# ARNY AVATION AUGUST 31, 1961

# Lycoming powers Hiller 12-E



Division- AVCO Corporation Stratford, Conn. • Williamsport, Pa.



Lycoming VO-540, roted 305-hp.

# THE WORLD'S ONLY

# "MISSION MODULE" HELICOPTER

In all

#### BUILT-IN CARGO LOADER PERMITS IMMEDIATE CONVERSION FOR OTHER MISSIONS

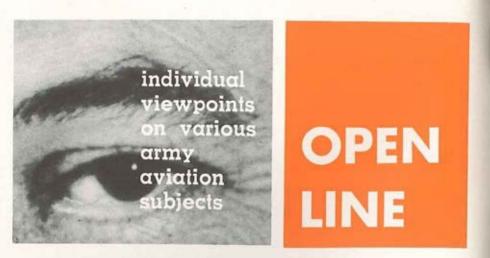
"Mission module" design of the new, twin turbinepowered, Boeing-Vertol 107 means this truly versatile helicopter can perform a wide range of military assignments—without costly or time-consuming conversion. A change from cargo mission to minesweeping can be made readily because of basic aircraft design.

In addition, an integrated loading system can be built into this first all-mission, all-service helicopter. With the new system one man working alone can unload up to two tons of military cargo in three minutes or less. Even under demanding field conditions, loading can be completed in as little as eight minutes. The fully integrated system makes use of the Boeing Vertol 107's straight-in rear loading ramp. It includes recessed rollers and cargo beams which, when stowed inside the 107, serve as guides for vehicle wheels. A built-in hydraulic winch speeds loading, while the nose-up ground attitude permits fast gravity or taxi unloading. The loading system does not interfere with use of the Boeing Vertol 107 as troop transport, and troop seats can be quickly stowed along the fuselage sides to permit other "mission module" use-for ASW land or sea rescue, medical air evacuation, missile site support.

The Boeing Vertol 107's capability to perform many missions such as these makes it the logical choice for today's flexible and alert Armed Forces.







# THE RESERVIST ON ACTIVE DUTY

The public payroll is further swelled during these troubled times by the addition of yet another type of law enforcer - the reservist on active duty. He is the man who, never having been to a service academy, obtained a commission off the battlefield or through Officer Candidate School, and elected to remain in service.

THE SAME FRIENDS who chortle gleefully when a bachelor surrenders, offer immediate sympathy to someone in the armed forces. When they discover that the object of their sympathy wears a uniform through choice rather than necessity, their emotion changes to wonderment. Should he be an exceptionally good friend, he is apt to receive the highest compliment they can tender:

"WHY, YOU COULD EASILY GET A JOB ON THE OUTSIDE!"

FROM that day on, he is paraded before prospective employers as in his bachelor days he was presented to prize packages of pulchritude. IT IS DIFFICULT to convince such wellmeaning friends that the reserve officer is not simply marking time while waiting for the gates of the business world to open wide, but it happens to be true. His training and his inclination tend towards other fields.

IT IS ALSO TRUE that patriotism, in its highest and most literal meaning, is not the attracting nor retaining force which keeps him in the lineup.

MILITARY POMP, martial music, and the thrill of wearing a uniform palled early. When he hears the national anthem lowered to the status of a stretching exercise performed just prior to the main event at a boxing arena, he feels no indignation, but rises with the crowd. He is quick to turn off a radio or television program sponsored by the military -most of them stink - and he will walk miles to avoid a parade.

THIS AVERAGE RESERVIST is a man in his late thirties whose balding or graying pate is a repository for many things

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ARMY AVIATION





Within the next few days, Army Aviation Association members, Chapter officers and delegates, industry members, and distinguished military and civic leaders will gather in Washington, D.C., on the occasion of the Third Annual Meeting of the AAAA.

It is with considerable pride that our members and guests gather at this occasion commemorating the 100th Anniversay of Aerial Observation in the United States Army.

To those who attend this Meeting, I extend my warmest greetings and my best wishes for a memorable gathering of long time friends. As in past years, our military members have made certain that our technical sessions will again be most productive and informative.

This aspect of our Meeting, together with the good fellowship that has earmarked all AAAA activities - national, regional, and local are a source of considerable satisfaction to those charged with the direction of the organization and this Meeting.

Our Meeting this year is again enhanced by the dividend of concurrent dating with the Annual Meeting of the Association of the United States Army, which follows at the same site on September 6-8. This arrangement will provide our members with a first-hand opportunity to meet and hear the top leaders of the U.S. Army. It promises to be a most rewarding occasion!

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BRYCE/WILSON President Army Aviation Association

# **RESERVIST**/CONTINUED

military. Snatched from civilian life on the brink of a very unspectacular career, and expensively trained by a government still showing its gratitude, he has few illusions about his worth to society. He does, however, consider himself a competent workman in an old and honorable profession, and believes himself worth the salary he is paid.

THIS MAN has neither the time, the inclination, nor the ability for deep and abstruse thought. His thinking tends towards over-simplification, but it works logically in an accepted military pattern. He deals, first, in facts, followed by conclusions, and finally, recommendations.

FACT: The United States has a high standard of living which many other nations do not equal.

CONCLUSION 1: Other nations are dissatisfied.

CONCLUSION 2: Two courses are open to those who desire a change; either they increase their own standards, or they cause us to decrease our own.

FOR THOSE who are struggling upward, he holds admiration and a sincere desire to help; but for those who seek to drag his country downward, he has only contempt.

HIS collapsed billfold assures him that a process of redistribution is in progress, but the loud and angry squawks of his fellow taxpayers convince him that this solution is both painful and temporary.

THIS LEADS HIM to the final step of his simplified thinking;

#### ARMY AVIATION MAGAZINE VOL. 10 - AUGUST, 1961 - NO. 8

"ARMY AVIATION MAGAZINE" IS FUELEMED MONTHLY AT I CHEST-WOOD EGAL, WESTPORT, COM. DOBOTHY KISTER, PUELINER, PHONE: WESTPORT, CONN., CAPETAL 7-ERSE, SUNCEPTION 83.40 PER YIAR TO U.S. ADDESSERN: ALLOTHER ADDRESSERS ADD D.TS PER YIAR ACK ISSUES CANNOT RE HELD UNLESS AN ADVANCE "HOLD NOTICE" IS FUENERED BY THE SUBECHIER, SECOND CLASS FORTAGE PAD AT WESTPORT, CONN.

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RECOMMENDATION: We should share only with those countries deserving of help, and deter all others with the quality and quantity of our military strength.

FEELING as he does, the reservist sees no advantage to himself or to his country in leaving his daily military chores, only to return at a somewhat later date: older, less flexible, and bitter at a life twice disrupted by man's inability to settle his differences without the shedding of blood.

HE WONDERS, sometimes, what his many friends are talking about when they attempt to save him from the "hidebound military mind." He reads what he wants to read, from science-fiction to "Sartor Resartus." Books, to him, are merely a means of storing knowledge for those who lack time to learn by experience. Our soldier, a veteran of at least ten years of military life, has seen far more of the world and its peoples than has the perfume salesman from Kokomo whose interests are bounded by his sales territory.

JAPAN, to him, is not a descriptive passage in a geography, nor a statistic that 536 people can exist on a square mile of earth. Japan is a nation, peopled by a teeming mass whose minds remain inscrutable; whose politeness is solely on the surface; and whose birth rate will again spill them onto additional territory, barring flood, famine, or plague each only a temporary respite.

GERMANY, to him, is not a small European country, peopled by "squareheads" with flowing mustaches, a guttural language, and a predilection for a strong beer. Germany is a force exerted by a proud and autocratic race who are no more defeated than would the United States be under similar circumstances.

THIS DOES NOT MEAN that the reservist remains on duty with the expectation of again fighting the Germans and Japanese; rather, he remains on duty to help assure their fighting with us next time. Ideas, RESERVIST/Continued on Page 512

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### How much should military transportation cost?

It depends. For a soldier or airman on his way to class, the cost would be that of a well-kept pair of low-cuts. For an officer on the move, perhaps a staff car. For high-priority liaison between America's multimillion-dollar weapon sites—dependable rotary-wing aircraft, such as the new, in-production Cessna CH-1C. There is no room in today's streamlined military for extravagance in transportation. Nor can there be patience with forms of transportation that are not equal to a nation's investment in men, money, and safe tomorrows.



World's most experienced makers of utility military aircraft

# Mobility in many dimensions for the U.S. Army

Hughes Tool Company, Aircraft Division is proud to have been selected to participate in the development of the Army's new Light Observation Helicopter. Hughes' advanced LOH concept meets all, and surpasses most, of the Army's rigorous specifications. In addition, Hughes' design – Army designated HO-6

- offers extraordinary bonus performance and design features at a lower over-all cost! For six years, a partnership of Hughes and the U. S. Army has concentrated on advancing the state-of-the-art in light helicopter design, development and manufacturing. This experience, plus Hughes' outstanding production facilities and engineering know-how, guarantees delivery of

ARM

the world's most advanced Light Observation Helicopter to the U.S. Army. HUGHES TOOL COMPANY, Aircraft Division, Culver City, California.

(H)

There is probably no subject in the military more controversial than flight pay. It has been controversial since Thaddeus Lowe received an extra stipend from Abraham Lincoln because people were shooting at his balloon, and it will remain controversial years after the last rated Army aviator has retired.

For I see future advances in technology containing a great Pandora's box of problems (from which I hope I will be completely separated) -- GEM pay for the drivers of the ground effects machines -- jump pay (?) for the future wearers of the rocket jump belt -- space pay for the astronauts -- special TDY rates for the moon -- radiation hazard pay, etc.

However, while letting the far distant future take care of itself, I would like to mention a few of the problems associated with flight pay in this year of our Lord 1961 and solicit your best constructive criticism.

It may or may not reflect any established Department of the Army position. In this short space, I do not pretend to make an exhaustive examination of every facet of this complex problem, but I would like to emphasize a few basic points.

## LET'S LOOK AT A FEW FACTS

◆ Flying is still the most hazardous of our military specialties. While we have had success in reducing our accident rate, we must realize that if our training is going to approximate battlefield requirements there will continue to be losses.

 Flight pay scales for Army aviation have been inherited from the other Services. The scales may or may not reflect the most equitable balance for our unique type of flying.

 There is a wide difference in the hazards involved among the various cockpit positions even within Army aviation,

# THE FLIGHT PAY PROBLEM

#### BY

# BRIGADIER GENERAL CLIFTON F. VON KANN DIRECTOR OF ARMY AVIATION ODCSOPS

and the individual position hazards can vary from month to month.

 Total hours per month flown is not necessarily a yardstick of either hazards involved or skills required.

 No one solution to flight pay can possibly achieve absolute fairness to every individual.

• There is a strong, sometimes bitter resentment by some non-rated officers against the entire principle of flight pay. This is especially true in relation to the "other than 100 per cent cockpit jobs." Many see the pilots of all Services bound together in a grand conspiracy and dedicated to the preservation of flight pay by defrauding the taxpayer. The culminating blow to the non-rated officer is any mention of accrual pay.

You can see by the above that this subject is emotional, subjective, contains wide variables and imponderables, and is charged with a high degree of personal opinion.

As a point of departure, let us throw out some considerations that are really not germane to the basic problem. First,

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# FLIGHT/CONTINUED

if the over-all officers' basic pay scale is too low, then the Army should fight for a raise in this basic pay. Let's not confuse flight pay with the problem of whether or not certain people deserve a certain total income.

Also, I don't think that because a man has become used to a certain way of life that this automatically guarantees him Government backing to support this way of life automatically; conversely, he should not think his pay is subject to yearly whims or will-o'-the-wisp variables.

Secondly, there will always be a few who never deserve flight pay even though they technically qualify for such extra pay. In contrast (thank heavens!), there has always been a large dedicated group that could never be paid enough for the job thay have been doing and the chances they are taking.

## THE PURPOSE OF FLIGHT PAY

Well, what then is the purpose of flight pay and its real justification? When you separate all the fringe considerations and the incentive for recruiting and retention, flight pay is aimed at meeting a recognized



additional hazard that other officers and enlisted men of the Army do not have to undergo.

It is not a reward for skill or overtime, though certainly these have been very much closely associated characteristics of the program. Flight pay provisions recognize that a man who chooses to fly is less likely to collect his retirement pensions than one who doesn't. It's that simple,

Looking at it in this light, it becomes apparent that as the Army becomes more air mobile and more commanders and troops fly on a continuing basis right with the aviators who are assigned to them, spending almost the same equivalent time in the air subject to the same hazards as the pilots, we must reconsider the whole package. Some of the extremists will point to the immediate solution of taking flight pay away from everybody. This, of course, solves the problem on the surface and like most easy solutions is not embarrassed by reality.

Today I do not hope to offer a solution but rather to emphasize that the Army owes it to itself to come up with a new look at its own program voluntarily and constructively before it is put on the defensive through its own inertia. I'd welcome the informal comments of any of you on this subject.

## NO CALL FOR PRECIPITOUS ACTION

I do not think precipitous action is warranted under any circumstances, and we must be very careful to make sure we make a step forward without shattering the foundations of the nineteen years' precedent that has gone before.

Rest assured that a policy of "holding the line" or defending a prerogative merely through tradition will not suffice. Manned aircraft in the Army is a growing requirement for as long as we can forecast. I see no point in time yet when the skill of the professional pilot will not be a

# LOOK TO BELL FOR LEADERSHIP, TODAY AND TOMORROW, IN



T-53 turbine powered XH-40, 1956

# TURBINE POWER DEVELOPMENT. IN CONTRACT PERFORMANCE.



# IN GLOBAL FLIGHT RELIABILITY. . IN WORLD FLIGHT RECORDS



Bell's proven production leadership has provided helicopters of greater reliability, dependability and economy. And consistent achievement of schedules, contract prices and mission-suitability has kept Bell a part of the Army's tactical helicopter plan. The Army's superior front-line aviation capabilities are evidence of this successful Army-industry relationship.





## NOW HAS ALL 4

Africa's progressive Republic of Ghana chose 4 de Havilland Canada types to further its program of national development.

- \* The DHC-1 Chipmunk 2-place Basic trainer
- \* The DHC-2 Beaver STOL Utility "1/2 ton flying truck".
- \* The DHC-3 Otter STOL Utility "I ton flying truck"
- \* The DHC-4 Caribou 3 ton payload STOL Utility Transport

These Aircraft will provide primary and crew training, survey, ambulance, supply drop, passenger and cargo transportation into remote areas.

BEREKUM

Carlo

DE HAVILLAND AIRCRAFT OF CANADA

NENDER COMPANY OF THE HAWKER SIDDELEY GROUP ONTARIO-

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# FLIGHT/CONTINUED

fundamental requirement for our aircraft.

Army aviation has grown to be a proud and rewarding career but more and more a career that is completely meshed with and integral to other Army units. To do justice to our future aviators, we must find a practical and fair solution to the flight pay problem within the Army, rather than wait for a non-tactical "fait accompli" to be forced upon us.

## A CONFUSING AND RIDICULOUS PICTURE

After worrying about such problems as flight pay, the world coming apart at the seams, neutron bombs, and the rising tax rate, it is always nice to have some inconsequential problem that you can really get your teeth into, and I'd like to devote a few moments to models. (No, AIRPLANE models!). This paragraph is basically addressed to our friends in industry, but I am sure it will hit a sympathetic ring in other quarters.

There seems to be a grand conspiracy, almost an unwritten law, that no manufacturer or model concern will ever produce two separate models to the same scale.

For example, the L-19 model usually dwarfs the Caribou so that when they are put side by side they are bound to present a confusing and ridiculous picture. Why, oh why could we not possibly fix some small standard like 1/4-inch to the foot as a recognized criteria in the Free World to give some semblance of order to this problem?

NO! Invariably there will be one manufacturer who prefers one centimeter to the furlong, or 1 inch to the meter, or who probably has measured a certain spot on his desk and ordered the model to be built to fit that spot.

Now models (I'm still taking about airplanes) perform a very useful and practical ARMY'S YHU-1D IROQUOIS COMPLETES FIRST FLIGHT



FOLLOWING A TWO-DAY INSPECTION BY A FLIGHT SAFETY INSPECTION TEAM OF MILITARY AND GOVERNMENT CIVILIAN REP-RESENTATIVES, THE U.S. ARMY'S TURBINE-POWERED YHU-1D HELLCOPTER WAS FLOWN FOR THE FIRST TIME AT BELL'S HURST, TEXAS PLANT ON AUGUST 16.

THE HU-1D PRODUCTION MODEL WILL BE POWERED BY A LYCOMING T-53-L9 ENGINE OF 1,100 SHAFT HORSEPOWER, AND WILL BE CAPABLE OF CARRYING A PILOT AND 12 FULLY-EQUIPPED BATTLE TROOPS, 50 PER CENT MORE THAN ITS PREDECESSOR PRO-DUCTION MODEL, THE HU-1B.

THE CABIN SPACE OF THE NEW MODEL HAS BEEN INCREASED FROM 140 TO 220 CUBIC FEET BY RELOCATION OF THE AIR-CRAFT'S FUEL TANKS,

E.J. DUCAYET, BELL PRESIDENT, SAID THAT WITH THE INSPECTION AND FIRST FLIGHT THE "D" MODEL WAS READY FOR ITS PHASE I FLIGHT TEST PROGRAM.

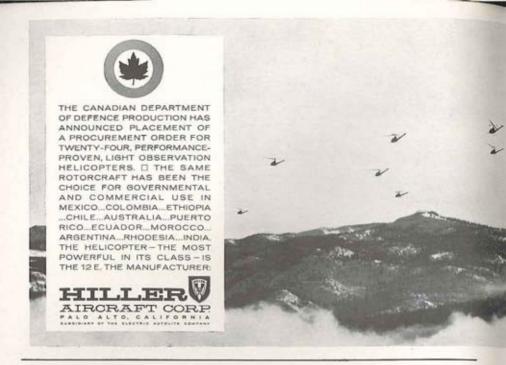
purpose. For example, an actual Mohawk, while impressive, is a little bit unhandy to drag around the Pentagon to illustrate a briefing. Desk-bound pilots can solace their souls by glancing at a model and daydreaming they are still in the cockpit.

More importantly, aircraft models are one of the best methods of setting up a relatively inexpensive but informative display of Army aviation for the hundreds of fairs, conferences, and conventions where the Army aviation story should be told.

FLIGHT/Continued on the Next Page

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It would be very useful if we could interest the companies who make model kits to produce each new Army aircraft as it enters the system. I'm sure they would find a large market, and we would be able to have a wide distribution not possible now.

Therefore, I plead to anyone who is in any way able to influence the future sizing of this important by-product of aviation to use the 1/4-inch to one foot scale, at least as a starting point. I recognize that there may be extremes which would put some pieces of equipment in the "microscope" category and some in the "monster" category.

But, for the most part, any aircraft the Army is contemplating should come out in fairly reasonable size. For example, the L-19 wing span would be 9 inches, while the Caribou, on the other hand, would be 24 inches. (Anybody who checks these figures is a born troublemaker.)

## TRAINING INPUT MUST BE INCREASED

Back to important matters -- I want to solicit the help of each Army aviator in solving one of our most serious and immediate problems.

WE NEED MORE APPLICANTS FOR FLIGHT TRAINING NOW!

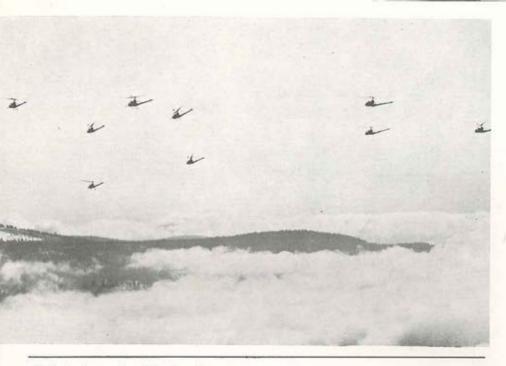
Approved plans see us going from 6,500 active aviators to 10,000 by 1970. Training programs are geared to this increase; training inputs are so low that we can barely hold our own.

We would profit little by reviewing the several causes of this slump; we would profit GREATLY by a flood of hundreds of the Army's best young lieutenants pounding on the gates of Rucker and Wolters.

The recruiting experts tell me that

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all their fancy gimmicks to entice young Americans are peanuts compared to a DIRECT PERSON-TO-PERSON approach. We do intend to attack the shortage problem along more formal lines, too, but in the meanwhile how about each of you spending a little time recruiting some of the young talent among your friends. EACH ONE REACH ONE and point him in our direction.

## AAAA MEETING FILLS COMMUNICATION GAP

Part of the Annual Meeting of the Army Aviation Association this year will be a close look by the Army at its future program. This session, which will take place on the afternoon of 5 September, should offer every Army aviator an insight on the long range planning for organic aviation.

I realize that to some of your commanders, a trip to Washington to attend an Annual Meeting of the Army Aviation Association cannot help but have the atmosphere of a "family reunion" rather than a professional meeting. Without denying the fact that I hope to see many old friends, I would like to emphasize that this is a useful and productive gathering.

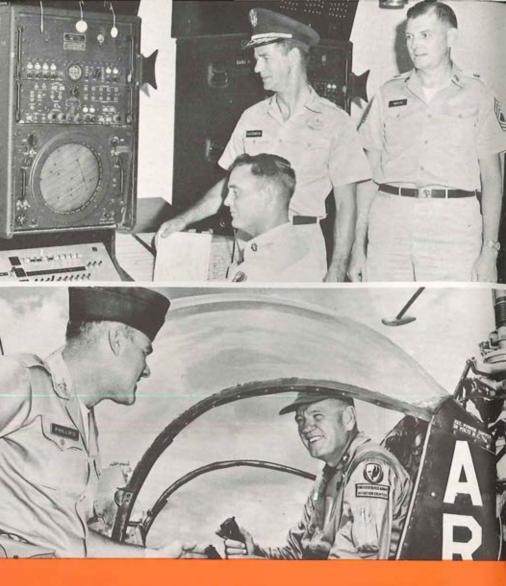
There are many important policy matters which just cannot be conveyed through normal channels of military communications. This meeting and the AUSA meeting immediately following fill a gap that no chain of command correspondence can possibly meet. I know that everybody will not be able to come to Washington at this time, but I hope that no one will be denied the chance to come because it is not felt worthwhile.

Sincerely,

CLIFTON F. VON KANN Brigadier General, GS Director of Army Aviation, ODCSOPS

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MAJ. GEN. ERNEST F. EASTERBROOK (TOP CENTER), INSPECTS THE NEW RAPCON FACILI-TIES AT CAIRNS ARMY AIRFIELD, AS DEMONSTRATED BY SFC CHARLES WORTHAM (SEATED). ESCORTING THE GENERAL IS M/SGT ERNEST MARCUM, TOWER AND RAPCON CHIEF. IN THE LOWER PHOTO, BRIG.GEN.GEORGE B. BENNETT (SEATED), OF THE IDAHO NATIONAL GUARD, TALKS WITH LT. COL. WAYNE N. PHILLIPS, DIRECTOR OF THE DEPARTMENT OF ROTARY WING, ABOUT A FLIGHT HE HAD JUST TAKEN IN THE H-13. THE GENERAL HAD SOLOED THE AIRCRAFT AND IS LOOKING FORWARD TO HIS GRADUATION IN LATE AUGUST, HE IS THE ONLY ARNG GENERAL OFFICER WHO IS A RATED ARMY AVIATOR. (US ARMY PHOTOS).



By MAJOR GENERAL ERNEST F. EASTERBROOK Commanding General, U.S. Army Aviation Center

FT. RUCKER

REPORT

Commandant, U.S. Army Aviation School

**F** ive important additions are being made in the curriculum of the U.S. Army Aviation School. The new courses which have begun include the AC-1 Caribou class, the Flight Operations Specialist Course, the Flight Simulator Operator Maintenance Course, the Single Engine Light Transport Airplane U-1A Mechanic Course, and the Multi-Engine Command Airplane L-23 Maintenance Course.

The six-week Caribou class began at Cairns Army Airfield on 10 July with eight students from the 1st Aviation Company, Fort Benning, Ga. Last Fall, during Fiscal Year 1961, two other classes were graduated. Plans have been made to train 72 Caribou students during the current Fiscal Year.

Never before has a Flight Simulator Operator Maintenance Course qualified students for both rotary-wing and fixedwing simulators. The Department of Advanced Fixed Wing Training is now conducting this course for 18 enlisted students. Seventeen more will take the fifteen week training during FY 1962. Graduates will gain proficiency in the fixed-wing flight simulator (1c-A1) and the rotarywing simulator (2b-3). Another totally new six week course is scheduled to begin 14 August for Flight Operations Specialists (MOS 907.1). There will be 11 candidates in the first class, followed by 83 others during this Fiscal Year.

In early July, the first of 17 U-1A Otter mechanic classes began. Programming has been established for 167 students, who will be working toward an MOS title of 671.2. The course lasts three weeks and there will be about 10 students in each class.

An L-23 maintenance course, also three weeks long, began 7 August with eight students. Approximately 120 students will undergo this training and the graduates will be awarded MOS 672.1. Neither of the last two courses was taught at the Army Aviation School during FY 1961.

In spite of the increased classes, there has been little change in the total input of officer and enlisted students, as compared to the last Fiscal Year. The number of enlisted men actually trained in the USAAVNS during FY 1961 was 6,125. We are currently programmed for 6,800 enlisted students and 2,093 officers.

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## CHANGES IN STAFF AND FACULTY

Significant high-level personnel changes took place here during July. The directorships of Primary and Advanced Fixed Wing were changed. Lt. Col. G.W. Jaubert, director of the Department of Primary Fixed Wing Training, retired and was succeeded by the former deputy director, Maj. Roy V. Hunter.

Lt. Col. John W. Oswalt left his position as director of the Department of Advanced Fixed Wing Training to assume command of the 1st Howitzer Battalion, 5th Field Artillery, Fort Riley, Kan. The former deputy director, Lt. Col. Conway L. Ellers, took Col. Oswalt's place. Col. Oswalt had also served as Director of the Combat Developments Office.

The Department of Tactics is now under the leadership of Col. R.P. Campbell, a recent graduate of flight training. He replaced Col. M.H. Parson, who has gone to the Army War College.

When Col. Robert H. Schulz went to Washington, D.C., on temporary duty to the Hoelscher Committee, Col. Allen M. Burdett, Jr., took over as deputy assistant commandant. Col. Burdett was formerly the chief of CDO. Lt. Col. Morris G. Rawlings heads CDO now.

Col. Oliver J. Helmuth, former Rotary Wing director, is now in charge of the Department of Instruction, with Lt. Col. Wayne N. Phillips taking over at Rotary Wing on Col. Helmuth's departure.

#### WEATHER

#### **OBSERVANCE AUTOMATED**

Another stride towards full automation in weather observance was made when the Air Force Weather Detachment opened an ultra modern facility at Cairns AAF.

The new facility, which is located in an unobstructed position out on the complex of the airfield, contains such elec-

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tronic observing equipment as a rotating beam ceilometer for measuring cloud heights, a transissometer for measuring horizontal visibility, and a temperaturehumidity measuring set and wind indicating set.

With the aid of these instruments and a communication system, the weather observer can take a complete observation from the position of greatest importance to the pilot and disseminate the data to all aircraft control agencies at Cairns. Lt. Col. Jack A. Bell, commander of the detachment, said teletype equipment will soon be installed, enabling the local weather data to be channelled into the weather teletype network.

### RAPCON FACILITY

#### AN ARMY FIRST

Radar Approach Control facilities at Cairns AAF were greatly improved in July when a new 16 x 34-foot room was added and the equipment moved to the second floor of the Operations Building. A third MPN-11B indicator set was added and noise suppression materials were installed in the walls, floor, and ceiling.

The Cairns RAPCON facility controls instrument traffic for Cairns, Hanchey, and Dothan Municipal Airport with an operating range of 45 miles. It is the only one of its kind in the entire U.S. Army.

## HAWTHORNE F/W CONTRACT RENEWED

The Department of the Army announced on 14 July the renewal of the \$1.5 million contract with the Hawthorne School of Aeronautics for Fiscal Year 1962 primary fixed-wing training. The Hawthorne School has held the contract for two years. Mr. Leo Carver, general manager for Hawthorne at Fort Rucker, was most enthusiastic about the Army's decision to renew the contract.

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# AR-NG GENERAL

#### 'COPTER QUALIFIED

Brig. Gen. George B. Bennett of Boise, Idaho, Assistant Adjutant General and Chief of Staff of the Idaho National Guard, the only general officer in the Army National Guard who is a rated fixed-wing pilot, graduated from the Rotary Wing Department on 4 August. The completion of rotary wing training was the second spectacular accomplishment in Army aviation for the 31-year veteran as he was the first senior officer in the National Guard to take flight training here at USAAVNS.

General Bennett earned a private flying license in 1947 and became interested in Army aviation immediately. He was acquainted with the two key men in Rotary Wing training, Lt. Col. Wayne N. Phillips and Lt. Col. John W. Givens, from their tours with the National Guard and began working with them in an effort to secure Army aviation training for himself.

Finally, in 1959, General Bennett (then a colonel) came to the school at Fort Rucker. Now, he has returned to take still another step up the ladder in military flying.

#### "AUX FIELD 3"

#### NOW HALF-COMPLETED

The Engineers announced in mid-July that the new home of Primary Fixed Wing Training is half-completed. The field, known as "Auxiliary Number Three Airfield," is located four miles north of Enterprise. It occupies 360 acres, will have many of the features that Lowe Field (present Primary Fixed Wing headquarters) has, and will cost \$2.3 million. The completion date is 2 December.

Four Bituminous runways, each 2,000 feet long and 100 feet wide, will be arranged in a double-crossed pattern. The two-story masonry operations building and control tower will be almost identical to the one at Lowe. However, initially "Aux 3" will have no hangars.

> ERNEST F. EASTERBROOK Major General, GS Commanding General U.S. Army Aviation Center

# AHS DISCUSSES 'COPTER'S COMBAT ROLE

Army aviation played a key role at the recent August 26 AHS Meeting and Clambake held at the Cliffside Country Club, Burlington, Vt. The "Combat Role of the Helicopter" provided the main theme around which the meeting evolved, Brig. Gen. Clifton F. von Kann, Director of Army Aviation and AHS President, serving as discussion leader. Among the technical papers presented at the Meeting was a presentation by Maj. John R. Ahern, U.S. Army Aviation Board, entitled "The Human Factors Involved in Arming Helicopters." The day before the Meeting, the Missile Production Section of the General Electric Company, hosts for the meeting, demonstrated their M61 gun on the H-34 helicopter and AO-1 Mohawk. The August 25 demonstration was staged at the nearby Underhill Firing Range and utilized simulated ground targets.

## THE VIEW FROM THE BACK SEAT

■ In next month's issue Lt. Colonel Arne H. Eliasson, Chief of the Human Research Unit, Fort Rucker, Ala., discusses TASK OBSERVE and the role the human aerial observer plays in the intelligence acquisition system.

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# THE ABC's OF R & D

T o the average Army aviator, the words "research and development" belong for the most part to the lexicon of the scientist, the engineer, and the librarian, who must catalogue all incoming tomes according to their title, subject, and author.

TO THOSE in the research field, those words have a meaning that encompasses an area of investigation that could well be responsible for the survival of the free world.

DURING A RECENT discussion with several aviators, I was asked why research was needed in Army aviation. Inasmuch as the Army will soon have the CHINOOK and the CARIBOU, I was queried why those aircraft would not satisfy any future Army requirements. What too, my friends asked, was the role of the U.S. Army Transportation Research Command at Ft. Eustis, Virginia?

AS AN AVIATOR who has just completed a tour of duty in the Army's research field agency, my observations in that discussion were readily accepted, and I offer them for what they are worth here in ARMY AVIATION.

W hen I first received orders to the U.S. Army Transportation Research Command (USATRECOM), I asked many questions about the organization and wonered what I was getting into. Since serving a tour at this organization, I am in a better position to pass on to others in the aviation program information that I have pertaining to the functions of the Command.

OUR BIBLE is AR 705-5, and I highly recommend that you read this regulation and become familiar with it. The regulation By MAJOR LEONARD T. BOLTON AIRBORNE AND ELECTRONICS BOARD FORT BRAGG, NORTH CAROLINA

dictates policy, pinpoints responsibility, and proclaims the fact that anyone can initiate ideas or suggestions that could result in a research and development project.

I MENTIONED the latter to a number of people, including commanders, and they told me that they have neither the time nor the ability to put their problems on paper; however, in almost the same breath, they complained about some inadequacy or about the trouble their equipment was causing.

IF YOU HAVE a good idea or suggestion pertaining to Army aviation or if you have a problem area that needs investigation, USATRECOM should be told about it. The Research Command is always looking for ways and means of performing missions and functions more effectively, and is always responsive to problems arising in the field. The Unsatisfactory Equipment Reports (UER's) which are prepared in the field to report malfunctions or inadequacies, enable us to describe the problem areas for submission through channels.

AR 705-5 ALSO DEFINES research, both basic and applied. In simple language, basic research is the effort expended to gain further knowledge and to determine new principles or techniques. For example, nuclear energy is the result of basic research conducted to gain new knowledge. Applied research is simply the application of this knowledge. Using nuclear energy to drive our submarines or using isotopes to combat disease are

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ARMY AVIATION



good examples of applying the knowledge gained through basic research.

To bring this research close home, you may remember that a few years ago the Army developed several new types of VTOL vehicles known as flying test beds. These were the deflected slipstream, the tilt-fan, the tilt-duct, and the tilt-wing aircraft. Many aviators who saw these strange-looking aircraft wondered what purpose they would serve.

THESE AIRCRAFT were built as inexpensively as possible and were needed to gain more knowledge in the field of aerodynamics. The knowledge gained from these test beds will be applied in the tri-service venture now underway for a tilt-wing cargo aircraft. A program of this nature could never have been established without some previous knowledge of the feasibility of such a flight. The results obtained from those odd Army aircraft test vehicles will be useful to R&D people for years to come.

A s you know, contamination is always a problem that pilots dread. This has been a danger we have learned to control reasonably well through filter systems and preflight draining of tanks. With aviation gasoline, these methods have worked out fairly successfully.

AFTER MUCH experimentation we have been able to get segregators to do a decent job. The amount of aviation gasoline required to support our aircraft has not reached such proportions that current methods and established controls are not able to protect against and to prevent fuel contamination.

ON THE OTHER HAND, the advent of turbine-powered aircraft, although they will provide greater and better operational capabilities, is not without its associated problem. The CHINOOK will carry from 1,200 to 1,500 gallons of fuel. It isn't hard to imagine the volume of fuel required to keep a company of CHINOOKS operating in the field.

ASSOCIATED with this fuel problem is the prevention of fuel contamination. It is harder to keep contaminants out of jet fuel than it is to keep them out of aviation gasoline. Not only is volume a headache, but contaminants and water in jet fuel stay suspended practically indefinitely. Aviation gas contamination and water, as you know, settle to the bottom of the tank, and are removed and detected by draining and checking periodically. At high altitudes, water in jet fuel will freeze and ice crystals will block filters and eventually cause fuel starvation of the engine.

WE AT USATRECOM recognized this fuel-contamination problem over a year ago, but for lack of sufficient justification, a project was never initiated. If we do not get correspondence from the field support-

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# ABC's/CONTINUED

ing our theories, we are fighting a useless battle. Based on AR 705-5, we must obtain fund citations and an approved project card before we can undertake any study and investigation. Recently, Major Rich, executive officer of the 82d Aviation Bn, provided excellent support for the fuelcontamination problem when he reported that fuel contamination was suspected as a major contributory factor in an HU-1A accident.

In studying and analyzing what the Air Force and the Navy are doing about fuel-contamination problems, we learned quite a bit. The Air Force has recently come out with an additive that prevents the water from freezing in jet fuels. This should help somewhat, but the old major problem still exists; i.e., the difference in operation between the services.

NAVY AND AIR FORCE planes operate mainly from fixed bases and carriers, as compared to our Army aircraft that operate from makeshift or unimproved strips in the infantryman's environment.

PEOPLE ASK why we spend money and time developing our own ground support equipment when we could use the same type of ground support equipment used by the other services. Continuing research is necessary to provide the required degree of mobility. Some of the equipment in the system today is not mobile enough in the terrain from which it must operate.

MOREOVER, our equipment is too bulky to allow maximum mobility. Substitution in tools and the amount of unnecessary tools also cause problems. The administration required to account for tools in field maintenance units, while at the same time trying to maintain or attain unit mobility to some practical degree, is almost a full-time job.

COMPLETE MOBILITY is impossible now without outside help, or abandoning equipment, or doing some shuttling back and forth. Unless we can solve the fuel-contamination problem, particularly for the turbine-powered aircraft, we will be most assuredly - harnessed with some very sophisticated fuel-servicing equipment, such as the Air Force and the Navy now have. This will limit our operations and prevent our maintaining a one-or-two plane operation such as we had in World War II and in Korea. Then we couldn't have an efficient or economical operation. and naturally unit mobility would be extremely limited.

WE AT USATRECOM feel that a scavenging and filter device aboard the aircraft would certainly help to eliminate or cut down the need for sophisticated fuelservicing equipment. This is only one approach, but certainly we should do some study in this area of fuel contamination to gain the necessary knowledge and to solve the problem accordingly.

# ABOUT THE AUTHOR

Major Leonard T. Bolton, Jr., holder of the Distinguished Flying Cross and former personal pilot of Major General William Dean (24th Infantry Division Commander) in Korea, was named Transportation Corps liaison officer to the Airborne and Electronics Board at Fort Bragg. N.C., in March after serving as chief of the Ground Equipment and Maintenance Branch in the Aviation Directorate of the U.S. Army Transportation Research Command, Fort Eustis, Va. Enlisting in the service in 1943, Bolton attained the rank of sergeant prior to graduating Officer Candidate School as a second lieutenant. Receiving his L-Pilot rating in October, 1943, he served in the New Guinea, Netherlands, East Indies, and Philippine campaigns, including Bataan and Corregidor. The Senior Army Aviator later served in the occupation forces of both Japan and Germany. He resides with his wife, Marjorie, and four children, 3 daughters, 17, 13, and 5 months and one son, 3-1/2 years, at Fort Bragg.

•

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# RESCUE

The Kaman HUSKIE was designed to be a rugged, reliable rescue helicopter. It was bred for the boondocks. The number, nature and difficulty of the rescues it has completed since entering operational service prove it was bred right. Rescues involving Kaman helicopters which hit the headlines recently follow below, with on the spot photos to the right.

A. LARSON AFB, WASH.— A Huskie hovering over the burning wreckage of a B-52D used its rotor downwash to keep flames away from the bomber's 128,000 pound fuel load until all 10 crewmen had been safely evecuated. (Air force Photo) B. CAPE HATTERAS, VA.— When the tanker Pine Ridge broke up off shore, a Kaman HUK operating from the Valley Forge rescued 9 crew members and returned them safely to its carrier base. (U.S. Coast Guard Photo) C. RANDOLPH AFB, TEXAS USAF H-43 on standby alert reached the crash scene of a KC-97 tanker and worked with fire fighting crew to prevent flames from spreading to 4,000 gals. of spilled fuel, saving the aircraft. (San Antonio Field Photo)





#### THE KAMAN AIRCRAFT CORP., BLOOMFIELD, CONN.





in national defense KAMAN is a part of the rescue plan

This demonstration photo became a reality at PLATTS-BURG, N.Y., when one of the crewmen who balled out of a crippled B-52 was injured when landing in an isolated area of 100 foot trees. The crew of a Huskie saved his life by hovering over the spot and lowering a medic to give first aid until rescuers on foot reached the scene.

# ABC's/CONTINUED

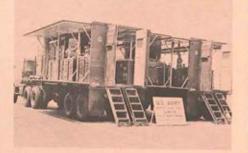
USATRECOM did some work in the development of a helicopter-transportable maintenance shop a few years ago. This task was transferred to the U.S. Army Transportation Material Command about a year ago for continued development. When this task is completed, faster and more efficient service and assistance for emergency and on-site repairs in the field will be available.

ONE STUDY made in relation to the helicopter shops revealed that we had approximately 20 tons of tools and equipment in a Transportation Army Aviation Maintenance unit. By using the general mechanic's toolbox as a basis for eliminaing tool set duplication, we could cut down our weight to about 8 or 9 tons.

ANOTHER ITEM of interest that came out of the helicopter-transportable shop study is our all-purpose service kit. Using one of the new small T-62 turbine engines and standard components, we hope to prove that it is feasible to supply almost all of our electrical, pneumatic, and hydraulic requirements for maintenance at the organizational and the field maintenance detachment levels.

THE UNIT now being built will weigh about 650 pounds dry. It will be modular in design, which means that it can be

#### MOBILE MAINTENANCE SHOP



divided into separate units that can be carried by two men. Further study should result in a unit weighing even less.

USATRECOM's job in this project is to prove the feasibility of the all-purpose service kit. It is expected that this item will replace the three currently required units that weigh a total of more than 3,500 lbs. We expect to know more about this unit after the current tests are completed.

**P** roject ALARM is one project currently creating a lot of interest in aviation circles. ALARM stands for "Automatic Light Aircraft Readiness Monitor." However, the title doesn't seem to be apropos.

THE PROJECT CARD is titled in this way, "Electrical Diagnostic Maintenance and Inspection System." (Ed. The choice between ALARM and EDMIS is obvious.) The idea for the project was generated in an informal discussion between CWO Alexander Gallacher (Ret.) and the author. The more we talked, the more possibilities developed; and a project was initiated and assigned to Mr. Gallacher.

THE BASIC STUDY of ALARM revealed that an aircraft has inherent qualities, such as vibration, temperature, and pressure. Since we have had failures in the tail rotor gearbox of helicopters, and since we can't monitor what's happening in the gearbox during flight, some mechanical device is sorely needed as a warning system.

THIS IS ONE EXAMPLE of the use of the ALARM system, but overall we must consider the amount of time required to preflight and postflight check our aircraft. Our newer aircraft are becoming more complex and require too much time in these areas. By placing sensors in key areas and being able to monitor these points through electrical circuits, we will be able to improve maintenance effectiveness and reduce down times.

# ABC's/CONTINUED

NOT ONLY do we improve the inspection system by eliminating the possible human error, but we provide added capability by being better able to monitor the aircraft's condition while the craft is in flight. As compared to the advantages, the weight penalty and the added complexity should be almost nil.

PROJECT ALARM has even further ramifications. Use of the ALARM system would allow us to anticipate replacements for components far in advance of possible failure, to diagnose mechanical troubles in a simpler manner and with more speed and accuracy, and to use components to their full life expectancy. With better equipment for analyzing the condition and wear rate of components, plus the monitoring capabilities while in flight, there is no reason why we can't get the most time out of our aircraft.

THERE ARE THOSE who think that this equipment would be too complex and bulky and that using the equipment would be more troublesome than just maintaining the aircraft the way we are doing now. This is not true.

THE ADVANCES being made in the electrical field today are astounding. For

#### OPEN INVITATION

"ARMY AVIATION" welcomes articles on any subject. Your audience? Well over 6,000 subscribers directly concerned with this field, and an additional several thousand readers who have access to the magazine. Articles should be brief - under 1,200 words - and, where possible, should be accompanied by pertinent illustrative/photographic material. Your personal photo and short bioperse are also desired. Pick a subject - hew the line or take off on a tangent - but get it on paper. We'll take it from there.

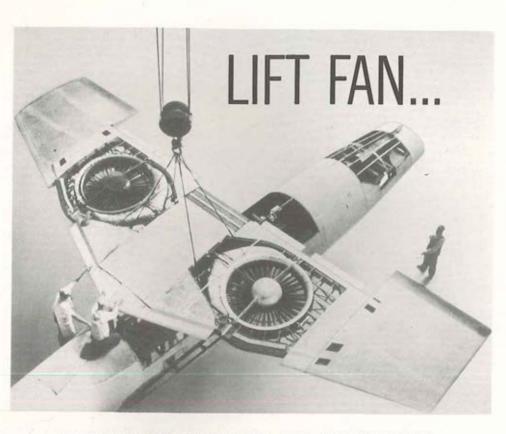
#### LOOKING AHEAD

Two projects of interest to "ARMY AVIATION" readers are well beyond the "idle talk" stage. The first - a current "name, rank/grade, and address roster" of some 5,000 readers will be handled under the auspices of the AAAA and is expected to be published as an Annual Roster of Membership. The second - a "Who's Who in Army Aviation" - is a bit more complex, involving the establishment of criteria for listing and that perennial, fiscal underwriting. This project will be published as a separate magazine venture. Target date, assuming we receive guidance on criteria for listing, is June, '62.

example, a preprinted circuit could be used, and if the circuit didn't function normally during the operative check, the circuit could be pulled and replaced by simply plugging in a new one.

A SYSTEM LIKE THIS, particularly when combined with portable Xray and ultrasonic equipment, could certainly make a much faster and more efficient inspection system a reality. Our current inspection methods and systems are far too timeconsuming and inefficient, as evidenced by the many complaints received from the operators. Certainly something should be done, even if the ideas presented here are not the answer.

E ven though I have mentioned only a few of the projects at USATRECOM, I hope that I have given you some insight into our R&D program and have stimulated some thinking and action on your part. Remember that we need your support, so get your ideas, problems, and suggestions on paper. These suggestions will be instrumental in our gaining new knowledge, in our developing better techniques, and finally in our helping you to solve your problems in the field.



# ANOTHER STRIDE AHEAD FOR ARMY V/STOL

Fan-in-wing configuration tests for the General Electric lift fan—destined to enable Army pilots to take-off vertically, transition to horizontal flight, and cruise at jet speeds—begin in September, 1961.

To be conducted at NASA's Ames, California, 40' x 80' wind tunnel, tests of this twin-J85-powered, two-fan model will provide aerodynamic and mechanical design data for subsequent flight research aircraft.

The General Electric lift fan, now well along in a continuing V/STOL propulsion system research program under U.S. Army (TRECOM) contract, promises to open up an entirely new range of speed and mobility to Army aviation.

FLIGHT PROPULSION DIVISION

GENERAL C ELECTRIC

# Compact airborne support

MORE PAYLOAD ROOM — The Solar energizer kit that is expected to provide the Army's new Caribou cargo transport with extreme Arctic capability is packed into less than four cubic feet of space within the aircraft. Powered by Solar's Titan 80 hp gas turbine engine, the energizer kit starts the Caribou's twin R2000 engines, and provides auxiliary electric power and cabin heating for certain ground operations when the Caribou's twin R2000 engines are shut down. With the lightweight energizer, the de Havilland STOL aircraft is less dependent upon conventional ground support facilities and its versatility and mobility are further increased. For further information about Solar's Titan engine-powered generator, hydraulic and airbleed units and its complete line of gas turbine engines, write to Dept. H-217, Solar Aircraft Company, San Diego 12, California.

> SOLAR AIRCRAIT COMPANY

#### COMMAND CHANGE:

# COLONELS NORRIS, LANSFORD NOW GUIDE USAPHS

I n the past month there has been a lot of activity at the school with the arrival of a new commandant and assistant commandant.

Colonel Jack K. Norris assumed command of Camp Wolters August 1, replacing Colonel John L. Inskeep, who retired from the Army July 31. The new commanding officer and commandant of the U.S. Army Primary Helicopter School recently returned from Korea where he served as Aviation Officer for Headquarters Eighth U.S. Army.

The son of Mr. and Mrs. John H. Norris of Payette, Idaho, he was born and raised in Payette. Following two years of college at Whitman College, Walla Walla, Washington, the colonel entered the U.S. Military Academy in 1935, being commissioned a second lieutenant of Infantry upon his graduation in June of 1939.

## PARTICIPATES IN FIVE MAJOR CAMPAIGNS

During World War II he saw combat with the 2d Infantry Division (Indian Head) as commander of the 2d Battalion, 38th Infantry Regiment. While with the 38th Infantry, the colonel participated in five European campaigns, Normandy, Northern France, Ardennes-Alsace, Rhineland, and Central Europe.

Following World War II, Colonel Norris attended the Command and General Staff

# By CAPTAIN JON G. BLISSITTE U.S. ARMY PRIMARY HELICOPTER SCHOOL



COL. NORRIS

College at Fort Leavenworth, Kansas, and the British Staff School, Haifa, Palestine. From December, 1946, until June, 1948, while on ROTC instructor duty, he served as Professor of Military Science and Tactics of the Senior High Schools in Ogden, Utah.

Following 15 months of studies at the Georgetown University, he served on the Army General Staff in Washington, D.C., until June, 1953. It was during this tour of duty that he was promoted to colonel.

After completing the Army War College curriculum at Carlisle Barracks, Pennsylvania, in August, 1953, Colonel Norris was transferred to Alaska, serving first as Operations and Training Officer on the Joint Staff of the Alaskan Command, and later as commanding officer of the

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# COLONELS/CONTINUED

53d Regimental Combat Team, U.S. Army Alaska.

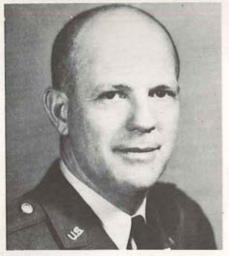
Returning to the United States in August, 1956, Colonel Norris completed fixedwing and rotary-wing training at the U.S. Army Aviation School, Fort Rucker, Ala. He received his wings in 1957.

As an Army Aviator, Colonel Norris served at Headquarters, U.S. Continental Army Command, Fort Monroe, Va., from June, 1957, until June, 1960, serving first as executive officer, Aviation Section, and later as Deputy Army Aviation Officer.

His last tour of duty prior to reporting to Camp Wolters was in Korea as Army Aviation Officer, Eighth U.S. Army.

Among the awards that Colonel Norris wears are the Silver and Bronze Star Medals with an Oak Leaf Cluster (second award) on each, the Purple Heart, the Combat Infantryman's Badge, plus a number of foreign decorations.

#### COL. LANSFORD



Colonel Erdie O. Lansford assumed the duties of assistant commandant of the U.S. Army Primary Helicopter School on July 10.

An Army Aviator since 1946, Colonel Lansford reported here from Davison U.S. Army Airfield, Fort Belvoir, Va., where he served as commanding officer from July, 1959, until June 30 of this year.

The new assistant commandant was commissioned a second lieutenant of Artillery in the U.S. Army Reserve in 1934. He was ordered to active duty in February of 1940, with the 18th Field Artillery Regiment at Fort Sill, Oklahoma.

During World War II he served with an artillery battalion in the European Theater. Following the war he served on the staff of the commander, U.S. Amphibious Forces, Pacific Ocean area.

Upon completion of flight training, he was aviation officer with the 1st Constabulary Brigade in Germany from 1947 until 1950. From 1951 until 1953 he was executive officer of the Air Training Department, The Artillery School, Fort Sill, Oklahoma.

In Korea, the colonel served as aviation officer, Korea Communications Zone and I Corps, from 1954 to 1955, after which he commanded the 27th Armored Field Artillery Battalion, 1st Armored Division, until 1956.

Ordered to duty with the Department of the Army in October, 1956, he served with the Director of Army Aviation, Office of the Deputy Chief of Staff for Military Operations, as Assistant Chief and Chief, of the Operations and Requirements Division until July, 1959.

Colonel Lansford is a graduate of the Artillery Basic and Advanced Courses, and the Command and General Staff College. Colonel Lansford wears the Bronze Star with oak leaf cluster.

# AA COMPLETES U.S. NAVAL TEST PILOT COURSE

An article was published in the February, 1961, issue of ARMY AVIATION concerning the graduation of seven U.S. Army pilots from the U.S. Air Force Experimental Flight Test School.

I WOULD LIKE to take this opportunity to point out for your readers' interest that the Army has an eighth fully qualified test pilot; Captain John K. Foster, who graduated with Class XXVIII of the U.S. Naval Test Pilot School, Patuxent River, Md., on June 16, 1961.

CAPTAIN FOSTER'S training is unique in that he is the first U.S. Army pilot to graduate from the U.S. Naval Test Pilot School. He is shown in the photo (p.492) receiving his diploma and congratulations from Rear Admiral Paul H. Ramsey (left), Commander, Naval Air Test Center. Captain Foster has since been assigned to the VTOL/STOL Branch of the Flight Test Division, Naval Air Test Center, where he will be for approximately a year.

OUR MISSION here at the Naval Test Pilot School is to train highly motivated and experienced fleet aviators to become fully qualified Naval Test pilots. Upon graduation from the intensive course of instruction, these pilots complete a normal tour of duty at the Naval Air Test Center on this base while serving as project officers in the test and evaluation of new aircraft and aircraft components.





I AM CERTAIN that several details of the course will be of interest to all Army aviators and I'll brief them here. The eight-month course is divided into academic and flight syllabus phases. Half of each working day is spent in the academic phase and includes the study of aerodynamics, aircraft and engine performance, and related aeronautical engineering subjects.

SHORT REVIEW courses in Algebra, Trigonometry, Calculus, and Mechanics are presented first with later, more advanced studies covering Aero-Thermodynamics, Aerodynamics, Jet Engines, Reciprocating Engines, Aircraft & Engine Performance, Airplane Control & Stability, and Weapons Systems Analysis. Courses are also presented in Helicopters, Flight Test Instrumentation, and Flight Test Project Planning.

AN EXTREMELY INTERESTING Seminar Program is a companion part to the academic phase, guest speakers from military, industry, university, and test agencies presenting current information concerning the progress of the aircraft industry, latest developments in the field of R & D, and flight testing.

THE FIXED-WING flight phase of the course consists of approximately eighty flights including familiarization, demonstration, and test flights. All students

EIGHT MONTH COURSE AT PATUXENT RIVER PROVES "REWARDING"

BEECH "IMAGINUITY

CONVERTS QUICKLY TO FAST, RUGGED, ROOMY AERIAL AMBULANCE

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AS COMMAND LIAISON TRANSPORT THE L23F HAS SEPARATE PILOT COMPARTMENT AND "CONFERENCE ROOM" PASSENGER CABIN.

33

U.S. A

# The Beechcraft L-23F . . . meets the need for . . . Air mobility that combines versatility, high performance, and low cost:

The new Beechcraft L-23F offers a combination of advantages found in no other aircraft. With its supercharged fuel injection engines, the L-23F provides fast, comfortable all-weather transportation that can span long distances in a hurry. Yet it is so ruggedly built that it can operate safely even from small, unimproved fields. The L-23F offers air mobility for a wide range of uses at a fraction of the cost of operating larger planes. Quickly and easily adaptable to the installation of ground surveillance radar, the L-23F can also be converted quickly for liaison and cargo missions. Its versatility is further demonstrated by its rapidly growing popularity as a multi-engine instrument trainer.

eech Aerospace Division

BEECH AIRCRAFT CORPORATION . WICHITA 1, KANSAS, U. S. A.

Beech Aerospace Division projects include R&D on manned aircraft; missile target and reconnaissance systems; complete missile systems; electronic guidance systems; programs pertaining to liquid hydrogen propellants and cryogenic tankage systems; environmental testing of missile systems and components; and GSE.

May we help you? Write, wire or phone Contract Administrator, Beech Aircraft Corp., Wichita 1, Kansas—or nearest Area Office.

# TEST/CONTINUED

complete the same flight syllabus and fly the complete stable of airplanes regardless of previous background or experience, with the exception of those students specializing in helicopter testing.

PRIOR TO COMMENCING test flights, test procedures and data reduction methods are covered in the academic phase; in addition, flight instructors present a detailed flight test technique briefing prior to the commencement of each type of test. Students reduce the data obtained on their test flights and submit comprehensive flight reports on their findings.

#### FLIGHT TRAINING OUTLINED

THE FIRST HALF of the flight syllabus is devoted to aircraft and engine performance testing and involves a complete performance evaluation of both a jet and a reciprocating engine airplane. Students are divided into groups and are assigned a group airplane for this project.

WHEN EACH STUDENT GROUP has completed the development of the flight envelope of their assigned airplane, a group

Rear Adm. Paul H. Ramsey (1.) presents diploma to Capt. Foster



U.S. NAVY PHOTO

report of the performance characteristics is submitted.

THE LATTER HALF of the flight syllabus is devoted to "flying qualities", which is an investigation of the handling qualities of the airplane from the standpoint of stability and control, buffet, trim changes, stall and spin characteristics, rolling performance, and high Mach number effects. Both static and dynamic stability characteristics are studied in these tests.

THE FLIGHT PHASE of the course is climaxed by a four-flight evaluation of an airplane not previously flown by the student. This qualitative evaluation and the report submitted on completion is similar to the Navy Preliminary Evaluation, which is conducted by Naval Air Test Center pilots on all new Naval aircraft at the contractor's facility prior to Navy acceptance of the aircraft for formal trials.

THAT IS A FAST WRAP-UP of the course here at Patuxent River. You may be interested to know that the Test Pilot Training Division (TPT), as it was then called, was a direct development of a semi-formal Flight Test Pilots' Training Program initiated early in 1945 in the Flight Test Division.

SINCE 1948, approximately thirty classes have received the course of instruction, which has evolved from a six to an eight months course. The curriculum and aircraft complement have undergone frequent modernization due to the rapid advances in Naval Aviation during recent years.

IN 1958, the school became known as the U.S. Naval Test Pilot School, the course's duration was changed to its present length, and the policy of convening a new class every four months was commenced. In 1961, a helicopter flight syllabus was added to the curriculum.

TEST/Continued on Page 512

ARMY AVIATION

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LET'S TAKE A LOOK AT...

# NEW PROJECT: TASK LOWENTRY BY LT. COLONEL ARNE H. ELIASSON CHIEF, HRU, FT. RUCKER, ALA.

I mproving navigation techniques for low level flight of rotary wing and fixed wing aircraft and developing the training methods to teach these skills to Army aviation personnel are the objectives of Task LOWENTRY. This is the newest research task approved by Department of the Army for the U.S. Army Aviation Human Research Unit, Fort Rucker, Ala.

IT MUST BE OBVIOUS to nearly everyone that to operate successfully or even to survive on the modern battlefield, Army aircraft will have to remain at altitudes considerably lower than was necessary in the past.

THIS IS PARTICULARLY TRUE of aircraft involved in aerial combat reconnaissance, helicopter-borne assaults, surveillance of areas occupied by hostile forces, and tactical air support. Low level operations are necessary for the element of surprise, to avoid detection and interception, but most of all to minimize the effect of enemy air defense weapons.

IT MUST BE equally obvious that low level flight presents problems to the aviator and observer not normally present in flights at altitudes of 500 feet or above.

WHILE FLYING 500 FEET or higher above the terrain, an aviator can usually look ahead on his line of flight to detect a check point and compare it several times with his map to avoid errors. He can put his eyes in the cockpit for relatively long periods of time to compute and decide what adjustments to make to maintain the desired course. At, or above, the 500 foot terrain clearance level, features such as towns, roads, and bodies of water are in view for at least several minutes. Low relief features are not in profile nor easily discernible.

AT LOW LEVEL FLIGHT a different situation exists that will require the aviator to change some of his high level pilotage procedures. Now, only those features in profile will be available for navigational use for a matter of minutes. Flat terrain features such as towns, roads, and water features will be available for only a matter of seconds -- except in the rare event of "too large to miss" objects or lineal features coinciding with the line of flight.

THE ROAD INTERSECTION that was seen for a minute or two at 500 feet may be passed 200 yards to the left out of view behind vegetation and around a curve. Even if the intersection is approached over cleared land it is in view for only a few seconds making map reference and course heading adjustments difficult.

# HUMAN RESOURCES RESEARCH OFFICE

AUGUST 31, 1961

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# TASK/CONTINUED

THEREFORE, unless there has been detailed planning before the mission, the aviator is continually behind in his navigating. Providing he has been able to recognize a terrain feature, by the time he computes what correction to make he is several miles away from where the correction may no longer be valid.

LT. COLONEL WARREN P. PAULEY (USA, Retired), Task LOWENTRY Research Technician, says, "The key to successful low level navigation is the careful and detailed planning which is done prior to the flight. Every minute spent on flight planning is that much more assurance (to the pilot) that the mission will be a success."

WHEN FLYING at "nap of the earth" altitudes the old procedures of using directional headings from fix to fix may be an unsure way of arriving at the destination. The axiom, "The shortest distance between two points is a straight line," may not apply. For the nap of the earth aviator this may have to be revised to something like, "The surest route between two points is the route with an adequate number of unmistakable fixes."

THE RESEARCH STAFF of Task LOW-ENTRY, headed by Robert H. Wright, HumRRO Research Associate, has begun to gather pertinent literature and reports of previous studies. There are a number of techniques that have been found that hold promise of increasing the effectiveness of low level navigation. These have been gleaned from literature provided by both domestic and foreign military services as well as civilian researchers and documents.

TO SECURE UP-TO-DATE information on what units in the field are doing in

TASK LOWENTRY: THE FOURTH IN A SERIES OF ARTICLES DEALING WITH HUMAN RESEARCH UNIT PROJECTS. this area, a questionnaire was compiled by the LOWENTRY staff and sent to nearly all of the aviation and transportation helicopter companies in the active Army. The data furnished by these questionnaires will be analyzed to determine where the strong points and weaknesses are in the present methods and techniques.

FINDING as many techniques as possible is only the first step, however. The future stages of LOWENTRY will include development of a program of instruction that will provide the Army aviator with the ability to:

Utilize effectively all of the useful navigational techniques, and to know their advantages and disadvantages.

Determine which techniques will be most effective for a particular mission.

Program all of the in-flight activities of the crew in a manner that will give him the best chance to successfully accomplish the mission.

FACTORS, other than those discussed above, will have to be considered in Task LOWENTRY. These include:

■ Determination of the desirable characteristics of a suitable map for low level flight.

Evaluation of the effect of electronic aids to navigation on low level navigation procedures.

Determination of the changes and improvements in Army aircraft instrumentation that have a bearing on low level navigation.

EVERY EFFORT will be made to ensure that no aspect concerning the problem is overlooked. The members of Task LOWENTRY are fully aware of the importance and urgency of their mission. They know, too, that the outcome of their research will affect the future tactics of Army aviation.

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ARMY AVIATION

# USAREUR



#### By LT. COLONEL J. ELMORE SWENSON Operations Division, Hq, USAREUR

Headquarters, USAREUR was recently assigned additional aviation responsibilities for those MAAGs and Missions within the theater that are authorized Army aircraft. Heretofore, this Headquarters was responsible to these MAAGs and Missions for publication of instructor pilot orders, monitorship of aircraft accident reports, and field maintenance and logistical support.

In view of the recently increased air transportation activities within the MAAGs and Missions, close staff supervision and greater support are required. The additional responsibilities assigned to this command entail air safety programs, aircraft accident investigation and reporting procedures, the maintenance of pilot qualifications, and the establishment and maintenance of air and ground operations.

#### COVERS 2,000-MILE AREA

The problem facing USAREUR is one of providing both close staff supervision and support to aviation elements scattered over a vast area with a radius of 2,000 miles from this headquarters.

Some thirty aviation people and sixteen types of aircraft are spread throughout the MAAGs and Missions in Germany, Italy, Greece, Turkey, Iran, Pakistan, and Ethiopia to provide air transportation.

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## **USAREUR**/CONTINUED

Further compounding the problem is the need for an immediate improvement of the existing meager navigational and weather reporting facilities.

The present approach to the problem is to place these aviation elements in the same category as other USAREUR major commands. The USAREUR staff divisions have, therefore, been assigned responsibilities in accordance with normal general staff practices.

#### EXPERIENCE ALL-IMPORTANT

Information gleaned thus far from staff liaison visits to these far-flung aviation elements reveals that many problems lie beyond the control of the aviation officers and even of the MAAG and Mission chiefs themselves. The need for selecting and assigning the most experienced aviators and mechanics to these organizations is apparent.

Moreover, suitable ground and aircraft radio equipment to communicate and navigate properly is lacking. Such equipment is mandatory for flight operations in areas where obsolete navigational facilities and limited weather reporting installations exist.

Finally, there exists in many of the aviation elements an improper balance of aircraft types on hand in ratio to the personnel assigned, maintenance and support facilities available, and the region involved.

The tasks for Headquarters, USAREUR will be challenging ones indeed, but further assistance to the aviation elements will be forthcoming. All units are being visited this month by this headquarters for purposes of orientation, with the exception of Ethiopia. Brig. Gen. John J. Tolson, III, chief of that MAAG, requested that the visit to his area be delayed until the next quarter in view of other commitments. The MOHAWK demonstration in Europe has drawn to a successful close. Mr. Ralph W. Donnell, Chief Test Pilot for Grumman, along with his cohorts, Mr. Henry G. Shaus and Mr. John Smith from down Paris way, provided timely visits and imparted valuable knowledge which will facilitate the absorption of the forthcoming fleet in this theater.

The HU-1B helicopters are rolling into the command in fine shape. Lt. Col. Jerome B. Feldt has set up a fine transition school at Stuttgart, and under Col. Arthur W. Ries, the mechanics school at Sandofen is proceeding on schedule. Clifford Kalista of Bell Helicopter has been here double-checking into potential problems and has conferred with us on any planning oversights.

#### "ACE" ALCORN RETIRES

Again, aviation people are coming and going in Europe. With a nostalgic touch one bids farewell to an old-time Army aviator, Col. Ford (Ace) Alcorn, who returns to the States and a retirement locale near St. Louis. Ace was a graduate of Class P-2 way back in September, '42.

He was one of the team that flew Cubs from an aircraft carrier in the North Africa invasion. Although badly wounded in this campaign, he managed to survive and subsequently served in many key aviation assignments. Capt. Joseph K. Bell of 2d Armored Cavalry fame also has departed for CONUS and enrollment at the Armored Advance Course.

#### MANY NEW ARRIVALS

Arrivals on German soil or enroute are Lt. Col. Melvin C. Monroe and Maj. Bert E. Drane, from Ft. Rucker to 7th Army. Lt. Col. Dan A. McCartney is already "in the saddle" pushing papers in the aviation section, 7th Army. Col. Claude L. Shepard,

Jr., another old-time Army aviator of great reknown, is to take over an Artillery Group.

At this headquarters recently-promoted Lt. Col. James F. Smith has taken over 'the desk previously occupied by Maj. Kenneth D. Mertel. Lt. Col. William C. Boehm has moved from the Plans Branch to the Troop Operations Branch to provide aviation backup, in addition to his other duties. And from other local news, one notes that Lt. Col. Howard I. Lukens has received his Master Aviator Badge.

#### ... AND IN SEPTEMBER

September finds most of the USAREUR NATO Exercises. Although these large events afford most aviation units as well as the staffs the opportunity to rehearse the old and new plans, they also precluded many of us from getting over to England for the ever so important Second Tripartite Meeting. Several vital and well thought out objectives from an Army aviation standpoint were scheduled for discussion.

We also missed having a full tour and get-together with General Easterbrook and his traveling entourage. Perhaps next year the schedule will be more accommodating.

#### **IROQUOIS TRANSITIONING**

The first shipment of HU-1B's arrived in Europe on schedule. Naturally, everyone is pleased about having these versatile aircraft on hand. Six were shipped to Seventh Army for pilot transitioning and one to USATDS for maintenance training.

Under the guidance of Col. Jack Hemingway and his able project officer, Lt. Col. Jerome B. Feldt, the initial pilot transition phase is progressing as planned. In light of the unfamiliarity of most aviators in operating the T-53 engine, however, a



COL. SWENSON

program is under consideration to continue the transition courses for an extended period. A decision on this will be made sometime in October.

Not only are we confronted with the introductory chores for the HU-1B, but also for the Mohawk. Since only the AO-1A model will be on hand per our request, problems will be minimized, particularly avionics-wise. Unlike the HU-1B transition arrangement, the package deal of Mohawk aircraft and crews arriving simultaneously in the theater alleviates what otherwise could be an over-burdensome difficulty.

The advent of the HU-1B, plus other factors, brings to an end in December the fixed-wing instrument course which has been so successfully conducted by Seventh Army during the past several years.

Not that the instrument course will be discontinued, but plans are underway to shift the course to one of helicopter instrument training exclusively. With the fixed-wing school output from CONUS now established at a 100 per cent basis, there is little need for continuing the basic instrument fixed-wing course here.

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## USAREUR/CONTINUED

On the other hand, helicopter flying on the gauges in Europe has developed into a practical reality. Our efforts are therefore slanted to provide as much basic training in this type of flying as resources can afford. The immediate problem for effecting the changeover is not so much one of allocating the H-19 helicopters for use as training aircraft, but one of getting additional money for TDY purposes and wrangling personnel spaces to provide maintenance support.

#### "SAFETY" TEAM HELPFUL

The USABAAR Team from Fort Rucker has been touring the theater and imparting some excellent information. Maj. Dolman W. Vineyard, Mr. Barney G. Roth, and SFC Elton M. Herman have presented the latest data on aviation accident prevention methods in an interesting fashion. Of significant import is their coverage of investigation techniques which Headquarters USAREUR will further incorporate in its safety publications.

#### DERIVATION OF MOTTO

Speaking of aviators in unique positions, the undersigned was talking with Lt. Col. Eugene (Mike) Lynch a few months ago

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during the big, successful Army Aviation Birthday Party at Heidelberg. Mike won the prize for "the aviator traveling in the most unorthodox way." The only Army aviator assigned in England, he borrowed a C-47 from the Air Force and flew it himself to the birthday gathering.

And this leads to another bit of ancient history from the "old musty footlocker." Back in the summer of 1953, staff members of the aviation school, then located at Fort Sill, were trying to dream up a motto for the school crest.

Fortunately, Mike Lynch had discarded in the Aviation School Secretary's wastebasket a poster used by his group as part of a display for some visiting Brass. Roaming eyes caught the words on the poster protruding from the basket which read "ABOVE THE BEST."

The words seemed catching, were then recommended to Col. I.B. Washburn, then Commandant of the Aviation School, submitted along with a crest design to DA, and were subsequently approved. So came to pass the unique, but important finding of the Aviation School's motto.

> J. ELMORE SWENSON Lt Col, Artillery Opns Div, Hqs USAREUR APO 403, New York, N.Y.

Reprints of articles or photo pages in "ARMY AVIATION" are available at 10 cents per reprint and will be forwarded upon request. The request for reprints should contain a stamped, return-addressed envelope bearing the name and forwarding address of the recipient, and should cite the number of reprints desired and the page number of the article or articles. Please do not think this staff is being "chintzy" in levying a 10 cents per reprint charge on this service. Our "Labor Department" must remove the staples from a bound issue, put the issues in a hand cutter, cut, fold, insert, lick, seal, and post. We haven't even mentioned the "research" time needed to find the particular back issues in question, and in this shop "research" is the correct word. By the time the necessary replacement of Band-Aids and deodorant has been made, there's really very little left out of that dime for the rice . . . and our coolies like to eat (Only kidding, Commissioner; they're all over 16 and we exceed the minimum wage). If you must pay us off in stamps, please only do so if you reside in a temperate zone. We already have a fine collection of stamps mounted inside of envelopes. -

#### ARMY AVIATION

The last several years of Army aviation have been almost spectacular in terms of growth and increased recognition. The equipment has increased in quantity, size, and sophistication. The mission spectrum has increased constantly. And, unfortunately, there has been one other significant change during this period.

■ This change has been in the attitude towards the modification of aeronautical equipment. In the days prior to 1957, most-of the people involved with Army aircraft would not have changed (modified) the aircraft, or put in new equipment, changed equipment, etc., without having in their hands an Air Force Technical Order - and once they had received an AFTO their first thought was to get it incorporated as soon as possible.

■ During this period, the technical system was geared to "gig" anyone with unauthorized modifications installed, OR, for not having complied with authorized modifications.

■ This attitude is slowly, but surely, dissipating, Local Commanders, and many others right on up the line of command seem to have lost sight of the basic requirements for design and configuration control.

■ Let us stop and examine the background and requirements for changes to Army aviation items. We can start by listing the most significant areas of consideration.

ANY CHANGE, including the addition or deletion of equipment, must be engineered to the specific aircraft and its specific configuration.

■ It is obvious to those who stop to think about it that it is necessary to assure that the aircraft will be capable of SAFE flight after incorporation of the change. Practically any A&E mechanic can hang a bazooka or an MG under an L-19 wing, but he cannot tell you

# ENFORCE AUTHORIZED CHANGES!

#### BY PAUL L. HENDRICKSON TRANSPORTATION MATERIEL COMMAND

your fatality risk if you fly and use it, unless he has been provided with specific operational and technical instructions.

ALL CHANGES must be controlled by by a single agent or agency so that all changes can be compared with each of the changes previously made, in process, or expected to be made.

■ Put simply, the above means that if one agency was developing a change and another agency was developing a different change with both changes affecting the same aircraft, or parts thereof, the odds are against being able to incorporate both. For example, if one agency was developing a paradrop system to hang on wing-incorporated bomb shackles, while another agency was developing a belly shackle to replace the wing installation, the results are obvious.

#### ALL CHANGES must be incorporated in their order of release by the controlling agency.

■ For example, if Change #45 modifies the tail cone section, and Change #50 adds a cable housing to the tail cone "picking up existing rivet holes" (modified, of course), it would be rather difficult to attempt to put on #50 if #45 had not been completed.

ARMY AVIATION

## CHANGES / CONTINUED

#### ALL ENGINEERING evaluations must be based on the latest approved configuration.

■ For example, if we engineer a relocation of the battery, all future changes must be based on its revised location and the revision of weight and balance, where appropriate.

#### ALL CHANGES must be completely engineered, considering every factor of mission requirements.

■ Again, if we engineer a "hard point" to accept electrically controlled and activated weaponry, we must not only consider location, weight & balance, aerodynamic influences, etc., but we must also consider whether or not we must re-engineer the electrical system for higher current capacity, higher peak load output, etc. We may have to reconsider relocation of emergency exits, inspection ports, and other areas that are rendered obsolete or impractical by the incorporation of the additional equipment.

■ These are several of the salient considerations involving modifications to aircraft. There are other considerations, of course, some of them managerial (economics, schedules, etc.), and some of them technical (mission capability, trade-off, risk level, etc.). All must be reviewed, however, before any modification is approved for incorporation. Once approved, all modifications should be incorporated as rapidly as possible.

■ This is the second time I have made the foregoing statement, and I cannot overemphasize this point enough. Rapid installation of authorized modifications is important for two significant reasons.

#### AVAILABILITY OF MOST RELIABLE AND FLEXIBLE EQUIPMENT IN THE EVENT A COMBAT REQUIREMENT ARISES.

■ The requirement for peacetime proficiency flying and training is important. But the requirement to keep equipment up-dated is equally as important, and should receive at least as much attention and effort to assure the "red balloon" availability of maximum capability equipment.

#### ASSURANCE OF MOST EFFECTIVE AND ECONOMIC SUPPORT OF THE LATEST CONFIGURATIONS.

■ Where modifications are not applied, the National Inventory Control Point is forced to provide dual stocks - to modified and unmodified versions. This, in turn, causes a dilution of pipelines and the loss of available dollars to support the most effective configuration. It requires considerably more effort at the organizational and field maintenance level in identification of the proper items for each configuration. In short, multiple configurations lead to a multiplication of problems at all levels, and reduce the effectiveness of organic aviation.

■ The area of modifications of Army aircraft is a highly sensitive, extremely expensive one. It is one area to which each responsible individual should address himself.

#### A PRACTICAL CHECK LIST

■ I have taken the liberty of developing a check list that, when followed, will assure more effective and efficient realization of the total aims of Army aviation.

INSTALL or DIRECT the installation of all authorized modifications in accordance with the technical instructions furnished (TM's, MWO's, etc.).

INSTALL all authorized modifications as soon as possible after the receipt of instructions and kits.

PERMIT removal or installation of equipment on Army aircraft in accordance with applicable regulations.

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#### INSPECTION

GENERAL HERBERT B. POWELL, USCONARC COM-MANDER, INSPECTS THE INTERIOR OF AN HU-LA HELICOPTER AMBULANCE DURING HIS RECENT VISIT TO BROOKE ARMY MEDICAL CENTER'S NEW HELIPORT AT FT. SAM HOUSTON, TEXAS, STANDING BEHIND HIM ARE MAJ, GEN, JOHN F. BOHLENDER, LEFT, COMMANDER OF BAMC, AND LT. GEN. DONALD P. BOOTH, COMMANDING EN-ERAL, FOURTH U.S. ARMY, (U.S. ARMY PHOTO.)

#### NEVADA

TWO H-21 SHAWNEES FROM FORT ORD'S 33RD TRANSPORTATION COMPANY FLY FORMATION OVER THE NEVADA DESERT NEAR STEAD AFB AS PART OF AN INTENSIVE COURSE IN HIGH-ALTITUDE FLIGHT TRAINING CONDUCTED BY THE AIR FORCE. FIVE PILOTS OF THE 33RD ATTENDED THE SCHOOL DESIGNED TO FAMILIAR-IZE THEM WITH TAKEOFF AND LANDING PECUL-IARITIES OF TAKEOFFS AND LANDINGS IN HIGH, MOUNTAINOUS AREAS. (U.S. ARMY PHOTO.)





#### ANNIVERSARY

AN ARMY H-34 CHOCTAW HELICOPTER FLES IN SUPPLIES AND TAKES OUT WOUNDED DURING A FIELD EXERCISE HELD AT THE PANZER KA-SERNE, STUTTGART, GERMANY, THE EXERCISE WAS A PART OF THE MANY ACTIVITIES SUR-ROUNDING THE OBSERVATION OF THE 19TH ANNI-VERSARY OF THE TRANSPORTATION CORPS ON JULY 31 BY USAREUR TROOPS, ALSO SEE PHOTO, PAGE 495. (U.S. ARMY PHOTO.)

#### SWITCHEROO

CAPT. FREDERICK D. WHITING (SEATED), A STU-DENT AT USAPHS, LISTENS TO HIS FORMER STUDENT, DANIEL J. HAWKINS, NOW A FLIGHT INSTRUCTOR AT SOUTHERN AIRWAYS. IN 1955 CAPT. WHITING, WHILE AT FORT RUCKER, ALA., SERVED AS HAWKINS' FIXED-WING FLIGHT IN-STRUCTOR WHEN HAWKINS WAS UNDERGOING A TEN-WEEK TACTICAL PHASE OF FIXED-WING FLIGHT TRAINING. (U.S. ARMY PHOTO.)



## CHANGES/CONTINUED

SCRUTINIZE all requests to redesignate aircraft, prior to modification.

LIMIT modification approval to those requests that are justified (i.e., Special Projects, Maneuvers, etc.). Modifications to redesignated aircraft must be approved by the responsible engineering agency having cognizance for each specific type Army aircraft. Requests for this engineering approval should be made to the Office, Chief of Transportation.

MAKE KNOWN your ideas and recommendations for operational changes to equipment by a formal request through channels to the Commanding General, USCONARC. This is especially important in those instances where changes may effect the specified military or technical characteristics of the equipment.

ASSURE that all authorized or unauthorized modifications to Army aircraft are made reportable items in the agenda of Command Maintenance Inspections and Annual Inspector General Inspections.

INVOKE penalties for unauthorized or deliberate non-compliance of approved modifications.

First Lieutenant Kenneth L. Holt, 1st Reconnaissance Squadron (Sky Cavalry), 2d U.S.A. Missile Command (Medium), Fort Carson, Colo., sustained fatal injuries on August 10, 1961, when the HU-1A helicopter of which he was co-pilot crashed in a mountainous area near Fort Carson. He is survived by his wife, Mrs. Nancy Sue Holt, of 321 Doris Drive, Colorado Springs, Colo.

First Lieutenant Rupert R. Precht, a Corps of Engineers aviator assigned to the 572d Engineer Platoon, Libya, was killed in a vehicle accident near Tobruk,

#### ABOUT THE AUTHOR

Paul L. Hendrickson, Transport Systems Management Officer, U.S. Army Transportation Material Command, St. Louis, Mo., brings to his assignment the added experience of eight years service in Army aviation. A maintenance tour with the AFF Board #1 ('47-'50) was followed by a similar tour of duty at Big Delta, Alaska, during '51-'52. The author also served in aircraft maintenance supply in Korea during '53-'54. He has held various civilian spaces in TMC since 1955 and is presently serving in the grade of GS-14. He holds the World War II Victory Medal, the Korean Service Medal with Service Star, the U.N. Service Ribbon, and the Bronze Star.

UTILIZE the UER system to the maximum in describing unacceptable or undesirable condition of equipment.

Do these things and the growth of Army aviation into an even more efficient and dynamic element of the Army organization is assured.

## OBITUARIES

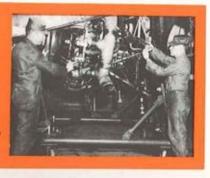
Libya, on July 31, 1961. Memorial serices for Lieutenant Precht were held in the Post Chapel, Wheelus AFB, Libya, on August 4.

Chief Warrant Officer Frederick J. Tate, 1st Reconnaissance Squadron, (Sky Cavalry), 2d U.S.A. Missile Command (Medium), Fort Carson, Colo., was killed in the crash of an HU-1A helicopter near Fort Carson, Colo., on August 10, 1961. CWO-2 Tate was serving as pilot at the time of the accident. He is survived by his wife, Mrs. Lee Ann Tate, Quarters 7215-A, Fort Carson, Colo.

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# **MIKE BUTTON**

## MAINTENANCE TIPS USATMC, ST. LOUIS, MO.



#### STAND BY!

Gonna have to skip this month's subject, "New Policies in Supply," 'cause Mike's ace reporter went on leave.

Mike goes on leave too real soon now, and I won't be back until after Labor Day, so it'll be October until we get back on the stick with more supply info. Hope to open up a subject in the field of supply which we feel you are not familiar with; so, stand by and watch for the supply info in the October column.

#### VANS BAN FANS

Seems that there's a wee bit o' confusion about the Mobile Shop Vans' space heaters being deleted from SM 55-4-4920-528-20 through 46 for the shop sets. Too, there is a slight rumor floating around that some field units have removed the heater authorized by these SM's and are having a h--1 of a time getting a replacement.

So here's the score - Heaters requisitioned and installed as shop components should not be removed from Shop Vans which were procured previously, but they should be retained and considered to be the heater authorized by Ordnance, under TM 9-2330-238-14, Oct 1960.

The big punch here is that these space heaters are an Ordnance item and should be treated as such, and the deletion from the Vans was caused by new procurement of Vans which included installed heaters.

#### CHICKASAW -6 CHANGES

TM1-1H-19A-6, June 1959, has a few changes of the maximum permissible operating time for the different engines used in the H-19 helicopter.

So, turn to page 44 and at the bottom of the page, under POWER PLANT (System No. 7), add:

Every 500 hours - a. R-1340-57 - 200 MAN-MINS

Every 600 hours - b. R-1300-3 - 200 MAN-MINS

Every 600 hours - c. R-1300-3A - 200 MAN-MINS

Every 600 hours - d. R-1300-3B - 200 MAN-MINS

Every 600 hours - e. R-1300-3C - 200 MAN-MINS

Every 700 hours - f. R-1300-3D - 200 MAN-MINS

All of the above should be added under "1. Engine."

Now you got the complete story, each time for each engine, where before you had none; and these printed changes will show up in about a month or so, as Changes 3 to the -6.

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## MIKE BUTTON MAINTENANCE TIPS

If you should run into trouble and you need proof because you're questioned about this new time, I know the H-19 Project Engineer will back up all this information, because old Mike doesn't know when you'll receive the official TAG TWX giving you the same info. Could be you'll get the printed change about the same time as the TWX.

#### **RIGHT INTERPRETATION**

Did it ever seem to you as if there's a conflict between TB AVN 5, 11 Feb 55 with Change 5, 2 June 60, and DA PAM 310-4, 16 Nov 60 with Change 4, dated 30 Mar 61?

Like paragraph 110, Sect III, Change 5 to TB AVN 5 says to forget about the rescission dates of TM1's (Time Compliance Technical Manuals); and paragraph 6, page 106 of DA PAM 310-4 (Change 4) lists over 30 TCTM's being rescinded by DA Circular 310-36.

WELL, IT ISN'T SO!

This rescission date idea stems from, and along with, the format picked up from the AF's Time Compliance Technical Orders. But as we all know, our DA aircraft maintenance and supply concepts and procedures are not the AF's.

So, out came the rescission data to avoid putting an Army Commander in a bind, when he was performing his assigned tasks, by scheduling his aircraft right dab in the middle of an assigned mission.

And another thing - lots of maintenance people conveniently forget to schedule these Time Compliance Technical Manual and order Kits, so they finally wake up to the hard fact that they've saddled themselves with an old configuration. Obsolete parts are no longer available and the new parts which are available won't fit the old configuration.

To correct this situation, I know you guys in the field units are trying your level best to get your hands on these here now rescinded publications so you can "Configurate" your aircraft up-to-date.

There's no sweatl Come on in to us here at TMC (TCMAC-EIT) and this is about what will happen: TM1-1H-13-1009, 13 Jan 1959, won't be reissued; BUT if there are enough squawks for it from you guys, it will come out, up-to-date, as an MWO 55-1520-204-34/? because of the new 5 part manual system. It's the same story for all other rescinded TCTM's. That's why the 30 TCTM's were rescinded, because we wanted to avoid reprinting obsolete data. Catch?

#### HERE'S A FAST BALL!

While on the subject of CATCHING, here's a fast ball but straight, which I would like you to hold on to. Read and comply with this here AR 750-712 and send in that DA Form 1987 for every modification accomplished by TCTM or MWO so we of TMC will know when all affected aircraft have been done with so we can get rid of the publication; can't keep printing it forever, you know.

Oh, by the way - speaking about TCTM's! All Otterers' attention!

Remember when the TCTM came out to install 2 stall bars (strips) on your bird, I think it was 523, dated March or April 1958. Well, to date, we don't have all the 1987's in on all U-1A aircraft. Has the job been done, or have you just forgotten to send in the 1987?

One last thought on the main subject – If you don't put in the -3PDQ part when you should, how do you replace if with the later -4PDQ part if it isn't there? And how do you get your hands on a new -3PDQ when it's obsolete? Think about it for a moment.

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#### FORGOTTEN AR

Old Mike's been talking to a couple of people within the last few weeks about a very important subject, W/B (Weight and Balance) as it pertains to DA aircraft weighing, classification thereof, and the old standby W/B Form "F" for each Class 2 aircraft.

On the surface there's a few people who don't think this here AR 95-16 needs any attention and are not getting their aircraft weighed every year (or as necessary within the year) like the AR says - that goes for Class 1 as well as Class 2, Class 1 aircraft weighing's a little different than Class 2 aircraft weighing, so check out paragraph 3, f, (1) & (2) for the exact facts.

A couple of points Mike would like to call to your attention in this classification business when dealing with TO 1-1B-40 (it's in the AR).

1. This TO 1-1B-40 has not been certified by DA, as yet, only by virtue that the AR says use it - The TO has not been made a TM1-1-1B-40 (Ref. DA PAM No. 310-4, 1 May 61).

2. DA has converted TO 1-1B-50; -52; and -53. TM1-1-1B-52, July 58, has an AF date, July 54, and deals with Class 2 aircraft.

3. TO 1-1B-50, 15 July 57, revised 31 March 61, is not the same as TM1-1-1B-50 as certified by DA on 1 July 58 because it doesn't include the revision of 31 March 1961. However, be that as it may, each of the two, the AFTO-50 and the TM1-50, reference TO 1-1B-43 (latest is 27 Jan 61), and this deals with classification of USAF aircraft and includes DA aircraft designations, such as L-17, L-20, L-23, H-13, H-19, H-21, H-23, H-34, and H-37.

4. The rub, and you must watch it, is that TO-1-1B-43, Jan 61, defines aircraft in three classes, whereas the AR 95-16 only calls out 2 classes. Also, the

## MIKE BUTTON MAINTENANCE TIPS

AFTO calls out Class 2 aircraft which DA classifies as Class 1, and the AFTO calls out Class 1 which the DA classifies as Class 2.

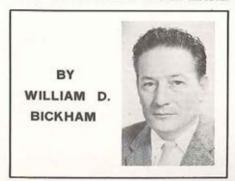
Confused? Want examples? Well, take the L-23 Series. The AFTO calls it out as Class 2; however, DA AR 95-16 says it's Class 1. Another one - the AFTO calls out Class 1B for the H-21; DA's AR calls out the H-21 as Class 2.

HOLD ON NOW .....

The AF has 3 classifications. (1) Class 1A, (2) Class 1B, and (3) Class 2. The DA (AR 95-16) has 2 classificiations: (1) Class I, and (2) Class II.

But AF Class 1A & B are not a combined Class I by DA standards for DA Class I standards are for those aircraft whose W/B limits can be exceeded sometimes by alternate loading arrangements. AF Class 1A aircraft are those whose W/B limits will not be exceeded by loading arrangements normally used in operating the aircraft.

AF Class 1B aircraft are those aircraft whose W/B limits can sometimes be exceeded by loading arrangements used in the operation of the aircraft, and TO 1-1B-40 will be carried in each aircraft



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## MIKE BUTTON MAINTENANCE TIPS

which is about the same as the DA Class I, except that TO 1-1B-40 will be maintained in the "G" file of each aircraft in DA.

AF Class 2 aircraft have the same requirements as Class 1B, but with the additional requirement - that of a balance computer (SlipStick) when available. Class II DA requirements call for TO 1-1B-40 and an approved computer (?) or load adjuster (?) - assume this means Balance Computer - to be carried in the airplane when available.

As a matter of further information, check the W/B clearance requirements for both classifications of DA aircraft and be careful when you file a flight clearance from an AF field that you don't confuse Air Force Class 1A & 1B with Class I (DA). Could get a little sticky.

Good reference reading for you: TM1-1-1B-50; -52; -53; and TM 55-405-9, "General Engineering Manual" which is being staffed right now. This -9, when printed and available, will be the W/B "Bible" for DA aircraft.

#### QUESTIONS AND ANSWERS

In answer to Maj. Charles Easley, Fort Monmouth, N.J.:

Dear Major Easley:

Thanks for such a kind letter of encouragement.

Records which were available to"Mike" when I wrote the article reflected that this here Seminole 58-1363 was all wired up and ready to go, and that all you had to do was to connect up the AN/APS-85 and you were in business with a Radar Set.

Further off, there were two RL-23D's, 58-1363 and 58-1364, accepted from the factory without the AN/APS-85 sets installed, but they were wired for future installation. So, my reasoning went deeper than the surface. We got a couple of Birds in the system all wired up without sets, so somebody puts the Radar equipment in, could we have the same problem or not? Well, I speculated that future aircraft and Seminoles 1363 and 1364 would have the Radar/Autopilot combination.

So, being a sharp Project Officer on the Autopilot, you caught me with my journalistic pants down. I'll say "Uncle" and thanks for calling my attention to the slip as I am always glad to hear from one who takes pride in keeping things straight and journalistic. There's enough mediocrity in our information program - especially, aviation - so keep striving for the best in Technical Information.

MIKE

In answer to Capt. James F. Flockhart, California National Guard, Oxnard, Calif.:

Dear Captain Flockhart:

Thanks for the kind words and here are your drawings for the bracket to install your new CF3BR fire extinguisher.

Also, get ahold of MWO-55-1510-202-20/1, 3 July 1961, for that's the complete fix and I don't think the ink's dry as yet. MIKE

In answer to Bill Renshaw down at New Cumberland General Depot:

Dear Bill:

It's OK to use MIL-C-5546 as a dip tank solution only. But, Bill, when you dispose of it, put it into a sealed drum and take it out in a corn field and bury it long, wide, and deep, or, take it to sea and dump it into a couple of hundred fathoms of ocean water.

MIKE

That Stall Warning Light flashing or steady in front of you is there for a purpose....USE IT!

> See you in the October issue, MIKE BUTTON

# PCS

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### MASTER AA

LT. COL. THOMAS E. HALL, EXECUTIVE OFFICER, ARADMAC, CORPUS CHRISTI, TEX., IS SHOWN BEING AWARDED MASTER ARMY AVIATOR WINGS BY BRIG, GEN, M.D. LOSEY, RIGHT, COMMANDING GENERAL, ARADMAC, WHILE MAJ. E.A. WILSON, DIRECTOR OS SUPPLY AND ALSO A MASTER AA, SMILES HIS APPROVAL. COL. HALL HAS BEEN A RATED ARMY AVIATOR FOR 17 YEARS.

#### COMMENDATION

THE HONORABLE RICHARD S. MORSE, FORMER ASSISTANT SECRETARY OF THE ARMY, LEFT, PRESENTS THE ARMY COMMENDATION MEDAL TO COLONEL O. GLENN GOODHAND FOR HIS OUT-STANDING SERVICE AS EXECUTIVE TO THE ASSIS-TANT SECRETARY OF THE ARMY (R & D). THE PENTAGON CEREMONY WAS HELD IN LATE MAY; IT'S TAKEN US THIS LONG TO DIG UP A "CERE-MONY PHOTO" OF THE RETICIENT COLONEL.





#### RETIREMENT

MAJ. JAMES H. HOUSE, CENTER, RECEIVES A CERTIFICATE OF RETIREMENT FROM BRIG. GEN. ROBERT B. NEELY, COMMANDANT, USA TRANS-PORTATION SCHOOL, UPON RETIRING AFTER 20 YEARS ACTIVE FEDERAL SERVICE. THE SENIOR ARMY AVIATOR, WHO RETIRED AS ALT. COLONEL, ALSO RECEIVED THE FIRST OAK LEAF CLUSTER TO HIS ARMY COMMENDATION MEDAL, HE AND HIS WIFE (RIGHT) WILL RESIDE WITH RELATIVES IN ALKMAAR, HOLLAND. (U.S. ARMY PHOTO.)

#### CHECKOUT

MAJ. GEN. N.A. COSTELLO, LEFT, ASSISTANT CHIEF OF STAFF, G3, USARPAC, IS SHOWN RE-CEIVING HIS PILOT QUALIFICATION CERTIFICATE FOR THE ARMY'S HU-LA IROQUOIS HELICOPTER FROM CWO KEITH W. GLASGOW. THE CHECKOUT TOOK PLACE IN MID-JULY, AND INTERESTINGLY ENOUGH, CWO GLASGOW WAS ALSO THE INSTRUC-TOR PILOT FOR GENERAL EASTERBROOK WHEN HE CHECKED OUT IN THE SAME MODEL LAST YEAR. (U.S. ARMY PHOTO.)



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- IRVINE, IAN C., 18TH TRANSPORTATION COM-PANY, APO 29, N.Y., N.Y.
- KIDD, DENVER G., FWQC 1B-1980B, CLASS 62-2, FORT RUCKER, ALABAMA.
- KIRTLEY, ROBERT D., 65TH TRANSPORTATION COMPANY (LH), APO 731, SEATTLE, WASH. LAMKIN, ULYSSES, 33RD TRANSPORTATION COM-
- PANY (LH), FORT ORD, CALIFORNIA.
- LASHSOMB, LEON V., HQ DET, 205TH TRANS-PORTATION BN, APO 154, N.Y., N.Y.
- MARTIN, VICTOR H., 18TH TRANSPORTATION DET, APO 731, SEATTLE, WASHINGTON.
- MARTIN, WILLIAM J., 57TH AVIATION COMPANY, FORT SILL, OKLAHOMA,
- METTLEN, LEE R., 12TH AVIATION COMPANY, APO 731, SEATTLE, WASHINGTON.
- MISNER, PHILLIP, 202ND TRANSPORTATION CO., APO 168, N.Y., N.Y.
- MOORE, HOOVER C., 18TH TRANS COMPANY (LH), APO 29, N.Y., N.Y.
- SCHULTZ, NATHAN, 36TH TRANSPORTATION COM-PANY, APO 165, N.Y., N.Y.
- STEWART, CLAUDIS L., 81ST TRANSPORTATION COMPANY (LH), FORT RILEY, KANSAS.

#### SP/5s

- BERGGREN, ROBERT W., 91ST TRANSPORTATION COMPANY (LH), APO 185, N.Y., N.Y.
- GRIBBLE, EVERETT G., HQ, 12TH AVIATION CO., APO 731, SEATTLE, WASHINGTON.

#### FRIENDS

- BOGUE, S.O., 1911 OAK STREET, LAWTON, OKLA-HOMA.
- BRIDGES, ED A., 1213 BESSIE, LAWTON, OKLA-HOMA.
- MADEIRA, REX H., 209 MIMOSA LANE, LAWTON, OKLAHOMA.
- McCORD, THOMAS B., 4602 FLORENCE ROAD, KNOXVILLE 20, TENNESSEE.
- NEWMAN, JEROME A., BAUGHMAN COMPANY, 150TH 5TH AVENUE, NEW YORK 11, N.Y.
- RUST, WILLIAM P., 217 NASSAU STREET, PRINCE-TON, NEW JERSEY.
- SCHROERS, LAUREL G., 1205 JACKSON, LANCAS-TER, CALIFORNIA.
- SMYK, WALTER A., 1562 CIRCLE DRIVE, ROUTE 2, SAVAGE, MINNESOTA.
- STORIE, E.L., 2707 NORTH 24TH STREET, LAWTON, OKLAHOMA.

## RESERVIST/CONTINUED

not people, create both the great advances and the choice of enemies.

OUR SOLDIER is deeply religious, but not demonstratively so. His friends find it hard to reconcile his beliefs with his duties which involve enforcing the will of his country even by the force of arms. He has absolutely no desire to again fight and kill, but is convinced that his presence in sufficient numbers will avoid such a necessity.

HIS GOVERNMENT has bet him ten thousand dollars that he will be killed, and he has taken the bet. He wants the odds stacked in his favor. He has seen nothing which leads him to believe that any nation is activated solely by noble motives, and believes we will remain stronger through billions and bombs rather than through lectures and love.

HE HAS immediate worries, of course. His salary is adequate, but his livelihood is dependent upon many things over which he has no control. One sweep of the pen could eliminate or demote him and all others like him. His profession is an expensive political football; quite often



DE HAVILLAND'S SKI-EQUIPPED DHC-4 CARIBOU NOW UNDERGOING TRIALS BY THE U.S. ARMY IN GREENLAND. kicked, when in his opinion, a pass is called for.

HE HAS none of the highly-touted security which was once a synonym for hard work and saving, and which now appears to be a prerogative of old age. The contract which he signs with his government is strictly one-sided, and not in his favor. He worries - but he signs.

HE LEARNS, every day, new and improved methods for keeping his country impregnable against those who would drag her down to a position less worthy of respect. He prefers that he continue to do so, rather than have his children called upon to follow in his footsteps.

HE IS your brother - your husband - your son: a cynical, efficient guardian of your home, who is determined that his children shall never plead for chocolate from a conquering enemy. He is a necessary evil in a divided world - the reservist on active duty.

> LT. COL. MORRIS G. RAWLINGS Combat Developments Office U.S. Army Aviation School Fort Rucker, Alabama

## TEST/CONTINUED

U.S. NAVAL Test Pilot School graduates, now over 700 in number, have enjoyed a high reputation throughout the Navy and the aviation industry, and their class rosters contain many well-known names in contemporary Naval Aviation history.

IT IS OUR BELIEF that Captain Foster found that the course of instruction to be a most rewarding and interesting experience. We were happy to have him with us.

> ROBERT R. KING, JR. LCDR, USN

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## ARMY AVIATION ASSOCIATION APPLICATION FOR MEMBERSHIP

I wish to become a member of the Army Aviation Association. I have inclosed my Initiation Fee and my Membership Dues. Please start my ARMY AVIATION MAGAZINE subscription and send my membership credentials.

My past or current duties affiliate me with the field of U.S. Army aviation or its allied pursuits. CHECK My past and current duties have not affiliated me with the field of U.S. Army aviation but I wish to further the aims and ONE purposes of the Army Aviation Association. NAME (Please print) Rank/grade First M.L. Last ADDRESS (Post Box Number, Residence or Quarters Address is Desired) CITY ZONE STATE CATEGORY OF AAAA MEMBERSHIP □ INITIATION FEE . . . \$3.00 Active U.S. Army establishment U.S. Army Reserve component First Year Membership Only, Includes Lapel Pin and Decal. U.S. Army National Guard Other, Describe below. ANNUAL OR PRO-RATED AAAA DUES component Membership Year Terminates Each March 31st

component

Your check or money order, made payable to AAAA, and your application form should be submitted to AAAA, Westport, Conn.

SIGNATURE

Failure to sign above invalidates this application.



#### MEMBERS GATHER IN WASHINGTON, D.C.

An estimated 600-800 AAAA members, Chapter Delegates, and distinguished military and aviation leaders are expected to attend the Third Annual Meeting of the AAAA at the Sheraton-Park Hotel, Washington, D.C., September 3-5.

During the course of the three-day meeting, attending members plan to discuss national and local organizational activities and programs at three separate business sessions. Three new members will be elected by the attendees to replace outgoing National Executive Board members, Bryce Wilson, Col. O. Glenn Goodhand, and Howard E. Haugerud.

Key Army aviation officials will participate in a September 5 Panel Discussion on "The Army Looks at its Aviation Future." Maj. Gen. Hamilton H. Howze, Headquarters, USCONARC, Fort Monroe, Va., and a former Director of Army Aviation, will serve as moderator for the panel.

#### FAA HEAD PRINCIPAL SPEAKER

Najeeb E. Halaby, Administrator of the Federal Aviation Agency, will be the principal speaker at the September 5 Honors Luncheon. Distinguished head table guests include Secretary of the Army Elvis J. Stahr, Jr., and General George H. Decker, Chief of Staff, U.S. Army.

Secretary Stahr will present the initial Hiller Army Aviation Soldier of the Year Award to Master Sergeant Robert R. Young, Flight Operations Chief, S-3 Division, Airfield Command, U.S. Army Aviation Center, Fort Rucker, Ala.

The Hughes Outstanding Aviation Unit Award for 1960 will be presented by General Decker to the 937th Engineer Company (Aviation)(IAGS), Fort Kobbe, Canal Zone, Lt. Colonel Jack W. Ruby, 937th Commanding Officer, accepting the award in behalf of the personnel of the unit.

The 1st Reconnaissance Squadron (Sky Cavalry), 2d U.S.A Missile Command (Medium), Fort Carson, Colo., was the initial recipient of the Hughes Award for 1959.

Chief Warrant Officer (CWO-2) Michael J. Madden, assigned to the U.S.A. Transportation Board, Fort Eustis, Virginia, will receive the coveted AAAA Award to the Army Aviator for 1960. Captain James T. Kerr (1958) and Chief Warrant Officer (CWO-2) Clifford V. Turvey (1959) were previous recipients of the Award. Col. Robert M. Leich, Past President of the AAAA, is to present the "AA of the Year Award" to CWO Madden.

The National Awards Committee did not select a 1960 winner for the James H. McClellan Aviation Safety Award. Winners in previous years were Lt. Colonel Arne H. Eliasson (1958) and joint recipients Colonel John L. Inskeep and Mr. Raymond G. Thomas (1959).

Full details of the Third Annual Meeting programming will be carried in the next issue of ARMY AVIATION MAGAZINE.

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- BAKER, Wallace L., Capt., Fort Bucker, Als. \$760.00.
- BALLANTINE, Laurence E., Maj., Ret., Dothan, Ala.(\*). \$5,160.00.
- BARRETT, Ernest F., Maj., (Capt.), Fort Rucker, Ala. \$2,870.00.
- BEAULIEU, Gary P., Lt., Fort Lewis, Wash. \$1,200.00 to date.
- BENDER, Richard C., Lt., Fort Sill, Okla. (\*). \$600.00.
- BENSON, Albert G., Capt., San Antonio, Tex. \$1,760.00 to date.
- BIRKMEYER, Louis R., Capt., Ft. Rucker, Ala. \$1,824.00.

- G
- GANEY, Jerome, CWO, Fort Eustis, Virginia. \$324.00 to date.
- GIBSON, Jack S., CWO, Fort Eustis, Virginla. (\*). \$1,125.00.
- GILROY, John E., Maj., APO 168, N.Y., N.Y. (\*). \$1,644.28.
- GIVENS, John W., Lt. Col., Fort Rucker, Ala. \$1,960.00 to date.
- GOLEMBIESKI, Frank E., Jr., Capt., Deceased. \$634.83.

H

HAGLER, Jon L., Lt., Copperas Cove, Texas (\*). \$960.00.

- KRAMER, Joseph E., Capt., Edwards, Calif. \$1,312.00 to date.
- KUCHERA, Earl A., Maj., San Antonio, Texas.(\*). \$1,968.00.
- KUNZ, Joseph F., Capt., APO 28, N.Y., N.Y. \$1,974.77.

L LAPINSKES, George S., Lt., Fort Mon-mouth, N.J.(\*), \$1,536.00.

LaROSA, Peter A., CWO, Fort Belvoir, Va. \$520.00.

LUCAS, Harlan S., Capt., Fort Bragg, N.C. \$1,968,00.

BOBO, Carl E. Jr., Lt. Col., Columbus, Ohio. \$2,352.00.

- BONIFACIO, Richard A., Capt., Fort Ord, Calif. \$1,585,31.
- BOWER, Duane M., Lt., Ft. Leonard Wood, Mo. \$500.00 to date.
- BRINKLEY, Edwin T., Capt., Ozark, Alabama. \$1,184.00.
- CANTWELL, Franklin D., Capt., APO34, N.Y., N.Y. \$1,776.00.
- CLARK, Robert H., Lt., Houston, Texas. \$1,104.00 to date.
- COLEMAN, Charles W., Capt., Security, Colo.(\*). \$3,075.00.
- COLVIN, Gordon W., Sp/6, Phenix City, Ala. \$2,100.00 to date.
- CONNER, Joe P., Capt., Fort Rucker, Ala.(\*). \$4,560.00.
- CONTOLE, William S., Lt. Col., Fort Eustis, Va. \$2,352.00.
- COOKE, Horace G., Lt. Col. (Maj.), Camp Wolters, Tex. \$2,208.00
- COOPER, Thomas E., CWO, Columbus, Ga. \$500.00 to date.
- D DALE, John R., Col., Ret., San Antonio, Tex. \$2,352.00.
- DeGENEFFE, Delano E., Capt., (Lt.), Ft. Leonard Wood, Mo. \$384.00.

- HAMNER, Louis, Maj., Ret., Columbus, Ga. (\*). \$4,920.00.
- HARLOFF, Edwin L., Col., Ret., Newport News, Va. \$516.14.
- HARRIGAN, Thomas Y, Capt, Alexandria, Va. \$4,920.00.
- HARRIS, Truitt W., Capt., Mission, Kan. \$1,640.00 to date.
- HAVENS, Orin D., CWO, APO 165, N.Y., N.Y. \$1,080.00.
- HAWTHORNE, James D., Capt., Fort Mc-Pherson, Ga. \$492.00.
- HENDERSHOT, Donald L., Capt., Huntington Beach, Calif. \$4,920.00.
- HENDRIX, John L., CWO, Washington, D.C. \$1,100.00 to date.
- HENLEY, Raymon D., Capt., Fort Sill, Okla. \$4,800.00.
- HENNINGTON, Harold M., Mai., Ret., Crystal Springs, Miss (\*). \$1,968.00.
- HOLT, Robert H., CWO, Fort Riley, Kan. \$450.00.
- HOYT, William C., Jr., CWO, Santa Ana, Calif. \$1,232.00.

IRBY, Chester R., Maj., Springfield, Vir-

ginia. \$2,304.00.

#### MAGNEY, Evan F., Major, Deceased, \$1,777.80.

- MARKS, Harold E., CWO, APO 112, N.Y., N.Y. \$1,248.00.
- MASCHMANN, James W., Capt., Fort Belvolr, Va. \$615.00.
- MASON, Elijah F., Lt., Knoxville, Tenn. \$1,536.00.
- MAXEY, James H., Jr., CWO, Ret., West Point, Miss.(\*). \$1,152.00.
- MAYS, Luama W., Lt., Houston, Tex.(\*). \$1,536.00.
- MEEHAN, William J., Capt., Fort Bucker, Ala, \$1,036.00 to date.
- MITCHELL, Malcolm L., Maj., APO 154, N.Y., N.Y. \$2,112.00 to date.
- MITCHELL, Theodore -L., Capt., Fort Rucker, Ala. \$633.30.
- MIYAMOTO, A.A., Lt., Fort Lewis, Wash. (\*). \$960.00.
- MOYER, Kenneth G., Capt., Albuquerque, N.Mex. (\*). \$4.715.00.

- NASH, Verna M., Capt., APO 162, N.Y., N.Y. \$4,920.00.
- NUTTALL, Richard W., Capt., Chicago, III.(\*). \$1.824.00.

OGDEN, Robert J., Maj., Ret., Miami, Fla. \$2,304,00.

- DILLINGER, David R., Capt., APO 36, N.Y., N.Y. \$288.00.
- DOCKLER, Gordon S., Capt., (Lt.), Northfield, Vt. (\*). \$3,600.00. DODD, William R., Maj., APO 301, San
- Francisco, Calif. \$880.00.
- DUGAN, Richard A., CWO, APO 154, N.Y., N.Y. \$2,625.00 to date.
- EDER, Herbert, Maj., Portland, Oregon. \$1,288.00 to date.
  - y
- FOWSER, Mark F., Maj., Fort Rucker, Ala. \$2,208.00.
- FRANDSEN, Donald P., Capt., Fort Huachuca, Ariz. \$994.99.

- JEFFREY, Robert J., Lt. Col., Ret., (Maj.) Colorado Springs, Colo. \$565.20.
- JELLISON, Edward C., Maj., Fort Rucker, Ala. \$2,304.00.
- JONES, James D., Jr., Capt., Annville, Penna, \$640.00.

- KAYLOR, John O., Maj., APO 343, San Francisco, Calif. (\*). \$656.00.
- KENNEY, Michael A., CWO, Ft. Eustis, Va.(\*). \$2,530.00.
- KIMAK, Philip B., CWO, Ft. Huachuca, Ariz, \$110.00.
- KNIGHT, Daniel B., Capt., APO 301, San Francisco, Calif. \$3,342.00.
- KOEPP, Robert W., Capt., Fort Knox, Ky. \$4,560.00.

- PADGETT, Bogus, Sp/5, Daleville, Ala. \$456.00 to date.
- PARKINSON, Ralph W., Jr., Maj., APO 46, N.Y., N.Y. \$1,968.00.
- PASSANO, John D., Capt., APO 800, N.Y., N.Y. \$1,738.00.
- PECK, Michael, Capt., Saxonville, Mass. \$1,920.00.
- PETERSON, Robert A., Capt.(L1.), APO 143, San Francisco, Calif. \$1,700.00
- PITTINGER, Bonald R., Maj., Nevada, Mo. \$1,840.00 to date.
- PREMO, Oliver P., Maj., Presidio of San Francisco, Calif. \$1,968.00.

#### R

RATAYCZAK, Robert P., Maj., Fort Ord, Calif.(\*). \$3,960.00.

- JAYNE, David G., Lt., San Antonio, Texas. \$3,600.00.

- SANDERS, Brian C., Lt., Fort Stewart, Ga.(\*). \$800.00.
- SIMS, Claude E., Capt., Ret., Enterprise, Ala. \$4,920.00.
- SMITH, Alfred R., Capt., Fort Rucker, Ala. \$517.32 to date.
- STEIN, Albert E., Lt., Hillsborough, Calif. (\*). \$3,360.00 to date.
- STEVENS, Merwin A., Lt., Ret., Walla Walls, Wash, \$2,400.00.
- SWEENEY, Alan F., Capt., W.Chester, Pa. \$3,960.00.

- π TAL, William K., Lt., APO 25, San Francisco, Calif. (\*). \$3,840.00.
- THERIAULT, Bernard R., Capt., Fort
- Belvoir, Va. \$990.00. THOMAS, Michael R., Capt., Fort Eustis,
- Va. \$1,968.00. TIDMORE, Carl C., Lt., APO 46, N.Y.,
- N.Y. \$740.00 to date. TOWNSEND, James R., CWO, APO 154,
- N.Y., N.Y. \$3,240.00.
- TRAVER, Wallace H., Capt., Farmingdale, N.J. \$4,920.00.
- VALDEZ, Isidro, Jr., CWO, Lawton, Okla. \$540.00 to date.

- WALKER, Robert L., Capt., Deceased. \$2,760.08.
- WARD, Charles E., Capt., Fort Benning, Ga. \$571.64.
- WHIDDEN, Baleigh J., Jr., CWO, Fort Benning, Ga.(\*), \$3,240.00.

- WHITNEY, Edwin F., Col., Ret., Williamsburg, Va. \$5,145.00 to date.
- WILLIAMS, William, Jr., CWO, Shamrock, Fia. (\*). \$832.00 to date.
- WOODWARD, Herbert E., CWO, Fort Eustis, Va.(\*). \$3,240.00.

YENNE, Walter D., Capt., APO 949, Seattle, Wash. \$1,968.00.

ZEIGLER, William E., Lt., Mineral Wells, Tex.(\*). \$288.00.

- RANK/GRADE IN BRACKETS (Capt.): Rank/Grade held at the time flight pay claim was initiated.
- APOSTROPHE (\*): Last known AAAA address of record. Did not renew membership.

SUMMARY

Number of Claims . . . . . . . . . . . . . . . 106 Total Amount Paid . . . . . . \$207,513.00

#### CLAIMS BY RANK/GRADE

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#### CURRENT CLAIMS

Awaiting Underwriter Buling . . . Awaiting Claimant's Pay Form . . . .

#### SUMMARY

we In submitting this semi-annual August report to you on the claims actions under the Association-endorsed FLIGHT PAY PROTECTION PLAN, 1 trust that this complete list of claimants will give you another insight into the scope of this group effort. It is through the claims actions that the Plan comes into being, and serves to protect the flight pay income of Army aviation personnel against loss for reasons of accident or sickness,

As many of you know, the FPPP covers more than 4,000 Army aviation personnel, close to two-thirds of the Army aviators serving on active duty, as well as a growing number of enlisted maintenance specialists and ARNG-USAR pilots.

This semi-annual report to the many insureds also points out the fact that accidents and illness are not "rank conactous" but cover the broad sprectrum of rank and grade.

> Bryce Wilson President AAAA

Newly-elected officers of the DAVIDE. CONDON CHAPTER, Ft. Eustis, Va., are, L-R, Capt. Ralph R. Stone (Sec); Capt. Gordon H. House (VPR); Lt. Col. Gustave A. Peyer (Pres); Maj. Kenneth J. Smith (Exec VP); Lt. Col. Michael J. Strok (VPI); and Capt. Richard A. Hartert (Trea). Missing: CWO Melvin H. Caldwell (VPA). U.S. Army photo.



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a foot in the door

By knowing where a job opportunity exists you have one foot in the door. Finding the job opening is half the battle.

The Military Aviation Placement Service (MAPS) sponsored by the Army Aviation Association is designed to accelerate the placement of qualified personnel who are committed to separation or discharge from the service. The Service accomplishes this by placing the applicant in direct contact with a firm or firms that have signified that they have a definite job opening in his category.

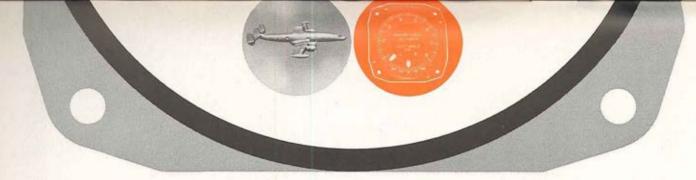
As an AAAA Member, your qualification resume (provided to you by the AAAA) will be reproduced and forwarded to the firm listing the job opening in which you are interested.

How does this help you? Your time and effort will not be wasted in snowing firms with resumes, firms that, unknown to you, have posted "No Vacancy" signs.

How does this help the employer? The MAPS Clearing House service will not waste his time. He has your resume and your qualifications; he knows when you will be available; he can hire.

Every efffort will be made by the AAAA to coordinate job placement through *MAPS*. If you are committed to civilian employment within the aviation industry, write for additional details today. AAAA, Westport, Conn.





## ONLY RYAN DOPPLER NAVIGATORS ARE IN PRODUCTION FOR ALL THESE AIRCRAFT!

Ryanav\* Doppler Navigation Sets, pioneered by Ryan Electronics, are the most advanced and most versatile Doppler navigators yet devised.

Because of their small size, light weight, and high performance, Ryanav sets meet the operational requirements of virtually every type of aircraft. Thousands of Ryanav units are now in use or in production for more than 25 types of military aircraft – including helicopters, drones and supersonic jets.

The U.S. Government looks to Ryan Electronics as a major source for Doppler navigators. Elsewhere in the Free World, other weapon systems developers are installing Ryanav equipment in aircraft for service under the North Atlantic Treaty Organization. Ryan Electronics - Ryan Aeronautical Company, San Diego, California.

RYANAV DOPPLER NAVIGATORS NOW IN PRODUCTION: AN/APN-97A Helicopter Ground Velocity Indicator, AN/APN-122(V) Doppler Navigation Set, AN/APN-129(V) Doppler Navigator for U.S. Army Fixed-Wing Aircraft, AN/APN-130 Helicopter Hovering & Ground Velocity Indicator. • TRADEWARK

Ryan Electronics offers challenging opportunities to engineers.



CHAPTER OFFICER SLATES

#### MONTEREY (FORT ORD) CHAPTER

#### FORT MONROE CHAPTER

#### 217TH TRANS BN CHAPTER

#### **BLUEGRASS (FORT KNOX) CHAPTER**

#### KOREA CHAPTER

#### DAVID E. CONDON CHAPTER



MAJOR GENERAL THEODORE J. CONWAY, COMMANDING GENERAL, 82D AIRBORNE DIVISION, SHOWS SINCERE INTEREST IN A COPY OF "ARMY AVIATION" DURING THE PRESENTATION CEREMONIES OF HIS MEMBERSHIP IN AAAA. WELCOMING GEN. CONWAY (2ND FROM RIGHT) ARE, L. TO R., CHAPTER MEMBERS MAJORS COSBY, KEEBAUGH, AND HORTON, AND FAR RIGHT, COL. ROBERT R. COREY, CHAPTER PRESIDENT.

NEW MEMBERS JOINING AAAA

ACKERMAN, Laurence J., Dean ANDREWS, Ernest T., Mr. BALDWIN, Noland Y., Capt. BARTLEY, James A., CWO BATSON, Creed B., Mr. BENOIT, William R., Capt. BERGMAN, Ronald A., Lt. BERTA, Mrs. James P. BIGGS, Lee P., Jr., Lt. BOYLE, Willard F., Capt. BOYSEN, George W., CWO BRACHT, Miss Angelena V. BRASSFIELD, Joseph D., Maj. BRESETTE, Allen A., Lt. BROADHURST, Donald G., Lt. BUCHANAN, Crawford, Maj. BURGIN, Doyle D., PFC BURRUS, Robert H., Maj. BYERS, Ben A., Capt. CANNON, Joseph A., Mr. CANTRELL, William D., Lt. CARNES, Robert J., PFC CARTER, Norman D., Lt. CASS, Lyman J., Lt. COLEY, Thomas W., Capt. COLLINGE, George R., CWO CONWAY, Theodore J., MGen COOK, James R., Capt. COOPER, James F., Capt. COX, Billy W., Lt. CRANE, Newton T., Mr. CRONEN, James S., Capt. CULP, Arnold D., Capt. DARLING, Harold F., Capt. DELOACH, Jimmy D., Capt. DOBSON, Dale E., Capt. DRANE, Theodore E., Lt. DUFFY, Jack W., Maj. ECKLES, Melvin H., Jr., Lt. EMANUEL, John M., Capt. ERWIN, Lyal H., Lt. EVANS, James L., Capt. FITZGERALD, Robert D., Mr. FOWLER, Truitt L., Mr. FRAGOSO, Fernando, Capt. GAITHER, L.E., Col., Ret. GEARAN, William K., Capt. GEER, William A., Jr., Lt. GEHRKENS, George R., Mr. GEORGE, George F., Mr. GESS, Williamd D., Lt. GOCHNAUR, Thomas L., Capt. GOFF, Richard D., Capt. GOOD, James G., Lt. GORDON, Charles D., Capt. GRIPP, James P., CWO HANEY, Howard E., Lt. HASTINGS, James R., Lt. HATTIN, Ronald F., Mr. HENRY, William H., Jr., Maj. HILL, William R., Lt. HOAR, John F., Mr. HOGAN, Earl E., SFC HOOKER, Russell O., Mr. HUFF, Cecil R., Capt. HUMPHREY, Marvin E., Capt. HURST, Joseph W., Jr., Lt. JANAS, Edward A., Lt. JOHNSTON, Norbert B., Capt. JONES, Freddie, Jr., Capt. JONES, Ronald A., Lt. JOYCE, Kenneth H., Lt. KAKUK, Frank J., Capt. KECKLER, Ralph J., LCol, Ret. KELLER, Howard P., Lt. KENT, George S., Capt. KERR, J.C., Mr. KREBS, J.N., Mr. KUYKENDALL, William K., Lt. LATHAM, Bobby R., Capt. LAUMAN, William, Mr. LEADABRAND, Jerry A., Lt. LEE, Edward E., Capt. LEHMAN, Ray, Mr. LEYDA, Craig H., Lt. LITTLE, Ronald W., Capt. LUBIN, Hilliard L., Mr. MacDOWELL, Gerald D., Lt. MARTENS, Roy E., CWO MARTIN, Alfred L., Jr., Lt. MARTIN, Stephen G., Maj. MAY, Guthrie, LCol, Ret. McCABE, Donald C., Capt. McDONALD, Fritz J., CWO McGLOCKTON, William H., Lt. McPHERSON, William, Lt. MERCHANT, James L., Lt. MESERAU, John T., Mr.

MILLER, George A., Sp/6 MONROE, Robert E., Lt. MORGAN, Lowell E., Lt. MURPHY, Kevin E., Capt. NELSON, Louis, Lt. NIGBUR, Daniel A., M/Sgt NOONER, Devon L., CWO O'BRIEN, Patrick J., PFC PALASTRA, Jos. T., Jr., Capt. PARKER, Wilson C., Jr., Capt. PATTON, Lewis M., Mr. PAULIN, Kenneth, Lt. PERRY, Donald R., Mr. POWNELL, Wayne, Mr. PURRINGTON, Wilbur, Mr. RANCK, Richard L., Lt. REECE, Bernard D., Mr. REESE, Neil, Maj. REYNOLDS, Lester, Mr. RICKENBAKER, Lannie D., Lt. RODES, Anthony L., Mr. RUSHFIELD, B., Mr. SCHROLL, Robert L., Lt. SHEPHERD, Henry, Mr. SINCLAIR, Christopher B, Maj. SMITH, Billy V., Lt. SMITH, J.C., Mr. SMITH, Kenneth J., Maj. SNOVER, Miss Phyllis A. SOUCY, Stephen P., Mr. STACHEL, Robert D., Lt. STEVENSON, Carl B., Capt. STOCKWELL, Robert M., Lt. STONE, A.G., Col., Ret. STOTT, Norman E., Jr., Capt. THOMAS, John A., Jr., Capt. TOWER, William E., Lt. TREMBLAY, H.J., Mr. TUCK, William R., Col. UGALDE, Jesse G., LCol. VAN THIEL, William J., Mr. WALCZAK, Sylvester, Lt. WEBER, Victor A., Lt. WILLIAMS, Frank K., Lt. WOLFE, Walter W., Lt. WOOD, Walter F., Lt. ZEHR, Roger D., Capt. ZIMNISKY, Lawrence J., Sp/4 ZORN, Burl A., Lt.

#### PLACEMENT SERVICE

LIEUTENANT COLONEL, RETIRED. AGE 40. TEN YEARS EXPERIENCE IN ALL PHASES OF ARMY AVIATION. 2,500 HOURS TOTAL TIME IN FIXED AND ROTARY WING AIRCRAFT. TRAVELLED EX-TENSIVELY IN CENTRAL ANDSOUTH AMERICA, AND THE BILANDS. EXPERIENCED IN THE PREPA-RATION OF AVIATION PUBLICATIONS. SEEKS POSITION AS AIRCRAFT MILITARY SALES REPRE-SENTATIVE OR COMMERCIAL AIRLINES REPRESENTATIVE, WRITE AAAA; ATTN: A177; WESTFORT, CONN. FOR RESUME.

## 'ARMY'S GLOBAL FRONTIERS' THEME OF AUSA MEETING

WASHINGTON, D.C.--The U.S. Army and its world-wide commitments will be the subject of much discussion when the Association of the U.S. Army holds its 1961 Annual meeting here this week. Secretary of State Dean Rusk heads a list of top government and military experts who will participate in the three-day program.

Billed as one of the top defense gatherings in our country, this year's meeting, which gets underway September 6 at the Sheraton-Park Hotel here, will bring together outstanding defense leaders. Top speakers who will emphasize the forward strategy of the U.S. and the Army's role in providing global support of our Nation's aims throughout the world include Assistant Secretary of Defense Paul H. Nitze; Secretary of the Army Elvis J. Stahr, Jr.; General George H. Decker, the Army's Chief of Staff; and Army Vice Chief of Staff, General Clyde D. Eddleman.

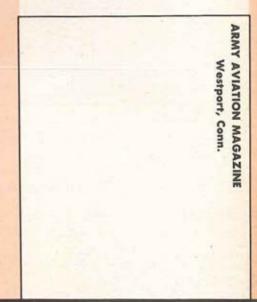
The three-day program is packed with activities, including displays of military and industrial exhibits. This year AUSA will present 155 exhibit booths, covering more than 23,000 square feet of floor space.

The industry exhibits will display the latest industrial and scientific developments in the military field while the Army will be showing its latest equipment. The Army exhibitions will also include displays and demonstrations of the Army-Industry team, including many experimental and prototype models. the exhibits will be open to the public throughout the three-day period.

The finale of the 1961 meeting will be the George Catlett Marshall Memorial Dinner, Friday evening, September 8, with an address by Secretary Rusk,



THE HUGHES MODEL 369 TO BE PRODUCED BY THE HUGHES TOOL COMPANY'S AIR-CRAFT DIVISION FOR EVALUATION IN THE COMPETITION BEING CONDUCTED BY THE ARMY IN ITS LIGHT OBSERVATION HELICOP-TER (LOH) PROGRAM. THE CULVER CITY, CALLF, FIRM ANNOUNCED THAT CONTRACT NEGOTIATIONS WITH USATMC WERE UNDER-WAY, AND THAT DEVELOPMENT OF THE EVALUATION VEHICLES WOULD BEGIN SOON AT THE DIVISION'S FACILITIES.



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