ARMY AVIATION

JUNE

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the BELL H-13H

powered by

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A 15TH ANNIVERSARY MESSAGE

On behalf of the men and women of the Army, I extend congratulations and best wishes on the occasion of the fifteenth anniversary of Army Aviation.

As the pioneer in the development of military aviation, the Army has always directed its efforts towards utilizing aircraft to enhance the mobility, flexibility, and battle efficiency of its forces. The integration of low-performance aircraft into the Army structure—thereby expediting reconnaissance, improving target acquisition, and permitting rapid shifts of men and supplies about the battlefield—augments the combat capability of the Army. The characteristic responsiveness of Army Aviation to the requirements of combat commanders coupled with the professional ability of soldier-pilots provide the fundamental characteristics necessary to fulfill the Army's organic aviation needs.

I join with every member of the Army in expressing pride in the accomplishment of Army Aviation during its relatively short history and in voicing confidence in its ability to perform increasingly important functions in the future.

MAXWELL D. TAYLOR
General, United States Army
Chief of Staff

CONGRATULATIONS
TO THE
UNITED STATES ARMY
ON THE

15TH ANNIVERSARY OF ARMY AVIATION

JUNE 6, 1957

HUGHES TOOL COMPANY

AIRCRAFT DIVISION

CULVER CITY, CALIFORNIA

ARMY AVIATION

Official Publication of the Army Aviation Association of America

Volume 5 — Number 7
June 15, 1957

Subscriptions

"ARMY AVIATION MAGAZINE," Westport, Connecticut. Issued monthly as a news medium, except for the November issue which is published as an Annual Roster. Subscription price to non-members of the Army Aviation Association of America who are citizens of the U.S.A., $2.50 a year to U.S., authorized APO, and U.S. Territorial addresses; $2.75 a year to U.S. citizens residing at foreign addresses. Single issue, 25c. Publisher, Dorothy Kesten. Second Class Mail Privileges authorized at Westport, Connecticut. Publication phone number: Clearwater 9-4752 (Fairfield, Conn. exchange).

Display and classified advertising rates furnished upon request.

Editorial

All material submitted for publication must bear the signature of the sender. The sender's name will be withheld upon request. Unsoliciated material and/or photographs will not be returned unless accompanied by a return-addressed envelope bearing sufficient postage. The editors reserve the right to alter, edit, or delete copy and/or specific names from all unsoliciated material.

The views expressed in this magazine are those of the individual authors and are not necessarily those of the Department of the Army.

Change of Address

Changes of address require three weeks' notice. Please furnish publisher's key line with address change. No address change will be effected upon the basis of address changes appearing in editorial copy. Back issues will be held and subsequently forwarded to the subscriber in those instances where the subscriber notifies the publisher of an address change and desires that his issues be withheld temporarily. Back issues shall not be forwarded in those instances wherein a subscriber fails to notify the publisher of a change of address.

Let's Chat . . .

An Army Aviation Association has been organized. Many of the key officers in the active Army, NG, and USAR have accepted office and are striving earnestly to create a "going" organization.

The skeptical one may say, *"Is this trip necessary?*

No one, including those who shall lend direction to the AAAA, can say for certain whether the activity and efforts expended to create and sustain the organization will return *tangible* benefits to the individual.

Perhaps the status quo *is* best.

But let's probe a little.

The comment is often heard that *"No one understands us"—"We've got to sell AA to this or that, etc."*—or *"We're losing out here,"* a phrase in which you liberally may substitute *"there."*

This may be true. But it is only the far-sighted person who realizes that Army aviation has many friends. People in industry, non-rated military personnel, civilians.

These people would like to encourage and advance Army aviation. *But how? To whom do they turn?*

The Association is a strong attempt to solidify these groups and thereby help Army aviation and indirectly, the Army. It can — with willing and conclusive support — return tangible benefits to you.

With some jocularity most AA's will agree readily that a *hung jury* has marked our every step forward throughout the years. We've moved forward without complete *unanimity* (the bloodied heads are legion) but we have moved forward.

The proposal has been made to weld more than 7,000 persons into an organization that will act in concert and produce. It's a nice thought.

Whether it goes beyond a thought is up to *you.*

Cessna L-19's deliver the goods – Army counts on it!

The Cessna "Bird Dog" is a pack horse, too! Here, it is shown dropping supply packs to Army units. Packs are snapped to wings of L-19's, delivered to forward troops in seconds!

The tough, dangerous job of supplying small Army units by air is assigned to Army pilots flying Cessna L-19's because these airplanes are designed for this type of work . . . and for other duties such as wire laying, flare dropping, aerial photography, insect spraying, courier work, communications, artillery spotting.

Cessna

Cessna Aircraft Company, Wichita, Kansas

Cessna L-19's offer high-wing visibility, short take-offs and landings, outstanding load-carrying and slow-flight characteristics. Also, these rugged, all-metal airplanes are easy to service, require less maintenance.

Cessna has delivered every L-19 to U. S. Armed Forces on schedule since 1951!

LOOKING TO THE FUTURE!

Member National Business Aircraft Association

Today, it's the conventional engines for fixed wing and helicopter equipment — R-1820, R-1830, R-1340, R-985, R-2000, R-2800 CA and CB, R-3350, R-4360, Lycoming and Continental engines. Tomorrow, it will be the jet and the turbine engine.

In preparation for this day, Dallas Airmotive will continue to grow and improve its engine methods.

Engines — regardless of type or kind — can best be overhauled at Dallas Airmotive.

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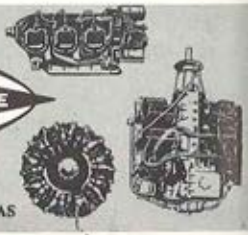

NEW TURBOROTOR 'COPTER...
another Kaman First!

1951

Kaman built the first turborotor helicopter flown anywhere.

1954

Kaman again pioneered in the helicopter gas turbine field with this HTK powered with twin turbines.

Kaman Aircraft and Lycoming scored a turborotor first when this Kaman HOK helicopter took to the air powered by Lycoming's XT-53, the first U.S. free-shaft gas turbine specifically designed as a helicopter power plant.

Kaman leads the field in turborotor experience and development and is proud of the forward steps it is taking in the interest of our National Defense.

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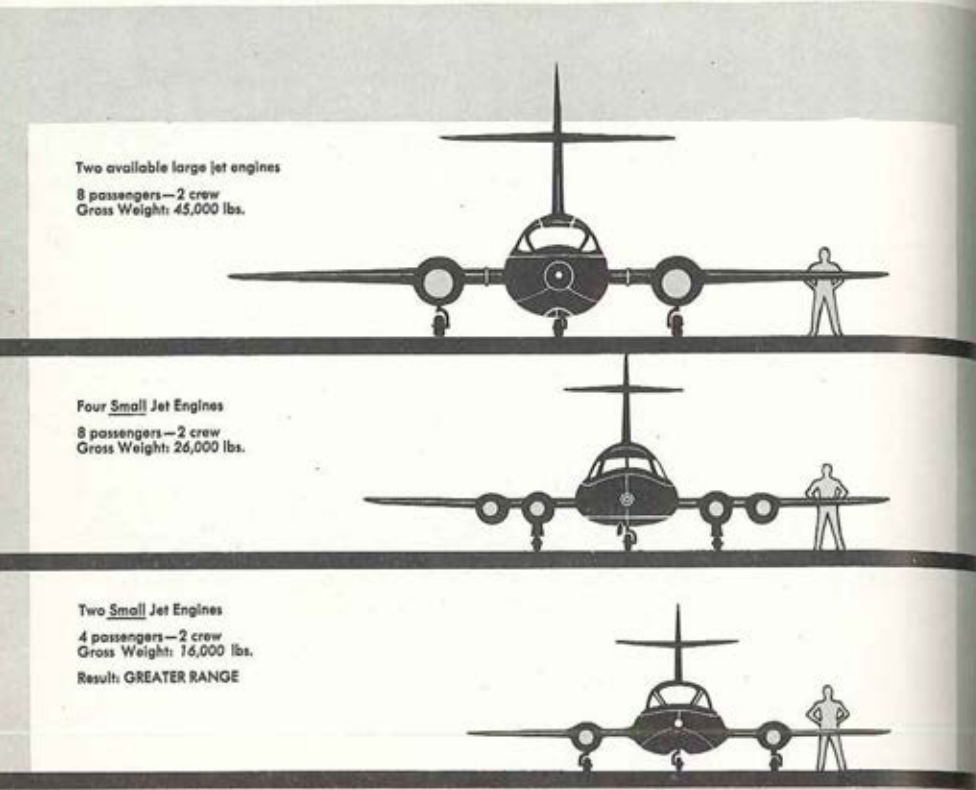


EXAMPLES OF SMALL JET ENGINE WEIGHT LIFTING ADVANTAGES AND AIRFRAME SHRINKAGE... ON IDENTICAL MISSIONS.

SMALL JET ENGINES... CHAMPION WEIGHT REDUCERS

The new breed of high-performance, lightweight, small jet engines coming to life will broaden the horizons of jet aircraft design, performance, versatility and utility.

Best of all, the new small jets will make possible lighter, less costly aircraft with performance to match the big planes of today. With power/weight ratios as high as 8 to 1 and long range potentials of more than 10 to 1, the small jets may power lightweight fighters, basic and advanced jet trainers, transports of half the size with proportionate savings in weight and cost. As the new airframes shrink, their performance and especially their versatility and utility expand.

Performance and potential in a smaller package . . . this is the promise held out by the new family of small jet engines.

Fairchild Engine Division has long been a pioneer in aviation and a pioneer in power and is dedicated to the small jet engine concept. Watch for the new family of small, lightweight jet engines under development at the Fairchild Engine Division.

Test cell for the powerplants of tomorrow—a vital link in the chain of advanced research program at Fairchild Engine Division. Equipment, experience and design ingenuity—these are the elements in Fairchild's pioneering in small jet powerplants.

FAIRCHILD ENGINE DIVISION

DEER PARK, LONG ISLAND, N. Y.

A DIVISION OF FAIRCHILD ENGINE AND AIRPLANE CORPORATION

...WHERE THE FUTURE IS MEASURED IN LIGHT-YEARS

Gentlemen: I have just received a copy of a letter forwarded by General I. D. White, Commanding, United States Army Forces, Far East, in which certain elements of the Eighth United States Army were cited for "Exceptional Service". The letter was written by Major General R. L. Waldron, Commander, 315th Air Division, USAF. I take pride in reproducing the following extracts from it:

"On 22 February 1957 a C-124 aircraft of this command was forced to land in the Han River near Seoul, Korea. There were 10 crew members and 149 passengers aboard. Of this total number of persons, there were 137 survivors.

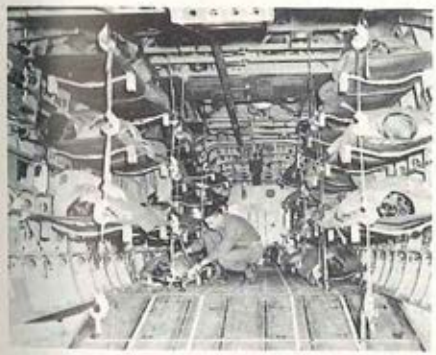
Certain members of your command gave exceptional service in the rescue of survivors. I refer to the pilots and other crew members of Army helicopters who evacuated the survivors. . .

This evacuation was accomplished during the hours of darkness. The helicopters involved flew a total of 81½ hours. The rescue took place at a sand bar in the middle of the river over which the tide was steadily rising. Since there were 27 helicopters participating in the rescue operation, the resultant air traffic saturation created an extremely hazardous condition. The selflessness and heroic actions of your helicopter pilots and other crew members in evacuating the survivors unquestionably prevented the death toll from being higehr. If evacuation from the sand bar had not been effected, the rising tide and freezing water might have resulted in there being no survivors.

According to available information, the Army helicopters and crews involved were assigned to the following units: Korea Military Advisory Group, K-16 Helicopter Ambulance Detachment, Eighth U.S. Army Aviation Detachment, A-9 Unit of 24th Infantry Division, 3d Light Aviation Section of 1st Corps, 2nd Engineer Group Air Section, 13th Transportation Company.

The names of the crew members have not yet been compiled. . . Many of these persons should be singled out for special praise. . .

The personnel of my command do extend their sincere appreciation to all personnel who participated in the search for missing persons, and the salvage and recovery operations which lasted for several days. . . We also desire to express our special thanks to all your personnel who assisted in recovery of #3 engine from the accident site. This was almost a superhuman task because of the icy water and tide conditions. Only by examination of this engine will the cause of the accident be determined."



TROOP TEST—The litter configuration of the Sikorsky H-37 Mohave is tested at the U. S. Army Aviation Board at Fort Rucker. Lt. Harold Huntsman ministers to the simulated casualties. (US Army photo).

GUIDELINES

by Maj. Gen. Hamilton H. Howze
Director of Army Aviation

Such tributes should puff us all up a bit. When the chips are down, the Army aviator and the supporting ground crews seem to come through with what it takes to get the job done.

★ In all probability most of you have been introduced to the new officer efficiency report form (DA Form 67-4). The regulation governing the use of this new form is AR 623-105, dated 18 October 1956. Both the form and the regulation became effective 1 January 1957. I have two comments: one — read the regulation carefully before making out a report, and two — remember that a single bad landing is not conclusive evidence of a head full of glue.

★ The Air Coordinating Committee (Army participating) has just completed a detailed report that contains a comprehensive "wrap-up" on the current air traffic system. This report, *"Accelerated Modernization of the U. S. Air Traffic Control and Navigation System,"* is as all-embracing as its title, and covers the subject thoroughly. It was prepared by technical and operational personnel, both civil and military, experienced and responsible for planning in this particular field. The report contains information concerning new flight procedures, data on research in application of automation, latest electronic facilities including long-range

GUIDELINES
by Maj. Gen. Hamilton H. Howze
(Continued from Page 9)

radar, precision navigation devices, as well as how to make optimum use of existing facilities.

This document presents conclusions and recommendations on the air traffic control problem that affect present and future concepts of air operations of both the civil and military. The report is, therefore, of particular value to officers responsible for coordinating planning and programming the operational requirements of the Army aviation mission as it relates to the "Common" (civil/military) airways system in the U. S. Initial distribution will be made to appropiate Army aviation activities in accordance with this criteria. I must stress that this report is a planning and reference item and not an operational document for pre-flight or airborne use. However, if a copy of this document comes past you, I recommend your reading it to broaden your understanding of air traffic control and navigation systems problems.

★ A very important step in the career of an officer is the successful completion of the advanced course of his branch school. Many of our captains and majors have not taken this step, even though Career Management Division assures me that sufficient quotas are being made available to major commands. I urge those eligible officers who have not done so to apply at their earliest convenience. In addition to branch schooling the aviator will obtain valuable staff training and attain a prerequisite for attendance at the Command and General Staff College.

Best wishes,
HAMILTON H. HOWZE
Major General, GS
Director of Army Aviation, ODCSOPS

(Additional) Fatal Accidents are on the upswing; we *must* take all proper measures to reverse this trend. (Note this data).

ACCIDENTS

Low Altitude Stalls: *In* 16 *months* — 17 *accidents*, 7 *aircraft*, 10 (*with*) *major damage*, 6 *killed*, 8 *seriously injured.*

ARTIST'S VERSION of a STOL aircraft utilizing the propulsive rotor concept being developed by Kaman Aircraft for the U.S. Navy. Small controllable flaps, visible on the trailing edges of the propulsive rotor blades, would provide pilot-control through the 0-50 mph range following which conventional controls would take over. Large Fowler flaps would provide additional lift. The Kaman STOL would employ gas turbines to power the propulsive rotors and would have a 0-300 mph range (Kaman photo).

● Most Army flying is low altitude; it must be, to get the job done. We must keep up — and in fact — intensify training in low level work, but plan low level missions carefully and maintain a state of discipline which will preclude cowboy flying. *Midair Collisions*: *Since* 1 *January* 1957 — 4 *Collisions*, 6 *aircraft destroyed*, 6 *killed*, 5 *injured.*

● Keep alert in the air. It's crowded up there.

L-19 Ground Loops: *in CY* 1956 — 71 *ground loops. Practice Autorotation*: *In CY* 1956 — 27 *accidents in practice autorotations*, 19 *accidents in autorotation after actual engine failure*, 44 *successful autorotations after actual engine failure.*

● *To sum things up*, we must not only maintain but improve our capacity to do the combat job. This office advocates not less but more training in flying under "field" conditions. On the other hand, we must intensify our efforts to avoid needless and unavoidable accidents through—

COMMAND SUPERVISION
CONTINUOUS TRAINING
DEVELOPMENT OF PILOT JUDGMENT
HABITUAL PILOT ALERTNESS

Kossler Award to Robert L. Suggs

WASHINGTON, D.C.—Robert L. Suggs, president of Petroleum Helicopters, Inc. of Lafayette and New Orleans, La., was presented the William J. Kossler Award at the annual meeting of the American Helicopter Society held in Washington.

The award is given for the greatest achievement in practical application or operation of rotary-wing aircraft, the value of which has been demonstrated in actual service during the previous year.

A pioneer in the use of helicopters for transporting men and equipment to offshore oil drilling sites, Mr. Suggs has also utilized helicopters in seismograph and gravity meter oil surveys in the US, South America, Central America, and Canada.

Two Vertol Aircraft representatives donned steel helmets, took a long and hard look at the French helicopter operations in combat and report on. . .

H-21 Utilization in Algeria

A Joint Report by
L.J. Geier and T.R. Pierpoint
of the Vertol Aircraft Corp.

Introduction

This paper sets forth some pertinent items concerning the logistical support of the French Army H--21 helicopter in a combat operation. No attempt is made to comment on or to suggest improvements to combat tactical aspects, since these are strictly military decisions best left to the military.

Seven Vertol H-21 helicopters first arrived in Algeria in early June, 1956. They were carried directly to Algeria on the flight deck of the French Aircraft carrier Dixmude. Subsequent shipments have been made and at present (1 March 1957), a total of 23 H-21's have arrived in Algeria and 10 additional in France.

The Problem in Algeria

Algeria is populated by approximately one and one-half million French colonials and eight and one-half million Arabs. Its economy is being undermined by an intensive guerrilla war. Since the French are trying to live in the country and fight *only* the rebels at the same time, political restrictive action is placed on the methods of warfare employed so as not to antagonize the friendly segments of the Arab population. As an example the government will permit the use of strafing and rocket attacks on the guerrilla bands, but no napalm.

Algeria is a fertile country, primarily agricultural in nature. Principal exports are food and wines to France. Very little industry is found at present, mainly due to a lack of hydroelectric power, although the French are trying to develop both this and oil resources in the Sahara areas. The guerrilla war being fought is very similar to what might be found in a post-atomic battle period whereby small bands of relatively poorly armed guerrillas would hide out in hill country preying on the local population.

The Algerian rebels (called Fellagha) number approximately 20,000. They operate in bands throughout the mountainous areas. The bands range in size from as little as fifteen to as many as several hundred men. Sporadic rebel activity takes place in the towns where the placing or throwing of homemade bombs in public places and occasional killings are commonplace. This paper does not deal with the city aspects of the fighting since, obviously, helicopters are not employed in such actions.

The French Air Force operates helicopters in western Algeria as non-organic units to the Army which they transport. The French Army conducts its own organic helicopter operation in eastern Algeria and principally uses the H-21 helicopter in troop assault operations. The main French Army helicopter base is Setif and it provides helicopter support for the entire eastern sector of Algeria. All points within the Army sector are within approximately two and one-half helicopter flight hours of Setif. Approximately 200,000 French troops are garrisoned in eastern Algeria spread throughout the areas of rebel activity. This troop coverage is so complete that troops are hardly ever more than ten minutes helicopter flying time from any spot in active areas.

The principle use of the French Army H-21 assault helicopters is in the mountain areas against rebel bands. The southern Aures range of mountains and the northern

(This article is extracted from the joint paper, "The French Army Helicopter Operation in Algeria," presented by the authors at the 1957 Forum of the American Helicopter Society.)

H-21 Utilization in Algeria The Pierpoint-Geier Report (Continued from Page 11)

Atlas chain are separated by a level and fertile plateau where little rebel band activity takes place because easy detection by the French prevents them from building up sufficient strength. Between the northern mountain range and the Mediterranean coast is another rich level farming area which the rebel bands avoid.

French Army Helicopter Organization

Presently the French Army has organized its helicopter operations as follows:

1. Group Helicoptere No. 1 is based near Versailles, France, and is essentially the training organization for French Army helicopter personnel. This group also has bases in the Alps in southeastern France where mountain pilot training is conducted. The H-21's of Group Helicoptere No. 1 are currently operating in this area (at LeLuc).

2. Group Helicoptere No. 2 is based in Setif, Algeria, and is currently carrying out helicopter combat assault missions against the rebels. It operates the major portion of French Army helicopters of all types.

3. MA, ALAT, a base maintenance facility, is also located at Setif and handles the heavier items of maintenance for GH No. 2.

4. The French Air Ministry has technical cognizance over the entire French Army helicopter operation in eastern Algeria as well as the Air Force operation in the west. Fifth echelon (depot level) maintenance is conducted in France by licensees of the organization in Paris. In Vertol's case, this is the Heli-Service organization in Paris.

Mission Types

Two basic types of helicopter assault missions are conducted by the French against the Algerian rebel bands. Briefly, they are:

French troops board a French Army H-21 on an "immediate reprisal" mission. With the widespread basing of troops and the utilization of H-21 helicopters, the French can retaliate against rebel Fellagha bands within a matter of minutes. Given eight hours between detection and engagement, the Fellagha can meld into the civilian populace.

Immediate reprisal and pre-planned operation.

The Immediate Reprisal Mission. In this type of operation, speed of troop delivery is the prime factor. When a rebel band has been detected either by liaison aircraft, ground troops or the widespread French intelligence system, the objective is to attack before they can disperse. Given eight hours between detection and engagement, the rebel band is usually nowhere to be found. Since they are not a regular army, they can immediately blend into the population or become local farmers and shepherds, practically impossible to detect.

The mission, therefore, consists of bringing the helicopters to the troop garrisons as quickly as possible and then transporting the troops into combat which is almost always in rough mountainous terrain. As noted previously, troops are garrisoned in the valleys and small towns throughout Algeria so that usually only ten minutes is required to get the troops from their garrison into action against the rebel band in the mountains nearby. The largest time delay results from getting the helicopters from their centralized location at Setif to the troops. By the application of Operations Research principles, a Vertol Operations Research team in conjuction with the French Army and French Operations Research scientists developed a method to be followed to obtain the best helicopter basing system which would produce the most rebel kills per detection for the lowest expenditure of flying hours.

The Pre-planned Mission. In this approach, a completely pre-planned operation in a defined area is programmed. The operation may be planned days or weeks in advance. The purpose is to invade a certain area of suspected or unusually high rebel band activity and clean out all rebel found. The helicopters deliver the troops to the area, conduct re-supply operations, aid in shifting troop concentrations and carry out the wounded.

In such cases they are under the command of the local troop commander during the entire period. The French believe this type of operation is not usually the best approach since it stirs up the local population and at times creates more rebels than they capture or kill.

Operating Conditions

Algeria has a varying climate. It consists of hot summers with much dust, cold winters with some snow, and a brief rainy season with much mud. The east central Algerian plateau averages 3000 feet above sea level. Landing altitudes for troop assault missions average about 4,500 feet and the highest landings have been over 7,000 feet. In all the missions conducted to date the French Army H-21 helicopter has carried an average

(*Continued on Page* 36)

AIRBORNE SPECIAL DELIVERY

VAIHINGEN, GERMANY—Helicopters replaced freight trains in May as Seventh Army's Signal Section and Transportation Command teamed up to pare vital weeks from the delivery time of essential communications equipment.

During May and June, all World War II vintage SCR-506 radios will be replaced by the comparatively new AN/GRC-19. Through *normal* Signal supply channels delivery of the new sets—329 of them destined for all Seventh Army divisions and armored cavalry regiments—would require from 60 to 90 days.

Direct supply lines and helicopter support especially provided for the radio switch will slice delivery time from Bremerhaven to the using unit to approximately 45 days.

Special channels routed the 400-pound radio sets directly from Bremerhaven to the fifth echelon Signal center in Pirmasens. Following required 100 per cent operational checks at Pirmasens, the sets were airlifted directly to the user instead of passing by rail through the Mannhein supply depot and by truck to requesting units.

First delivery of some 50 sets and necessary repair parts was made to the 14th Armd Cav Regt in Fulda May 1. Subsequent flights were routed to the 11th and 3rd ACR on May 2 and 3, respectively. Through May until mid-June, some 156,000 pounds of radio sets spare parts were airlifted to the regiments and each of the five divisions.

Work horse of the novel supply project is the H-34 Sikorsky helicopter. Seven H-34's of the 11th Trans. Co. in Nelligen flew the regimental deliveries, and nine will make the cargo trip to each of the divisions.

Plans for the high-gear Signal delivery were mapped out by Maj. Kenneth G. Whitehead, Seventh Army Signal Maintenance Officer, and Maj. Herman E. Greer, commander of the vari-missioned 11th Trans. Co.

According to a Signal spokesman, this is the first time helicopters have been employed for mass delivery of Signal equipment in Europe. *"In addition to the time saved by airlift, the helicopter flights will minimize shipping damage to the delicate sets"* he said.

Three three-man teams from the Army Signal Laboratory at Ft. Monmouth are currently in Germany instructing units in the maintenance and operation of the new equipment. Each team employs two sets for demonstration purposes.

The more modern set does about the same job as the SCR-506, but does it better, said a representative of the Signal Section. Both are two-way tactical sets, capable of voice and radio telegraph transmissions.

When mounted on a moving vehicle, the AN/GRC-19 has a maximum range of some 25-50 miles. Employing the *"sky-wave"* effect from a fixed station increases the range to 100-1000 miles.

The set which is being replaced this month has been in use since the early days of World War II. Addition of the "Angry-19" marks its first tactical employment by the U. S. Army.

With Doman

DANBURY, CONN.—Arthur R. Tucker, a former project officer at Fort Rucker and a member of the Army's famed *Square Dance Team,* has accepted a position as chief test pilot with Doman Helicopters, Inc., following his separation from the service.

Mr. Tucker, who studied engineering at the University of Oklahoma, evacuated 434 casualties and flew numerous other combat missions during a Korean tour of combat.

— Lester H. Geiss

BORDER PATROLMAN

When Capt. James P. Lawrence graduated as an Army Helicopter Pilot, he had just turned 40 . . . one of the oldest "cadets" on record. However, he had already flown some 3,500 hours as a fixed wing Artillery Pilot during World War II.

And having qualified for his 'copter rating, he returned to Europe where he flew a Bell H-13 for 33 months. At one time he patrolled 180 miles of the German border each day flying in temperatures down to 25° below. His was the only available helicopter. He was its only pilot. And he had just one mechanic to service it. But, he reports, thanks to Bell's dependability, there were no difficulties at all.

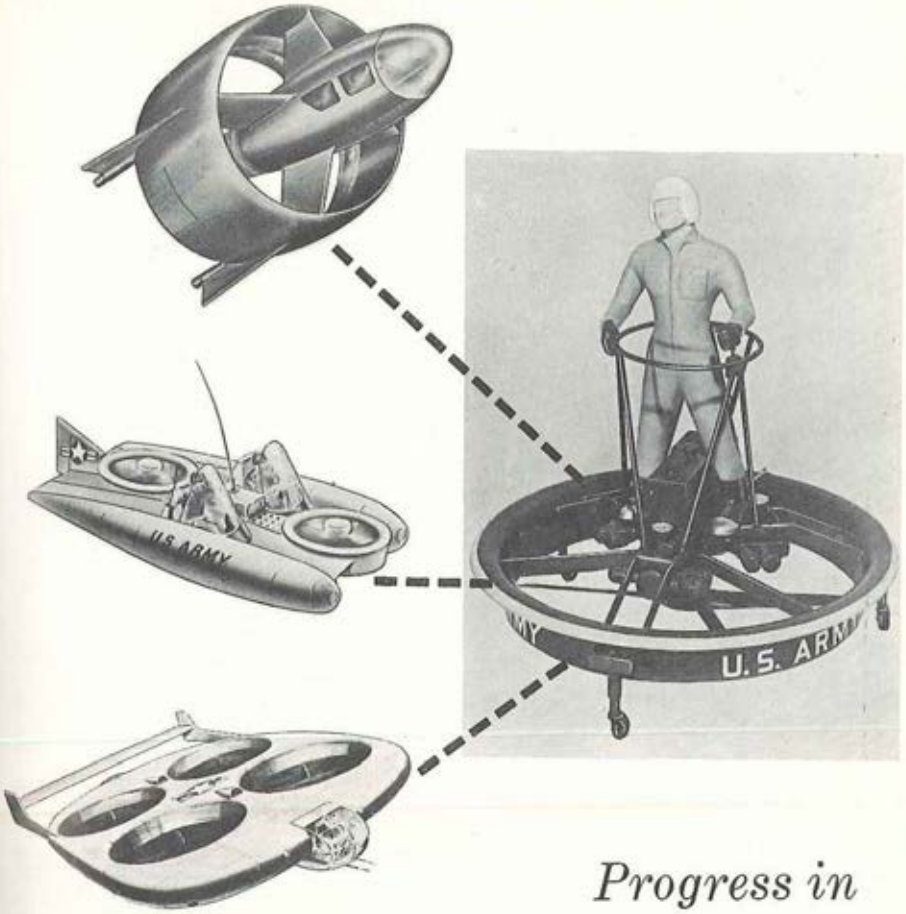
At another time he regularly flew the commanding officer of a widely dispersed regiment on his daily rounds. Capt. Lawrence says they did in a day what would otherwise have taken a week. At present he's Flight Commander for Cargo Training at the Rotary Wing School.

Helicopter flight and mechanical training are available to qualified personnel at the U. S. Army Aviation School, Ft. Rucker, Alabama.

BELL Helicopter corp.

FT. WORTH, TEXAS

Subsidiary of Bell Aircraft Corp.



Progress in

MOBILITY TO MATCH OUR AIR AGE

The Army's ducted fan program is now in its second important phase.

Hiller Helicopters and the United States Army have demonstrated "flyability" with the original Flying Platform. Today, fundamental research, investigation, and design and fabrication of prototype aircraft represent solid advancements toward military requirements for the future simplified low-cost aircraft. Where flight in and around restricted areas requires compact lifting systems, the ducted fan concept provides an optimum solution.

Pioneer manufacturer of ducted fan aircraft, Hiller Helicopters, in cooperation with the U. S. Army, is blazing new trails for military mobility.

HILLER HELICOPTERS PALO ALTO, CALIF.

AFFE/8A (R), FECOM—I'd like to tell the readers about a fine little document that appeared at Davison U.S. Army Air Field, Ft. Belvoir, Va., recently.

This item, bearing the heading: *Passenger Flight Plan and Progress Report,* is colorful in appearance and in my estimation should prove to be a valuable assist to pilots and passengers using Ft. Belvoir aircraft in the future.

I bring this flight form to your attention because I have first hand information as to its background; but most important of all, because I believe that if its purpose is understood from the beginning, then it can do a lot of good for Army aviation at Ft. Belvoir *and* throughout the entire Army.

The USAEC Form 48 (US Army Engineer Center Form 48), subject: *Passenger Flight Plan and Progress Report,* had its start in the US Constabulary AA history, '48-'49, when the then Army Aviation Officer (Lt. Col Robert R. Williams) had his Flight Detachment Commander (Maj Robert K. Moore) draw up a flight planning data chart to help pilots and passengers alike to easily compute routine business trips in L-5 and L-17 US Constabulary aircraft around West Germany.

Capt. Neely R. Brown (OpsnO for the Flt Det at the time) put the necessary information down on paper. Reproduction of this data was in the form of a card, 6" x 6" on index stock, which showed similar data to that on the reverse side of the USAEC Form 48.

Compilation of data and layout of USAEC form 48 occurred in December, '56, at Ft. Belvoir. It was realized about Christmas time of '56 that some means of reporting flight positions to the several thousand official passengers riding Division US Army Airfield aircraft annually was required.

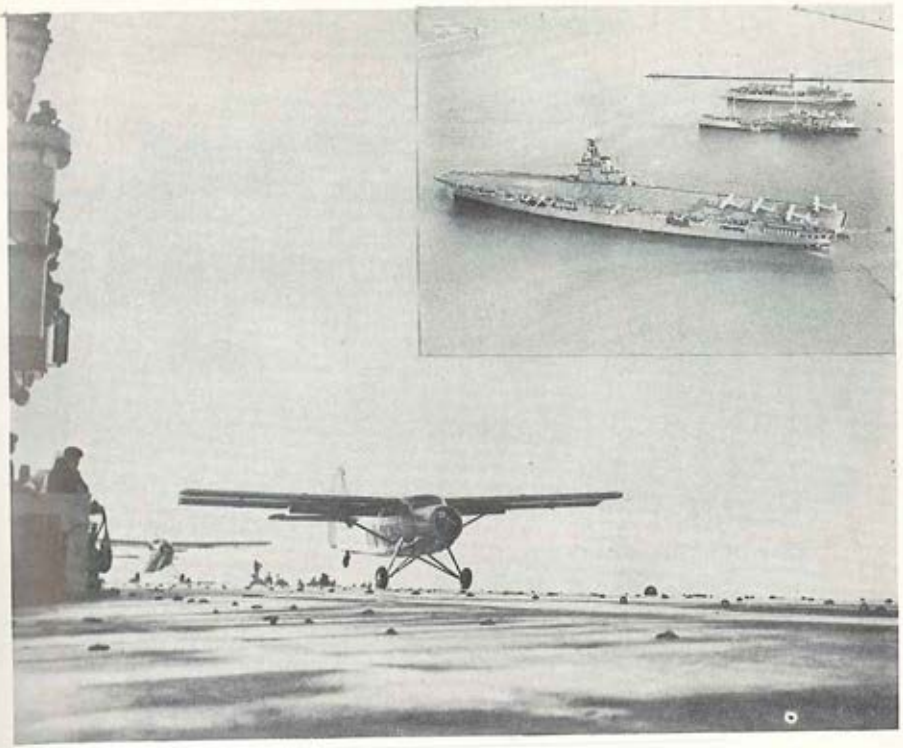
Especially on long flights and during instrument weather and night flying conditions it was considered advisable to have a pleasant, ready means of telling the riders where they were, where they had been, and when they could expect to arrive at their destination.

The attractive USAEC Form 48 was thus designed to fit the purpose. Although the writer had a small part in the make-up and reproduction of the form, fullest credit for the effort goes to the Commanding Officer (Lt. Col. Charles Neufeld), his OpnsO (Capt. Wm. G. Rutherford), and the Airfield Opns NCO in Charge (M/Sgt W.E. Koenig).

In closing, I wish to state that is seems to me that Davison US Army Field has produced a notable record of Army aviation service in its tenure of existence. Now, indeed, as the installation serving D/A and other important nearby offices continues to do big business, an even better mode of helping passengers has been devised and put into service. I suggest that other Army aviation organizations try in some measure to do the same thing.

Lt. Col. Robert M. Rawls

(Ed. USAEC Form 48 is an 8" x 10½" Peace of Mind device that is designed attractively and is printed in three colors. The front of the Form is pictured above. The reverse side of the Form (not shown) pictures the Continental U.S. as an underprint and lists the flight times, including the times for re-fueling, to 27 typical destinations when flown in any one of the six types of aircraft employed by Davison AAF crews.)



Otters at Sea

Built to operate from tiny lakes in the bush, short landing strips bulldozed out of the jungle by U. S. Army Engineers, and similar restricted inland areas, the Otter U-1A makes short work of its take-off run from the deck of the Canadian Navy's aircraft carrier "Magnificent".

Four Otters made the sea voyage aboard the Navy carrier from Halifax to Port Said. They were flown off the 'Maggies's' flight deck to Abu Suweir for service with the 115th R.C.A.F. Communications Flight. Manned by R.C.A.F. pilots, the Otters bear United Nations markings and insignia. They are assigned to the United Nations Emergency Force in the Middle East.

Their duties include reconnaissance patrols over the Sinai desert, communications duties for the U.N.E.F., troop carrier, re-supply missions, and sick and wounded evacuation.

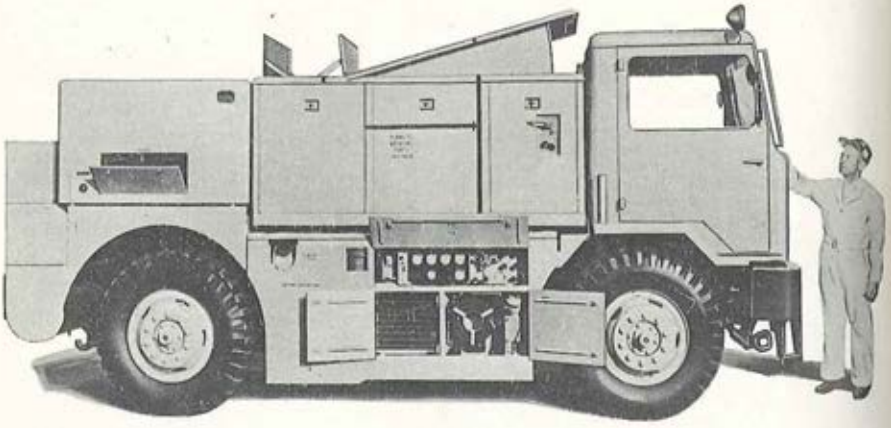
Designed and built by

THE DE HAVILLAND AIRCRAFT OF CANADA LIMITED

POSTAL STATION "L" TORONTO ONTARIO

WASHINGTON REPRESENTATIVE — D. J. GIVENS

CAPABILITIES . . . Manpower, Tools and Experience



No other ground support unit offers the complete flexibility and "fast starting" action of the Beechcraft MA-3 Multi-Purpose Vehicle, now entering service with the U. S. Air Force.

The MA-3 has 12,500 pounds draw-bar pull for towing aircraft, which can be increased by adding to its gross weight. It has reciprocating and gas turbine power plants, an air cycle type air-conditioner of 13-ton capacity, high pressure air compressor with capacity of 15 CFM of free air at pressures up to 3500 PSI. The vehicle can travel at 45 mph, maneuvers easily, has four-wheel power steering, four-wheel drive and four-speed torque converter transmission (four speeds forward and two reverse).

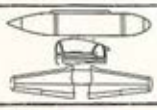
The MA-3 provides 28 Kilowatts direct current from two self-cooled 500 ampere 28-volt generators; features split and single bus; has three-phase alternating current 60 KVA-45 KW; and a self-cooled alternator, precisely controlled frequency 400 CPS.

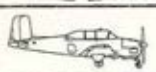
Unexcelled in-the-field service by thousands of Beechcraft ground power units and a world-wide service organization add to the advantages of this truly exceptional unit.

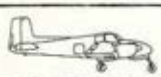
BEECH BUILDS

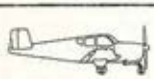

MA-3 MULTI-PURPOSE VEHICLES

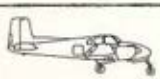

C-26, MD-3 POWER UNITS


TANK-WING-MAJOR SUBASSEMBLY SUBCONTRACT PRODUCTION


BEECHCRAFT T-34 TRAINERS


BEECHCRAFT L-23 TRANSPORTS


4-PLACE BEECHCRAFT BONANZA


6-PLACE BEECHCRAFT TWIN-BONANZA


8-PLACE BEECHCRAFT SUPER 18

Inquiries from airlines, manufacturers, and others who desire details of the most advanced and modern ground support unit will be welcomed by the Contract Administration Division, Beech Aircraft Corporation, Wichita 1, Kansas.

Beechcraft

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

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Application for AAAA Membership

I wish to become a member of the Army Aviation Association. I am a U. S. citizen, qualified under classification checked below. Please start my annual ARMY AVIATION Magazine subscription and send my membership credentials immediately.

☐ MEMBER: I am or previously were engaged professionally in the field of U.S. Army aviation in the active Army or in one of the Army Civilian Component establishments.

☐ STUDENT Member: I am currently engaged in student training at a recognized U.S. Army primary flight training facility or an Army Basic Aviation Maintenance Instruction facility. (Non-voting, non-office-holding).

☐ ASSOCIATE Member: I am neither of the above, but wish to further the aims and purposes of the Army Aviation Association. (Non-voting, non-office-holding).

Membership Year Terminates on March 31st

☐ $4.50 Enclosed: (Applications submitted from July 1st through September 30th).
☐ $3.00 Enclosed: (Applications submitted from October 1st through December 31st).
☐ $1.50 Enclosed: (Applications submitted from January 1st through March 31st).

NAME.....
(Please Print)

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

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

☐ Army ☐ NG ☐ USAR SIGNATURE.....

Failure to indicate category of membership or lack of signature will invalidate this application.

Mail to: AAAA, Westport, Conn.

Peace of Mind

What do you think about when you hear that another person has been removed from flying status for physical reasons for an indefinite period?

Sure, you feel sorry for him, but *you* are free and clear. *Or are you?*

If you face facts realistically, you'll realize that you also are prone to injury and illness at any time. You've been *lucky*.

The AAAA offers a Flight Pay Protection Plan to its members that removes the element of luck from the picture.

You can protect your Annual Flight Pay by making a *one per cent* investment in group insurance.

Who comprises the group? Army aviators and Army crewmen on flying status in the active Army and in the Army National Guard and USAR establishments.

What advantage does this group have that you should enjoy? When any one of them is removed from flying status due to accidental bodily injury or for physical reasons, the AAAA Plan will pay them monthly indemnity payments equal to their monthly flight pay at that time that the government payments are curtailed.

In short, they *can't* lose.

You hate to give up the one per cent? If you are inclined arithmetically, look at it this way. If you pay a one per cent premium every year this Plan is offered it will take you eight and one third years before you have paid out the equivalent of one month's flight pay in premiums. You may be sharp this year but can you push your luck for eight and a third years without the protection of the insurance?

Many members of AAAA have already availed themselves of the Plan. If *you* desire additional information on the Flight Pay Protection Plan, write to the AAAA for Form 907C. Your request will be answered promptly.

Questions and Answers

Q. At the present, I have somewhat similar coverage under another group. If I avail myself of the AAAA Plan and subsequently I am grounded for physical reasons, will I be able to collect indemnity payments under *both* Plans?

A. Indemnity payments under the AAAA Plan are not affected by any other coverage the insured may have. You will receive AAAA payments.

Q. I am an enlisted maintenance NCO on flying status with an aviation company. May I secure the coverage?

A. Army enlisted personnel who are on flying status and who are members of AAAA may secure the coverage.

Q. If I am promoted during the middle of the year in which I am covered, do I receive the higher flight pay increment?

A. Changes in grade and in years of service may only be made on the next succeeding renewal date of the coverage.

Q. I am a civilian in a GS-9 category currently serving with a Test Board. Is this coverage available to civilian flight personnel?

A. At present, the coverage is not available to civilian flight personnel in the various GS grades.

If you have a question on the coverage, use the clip-out coupon below for additional details.

ARMY AVIATION ASS'N FLIGHT PAY PROTECTION PLAN

Exclusively for AAAA Members
underwritten by
Credit Life Insurance Co.
Springfield, Ohio

(Please Print) Rank Name ASN Yrs. Service for Pay Purposes

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

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

AMOUNT OF ANNUAL FLIGHT PAY.....

I certify I am currently on flying status and entitled to receive incentive pay, and that to the best of my knowledge I am in good health, and that no action is pending to remove me from flying status for failure to meet required physical standards.

Signature of Applicant..... Date.....

APPLICATION MUST BE ACCOMPANIED BY CHECK OR MONEY ORDER FOR ANNUAL PREMIUM
The annual premium charge is 1% of ANNUAL flight pay.

For Additional Information

☐ I would like to know the additional details on the AAAA Flight Pay Protection Plan. I (am) (am not) on flying status in the (active Army) (Army-NG) (USAR). Please send this information to the address listed in the blank above.

Vertol tests world's first Tilt-Wing VTOL Research Aircraft

The new Vertol 76 is a true Vertical Take-Off and Landing (VTOL) aircraft, an experimental vehicle that casts a large shadow into the future.

With its ability to take off, hover and land like a helicopter it is independent of all but the most rudimentary landing area. Yet it flies from point to point with the dispatch of a turbo-prop passenger plane.

In this pioneer air vehicle the wing and rotor-propellers tilt as a unit through a 90° arc at the will of the pilot. For vertical flight he rotates the wing upward. To fly level he tilts the wing forward. Given a small runway, he can set the wing at the most effective angle to operate Model 76 as a Short Take-Off and Landing (STOL) aircraft and thus increase payload potential.

The Model 76, soon to undergo flight tests, has been developed by Vertol for the Army Transportation Corps and the Office of Naval Research as part of the military's ceaseless quest for greater mobility and efficiency. From flight tests will come experience and knowledge applicable to the bright future of VTOL in military and commercial aviation.

Since 1943 Vertol has been a pioneer in research and development of vertical lift aircraft. It is now the largest independent manufacturer of helicopters. You may find that our know-how, our experienced personnel, our test facilities and our productive capacity can help you solve a problem.

Engineers, if you are not already working for the government or defense industry, investigate job opportunities with Vertol.

VERTOL *Aircraft Corporation*

MORTON, PENNSYLVANIA

Pro's Say

Informal voluntary reports giving you the "AA" picture in the line outfits

PHOTOS depicting interesting events in Army aviation are always welcomed. We invite you to document your article with photographic data. Please caption the names of all individuals in the photo.

SHARK AFTER MINNOW?—An H-37 Mohave prepares to take on a sizable piece of ammo during recent tests conducted by the U. S. Army Aviation Board at Ft. Rucker. The wide open clam-shell doors enhance the "marine effect." (US Army photo).

Learning

FT. RILEY, KAN.—Having returned from Excercise *King Cole* saddened by the death of two of our friends in arms, the men of the Big Red One look back on the Exercise as one in which they learned much about the operation of an aviation unit in the field.

The reorganization of the 1st into a full fledged Aviation Company is proceeding smoothly and we are now operating under a General Support Platoon and a Direct Support Platoon organization. Each platoon is divided further into functional and operational sections and each has its own aircraft assigned.

Along with the reorganization, two of the eight H-19's authorized arrived in mid- May and all of our chopper pilots are champing at the bit. With THE Annual Flight Exam just around the corner, all of our E6B computers have come out of hiding and are getting a real workout. It looks as if everyone figures on maxing the Exam.

(1/Lt) Herbert H. Sheathelm

Big Future

CAMP GARY, TEX.—How the Army has progressed from the horse cavalry to sky cavalry and the *big* future in Army aviation were outlined by Brig. Gen. Roland del Mar in his address to the 92 graduating students at the Army Primary Flight School in mid-May.

The students officers of Class 57-9 were the first to complete the 4-month primary flight training course at Camp Gary since it became a civilian flying school operated for the Army by Wm. J. Graham & Son.

Top students among the 92 officers receiving certificates of flying proficiency were three officers who had previous fixed-wing or helicopter flight time. 1st Lt. Clarence M. Hulett, a rated helicopter pilot, was honor man; 2d Lt Leo E. Schmitz, who also holds a helicopter rating, was second highest; and 1st Lt Keith L. Isham, a former state director of aeronautics for Kansas, finished third in the class.

Dallas Shuttle

FT. RILEY, KAN.—The "Third" still does not have one each, Otter type mascot. It seems that they are expensive, hard to get, do *not* want a home in the Army, and require conditions hard to obtain here (at Riley). However, the call is still out for one and anyone with any information on the subject is requested to let us know.

Our Otters are presently being shuttled back and forth from Marshall AAF to Redbird Field (Dallas) for installation of radio equipment by Collins Radio Corp. Of course, there were a few cases of RON's due to the precipitation and low ceilings the Dallas area had —not to mention the tornados. On the other hand there has been some AI time for the instrument—qualified.

A few of our officers are still in transition training but should be checked out by the time you read this. Next month, we hope to give the readers the results of the company test we have been preparing for —and as you can guess, we've had ideal "preparation" weather—rain and poor visibility.

Soon, our 21 Otters will be flown to Mobile for partial disassembly and storage on an aircraft carrier —then to Germany.

Oh yes, volleyball is still the current sport here. Not quite as rough as it formerly was. The word now is: keep your cotton-pickin' fingers out of the net!

Not the YC, but the Asst C, (Lt.) Robert Bagley.

CERTIFICATE OF MERIT—The Fourth U. S. Army Flight Group at Brooks AFB is awarded a Department of the Army Certificate of Merit for Safety. Making the presentation to Capt. Arthur J. White (r.), officer in charge of the group, is Maj. Gen. Peter C. Hains, 3rd, Fourth U. S. Army Chief of Staff. At the center is Col. Arthur J. Anderson, Fourth U. S. Army aviation officer. The award was for logging 4,534 flying hours without accident during the period 1 August 1955 to 31 December 1956.

LETTER OF COMMENDATION—Col. John L. Inskeep, Camp Wolters Commanding Officer and Commandant of the USAPHS, reads a letter of commendation to Capt. William A. Bearden (left) and CWO Eldred G. Bourne (center-right). Capt. Bearden and Mr. Bourne flew several reconnaissance flights in an Army helicopter during the recent flooding of the Brazos River. Looking on is Col. Wayne E. Downing, Assistant Commandant of the U.S. Army Primary Helicopter School. (U. S. Army photo).

The L.H. & B.

FT. EUSTIS, VA.—In this issue is a photo of 13 AA's who attended the Transportation Company Officers' Course #13 at the T-School and wound up their courses on May 29th (bet you thought I was going to say the 13th!)

The course covered all types of transportation found in the Army and, I might add, it was quite a sight to see a steam locomotive moving over the L. H. & B (Lee Hall & Back, as the 30-odd miles of rail here at Eustis are called) with an AA leaning out of the Engineers' window.

Another interesting fact about TCOC #13 is that we've sold Army aviation to our fellow officers. Out of those eligible and those that applied, we have 12 who will start their training in early July. This is in keeping with the recommended *buddy system* of recruiting.

Thanks for devoting the space to our *glad faces.*

Sincerely, (Lt.) Donald R. Jordan

Drastic

FT. BENNING, GA.—Mechanics *"just as proficient"* as those turned out by the Army Aviation School at Fort Rucker, Ala., is the goal of the on-the-job training program being initiated in the 1st Aviation Company.

The 1st has been drastically short of mechanics since its arrival at Fort Benning last September. During one period last fall, its twenty aircraft were maintained by six mechanics. In order to maintain a high aircraft availability, crew chief duties were assigned to pilots and *additional* evening maintenance was performed by all the mechanics.

This program, under the direction of Capt. Charles Drummond, Company Maintenance Officer, will have fifty future mechanics enrolled at its peak during the first six month cycle. The high degree of proficiency that Capt. Drummond hopes to obtain through this on-the-job training will be the result of a *maximum* of practical application on the aircraft of the 1st with a minimum of classroom study.

The graduate mechanic from this program will have received 150 hours of instruction covering airframes, engines, and records. Instruction and close supervision during the course will be provided by the 1st's noncommissioned officers. Mr. Bruce Jack, technical representative from the de Havilland Aircraft Company of Canada which makes the *Otter,* will assist in the program as an advisor. YC, (Lt.) James Greenquist.

Displacement

FORT BENNING, GA.—The 31st Trans. Co. (Lt. Hctpr) and the 138th Field Maint Det., formerly of Fort Sill, Okla., have arrived for permanent duty with the 3rd Trans. Bn. at Fort Benning, Ga.

The 31st, commanded by *Maj. A. V. Juliano,* and the 138th commanded by 1st Lt. William E. Cornwell, received orders to move to Fort Benning in late March. The two units were moved in four phases.

Capt. *Paul G. East,* Exec O. for the 31st left for Benning with four officers and six enlisted men as the advanced party to com-

CLOSE-UP—One of Cessna's original three T-37 prototypes is shown above prior to being flown to the Air Force Museum at Wright-Patterson Field. Capt. Robert S. Fogg, chief of the AF flight acceptance division at Cessna, flew the T-37 from Wichita to Dayton. Air Force officials had requested the T-37 for permanent display as the first jet basic trainer. The T-37A is currently in volume production.

LEGACY—Army aviation student, 2d Lt. Richard B. Washburn (l.), son of Col. and Mrs. I.B. Washburn, Ft. Amador, C.Z. carries AA into the second generation in being among the 92 officers who completed their primary flight training at the Camp Gary installation. Congratulating the lieutenant is Brig. Gen. Roland del Mar, assistant 4th Armored Division commander.

plete the first phase on March 20. On March 29, the first flight of ten H-34's departed Fort Sill with 1st Lt. Gerald A. Briscoe as flight commander. After an RON at Jackson, Miss., and nine hours of flying time, the flight arrived at Benning to assist the 4th Hcptr Co. in a demonstration for the 85th Congress.

Capt. Edward J. King, Training Officer for the 31st, left Fort Sill on April 1 with a convoy of 24 vehicles. They arrived at Benning five days later. The remaining 11 H-34's, with *Capt. Robert B. McFeeters* as flight commander, left on the 811 NM trip on April 4. An RON at Jackson, Miss., was also required for this flight.

Following the unit's arrival at Benning, a total of 378 flying hours were logged during April, in addition to getting established at their new location, a record the 31st is proud to own.

YC, (CWO) Worley E. Gentry.

Cee-Gars!

FT. KOBBE, CZ—Two notes of interest and a word of explanation from Panama.

Lt John Finley dropped in from Cuba in his L-19 (some 1,400 NM's) the other day and passed out cee-gars for his newest, a boy. Said (second) son was born 7 Apr. in Havana (so we got GOOD cigars) Down here they have a quaint way of naming children, e.g., the child's birth registration reads: *Joel Franklin Finley Y Hembree,* the last name being the mother's maiden name.

Having recently returned to the 937th after having spent the better part of 5 months in the hospital and undergoing subsequent recuperation, Lt. Thomas L. Long is back on duty again, fatter and healthier. While in the States on leave last December, the various and sundry amoebas Tom accumulated in the headwaters of the Amazon in Peru laid him low. He's soon to depart again for CONUS and separation.

Perhaps we do sound a bit inconsistent in our reports to "AA" in complaining about the WX down here but then again, it *has* been right dry for a spell. Now in a couple of months we'll switch again and cuss the rain. . . Keep the eyeballs uncaged if nothing else.

YC (Lt) Joseph Gayhart

Max Exceeded Here!

FORT RILEY, KAN.—The AAUTC Transition School here is as busy as ever, with students *busier* due to the course being shortened to 50 hours.

We are anxiously awaiting the 15,000 lb max gross weight on the H-21 in that for the past 2½ years the school has recommended that it be raised. People here have flown it at gross weights exceeding 15,000 and are greatly impressed with the potential of the H-21. Wish we could get more H-21 pilots to publish their knowledge of the capabilities of this aircraft and narrow the margin of skepticism.

The flight demonstration team consisting of CWO's Breshears, Cooney and Fulbright have worked out an impressive show employing three H-21's and doing 180 degree autorotation in formation, a bursting bomb with a zero air speed flat spin at the top, pinwheels to 1000 feet and a number of other maneuvers that have been demonstrated elsewhere and as yet *have no name.*

These maneuvers have been demonstrated throughout the Fifth Army area and have

ICEMEN POSETH—Hangar shot of the Trans Arctic at Thule, Greenland (Ice glare?) Standing (L-R): 1/Lt. J. A. Johnson, WO J. S. Gibson, 1/Lt J. R. Blackmore, CWO V. J. LeDuc, & CWO P. E. Miller (since rotated). Kneeling: WO G. E. DeGeest, Pfc Dougherty, SFC Barr, Pfc Millet, CWO D. R. Joyce.

FREE-LOADER—A Sikorsky H-34 Choctaw carts a denuded L-19 Bird Dog from Tucson's Municipal Airport to Fort Huachuca's Libby Army Air Field for repair. Sp/2 Kline D. Futch peers intently from the cargo bay in keeping a watch over the suspended cargo. (U. S. Army photo).

been received with awe, speculation, and enthusiasm.

Those aware of the great maneuverability of the H-21 in regard to other 'copters could possibly realize how these maneuvers look, but they have to be seen once to even be imagined.

One of the IP's, CWO William H. Chambers (formerly with the 8th Trans, Bragg) was taken seriously ill at his home on 12 April. He was evacuated to Fitzsimmons Army Hospital the next morning. Those who wish to write, address him at Ward 4-E, Fitzsimmons A H, Denver, Colo.

(WO) Robert M. Ziegler

99.9%

THULE, GREENLAND—The yearly *pilot changeover* has been completed here at the Transportation Arctic Group Avn Section and the new *Arctic Aviators* are preparing for a year of varied missions.

At present, we're undertaking a new mission—conducting an Arctic Aviation indoctrination course for a group of L-20 and H-34 pilots who are en route to Nasarrssuk, Greenland, where they will suppport the activities of the Engineer Arctic Task Force for the summer months. The four pilots include 1/Lt Ronald G. Dohrn, CWOs Bobby J. Edens and Herman M. Lenhardt, and WO James C. Grubaugh; all volunteers and all from Ft. Sill.

Another AA visiting Thule recently was Maj. Malcolm L. Mitchell from T-7, OCT. The Major flew both the H-19 and L-20 during his short stay and rec'd an Arctic orientation, including a flight out on the Greenland ice-cap.

As per usual in this sector, the sun never sets during the late Spring and Summer months—everybody misses the night flying hours the Stateside pilots are logging.

The Editor is cordially invited to spend his summer tour with the Group, but the Publisher will have to vacation elsewhere. Thule is 99.9% *male.*

YC, (CWO) Donald R. Joyce.

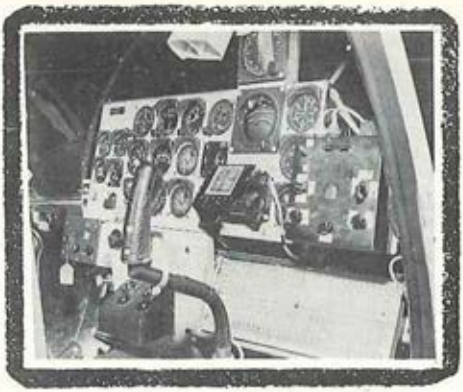
Bright Lights

Two U-1 *Otters* from the 1st Aviation Company provided continuous battle field illumination for a period of three hours at a Ft. Stewart, Ga., test site recently while Armored units underwent tactical tests.

A major objective of the tests was to determine the most effective method of providing artificial illumination for night time operations. Searchlights, illumination ammunition, and aviation-supplied flares were employed. These tests marked the first attempt to provide continuous illumination over a prolonged period by aviation.

The *Otters* were guided to the target area by ground control and then set up flight patterns over the battle area so that they were able to keep one of the 52 lb., 800,000 candlepower flares over the area at all times during the three hour period. Each flare burned for 3 minutes. Each U-1 was equipped with 30 flares which were discharged through the camera port in the floor of the baggage compartment of the *Otters.*

Officers from the 1st Aviation Co. who participated in the tests were Lt. Stenson Jones (OIC), Lt. Harry Zellmer, Lt. James C. Greenquist, and Lt. Billie B. Williams. a team of 32 evaluators, officers from four Third Army Posts, Stewart, Bragg, Benning, and Campbell, observed the demonstration.



DECCA PANEL—An instrument grouping in a Bell Model 47H showing the Bell- Bendix Decca arrangement in the cabin. The arrangement is designed to facilitate the hovering and landing portions of the joint study. All information believed necessary for remote area helicopter instrument flight is incorporated in the panel arrangement. (Bell photo).

MASS LOADING—A tail to nose ramp lineup facilitates the loading of combat-equipped troops during a recent troop movement exercise utilizing de Havilland Otter aircraft. Exercises at Ft. Riley and Ft. Benning have tested the efficiency of the U-1A aircraft in moving troops and supplies on short notice (U. S. Army photo)

One Slung Low

FORT HUACHUCA, ARIZ.—There isn't much that a U. S. Army helicopter can't do these days.

Recently, a helicopter from the U. S. Army Electronic Proving Ground carted the fuselage of L-19 observation plane home from Tucson's Municipal Airport, a distance of almost 100 miles.

The L-19 had flipped over, seconds after touching down on a routine flight. It was not damaged seriously and the pilot emerged from the cockpit unscratched.

The day after the mishap an H-34 helicopter was dispatched to the scene from Fort Huachuca's Libby Army Air Field. After the fuel tanks were emptied and the wings removed, a sling was adjusted under the belly of the observation plane.

The helicopter, piloted by 1/Lt. Bobby J. Walls and co-pilot WO Richard E. Glasgow, with Specialist Kline D. Futch as crewman, completed the hook-up with *no sweat* and deposited the airframe at Libby Field forty minutes later. (U. S. Army proto above).

Combined Effort

FT. BENNING, GA.—Col. Gilmon Huff, commander of Lawson Army Air Field Command, extended congratulations to ten graduates of the Instrument Flight School conducted at Fort Benning.

The members of Class 56-7 were told in their early May graduation that they had graduated from what the Army considers one of its best instrument flying schools.

Through the efforts of Col. Huff and the instructors and personnel of the school, the school has grown from one LC-126, one instructor, and two students to the capacity it has today.

With the Army integrating instrument flight training ino he curriculum a Fort Rucker, thereby requiring each AA to be instrument-qualified before he gets his wings the school at Lawson AAF may be discontinued.

The ten students flew a total of 604 hours in completing the course, with a class total of 247 hours being logged at the Link Trainer Department during the nine-week course.

Capt. Ellworth T. Rhodes (Chief Instr); Capt Lyman W. Vassey; Lts William B. Jacksono Elmon P. Thomas, and Frank J. Kakuk; and Link instructors Mr. Roland Foilhe, Emanual Cooper, and Anthony Hatteras comprise the school staff.

Tactical

FORT BENNING, GA.—The 1st Army Aviation Company successfully proved its *displacement capabilities* under tactical operations recently by moving into position near Merval airstrip for a 24-hour period. The company, commanded by *Maj. Jerome Feldt*, displaced from Lawson Field with its company headquarters, three flight platoons, and a maintenance platoon and remained operational throughout the maneuver.

During this period each of the three *"Otter"* platoons performed aerial resupply and troop drop missions that would be required of it in an actual tactical situation from the forward strip—successfully. All refueling was done at Lawson Field, however. Camouflage discipline and defensive measures were planned and put into effect in the Command post area at Merval airstrip.

Maintenance Tips

The editor has provided this space to be used every month for maintenance news. This will be conducted on a very informal basis ,and your comments, suggestions, or questions are encouraged.

We are particularly anxious to receive questions concerning supply or maintenance problems encountered in the support of Army aviation.

Send your questions or suggestions to the following address:

MIKE BUTTON
c/o Army Aviation Magazine
Westport, Connecticut

Fire away and put old "MIKE" to work.

Old Mike "goofed." He went fishing, and fouled up on the due date for this column last month. Guarantee that it won't happen again.

Had a letter from SFC Angel L. Ramirez, 7th Army Aviation Section:

Dear Mike:

This is in regard to an unsatisfactory condition I think exists wherever H-13E's are: The -4 applicable to the helicopter H-13E, Section II, Figure 4 (Body Assy), illustrated the Ballast, aft, Part Number 47-739--029-21 *supported with two clamps, Part Number* 45C20BB8.

I would like to know if there is any change in this installation. I have noticed a considerable number of H13E's *having this ballast supported with one clamp only. In most instances the clamp is cracked or broken due to the frequent vibration.*

I also would like to know if there have been any previous reports on this matter. Thanks.

Very truly yours,
SFC Angel Ramirez

Dear Sergeant Ramirez:

Your question has been checked out with the technicians and I find that there has been no change in the installation of Ballast, aft, Part Number 47-739-029-21.

There have been no Unsatisfactory Equipment reports received indicating any problem in this area. The proper installation requires the use of two clamps, Part Number 45C20BB8. Any installation using only one clamp is placing more strain on the one clamp than intended—and cracking is bound to occur. As a matter of fact, we cannot see how, using only one clamp, the installation can be made.

However, when the Ballast, aft, is properly installed, and the cracking occurs, we will appreciate UER's being submitted.

Thanks for your letter, and if we can be of further assistance, let us know.

Yours for better maintenance,
Mike

Do you need a replacement battery for your U1-A? The following stock number should get you one: 4904-*AN*3150-2.

★

We hear rumbles that when you requisition rocker shaft gaskets for use on R-1340--59 engines, using the stock numbers listed in appropriate supply manuals, you receive the wrong size. Use the following number and your troubles are over: 0235-17354.

You can find this information in TSMC Supply Letter Number 19-57.

★

*Have had some queries as to the applicable spark plug for R-*1340-59 *engines installed on U1-A aircraft. The correct stock number is* 4708-*RED*39*N.*

*Any of the following spark plugs on hand should be used until exhausted: RC*26*S, C*27*S, SH*2*M, SH*21.

★

There have been many reports of excessive wear and faulty operation of lag damper assembly H21C helicopters. These conditions are due to low damper preload, air in the damper, or possibly a combination of both. An indication of faulty or improper damping actions is excessive vibrations in the rotor system.

Paragraph 2-29A, page 47, T. O. 1H-21 (Y)-2 outlines the procedures for lag damper check. You will find notice that lag damper checks should be performed daily.

Should this check reveal improper operations, particularly if the helicopter vibration is unacceptable, the damper should be replaced.

A manual preload checking and aeration tool (9BPH-22E 5971-1, Fixture, dynamic, damper) has been developed that will be used to test serviceability of dampers. This tool will be available at the field maintenance level. It is presently on procurement, with deliveries expected in August.

★

*There have been enough reports of damaged generator blower drive shafts (S*14'--35-4328) *and blower fan wheel liner assemblies (S*14-35-4347) *on H*19 *helicopters to warrant some changes. These difficulties have been caused by the failure of the main transmission generator blower drive shaft bearings (*6003*XCL*3 *and* 6004*XCL*3).

The -6 handbook is being revised to require the following inspections when replacing the gear box, and at every third periodic:

a. Housing and guard for cracks.

b. Wheel and lever assembly, for cracked and broken fan blades and any evidence of rubbing against the housing.

As components are being overhauled, a new improved bearing is being used that eliminate this problem.

There have been some isolated reports of loose rivets in the tail pylon assembly (S-1620-64100) fairing, H34's. This is caused by the installation during assembly of rivets with incorrect grip length, and normal vibration and flexing of the pylon assembly.

It might be a good idea to take a look at your H34's and check for loose rivets. Loose rivets should be replaced, being sure to use rivets (P4C) having the correct grip length.

★

Crankcase studs have been failing on 0-335 *series engines due to weak internal webbing.*

Should this happen to one of your 0-335-*series engines, the only corrective action is to replace with a serviceable engine, and send the other into overhaul. At overhaul the crankcase assembly* (19014 *and* 19218) *will be replaced with an assembly* (19409) *that incorporates a heavier internal webbing with through bolts, located between crankshaft stud and camshaft bearing stud.*

★

If this doesn't get into the mail in a hurry, we will miss another deadline. Never again. Early or late, we are ready to assist you when we can. If we don't have the answer, we will find it somewhere. Give us a try!

Yours for better maintenence,

Mike Button

ED. Yes, this material HAS been ghost-written by a pro. His name? Maj. Fred R. (Speed) Reed, currently the Chief, Aviation Division, Transport Systems Analysis Office, USATSMC, at St. Louis. Getting the official profile on Fred wasn't hard, the official sources stating that the Major is a TIS graduate in '42, a transferee to TC in '46, with ETO, FECOM, and USARAL tours to boot.

Non-rated, Maj. Reed is an AMOC Class 3 graduate and among many others has an MOS 4823.

Hailing from Phoenix, Arizona, where he claims "you'll find the best weather for flying in the world," ol' Mike Button has found time to pick up a beautiful redheaded wife (Fiji) and four daughters while traveling for Uncle Sam. ("I'll be darned if I'll raise any slap-happy Army aviators," he jests.) Oh yes, one other male in the family —a tom cat named "General." Further the deponent sayeth not.)

Crew Chief of the Month

THULE, GREENLAND—The Aviation Section of the Transportation Arctic Group has selected PFC Edwin J. Daugherty as its *Crew Chief of the Month.*

PFC Daugherty is the regular C/C on H-19D #54-1432 having kept the chopper in a flyable status for 28 out of the 30 days in April, during which time it flew 54:40 aircraft hours.

This commendable availability for the month included a mid-month Periodic Inspection, accounting for the two days when the red and white chopper was *down* for maintenance.

PFC Daugherty, a native of Boulder, Colorado, has attended the Helicopter Maintenance School at Ft. Rucker, adding to his prior experience as a welder and auto mechanic.

YC, Don Joyce.

Somebody ELSE Goofed!

QUICKIE: By mistake, the Publisher remitted two checks to the State Motor Vehicle Department, not realizing that the Editor had previously remitted a check for same. Result? We've got four sets of plates; the MVD is searching for our *"original numbers;"* and apparently we're out two registration tabs. To add insult to injury, three of the four plates are prefaced: *AF—*. In this State where alphabetical plates are a common occurrence (WHIZ, ZAZA, POOP, and DUZ), AF-9941, AF-6332, and AF-5517 are outright sabatoge. ULCR would be more appropriate.

FT. RILEY, KAN.—An item for the maintenance tips: The right angle drive coupling MC-136A for the ARN-6 in the H-21 is not the total cause of the binding and failure of the tuning shaft housing. The cable is aproximately thirty inches too long, making it necessary to make sharp bends in the housing to connect it to the ARN-6. We intend to shorten the cables here *when* we can get the splined adapters for the end of the cable and the crimping device to attach same.

A UER was submitted from here due to the length of cable and housing which allows a binding and difficulty tuning regardless of the right angle drive coupling.

YC, (WO) Robert M. Zeigler

A Many Sided Thing!

Letters to the Editor

Letters from all sources are welcomed. All letters for publication must bear the signature of the writer. The writer's name will be withheld upon his personal request.

WHO'S KIDDING WHOM?

Dear Editor: Needless to say, I have received considerable kidding over the Chinese Proverb atop Page 14 of the April 1957 issue of the magazine.

(*Ed. Note: Page 14 carried a story written by the letter-writer on the Safety Course currently being conducted at USC, said story, we're sorry to report, being captioned: A Brief on the UCLA Safety Course.*)

The proverb—"To know the road ahead—ask those coming back." Now I ask you, what sort of information do you get from those coming back who don't know where they've been in the first place? Kidding over.

The University of Southern California (USC) is not (UCLA), University of California in Los Angeles. I'll have to have a serious talk with the publisher.

Sincerely, (Maj.) Joseph M. Bowers

(*Ed. No irate word from the UCLA Registrar as yet, but six other people harpooned us on this mental lapse. We chased coeds on the East Coast and this may account for our ignorance —partially.*)

LID, FLIP OF THE

Dear Editor: Take a quick look at that photo on Page 27 of the 15 April 1957 issue. I had to hold it up to a mirror to recognize my friends. Did some one send you a reverse print?

Your bugeyed buddy, (Maj.) Lloyd Borgen.

(*Ed. We pasted it up straight, so help us. The offset printer flipped it over, after which we did a little flipping ourselves.*)

DETAILS!

(Dear Editor:) I've been a subscriber and avid reader of ARMY AVIATION for nearly 3 years and in almost every issue I've noticed some mention of the shortage of trained maintenance personnel and the complaint that such personnel are hard to keep.

Until recently I could understand (the basis for) both complaints. Now I find it hard to believe such reported shortages are accurate, or if they are, someone should look at the source of the school-trained mechanics.

I've made some inquiries on this post (Ft. Eustis). On almost every detail (except prisoner details) you can walk up to a man or a group of men, ask them their MOS, and invariably you'll find that it's an aircraft mechanic's MOS. On checking further, you'll find that the man has been on the post anywhere from 5 months to a year, doing nothing but petty details.

In my company (a Field Maintenance Company that recently gyroed from Germany —and incidently, one of the biggest booboos ever) there are approximately 60 school trained mechanics assigned who have one Army Aircraft School behind them, at least, with most of us having two or more.

Our company has *no* mission.

We have *no* aircraft to support.

If we did support the available aircraft we would be kicking some high paid positions (civilian-type) out of jobs.

LEFT—Lt Col. B. A. Bache, a Senior AA assigned to the Army Avn Section, Hq, CONARC, Ft. Monroe, Va., who will retire from the service this month. CENTER—Dr. Anselm Franz (right), Lycoming vice president, turbine engineering, discusses the new Army-funded T55 turbine engine with staff engineers (l. to r.) Heinz Moellman, Seigfried Decher, and Wolfgang Stein. RIGHT—Bruce Jack, de Havilland tech representative, orienting "on-the-job-trainees" on one of the 1st AA Company's de-cowled Otters.

A Many-Sided Thing

Letters to the Editor

Consequently, what are all of these (school-trained) mechanics doing?

Furnishing post details and beautifying the company area!

I, for one, sincerely believe the Army cannot expect to retain men after sending them to schools (and at high expense to the government), and then putting them on *details* the rest of their Army careers.

This may sound like a gripe letter. It's not meant to be. I'm writing in the hope you'll publish it and that a few people with farsight in Army aviation will read it.

Sincerely,

Sp/2 John L. Rovetto
591st Trans Co (AAM)
Fort Eustis, Va.

(Ed. We're curious to know if this is an isolated case or a prevalent condition. If your circumstances are similar, drop us a letter or a short note.)

The Tribe!

WASHINGTON, D. C.—The Department of Army recently approved popular names for all Army aircraft, the names being selected from the broad field of Indian terms and names.

The Cessna L-19, de Havilland L-20, and de Havilland U-1A will retain the *Bird Dog, Beaver,* and *Otter* popular designations.

Renamed, according to the announcement, were the:

Bell H-13 *Sioux* (Soo)

Bell H-40 *Iriquois*
Hiller H-23 *Raven* (RAY-ven)
Hiller Rotorcycle *Pawnee* (Paw-NEE)
Beech L-23 *Seminole* (SEHM-i-nol)
Sikorsky H-19 *Chickasaw* (CHIK-a-saw)
Sikorsky H-34 *Choctaw* (CHOCK-taw)
Sikorsky H-37 *Mohave*
de Havilland DHC-4 *Caribou* (KAR-i-boo)
Vertol H-21 *Cayuse* (Ky-USE)
Cessna H-41 *Seneca* (SEN-e-ka)

Louis P. d'Autremont, Chief, Special Projects, Opns Br, AA Div, OCT, who provided the information, mentioned that *"Army aircraft not in the production stage as yet have not been officially named at this point."*

(Ed. Until these popular names receive broad acceptance it is expected that the customary bantering will prevail. One D/A punster scanned the list and said, "No Pontiac?" Another quipped, "How about TON-two?" Comment from one Army Hq where mechanics perform maintenance under frequent rain-laden skies, I'll bet a work order request for tepees will be bucked back, too!")

HOW TO—Members of the 1st Army Aviation Company (FW-TT) receive instruction on parachute packing and maintenance given by the 109th QM Co (Aerial Supply) at a recent Ft. Lee, Virginia training exercise. (U. S. Army photo).

RETIRES—Maj. Claud Short, Chief of the Southeastern Signal School's Aviation Branch, who retires from the Army this month with over 21 years of service, is shown at the controls of an H-13 Sioux. The Major has been flying Army aircraft since '48 and holds an aviation-acquired Silver Star and Air Medal with Oak Leaf Cluster. (U. S. Army photo).

PERMANENT CHANGES OF ADDRESS

AMBERGER, Joe O., Capt., 5121 Kilbourne Road, Columbia, South Carolina.

ANDERSON, Edgar S., Maj., HALFSEE, Box 16, APO 224, New York, N. Y.

ANDRUS, Rulon, Lt., 2722 West 85th Street, Inglewood 4, California.

BEAUMONT, Edgar S., Capt., c/o Rotor Aids, Box 186, Grand Isle, La.

BORGEN, Lloyd O., Maj., 2811 North 28th St., Boise, Idaho.

BOSWORTH, Raymond P., Lt., 4th USA Supp Element, Brooke USAMC, Ft. San Houston, Texas.

BOYD, Donn T., Maj., 7th U.S. Army Avn Trng Center, APO 46, N. Y., N. Y.

BRADLEY, Newell I., 1/Lt., Hq, 45th Battalion, Ft. Sill, Oklahoma.

BRENNAN, James N., Jr., CWO, USA Trans Depot (Sandhofen), APO 28, N. Y., N. Y.

BROWN, Jesse C., Capt., Hq & Hq Det, 8th Trans Bn (Hcptr), APO 29, N. Y., N. Y.

BRUNS, Bernard W., Lt., 62 Rodney Avenue, Fort Riley, Kansas.

BUCKNER, Boyce B., Capt., 4 Stephendale Court, Rolla, Missouri.

CASE, Onore E., Capt., 522-D So. Valdez Court, Fort Benning, Georgia.

COMSTOCK, Robert F., Maj., 2042-A Barton Road, Eatontown, New Jersey

CRETIN, Theodore D., Capt., 2nd Army Avn CO (FW-TT), APO 177, N. Y., N. Y.

CURTIS, Gene L., Capt., N. Dak. ROTC Instr. Gp, University of North Dakota, Grand Forks, N. Dakota.

DAMON, Charles P., Lt. Col, 7207 Wilson Terrace, Morton Grove, Illinois.

DRUYOR, Frank A., Capt., Detachment L, KMAG, APO 102, S. F., California.

FEILKE, Glenn T., Lt., RR #1, Stuttgart, Arkansas.

FINCHER, J.W., 1/Lt, 238 Beebe Avenue, Fort Eustis, Virginia.

FORESTER, Boyd B., Lt., 209 Irwin Street, Ft. Bragg, North Carolina.

GARCIA, Anthony S., SFC, 2229 Green Avenue, Manhattan, Kansas.

GRADY, William H., Capt., P.O. Box 613, Howard AFB, Canal Zone.

GRAHAM, Harold W., WO, W1, 31st Trans. Co. (Hcptr), Ft. Benning, Georgia.

GRAHAM, Jones R., Lt., 21 Malone Circle, Florence, Alabama.

GREENE, Richard G., SFC, Hq & Hq Det, Lawson AAFC,, Ft. Benning, Georgia.

GRENTZENBERG, Fletcher D., Maj., Stu Off Btry, AFAOAC #6, Ft. Sill, Okla.

GROSSMAN, William, 1/Lt, 575 4th Avenue, San Bruno, California.

GWINNER, Maurice D., Lt., Emerg Rep Co, 11th Abn Div, APO 112, N. Y., N. Y.

HAMMONS, Dale E., 1/Lt., Off Stu Co, Box H-17, Ft, Rucker, Alabama.

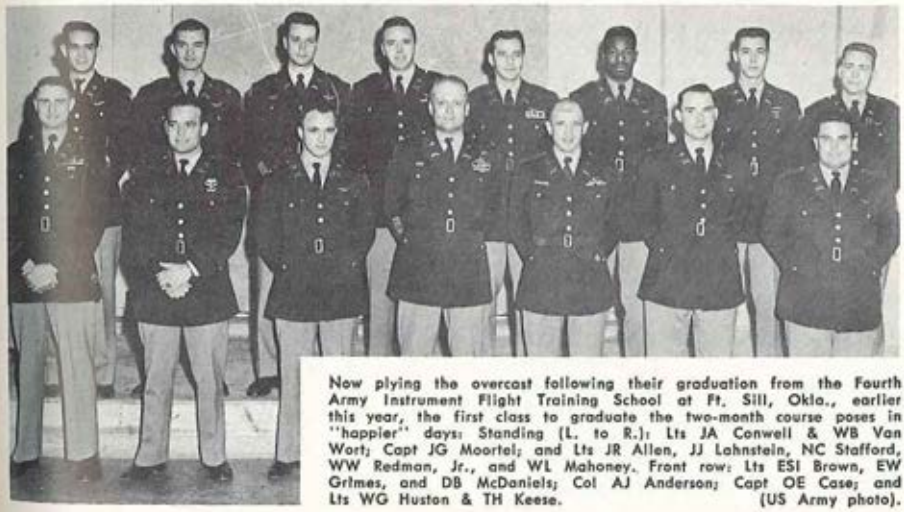
HENRY, Robert F., Jr., SFC, U. S. Army Trans Depot, APO 28, New York, N. Y.

HEATH, Don R., Lt., Hq, 59th FA Battalion, Ft. Bragg, North Carolina.

HILL, Ray J., Mrs., 1735 Thornton Court, Alexandria, Louisiana.

HODGES, Robert L., Capt., 42nd T. C. (AAM) Co, APO 177, New York, N. Y.

HOLLIDAY, Clarence E., Maj., 3603 May Street, Silver Spring, Maryland.



Now plying the overcast following their graduation from the Fourth Army Instrument Flight Training School at Ft. Sill, Okla., earlier this year, the first class to graduate the two-month course poses in "happier" days: Standing (L. to R.): Lts JA Conwell & WB Van Wort; Capt JG Moortel; and Lts JR Allen, JJ Lahnstein, NC Stafford, WW Redman, Jr., and WL Mahoney. Front row: Lts ESI Brown, EW Grimes, and DB McDaniels; Col AJ Anderson; Capt OE Case; and Lts WG Huston & TH Keese. (US Army photo).

Graduates of Lawson AAF's Instrument Class 57-6 pose with their instructors. Front Row (L-R): Capt Beverly C. Foshee; 1st Lt Donald L. Womp, Honor Graduate; David R. Dillinger, Melvin P. Guerrero, John R. Smith; Capt. Sigurd A Lund; 1st Lt Benjamin L. Collins, Sr; and Capt. Robert F. Morris. Back Row (L-R): Col. Gilmon Huff, Commanding Officer LAAFC; Major Fredric B. Franklin; Mr Anthony Hatteras; 1st Lts; Elmon P. Thomas, William B. Jackson; Capt Lyman W. Vassey; Lt Col. Conway L. Ellers; 1st Lts Donald Van Natter (AF), William A. Walker, John E. Ahern, Frank J. Kakuk; Mr Roland Foulihe; Capt. Ellworth Rhodes; and Mr. Emanuel Cooper. (7 May '57).

HORNER, Harold B., Jr., 1111 N. Pitt Street, Apt 31, Alexandria, Va.
HURLBURT, Richard J., 1/Lt., 907 East 31st Street, Bryan, Texas.
JOHNSON, Carl O., 1/Lt., Co "A" (Prov), 8th Army Sig Bn, APO 59, S. F., California.
JOHNSON, Frank F., Jr., 1/Lt., 3100-B West Apache, Ft. Huachuca, Ariz.
JUTZ, Donald G., Lt., 309 West Lee Street, Seattle, Washington.
KEITH, Arthur C., Capt., 90 Chatwick Avenue, Hartford, Connecticut.
KENDALL, H. A., Lt., 1610 Allison Avenue, Leesville, Louisiana.
KENNEDY, Richard J., Maj., 322 Robin Road, Mill Valley, California.
KERSKI, John B., Capt., 1201 Carney Blvd, Marinette, Wisc. (PO Notice).

EASY, THERE—Major Jerome B. Feldt, CO of the 1st Army Aviation Company (FW-TT), assisted by Lt. Robert Duvall, arm a flare during the recent night illumination tests conducted at Fort Stewart, Georgia.

KINLEY, Gordon, L., Lt., Col. AHATC C1 57-13, Army Avn Sch, Ft. Rucker, Ala.
KREITLER, Clark F.,, 1/Lt., 1st Avn Co, 1st Inf Div, Ft. Riley, Kansas.
LANEY, Ira L., Lt., 2d Army Avn Co (FW-TT), APO 177, N. Y., N. Y.
LECHNER, Roy J., Capt., USAF-AGOS, Keesler AFB, Biloxi, Miss.
LESLIE, James M., Capt., 688-D Kandle Court, Custer Terrace, Ft. Benning, Ga.
LITLE, Robert F., Jr., Capt., Staff & Fac, TAAS, Ft. Rucker, Alabama.
LIVINGSTON, R. E., Jr., Lt., Box 504, Ft. Huachuca, Arizona.
McDERMOTT, Francis P., 1/Lt., 3d Army Avn Co (FW-TT), Ft. Riley, Kansas.
McGEE, Charles F., 1/Lt, Aviation Sect, 160th Sig Gp, APO 46, New York, N. Y.
McSPADDEN, Billy M., 2104 S. E. 18th Street, Mineral Wells, Texas.
MAHONE, W. M., Capt., Off Stu Co, Army Language School, Monterey, California.
MORROW, Darrel M., 1/Lt., Army Field Detachment, APO 957, S. F., California.
MORTON, Lewis R., Maj., 5145 Barlin, Lakewood, California.
NEWBERN, John D., Capt., 134 Leigh Street, Eugene, Oregon.
NEWCOMER, Samuel K., SFC, 7111 Craig Road, Hickman Mills, Missouri.
NICHOLSON, Rowland J., Lt., 4508 19th St, San Francisco, California.
NOKES, Robert E., CWO, 17th Cav (Recon) Abn, 11th Abn Div, APO 112, N. Y.
ODDONE, Louis J., CWO, Troop C Rcn, 17th Abn Cav, APO 112, N. Y., N. Y.
PEARSON, Glen N., CWO, Troop C Rcn, 17th Abn Cav, APO 122, N. Y., N. Y.
PETERSEN, Dwayne L., 1/Lt., 145 Callan Avenue, San Leandro, California.
POTTER, Ira L., Jr., M/Sgt, 48th TC Co, APO 29, New York, N. Y.

RATAYCZAK, Robert P., Maj., 1408 Fleming, Artillery Village, Ft, Sill, Okla.

RAY, Jack O., Capt., 152-A Kessler Drive, Custer Terrace, Ft, Benning, Georgia.

RAZEY, Claude L., Lt., P. O. Box 179, Pacific Grove, Calif. (Temp.)

REED, Charles A., Capt., 54th Trans Bn (Hcptr), APO 177, New York, N. Y.

ROCKWELL, James M., Capt., 529-A N. Valdez Drive, Custer Terrace, Ft. Benning, Georgia.

RUSK, Richard A., Capt., 523 N. Lucas Street, Fort Bragg, N. C.

SALTEE, L. T., Lt., 112 Auuston Place, Ft. Bragg, North Carolina.

SANDERS, Curtis M., Jr., 1/Lt., SETAF, 202d AA Co, APO 168, N. Y., N. Y.

SCHMITZ, Leo E., Lt., AAPFTC 57-9, Fort Rucker, Alabama.

SCOTT, Eugene H., Jr., Maj., 2113 N. Campbell Street, El Paso, Texaxs.

SENNE, George L., CWO, Co "C" (Rcn Abn), 17th Cav, APO 112, New York, N. Y.

SETTLE, Gilbert, Mr., 14841 Ralls Drive, Robertson, Missouri.

SHELEY, Richard A., WO, W1, RR #3, Lincolin, Ill. (PO Notice).

SHIELDS, Roger J., 1/Lt., 65 Prospect Hill Road, Lexington 73, Mass.

SIGLER, Charles B., Jr., 1/Lt., c/o St. Joe National Forest, St. Maries, Idaho.

SIMPSON, Victor C., Capt., AFAOAC Class 6, Fort Sill, Oklahoma.

SMITH, Donald E., 1/Lt., Camellia Apts, 87 Wilson Drive, Columbus, Ga.

SPARKS, Richard A., WO, W1, Box 351, Ft. Rucker, Alabama.

STANIS, John E., Capt., USA Instr Gp (ROTC), Northeastern University, Boston 15, Mass.

STRUM, Ernest C., Lt., 444 McCartha Drive, Columbus, Georgia.

SULLIVAN, Jerome J., 1/Lt., 80th Trans Det (CHFM), Ft. Devens, Mass.

TCOC #13—1st Row (Kneeling)—Lt. E. V. Moncrief; Capt. M. Bounds; & Lts D. R. Jordan & M. Kemp. 2d Row—Lt. R. Moore; Capt. N. Miller; & Lts A. Schlim & R. LeDoux. 3d Row—Capt. A. C. Shaw; Lts J. O'Donahue, D. I. Hobbs, & D. D. Van Landuyt; and Capt. J. J. Peppard, Jr.

A COED OF MANY TALENTS, Miss Margene Faggard, is at home in the cockpit of an L-19 at Camp Gary, Texas. Margene, a coed at Southwest Texas State College, San Marcos was recently chosen the "Queen of Army Aviation" at Camp Gary. No stranger to flying, her Father has a 4-place Navion which she pilots from time to time. (Wm. J. Graham photo).

TALBERT, James R., 1/Lt., Hq, 28th FA Bn, APO 111, New York, N. Y.

TEAGUE, Jerry L., Capt., 212 Pennsylvania Avenue, Shreveport, Louisiana.

THAYER, George E., Jr., Capt., 102 Dogwood Drive, Enterprise, Alabama.

TREECE, Frank L., 1/Lt., 116 Pinehurst Drive, Enterprise, Alabama.

TURNER, Thomas K., Jr., Capt., 404 Tenth St. Terrace, Warrensburg, Mo.

VAN CLEVE, John H., Lt., P. O. Box 294, Fort Rucker, Alabama.

VAN DER MAREL, H., Lt., Army Avn Sect, 160th Sig Gp, APO 46, N. Y., N. Y.

VANSICKLE, James A., Lt., Hq, 10th Div Arty, APO 36, N. Y., N.Y.

WHITE, William G., Capt., P. O. Box 681, Ft. Huachuca, Arizona.

WOODMANSEE, Donald P., Lt., Lot 116, Officers Tlr Park, Fort Eustis, Va.

H-21 Utilization in Algeria The Pierpoint-Geier Report (Continued from Page 12)

of slightly over 13 fully equipped combat troops per mission plus the crew of two or three.

Due to the proximity of troop garrisons to the areas under assault usually only three to five helicopters repeatedly rotate between the garrison and the combat locale. Therefore, fuel for six or eight rotations is usually carried, refueling being accomplished at the troop garrison during embarkation of the six or eight load if the situation requires still more troops or return of the troops after the battle.

The helicopter crew chief sometimes participates in combat missions but usually waits at the troop garrison, helping direct landings and servicing the helicopters between missions. He is taken into the combat area when wounded are being evacuated in the H-21 or when the situation requires the use of the hoist or sling. Co-pilots are always employed because the pilot may be hit. In addition it provides combat training as explained later.

Vertol believes Algeria has shown that the helicopter is by far the most practical vehicle for this type of combat. The lack of roads makes the truck and other ground bound vehicles relatively ineffective in view of the minimum time available to effectively engage the rebels in such inaccessible areas. Even track type land vehicles find much of the area impassable and their low mobility is a definite hindrance to effective operations.

Most significantly, the STOL is also believed impractical due the absence of *any* level landing areas in most of the mountains where major combat operations have taken place. Only the helicopter with its hovering capability and ability to discharge troops without actually landing is believed practical.

Operational Record To Date (27 March 1957) *Total Hours Flown in Algeria*: 4925; *Total Hours Flown In France*: 1270; 8 helicopters have passed the 300 hour inspection) *Number of Troops Carried to Date*: 40,000; *Number of Combat Missions Flown Including Cargo and Resupply*: 4,000; *Average Number of Troops Carried Per Troop Assault Mission*: 13.2.

Accident History—Only two training accidents, one in basic and one in advanced, have occurred. In both cases the helicopter was retrieved and returned to France for repair. Both will be back in service in mid-1957. One "roll-over" accident occurred after an autorotation to a hillside following an engine failure. This H-21 is being converted to a maintenance trainer in France.

One H-21 was stricken after being shot down by enemy ground fire. Following a combat landing while leaving the area, the crew failed to heed the warning of an orbiting liaison aircraft and flew over a heavy concentration of rebels.. The French have advised the crew was wounded or killed, thus causing the crash.

Helicopter Combat Lessons

Combat lessons learned to date fall into two categories:

A. Changes Desirable to Improve the H-21:

1. It has been found most desirable to install a loud speaker system in the cabin operable by both the pilots and the troop commander. This is needed because the troop commander must give deployment instructions to the men prior to their disembarkation. Furthermore, it has been learned that the pilot should be the one who gives the actual order for the troops to leave the helicopter because on occasion enemy fire or climatic and terrain conditions make it necessary for him to either abort his selected landing spot after touchdown or make several passes before actually landing. The use of ICS (intercomunication system) has not proved satisfactory because it must be remembered that the troops are not airborne trained and that combat gear makes the use of the ICS very difficult.

In addition to working on a French loudspeaker system, Vertol and RCA have designed and fabricated a loudspeaker system which is now at Fort Rucker being evaluatel by the US Army Aviation Board.

2. It has been very helpful to install rear view mirrors for the pilot and co-pilot. These are used to observe the terrain around the main wheels as the helicopter is lowered the last few feet. This was no problem because commercial bus mirrors are available and easily fastened to the nose support structure. The mirrors used are approximately 6" wide by 18" high and can be turned endwise for reduced drag in cruise.

3. It has been found desirable to install a larger step and internal foldable handholds at the main cabin door because of the difficulty the troops have had in climbing into the aircraft with heavy combat equipment, such as the field radio, on their backs. These were locally manufactured and installed with no problem.

4. It was necessary to have all internal instructions, which are posted in the cabin translated into French.

5. In order to secure additional power the following improvements are being made:

a. The installation of an improved engine cooling fan that requires less horsepower.

b. Redesigning the carburetor air in-

(*Continued on Page* 37)

take duct so that advantage is taken of the pressure rise behind the fan.

These changes add approximately 40 horsepower to the rotors above critical altitudes and are being incorporated in the U.S. Military and commercial helicopters as well as the French. Of course, the final answer to the power problem is the twin turbine powered H-21D now ready for flight.

B. *Lessons Applicable to Helicopter Operations in General*:

1. Suppressive fire from the helicopter is most desirable in helicopter troop assault operations. The French frequently have the co-pilot shoot a burp gun out of his window and usually one soldier firing out the forward door with another firing out the main cabin door immediately prior to landing—particularly if they are being fired upon at any rate by the guerrillas.

Because of this, the Combat Development Department at Fort Rucker and Vertol have devised a experimental combined twin .50 caliber machine gun and four 8-cm rocket installation that fits on the nose gear along with quickly demountable .30 caliber machine gun mounts in the cabin doors. The first successful firings were conducted on February 22, 1957.

It is planned to install similar equipment on some of the H-21's in Algeria in order to gain experience under actual combat conditions and determine what changes are desirable. There has been much discussion whether the armament should be fixed or turreted. The best way to prove either is to try the fixed installation in combat because if it is adequate, represents considerably less weight and expense.

2. There is absolute need for the troop commander and pilot to freely converse and be physically located together. We find that

CO-WORKERS—L. J. Geier (left), service requirement specialist, and T. R. Pierpoint, service manager, the two Vertol Aircraft representatives who jointly presented a paper on "The French Army Helicopter Operation in Algeria" at the AHS 1957 Forum in Washington.

H-21 Utilization in Algeria The Pierpoint-Geier Report (Continued from page 36)

when carrying out assault operations against an enemy not in fixed positions, that the last 30 seconds before committal of the helicopter are most important. At this time, the troop commander and the pilot must *mutually* agree upon a landing site. There are many excellent sites from the pilot's standpoint that are untenable from the troop commander's standpoint and vice versa.

Consequently, in all operations, the troop commander actually stands in the cockpit doorway between the pilot and co-pilot and they converse by shouting in each other's ear rather than trying to work through the intercom system. A large scale map is usually placed on the console directly in front of them so that they can jointly point and gesture while arbitrating where they are going to land. The French Army pilots have spoken so much about this that it is certain future troop assault helicopters should feature three position cockpits with a jump seat for the troop commander.

3. Cargo and troop assault helicopter pilot training, as it is functioning today in the U. S. military, is believed inadequate for an operation such as Algeria. Based on both their Indo-Chinese and Algerian operations considerably prior to arrival of the H-21's, the French Army found their operational losses became prohibitive until they undertook an entirely different approach to pilot training than had previously been in practice or had been widely considered necessary.

The most important aspect is that total time in any particular cargo helicopter (above a practical minimum of approximately 100 hours) is *not* nearly so important as the ability to fly it under the widely varying conditions experienced in mountainous terrain such as Algeria, which is beset by violent thermals, high winds and a very wide range of temperatures.

Therefore, the French Army has established the designation of co-pilot, whereby the inexperienced pilot flies for at least 200 hours on missions with a more experienced pilot before he is turned loose by himself. *Only in this manner does he obtain split second timing and spontaneous recognition of what the helicopter can and cannot do under all conditions he may face in any mission.* This is not obtained by flying airfield patterns and making long-cross country flights.

This type of operational training is not being given widely enough to U. S. military helicopter pilots. It is strongly recommended

(*Continued on Page* 38)

H-21 Utilization in Algeria
The Pierpoint-Geier Report
(Continued from Page 37)

that one or more U. S. helicopter companies or squadrons be formulated and operated in places such as Camp Carson or Lowry AFB, Colorado. This must be done in conjunction with a definite rotational program for all U. S. military cargo troop assault helicopter pilots. It is further believed the classification of "limited operational" pilot should be established for pilots until they have obtained such experience.

This is such a vital point that it cannot be over-emphasized. It is considered evident that the majority of U. S. military cargo helicopter pilots, if subjected to severe mountainous combat operations today, would experience excessive operational losses and would fail to exploit the full potential of their aircraft.

4. The French Army experience has shown it is absolutely necessary that the pilot be in command of all personnel on board the helicopter and that he must actually give the order for troop to disembark. In several instances, the enemy began firing immediately after touchdown and the pilot then decided to take off leaving several disembarked troops behind. They were immediately annihilated. Therefore, the French have decreed that the pilot and not the troop commander gives the actual order to disembark.

5. Troops seats and safety belts are not used because the troop seats reduce the floor area and resulting space for troop disembark. Consequently, it requires the troops a longer period of time to disembark. Furthermore, when the seats were removed and the safety belts were then attached to the cargo tie down rings on the floor it was then then found the troops ensnarled themselves in the safety belts, and that they would trip over them while disembarking.

Sound-proofing blankets, however, must remain in the helicopter since they prevent the troops' guns and the packs from catching on intercostals and frames. When it is considered that most of the missions are only a few minutes in length, it is quite practical for the troops to sit on the floor.

Thus, they are free to group and disembark at the instant they are commanded. Grouping frequently takes place during the final approach. The large cabin of the H-21 makes this type of loading easy. This along with the large center of gravity range of the tandem allows very rapid loading and unloading.

6. The French (Commandant de Legionnaire Commando) have placed a statutory limitation on the number of troops that can be carried in the various helicopters they use. This results from the fact that when troops are fully equipped with bandoliers of grenades, many extra clips of ammunition, helmets, packs, rations, radios, side arms, as well as carbines and burp guns they become quite bulky and need a considerable amount of space.

Overcrowding causes confusion and has resulted in men shooting each other due to tangled weapons. We experienced one instance of this when a commando inadvertantly pulled a trigger on one of his neighbor's burp guns and put a half clip of ammunition into the fuel tank.

A secondary reason for limiting the number of troops is the claustrophobic effect of overcrowding which combines with and magnifies the pre-battle phobias and tensions.

7. So far, the French Army does not consider armor necessary. They have armor available for the transmissions and oil coolers but have decided they do not wish to expend the approximately 115 pounds for it. However, the pilot and co-pilot wear flak vests and sit on an additional vest. Until the gunfire loss of the helicopter explained above there had been no crew members or passengers wounded or injured in any French Army H-21 operations despite the widespread gunfire damage received and the training accidents.

8. Self-sealing fuel tanks are being intalled in the H-21 as rapidly as available and it can be safely said that lack of incendiary fire by the rebels is probably the only reason helicopters have not been shot down in flames. Self-sealing oil tanks are already installed in the French Army H-21's.

(Ed. The Pierpoint-Geier Paper has been serialized into two parts, the second and concluding part of the Report to appear in next month's issue.)

Air Meet

WASHINGTON, D. C. — An All-Army Model Airplane Meet will be held at Fort Lewis, Wash., August 21-25, 1957, according to a recent Department of the Army announcement.

Teams of 12 flyers from each of the major Army commands throughout the world will compete in the free flight, control line, and glider events. Installation and area command competitions will be held to determine the representatives of the various commands.

In addition to the flying events, entries in a special scale model competition involving scale models of *Army aircraft* will be forwarded to the Department of the Army for judging.

Purely a Personal Matter

Canal Zone Personals

937th EAC —*Gone*— Capts James C. Evans and Joe Balint have departed the CZ for the land of the Larger PX; Jim sweating out his last tour at Ft. Benning and Joe is grounding out at Belvoir. *Late arrivals* —Capt Robert D. Mathias (ex-Belvoir) and Lt. Edward J. Davis (ex-Eustis). Lt. Davis, being TC, will mantain and sustain with Capt E. O. Basham, the MaintO.

YC, (Lt.) Joe Gayhart.

Fort Riley

3rd AA Co, Ft. Riley, Kan.—Inbounds: Capt. Dennis A. Hovland from Board 2, Ft. Knox; Capt. Walter E. Rampton from 6th Army Flt Det, Presidio; and Lts Robert T. Bagley, Otrio Barrett, Johnnie L. Bohannon, Don E. Finney, Emmett A. Fulk, Joseph B. Holden, and Thomas W. Liliker. YC, PIO, 3rd AA Co.

Riley, Again!

1st Inf Div: *New arrivals* —Capt M. F. England; Lts R. D. Baker, B. W. Bruns, G. C. Guettler, R. F. Holleran, D. L. Johnson, C. F. Kreitler, G. M. Sink, T. T. Wedemeier, and H. E. Duensing. *Back from School* —Lts G.O. Blakely, R. Dunfield, E. W. Spencer, and A. E. Toepel (from Instruments); Lt M. Allen (from Maintenance). YC. (1/Lt) Herbert H Sheathelm.

Fort Benning Personals

1st Avn Co, 1st Inf Div—Inbounds: Lts JE McCroskey, RP Michael, FG Peterson, HH Sheathelm, RE Stewart, DE Thornton, and JW Wynn. Back from Hcptr Sch: Lt Casby Harrison. YC, (Lt.) HH Sheathelm.

. . . And More

1st AA Co (*Otter*)—*Arrivals*—Lts Eugene R. Miller and Jack C. Boman. *Promotions* —The firsts last two *Field Grade NCO's* have been promoted to 1st Lt., namely, Lts. Clyde Wilson and Jimmy Moore. *Outbounds*— Lt. Roy Hudson to Eustis (switched to TC) and Lt David Dillinger (Fall orders for Armor Class at Knox).

YC, James Greenquist.

Hook-Up!

SPLICED: 1/Lt Wynne B. Stern, Jr., of the 1st Inf Div Avn Sect, Ft. Riley, to Sheila.

Apologies

(Ed. The "Congratulations" column was scissored this month for lack of sufficient space. Mom, your announcement will appear in the next issue so don't blast us! The ol' man is flying around with a grin and we intend to tell everybody about his 8 lb. 6 oz. bundle before the 2 a.m. feeding schedule wipes the grin off his face.)

How to Succeed without Talent!

If we are to believe everything we hear, how to succeed without talent is a widely practiced art. For those not completely in the know, we attach the following check list:

Study to look tremendously important.

Speak with great assurance, but stick closely to generally accepted facts.

Avoid arguments. But if challenged, fire an irrelevant question at your antagonist and intently polish your glasses while he tries to answer. (If you don't wear glasses, hum under your breath while examining your fingers nails).

Contrive to mingle with important people.

Before talking with a man you wish to impress, ferret out his remedies for local, national, and international problems. Then, advocate them vehemently.

Listen while others wrangle. Pluck out a platitude and defend it fervently.

When asked a question by a subordinate, give him a "Have you lost your mind?" stare until he glances downward. Then, paraphrase the question and fire it right back at him.

Acquire a capable stooge, but keep him in the background.

In offering to perform a service, imply your complete familiarity with the task. Then, give it to the stooge.

Arrange to be a clearing house for all complaints. It encourages the thought that you are in control and enables you to keep the stooge in place.

Never acknowledge thanks for your attention. This will incubate subconscious obligations in the minds of your victim.

Carry yourself in a grand manner. Refer to your associates as "some of the boys in our shop." Discourage light conversation that might bridge the gaps between boss and man.

Walk swiftly from place to place as if engrossed in affairs of great moment. Keep your office door closed. Interview by appointment only. Give orders by memoranda. Remember, you are a big shot and you don't care who knows it.

Source Unknown

(Ed. Submitted by Bob Jacquot who is a good listener.)

ARMY AVIATION MAGAZINE
WESTPORT, CONNECTICUT

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CLANK STORIES

Too often the junior birdman in the combat airplane is too high above ground action to fully appreciate what his brothers in arms below are going through.

As part of his appreciation of the problems of ground fighters, a vicarious experience of living the action through combat reports is often valuable.

Such an experience is provided by General S.L.A. Marshall's book, *"Pork Chop Hill,"* recently released by William Morrow and Co., N.Y.

As an infantry operations analyst for EUSAK, Gen. Marshall interviewed survivors as they returned from the action during 48 hours at Pork Chop. He based his book on 50,000 words of notes on seemingly unrelated platoon fights.

Upon finishing the book, the reader may be left with the impression of a seemingly incoherent mass of material which he will find difficult to assimilate. The Combat-tried veterans, however, will gain an impression of the confusion of battle and the great need for team work to assure victory on the battle field.

For the Army aviator, the book will help relieve the frustrations he has often experienced during missions. For he will discover that the snafus which kept him in the air far beyond need to accomplish his mission are nothing to what happens the ground.

by Dario Polite

A SERVICE FOR YOU!

A word or two about the *Change of A dress Column* that appears each month.

We've been told that this is the publi tion's most widely-read column, if not t first feature to be read. This stands to reaso It is personal, pertinent, and current.

We realize that you personally infor your close friends when you anticipate move. The column can serve to infor many others of your change of residence an perhaps generate a few personal letters th otherwise would not be forthcoming.

We would like to stress two things. Fo quick aphabetizing, we employ a *pull* typ file with acetate compartments; this file a commodating the standard-size postcard o Change of Address card. We cannot fil letters in the compartments. They won't fi

Second, the publication of your change o address *verifies* to you that a record chang has been made here and that your sub sequent issues will go to the *published* ad dress. In short, this is a *"Roger"* in print

Postpaid Change of Address Cards ar inserted in every fourth issue sent to you We urge you to tuck one in your drawe for future use and save that trip to the Post Office. By using our *Blue Card* you'll receive the contracted twelve issues.