ranges, a student flies as one of a group, securing training in formation flying.

Between his turns at the targets, the novice pilot practices fire team tactics, and tactical navigation, and plans armed helicopter missions. He also learns night flying tactics, landing and taking off in the dark aided only by flashlights in the landing zones. Included in this session is night gunnery familization.

Daylight gunnery begins with the four 7.62-mm machine guns, two on each side of the UH-1.

Coming in at an altitude of about 400 feet and speed of between 60 and 90 miles an hour with his machine guns locked in position, only straight ahead, the pilot aims his guns by pointing the helicopter at the target, just as a fighter pilot fires his weapons.

ROCKET FIRING

This "shooting from the hip" is a prelude to rocket instruction. Below the two machine guns on each side of the "Iroquois" is a 2.75-inch rocket pod, each loaded with seven rockets. The rocket pods are stationary, so by locking the machine guns the student becomes familiar with nosing his helicopter on a target to line up his weapon before he advances to the rockets.

The gunnery training is given to 96 aviator students a month, or 25 per cent of the two rotary wing classes graduating every four weeks. Lieutenant Colonel Joseph H. Masterson, chief of the *Aviation Armament Division*, has some of the best instructors in the Army. In addition to being combat experienced gun pilots themselves, his instructors are as much at home while teaching in the air as they are on a classroom platform. When a gun pilot leaves Ft. Rucker in the future, he'll be better equipped to take his place in combat as soon as he arrives in Vietnam.

A REMINDER

Annual Meeting

Week

9-13 OCT 1967

Washington, D.C.

CHANGES OF ADDRESS

PCS


PUMPHREY


LITLE


BURBULES

PCS - GENERALS

LAWRIE, Joseph S., MG

YORK, Robert H., LTG

COLONELS

BOWEN, James D.

BURKE, James L.

PUMPHREY, A.T.

ROGERS, George

TYRRELL, William C.

LT COLONELS

ARMFIELD, William F.

AVANT, Osa J.

BENJAMIN, William J.

BLAIR, John M.

BOLHOFNER, Orville E.

BURRUS, Robert H.

CARROLL, Danford S.

CROOKS, Eugene F.

DASCH, William E., Sr.

DETHLEFS, Henry J.

DOTY, Benjamin E.

PCS - LTCS

DUCKWORTH, Richard H.

FONSHELL, William R.

FOREHAND, Raymond

GILE, Richard E.

GOBER, Floyd C.

GROW, Robert M.

HAWKINS, Algin S.

HELTON, Pelham G.

HEWELL, Robert E.

HICKS, Orman E.

HILL, Ellis D.

JOHNSON, Albert A., Jr.

KELLEY, Henry E.

KNOWLES, William R.

LITLE, Robert F., Jr.

LUCAS, Eugene R.

LUND, Sigurd A., Jr.

MacLENNAN, Robert J.

MARTIN, William R.

McDANIEL, Harry T.

PCS - LTCS

McILWAIN, George W.

MESNIER, Charles R.

MICHELSON, Robert A.

MIKLES, Lowell

MILLER, John J.

MOLKENBUHR, Seamon J.

MOORE, Raymond E.

MULLIGAN, Donald E.

NIXON, Donald A.

OLDEFENDT, Glendon E.

PERRIN, William S.

PROVENCHER, Conrad J.

REYNOLDS, Robert H.

RICE, Foy

RONDEPIERRE, Jean R.

ROYALS, Gerald E.

SELISKAR, Jack

SMITH, Athol M.

SPENCER, Lloyd E.

STANALAND, William A.

PCS - LTCS

STANDLEY, Robert J.

STORER, Ivan M.

THOMPSON, Jack H.

TRAPP, Turner J.

VASS, Marshall B.

WALTS, Charles C.

WILLIAMS, Robert H.

WOLFE, Alfred J.

MAJORS

AINSLIE, Robert E.

ALFORD, Andrew N.

ANDERSON, John H.

BAXTER, Richard B.

BEARDSLEY, Stephen G.

BELCHER, L. Fred

BENNETT, Donald P.

BERRY, Bobbie G.

BIZER, James E.

BOLES, John L.

Two Million!

FORT WOLTERS, TEX. — "We're not clowning around," announced COL E. P. Fleming, Jr., USAPHC commander, when the Primary Helicopter School recorded its two millionth flying hour on July 31. "Bozo," the school's clowning helicopter noted for his proficiency with rolling barrels, gets into the act to celebrate the event. As "Bozo" sets up the barrel signifying two million hours, COL Fleming and Raymond L. Thomas, general manager of Southern Airways of Texas, Inc., civilian flight contractor for USAPHS, roll up the "Three Million Barrel," a flight hour that is expected to be flown sometime in 1968. (USA photo)

PCS - MAJORS

BOOKMAN, Edmund B., Jr.

BOSWELL, Leonard L.

BRADIN, James W.

BREARD, Daniel A.

BUDD, Alexander S., Jr.

BURBULES, John G.

CALHOUN, George B.

CASS, Stanley D.

CHEDESTER, Robert R.

CLARK, Gary L.

CLARK, Jon M.

CLARK, Niles C., Jr.

CLELAN, Joseph R.

COLLINS, Ernest J.

COOK, Charles T.

COTE, Thomas E.

COURTS, Philip E.

PCS - MAJORS

CROSS, Raymond E.

DAVIS, Neece V.

DAVIS, Robley W., Jr.

DEMPSEY, Bruce R.

DENNEY, Robert E.

DICKINSON, Roy B.

DIETSCH, Richard K.

DILDAY, Colbert L.

DILLINGER, David R.

DRENZ, Charles F.

DUNN, Jack A.

EBERWINE, James A.

EDWARDS, Charles A.

FALBO, John J.

FELLERHOFF, John H.

FITCH, John B.

66043

FOOTE, Brian G.

FROELICH, James W.

PCS - MAJORS

FUST, John W., Jr.

GARNEAU, Lucien R.

GRASMEDER, John M.

GREENE, Gerald R.

HART, Kyle E.

HART, Rufus R.

HAWS, Elbert D.

HELFENBERGER, F.H.

HILL, James R.

HOLLERAN, Raymond F.

HORAN, Michael J.

HOWARD, Lonnie T.

HURLEY, William P., Jr.

HUSKEY, James E.

JACKSON, William B.

JAMES, Jesse H.

JARVIS, William H.

JASPER, Theodore C.

PCS - MAJORS

JOBE, Joe D.

JOHNSON, Harold R., Jr.

JONES, Isaac R.

KELLEY, Eugene R.

KNUDSEN, Joseph R.

KOEGEL, Charles F.

KOEHLER, William F.

LEHMAN, Ralph L.

LEISTER, Richard W.

LEMES, Ralph V.

LEONARD, Daniel R.

MACKIN, Richard E.

MANGUS, Samuel J.

MATHENA, Donal N.

MATTHEWS, Ralph A.

McGILLICUDDY, C.F.

McGUFFIN, Robert F.

McKENNEY, William R.

In Operation

WICHITA, KAN. — A classified number of Beech Aircraft U-21As are now in operation in South Vietnam. Capable of carrying up to 10 combat-ready troops, the planes were flown to Sharpe Army Depot, Calif., for processing before being hoisted aboard an aircraft carrier at the Alameda NAS for the trip to Southeast Asia. A pair of Beech training specialists, accompanied by an 18-man team of Beech-trained Army instructors, began training Army Aviators and crewmembers in Vietnam on September 1. The Vietnam-bound aircraft are part of a contract for 129 U-21As, with deliveries that began last May. (Beech photo)

PCS - MAJORS

MEEHAN, William J.

MICHAEL, Roy P.

MILLER, Frederick T.

MITCHELL, Theodore L.

MOCK, Newell A., Jr.

MORRILL, George H.

MORRIS, Arnold C.

OKARSKI, Gerald M.

OLIVER, John, Jr.

OSTERLOH, Karl L.

OSTERMEIER, William F.

PACELLI, Vincent A.

PEARLMAN, James T.

PETERSON, Merrill T.

PHIFER, Thomas K.

PIERCE, Dale W.

PIERCE, James R.

PIERCE, Wilbur R., Jr.

PCS - MAJORS

POOR, William T.

POWELL, Buell R.

POWERS, George F.

PRATT, Theodore W.

REED, James R.

RENFRO, Ronald D.

RICHARDS, David A.

ROMIG, Danny L.

SANDERS, James R.

SANDIDGE, Charles R.,Jr.

SAWVELL, Vernon L.

SCHMITZ, Leo E.

SCOGGINS, John

SHELBY, Jerry L.

SHELTON, Huntly E., Jr.

SHIPMAN, Charles S.

SHRADER, Cecil L.

SIMPSON, William F., Jr.

PCS - MAJORS

SMITH, Paul M.

SMITH, Raymond L.

SNAVELY, Charles C.

STANDRIDGE, Lanny

STEPHENS, Herschel B.

STRANG, Paul H.

STRATTON, Jerry R.

STRICKLAND, Sidney L.

SUTTLEHAN, Laurence C.

TAMER, Robert S.

TANNER, Eugene P.

TAYLOR, William D.

THURMAN, Wendell L.

TURNER, Albert N.

VINSON, Bobby G.

WASHBURN, Richard B.

WATKE, Frederic W.

WEATHERMAN, James A.

PCS - MAJORS

WEINBENDER, William A.

WHITMAN, Paul R.

WILKES, Donald D.

WILLIS, John A.

WOLFE, Rodney D.

WOOD, Gordon F.

WOODARD, James O.

YANAMURA, Kenneth K.

ZITTRAIN, Lawrence O.

CAPTAINS

ADAMS, John D.

ANGER, Allan W.

AUTHEIR, Edward E.

BAILEY, Ellis M.

BOYD, Harold L.

BOYD, James R.

BRADY, Patrick H.

Father-Son

NORMAN, OKLA. — LTC Charles V. Graft, Jr. (now with the 11th Aviation Group, 1st Cavalry Division, in Vietnam), is shown pinning gold bars on his son, Joel R. Graft, at commissioning ceremonies held at the University of Oklahoma in June. The winner of AAAA's initial scholarship, Graft graduated from O. U. with a BA, majoring in Political Science. He earned his wings through the Army Aviation ROTC Flight Training Program, and is now attending the Officers' Basic Course at Fort Eustis, Va. The father-son combination will be Army Aviation's seventh at such time as Lieutenant Graft completes flight training.

PCS - CAPTAINS

BRIGHAM, Hugh W.

BROWN, Isham H.

BROWN, John L.

BURT, John E.

CARTER, Norman D.

CHESSER, Conrad F.

COOKE, Charles B.

CORNELL, Gerald

CRIST, John R.

CUNNINGHAM, Donald E.

DANIEL, James M.

DAVIS, Paul R.

DONNELL, Victor L.

ERWAY, Douglas K.

ESTEP, William H.

FIEGEL, Larry G.

FRENCH, Luther L.

PCS - CAPTAINS

FURR, Edward K.

GARNER, John L.

GEORGE, Robert C.

GEORGES, Thomas N.

GILLHAM, John N., Jr.

GRAVES, Lawrence D.

GRAYSON, Eugene H., Jr.

GUDERMUTH, Clyde S., Jr.

HANSEN, Peter M.

HESTER, Thomas L.

HOLT, Robert T.

HUFFAKER, Roger D.

HUNTER, John W., Jr.

JANAS, Edward A.

JENKS, Allen R.

JONES, Robert S., Jr.

JONES, William S.

KELLEY, Robert H., Jr.

PCS - CAPTAINS

KRIVORCHUK, Nickita

LAZDOWSKI, Walter P.

MARSHALL, Stanley B.

MASSION, Barry W.

MAYNARD, Truman

McCABE, Raymond E.

McDONALD, Fritz J.

MILLER, Christian J.

MILLER, Gary A.

MILLER, Ronald A.

MINARDI, James V., Jr.

MONROE, Robert E.

MURAKAMI, Roy K.

MYERS, Marvin O.

O'DONNELL, Robert V.

O'NEAL, William F.

OWENS, William B.

PAIGE, Vernon G.

PCS - CAPTAINS

PERRIN, Frank M.

PUKNYS, Raymond J.

ROBERTSON, William L.

SAUNDERS, Phillip A.

SAVILLE, Duane E.

SCOTT, Engle W.

SHAIN, Robert G.

SINOR, Donald R.

SMITH, Elijah H., Jr.

SMITH, Harbert W.

STANLEY, Norman L.

TERRY, Frederick G.

TODD, John J.

ULLMAN, Cornell L.

URICK, Richard E.

VICKERY, Donald B.

WICE, Leonard P.

WILSON, John L.

Masters All!

FORT RUCKER, ALA. — LTC Boyce B. Buckner (left), the chief of the Aircraft Systems Branch, Materiel Division, and LTC Virgil Henson, Jr., (right), chief of Studies and Special Projects Division, both of the U.S. Army Combat Developments Command Aviation Agency at Ft. Rucker, are congratulated on becoming Master Aviators by COL Hubert D. Gaddis, deputy commander of the Aviation Agency. Both officers have in excess of 3,000 flight hours, and have been rated aviators in excess of 15 years. The ceremony took place at USACDCAA headquarters in mid-July. (Photo publication delayed because of August "Materiel Issue.")

PCS - CAPTAINS

WISE, Naymond C.

YOUNG, Bernie L.

LIEUTENANTS

ADAMS, Richard D.

BAKER, Ralph W.

CAMPBELL, Michael B.

DOWNEY, Carrol W.

ELLISON, Fred R.

EMERSON, William C.

FORSTER, Karl M.

GRIFFITH, Paul S.

GRNYA, Richard M.

HONAKER, John D.

JILCOTT, Charles B., Jr.

JONES, Clifton

LAND, Henry W., II

LA ROUE, Francis W.

LUKOSKI, Luke P.

PCS - LIEUTENANTS

MATHIS, David M.

MOULTON, James E.

O'NEAL, Bobby G.

PLEASANT, James S.

RHODEHAMEL, Kurt A.

THORNTON, Robert D., II

ULMET, Oliver D.

WHETSTONE, Charles B.

WOOD, Rusling, IV

WOTKYNS, Anthony L.

CW2 - CW4

BAILEY, James A.

BAIRD, Charles E.G.

BEEMAN, James E.

BUSTAMANTE, Enrique A.

CALDWELL, George E.

CLEARY, William H.

COLLINGE, George R.

PCS - CWOS

COOKE, Weldon C.

DAVIS, Conrad

ELLARD, Kenneth C.

ERICKSON, James O.

FARNHAM, Robert E.

FENTRESS, Donald R.

HESS, Carl L.

HOEPF, David W.

HOLMES, Thomas E.

JACKSON, George E., Jr.

JOHNSON, Robert M.

067

KIDD, Denver G.

KOLLAR, Eugene L.

LAWRENCE, Clell H.

McKEEVER, Jack W.

McLAUGHLIN, Richard L.

McLEISH, Ronald W.

PARRISH, Fletcher C.

PCS - CWOS

PATTERSON, Willis R.

SABENS, George R.

SWENSON, Richard L.

THURMOND, Wymond N.

TURNER, Harvey L.

VERTREES, Carl R.

VINSON, Jan M.

WEISENBURGER, Edw. J.

WOS

ADKINS, Gary A.

ARTHUR, James R.

BAKER, Wilfred M., II

BAXTER, Peter K.

BECKER, Stanley A.

BICKSLER, Robert M., Jr.

BRADFORD, Don C., Jr.

BRADLEY, Bobby J.

AAAA Honor

ST. LOUIS, MO. — Pinned by Ten Year Member COL Delbert L. Bristol (far left) at ceremonies held on July 14 are eight of the Lindbergh Chapter's 15 Ten Year Members of AAAA. Shown from left to right during the Chapter's "Summer Festival" dinner dance are COL Bristol; LTC William L. Long, (Ret.); CWO Delmont H. Scott, (Ret.); MAJ Ulysses S. Large, Jr.; LTC Joseph W. Hely, (Ret.); LTC John W. Thomas; LTC Robert C. Sanders; LTC Glenn W. Bradley; and MG John Norton. The distinctive lapel insignia denote ten years' consecutive membership in the Army Aviation Association. (USA photo)

PCS - WOS	PCS - WOS	PCS - WOS	PCS - WOS
BRAYSHAW, William D.	EISENHART, Guy L.	HOLZER, James R.	KREYMBORG, Louis F.
CAMERON, Roger S.	FISCUS, James M.	HORDE, M.G.	LANIER, Dayton W.
CARRELL, Thomas R.	FLEMING, Robert L.	HORTON, David L.	LATIMER, Wilbur D.
CHEATHAM, Winston T.	FLORIO, Roland L.	IDE, Phillip E.	LAZO, Gilbert R.
CHOUINARD, Peter	FOSTER, Stephen A.	JAMISON, Terry R.	LEE, William R.
COATES, James Z., Jr.	GARTLEY, James R.	JOHNSON, Richard B.	LEON, Stephen M.
CONOVER, Robert J.	GILLESPIE, Kenneth E.	JOHNSON, Thomas A.	LONG, Cyril C.
COOK, Michael	GOODE, Leonard C., Jr.	JONES, Samuel E.	LOWRY, Daniel D.
COONS, Norman R.	GRANT, Gregory A.	JOYCE, Jack E.	MABREY, James S.
COX, Glenn E.	HACKLER, Clyde C.	KATZ, David R.	MAIN, Milford L.
CUCCI, Robert P.	HALL, Gordon W.	KAUFMAN, James D.	MARONEY, Jerald L.
DANFORTH, Alan W.	HARRINGTON, Michael F.	KEELEAN, Roger M.	MARTIN, David L.
DEDRICK, Dwight A.	HART, James W., Jr.	KELLER, Frank H.	MAYERS, Jack D.
DONNELLY, John T., Jr.	HART, Walter M.	KELLEY, Lee W.	McDOUGAL, Calvin L.
DOUGLAS, Bruce C.	HENRY, Joseph C.	KERNAGIS, Anthony W.	MILLS, John G.
DRESS, Harold J.	HILL, Dickie C.	KINSEY, Charles J., Jr.	MITCHELL, David C.
EATLEY, Gordon F.	HOFMANN, Wayne C.	KNUTSON, Melvin J.	MOON, Robert J., Jr.
	HOLMES, Gary E.	KOCH, James L.	MORGAN, Jack D.

Cash Award

FORT RUCKER, ALA. — LTC Raymond E. Dickens (left), commander of the Warrant Officer Candidate Battalion at USAAC, presents a $762.00 check from AAAA to the 4th WOC Company's Rotary Wing Aviator Class 67-15. Shown accepting the cash award is WOC Donald K. McCarthy (center), class leader, as MAJ Kennis F. Snyder, his company commander, looks on. The AAAA provides an incentive refund to aviation primary classes upon their attainment of 100 percent membership in the association, the refund amounting to a portion of the annual dues. The class will use it for Sept. 20 graduation party expenses.

PCS - WOS

MULLINS, William I.
NANCE, Robert I.
NEES, David E.
NELSON, Leroy A., Jr.
OCHOTSKY, Roman
ODOM, Emory R.
PARCZICK, Wayne A.
PARKER, Allan C.
PARKHURST, Allan R.
PETERSON, Christian A.
PETERSON, Craig L.
PETTIT, Thomas W.
PHIPPS, Stephen K.
PLUMMER, Charles D.
RAINS, Forrest D., Jr.
RAWLS, Jester W.
RAY, John F.
REESE, John M.

PCS - WOS

REESE, Lawrence D.
RHODES, Billy N.
RICHARDS, Robert D.
ROBBINS, Thomas J.
RUCKER, James A.
SCHIBI, Albert J., Jr.
SCHOONOVER, Delta F.
SCHWAIER, Uwe U.
SHAFFER, Jonathan
SHIRK, William L.
SHRANK, Ronald A.C.
SKULBORSTAD, Mark J.
SMITH, James D.
SNYDER, Bill O.
SNYDER, Lloyd A.
STAPLETON, Robert L.
STOREY, Ralph L.
STRAZZINI, Edward M.

PCS - WOS

SUGGS, Francis E.
TAYLOR, John S.
THORP, Dennis A.
TIESING, Jack E.
TUTTLE, Thomas L.
VAN ROPE, Jeffrey W.
VECSEY, Richard J.
VEST, William E., Jr.
WALL, John J.
WARNOCK, Vernal G.
WEICH, Floyd R., Jr.
WELCH, Joseph C.
WIFHOLM, Martin H.
WILLS, James R.
YOUNG, Lewis W.
ZATKOVICH, Thomas F.

ENLISTED

BURCHAM, Richard S, SP5

PCS - ENLISTED

BURNS, Charles W., SFC
CHAPMAN, Randall, PFC
JEWELL, Robert E., SP6
KELLEY, Leamon E., SSG
PHARO, John R., MSG
PIERCE, Albert C., SP6

ASSOCIATES

ADAMS, Mr. W.H.
BADEN, Mr. Robert E.
BRAM, Mrs. Aaron L.
BREGER, Mr. Joel H.
BROWN, Mr. Cyril M.
BROWNING, Mr. Richard
DAY, Mrs. Peter E.
EVERS, Mrs. Raymond R.
FAIDLEY, Mr. Paul S.
FUTRELL, Mrs. Brenda

Plant Tour

FORT WORTH, TEX. — Wives of the Army's AH-1G Huey-Cobra New Equipment Training Team recently toured Bell Helicopter's facility, being escorted by Bell and NETT representatives. Following a briefing on AA's role in Vietnam and a plant tour, the group was flown to Bell's Globe plant where they viewed the HueyCobra in production. From left to right (front row) are June Matlick, Gladelle Magar, Geri Romuld, Joyce Burnett, Bonnie Jones, Lois Anderson, and Barbara McCarty. In rear row are Karin Jarrett, Edna Stein, Virginia Capps, Mary Jane Childers, Jeanne Pratt, Dotty White, and Ann Henry. (Bell photo)

PCS - ASSOCIATES

GORDON, Robert S.

GRAHAM, C. Jack

GRIGNON, John J.

HARANTA, Mr. Joseph

HEMBROUGH, Mr Douglas

JOHNSON, Mr. Thomas D.

JOHNSTON, Mr. Thomas L

PCS - ASSOCIATES

KINKEADE, Mrs. Ronald J.

MIMNAUGH, Mr. John D.

NELSON, Mr. Walter A.

NEWCOMER, Mr. Sam K.

PARSONS, Mr. Earl R.

RADCLIFF, Mrs. Donald G

RYAN, Mr. Jack T.

PCS - ASSOCIATES

SCHENK, Mr. Norbert J.

SCHWARZ, Mr. Harvey F.

WHITED, Mrs. James L.

WILLIAMS, Mr. James M.

RETIRED

ASCHOFF, John F., LTC

BEVERLY, Joseph L., CW3

PCS - RETIRED

BOURNE, Eldred G., CWO

BUFFINGTON, D.W., MAJ

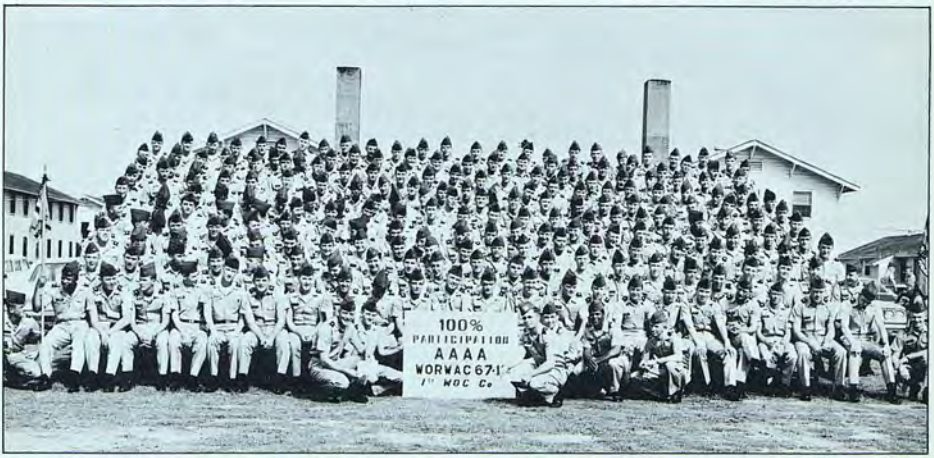
GALLAGHER, D.P., COL

McNAMARA, Thos F., LTC

PROCTOR, James H., LTC

REYNOLDS, H.E., LTC

RIES, Arthur W., COL



100 PER CENT AAAA — Members of Warrant Officer Rotary Wing Aviator Class (WORWAC) 67-11 pose for a group photo following their attainment of 100 per cent membership in AAAA. The 246-member class graduated August 1 from USAAVNS with COL Nelson L. Lindstrand, Jr., Troop Brigade Commander, presenting the $738.00 Class Refund check to WOC William H. Elliott, Class Leader, on July 22. (USA Photo)

1967 AAAA ANNUAL MEETING

SHERATON-PARK HOTEL
WASHINGTON, D.C.

WEDNESDAY, OCTOBER 11

1200-1800	Registration. Concourse of States.
0930-1230	National Executive Board Business Meeting.
1330-1430	Press Conference. Director of Army Aviation and AAAA National President.
1400-1700	Industry (Corporate) Member Film Presentations.
1900-2200	Early Birds' Reception. Cash Bar.

THURSDAY, OCTOBER 12

0900-2000	Registration.
0900-1700	Career Guidance & OPO Information.
0900-0945	General Membership Business Meeting. Annual Report. Election of National Officers for 1967-1970.
1000-1145	"Free World Army Aviation." Panel Presentation by the Army Aviation Directors of Allied Countries.
1000-1130	AAAA Ladies Brunch.
1200-1400	Chapter Delegates Luncheon. Chapter Awards. Discussion of AAAA Items of National Interest. Open to General Membership.
1415-1700	"U.S. Army Aviation." Panel Presentation.
1715-1745	National Executive Board Business Meeting. Election of National Officers for 1967-1968.
1900-2030	25th Anniversary Reception.
2100-2300	Unit Reunion Dinners. Selected Washington, D.C. locations.

FRIDAY, OCTOBER 13

0900-1200	Registration.
0900-1200	Career Guidance and OPO Information.
0900-1045	Industry (Corporate) Member Film Presentations.
1100-1200	Honors Luncheon Reception.
1200-1415	AAAA Annual Honors Luncheon.
1445-1700	Industry (Corporate) Member Film Presentations.
1445-1545	National Executive Board Meeting. Installation of National Officers for 1967-1968. Selection of Site and Date for 1968 AAAA Annual Meeting.
1730-1830	1967 Cub Club Reunion.
1830-2030	Diehards' Reception with entertainment provided by the members of the Cub Club.

1967 AAAA ANNUAL MEETING

OCTOBER 11 - 12 - 13

1967 AAAA ANNUAL MEETING

SHERATON-PARK HOTEL **WASHINGTON, D.C.**

ADVANCE REGISTRATION

Advance registrations will be accepted July 1-Oct. 2 (see coupon below). All reservations will be confirmed by mail. Registration badges and social function tickets will be available at the AAAA Registration Desk, Sheraton-Park Hotel, beginning 1:00 P.M. Monday, Oct. 9.

SOCIAL FUNCTIONS . . . GUESTS

Tickets may be purchased for guests by registrees for all social functions. Only registrees may attend AAAA and professional presentations.

Full remittance for registration and all tickets must accompany Registration Coupon.

REFUNDS FOR CANCELLATIONS

Phone cancellations of tickets will be accepted until noon, Wednesday, October 11. Letter cancellations should be postmarked no later than October 9.

ROOM RESERVATIONS

Write Sheraton-Park Hotel, Washington, D.C. 20008, or hotel of choice. Military rates at Sheraton-Park if in uniform or with ID active duty card. AAAA cannot accept requests for reservations. State that you will attend AAAA meeting.

Civilian Rates at Sheraton-Park:

Single Room	12.50-17.50
Twin Room	16.50-21.50
1-Bedroom Suite	30.00-35.00
2-Bedroom Suite	65.00-85.00

Active Duty Rates at Sheraton-Park:

Single Room	11.00
Double Room	15.00

On-Post Quarters For Military Personnel:

Write Hq, Military District Washington, Attn: G1, Washington, D.C. 20315 on or before 25 Sep.

ADVANCE REGISTRATION COUPON

Detach and mail to: ⇨ **ARMY AVIATION ASSOCIATION OF AMERICA**
1 Crestwood Road, Westport, Conn. 06880 ⇦ Make check payable to

Enclosed please find $..... in payment of my registration for the 1967 AAAA Annual Meeting and tickets indicated below:

Function	Quantity Desired	Unit Prices **Military	Civilian	Amount
1. Registration	.....	$ 5.00	$10.00	$.....
2. 25th Anniversary Reception* (Oct. 12)	.....	$ 5.00	$10.00	$.....
3. Honors Luncheon and Reception* (Oct. 13)	.....	$ 5.00	$10.00	$.....
4. Combined Attendance (Includes 1, 2, and 3)				
Member Alone	.....	$10.00	$25.00	$.....
Member and Wife	.....	$17.00	$35.00	$.....

*Separate tickets are required for each social function.
**Includes civilian employees of the Armed Services.

NAME.....
(Print or type) (Rank or title of position)

ADDRESS.....
(Print or type)

THIS APPLICATION WILL BE ACCEPTED ONLY IF ACCOMPANIED BY PAYMENT IN FULL

1967 UNIT REUNIONS

The AAAA will provide a gratis reunion "Hospitality Suite" on Thursday afternoon and evening, October 12, to each AAAA Chapter, or military unit (active duty or reserve forces) that registers twenty-five persons at the 1967 AAAA Annual Meeting.

ACTIV
Reunion Chairman: COL J. Y. Hammack, Hq, 10th Aviation Group, Fort Benning, Ga. 31905.

Army Aviation Test Board
Reunion Chairman: M. Jake Fortner, U.S. Army Aviation Test Board, Fort Rucker, Ala. 36360.

First Reconnaissance Squadron (Sky Cavalry)
2nd U.S. Army Missile Command (Medium)
Reunion Chairman: COL Robert F. Tugman, DCSOPS (Avn), Hqs, USCONARC, Fort Monroe, Va. 23351.

Fixed Wing Class 61-9
Reunion Chairman: COL James L. Burke, 1 Allen Avenue, Fort Monmouth, N.J. 07703.

7th U.S. Army Aviation Group
Reunion Chairman: COL William B. Dyer, 3433 Gaddy Court, Falls Church, Va. 22042.

11th Aviation Group
Reunion Chairman: BG Allen M. Burdett, Jr., 6360 Cavalier Corridor, Falls Church, Va. 22044.

12th Combat Aviation Group
Reunion Chairman: COL R. P. Campbell, Jr., 4219 Lorcom Lane, Arlington, Va. 22207.

52nd Combat Aviation Battalion
Reunion Chairman: COL Robert L. Cody, Army Aviation Directorate, OACSFOR, Dept. of the Army, Washington, D.C. 20310.

Interested? . . . Write for Reunion Forms today!

Army Aviation

AUG.-SEPT. PHOTOS

ST. LOUIS — COL John W. Elliott (right), receives his third award of the Army Commendation Medal from MG John Norton, CG of USAAVCOM, at Sept. 1 ceremonies. Cited for his meritorious service as deputy commander at AVLABS, Elliott now commands the Army Aviation Test Activity at Edwards AFB, Calif. (USA photo)

FT. RUCKER — The third consecutive class of the 4th WOC Company at Fort Rucker, Ala. to have 100 per cent membership participation in the AAAA, Warrant Officer Candidate Class 67-15 assembles for a group photo. The 254-member class received a $762.00 AAAA refund of membership fees for its support of the organization.

FT. MONMOUTH — MG W. B. Latta (2d from left) presents an Aviation Safety Award to COL G. A. Kurkjian, CO of the Electronics Support Command, as MAJ Ray Renegar, Avn Safety Officer; LTC I. J. Kersey, Chief, Army Avn Det (also the recipient of an award), and Bernard M. Savaiko (left), Chief, Safety Div, look on. The Avn Det flew 17,789 flight hours without accident or injury over the past two fiscal years. (USA photo)

MEYER

ODEN

Under the Association's staggered election system, 3 or 4 of the ten AAAA elective three-year offices are vacated each year, the 6 to 7 incumbents providing year-to-year continuity to AAAA national affairs. The four candidates who'll be nominated by AAAA's National Nominating Committee at the October 12, 1967 General Membership Business Meeting in Washington, D.C. are shown below. National Executive Board incumbents include GEN Hamilton H. Howze, USA (Ret.); BG Allen M. Burdett, Jr. and BG John L. Klingenhagen; and COL John Dibble, Jr., COL Joseph L. Gude, and COL Richard L. Long, USA (Ret.) The Association past presidents; the Executive Vice President, an appointee; the USAREUR Regional president; some 9 to 10 Chapter Members-at-Large representing CONUS Chapters with 150 or more members; and such National Members-at-Large as may be appointed by the national president constitute the full Executive Board.

the AAAA national executive board nominees for 1967-1970

PETERSEN

RODES

LTG Richard D. Meyer

The present Director for Logistics (J-4), Joint Chiefs of Staff, Washington, D.C., General Meyer will retire on 30 September, and has accepted the position of Assistant to the President of the Firestone Tire and Rubber Company, Akron, Ohio. A rated Army Aviator and AAAA member since early 1958, he was active in Chapter affairs during the '58-'62 "growth" years of AAAA, and served as the General Chairman of the Association's 1961 National Convention in Washington, D.C.

Eric H. Petersen

Now in his second two-year term as president of AAAA's fourth largest Chapter, the Lindbergh (St. Louis) Chapter, Eric is no stranger to its National Board, serving as a Chapter Member-at-Large since 1964. A career DAC since joining the Transportation Corps in 1944, he's the Special Assistant for Materiel Readiness to MG John Norton, CG of USAAVCOM.

MG Delk M. Oden

An enthusiast in all aviation matters, General Oden has supported Ass'n activities since joining AAAA in 1959. One of the earlier presidents of the Army Aviation Center Chapter in 1960, he now commands the Aviation Center in a return assignment. He's also served the AAAA with distinction as the General Chairman of the Association's 1962 Annual Meeting.

Anthony L. Rodes

A current Member-at-Large on AAAA's National Board and the General Chairman of AAAA's 1965 and 1966 Annual Meetings in Washington, D.C., "Tony" Rodes has played a part in many Ass'n activities. The Manager of Army Engine Programs in General Electric's Defense Products Division with offices in Washington, D.C., "Tony" is the D.C. Chapter's Executive Vice President.

AAAA CALENDAR

Fort Monroe Chapter. AAAA Beach Party and Buffet Dinner for families. Fort Story Officers' Club on Virginia Beach. August 13.

Bonn Area Chapter. Third organizational meeting. Introduction of Chapter officers; review of Chapter objectives; award of Chapter Honorary Memberships; report of Program Committee. American Embassy, Bonn-Plittersdorf. August 23.

Washington, D.C. Chapter. AAAA Dinner Party and Dance. Arlington Hall Station Officers' Club. August 26.

Sharpe Army Depot Chapter. Professional-social dinner meeting. **Joseph Mallen,** Deputy Project Manager, CH-47 Chinook, Boeing Vertol Division, as guest speaker. Pre-meeting tour of Depot by AAAA ladies. August 26.

Monmouth Chapter. General business meeting, review of Chapter plans and programs, selection of Chapter Delegates. Gibbs Hall. August 31.

NEWLY ELECTED Monmouth Chapter officers include, left to right, John F. X. Mannix (Sec), Seymour Greenspan (ExVP), Kenneth Kelly (Memb Chmn), COL James L. Burke (Pres), James Farmer (Prog Comm), Harry J. Rockafeller (VP, ARNG Aff), LTC Joseph Kersey (Mil Memb), and Otis T. Brooks (VP, Indus Aff). Missing are George J. Woods (Trea), LTC Raymond W. Truex (VP, Army Aff), and Edward T. Flynn (VP, Pub Aff).

The Association has arranged for the purchase of distinctive, four-color lapel insignia that denote ten years of consecutive membership in AAAA, and plans to award the lapel pins to a majority of the 619 qualified members during the August-October period. Eligible are those persons who joined AAAA during April 1, 1957 and March 31, 1958, and have maintained continuous membership in AAAA since that date.

David E. Condon Chapter (Ft. Eustis, Va.). Combined professional-business membership luncheon. **LTC Orlando E. Gonzales,** TC Branch, OPD, guest speaker. Selection of Chapter Delegates. Ft. Eustis Officers' Open Mess. September 7.

Lindbergh Chapter (St. Louis, Mo.). Professional-social dinner meeting. **Major General John Norton,** CG, USAAVCOM, as guest speaker. Ruggeri's Restaurant, 2300 Edwards Street. September 7.

Army Aviation Center Chapter. Annual Chapter "Shrimp & Beer Bust." Selection of Chapter Delegates to Annual Meeting. Officers' Lake Lodge, September 12.

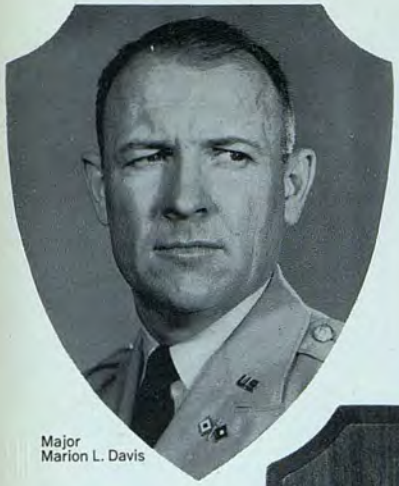
Fort Hood Chapter. Combined business-social meeting. Chapter elections to fill vacancies in Executive Board; selection of Chapter Delegates. Starlight Room, FHOOM. September 14.

Atlanta Chapter. Combined business-social meeting. Election & installation of new officers to fill vacancies; selection of Chapter Delegates to Annual Meeting. 1800-2000 hours, September 15.

Fort Benning Chapter. Professional dinner meeting with **Brigadier General James S. Timothy,** Asst Commandant, USAIS, as Chapter guest speaker. Selection of Chapter Delegates. Fort Benning Country Club. Refreshments starting at 1900 hours. September 26.

Stuttgart Chapter. Combined business-social meeting and dinner-dance. Nellingen Officers' Open Mess. Refreshments at 1830 hours. September 30.

1967 AAAA Annual Meeting. Sheraton-Park Hotel, Washington, D.C. October 11-12-13, 1967.



Major
Marion L. Davis

Captain
James A. Hall

This plaque goes to each Army pilot who logs a thousand flying hours in the Army Mohawk surveillance system. This month Grumman salutes Major Marion L. Davis and Captain James A. Hall, both of whom have earned the 1000-hour Mohawk plaque.

Man is the heart of the system. Grumman never forgets it.

Major Marion L. Davis transferred into Army aviation in 1962 after being commissioned in the U.S. Marine Corps in May 1954. Major Davis flew Grumman F6F Hellcats during Advanced Naval Aviation training and has now achieved approximately 1200 hours in the OV-1 Mohawk. Major Davis recently received a certificate of achievement for flying in excess of 1100 accident-free flight hours at Ft. Rucker, where he was assigned as Mohawk flight instructor at the U.S. Army Aviation School. He's presently assigned to the 245th Aviation Company.

Captain James A. Hall has logged over 1400 hours in the OV-1 Mohawk since qualifying in August 1964. He was assigned to the 23rd Special Warfare Aviation Detachment and 73rd Aviation Company in Vietnam in 1964 and 1965. Since February 1966 he has been assigned as Mohawk Flight Instructor at the U.S. Army Aviation School, Ft. Rucker, Alabama.

GRUMMAN
Aircraft Engineering Corporation
Bethpage, L.I., New York

ARMY AVIATION

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