ARMY AVIATION

JUNE, 1961

Chinook PROGRESS

CHINOOK NO. 1 STARTS

The first of the U. S. Army's YHC-1B Chinook medium transport helicopters was run up with blades installed for the first time on 15 June 1961 at Boeing-Vertol's flight test center adjacent to the Philadelphia International airport. This event represents the start of the extensive tie-down test program which is scheduled to be performed with this No. 1 aircraft.

SUMMARY

June, 1961

IE-DOWN TEST PROGRAM

VERTOL DIVISION
MORTON PENNSYLVANIA
BOEING

Maj. Gen. Richard D. Meyer reviews:

OUR STRUGGLE FOR MATURITY

Dear Army Aviator,

Since I will shortly leave my present assignment to begin new duties with Headquarters, USCONARC at Fort Monroe, this is the closing column under my sponsorship. It has been, for me, a very rewarding three years in which I feel that I have witnessed some tremendous strides by Army aviation toward achieving full maturity.

The great respect which I have held for Army aviators over the years beginning with my service during the Korean War has been further deepened during my current assignment. I have watched you in the field, at military conferences, at meetings of the aviation technical societies, at your desks in staff level assignments, and I can quite honestly say that a more dedicated group would be difficult to find.

If you will permit a bit of reminiscence, I should like to use my allotted space this month to review some of the progress which has been made; and since I am most familiar with the work accomplished in supply, maintenance, and research and development I should like to confine myself, for the most part, to those areas—hoping that by doing so, you will not feel that I am blowing the horn of any branch or service, My purpose is only to "blow the horn" of Army mobility. In my judgment our big forward step must come through the air.

In many respects, the continued growth of the Army Aviation Program over the past 19 years reminds me of the young lieutenant aviator who had just graduated from flight school and was now flying his first service mission. After flying for a considerable length of time, his passenger leaned forward, tapped him on the shoulder and asked: *"Lieutenant, where are we?"*

The young lieutenant, without hesitation, replied, *"Sir, I'm really not sure, but we are certainly making good time."*

Reviewing our struggle for maturity in the Army Avaition Program, I'm afraid that we must realistically admit that, even though we were making pretty good time on occasion—like the new lieutenant aviator, we did not always know exactly where we were—or worse, at times where we were going. I feel that this has been one of the things which has changed significantly in the last three years. I'm referring, of course, to the Rogers Board Report. With the approval of this Report by the Chief of Staff, the Army has for the first time a clear picture of where we are today, where we are going in the future, and how we are going to get there.

This has been made possible, of course, only by the enthusiastic response, complete cooperation, and professional and technical

THE

ARMY AVIATION ASSOCIATION

OF AMERICA, INC.

1961 ANNUAL MEETING

COMMEMORATING THE 100TH ANNIVERSARY OF AIRBORNE OBSERVATION BY THE U. S. ARMY

SEPTEMBER 4-5, 1961

SHERATON-PARK HOTEL

WASHINGTON, D. C.

STRUGGLE/*Continued*

contribution of the aviation industry. I feel that Army aviation today is rapidly transitioning from adolescence to maturity and am confident that that maturity will be reached in this decade, covered by the Rogers Board Report.

One important recommendation of the Board has just recently been carried out with the announcement that Bell and Hiller have won the design competition for the new Light Observation Helicopter. By 1970, we should have more than 3600 new model aircraft of this mission category. Other second generation aircraft under contract and already entering the system in quantity include the AO-1 *Mohawk*, the HU-1 *Iroquois*, the AC-1 *Caribou* and the HC-1 *Chinook*. All of these are or will soon be on, or ahead of target.

A recent Defense Department decision which makes it possible (effective 1 July 1961) for the Army to procure "off-the-shelf" aircraft directly from industry, will greatly facilitate the orderly acquisition and support of some of the new aircraft which will be entering the system in quantity. As you know, all such procurements were made in the past either through the Navy or the Air Force.

"Off-the-shelf" aircraft are defined as aircraft and components thereof which have been certified as airworthy by the Federal Aviation Agency. This same decision assures greater Army participation in the engineering and development phases of aircraft developed for the Army by Departments of the Navy and Air Force. We are authorized to assign qualified Army personnel with the developing and procuring agencies of the other services as active participants during these critical phases of an aircraft's early life.

A commendable degree of maturity has been achieved in Army aviation logistics when we consider the relatively short period that we have been in this business. On requisitions for aviation items, the supply system reached the established DCSLOG objective of 80% effectivity more than a year ago. Overall progress in this area has been continuous since the Army first began assimilating the depot support mission from the Air Force (1956-1959) with full use of Automatic Data Processing System equipment and other modern supply techniques. The continuing efforts to standardize upon fewer models and types or aircraft will have considerable impact in this area as will the switch to the more efficient and economical turbine engines.

I know that most of you are aware that only recently, the Army opened its first major aircraft overhaul and repair facility at the Corpus Christi Texas Naval Air Station. This fills another important vacuum in the Army's aviation program. Since this work was, in the past, contracted out to industry, the Army has previously had no opportunity to acquire a readiness capability in this level of overhaul and repair work. So, those of us whose primary concern is logistics, were considerably heartened by this action.

In the R&D area, I think the Army can point with pride to its successful V/STOL test bed program in which several different methods for achieving vertical flight were successfully demonstrated (tilt-wing, tilt rotor, deflected slipstream, and titlting ducted fans). Another, utilizing suction boundary layer control and a wing of changing camber is approaching completion. The current tri-service effort for developing a V/STOL transport is a logical follow-up to these successes.

(*Continued on Page 374*)

ARMY AVIATION MAGAZINE
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Can you see the similarity? The Army's first Cessna L-19 was built in 1950; USAF's first Cessna T-37 was built in 1954. The L-19 proved itself in Korea; the T-37 has proved itself in peace. The L-19 is designed for observation and reconnaissance, the T-37 to help our airmen step confidently into the age of space. Each is as different from the other as it could be—except for one thing: each has fulfilled its mission more effectively than it has ever been fulfilled before. *That* is the similarity. And that is the kind of experience that Cessna can bring to many another military need, today and tomorrow.

World's most experienced makers of utility military aircraft

ARMY AVIATION TO INCREASE ITS EFFECTIVENESS WITH

MISSION BELL ACCOMPLISHED

LIGHT OBSERVATION HELICOPTERS

The Army is to be congratulated on initiating the LOH program . . another far-reaching decision in meeting the demands of brush-war or nuclear battlefield capability.
As one of the companies selected to further develop the LOH, Bell is proud to continue its long relationship with the Army . . an association which has produced significant advancement in the development of front-line Army Aviation.

bh

BELL HELICOPTER COMPANY

FORT WORTH, TEXAS • A DIVISION OF BELL AEROSPACE CORPORATION • A textron COMPANY

LOH COMPETITION PROVES EFFECTIVENESS OF MILITARY AND INDUSTRY TEAM

BY
BRIG. GENERAL CLIFTON F. VON KANN

Director of Army Aviation, ODCSOPS, D/A

Dear Army Aviator,

By now you know that we are one further down the road toward a final selection of a new light observation helicopter. *Bell* and *Hiller* have been chosen as the winners of the design competition and, of course, are due congratulations.

I would like to add my warm thanks to the rest of the manufacturers for their splendid efforts in support of the Army. Many proposals reflected unusual imagination in approaching the Army's specific problems, and some of these ideas deserve and will receive continued research. Since the initiation of the Army Study Requirements on 1 December 1959, industry has responded magnificently to the challenge, and the entire country should be proud of this manifestation of effectiveness of the industry-military team.

A word of caution. As I said many months ago, don't expect to turn in your L-19s, H-13s, and H-23s this year for a brand new LOH. Our program is a deliberate one which is aimed at giving the field commander the best possible machine with the fewest possible bugs. We hope to avoid a series of retrofits and modifications by making any changes before large production numbers are procured. Therefore, it will be about 1965 before this machine begins to come into our inventory in appreciable numbers, and we must base our plans on this reality.

Turning to the operational side of our program, there are two dangerous trends which demand elimination by strict command supervision and mature individual judgment.

Here is an example of the first trend. *"Cancel IFR request—We're breaking out."* This was the last transmission made by an Army aviator before his aircraft crashed into a mountainside. Two more lives lost because of an attempt to stretch a VFR flight through marginal or IFR weather conditions. Last year, 30 out of a total of 55 fatalities were caused by this type of accident.

LOH/*Continued*

This latest accident makes it clearly evident that we have not learned our lesson. The fatal mistake is usually made before the aircraft leaves the ground. Filing a VFR flight plan into known marginal weather conditions or failure to call for an IFR clearance when en route weather deteriorates is like signing your own death warrant. We can never attain all weather capability until we learn to fly by instrument flight rules in instrument weather!

The second trend can be classified as *exhibitionism*. This has cost us 12 lives and more than $2 million in wrecked aircraft during the past 3 years. This trait has no place in Army aviation. Attempting maneuvers for which aircraft are not designed, acrobatic flying at dangerously low altitude, and just plain "showing off" do not demonstrate the maturity necessary for an Army aviator.

Our newer aircraft, because of their increased performance, bring an added temptation to show how hot we are. This temptation is normal and comes to all of us at one time or another. The *temptation* isn't fatal, but *yielding* to it often is. Mature judgment is largely a result of training and discipline. This is a command responsibility, and I urge that any tendency in this direction be quickly stamped out before we add to this list.

One of our most important and basic documents has just been revised and distributed to the field—the *Army Aviation Guidelines*. This is the principal planning document for Army aviation and supersedes the September 1958 edition. The guidelines project our program through 1970 based on guidance of the Rogers Board and other Army plans. It is a valuable reference for every staff aviation officer, and I urge every aviator who has access to this document to read it and study it.

Some of the principal areas covered are organizational concepts, suppressive fire, personnel, training, aircraft requirements, aircraft distribution, avionics, future family of Army aircraft, facilities, installations, and reserve components. You can see that it is a rather comprehensive reference (and I might add, represents over a year's work within the staff).

I've been pleased to see a continuing growth of interest in the sport of soaring among Army aviators. This small, but vigorous, group has been very active in trying to obtain status similar to that of the Army flying clubs and appropriate draft regulations are now being staffed. While not a glider pilot myself, I would like to add my moral support to these members of the *Soaring Society of America* as well as the other affiliated clubs of *NAA*.

Which reminds me of a little known interpretation of AR 600-106. Those of you who were former military glider pilots can apply such time to the requirements for senior and master aviator ratings. I realize that this may not affect thousands of people, but a few of you who otherwise would not be eligible may possibly benefit.

Your APH-5 helmet is a rather expensive item that deserves the best of care. Recognizing that the helmet can be an awkward item at times, The Quartermaster General has provided a carrying case for the helmet. In the event that you have not submitted a requisition yet for your carrying case, I would like to invite your attention to OQMG message dated 26 September 1960 concerning the APH-5:

1. Submit requisitions to USAC&TMC, ATTN: QMCTC-ACT (RP).
2. Submit seperate requisitions in accordance with AR 725-5.
3. Requisition date to be left blank.
4. Requisition on a ratio 45% medium, and 55% large.
5. *Submit separate requisition for carrying case for helmet APH-5 on one-for-one basis.*

Once the helmet and case are issued, they are classified as personal equipment and

RAMSEY HORTON, DIRECTOR OF MATERIAL, SOUTHERN AIRWAYS COMPANY, AFFIXES HIS SIGNATURE TO THE $2.7 MILLION CONTRACT WITH THE U.S. ARMY PRIMARY HELICOPTER SCHOOL. WITNESSING THE SIGNING OF THE FY 61 CONTRACT ARE COL. K. R. SIPES, DEPUTY COMMANDER AT CAMP WOLTERS, COL. JOHN L. INSKEEP, COMMANDER, AND HARRY COHEN, WOLTERS CONTRACTING OFFICER. (US ARMY PHOTO.)

will be retained by the aviators on PCS. Our goal, then, is one head per aviator—one helmet per head—and one carrying case per helmet. The logic almost overwhelms one.

Just so you know you're not alone on personnel problems, I thought I'd let you know that this Directorate will sorely miss some of our key personnel who are leaving in the immediate future. *Col. Claude Shepard* will be leaving for Europe as will *Maj. John Cleveland. Lt. Colonel "Red" Walker* is off to the Industrial War College. We were extremely pleased that *Col. Delk Oden* is on the list for Brigadier General, although the results of his promotion on the local situation are still not known. There are over 30,000 people in the Pentagon, but this office will be a little lonely for a few months. I know you are brushing a sympathetic tear aside.

Sincerely,

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

P.S. We just received the happy news that *Maj. General "Ham" Howze* has been nominated for his third star and will be assigned as Deputy Commanding General for Developments, CONARC. It is most appropriate that *General Rogers,* who has been connected with so many important Army aviation programs in recent months, be followed by a man so well qualified as a commander and aviator. All Army aviators, I'm sure, join me in warmest congratulations to *General Howze* on his promotion and also second my nomination for *General Rogers* to "Honorary Army Aviator" upon his retirement.

FT. RUCKER REPORT

By
MAJOR GENERAL ERNEST F. EASTERBROOK

Commanding General, U.S. Army Aviation Center
Commandant, U.S. Army Aviation School

An Armed Forces Day aerial show attended by more than 10,000 persons and the transfer of two top Army Aviation Center officers were among the top events during May here at the home of Army aviation.

Armed Forces Day, May 20, featured an aerial show at Cairns Army Airfield that gave the South Alabama public a close look at what is taking place in Army aviation. One of the feature attractions of the show was a performance by *Beverly "Bevo" Howard*, the internationally-famous aerobatic pilot who helped make last year's show a success.

Demonstrates Precision Flying

Howard, who holds a dozen national and international precision flying titles, is also the president of the Hawthorne School of Aeronautics which trains primary fixed wing student pilots for our Army Aviation School. His precision loops, rolls, stalls, and figure-eights, climaxed by his flying upside down with his hand off the controls and picking up a ribbon strung between two poles only 18 feet from the ground, recalled memories of aviation's earlier era of the barnstorming stunt pilot.

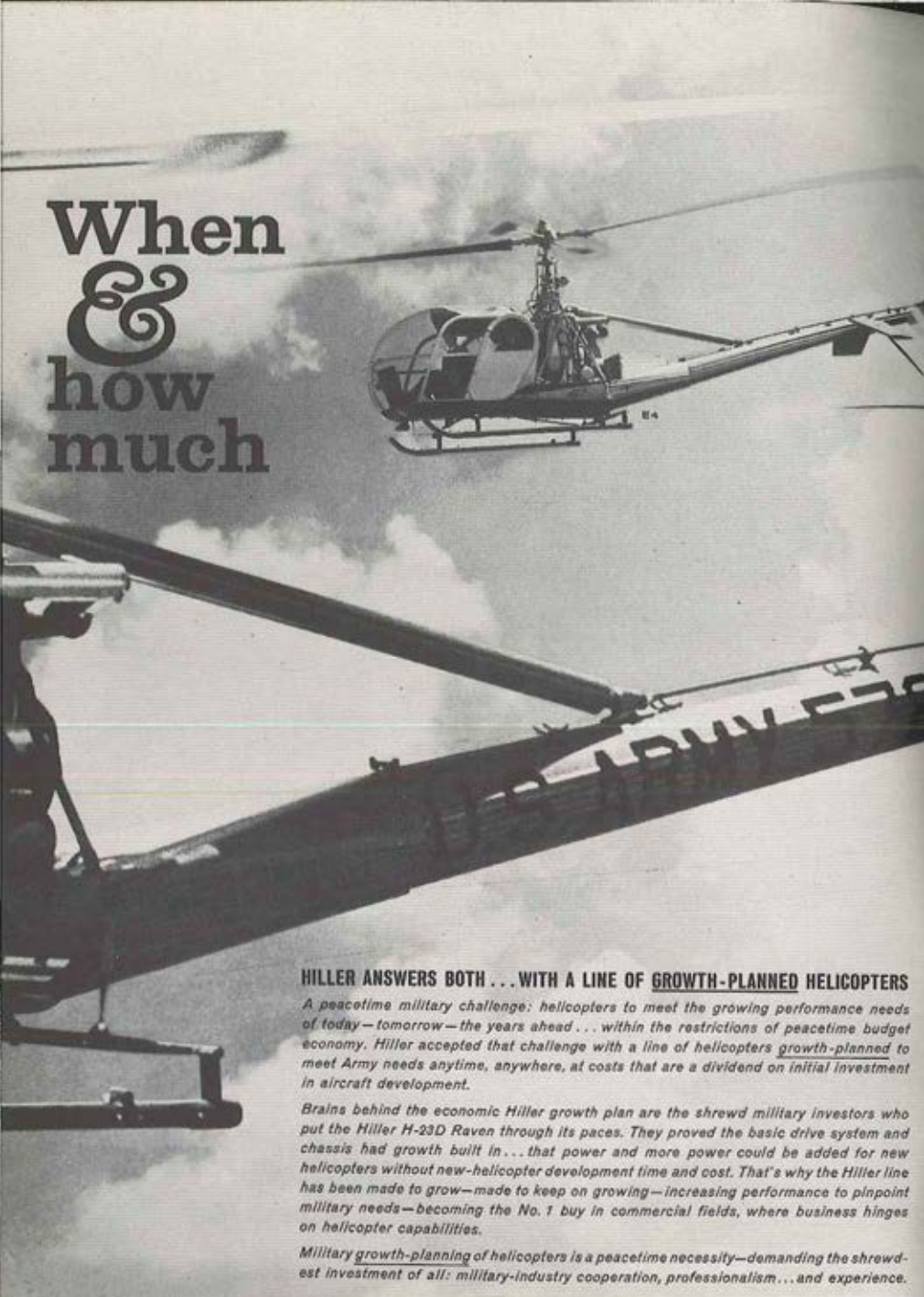
Besides demonstrations by the Center's Sport Parachute Club in the fast-growing sport of sky-diving and a performance by our Sailplane Club, the show prominently featured static displays and performances by the Army's inventory of aircraft.

Public Views Fiat G. 91

Among those shown to the public were the AO-1 *Mohawk*, the AC-1 *Caribou*, and the many airlift, reconnaissance, and command aircraft used by the Army. Also shown to the public for the first time was the G-91 Fiat NATO jet fighter now being tested by the U.S. Army Aviation Board at the Center. The G-91 showed its high and low speed and short takeoff and landing capabilities to the audience.

Other highlights of the show included a performance by "Bozo the Clown," the crowd-pleasing member of the U.S. Army Helicopter Precision Flight Demonstration (Square Dance) Team. An aeromedical evacuation by the HU-1A *Iroquois* turbine-powered helicopter, and a parachute jump by members of the Second Battle Group, 31st Infantry's Pathfinder Team showed the public how a landing strip for incoming aircraft and troops could be set up within minutes.

After the air show, the visitors were given



HILLER ANSWERS BOTH . . . WITH A LINE OF GROWTH-PLANNED HELICOPTERS

A peacetime military challenge: helicopters to meet the growing performance needs of today—tomorrow—the years ahead . . . within the restrictions of peacetime budget economy. Hiller accepted that challenge with a line of helicopters growth-planned to meet Army needs anytime, anywhere, at costs that are a dividend on initial investment in aircraft development.

Brains behind the economic Hiller growth plan are the shrewd military investors who put the Hiller H-23D Raven through its paces. They proved the basic drive system and chassis had growth built in . . . that power and more power could be added for new helicopters without new-helicopter development time and cost. That's why the Hiller line has been made to grow—made to keep on growing—increasing performance to pinpoint military needs—becoming the No. 1 buy in commercial fields, where business hinges on helicopter capabilities.

Military growth-planning of helicopters is a peacetime necessity—demanding the shrewdest investment of all: military-industry cooperation, professionalism . . . and experience.

H-23D Raven—250 hp: *First helicopter ever granted 1,000 flight hours by U. S. Army between major overhauls... highest in air availability with maintenance hours less than half the all-Army average... currently logging more than 7,000 hours monthly at Camp Wolters—with lowest-cost-per-flight hour of any copter.*

12 E—305 hp: *Next in the growing line with the same dynamic components as the Raven stepped up in hp and performance...No. 1 buy in the fiercely competitive commercial field, where the man who does the job fastest and safest gets the business, and the profits... powered the way for light helicopters in 5 major industries.*

E4—320 hp: *The next step forward in power—size—and Hiller's traditional long-range total economy... the lowest cost 4-place helicopter in the air today, in both original and operating cost... the only U. S. rotorcraft in its class with power to climb straight up fully loaded and at 820 feet per minute.*

Super E—340 hp: *Here's the next step in Hiller's growth-planned line... the power-packed new E increases hp to 340, lifts sea level performance to 3,400 ft. And... there's more up and coming—Hiller helicopters with growth built in—keeping pace with the military needs of the sixties!*

Designs are one thing. Deliveries another. Both come from

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an opportunity to "fly" without leaving the ground in 38 link trainers at the School's Department of Fixed Wing Training building. They were also able to visit the Army Aviation Museum and a model barracks open for public inspection on post.

Among the guests were mayors from more than 20 South Alabama communities and several area National Guard units who participated in the show.

Col. Duncan Sinclair, Deputy Center Commander, and *Col. Delk M. Oden* (recently nominated by *President Kennedy* for Brig. Gen.), Assistant Commandant of the U.S. Army Aviation School, left Fort Rucker this month for new assignments.

Col. Sinclair, who has been at the Center since 1958, will assume the position of Alumni Secretary of the Association of Graduates, U.S. Military Academy, West Point, N. Y., and *Col. Oden* will go to Washington, D. C., to serve as a subcommittee chairman on the Holsher Committee. He has been Assistant School Commandant since 1959. Both officers are graduates of the U.S. Military Academy.

Col. Sinclair became Deputy Center Commander here in August 1960, replacing *Col. James S. Luckett,* now retired. Previous to that assignment, he had served as the Center's Chief of Staff since 1958.

Col. Oden was replaced by *Col. Warren R. Williams, Jr.,* former Deputy Assistant Commandant, and *Col. Robert Schulz,* former Director of Instruction of the School, filled his vacancy. *Col. Oliver J. Helmuth* replaced *Col. Schulz* as DOI. He was previously Director of the School's Rotary Wing Training Department.

Several Fort Rucker names were in the news and one of the most prominent was *Col. Spurgeon Neel,* the Center's senior flight surgeon. *Col. Neel* was elected vice-president of the Aerospace Medical Association, and is the first Army flight surgeon ever to be named to such a position.

The Colonel, who was elected at the annual convention of the organization in Chicago, is also a member of their executive council. Among the association's 3,000 members around the world are physicians who care for the 500,000 civil airmen and flight surgeons who care for the 500,000 civil airmen and flight surgeons who care for the 100,000 military and space agency pilots.

Maj. Ernest F. Barrett of the Aviation School's Department of Maintenance recently represented the School at the Aviation Technician School Administrator's Conference at Purdue University.

The conference, held to supply information for the study of possible programs which would be of mutual benefit to the Federal Aviation Agency, Armed Forces, and civilian aviation institutes of technology, heard *Maj. Barrett* speak on the current and future aircraft in the Army aviation system.

He also talked about Army aviation's maintenance requirements and the Army's program for training aircraft mechanics. *Maj. Barrett* provided information to the FAA representatives of the Airframe and Power Plants School as to the recognition graduates of the school could expect while serving in the Army and the quality of service expected of them.

Among the participants in the International Air Show at Paris, France, May 26-June 4, was the U.S. Army Helicopter Precision Flight Demonstration Team from the Aviation Center.

The group—better known as the Helicopter Square Dance Team—has performed for air show audiences throughout the United States. They were among top aviators from all over the world who took part at the show at Le Bourget Airport in Paris.

The team features five H-13 observation class Army helicopters in a colorful, old-fashioned square dance, and a single act by "Bozo the Clown," who cavorts with a 70 pound yo-yo and turns steel drums on end.

Swinging their partners in true square

COL. DELK M. ODEN

COL. WARREN R. WILLIAMS

JUNE 1961

COL. DUNCAN SINCLAIR

ARMED FORCES DAY CROWD AT CAIRNS AAF

COL. SPURGEON H. NEEL, JR.

MUSICAL CARGO DEBARKS DURING AIR SHOW

"Air born" of experience

Insert shows artist's conception of Grumman F9F Panther operating in Korea. ▶

A2F Intruder with total of thirty 500-pound bombs in clusters of three from wing stations. ▼

FORT RUCKER/*Continued*

dance fashion, the team is divided into two "boy" partners, "Hank" and "Henry" and their female counterparts, "Harriet" and "Henrietta," all dressed in colorful costumes.

Representatives from the Australian and Danish Armies were among the visitors to the Center this month. Some of the highlights of their tour included an aerial combat reconnaissance demonstration and briefings by many of our School departments.

Maj. Gen. Thomas S. Taylor, Deputy Chief of General Staff, *Col. Frank W. Speed,* Director of Personnel Administration, *Brigadier Alexander E. Ross,* Deputy Quartermaster General, and *Lt. Col. W. J. Finlayson,* Office of the Australian Military Attache, Washington, D. C. were the Australian Army officers who visited here.

Maj. Gen. Hans Anderson, Inspector General of Artillery, and *Capt. Paul Emil Juvre,* Adjutant, Inspector General of Artillery, of the Danish Army were also guests at the home of Army aviation.

One of our units here at the Center, the 8305th Aerial Combat Reconnaissance Company, Second Battle Group, 31st Infantry, was presented the *Frank G. Brewer Civil Air Patrol Memorial Aerospace Award* in May.

This award is presented in recognition of meritorious service to youth through the advancement of aerospace education. It was signed by *Brig. Gen. Stephen D. McElroy,* U.S. Air Force, and I had the pleasure of making the presentation to the unit.

The 8305th has become a familiar name in Army aviation for their work in the development of the armed helicopter concept.

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

"I DREAMED I WAS A MARTIAN..."

First guy with a rocket-powered couch will make a fortune in space psychiastry. Kenneth J. Hartman, experimental psychologist for the Space Biology Department at Aerojet-General Corporation, predicts the need for psychiatric help in space probably will be far greater than on earth.

The space demon that will cause much of the trouble is a thing called "sensory deprivation," the fact that man will be isolated from all the sights, sounds and other senses he has had on earth. Scientists have known about some effects of sensory deprivation for many years, in cases of persons isolated from normal sights and sounds for various reasons, such as shipwreck, lonely military duty or even head or eye surgery.

And in tests, they found that the persons gets lonesome, bored, hostile—and gets serious and bizarre hallucinations. Here are just a few hallucinations reported after some Air Force tests:

"The r.p.m. indicator seemed to have a little man, showing head and shoulders, in a sombrero, holding an umbrella overhead." "The place where the needle was connected began to look like little people." "I saw a miniature Spanish soldier in a silver helmet and yellow blouse and pantaloons."

So there is a predictable probability that the Spaceman will wind up on the psychiatric couch to report, "I dreamed I was a Martian in my made-in-America pressurized space suit." And he'll be told, "You're not sick, you're just in space."

LET'S TAKE A LOOK AT . . .

THE SEQUENCE OF FLIGHT INSTRUCTION

BY
LT. COLONEL ARNE H. ELIASSON
Chief, HRU, Ft. Rucker, Alabama

Is the flight instruction that is being given today as effective as it can be? Are there training methods that can be economically introduced that will produce better Army aviators? Are the phases of instruction conducted in the most effective sequence?

* * *

These are questions that have bugged those in charge of flight training since its inception. The latter question, concerning sequence, has been taken under consideration by the Aviation Human Research Unit under the label of *Task INTACT* with the anticipation that as a result of the research, some answers will be forthcoming for all three questions.

As a matter of tradition, fixed wing flight instruction is presented in a sequence that, for the most part, was developed through historical growth of the aviation state-of-the-art. The first aircraft were flown only in daylight using contact methods. Then, night flying was introduced and finally, instrument flying was added. It is only natural and to be expected, that flight instruction follows the same sequence. It would only be a matter of sheer chance if this proved to be the most effective training sequence.

From the beginning, it has been a part of instructional philosophy that a student aviator should be at a high level of proficiency in "easier" contact flying before proceeding to the "complexities" of instrument flying.

The "older" aviators will attest that, in most cases, they didn't get any instrument training to speak of until they had logged hundreds, often thousands, of hours of contact. Piloting an aircraft by instruments was generally viewed with misgivings and anxiety and as being difficult to learn. In recent years, this bugbear has been pretty well subdued and instrument flying is now learned eagerly and without apprehension.

Integrated Flight Training

Task INTACT—the name stems from a contraction of the integrated instrument-contact training concept—has been designed to test the idea that a more proficient aviator can be produced if instrument flying and contact flying are learned simultaneously. In other words, in integrated training, from the first day of flight instruction the student is taught to relate outside (contact) and inside (instrument) cues to one another and to the control of the aircraft.

The *INTACT* concept is based primarily on two principles:

The first is the proven fact that a student with contact experience takes longer to learn instrument flying than one with

HUMAN RESOURCES RESEARCH OFFICE

no previous flying experience. This is probably because the traditional order of presenting flight instruction allows the student to develop habits that make it unnecessarily difficult to learn instrument flying techniques. In the words of the psychologists, "There is negative transfer of training."

The second principle is supported by some evidence that aviators who receive instrument training after having had considerable contact experience often lack confidence in instrument flying. This may be because of the difficulty in exchanging the strong contact habits for reliance on the aircraft instruments. The lack of confidence frequently results in a reluctance to engage in actual instrument flight and is overcome only through the slow process of learning and building experience.

Flight Support by USAAVNS

Dr. Wallace W. Prophet, assisted by *Major (AUS retired) Oran B. Jolley,* of the U. S. Army Aviation Human Research Unit at Fort Rucker, is conducting the *INTACT* research. The flight training for *INTACT* is being given at the U. S. Army Aviation School by primary flight instructors of the Hawthorne School of Aviation to two classes of the Officer Fixed Wing Aviator Course; OFWAC 61-6, which began training on 25 January 1961 and OFWAC 61-10 on 31 May 1961.

Cessna 180 aircraft with side-by-side seating are used in the experiment instead of the present tandem seated primary trainer, the L-19. This was necessary because communication, both visual and auditory, between the instructor and the student is of prime importance.

To most usefully teach the relationship between contact and instrument cues, the instructor must use the same references as the student. This can hardly be done in the L-19 but can easily be accomplished in aircraft with side-by-side seats. In each class, the progress of 18 students being

SIDE-BY-SIDE SEATING IS A FEATURE OF THE CESSNA 180 AIRCRAFT UTILIZED BY HUMRRO PERSONNEL DURING RESEARCH UNDER "TASK INTACT."

taught the *INTACT* concept in Cessna 180 aircraft is continuously compared with the progress of another group of 18 students, also in Cessna 180's, but taught in the traditional manner.

The advancement of these two groups is, in turn, being compared with the proficiency of a third group of 18 students who are being trained under the "old" method in the L-19 aircraft.

Data Analyzed Continuously

To make a scientific analysis of student proficiency possible in the groups being compared, booklets for recording objective proficiency measurements and daily progress have been prepared by the *INTACT* staff. The data taken from the booklets are being continuously compiled and analyzed to accurately determine the performance of each group of students. After completion of the primary phase of each course there will be no further manipulation of training.

However, to determine the continuing effects, if any, of the different primary flight programs, data will be collected from the experimental classes as they proceed

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ARC OMNI OWNERS!

Retrofit your manually tuned ARC Omni System with ARC's *Crystal Controlled* VOR/LOC System. Get increased sensitivity, improved selectivity, greater ease of operation, full coverage and proven ARC reliability and performance!

Installation is simple and inexpensive. You can use your existing converter high voltage power supply, indicator, mountings and racks. There is no change in space requirements. You need only (1) remove your present tunable receiver and replace it with ARC's R-34A Receiver, (2) install 14-conductor cable in place of mechanical linkage, (3) substitute a new control unit.

Fly with Performance Features Like These!

- Highly efficient, transistorized power supply.
- Frequency coverage of 108.0 mc to 126.9 mc in 100 kc steps.
- Automatic channel selection.
- RMI presentation available by adding B-18A RMI Converter.
- Automatic VOR/LOC function selection.
- Audio output automatically adjusted when switching between com and nav channels.
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- Light weight. Only 21.9 lbs., excluding cables and antenna.

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C-36 Localizer • C-38 Communication • C-40 VOR En Route Navigation • Military Nomenclature AN/ARN-30D

R-34A RECEIVER, powered by DV-10A Dynaverter, shown with B-13A-1 CONVERTER on E-14 RACK and M-10 MOUNTING

C-81A CONTROL UNIT

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through their tactical (field strips) and advanced instrument training phases.

Savings in dollars and cents through a decrease in the required number of flying hours required to train each Army aviator are an important potential of Task *INTACT*. Another potential, which cannot be readily translated into a monetary value, is an increase in the aviator proficiency level.

Over and above this, detailed information of student performance in the fixed wing flight training program will be accumulated which should provide much worthwhile reference material about the training. Regardless of the outcome of the research, it will perform an important function in terms of the Army's increased ability to carry out its assigned mission.

Tilt-Wing Contract

The Vertol Division of The Boeing Company has received a $291,000 Army contract for further development of its Vertol 76 turbine-powered tilt-wing aircraft. Under the new contract, wing modifications will be made to improve stability. Vertol will also uprate the Model 76's transmissions from 630 to 700 hp and conduct a 50-hour qualification program, prior to returning the aircraft to NASA for a new flight evaluation.

The first successful tilt-wing VTOL aircraft, the Model 76 has been undergoing tests since July, 1958, when it successfully completed its first transition flight.

ARMY RECEIVES MODERNIZED H-37s

The U. S. Army Transportation Materiel Command has taken delivery on the first of 30 Sikorsky H-37 helicopters which are being modified to meet the specialized requirements of the Army. The modernized helicopter, designated H-37B, was flown away by an Army crew June 7 to Fort Rucker, Ala., where it will be evaluated by the Army Aviation Board.

Modification of the helicopters, originally ordered by the Army in 1954 and 1955, began last summer under a $3,438,094 Army contract. Principal items called for were the installation of automatic stabilization equipment, a redesigned cabin door and cargo hatch as well as other changes which will result in increased operating efficiency and reduced maintenance. Deliveries of the aircraft will continue at the rate of five a month through November.

In the adjoining photo, Army and Sikorsky representatives are shown participating in the delivery ceremonies at Sikorsky Aircraft. From left to right, *Charles M. Echeverria*, senior project engineer for the H-37; *Herbert G. Brandt*, manager of the Overhaul & Repair Department; Nelson H. Downs, assistant to the general manager; *Capt. William H. Scanlan, Richard J. Followill* and *Joe D. Watson*, Army contracting officer.

USAPHS maintenance personnel shift into high on the receipt of ...

GROUNDING ORDERS

On 31st January, this year, at 1645 hours, the Post Staff Duty Officers of Camp Wolters, Mineral Wells, Texas, received a phone call from *Brig. General William G. Bunker* of *TMC* regarding the grounding of all H-23D helicopters due to two fatal accidents within the past thirty days.

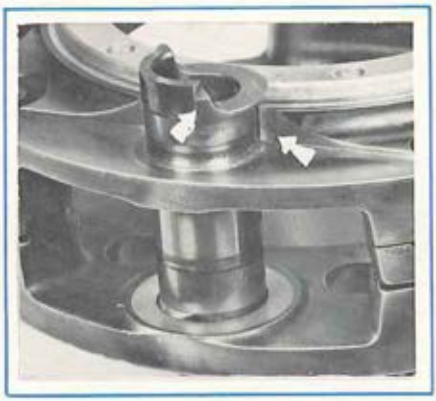
With this telephone call, the students at *Camp Wolters Primary Helicopter School* cooled their heels Wednesday morning and waited for further development after *Southern Airways Maintenance Department* received TWX #450690 from AKATR-A *"Grounding of all H-23 model helicopters due to two fatal accidents within the last thirty days. A preliminary investigation discloses malfunction of main transmission drive system. Engineering investigation still in progress."*

TMC Team Joins Effort

A team from *TMC* arrived at Camp Wolters and with the assistance of our Hiller Tech Rep and Southern Airways maintenance personnel, a number of transmissions were torn down. Gears, shafts and cages were "miked" for evidence of wear and several others were disassembled for visual inspection.

During the investigation and inspection, *TMC* determined that the main transmission failed in the first planetary gear drive and due to wear in the cage and planet gear shaft, thus allowing the planet shaft to turn, causing it to cut into the transmission case. (See photo on this page.)

By
COLONEL JOHN L. INSKEEP
Commandant, U.S. Army Primary Helicopter School



Hiller Aircraft had been in the process of making a new planet gear shaft and steel bushing in the planetary gear cage and incorporated these new parts in all newly overhauled and new transmissions for use on new helicopters.

Out of the 146 helicopters assigned here, we found that there were 29 transmissions in use that had been modified. There were no modified cages in the supply system or at the Hiller plant, except the ten helicopters scheduled for Camp Wolters.

Modified H-23s Given Flight OK

On the 12th of February, *TMC* then informed *Southern Airways Maintenance* that the above 29 helicopters could be flown provided oil samples were taken from the engine and transmission at the end of each day's flight, or eight hours, whichever occurred first. The oil samples were to be sent to Pensacola for evidence of metal particles.

Our next job was long and difficult. First, we had to set up our machine shop to bore out the cages for the modification

GROUNDING/*Continued*

to accept the bushing modification; 89½ hours of labor were involved before the machine shop came up with a workable jig to be used in conjunction with a "tool maker over-arm." (See photo on this page.) The machine shop went on a twelve-hour, six-days-a-week work schedule.

Second, the boring operation for the steel bushing turned out to be a large problem, as the allowable tolerance was so small we could only bore one side of the cage at a time. The cage consisted of three planet gears and gear shafts with bushings, this meant three different adjustments per side or a total of six per cage.

Third, after the cages were bored, the steel bushings (P/N 23549-603 and 23549-605) were pressed in, then drilled and fitted individually. Then, when the two halves were again reassembled, the holes were in perfect alignment for the gear shaft.

Finally came the drilling of the cages for the steel locks or keepers for a total of 10.6 man-hours per cage for the complete modification.

Activity on Many Fronts

However, no one was standing still. *Hiller Aircraft* was in the process of having 37 cages modified for shipment to Camp Wolters for installation, and the 10 new production helicopters were being made ready for shipment as rapidly as possible.

In order to maintain our flyable aircraft and modify the transmission without additional manpower or overtime for a large number of men, the crews were broken up into smaller working units. These were put on staggered workdays to enable a 7-day workweek, 24 hours per day. Test Flight

worked from sunrise to sunset, 7 days a week.

Due to the reduced flying time and number of flyable aircraft, the Periodic Inspection Section did not have enough work, so, personnel were transferred temporarily to different sections to assist in general maintenance. This was agreeable to the Army and Southern Airways, thus eliminating anyone being laid off and reduced overtime to a minimum.

Thus, with everyone pitching in and putting their shoulders to the wheel, *Camp Wolters Primary Helicopter School* was almost back to normal flying by the end of February and all classes graduated on schedule.

As of 2 June 1961, there have been 95 cages modified at this station. Our machine shop is now in the process of modifying the cages for *TMC* to issue to other units in the field for the interim period.

H-37A Modernization Contract Awarded

A $3.1-million contract for modernization of 30 Army H-37A helicopters has been awarded to Sikorsky Aircraft. The TMC contract calls for the work to be completed through May, 1962. Installation of ASE equipment and crash-resistant fuel cells are among the listed improvements.

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 evacuated. (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

This demonstration photo became a reality at PLATTSBURG, N.Y., when one of the crewmen who bailed 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.

GEN. VON KANN DISCUSSES:

CENTRALIZATION

I am pleased to report that generally there has been a world-wide improvement in many aspects of aviation maintenance and acceptance of aviation by commanders.

On the other hand, I must admit that one can also find many examples of the things which hurt Army aviation and which continue to prevent it from contributing its full capability to the Army as a whole. For no matter how much we talk about second generation aircraft and aircraft which are more effiicent, more capable and more reliable, the fact is that we can do a great deal with what we have on hand today *provided* it is properly organized and employed. As General Gavin often said, *"It's not the hardware; it's the application that counts."*

Now we must always remember the basic truth that Army aviation can serve the Army effectively only to the extent that our services are understood and accepted by commanders up and down the line. We must, therefore, provide services that will really help them. Aviation officers can advise commanders and, generally speaking, this advice is very well accepted; but when an aviation unit is given the mission of supporting a ground unit, the supporting unit is not the one to dictate the conditions as long as safety of personnel and equipment are not involved.

This is why I personally have stressed decentralization so strongly and urgently. The more centralization, the less able will we be to support effectively the line of the Army in its search for true battlefield mobility. The more centralization, the more headquarters a commander must go through to obtain aviation support; and on the battlefield of today and tomorrow, we are talking about support that will be needed in minutes, not days. Furthermore, centralization virtually eliminates the possibility of doing what is absolutely vital if there is to be an effective marriage of ground units and aviation units; and that is *day-to-day training over prolonged periods of time.* ,(This will also explain why I have always emphasized battlefield mobility so

SHOWN DURING A PILOT INTER-CHANGE, THE BELL HT-6 HOVERS DURING THE ACCOMPLISHMENT OF A WORLD'S HELICOPTER ENDURANCE RECORD AT ELLYSON FIELD, PENSACOLA, FLA. IN EARLY JUNE. SIX ALTERNATING NAVY PILOTS KEPT THE SHIP ALOFT FOR 72 HOURS AND TWO MINUTES, ECLIPSING THE FORMER ENDURANCE TIME OF 57 HOURS AND 50 MINUTES.

much and cargo work so little. The problems of moving cargo from place to place, often in convoy, are not really great. On the other hand, the problems involved in moving men and combat equipment from place to place on the battlefield are unlimited in complexity and variety.)

By and large, these views seem to be well accepted by all aviators with whom I talked, regardless of branch or service. I am sure that most Army aviators want to do the best possible job they can for the Army as a whole and want to know what is needed in order to succeed in this respect. The Transportation Corps aviator, the Signal Corps aviator, or the aviator from any combat arm has only one final purpose—to contribute to the capability of an air-minded, air-mobile Army. It is somewhere up the line where we find the divergent policies in opposition and where we begin to lose sight of sound, basic principles. This brings me to the subject of what might be called the "schism" or "schisms" in Army aviation.

Now I do not intend to gloss over the fact that there have been (and probably will always be) some conflicts on basic policy, but I want to make sure that every aviator realizes there are *no separate objectives or goals in our program.* If Army aviation is to meet the mobility challenge, it must hurdle the obstacle of branch fragmentation by coordination, cooperation and trust. The only alternative is the isolation of a separate aviation branch which might superficially solve some immediate prob-

lems, but would surely defeat our long range goals. Army aviation was never meant to be a "package." It was intended to be a capability assigned to the ground commander who needs it twenty-four hours a day. When we cease to be responsive to his needs, we have lost our reason for being.

There are many who do not realize the problems associated with our rapidly growing program—problems concerning personnel, organization and logistics. Remember, there are more Army aviators in the Army than there are officers in any branch except infantry and artillery. About 10% of the Army procurement funds is devoted to aviation. A large share of our research and development effort is concentrated on aircraft and related items. Over 31,000 people are associated with the whole aviation program. We do not have to be apologetic when we admit we have a lot to learn about a very complex business, for progress is being made and is visible to all.

For example, the Transportation Corps is to be congratulated on their progress toward solving many of the problems of maintenance and supply. They have not only had to build a capability from the ground, but have been faced with a constantly expanding program involving many new aircraft and many advances in the state-of-the art. But this expansion of the TC resources does not contain a hidden design to "absorb" the entire program, and I think it would be a disservice for other branches to imply such an intention.

It is true that the operational activities of the Transportation Corps are centered around logistical airlift which lends itself to centralization. On the other hand, I do not believe that the TC aviator and technician can or willingly do overlook the real concern of the small combat unit commander over tendencies that, to him, spell overcentralization, lack of responsiveness, and the Army Air Corps exercise all over again. If we truly mean what we say, there must be a balance to our program which insures every command level of the aviation support it requires.

Army aviation cannot afford a "schism," real or apparent. There are too many other outside forces that do not understand or appreciate the goals of our program for us to quarrel among ourselves. Where there are problems, let us bring them out into the light and solve them; where there is suspicion or distrust, let's find out the facts; where there is a clique, let's make sure there is no cover up, for nothing can hurt us more than the stigma of aviators "whitewashing" aviators; where there is aviation in the Army, let's make sure it is representative of "Army aviation" as a whole.

The above paragraphs may sound like a sermon, and perhaps I must plead guilty to this. On the other hand, please understand that it is not a party line. We have a unique management problem in Army aviation in that this is the most complex, most highly technical and largest speciality attempting to operate without the unifying effect of a branch or technical service. This is a tremendous challenge; yet it is the only way in which Army aviation can succeed in serving the Army well. A party line is not appropriate because it connotes some form of ulterior motive or conspiracy. However, I do plead guilty to an attempt to preach sound principles without which the program cannot work effectively.

AAAA Annual Meeting Tickets Go On Sale

Advance Registration for the 1961 *AAAA Annual Meeting to be held at the Sheraton-Park Hotel, Washington, D.C., on September* 3-5, *and the purchase of table seats at the* 1961 *Honors Luncheon may be accomplished by returning the clip-out coupon appearing on Page* 381 *of this issue. The Annual Meeting Committee has advised the early purchase of Luncheon seats in view of the limited seating capacity in the Sheraton-Park's Cotillion Room.*

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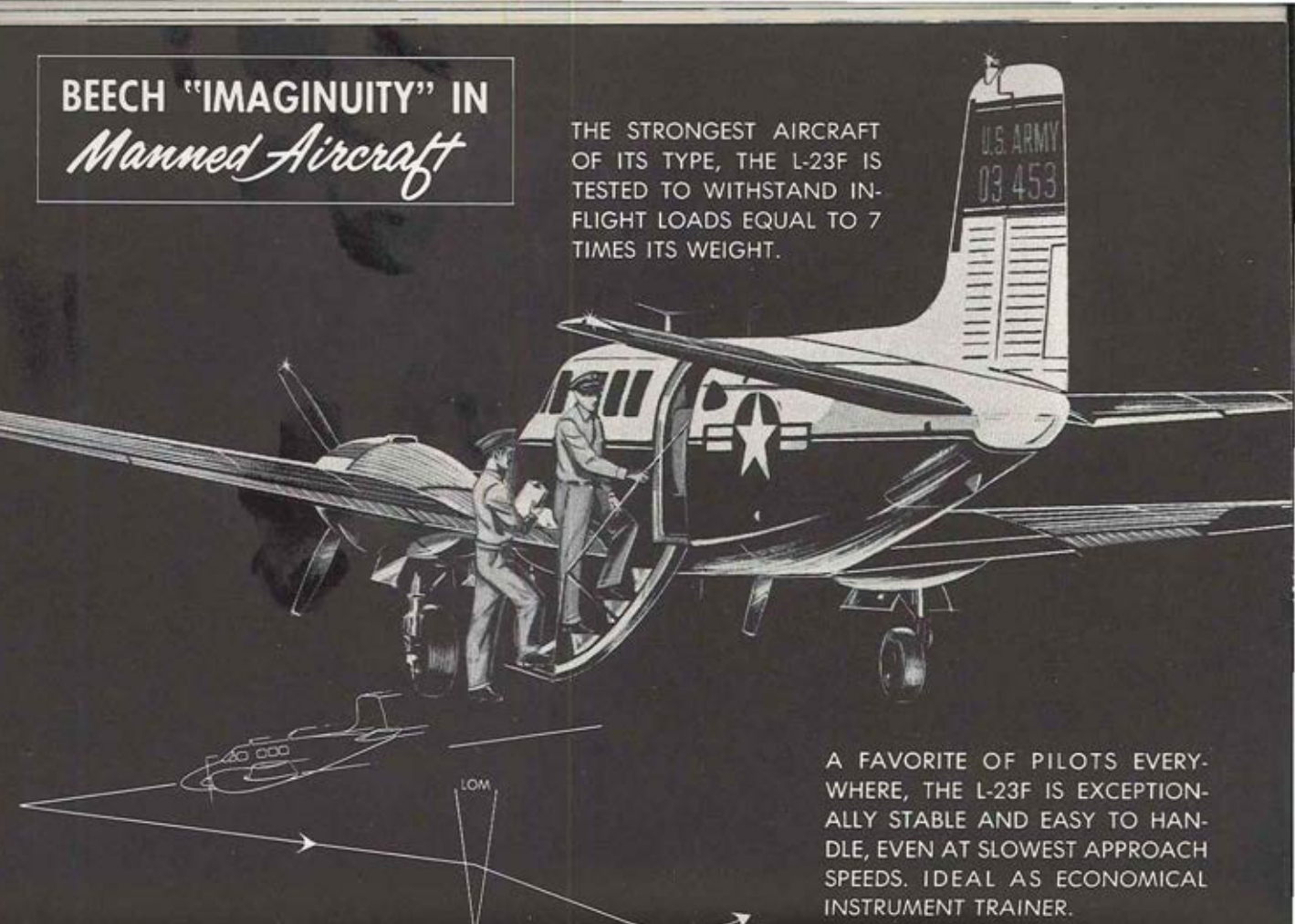

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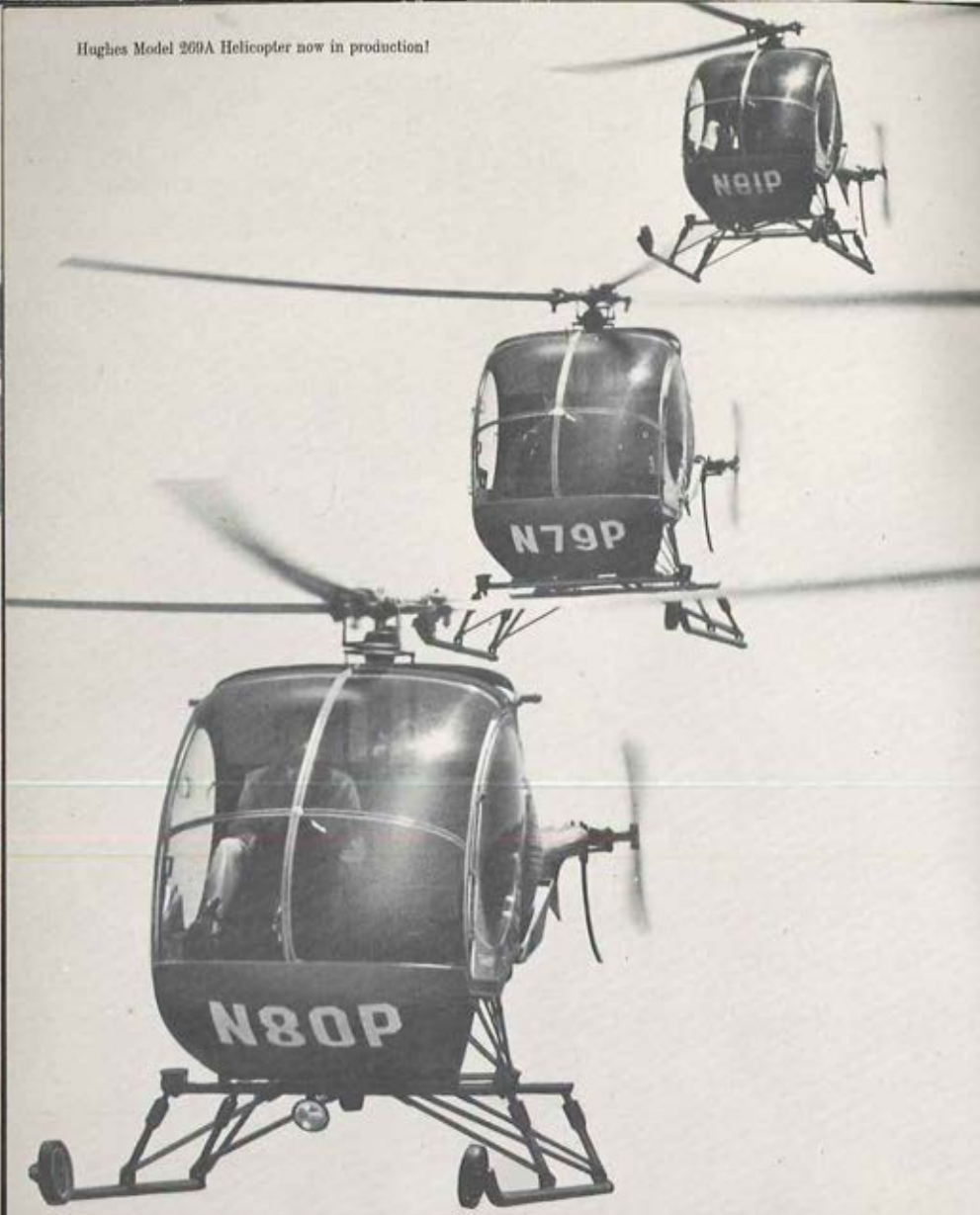

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MARR, FW, 3 Clover Lane, Scituate, Mass.
MARCUS, JE, 45 Vaughn Court, Eatontown, NJ
MASON, EF, 4912 Summit Circle, Knoxville, Tenn.
MASSENGILL, JR, Rte 3, Box 336, Kinston, NC
MATHES, WR, 567 Artemis, San Antonio, Tex.
McANDREW, TJ, 504th Avn Co, APO 696, NY, NY
McCRANIE, AC, 4th Armor Gp, APO 757, NY, NY
McILWAIN, GW, P.O. Box 442, Butler, Ala.
McLAUGHLIN, LF, 521 S. Fleishel Ave, Tyler, Texas
McLEAN, CP, Hq, 1st ARB, 46 Inf, APO 29, NY, NY
McLEAN, RO, MP Off Career Crs 1, Ft. Gordon, Ga.

(Continued on Page 372)

A FLIGHT OF H-34s DEPARTS ON A USAREUR FIELD PROBLEM

USAREUR REPORT

By MAJOR KENNETH D. MERTEL

Operations Division, Headquarters, USAREUR

A very important part of the Army Aviation Team, worthy of mention, are our flight surgeons. The "Doc" is a key member of any aviation unit. The USAREUR flight surgeons perform a superior job in looking after the physical and mental health of aviators and other air crew members.

Our USAREUR Flight Surgeon is *Major Gerald A. Champlin*. He is the one that must approve each physical, if you are to keep flying. If over 200 pounds, you'd better look out.

Next, at Stuttgart, serving Seventh Army Headquarters and surrounding units is *Captain William H. McCreary; Major Wallace Capel* is 4th Armored Division Flight Surgeon (Nurnberg area); and *Captain Kemal E. Kutait* is with 3rd Infantry Division (Kitzingen area). *Captain Jack F. Glover* is with the 8th Light Helicopter Battalion (Munich area); *Captain William F. Kinn* looks after the 54th Light Helicopter Battalion (Hanau area); and *Capt. Alton E. Wiebe* is with the 8th Infantry Division (Bad Kreuznach area) as is *Captain Johnnie Emmanuel* (Finthen).

Captain Jerry Silver is with the 24th Infantry Division (Augsburg area); *Captain John R. Young* is SETAF Flight Surgeon (Verona); and *Colonel William H. Byrne*, Commanding Officer of the 30th Medical Group (Ludwigsburg area) serves as an Aviation Medicine Consultant.

USAF Flight Surgeons take care of COMZ units. In the near future Army Flight Surgeons will be assigned to those areas. Our congratulations and appreciation to all of you for a fine job.

Evidence in one recent aircraft accident revealed that alcohol may have played a large part. There is an old saying "Twelve hours between the bottle and the throttle." This is pretty sound advice.

By the way, my comment about the HU-1 helicopters and 101st Airborne Aviation Company elements visiting USAREUR on *Exercise Longthrust* in the May USAREUR Report didn't quite materialize as you know. I tried to anticipate something because of required lead time for publication, and was left holding the bag. You are most welcome any other time, 101st.

The 8th Light Helicopter Battalion (TC) commanded by *Lt. Col. Henry H. McKee* is in the news again. One of the longest tactical troop movements in USAREUR was recently staged by the 8th in support of the 3rd Infantry Division. Ninety H-34 helicopters were used to move over 900 troops complete with equipment a distance of 100 miles in a tactical field exercise called *Operation Short Jab.*

This exercise portrayed vividly what Army aviation can accomplish. It also demonstrated some excellent teamwork, cooperation, and establishment of sound operating procedures between the Infantry Battle Groups and Army aviation units in Seventh Army. Congratulations to you, your aviators, crew chiefs, maintenance and other support personnel, *Colonel McKee* for a job well done.

Summer rotation is here again and with it is the customary exchange of USAREUR and ZI aviators. Big "R" finally arrived for the undersigned. I depart in a few days for a few days leave and then return to the ZI for assignment to the

Aviation Section, CONARC, Fort Monroe, Virginia. My tour in Europe has been interesting and educational. I particularly have enjoyed the many fine associations, first with the 24th Combat Aviation Company and later with all USAREUR units.

To those of you that I was unable to see personnally prior to departure, the best of luck and continued success. Understand the beer is kind of weak in the ZI, but if you are near Fort Monroe, drop in for a visit. I am certain I shall continue to read of the continued progress and achievements of USAREUR Aviation.

Since this is my last "Report" I would especially like to thank *Col. Jack W. Hemingway,* Aviation Officer Seventh Army; *Lt. Col. James H. Lee* and *Maj. Neely R. Brown,* Seventh Army Aviation Section for the splendid cooperation and assistance accorded during my tour. In addition, *Lt. Col. Robert D. Dearth,* VII Corps Aviation Officer has been a great help.

Two very outstanding officers, *Maj. Charles O. Ruple,* present Company Commander of the 24th Combat Aviation Company, and *Capt. Joe O. Amburger,* Executive Officer, were of invaluable service when I commanded the 24th. *Maj. Albert M. Krakower* and *Capt. Edwin M. Aguanno,* USAREUR Signal Division Aviation Section, have accomplished wonders in the

communications and navigation aids field. Their cooperation and willingness "to get the job done" has been outstanding. *Capt. Egon J. Arndt,* USAREUR's "Mr Jep," has been of great technical assistance.

Maj. Lester C. Farwell and the officers and men of the USAREUR Aviation Detachment have provided excellent support. Coordination with COMZ has been facilitated by the splendid cooperation of *Lt. Col. William G. Black,* Aviation Officer and with SETAF by *Maj. James H. Nix,* Aviation Officer. The guidance and assistance from *Col. Arthur W. Ries* and *Lt. Col. Rowan P. Alexander,* Commanding Officer and Executive Officer respectively of the US Army TC Depot, Sandhofen, have been of great value.

Within the headquarters, I shall miss working with *Lt. Col. Howard I. Lukens,* P&A Division; *Maj. Charles V. Graft, Jr.,* Intel Div; *Lt. Col. Carlyle W. Arey,* Log Div. It has been a pleasure also to work with *Col. Russell Whetstone,* both when serving as Seventh Army Aviation Officer and in his present job as Commanding Officer, Seventh Army Aviation Group.

One of my last official duties was to obtain a new author for this report so as to carry on the chain from *Col. Warren E. Williams. Lt. Col. J. Elmore Swenson,* here in the Operations Division, has agreed to assume those responsibilities commencing with the July issue. I am certain he will continue to "spread the word." I can think of no finer officer, aviator, and friend to whom I could turn over this column.

"TEAMWORK, COOPERATION, AND THE ESTABLISHMENT OF SOUND OPERATING PROCEDURES" ARE VISIBLY DEMONSRATED AS USAREUR CHOCTAWS PERFORM A WIDE VARIETY OF MISSIONS IN CLOSE SUPPORT OF GROUND UNITS.

Auf Wiedersehn,
KENNETH D. MERTEL
Major, GS
Opns Div, Hq, USAREUR

MOCKUP

SHORTLY AFTER THE BELL HELICOPTER COMPANY WAS ANNOUNCED AS THE CO-WINNER, WITH HILLER AIRCRAFT, OF THE ARMY'S LOH DESIGN COMPETITION, LT. GENERAL GORDON B. ROGERS, CENTER, HQ, USCONARC, VIEWED BELL'S LOH MOCKUP AT THE FIRM'S FORT WORTH PLANT. HE IS SHOWN WITH BELL PRESIDENT E. J. DUCAYET AT THE MOCKUP.

MASTER

MAJOR W. D. PROCTOR, RIGHT, CHIEF OF PLANS, OPERATIONS, AND TRAINING DIVISION, THIRD U.S. ARMY, IS SHOWN BEING AWARDED MASTER ARMY AVIATOR WINGS BY LT. GENERAL PAUL D. ADAMS, COMMANDING GENERAL, THIRD U.S. ARMY. A VETERAN OF 19 YEARS SERVICE, MAJ. PROCTOR HAS BEEN A RATED AVIATOR FOR 15 YEARS. HE IS SCHEDULED TO DEPART FOR KOREA IN AUGUST.

MEDAL

FOR HIS LEADING ROLE IN THE JOINT SUPPORT OPERATIONS BETWEEN THE AIR FORCE AND THE ARMY IN USAREUR, COL. JOHN M. ETCHEMENDY, LEFT, USAF, WAS AWARDED THE ARMY COMMENDATION MEDAL WITH FIRST OAK LEAF CLUSTER. PRESENTING THE AWARD IS LT. GENERAL GARRISON H. DAVIDSON, COMMANDING GENERAL OF SEVENTH U.S. ARMY. "A JOB WELL DONE," COMMENTED THE GENERAL.

MAINTENANCE

SHOWN FOLLOWING THEIR GRADUATION FROM A FACTORY MECHANICS SCHOOL HELD AT THE AERO COMMANDER, INC. PLANT IN BETHANY, OKLA., ARE, L. TO R., RL-26D MECHANICS SP/5 GEORGE E. COOK, SGT. RICHARD E. ALLEN, PFC FELIX E. ROBERTS, AND PVT FRANCISCO REYES. THE "FREE OF CHARGE" COURSE INCLUDED A.M. CLASSROOM INSTRUCTION AND P.M. AIRCRAFT PRACTICAL MAINTENANCE.

USAREUR'S 8TH TRANSPORTATION BATTALION

BY

CAPTAIN MAURICE C. AVERY

A Unit Report

on one of USAREUR's most active operational units

In February 1956, aircraft and men of the *8th Transportation Battalion* arrived at Bremerhaven, Germany aboard the aircraft carrier *USS Corregidor*.

The *8th Transportation Battalion*, at the time of its arrival at its present location near Munich, Germany, was comprised of the *18th* and *110th Transportation Companies*, in addition to the Headquarters. Since that time the *11th* and *91st Transportation Companies* have been added, making it the largest helicopter battalion in the United States Army.

Over 1,000 men make up the total assigned strength of all *8th Battalion* units. The maintenance detachments which support the helicopter companies are the *148th CHFM*, *329th CHFM*, *564th CHFM*, and the *571st CHFM*.

Eighty H-34 helicopters are operated, plus numerous smaller craft and fixed-wing airplanes. The operating figures compiled during the first 9 months of FY 1961 give an indication of the work load handled by the famed flying unit. There were 8,219 aircraft missions during this period, averaging 913 per month. Flight time totaled 19,804 hours for service missions, in addition to 6,465 logged during flight training.

Ever since its activation in 1954 at Fort Bragg, North Carolina, the unit has established many "firsts" and has built a reputation for "action." Some of the "firsts" chalked up by the unit are: • First unit of its kind ever activated; • First unit of its type to be assigned to an overseas command; • First Army helicopter unit to be moved by aircraft carrier, a method that

proved to be highly successful; • First helicopter unit to operate extensively in the European Alps.

The helicopters from the *8th* have participated in every major field exercise conducted by the U.S. and NATO forces dating from *Sabre Knot,* held 20 October 1956. During *Wintershield I,* the 1960 winter maneuvers, the *8th Transportation Battalion* wrote another page in Aviation History by conducting the largest helicopter troop lift ever performed. Two complete Battle Groups were airlifted in one day, despite the short daylight hours.

As *Lt. Col. Henry H. McKee,* Commanding Officer of the *8th Transportation Battalion* explained, "*The success of this operation proved that the Army has the air mobility to rapidly move the infantryman and his equipment over considerable distances from one tactical situation to another. Army aviation is destined to play an important role in the battlefield of today and more so in the future.*"

Flying Conditions: 57 Varieties

The great variety of flying conditions that prevail in Germany often tax the pilots' ability to the maximum. Not only is there a variation in the terrain over which the pilots must operate, but weather reports indicate that the best flying-weather areas in Germany are worse than the consistantly bad weather areas in the United States.

As a consequence, the battalion has qualified many of its aviators for all-weather flight. Currently there are a total of 66 instrument rated officers in the unit. Thirteen of these are Instrument Instructor Pilots. This permits a particularly active program of training within the helicopter companies. The battalion is proud that it has never lost a passenger, and this despite the thousands of passenger miles flown and the heavy schedule of mountain operations.

The *110th Transportation Company* flew for President Eisenhowers' party in 1960 during his two visits to the continent, to include England. Pilots and crewmen received recognition for their valuable contributions to this effort. Aircraft from attached units have flown on missions extending from Norway to Italy and from France to Austria.

For two consecutive summers, helicopters from Schleissheim AAF, at Munich, assisted in the construction of Micro-wave Relay Stations in northern Norway. Countless helicopter records were set during this operation. These were established by coincidence, rather than by intentional effort on the part of the business-like pilots. Over 1½ tons of building material per minute were delivered by the flight as it climbed towering mountain walls under a sustained 16 hour-a-day operation. Sling loads were used throughout.

Serves Under 7th Group

The *8th Transportation Battalion* receives its missions from the *7th Army Aviation Group,* the only unit of its kind in Army aviation. The *7th Group* is commanded by *Col. Russell E. Whetstone* and is located near Stuttgart, Germany. An excellent communications net keeps all units in constant contact. Emergency missions, as a result, are expedited with the greatest dispatch.

Routine troop hauls and sling loads are the bread-and-butter of the operating companies. Occasionally, however, the pilots take part in a mountain rescue or "mercy" mission. This breaks up the monotony and provides an additional challenge. No record has been maintained whereby the exact number of persons rescued by aircraft based at Schleissheim AAF can be determined, but they easily number in the hundreds.

Many spectacular rescues have been made at great risk to aircraft and crews. Unique mementos have been given to the battalion by grateful civilian groups in appreciation

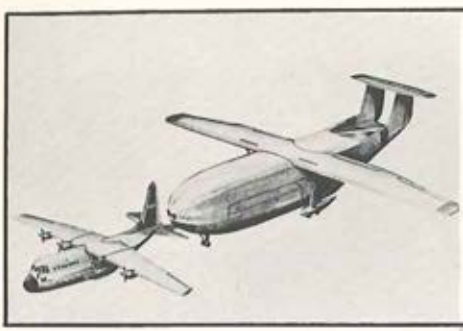
8th Trans Bn officers are, FRONT left to right, Maj AF Futtrell (CO, 18th Trans Co), Maj JL Johns (S-3, 8th Trans Bn), Maj OE Hicks (Coordinator), Maj WS Makuch (CO, 11th Trans Co), Lt Col HH McKee (CO, 8th Trans Bn), Maj EB Killett (Exec, 8th Trans Bn), Maj HC Sullivan (Asst S-3, 8th TC), Maj GD Crawford (CO, 91st Trans Co). BACK, L-R: Capt Wilson (Adj), CWO WJ Patzig (Commo), Capt SE Derby (CO, 564th CHFM), Capt Davis (S-4), Capt NL Stowe (CO, 148th CHFM), Capt LG Jones (Actg CO, 110th Trans Co), Capt MD Mason (CO, 329th CHFM), Capt HG Tuggey (Maint O), Capt RB Lipscombe (Hq Det). Absent: Maj JF Cobb (CO, 110th Trans Co).

for the services performed. An example is the edelweis (a rare alpine flower) displayed in a picture frame in the commander's office.

The 8*th Battalion* has erected church steeples, fed starving livestock, performed emergency medical evacuations, and supported flood and avalanche operations. Perhaps this explains why this helicopter unit is so popular with the German people. Bavarian children jump with joy at the sight of H-34's flying overhead. A crowd gathers quickly, seemingly from nowhere, each time one of the big birds alights. The German people have truly felt the impact of the "chopper" since its arrival here 5 years ago. Presentation of the Sikorsky Winged-S for rescue work, as well as awards from local civilian groups have become an almost regular event, particularly during the winter months.

As might be suspected, because of the great numbers of aircraft stationed here, Schleissheim AAF, operated by the 8*th Transportation Battalion*, is also the busiest Army Airfield in Germany. Over 6,000 landings and take-offs are logged in an average month throughout the year. Additionally, the battalion operates the Schleissheim Post which includes the only military swimming pool in the Munich area, a theatre, EM/NCO club, and a Post Chapel.

No story about Schleissheim AAF and the 8*th Battalion* is complete without paying tribute to the enlisted men who help make things click. Vehicle drivers within the unit average an impressive 32,622 miles per month during yearly operations, including the huge tankers and maintenance vans so vital to the unit when it operates in the field. No flying unit can hope to be successful without outstanding maintenance support, and this we get. Medics, clerks, mechanics, and drivers are all doing their part to maintain the 8th's reputation of being one of the finest helicopter battalions in the United States Army.



TRAILER

AN ARTIST'S CONCEPT SHOWS THE AIR FORCE'S C-130A AS ONE POSSIBLE TOWPLANE FOR A UNIQUE "AIR TRAILER" PROPOSED BY LING-TEMCO ELECTRONICS, INC. STILL IN THE DRAWING BOARD STAGE, ONE MODEL OF THE AIR TRAILER HAS A 160-FOOT LENGTH AND A 210-FOOT WING SPAN. THE TOW PANE AND TRAILER ARE COUPLED AT ALL TIMES BY A SEMI-RIGID TOW-BAR.

READY-MIX

UTILIZING A SPECIALLY DESIGNED CANVAS BUCKET, SOUTHERN CALIFORNIA EDISON'S HILLER 12E IS SHOWN COMPLETING THE FIRST READY-MIX CONCRETE DELIVERY BY HELICOPTER. THE FLIGHTS TOOK PLACE DURING MOUNTAIN-PASS CONSTRUCTION OF THREE 60-FOOT TRANSMISSION TOWERS IN THE BULLDOZER-PROOF SANTA SUSANNA MOUNTAINS OF SOUTHERN CALIFORNIA. NET SAVING: 2 WEEKS OF CONSTRUCTION TIME.

AMPHIBIAN

ANOTHER ARTIST'S CONCEPT SHOWS THE AMPHIBIAN GEM JOINTLY PROPOSED BY INGERSOL KALAMAZOO DIVISION OF BORG-WARNER CORPORATION AND AVRO AIRCRAFT LIMITED. THE FIRMS RECENTLY COMPLETED PREPARATION OF A PROPOSAL TO THE ONR FOR AN AMPHIBIAN GEM WHICH WOULD BE USED TO BRING TROOPS AND CARGO FROM SHIPS OFFSHORE ONTO THE BEACHES.

ACCEPTANCE

CANADIAN PRATT & WHITNEY'S PT6 FREE TURBINE ENGINE, MOUNTED IN THE NOSE OF A CONVERTED RCAF BEECH 18, OPERATED AT POWERS UP TO NORMAL RATED DURING RECENT TEST FLIGHTS PERFORMED AT ST. JOHNS, QUEBEC. THE BEECH 18, CONVERTED BY DE HAVILLAND AIRCRAFT, PASSED ITS FLIGHT ACCEPTANCE TEST AND WAS TURNED OVER TO CANADIAN P & W FOR THE ENGINE TEST PROGRAM.

MILITARY APPLICATIONS OF

THE PARAGLIDER CONCEPT

AN OCT REPORT ON AN NASA-TRECOM PROJECT

From time to time in the public press, notice is given of an award of a contract by the Army through the *Transportation Research Command* (*TRECOM*) at Fort Eustis, Virginia. The events leading up to this announcement vary, but in all cases it is the result of a lot of background work by the *TRECOM* project engineers.

An example of this is the recent award of a contract to *Ryan Aeronautical Company* of San Diego, California, to flight test a man-carrying aerial vehicle with a paraglider wing.

The paraglider is an aerodynamically stable and controllable glider with a parachute-like structure. It was originally conceived by *Mr. Francis M. Rogallo*, an aeronautical engineer at the *NASA Langley Research Center*, as a flexible, high performance tailless toy kite. As such it was put on the market.

This did not end *Mr. Rogallo's* curiosity, and he continued to investigate the concept in the Langley wind tunnels. These tests showed that the paraglider had good enough aerodynamic characteristics to make it interesting for other applications than to amuse children. A free flight model was built with a payload attached and the model was dropped from a helicopter.

Later a radio control unit was substituted for the payload and controlled flight was demonstrated in a drop. Still later the wing was mounted on a radio controlled powered model airplane. The results of all of these investigations were encouraging, and additional wind tunnel tests demonstrated that the paraglider could be flown at almost any speed.

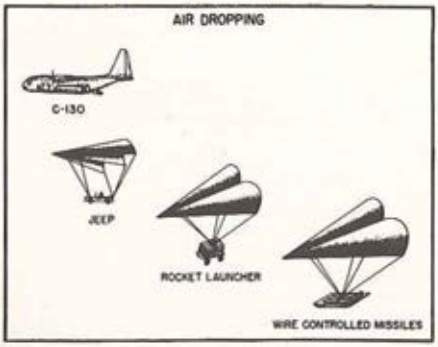
PARAGLIDER/*Continued*

Mr. Rogallo and his associates at *NASA* presented the idea to *TRECOM* as an item of likely interest to the Army to improve its air mobility. Using the basic data derived in the *NASA* wind tunnel and model tests, *TRECOM* engineers, working with *NASA* engineers, made preliminary studies of possible applications.

The provision of supplies and materials to the Army in the field utilizing the paraglider with a control system appeared quite promising. Air dropping through the use of an ordinary parachute has a disadvantage in that it is often difficult to pinpoint the drop with the result that supplies are sometimes scattered over a large area—in fact they may land in enemy held territory. The use of controlled fixed wing gliders will improve the accuracy, but the economic drawbacks are large and the drop area is cluttered up.

The paraglider when used for air dropping, as shown on figure 1, offers a possibility of overcoming both of these disadvantages. Shown are three types of loads being dropped from a transport aircraft. It appears that loads can be dropped from as low as 200 feet without control. For higher drops the equipment would be controlled to the desired landing area. The jeep is shown being controlled by the driver and the other material is represented as being radio-controlled from either the drop airplane or the ground.

FIGURE 1



The use of the paraglider for air dropping leads directly to another possible application of the paraglider, that is, air towing the equipment to the drop area. This could be done with an airplane or by a helicopter as shown in figure 2. This technique increases the lifting capability of the aircraft—for example the capacity of the helicopter could be increased from 1½ tons to a towed payload of about 10 tons, if a running take-off is used.

With some imagination, the paraglider might be conceived as a means of getting land vehicles over obstacles or obstructions as shown in figure 3.

The use of the paraglider as an auxiliary wing on an airplane might be used to improve its STOL characteristics, to provide additional lift capability, or even as an emergency landing system in the case of a power failure.

After considering these as well as other possible uses of the paraglider, it appeared that the concept should be further investigated. No information existed on how well a pilot could fly a device with a paraglider wing, or what the control requirements would be on a large scale wing. The best way to get these answers was to build a machine and fly it. So specifications were prepared for the type of machine required to give useful answers.

In the meantime, *Ryan Aeronautical Company* had become interested in the concept and began construction of a 28 foot paraglider-supported, man-carrying aerial vehicle with a gross weight of about 2100 pounds. They offered the use of this machine for a Government supported flight test program. This appeared to be the most economical method of producing the desired results.

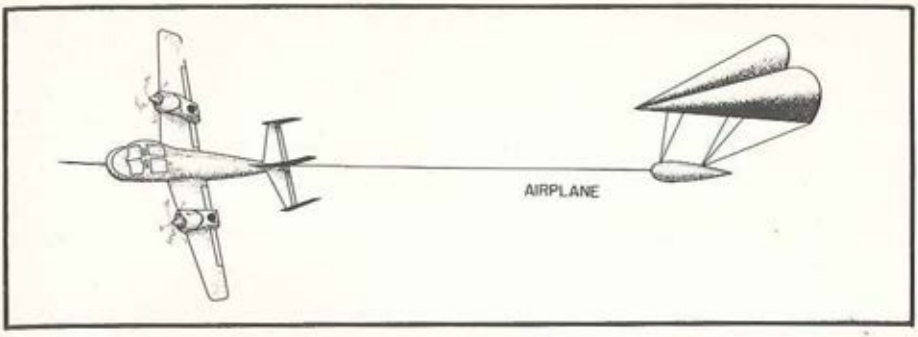


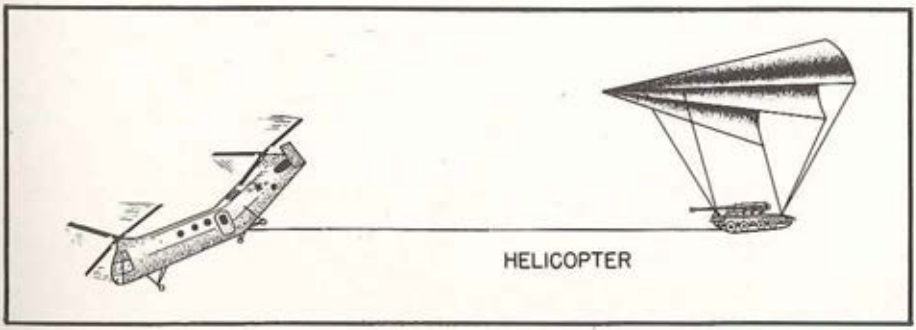
FIGURE 2, TOP AND BOTTOM

A flight test program was planned to provide the Army with as much information as it could get from the test machine and a contract was negotiated with *Ryan*. This contract calls for a 30 hour flight test to be conducted by *Ryan* to demonstrate the flight envelope—that is, what is the stalling speed, the control power, the rates of pitch, roll and turn produced by a given movement of the flight controls. After this is satisfactorily completed, a 40 hour test program will be conducted by NASA pilots with *Ryan* providing the support necessary to keep the machine flying.

The contract was awarded to *Ryan* and the first flight of the machine was accomplished during March, 1961. After preliminary tests, the machine will be completely equipped with Government furnished instrumentation and records will be made of speeds, rates of pitch and roll, control positions, etc.

With this information, *TRECOM* will be able to make application studies of what would be required to actually accomplish some of the uses previously mentioned. At the present time *NASA* has awarded two contracts to study methods of recovering large rocket boosters by using paragliders. Plans are now being made by *TRECOM* to make smilar studies in the field of improved Army mobility. The Ordnance Corps is also planning to study the use of the paraglider to recover boosters from such weapons as the Nike.

So what started out as a child's toy might possibly develop into a major advance in air mobility for the Army as a result of imagination and curiosity on the part of *NASA* and *TRECOM* engineers.



MIKE BUTTON

Maintenance Tips

LATE AGAIN

In the April Edition, *Mike* asked everyone to standby for Supply information which I was going to put into the column with May. Well, May's copy went out without it, and I am a month late. Better late than never. so here goes!

The 1st item on the list, "*Local* Procurement," is the topic which most people have trouble with. What is it? When are we authorized to do it? Who does it? How? The answers to these questions may sound a little basic to some of you, but to forestall any misunderstanding or misinterpretation, I am going to break it down to the lowest common denominator. So:

"*Local Procurement*" means getting things on your own which have been authorized by AR 715-30. without coming into TMC for the OK. You gotta remember, that this *Local* business is not a geographical location or area limit which you must abide with, nor does it have any reference to a specific distance from the Main Gate of the base which puts in requisitions. Seems as though everybody wants to interpret the word local as meaning so many feet from the flagpole in any given direction.

"What" can you buy? First, any item that you need, if the line item required costs less than $10.00. And that doesn't mean that if the item costs $2.50 each and you need a gross, you can buy it, 'cause that'll exceed the line item requirement of $10.00 ($2.50 x 144, you know).

QUESTIONS FOR THIS COLUMN SHOULD BE SUBMITTED TO: MIKE BUTTON, BOX 209, MAIN OFFICE, ST. LOUIS 66, MO.

Second, any item listed in the TC Supply Manuals with a supply action code 09 or supply action code 50. What's the difference between these two? 09 types are those commercial items which you are to get on the local market with practically little effort on your part. Those marked 50 are items obtainable by local procurement using open end contracts authorized in DA 718 series Circulars, both of which *you* buy out of your own dough.

"How" goes it? Well, it's not all gravy, gotta impose a few obstacles, you know! Don't go to the manufacturer of the end item, like if it's a hose of some kind for a Sikorsky machine; go to one of their authorized dealers or commercial outlets meeting AN specifications, or approved FAA Manufacturer's items, or items with a FAA approved parts tag.

But fur gosh sakes stay away from the original manufacturer of the machine such as Bell, De Havilland, Vertol, etc.

Also, one other thing to help you out. If you have items of $10.00 or less per line, we of TMC can and will help you so long as they are TC's responsibility and if, as the AR states, which means, *Requisitioners who are unable to effect procurement are authorized to requisition the item.* So you can't get it, so what's to do, come on in to TMC.

However, remember, if it is an item which you should purchase locally, be sure to show on the punch card requisition, code 007; and on the DD Form 1149 that you tried your level best to get it on local procurement but you just couldn't cut it.

One last point, if our depot stocks get loaded we'll put a stoppage on local procurement if, and when the depot stocks are such that we can provide it more rapidly

QUESTIONS AND ANSWERS

Dear Mike:

Request that this organization be furnished with a graphic form drawing on the fix mounting for the new fire extinguisher (FSN 4210-555-8837) on the L-19 Aircraft.

We are also running into the problem of mounting the new fire extinguisher on the H-13H model helicopter with the machine gun kit installation. I am sure that all the other units with this equipment are having the same problems. The best place that we came up with is on the floor below the co-pilot's or passenger's seat. However, this could require relocation of the press to talk mike and first aid kit to another location.

Please advise us on this matter as we have just received our new extinguishers, and they aren't doing us any good in the supply room collecting dust.

CWO Harold E. Marks
Assistant Maintenance Officer
24th Avn Co (Inf Div)
APO 112, N.Y., N.Y.

Dear CWO Marks:

Here's your plans for fabricating the mounting bracket from 2024-T3 .080-QQ-A-362 stock (FSN 9535-232-0398) which should be accomplished by 4th echelon activity. I did not know they were putting machine gun kits on the H model Sioux; is this true? I suppose it is if you say so.

The installation instructions for installing the new monobromotrifluoromethane fire extinguisher in the Sioux can be found in MWO 55-1520-204-34/4, 14 March 1961, which you will get real shortly. Also, this MWO spells out the reiteration of first aid kit relocation which you were previously instructed to do.

As far as the problem of mounting the new fire extinguisher on the H with the machine gun kit installed is concerned, you should use your own initiative as you have done. Looks like you have taken the bull by the tail and come up with the right answer.

When you get the job finished; i.e., installing the extinguisher, relocating the mike button (not me), and relocating the first aid kit, please give us the complete fix you come up with. That should include photos too, if you can have them made, and don't forget the address —U.S. Army Transportation Materiel Command, P. O. Box 209, Main Office, St. Louis 66, Missouri, Attention: TCMAC-EH-13.

Informationally yours,

MIKE BUTTON

than you could by buying it. We'll let you know about these items when we put stoppages on them, by specific line item stock number, published in the usual manner, i.e., U.S. Army TMC Supply Letters.

Should you want to dig into this very important supply feature suggest you get with: AR 715-30, Change 1 thereto; and TMC Supply Letters 2-16, 23-60 and 33-60.

HOW HIGH IS UP?

I'd like to talk about controlling aircraft engine removals, because we've had too many engines removed by field activities and sent to overhaul with the notation that engine was removed due to "Sudden Stoppage." However, subsequent revelation proved, beyond question, that the engine should *not* have been removed, 'cause nothing indicated that it was N/G upon removal.

So, some people are spinning wheels, yarns, and money. Maybe it's the wordage that's being misinterpreted, i.e., SUDDEN STOPPAGE AND SUDDEN REDUCTION IN SPEED. Let's dig into these two terms and see if we all have the same concept. OK?

But, before that, let's digress a bit—When do we remove an engine? Do *you* know? Here's a few common causes:

- *Engine life span exceeded*
- *Metal particles in the oil* (*See* 7-12 *of TM*1-2*R*-1-15 *here*)
- *"Suddens," above.*

• *Low Cylinder compression (Read 7-29 before removal)*

• *Engine overspeed, and of course, the 1st of the two*

Now, if you think you must remove an engine, think twice and remember if it chewed itself up internally and failed, that's obvious, you should change the engine. Or, if the time of life has run out, you change the thing; but don't remove the gol darn engine before a complete investigation has been made by people competent to do so.

Now let's get into *Sudden Stoppages.*

To have a *Sudden Stoppage* of an engine, certain things must be present, and when you have one, no question, remove it.

Definition of *Sudden Stoppage* is when the prop has come into contact with an immovable object and caused the engine's RPM to drop to zero. Examples? Gear up landing; nosing up the aircraft on a runway or hard ground; and maybe throw in a crash landing or running into a hangar wall. When this happens, you've bought the farm. Here's a few choice things that could happen:

- *Bent crankshaft*
- *Rear section gear train busted*
- *Shot prop bearing*
- *Cracked prop gear teeth.*

This is *Sudden Stoppage,* so remember it.

Second "Sudden" is, *Sudden Reduction in Speed.* Definition is: Prop has come into contact with a movable or immovable object and caused the engine's RPM to drop off, but it continues to run despite this, and the engine reestablishes its previous RPM in a few seconds, without any trouble. Phenomenal how sturdy these buggers are, ever think of it?

Examples are: Prop strikes a line fire extinguisher, APU cart, B-4 bag, oil drum, crew chief's stand, tool box, or a cow walks into the prop. When this happens, 9 out of 10 engines will not have to be removed, but there's much inspecting to be done before you can make with a determination and draw the correct conclusion like it says in TM 1-2R-1-15, Section VII, paragraphs 7-8, a., b., c., and paragraph 7-10.

Also, it tells you just exactly what to do when you find bent pieces, foreign objects, and miscellany in the *Sudden Reduction in Speed* engine.

AR to you on this one (that's end of transmission, man.)

DAFFYNITIONS

Though *Bill (Mike Button) Bickham* believes the following *"Washington Daffynitions"* have adorned many a bulletin board, he passes 'em on in the event you haven't seen 'em:

A Coordinator — A man who brings organized chaos out of regimented confusion.

A Conference — A group of men, who individually can do nothing, but as a group can meet and decide that nothing can be done.

A Statistician — A man who draws a mathematically precise line from an unwarranted assumption to a foregone conclusion.

A Professor — A man whose job it is to tell students how to solve the problems of life, which he himself has tried to avoid by becoming a professor.

An Efficiency Expert — A man who knows less about your business than you do, and gets paid more for telling you how to run it than you could possibly make out of it, even if you ran it right instead of the way he told you to.

A Consultant — An ordinary guy a long way from home.

An Economist — A man who has a Phi Beta Kappa key on one end of his watch chain and no watch on the other.

DA FORM 2391 SERIES

I suppose every one by now has seen the new Department of the Army Form 2391 (series) which replaces the old DD 781 series *"Aircraft Flight Report and Maintenance Record"* forms, but in case you have

not, as yet, here's a tip that you'll be seeing them shortly.

The *new* DA Form 2391 (series) has the same title and is to be used in the same manner as the *old* 781 (previously used by all services within DOD.) So from now on, consider the 781 (series) obsolete. Too, all correspondence, publications, and work specifications written by the Engineers here at TMC will not make any further reference to DD Form 781 (series). En garde.

CHICKASAW INVERTER DESTRUCTION

Had any difficulty lately with your EICOR Inverters? Well, down comes the word for the fix on Models 1-100A-1150-7 and 1-100A-1150-6 in the H-19 bird. The reason for the "Blow-up" is that the EICOR 100 volt-ampere inverter had a rated maximum current draw of 9.2 Amperes, but they are protected by an "overpowered" 25 ampere circuit breaker.

Therefore, a short occurring in the a.c. circuit can and will destroy the inverter before the circuit breaker pops. Fix it by removing the 25 ampere circuit breaker and installing a 10 ampere circuit breaker FSN 5925-577-0698 (P/N MS 25017-10) or FSN 5925-682-4013 (P/N MS 25244-10.)

So, all H-19s that are equipped with the EICOR 100 volt-ampere inverter, should be treated with the different powered circuit breaker to protect that inverter.

WHOA-BACK!!!

Before it (cyclohexanone) hits the fan but good, old *Mike* would like to read you in!

TM1-1-1-648, 18 January 1961, is probably causing a lot of bristles to stand up because it don't jive with other instructions sent out to the field either in January 1960 or on 16 May 1960 by TWX, TCMAC-EG-05-01235.

The latest dope on Sludge Control in Reciprocating Engines is not what's in TM 1-1-1-648, *"Sludge Control in All Reciprocating Aircraft Engines,"* and we of TMC have taken the necessary steps to either revise this TM1 or throw it out of the manual system completely!

But in the interim, pay your undivided attention to TCMAC-EG-05-01235, 16 May 1960, as that's the prevailing consensus of the Engineering Directorate here at TMC at this moment.

Should you need further clarification or more instructions when you have a desludging problem, come on in to TCMAC-EG, 'cause that's what we're here for—to help.

Remember, this cyclohexanone usage in aircraft engine oil is "loaded" if not used properly, and we don't want to hurt our pet engine, now do we?

MALFUNCTION' IN "GEORGE"

Any you po' guys having trouble with *"George"* when you got the Radar Set, AN/APQ-86, AN/APS-85 or the AN/APS 94 turned on?

Seems as though the autopilots AN/ASN-22 or AN/ASW-12 in the *Raven* (RY-23D) don't do such a good job with the set on because of an incomplete grounding connection where a bunch of the terminal posts are joined together by a common bus bar.

Old Mike checked with the Signal people and they have this to say, so pass it along:

The cause of the problem is a loose connection on the terminal post and they recommend that special care should be taken when an inspection or maintenance function is being performed on the electrical, electronic components, and wiring to insure positive electrical junctions wherever circuit segements are joined together. When you have several terminal posts joined by a bus bar the build up on the individual terminal post sometimes is so great that it is possible to have the wire terminals secured O.K. *and still have a loose or incomplete contact between the bus bar and the terminal post.*

One last point: Be sure when you're tightening the nuts on the terminals that it's done in the proper sequence!

Informationally yours,
MIKE BUTTON

PCS/Continued from page 356

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STRUGGLE FOR MATURITY

Continued from Page 326

R&D, of course, played a very important part in the development of the second generation aircraft already mentioned above, beginning with the HU-1 which was the first aircraft specifically designed to Army specifications.

Currently, the Army is actively pursuing such new and exciting research projects as the Ground Effects Machine which rides over land or water on a thin cushion of air held between the craft and the terrain over which it travels. Experimentation in this area includes the possible use of this principle to provide a take-off and landing system for use on Army aircraft operating in rough terrain.

An entirely new concept in which the Army is maintaining an active interest involves the use of a flexible wing, resembling a child's paper airplane, as a towed glider for moving supplies. Preliminary flight tests have already been made with a powered full scale model.

Other projects include: electronic maintenance and diagnostic equipment to forecast at a glance the flight readiness of major aircraft components, a system for eliminating the static electricity which has been a constant danger to crews hooking up external loads to helicopters, the development of a family of turbine aircraft engines in the low power ranges peculiar to the needs of Army aviation, and a concerted program in aircraft crash injury research. I have written about these and others over the past several months.

During the past three years, Systems Management has taken hold and has proven to be an invaluable technique in the exercise of control over the myriad significant actions related to the development, production and support of aircraft systems. Most important of all, it has made possible greatly improved communication between the many participating agencies. This has enabled us to identify and solve potentially serious problem areas before they became crash actions.

For example, through application of this technique, on one of our newly developed aircraft, we were able to identify and correct several problems in the early stages which otherwise might have plagued us for a considerable time in the future. There were problems with tail flutter at high speeds and unusual loads on propeller blades which caused unforeseen stresses on engine shafts. These were isolated and corrected early enough in the program so that slippages in the end product did not occur.

This ability to isolate segments of the development and production effort insures that the finished product arrives in the hands of the user properly equipped for the mission, with trained personnel to operate and maintain it as well as an adequate logistical tail to support it in the field.

If I have conveyed to you that we have a record replete with accomplishment in the logistics area, I have done so unintentionally. For, logistical concepts and capability must always move with tactics. As the Army aircraft makes possible steadily increasing combat effectiveness, there must be corresponding improvements in our ability to supply and maintain this equipment.

The new aircraft systems must be capable of living and working in the environment of the combat elements. They must be capable of operating over extended periods with minimum maintenance and supply efforts in a wide variety of climates, terrain and tactical situations. We must develop organizations to support this equipment; indeed, develop "yardsticks" to determine the quantity and quality of supply and maintenance support required.

The logistical problem is magnified by the possibility that we will be deprived of

rear areas for stockpiling essential equipment or for the development of facilities to repair and maintain for combat the sophisticated aerial equipment required for future operations.

The Quartermaster General is making an effort to reduce the types of aviation POL required. He is also looking for ways to improve procedures for transport, storage, and handling of these products. While carrying out our own programs in this area, we also continue to look to the aviation industry to exploit current technology to the fullest in helping us to meet our objectives.

Anyone who will take the time to review the history of Army aviation will readily see that the growth of the Army's responsibilities in this area has always been preceded by periods in which we were able to clearly identify and demonstrate a solid requirement. Some of the dates which are significant to us in the logistics business are:

1942

Organic aircraft authorized to Army Ground Forces.

1947

National Security Act delineates Departmental missions and functions pertaining to support of aviation in the Army. (Air Force retains procurement, development, and storage, issue and maintenance.)

1949

Army assumes responsibility for field maintenance and supply distribution below depot level.

1954

Joint Army-Air Force team begins a study of supply and maintenance problems and to recommend changes in existing agreements.

1955

Office, Secretary of Defense approves transfer of depot support of Army aircraft from Air Force to Army. (Phased over period 1956-1959).

1956

Initial assumption by Army of responsibility for depot support. Office, Secretary of Defense authorizes Army to procure aircraft through Navy as well as Air Force.

1957

Army Aircraft Maintenance Shops opened in four General Depots—ahead of schedule.

Air Force and Navy agree to Army procurement of limited secondary items.

1958

Completion of transfer of depot stocks from Air Force (1 year early).

Contracting for depot maintenance at contractors' plants transferred from Air Force.

1959

Office, Secretary of Defense authorized limited "in house" aircraft component overhaul by the Army.

Army submitted a program to Office, Secretary of Defense for engineering and procurement of Army air items. Further details were required which resulted in the 1 July 1960 Office, Secretary of Defense decision. Department of the Army was directed to prepare and submit detailed implementing procedures. These procedures were approved by Office, Secretary of Defense on 10 December 1960.

1960

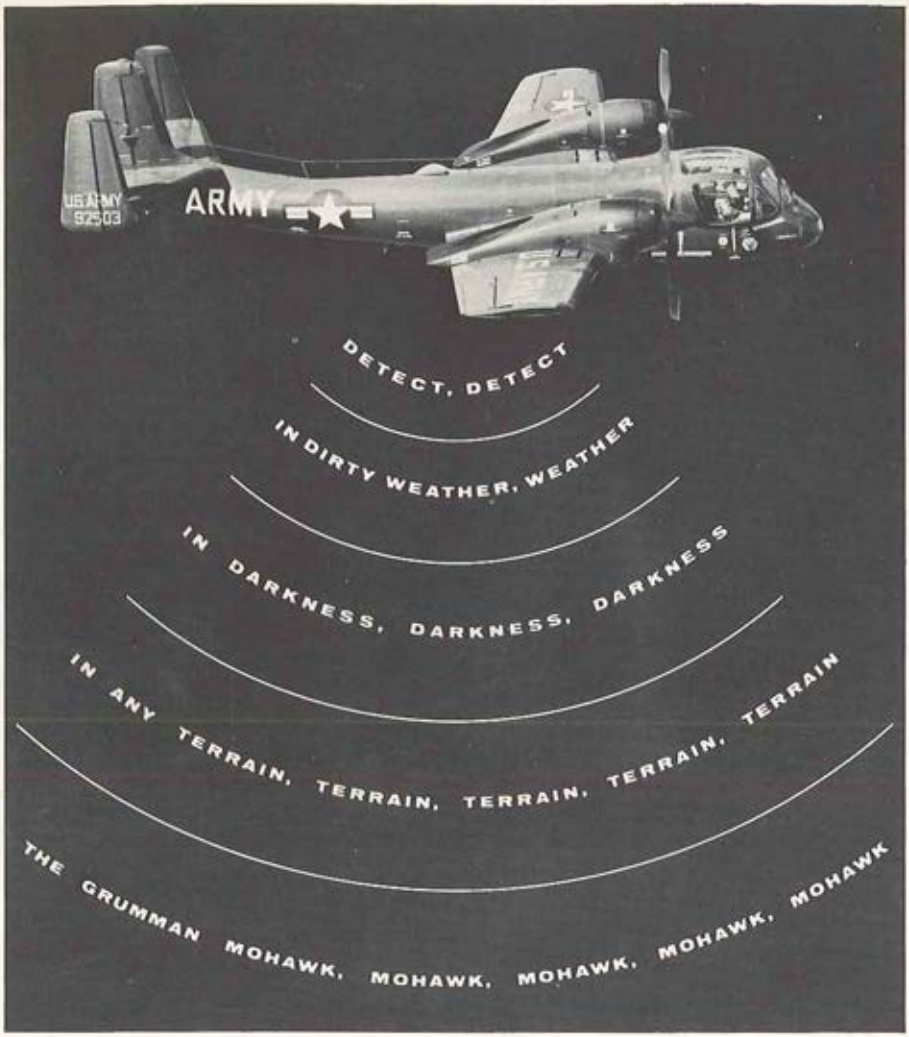
Office, Secretary of Defense authorized "in house" aircraft overhaul and repair operation by the Army.

So long as we continue to do our jobs to the best of our ability, so long as we exploit this important tool to the utmost of its capability, then I have faith that the necessary support will be forthcoming to accomplish our goal—to enhance the Army's combat mobility.

Best of Luck to Each of You.

Sincerely,

RICHARD D. MEYER
Major General, USA
Principal Assistant for Aviation



The enemy might try for surprise under cover of darkness, bad weather, or terrain . . . but it's to no avail, thanks to the detection capabilities of the Army Mohawk.

Equipped and available with either standard observation gear (the AO-1A "Eyeball")—or side-looking airborne radar (the AO-1B SLAR)—or infrared (the AO-1C)—the Mohawk will seek out the enemy to give the Army continuous and up-to-the-minute information.

The Mohawk also provides the Army with maximum operational flexibility. It's a twin turboprop aircraft designed to operate with short-field capabilities into and out of unimproved fields. For example, from cow pastures just 600 feet long! An all-weather aircraft, the Army Mohawk is the ultimate in electronic surveillance and observation.

GRUMMAN

AIRCRAFT ENGINEERING CORPORATION
Bethpage · Long Island · New York

AAAA ORGANIZATIONAL NEWS

NATIONAL BOARD MEETING

The National Executive Board of AAAA will hold its "Summer Quarterly Meeting" at the West Gate Motel, Alexandria, Va., on July 14-15. Annual Meeting planning, Association medals, group life insurance, and Chapter activities are several subjects to be taken into discussion.

MEMBERSHIP

The Association's year-end total membership at March 31st reached 5,858 members. Eighty-three per cent of these '60-'61 members renewed their AAAA membership providing the Association with a strong carryover base of 4,865. The bulk of the membership loss were DAC personnel and ARNG-USAR members. Approximately 200 of the "dropped" members are expected to filter back in during the remainder of this membership year (misplaced dues notices, no current record of address, etc.) Industry membership renewal support was equally encouraging, only two of the 38 Industry Member firms failing to renew.

FPPP

The new program has been endorsed by 84% of the April, May, and June policyholders. Claims actions: 44 members receiving monthly indemnities; 6 claims awaiting underwriter approval; 11 additional claim alerts received from members; 61 claims in all. Of the last 19 claims submitted for approval, all have been approved except two, both of these claims showing the initial date of illness as occurring within the first 30 days of coverage.

AWARDS

Chairman Robert M. Leich has photo-copied all nominations received, providing "advance study" copies to members of the Awards Committee. The full Committee will make their decisions at a Washington, D.C., meeting on July 14th.

GENERAL

The Association has joined the National Aeronautic Association as an "Associate Member." The Annual Audit of the Association fiscal records by the firm of Bergen & Willvonseder was conducted in late June. A summary of the Audit Report will appear next month.

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.

CHECK ONE

☐ My past or current duties affiliate me with the field of U.S. Army aviation or its allied pursuits.
☐ 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 purposes of the Army Aviation Association.

NAME.....
(Please print) Rank/grade First M. I. Last

ADDRESS.....
(Post Box Number, Residence or Quarters Address is Desired)

CITY..... **ZONE**..... **STATE**.....

☐ **INITIATION FEE . . . $3.00**

First Year Membership Only. Includes Lapel Pin and Decal.

ANNUAL OR PRO-RATED AAAA DUES

Membership Year Terminates Each March 31st

☐ $6.00 (Applications submitted ..... April 1 - June 30)
☐ $4.50 (Applications submitted ..... July 1 - September 30)
☐ $3.00 (Applications submitted ..... October 1 - December 31)
☐ $1.50 (Applications submitted ..... January 1 - March 31)

CATEGORY OF AAAA MEMBERSHIP

☐ Active U.S. Army establishment
☐ U.S. Army Reserve component
☐ U.S. Army National Guard component
☐ Other. Describe below.

_____

_____

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.

NEW MEMBERS JOINING AAAA

Adams, John Q., III, Lt
Asberry, John E., Mr.
Baker, Jean L., Capt
Beard, Wayne H., Jr., Lt
Benson, Frederick S., III, Lt
Bezreh, Anthony A., Capt
Blake, Kenneth N., Jr., Capt
Boggs, Roy A., CWO
Bolton, John E., Capt
Bounds, Merle E., Capt
Bowie, Herbert H., Mr.
Bowser, John V., Mr.
Brashaw, Ernest H., CWO
Brown, Raymond V., Capt
Bryan, Thomas F., Capt
Burke, James L., LCol
Burkot, S. J., Mr
Burtnett, Richard J., Jr., Lt
Burwell, James M., Lt
Cleveland, William J., Maj
Cody, Robert L., LCol
Cosby, Warren G., Maj
Curtin, James G., Lt
Cyr, Arthur R., Jr., Lt
Davis, Edward P., Capt
Dean, Wesley A., Capt
Decker, Edwin R., LCol
Derrick, George E., Capt
Felix, Robert L., Capt
Ferran, Wilbur, SP-5
Fincher, Julius W., Capt
Freeman, Charles G., Lt
Garcia, Anthony S., SFC
German, David A., PFC
Gonzales, Ralph V., Capt
Griffin, James W., Lt
Gunn, Herbert L., SFC
Gurley, Leon E., SP-5
Guthrie, James B., Capt
Hennesay, Gay E., PFC
Herring, Peter K., Capt
Huggins, Lloyd G., LCol
Hunter, Roy V., Maj
Hurd, David L., PFC
Ingalls, David E., Lt
Johnson, Clark T., Jr., SFC
Jones, Colver H., Jr., Capt
Kaler, William R., Lt
Kerbl, Frank R., Lt
Kersey, Irwin J., Maj
Kiger, John W., Lt
Knotts, Daniel L., Capt
Lasley, Paul A., Lt
Lisonbee, Lawrence J., CWO
Losey, Melvin D., BGen
Markley, Leighton O., Capt
Mason, Robert K., Mr
McCreary, Edward K., Lt
McDonald, Malcolm G., Capt
McLaurin, Charles D., Capt
McMicken, Farris Gene, Lt
Moody, John F., Capt
Morgan, A. W., Mr
Mosher, Robert L., Lt
Oksa, Reino O., Capt
Otto, Robert W., Lt
Paquette, Roger K., Lt
Payne, Samuel W., Lt
Peterson, Lyle M., Capt
Phillips, Ran L., Capt
Pitts, Russell N., Capt
Politella, Dario, Mr
Ramage, Lee G., Lt
Richardson, John C., Lt
Robertson, John D., Capt
Rogers, James R., Lt
Sandridge, James W., Jr., Col
Scott, Norman E., Capt
Seaward, Gordon W., Jr., Lt
Sherrod, Dale E., Lt
Smith, Clair B., Capt
Smith, Ernest W., Lt
Smith, Richard Allen, Lt
Smitherman, Joe V., Lt
Souvenir, Melvyn L., Lt
Standridge, Larry, Lt
Stebbins, Ronald S., Lt
Stillwell, Burke C., SP-5
Sword, Robert P., CWO
Treece, Frank L., Capt
Trigg, Robert E., LCol
Vansandt, Kenny W., Lt
Waddill, Roland A., Jr., M/Sgt
Walker, Wiley W., Capt
Weathersby, Robert E., Jr., Lt
Weber, Gottfried E., Jr., Lt
Williams, Robert D., SP-6
Withers, Peter C., Capt
Yamagata, Fred T., Capt

CHAPTER SLATES

82d Airborne Division Chapter
(Fort Bragg, N.C.)

President ..... Lt. Col. Robert R. Corey
Exec Vice President ..... Capt. George C. Horton
Secretary ..... Capt. Donald M. Damskov
VP, Army Affairs ..... Dale E. Sherrod
VP, ARNG Aff ..... Lt. Bryan L. Childress
VP, USAR Aff ..... Lt. Harry R. Spitz, Jr.
VP, Industrial Aff ..... Lt. John C. Temple
VP, Public Aff ..... Capt. Arthur J. Leary

Alaska Chapter
(Alaska)

President ..... Capt. Buell R. Powell
Exec Vice President .... Capt. Edward P. Preisendorfer
Secretary ..... CWO George F. Beaston
Treasurer ..... CWO Paul H. Johnson
VP, Army Aff ..... Lt. Leo E. Schmitz
VP, Reserve Aff ..... Lt. Edward J. Andres
VP, Industrial Aff ..... Capt. Gilbert R. Hickenbottom
VP, Public Aff ..... Lt. Wendell L. Thurman

PLAN TO ATTEND

The *1961 Annual Meeting* of the *Army Aviation Association of America* will be held September 3-5 at the Sheraton-Park Hotel in Washington, D. C. This will be the third National Get-Together and it promises to be even bigger and better than the first two meetings.

The dates for our Association meeting have been scheduled to coincide with the annual meeting of the *Association of the United States Army* which is September 6-8. We think this arrangement will be beneficial to both organizations.

REGISTRATION: Registration will open at noon on Sunday, September 3rd in the lobby of the Sheraton-Park Hotel. All who attend the sessions of the *1961 Annual Meeting* will be expected to register. The registration fee for military personnel is $2.00 per person and for civilian members $3.00 per person. Advance registrations may be made by forwarding the following registration slip with your check to *P.O. Box* 1528, *Washington* 13, *D. C.* Checks should be made payable to *AAAA Annual Meeting.*

ADVANCE GET-TOGETHER: An informal, *Dutch Treat,* "milling mob" affair—roughly titled, not for "drys," and guaranteed to place all of those members reporting early in close touch with their friends—has been scheduled for *Sunday afternoon* and *evening.* The exact Sheraton Hotel room will be announced at a later date, a *big* room to be sure.

BUSINESS SESSIONS: The National Executive Board and Chapter Delegates will conduct business meetings on Monday, September 4th. All members are invited to attend these meetings.

RECEPTION: An *AAAA-Industry Co-Sponsored Reception* for all registrants will be held on Tuesday evening, September 5th from 6:30-8:30 P.M. Your registration badge is your ticket for admittance. Dress will be informal and ladies are invited. It is expected that many persons attending the *AUSA Annual Meeting* will also register for the AAAA meeting and will attend the reception. This will be an excellent place to renew acquaintances with old friends. Besides, in this age of inflation where can you get a better bargain for $2.00-$3.00?

The Reception is the closest thing to a "Who's Who in Army Aviation," Plan to attend.

HONORS LUNCHEON: The *Annual Honors Luncheon* will be held on September 5th. During the luncheon the following awards will be presented:

James H. McClellan Safety Award

Hughes Award to an Outstanding Aviation Unit

AAAA Award for the "Army Aviator of 1960"

Hiller Award for the Aviation Soldier of 1960."

The principal speaker for this occasion will be *Mr. Najeeb Halaby*, Administrator, Federal Aviation Agency.

Tickets for the *Honors Luncheon* are $5.50 each. Chapter tables seating 10 persons each may be reserved prior to August 1st by forwarding a check for $55 for each table to *AAAA Annual Meeting, P.O. Box 1528, Washington 13, D. C.* Chapter and Delegate Tables will be interspersed with Industry Tables. Assignment of table locations will be made in the order in which requests are received.

Single tickets for the *Honors Luncheon* may be obtained from the Registration Desk if reservations are still available. Refunds for luncheon tickets cannot be made for cancellations received after August 25th.

AAAA cannot accept or handle any hotel reservations. Requests for hotel reservations should be directed to the Sheraton-Park Hotel or to the Billeting Officer, Ft. Myer, Va., if you desire to utilize government facilities. Any additional quiries concerning hotel accommodations should be addressed to the Sheraton-Park Hotel.

The attendance at AUSA functions on Wednesday can be anticipated to be very large. Many of the AUSA members will desire to attend our *Honors Luncheon*. Since the capacity of the hall is limited to about 900, we want to make certain that our AAAA members attending have first chance at the tickets for the Luncheon. This can only be accomplished through your cooperation. Please send in your advance registration with request for luncheon tickets early. This should be mailed to P.O. Box 1528, Washington 13, D. C.

RICHARD D. MEYER
Chairman
Annual Meeting Committee

REGISTRATION COUPON
AAAA ANNUAL MEETING
P.O. Box 1528
Washington 13, D.C.

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

FUNCTION	QUANTITY DESIRED	UNIT PRICE MIL	UNIT PRICE CIV	AMOUNT
Registration (Includes Reception)	.....	$2.00	$3.00	.....
Honors Luncheon	.....	$5.50	$5.50	.....

Name .....
(Print or type) (Rank or Title or Position)

Address .....
(Street) (City or Station)

FULL PAYMENT MUST ACCOMPANY THIS REGISTRATION

• PROGRAM •

THIRD ANNUAL MEETING
ARMY AVIATION ASSOCIATION OF AMERICA

SUNDAY, SEPTEMBER 3, 1961

1200-1800
AAAA Registration Desk Open

1730-1900
Informal Get-Together & Reception

MONDAY, SEPTEMBER 4, 1961

0800-1700
AAAA Registration Desk Open

1000-1300
National Executive Board Meeting

1000-1200
Chapter Officers and Delegates Meeting

1400-1500
Press Briefing, AAAA President

1400-1700
Chapter Delegates Meeting

1730-1900
Informal Reception

TUESDAY, SEPTEMBER 5, 1961

0800-1200
AAAA Registration Desk Open

0830-1100
National Membership Meeting
President's Report
National Executive Board Elections
National Programs, Policies, Open Discussion

1100-1200
Reception, Head Table and Distinguished Guests, Assembly Room

1200-1345
AAAA Annual Honors Luncheon
President's Opening Remarks
Invocation
Introduction of Head Table Guests
Fife and Drum Corps
Presentation of AAAA National Awards
James H. McClellan Safety Award
Award to the Army Aviator for 1960
Hughes Award to an Outstanding Aviation Unit
Hiller Award to the Aviation Soldier for 1960
Address by the Honorable Najeeb Halaby, Administrator, Federal Aviation Agency
Benediction

1445-1730
Panel Discussion by Senior Army Personnel
'The Army Looks at its Aviation Future'

1730-1830
National Executive Board Meeting

1830-2030
AAAA-Industry Co-Sponsored Reception
Introduction of the new National President and National Executive Board slate of officers

ARMY AVIATION MAGAZINE
Westport, Connecticut

FIRE SUPPRESSION

FLOWN BY A JOINT ARMY AND AIR FORCE CREW, AN ARMY HU-1B IROQUOIS FROM THE U.S. ARMY AVIATION BOARD, FORT RUCKER, ALA., IS SHOWN AS IT PARTICIPATED IN A FIRE-FIGHTING DEMONSTRATION HELD AT ROBINS AFB, GEORGIA. THE IROQUOIS HAD DEPOSITED A FIRE SUPPRESSION KIT AND TWO FIREMEN UPWIND OF THE FLAMES MOMENTS BEFORE THIS PHOTO WAS TAKEN. THE REALISTICALLY STAGED AIRCRAFT CRASH AND FIRE DEMONSTRATION WAS A HIGHLIGHT OF A 5-HOUR PROGRAM ON NUCLEAR ACCIDENTS AND INCIDENTS ATTENDED BY SOME 150 CIVIC OFFICIALS.

2,535 ESHP

VIEWING THE UNIQUE SPLIT-POWER GEAR DEVELOPED FOR THE NEW LYCOMING LTC4G-3 TURBOPROP ENGINE ARE LYCOMING OFFICIALS, WOLFGANG STEIN, LEFT, AND EDWARD A. BRASS. THE NEW 2,535 ESHP TURBOPROP RECENTLY COMPLETED ITS FIRST TEST RUN AT LYCOMING. THE COMPACT NEW GEAR IS INTEGRATED IN THE FRONT OF LYCOMING'S STANDARD T55-L-5 ENGINE, NOW IN PRODUCTION FOR THE ARMY HC-1B CHINOOK HELICOPTER.