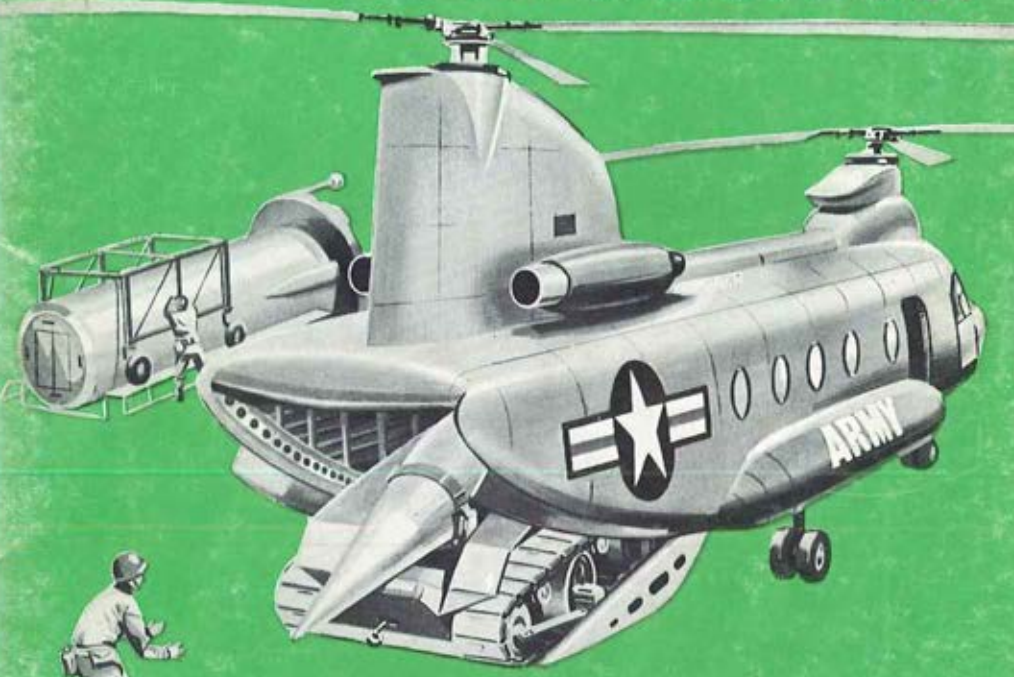
ARMY AVIATION

DECEMBER ★ 1959



ARMY AVIATION

VOLUME 7 — DECEMBER 28, 1959 — NUMBER 12

Kaman Huskie Sets Altitude Record

A USAF production model Kaman H-43B *Huskie* established a new world's altitude record of 30,100 feet in an early December flight at Kaman Aircraft's Bloomfield, Connecticut plant.

Piloted by *Major William Davis*, AMC, and *Captain Walter Hodgson*, Air Force Flight Test Center, the Lycoming T-53 turbine-powered *Huskie* broke the existing record of 21,982 feet set by a Soviet *MI-1* helicopter in March of 1959.

The new record for class E1D helicopters (3,858-6,614 lbs) is currently being verified by the *National Aeronautics Association* prior to official recognition by the *Federation Aeronautique Internationale*.

Huskies are in production for delivery to Air Force bases where they will serve as local base crash rescue vehicles. Having a capacity of 8 passengers and crew, the Kaman ships are expected to operate from many AF installations with density altitudes over 15,000 feet.

ADVERTISERS IN THIS ISSUE

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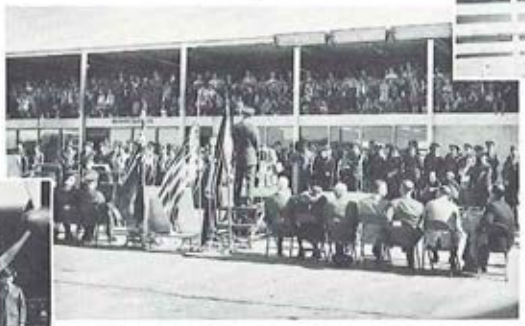
OPERATION CARIBOU MIGRATION - BY AIR



Canada's Caribou herds migrate regularly Spring and Fall, but it remained for the United States Army, the Province of Newfoundland and the de Havilland Aircraft of Canada to arrange for the migration of two baby Caribou by air. The animals were flown from their native Province of Newfoundland, arriving at the city of St. Louis—appropriately enough—in a U.S. Army Caribou aircraft.

The buck and doe were a gift from the Province of Newfoundland to the City of St. Louis and will be permanent residents in the St. Louis Forest Park Zoo.

The YAC-1 aircraft was one of the first three Caribou delivered to the U.S. Army for evaluation by TATSA at Fort Rucker.

LOWER LEFT—Brig. Gen. Wm. B. Bunker (left) with the crew of Caribou 57081 in which the baby Caribou were flown to St. Louis. Left to Right: Capt. James T. Kerr (captain) 1st Lt. L. Mays (co-pilot) CWO Quiney McPhail and CWO Harry M. Fletcher (pilots) SFC James Storm (Flt. Engineer).

CENTRE—Part of the large crowd assembled at Lambert Field for the ceremony, which included some 500 St. Louis schoolchildren. General Bunker, who officiated at the ceremony, is addressing the gathering.

UPPER RIGHT—One of the two baby Caribou being released from its crate at Lambert Field, St. Louis by Doctor Stewart S. Peters, Chief Biologist, Newfoundland Department of Wild Life.

ON DUTY TO HELP FILL THESE RANKS CESSNA U-3A

High mobility for U. S. Air Force recruiting teams is assured with Cessna's U-3A.

Because of its exceptional performance, range, operation and maintenance economy—and its adaptability as a light cargo carrier and instrument trainer—Cessna's U-3A is being used extensively throughout the Air Force.

Cessna

LET'S SPEED APH-5s FROM WAREHOUSE TO CRANIUM!

by Brig. Gen. Clifton F. von Kann
Director of Army Aviation, ODCSOPS

Dear Army Aviator,

As you are well aware, the Army has spent a great deal of effort in the testing and procurement of a suitable *crash helmet* for Army avatiors and crew members. The *Army Aviation Board* tested at least six varieties for over six months. The *Signal Corps Electronics Laboratory* spent a great deal of effort in determining suitable electronic components for a helmet to insure it would be compatible with our new radios.

One of the first things that became evident was the unfortunate conclusion that all aviators do not have a standard size head. Headgear would obviously have to be a personal piece of equipment and be retained by the individual. The *APH-5* was finally selected as the best available helmet even though it lacked certain desirable protective qualities which we would like to see incorporated for the combat environment. Safety considerations prompted the Army to go forward with procurement of the *APH-5* without delay.

Now that these helmets are in the system, we must take every action possible to expedite their issue. I urge everyone concerned to stress the important of speed in this last step—*warehouse to cranium*. I assure you we're working on it at this end. An aviator has no more reason to expect a delay of this critical item than the fire department would expect in the issue of extinguishers, or a hospital of plasma.

Combat Army Conference

During the week of 7 December, *Colonel Tolson* and I will be attending the *Combat Army Conference* at Fort Sill, Oklahoma. Aviation should be very proud of its acceptance as a full member of the team in this important gathering. The Aviation School at Rucker will be represented in the same manner as the Infantry, Armor, and Artillery Schools. This is heartening evidence of the maturity of Army aviation and its growing acceptance within the Army itself. Integration with the combined arms team is the only logical goal of Army aviation. We are fortunate, as Army aviators, to be able to state that we are the first group that can unreservedly dedicate itself to the "one Army" concept because we owe our allegiance to no specific arm of service. This is an advantage upon which we must capitalize, as contrasted to the much narrower viewpoint of wanting a special branch.

Brig. Gen. Clifton F. von Kann

In order to insure maximum integration of aviation, we should make every effort to identify key staff positions where an Army aviator will be an asset. I have been approached by many commanders stating that they would like to have an aviator in this or that spot (for example in combat developments or in intelligence). It is essential that the TO&E or TD reflect a requirement for an aviator by having the prefix "6" identify this position. Then the personnel system can fill these spaces by normal methods. This, too, is part of a mature and balanced Army aviation.

CONARC Meeting

Last month I mentioned the important meeting at CONARC headquarters where the Army was presenting to Industry a series of three special requirements in the field of Aviation. I have just returned from this meeting and wish to give you a preliminary report of the splendid enthusiasm with which the manufacturers greeted this presentation. There were over 400 representatives of 137 companies present.

Presentations were made by *CONARC, this office,* the *Assistant Chief of Staff for Intelligence,* the *Transportation Corps* and *Signal*

Corps, outlining the broad needs of aviation as projected out for the next ten years. We hope to have many industries' concepts for review by the Army within the next two months.

From this we hope to move ahead with realistic military characteristics and eventual design competition in one of the three fields (light observation, surveillance, tactical transport) by next summer. It is especially important that a decision be made in the light observation field, for I am sure you are aware that no further procurement of the H-13, H-23, and L-19 is now programmed after our current contracts run out. The Army is being very careful not to prejudge our needs in this area so we may approach our review of the design concepts in a completely objective manner. In April I should be able to give you some indication of the preliminary results.

Grass Roots Orientation

We all must look upon ourselves as salesmen. In our case we have a superior product. Army aviation has made a phenomenal growth from ten Piper Cubs to its present size in a few years because dedicated people fought a hard, long battle against discouraging indifference and outright opposition. If we are to continue to move forward, we must take every opportunity to present our program both within the Army and without. This is important on a small scale as well as large.

For example, a local meeting of the reserves offers a splendid chance to bring this important portion of the Army up to date in this field. Programming Army aviation into the two weeks active duty of the Reserves offers even greater possibilities. Special attention should be given to the Reserve Army aviation units to give maximum assistance to their active duty training. Officer calls, club luncheons, and meetings of groups like AUSA and AAAA offer further opportunities.

At times this may seem like an unproductive chore, but I assure you that vigorous effort at this positive approach pays great dividends in the long run. There is still much ignorance about Army aviation and its aims and goals. We cannot expect the Chief of Information to do this work alone.

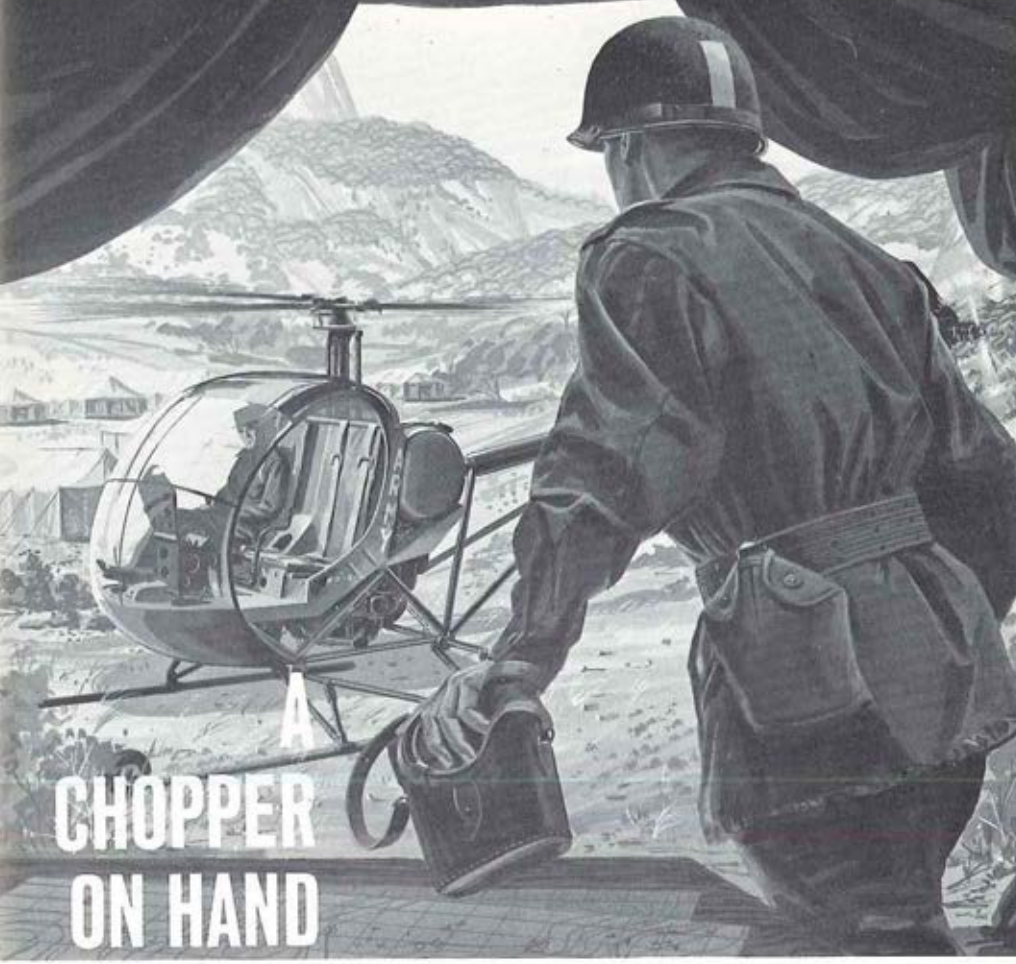
Our Best Wishes

A whole series of *ARs, SRs, Memos,* and *Directives* have conspired to prohibit me from wishing you anything resembling a *Merry Christmas* and a *Happy New Year.* Consequently, I will have to take this opportunity to say that I wish I could extend the very best Season's Greetings to every individual in Army aviation and to all the friends of Army aviation. Please assume that this letter is decorated with the traditional red and green, and surrounded with Holly.

Sincerely,

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

On a busman's holiday, foreign students attending the U.S. Army Primary Helicopter School at Camp Wolters, Texas, tour Fort Sill, Oklahoma, as part of Camp Wolters "Project Understanding." Pictured near a 210 mm German howitzer on Cannon Walk at Fort Sill are left to right, Capt. Aristotle Persson and Egil Ingebrigt- from Norway; Captain John Foundis from Greece; Captain Tha Tun Aye, Lt. Kin Maung Myint, Captain San Hla Phyo, and Captain Aung Min, all from Burma. (U.S. Army photo).



A CHOPPER ON HAND IS WORTH TWO IN THE POOL

Parked right by his tent, immediately available for use...a helicopter for observation and liaison must be organic to the Company Commander's field operations in today's Pentomic Army.

The Hughes YHO-2HU is the first helicopter fully functional for Company-level operations. Easy on fuel...ruggedly built...this unique, 2-place helicopter reduces the logistics problem. It requires no special tools for field maintenance and few spare parts. Most maintenance can be done within the Company.

Major components—the engine, rotor systems, multiple belt drive clutch—can be removed and reinstalled as independent assemblies...in minutes!

The YHO-2HU is thoroughly evaluated and ready for procurement.

THE YHO-2HU COSTS HALF AS MUCH TO BUY—HALF AS MUCH TO USE—AND IS EXACTLY WHAT THE ARMY ASKED FOR!

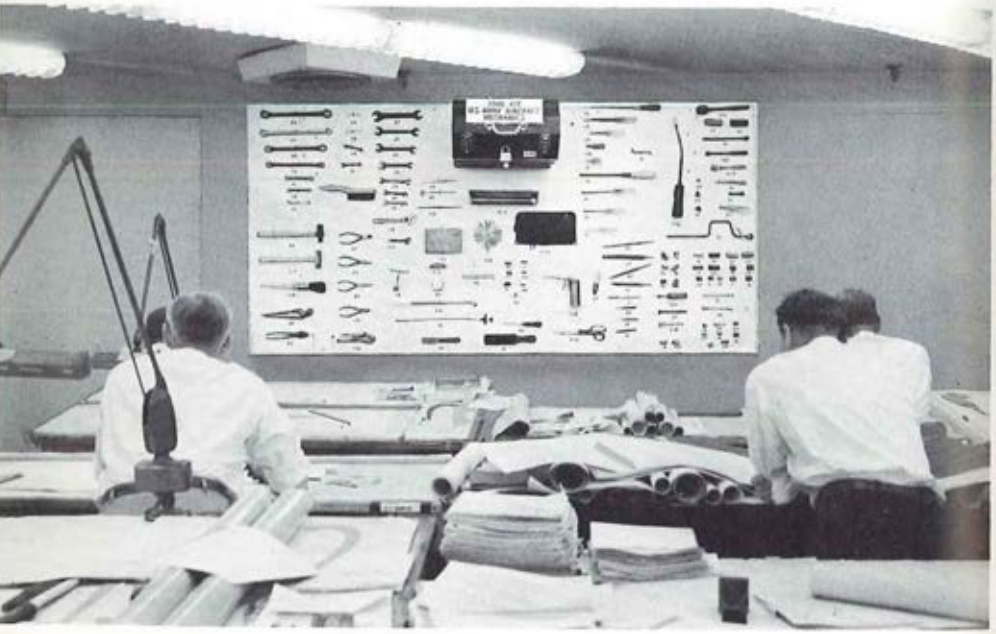
Write for color brochure

DIRECTOR OF CUSTOMER RELATIONS
HUGHES TOOL COMPANY—AIRCRAFT DIVISION
CULVER CITY, CALIFORNIA

The Campaign Against Special Tools

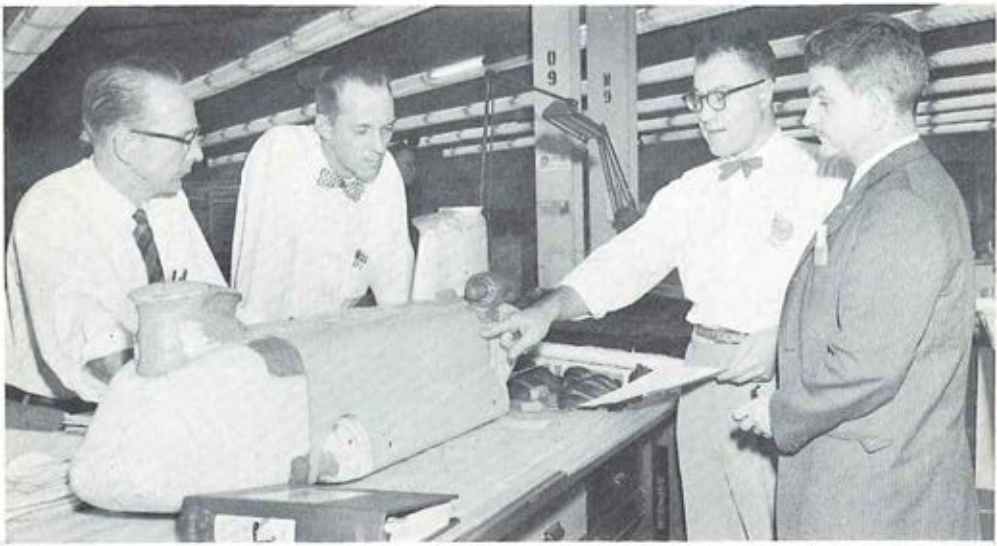
In this picture you see the standard Army mechanics' tool box—at the head of the class—as a reminder to Chinook designers.

Also . . . the handbook at every designer's elbow compresses maintenance design criteria from experience gained in building over 1000 helicopters and flying them over 1 million hours.



SUMMARY

December, 1959



Service Engineers Add Their Field Experience to Chinook Design

A five-man team of Service Representatives spend full time working directly with the Chinook designers. These five men represent 46 years of experience maintaining helicopters and over 80 years total experience maintaining aircraft of all kinds.

In the first few months they made over 90 specific design recommendations on the Chinook and 20 maintenance improvements to the engine manufacturer—the location and size of steps, work platforms and access panels; fluid level sight gages; maintenance davits and cargo hook ideas.

Here is a quote from one of their reports to management:

"ROTOR BLADE REMOVAL

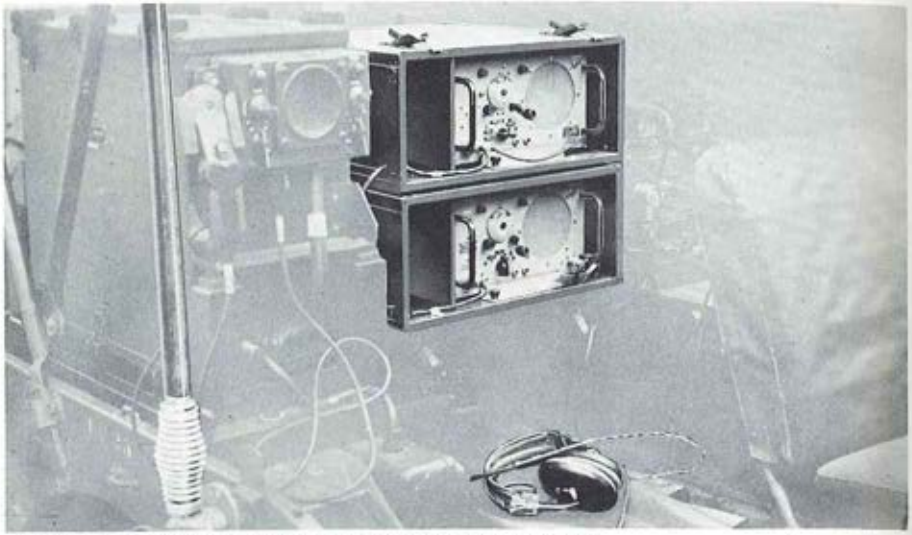
Sketches of a tapered vertical pin have been made . . . it would appear that this pin will be much easier to install and remove than the original pin. Also being incorporated are square holes in the pin cap nuts . . . The square hole will permit use of a standard ¾-inch drive wrench and will eliminate the need for a special tool . . ."

VERTOL Aircraft Corporation

MORTON, PENNSYLVANIA

SUBSIDIARIES: ALLIED RESEARCH ASSOCIATES, INC., BOSTON, MASS., CANADIAN VERTOL AIRCRAFT, LTD., ARNPRIOR, ONTARIO

LIGHT...COMPACT



UHF and VHF Portable Communicators installed in rear of Jeep

ARC PORTABLE COMMUNICATORS

(UHF Type 220 or VHF Type 12)

For air-ground UHF or VHF communications, this dependable, rugged and lightweight radio communication system cannot be excelled. It is a 2-way amplitude modulated voice radio set, quick and easy to put in operation where high powered permanent installations are not available. Can be used where only 24 volt dc battery power is available. Or it may be powered from a 115 volt 50-60 cps power supply.

When not in use it can be carried in hand case. Weight only 40 pounds.

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ARC

THE UNIT EXCHANGE PROGRAM

by Maj. Gen. Richard D. Meyer
Deputy Chief of Trans for Aviation, OCT

Users of Army Aviation equipment can expect very shortly to receive a supply letter announcing another major step aimed at improving our support of Army aviation equipment.

Known as the *Unit Exchange Program*, it establishes a procedure for an *immediate* exchange of certain unserviceable aircraft parts for others that are in top-flight condition.

Reasoning Behind Program

One of the priority missions originally assigned to the Fourth Echelon Army Aviation Field Maintenance Shops was emergency repair of aviation rotables and return of the same item to the user. This service was intended to provide a method whereby components in critically short supply could be repaired by the Fourth Echelon Shops and placed back in service.

The length of time a user had to wait for his rotable component or accessory to be returned to him was dependent upon the availability of repair parts in the Fourth Echelon Shop and the volume of other priority jobs on hand. To render maximum service, the shops maintained good size stocks of repair parts for such components, and when repair parts were not available they locally procured, manufactured, requisitioned on the depot system, borrowed, and what have you in an effort to return these components to service as quickly as possible. The shops have done quite a good job of repair and return to user and many days of EDP have been eliminated due to the high priority placed on this activity.

There were two "bugs" in the repair and return to user program, however.

In the first place, it takes some time to repair anything, so only the simplest rotable can be repaired while a pilot is waiting to hurry it back to install on an aircraft down for the part.

In the second place, any system which operates on an emergency basis is unsatisfactory in the long run.

For these reasons we have concluded that, while the repair and return to user program has served a useful purpose, it is not the best answer to supply by means of maintenance. One of its most serious drawbacks from the point of view of shop efficiency was peaks and valleys in Maintenance Shop production, both at the depot and at home station.

Maj. Gen. Richard D. Meyer

Gradual Development

We believe that the *Unit Exchange Program* which we are soon initiating will help both the operator and the maintenance people. We are obviously starting the new program *gradually*. We wish we could move faster, but there are practical limitations.

Therefore, we will use the medium of a supply letter that will advise users to take the items listed in the supply letter to a Fourth Echelon Aviation Field Maintenance Shop, turn in the unserviceable item and immediately obtain a serviceable rotable from the Fourth Echelon Shop.

The initial list of component items available for unit exchange will only include about 150 rotables. However, we are currently concentrating our efforts on developing repair kits for a good many additional rotables, and as soon as these are available they will be stocked in the Fourth Echelon Shops and will be available for unit exchange. In addition, we are also adding a good many depot repair parts to our stocks

which will further increase the list of unit exchange items.

New Design Criteria Forthcoming

Army aviators will be interested in a *new* Army Regulation, to be published shortly, listing *new design criteria* for military supplies and equipment required to be transported in Army or Air Force aircraft.

The new regulation will provide guidance to agencies engaged in developing new weapons, vehicles, and equipment to insure that these items will actually be air transportable and capable of air delivery.

Subjects to be covered include door and internal cargo compartment limitations, ramp restrictions, and restraint criteria for all aircraft. For external helicopter transport, slinging information and provisions for protection against exposure will be supplied.

In addition, payload figures will be given which are based upon currently approved *maximum* gross weights permitted in the aircraft. Rather, they will be conservative figures which have been selected to permit planning airlift in the majority of cases under normal or emergency conditions. For emergency or specific operations under specific conditions, *use your Handbooks!*

The initial regulation will apply only to aircraft now in the Army and Air Force systems and *not* to aircraft which are under development or on the drawing boards. We are hopeful that it will not only assure that material not yet developed or produced can be efficiently "married up" to existing aircraft, but also that unreasonable demands for loads will no longer be presented to aviators at risk to life, limb, and equipment.

THINK Pieces

Sometime ago, I suggested that the columns of this magazine should be useful for the airing of *think* pieces of interest to us all. This one, the author of which prefers to be nameless, was handed to me as such a thought-jogger. I found it something to think about and certainly worth some discussion. So for what it's worth, at the right is what an aviator anonymously thinks about paint!

Sincerely,

RICHARD D. MEYER
Major General, GS
Dep Chief of Trans for Avn

TO PAINT OR NOT TO PAINT

An anonymous author poses an interesting viewpoint . . .

In these days of searching for every possible means to economize in our Aviation as well as other Army programs to meet reduced budget ceilings, the costly annual bill for painting our aircraft has come in for considerable discussion.

The Army has spent more than $10 *million* initially for painting its aircraft and *annually* expends an *additional* $1 million to keep them painted. The latter figure averages out to a lot per aircraft. And these figures do not include the costs of stockage, storage, and issue of paints, solvents, and cleaners. The big question we are asking ourselves is this: *"Is this expenditure absolutely necessary, or is it just a frill more in the 'nice to have' category?"*

Preservative Against Corrosion

Let's take a closer look at the question of whether to paint or not to paint.

The most commonly acknowledged property of paint and one which has recommended its use by aircraft manufacturers since the days of the Wright Brothers is that it is an *excellent preservative.* Paints and the resilient quality of dopes were required in the early days when our aircraft were constructed for the most part of wood and fabric. But today, practically all aircraft are made with *corrosion resistant alclad aluminum skin* and some magnesium.

Adding several coats of paint to preserve an aircraft that already possesses a corrosion resistant skin might seem to many to come under the category of *"carrying coals to Newcastle."*

Why penalize the aircraft's payload and flying qualities by adding a weight increasing albeit fancy and good looking paint job?

Why wouldn't periodic washing, and possibly waxing, as necessary, afford sufficient protection

to the metal surfaces to carry them through their *normal* military life expectancy? The adherents of painting point out that the thin alclad pure aluminum coating is actually only about a tenth of the thickness of the metal skin and that deep scratches can penetrate thru to the aluminum alloy which is susceptible to corrosion. Also, they feel that repeated washings and waxing might eventually wear down this coating and make corrosion possible.

Camouflage Aspects

Since the ultimate use for our aircraft is combat service, what about the use of paint for purposes of camouflage? The Army olive drab colors are very effective, and the low flying Army olive drab plane blends in so well with the terrain, that it is very difficult to distinguish it from the air. While parked on the ground, its color again aids in effective camouflage.

However, in recent years, we have had to reorient our views on camouflage. Radar and infra-red scanners can readily detect the aircraft aloft or on the ground. "Chaff" or other detector-jamming devices have become the *only* true means of camouflage. Whatever advantage might accrue thru artificial concealment can perhaps be as easily attained by the use of nets, parking in revetments, or use of other natural cover. If paint can be said to retain any advantages for purposes of camouflage, it would seem that the universal use of olive drab might not necessarily be the answer for all combat areas.

"White on White"

An *unpainted* aircraft would be more difficult to detect against a background of snow than the olive drab plane, for example. If other colors might be more effective, perhaps some cheap gasoline soluble paints rapidly applied and easily removed might be helpful in combat to permit aviation units some leeway in selecing those colors and patterns which will do the best job in the season and terrain involved.

Why can't aircraft be bought and maintained without a complete paint job? I mean in their natural shiny state with only the painted insignia and numbers for identification. Why shouldn't we take another look at the problems of camouflage and concealment?

—Anonymous

X-18 Testing Continues

Hiller Aircraft's X-18 tilt wing research aircraft is shown breaking ground during its first tests at Edwards AFB, Calif. Going to 4,000 feet, the world's largest VTOL demonstrated acceptable stability, handling, and general flight characteristics during its 20-minute, low-speed test (196 mph), according to pilot reports. The 11,000 hp aircraft will undergo transition and hovering flight tests shortly.

VZ-8P Under Testing

Company test pilot Bob Kennedy is shown hovering the Army VZ-8P aerial jeep at Piasecki Aircraft's Philadelphia plant in another phase of the aircraft's research test progam. An airspeed and yaw indicator (striped spear) and a turbo-prop jet engine have been added to the VZ-8P for test work. The jeep research is being conducted by the USA Transportation Research Command.

NEW SEEING EYE FOR GROUND TROOPS

Ground troops may soon have targets spotted, marked and photographed by a new high speed observation airplane designed and built by Grumman.

The YAO-1 Mohawk, powered by twin turboprops, incorporates maximum passive defense and ejection-seat pilot safety. Highly maneuverable for low level missions, the Mohawk's bubble type canopy affords the

two man crew excellent visibility in all directions.

The Mohawk is a STOL type airplane (short take-off and landing) and can be operated from small unimproved fields, even when covered with snow or mud. The Grumman YAO-1 Mohawk will help increase target acquisition and observation.

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HERE'S HOW **BELL**

is helping make the American public aware of the objectives of today's NEW U. S. Army in its continuing program of modernization . . a program vital to our national defense and security in an age of new weapons and new concepts of warfare.

*One of a series of ads currently appearing in such opinion-making publications as Fortune, Business Week and U. S. News & World Report.

AERIAL COMMAND POST for the NEW U.S. ARMY

and there's a BELL in the Picture

In warfare of the future, the concentration of forces in small areas would invite annihilation by "area weapons." Thus, the wide dispersal of combat forces makes the task of *precise* direction and coordination more urgent than ever before. In fact, it would be hard to overstate the field commander's necessity for having rapid transportation to cover wide areas of the battlefield. Such transportation must be by air. Army Aviation gives today's new Pentomic Army this battlefield mobility — in command, liaison and communications. Bell helicopters, with their unequalled ability to land or take off from small unimproved areas — their ease of maintenance, requiring only simple ground facilities — play a vital part in the Army's "intimate coordination of effort." They help the new Army achieve the *mobility* that can spell the difference between victory or defeat.

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CARIBOU IN FIRST PHASE TESTING

by Maj. Gen. Ernest F. Easterbrook
CG, U.S. Army Aviation Center

Army aviators all over the world will be happy to know the *YAC-1 Caribou* is progressing into the first phase of its service testing with flying colors.

The *Army Aviation Board*, located here, reported pilot transition, flight characteristics tests, and performance and safety of flight items are now underway.

Officers directly connected with the project include *Capt. Merrill Jameson*, project officer; *Capt. Leonard Dennis, Capt. Ellis D. Hill*, and *Capt. Joseph Kramer*, all of the Board and two school pilots, *James R. Paul* and *Capt. T. N. Hurst*.

The *Office of the Director of Instruction*, headed by *Col. Robert Schulz*, is ironing out plans to begin a transition class in *Caribou* instruction for troop unit test pilots. The school will conduct a transition training program for approximately 8-12 aviators, initially.

Later, based on procurement, it is anticipated that scheduled *Caribou* classes will be in residence at the Army Aviation Center. All transition training is scheduled to be conducted at Fort Rucker.

While the exact delivery date of the *AO-1 Mohawk* has not been ascertained, apparently transition training will be synonymous with the *Caribou* plans.

■ While on the subject of new developments, I wish to add to the November issue report on the new target marking system for L-19's which is being evaluated by the Board. This rocket system, formerly used by the Marines in Korea, is reportedly a better step than the older smoke shell or verbal report system.

It is desirable that aviators sharpen their wits on target surveillance because the *Mohawk* will be introduced to us soon. The pilot's imagination will do a lot towards its success.

Maj. Gen. Ernest F. Easterbrook

■ For the benefit of those who may be under orders to the Army Aviation Center, there will be 400 additional Capehart homes completed in the next few months, for both officers and enlisted personnel. In addition, construction is nearly complete on six three story barracks to accommodate 2,000 men.

■ In other activity at the Army Aviation Center, *Operation Searchlight* was switched on here in a simultaneous move with United States Army installations all over the world.

Announced by *Secretary of the Army Wilber Brucker*, *"Operation Searchlight"* is focused on employees and is a creative effort to gain their ideas on improving efficiency or equipment.

While the program has been underway here for several years, it is hoped that it will be stepped up with more participation. Army aviation, being a relatively new field, offers a variety of problem areas that can be solved with some creative thought. At Fort Rucker last year, persons with approved suggestions carried home a total of $1,920. Their ideas, however, saved the government an estimated $27,946.03, annually, in tangible benefits alone.

■ The recent CONARC directive authorizing armed helicopter divisional tests marks a victory for the Army Aviation Center, which has championed such a proposal for several years. The division tests specifically apply to air mobility for reconnaissance and security, but they will undoubtedly give further insight into the possibility of providing increased air mobility in other areas.

GROUND TO GROUND

An Aggressor tank formation churns through the thick dust and scrub oak of the Hunter Liggett Military Reservation in California, the tank commanders probing for a "contact" with enemy mobile forces. High overhead, a minute speck, tiny as a soaring hawk, does not disturb the moving column. Suddenly, a searing flash envelopes the formation, and as the last rumble dies away, the once formidable juggernauts lie charred, twisted, and defeated.

* * *

This action took place recently at the *U.S. Army Combat Development Experimentation Center's* huge field laboratory located near Jolan, California. Although the nuclear strike was simulated, had this been actual combat, the tanks would indeed be a melted mass of metal—all because of that insignificant speck droning high overhead.

The speck at closer observation proved to be an Army *Beaver*. This craft was equipped with a huge K-38 aerial camera containing a 24-inch focal length lens. This is unique in that the K-38 was developed for the Air Force for use in very high performance tactical aircraft, as compared with the *Beaver* which lumbers along at only 120 miles per hour.

CDEC found the *Beaver* to be suitable for combat surveillance missions using the K-38 camera. Flying at an average 9,000 foot altitude to accomplish photographic missions, these aircraft are now participating in current CDEC field experimentation.

Data Sped to Commander

In the case of the *Aggressor Tank Force*, the *Beaver* had hovered high above the probing column, photographing movements every two or three minutes. When sufficient pictures were made, the exposed film was returned to base operations, where it was processed within minutes. Photo interpreter teams then analyzed the photographs; intelligence personnel added other combat surveillance data to the report which was quickly placed in the hands of the appropriate combat commander.

With this timely, positive intelligence, the commander was able to call for the delivery of a low yield nuclear artillery strike upon the *Aggressor*. Intelligence such as this saved not only lives but equipment and vital time.

Team Has Other Functions

Engaged in *CDEC* experimentation is a *Photographic Interpretation Team* from Fort Hood, Texas, consisting of four officers and six enlisted men, headed by *Capt. Jack Flowers*. Within a small building at Fort Ord, this team daily wades through a maze of aerial photographs. Here, the seemingly jumbled mass of photos are pieced together, interpreted, marked, and forwarded to military and scientific using agencies involved in the experiment.

At present, experimentation requires an average of four aerial photographic missions daily. Each mission calls for the exposure of 50 film frames of tactical situations. In addition to flying these tactical photographic sorties, the section is occupied in completing the only aerial photographic mosiac ever made of the area encompassing the Hunter Liggett Military Reservation and Camp Roberts.

Only one facet of the highly developed combat photography it is important in gaining target acquisition, bridge and building analysis reports, surveillance system available to the Army, aerial terrain studies, and the movement or concentration of enemy troops and vehicles.

Incorporated into *CDEC* experimentation, the K-38 aerial camera has found a role in the development of tactics and concepts which will aid in the building of tomorrow's Army today.

Fort Rucker Group Soars in New Co-op Sailplane

Described in the October article *"Sailplane Flying for Army Aviators"* as written by *Charles E. Haydock, Jr.*, the art of soaring has gotten off to a *FLYING* start at Fort Rucker.

Another extracurricular interest of *Lt. Col. Howard I. Lukens*, who introduced skin diving, sky diving, and a variety of other sports to the personnel at Fort Rucker, soaring has been enhanced by the joint purchase and ownership of a Schweizer single-place sailplane by *Col. Lukens* and a group of would-be "motorless motormen." The group includes *Lt. Cols. Gerald H. Shea* and *Raymond Johnson; Capts. F. E. Stegar* and *W. C. Weaver;* and *Wally H. Martin* and *E. S. Fleming.*

Not yet a formally organized activity, the sailplane group intends to act as a cadre to the full-fledged development of a soaring association here.

Quite busy these past few weeks, members of the group have been receiving QD time from soaring groups located in Georgia and Mississippi. *Col. Johnson*, checked out on his first dual flight after receiving an aerial tow to two thousand feet, found almost one hour of updrafts and thermals. Army aviation has its own *"Quiet Birdmen."*

In the photo above, *Capt. Bachtell*, USAF (left), soaring governor of Georgia and FAA glider examiner, points out the gilder's instrumentation to *Lt. Col. Gerald H. Shea* (in cockpit) and *Capt. F. E. Starger* (right).

Is What?

A fill-in *"Name the Model"* photo for those who are up on Army aviation. 'Twas a limited purchase model in '47.

USAPHS-Southern Airways Combine Sets New Safety Record

Setting their ship down on the heliport at Camp Wolters, Texas, on the night of November 30th, student helicopter pilot *Capt. David R. Pierson* (above, left) and Southern Airways instructor *Donald Jeffers*, established a new safety record in concluding the longest accident-free month in USAPHS history. During November alone flying personnel at USAPHS completed 7,000 *hours* of flying time without an accident, a month that was also marked by the complete conversion of all flight classes at Wolters to the new "D" model Hiller H-23.

Morgan D. Hengsen, director of flight and safety for Southern Airways, stressed that safety records are not set by accident. *"Considerable credit must be given to the rigid safety policies required by school authorities represented by Capt. James Chappell, military flight safety representative."*

PROBLEM:

DESIGN AN ECONOMICALLY SOUND HEAVY-CARGO HELICOPTER

That's the challenge which has been answered by Hiller's tip turbo helicopter concept.

The Hiller engineering and manufacturing team has spent almost a decade perfecting the tip driven helicopter concept. Design studies, economic analyses, and theoretical advances, backed by data from thousands of hours of tip jet helicopter flight tests, point to this inescapable fact: that to satisfy all major design criteria **tip power must be used... and turbojet engines must supply that power.**

The Hiller tip turbo concept guarantees the most sought after characteristic in 25,000 lb. gross weight and **up** configurations—a high payload-to-gross weight ratio. Because the need for heavy and complex gear trains has been eliminated, weight is drastically reduced and development and manufacturing costs are brought—for the first time—down to sensible levels.

Tip power precludes the need for engine torque compensation and associated large tail booms and drives. Tip-mounted engines permit new freedom in the design of fuselage and cargo space configurations. Turbojet engines provide the range and low fuel consumption rates needed to make tip power economical. And the engines are in effect weightless... they replace the blade tip weights needed to keep coning angles down.

The need for heavy cargo and crane helicopters is growing. Hiller technology is ready **now** with the practical solution.

HILLER
AIRCRAFT CORPORATION
PALO ALTO, CALIF. • WASHINGTON, D.C.
ADHESIVE ENGINEERING DIVISION, SAN CARLOS, CALIF.

PRESIDENTIAL FLIGHTS IN USAREUR

Piloting the President's party can be an exciting business.

* * *

Along with the satisfaction of a job well done, 12 Seventh Army airmen of the *8th Transportation Battalion's* 110*th Light Helicopter Company* here got more tangible mementos for their services during President Eisenhower's European trip this Fall.

During a formal battalion review in late November at Obershleissheim, 8 of the 12 pilots and enlisted crew chiefs who flew four *Choctaws* in support of the President's official party in Bonn, London, and Paris were presented "thank you" cards signed by the President, souvenir coins with "1959" and *"With Appreciation—DDE"* stamped on alternate sides, and letters of commendation signed by *Colonel Robert L. Schulz,* military aide to the President.

The four men who did not attend the ceremony—two of whom have rotated to the States—will receive their cards, coins and letters at a later date.

Crews Honored

Honored were *Capt. Garmon O. Aure,* commander of the 110th; *CWO's James D. Wilson, Raymond C. Wilde, Bryan W. Hutchinson,* and *John Williams; Specialists-6 Billy R. Allen* and *Anthony J. Cavalieri;* and *Specialist-4 Joseph F. Marlin.*

Those absent were *CWO's Bryon C. Hullett* (now in the White House flight detachment), *Floyd L. Weaver,* and *John D'Angelo* (now stationed at Fort Campbell, Ky.); and *Specialist-6 Raold F. Baldwin.*

Making the presentations was *Col. Arthur W. Ries,* commander of Seventh Army Aviation Group, assisted by the 8th Battalion commander, *Lt. Col. Clarence H. Ellis, Jr.*

No "Milk Run"

Ferrying the President and his party is a heavy responsibility—and it can have its tense moments, too. Carrying the bulk of the load was *Captain Aure,* 41-year-old veteran. In addition to flying the H-34 which hauled the President's heavily guarded baggage, the captain had the job of drawing up flight plans and charting routes, checking safety measures, and ensuring perfect timing.

But the pilot who earned the bows was *CWO Hullett,* now with the White House flight detachment. He was handed the tricky mission of flying *point* for the small squadron during the last leg of the President's European tour—in dense fog which kept visibility near zero!

His instructions just before he was to lead the flight 40 miles from French President DeGaulle's summer chateau in Rambouilette to

"Thank You"

Capt. Garmon O. Aure (r.), commander of the 110th Trans Co (Lt Hel). and his crewchief, Sp/4 Joseph F. Marlin, show the "thank you" note and letter of commendation they received from the White House for ferrying the President's party around Bonn, London, and Paris during President Eisenhower's European Trip. They were among 12 men from the 110th who were cited by the chief executive. (USA photo).

Le Bourget airport in Paris: *have your aircraft down no later than* 8:40 *a.m.*

The veteran pilot had to fly blind, and at the same time guide the other aircraft in flight. When he reached Paris that city was fog-bound, too. He could not tune into the navigational beam at the airport because of frequency differences, nor could he see the airport.

Relying on his only other alternative, radio instructions from the tower and precision instrument calculations, he circled the city and began his tricky, gradual descent—still burdened with guiding the remaining helicopters.

Despite the hazards of landing blind, despite the pressure of his vital responsibility, *CWO Hullett* touched his wheels down at Le Bourget at precisely 8:40 a.m. The other aircraft were safely down within seconds.

Among the 38 persons taxied by the 110th were *Secretary of State Christian A. Herter, Press Secretary James Hagerty, Presidential Military Advisor Colonel Schulz,* and *Major John D. Eisenhower,* the President's son.

Another unit in the 8th Battalion, the *11th Light Helicopter Company,* furnished one helicopter, while the President's personal H-34 was furnished by *United States Army, Europe (USAREUR) flight detachment.*

SITUATION: TAIL ROTOR OUT!

It can happen to anyone, but on October 16th it happened to CWO Robert J. Kean . . . *a complete in-flight failure of a tail rotor control.*

* * *

Participating in a VIP flight of two H-13E's near Yongsan Helipad, Korea, the 508th ASA Group pilot "caught it," and radioed that he was proceeding to K-16 airfield for an emergency landing. Discharging my passengers at Yongsan, I sped to K-16 where upon entering the traffic pattern, I noticed *CWO Kean* on a very short final.

He brought his H-13 within approximately 3 feet of the hard surfaced runway with a high airspeed to attempt to maintain directional control. Even with approximately 75 MPH IAS the helicopter was turned 45° left away from the forward path over the ground and as CWO Kean attempted to slow his speed, the helicopter began to turn more to the left. At this point CWO Kean cut the throttle and applied left cyclic, making a side flare to further decrease his forward speed. The helicopter continued to turn to the left as CWO Kean executed a perfect hovering autorotation. In making the side flare with left cyclic, CWO Kean practically stopped his forward speed and the touchdown was made with only the left skid sliding approximately 2 feet and the final direction of the helicopter at rest was more than 180° from his original flight path.

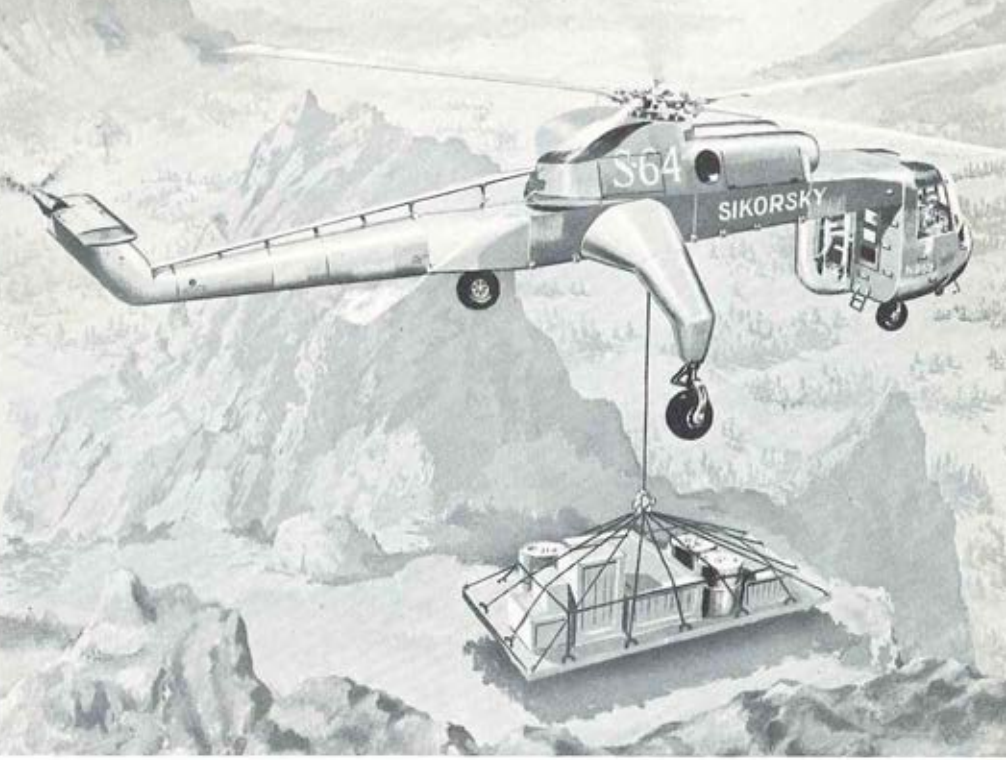
An examination by maintenance personnel revealed a failure of the tail rotor pitch change drive with no other damage to the helicopter.

A 4,000-hour veteran with over 2,500 hours of IP time with the Dept. of Rotary Wing, USAAVNS, CWO Kean deserves a well-earned pat on the back for his skillful completion of a tricky emergency landing without damage to his aircraft.

—Lt. Charles A. Edwards
8th Army Aviation Detachment

Distinctive Duty

Eight of the 12 pilots and crewchiefs of the 110th Trans Co (Lt Hel) who ferried the President's party included, l. to r., Sp/4 Joseph F. Marlin; CWOs James D. Wilson & Raymond C. Wilde; Sp/6 Anthony J. Cavalieri; unidentified; Capt Garmon O. Aure; and CWOs Bryan W. Hutchinson and CWO John Williams. Four other members of the 110th, absent from the picture, also flew H-34 helicopters for the Presidential party. (USA photo).



Sikorsky S-64 —new 8-ton payload turbine-powered flying crane

HIGH CAPACITY—With an 8-ton payload, Sikorsky's new S-64 turbine-powered crane, will carry *three tons more* than the experimental S-60. It is the first in a new family of Sikorsky turbocranes designed to carry up to *40 tons*.

TOP VERSATILITY—In restricted areas where even a helicopter cannot land, the S-64 is designed to raise and lower loads on a hoist, as above. Where landings are possible, cargo can be attached by cable to four hard points on the fuselage. The S-64 is designed to straddle bulky loads nine feet high and almost 20 feet wide. A variety of passenger and cargo pods, bins and platforms, plus almost vibration-free suspension will make the S-64 a Universal Transport Vehicle of unprecedented versatility and usefulness for military or commercial service.

PROVED DEPENDABILITY—Sikorsky's program of step-by-step progression with thoroughly proved designs and components will assure users utmost dependability. Vital rotor assemblies, gearing, controls, and other dynamic components for the S-64 have been proved by years of service in Marine Corps and Army S-56-type helicopters. The crane concept has been tested and demonstrated for many months in the S-60.

FIRST FLIGHT—The first S-64 is programmed for flight in the fall of 1960.

SIKORSKY AIRCRAFT, Stratford, Connecticut
A division of United Aircraft Corporation

The most exciting new Army

The New U.S. Army L

Sliding doors separate the pilot compartment from the cabin. The roominess of the cockpit is shown by the wide center aisle. With plenty of room for instruments and radio, adjustable crew seats and excellent flight characteristics, the L-23F is the talk of military pilots who have flown it.

Never before has any airplane offered so many pleasant surprises —and still retained every desirable feature of its predecessors.

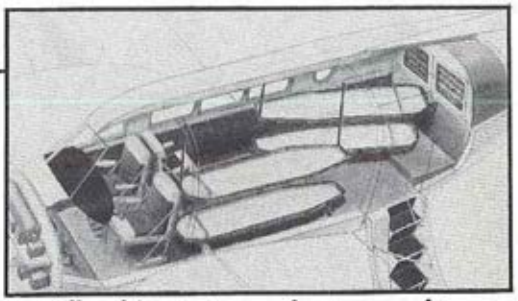
In addition to its extra roominess, comfort, privacy, quiet and almost unlimited versatility, the new L-23F is a pilot's dream.

With supercharged fuel injection engines, the L-23F has performance capabilities never before possible with carburetor engines of similar horsepower. It's smoother, too, and frees you completely from icing due to fuel vaporization. More precise fuel metering lets you calculate fuel consumption more accurately, and gives you longer range and greater fuel economy.

airplane in years . . .
-23F Transport

As spectacularly new as it looks, the new L-23F has an entirely new fuselage that is longer, wider and higher inside than the L-23D and includes a separate pilot compartment and air-stair door.

Other Beechcraft projects today include research and development work on launching and recovery systems for missiles, drones, and manned aircraft; target and reconnaissance aircraft; ground support equipment; and classified projects in the advanced fields of aerodynamics, cryogenics, thermodynamics, and aircraft range extension.



All cabin seats can be removed in minutes to convert the L-23F to a flying ambulance, a cargo-hauling aerial packhorse or a flying "bus." One arrangement seats 11 people.

★ ★ ★ ★

Military commanders are invited to write for further information—Military Division, Beech Aircraft Corp., Wichita 1, Kansas, U.S.A.

Beechcraft

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

AN EYE TO THE SKY . . .

Racing overland to keep up with Army aviation takes a lot of speed—and *mobility* is the keynote of Seventh Army pilots' best friends, the 16*th Aviation Operating Detachment*.

The only Army unit of its kind overseas, the 16*th AOD* has the mission of getting Army planes into the air, keeping tabs on them in flight, and then bringing them in for a "touchdown."

Handle All Phases

With "An Eye to the Sky," the 16th's technicians have to do their jobs in all kinds of weather and on fields ranging from cow pastures to permanent airstrips. In the eight months the unit has been a part of Seventh Army, its men, in one place or another, have had to handle every conceivable phase of airfield operation—from serving coffee to bringing in a lost pilot in a heavy fog.

Running this highly mobile, widely scattered detachment is *Capt. Kenneth C. Stanley*, ex-Marine sergeant and a rated Army aviator, who helped organize the 16th and has commanded it since it was activated Aug. 8, 1958, at Fort Bragg, N.C.

To staff control towers and bad weather guides (radio, radar) at permanent installations in Illesheim, Kitzingen, Grafenwohr and Hanau, as well as furnish tower operators for a sprinkling of other airfields in South Germany, the 16th had to draw on the 5th (U.S. Army, Europe) AOD, which it replaced, for additional men.

Based at Echterdingen

The headquarters section and base team, located on the north (German) side of Stuttgart's *Echterdingen Airport* has no control tower mission there inasmuch as German operators service commercial and Army aircraft.

The 16th, for example, runs the operations office and, in coordination with German tower operators, dispatches flights. Working alongside German civilians, it provides all fuel for Army planes and maintains a crash-rescue team around the clock.

"Alerts" Are No Problem

However, enjoying the relative comforts of permanent bases isn't the 16th's basic function. On alerts it moves fast to a designated location and sets up shop; during field problems, the base team actually runs a fifth complete airfield.

"In a tactical situation," claimed *Lt. Edward H. Miler*, a flight operations center officer and a rated pilot, *"we can set up a complete airfield, with navigational aids and control elements, and be operational within an hour after we find a suitable field."*

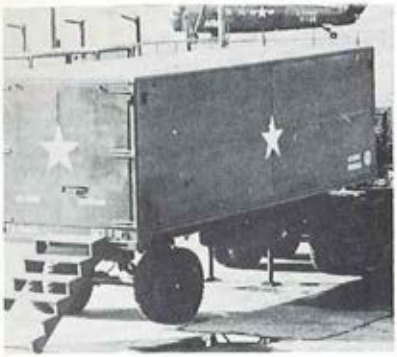
To do this, the 15th turns to wheels, keeping everything *except the landing strip* in easy to move vans and trailers—*and it's all air transportable!* Two full-size vans house mobile operations and flight operations center (FOC) facilities: just open the back doors and the operations van is ready to go; hook up a portable generator to the FOC van, it's in business.

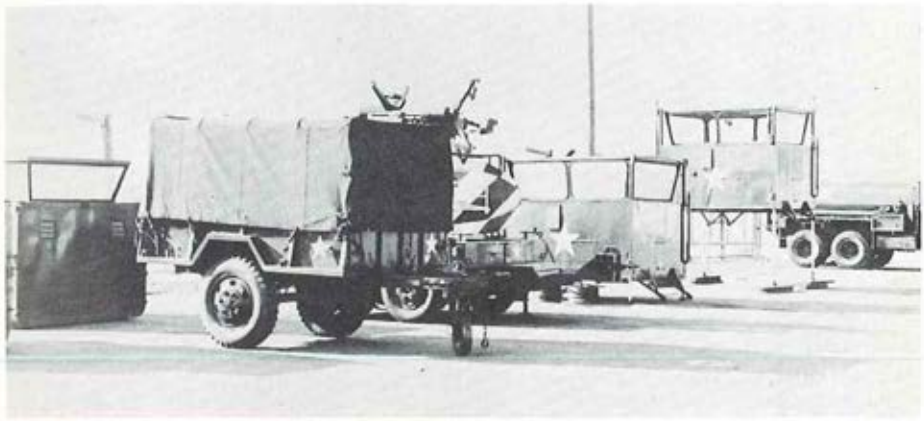
Radar antennas, folded in small trailers, need only to be unfolded and hooked up with their sets to become operational. Small, portable aluminum towers, which in a pinch—and by use of built-in hydraulic jacks—can be loaded by one man on the back of a standard Army "deuce and a half" truck, operate right from the truck. All other items of equipment are kept just as mobile.

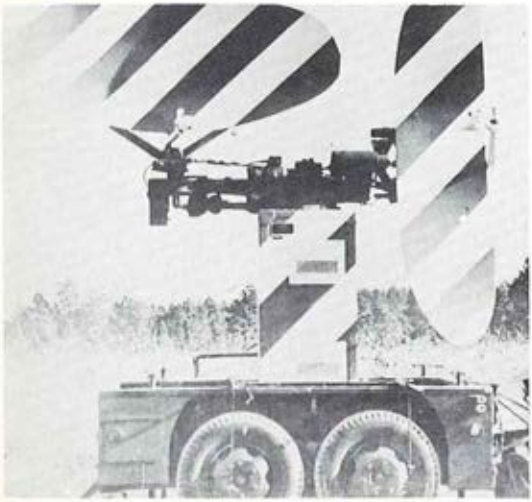
Composite Spells Mobility

Shown at the right is a composite that spells mobility. With all of their equipment portable as well as air-transportable, the 16th AOD can set up an airfield anywhere, anytime. Vans like that shown at the *upper left* house mobile operations and flight control (FOC) sections, while compact control towers can be loaded on and operated from standard Army 2½-ton trucks, as in the *upper right*.

The *center photo* shows some of the 16th AOD's equipment standing ready to be moved out on a moment's notice, while the lower two pictures show a radar antenna in operation (*lower left*) and folded into a small trailer (*lower right*), ready to be hauled anywhere it is needed. (USA photos)







TMC GLOBAL SUPPLY NET AIDED BY IBM COMPUTERS

Unveiling one of the nation's most powerful electronic data processing systems at the *Transportation Material Command* in St. Louis in mid-December, the Army expects its new system to save over a half-million dollars a month in normal requisitioning procedures.

The heart of a new global Army supply network, the *TMC computer* will communicate via wire and radio circuits with military establishments all over the U.S. and on four other continents.

More than 1,000 requisitions for Transportation Corps aircraft, marine, and railway equipment flow into the new computer daily for parts and equipment out of a $780,000,000 inventory ranging from one-cent washers to quarter of a million dollar helicopters.

High Speed Operation

With electronic speed and accuracy designed to process requisitions five times faster than previous methods, these requests are converted into shipping orders and transmitted automatically to large supply depots about the country from which parts are sent to the requisitioner. Formerly this cycle took 15 days. Now, the computer—an *IBM 705 III*—gets the material into "shipment in less than 72 hours.

Connected by leased telephone lines to four major supply depots and numerous military installations throughout the country, the data processing system takes in Overseas Supply Agencies in New York, New Orleans, and San Francisco by radio communication.

"The ability to handle orders faster will enable us to work with smaller inventories," Brig. Gen. William B. Bunker, Commanding General, Transportation Materiel Command, said at the dedication ceremonies.

"In turn, this will reduce losses due to obsolescence. These factors are expected to save at least $6,000,000 *annually for the next three years,"* Gen. Bunker pointed out.

BELOW: Shown at the console of the new data processing system are, l. to r., Lt. Col: Wallace R: Elliott, Director, Automatic Data Processing, and Brig. Gen. William B. Bunker, Commanding General, U.S. Army Transportation Material Command, St. Louis, Mo.

Space-Saver

Forty-five reels of the magnetic tape used by the computer contain all of the necessary information about the 300,000 separate items in TMC's inventory. It would take eight miles of standard file drawers, laid end-to-end, to contain the information if it were on paper documents. The computer processes about 10,000 transactions each 24 hours.

The capacity of the computer has enabled TMC to merge into one master tape file the interrelated records of its six operating departments. This degree of data consolidation has never been attained anywhere.

The master tape file contains all of the necessary records of maintenance engineering; cataloging and identification; materiel requirements; procurement and production; depot supply activities and accounting.

"During daily processing, the computer automatically up-dates the six sets of records in its composite electronic file," Lt. Col. Wallace R. Elliott, Jr., Director, Automatic Data Processing, said. *"These records, formerly maintained separately by six TMC operating departments, required literally tons of paper in the past,"* Col. Elliott added.

The *IBM 705 III* will automatically order the

PHOTO ABOVE: Lt. Col. Wallace R. Elliott, Director, Automatic Data Processing, confers with George F. Moore, Chief of Data Processing, seated at the console as an operator at left places punched cards into one machine of the new high-speed IBM 705 III data processing system.

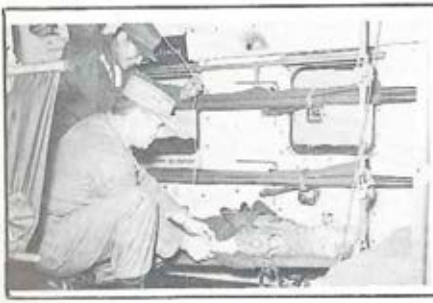
requested part from the supply depot nearest to the requisitioning installation, thereby reducing transportation cost to a minimum. If the part is not available, the computer will determine if a substitute part is in stock, order it and print a notification for the requisitioner of the action taken. Also the computer *automatically* specifies the shipment of older but usable items to insure the rotation of stocks, thereby reducing obsolescence.

Up-dates Records

Simultaneously, the computer examines the up-dated records and issues warnings of stocks that are too low or high. Where stocks are needed it also issues purchase orders for them. Early detection of stocks in low position enables *TMC* to buy in the most economical quantities. It also produces periodic consolidation management reports.

This information comes off the computer on a series of magnetic tapes. Another tape created simultaneously is used to automatically produce punched card shipping orders.

The information on these cards is transmitted via Transceiver to the supply depot selected by the computer. The depots are located at New Cumberland, Pa., Atlanta, Ga., Fort Worth, Texas, and Stockton, Calif. The cards produced by the Transceivers at the depots authorize shipment of the requisitioned parts.



New Home

"Keeping a patient happy" two members of the 37th Medical Detachment (Helicopter Ambulance) of the newly arrived 58th Medical Battalion assume cheerful expressions (simulated?) as they administer plasma (simulated) to a casualty (simulated) during a recent dry run air-evac at Fort Ord, California. Sp/5 Joe Hernandez, Sgt Albert Kager, and a horizontal Sp/4 Bill Asbury are shown left to right.

MAINTENANCE TIPS...

...Mike Button

MIKE BUTTON, BOX 209, MAIN OFFICE, ST. LOUIS 66, MISSOURI

MOJAVE INSTRUMENT RESTRICTION LIFTED

The temporary flight restriction placed upon H-37A helicopters, as explained in *"Mike's"* column April '59 edition, has been lifted as promised.

The *"fix"* is out, and field maintenance activities are responsible to see that it's accomplished within 15 days after you get *TM* 1-1*H*-37*A*-1O4*O*, so that the restriction as outlined in *TM* 1-1*H*-37*A*-1*C*, can be taken off.

If you have H-37s, serial numbers 54-993 up to and including 55-618, with the J-8 attitude indicators installed, you don't need to comply because it's not necessary, as these instruments are OK—it's only the B-1A attitude indicators in the K413 control system that had the quirk.

IT'S OFFICIAL NOW!

The U.S. Army Transportation Supply and Maintenance Command gets a new nommer which became effective by order of the Chief of Transportation on 1 October 1959.

The well known *USATSMC* designation has been replaced by *USATMC,*. and translated means, *U.S. Army Transportation Materiel Command.*

HOLD IT, UN MOMENTO, MIS AMIGOS!!!

Si, Senor, Pedro tells me the Hombres have been looking into *TM* 1-1*H*-21-2-5, 20 January 1958, for information on tolerances. El Manual, she is in error, I theenk.

So, check paragraph 2-83, (j) , page 42. It tells you that the tolerance of the Trunnion Block Bushings *FSN*-156*O*-295-*O*146 (*PN* 22*R*3*O*43-5) is .OO3, but this creeped into the TM and is a *manufacturing tolerance.* Please to get out the good book and change same to .OO5 which is the accurate allowable play between the bushings and the guide bolts. Use this figure in place of what the *"book"* says. Remember .OO5 instead of .OO3 and maybe this will stop premature removal and unnecessary rejections of these Trunnion Block Bushing. Adios Pedro. You're one fine fellow, No?

by William D. Bickham
Transportation Material Command

SHAWNEE SHENANIGANS, PART II

In October *Mike* tried to drive home a point that you all can't rely on the *"Luck of the Irish"* when dealing with these intricate rotorcraft.

As you know, all H-21 units experienced considerable anxiety and were much concerned by recent visits of evaluation teams to look into and study, thoroughly, the operating and maintenance techniques employed by field activities.

Well, there was a very good reason why we spent MONEY to get our $ MONEY'S WORTH $. It seems that over a period of 2½ years in operating H-21's with R-1820-103 engines, we have had 150 premature engine removals and that's *NOT GETTING OUR $ MONEY'S WORTH $.*

Just like the blades I spoke about last month, nobody profits or even breaks even when we don't get the full utilization on these engines.

Mike would like to pass on the following recommended actions to everybody concerned with the operation and maintenance of *SHAWNEE,* (H-21) helicopters having the R-1820-103 engines installed:

To Pilots:

(1) When you're taking off, hovering, or landing in dusty areas, use that *AIR FILTER*—Check your handbook to see what type you have. And another thing; that wee little bit of Hg. you lose when in filter position don't amount to a tinker's damn, so *USE FILTERED AIR* to keep crud out of the engines.

(2) 2500 RPM & 41" Hg. on all new and

overhauled engines for the first 10 hours; that is the maximum, don't exceed.

(3) During starting procedures, keep the mixture control in *"IDLE CUT-OFF,"* use the engine primer until the engine starts and is definitely running, then release the primer while putting the mixture control into *"RICH"* position.

(4) Check with the Crew Chief and *TM* 1-1*H*-21-2-4 to be sure that the starter microswitch has been adjusted properly so that you're permitted a *SLIGHT* increase in throttle movement, thereby, helping you with starting.

(5) Using engine primer to drop off the RPM momentarily for a smoother clutch engagement is for the "BOIDS." A better technique to save engines and get longer life from them is to use the primer *ONLY* when necessary to keep the engine at clutch engaging RPM.

To Crew Chiefs & Maintenance Officers:

(1) Don't exceed 2500 RPM and 41" Hg. when running up new or newly overhauled engines.

(2) Change the oil every 150 hours (every 2nd periodic).

(3) When pre-oiling or servicing the engine, make sure that the servicing equipment being used is clean and free of all rust, dust, and disgust so that the oil will not be contaminated. Too, when pre-oiling use *AT LEAST* 2 gallons of clean engine oil.

NOTE: At the present time TMC is taking steps to get adequate pre-oiling equipment into applicable tool sets.

(4) Check with *TM* 1-2*R*-1-15 and perform that complete engine conditioning check at 300 *HOURS*. That's exactly ½ the life expectancy of these engines, you know.

(5) If you think you gotta impeller seal leak but you don't have a high oil consumption rate and you haven't checked the valve guide clearance, be suspicious and *STEP SOFTLY* before you prematurely remove that engine.

(6) *PHYSICALLY CHECK* and make real sure that the oil tank hopper is *FULL* before you ever attempt to fire up the engine.

Know sumpin? Here's an added recommendation: Might start thinking about establishing and training an engine trouble-shooting team within *each* supporting field maintenance shop. Also, get the plan pretty well firm in your mind, cause I would not be a bit surprised that soon you'll be directed to do it.

So, how's about giving this your immmejit attention and maybe we'll get the 600 *HOURS*, outta these engines, that we're supposed to.

We've tried to close all hiatuses in that we are going one step further to insure we get the *FULL LIFE* from these engines—An engineering valuation is being performed to determine the possibility of maybe a materiel problem exists.

Attention Raven (H-23) And Sioux (H-13) Hoverbugs

Mike needs some information which only you eggbeater jockeys can supply. 'Tis this: *"How many engine stoppages have you had while doing simulated autorotations?"* That's all. No opinions or reasons therefor; just did it stop? OK?

Over, (not, Out), 'cause we'd like to have the answers. Please send your replies direct to *"Mike."* Thanks in advance for the help; I'll keep your confidence, too.

Send your confidential replies to: *Mike Button*, Box 209, Main Office, St. Louis 66, Missouri.

THOUGHT FOR THE MONTH

Don't forget to *UER* (*DA Form* 468) those discrepancies when you correct them on the Synthetic Instrument Trainers (Links) like *AR* 700-38 says, because that's the only way we can sucessfully conduct our *PRODUCT IMPROVEMENT PROGRAM* within Army aviation.

Informationally yours,

Mike Button

APOLOGIES

● *Through a mixup—and we wound up holding the short stick—the authorship of last month's article, "What Do You Know About JP-4?" was muddled. We received this material from Mike Button without a by-line and, presuming this was a Mike original, gave Mike the credit line. This not only embarrssed Mike but did not do justice to Bruce Frazer of the Bell Helicopter Corporation who, as the author of the article and a long-time ex-Westport, Conn. personal friend, merits our sincere apologies.*

—Editor

INSTRUCTION, ANYONE?

by CAPTAIN ROBERT W. KOEPP

Operations, Davison U.S. Army Airfield

Ahhhh, RAH-JER!! You too can be a flight instructor.

* * *

Although complete insanity is not a pre-requisite to flight instruction, an individual at least should have a fairly weak mind. In lieu of the weak mind, however, a person should have infinite courage. The only trouble with this statement is that all men at sometime will succumb to fear whereas insanity has no such limitations. Definite pre-requisites are necessary, however, such as good eye sight, good hearing, good coordination, and fairly rapid reflex actions.

Eyesight is probably the most important factor of all. First, the IP must be able to tell by looking out of the corners of his optical organs, just when his student is about to do something he shouldn't do.

Also, he must constantly watch for incorrect instrument settings, fields for forced landings, other aircraft, and panic on the part of the student. The student is not idle all of the time however, and he may well be planning, unconsciously in most cases, some unorthodox procedure that cannot be detected by the human eye.

Hearing, therefore, is a very close second in importance. It has been noted that some students will actually emit a fiendish scream or laugh just prior to committing themselves. Others will merely breathe a deep sigh in anticipation which again acts as an alert for the IP.

Coordination is used mostly for combating or untangling the wrongdoings of the student in time to prevent the usage of forced landing areas.

Being alert as regards *reflex action* could just as easily be construed to mean being a good wrestler. This definitely comes into play when both the eyes and ears have betrayed you and the student is already in trouble with *no* apparent desire to get out of it. When this occurs it takes immediate Texas style, no holds barred, "rasslin" to regain control of the machine. Assuming that you have the above mentioned qualifications and have completed a few tests of your own, we shall move on to the main bout.

* * *

First, you are introduced to your student by a flight commander (military) or a boss (civilian). This individual is normally a flight-scared gentleman who speaks in great grunts and continually wears just a tinge of a sneer.

There are many types of students, but for simplification we will use one individual and dub him as *average*. Also, we will speak in broad, general terms so that both fixed and rotary wing instructors will benefit.

It is normal to start with the pre-flight inspection of the aircraft. Now prior to your meeting the student he has been issued a very thorough, completely numbered diagram which he has either used as scratch paper, or misplaced. At any rate, he does not have it with him and, of course, he *hasn't* read it.

So starting from the beginning you give him a verbal description and demonstration complete with all the whens, wheres, and why-fors. He nods very intelligently after each of your utterances and gazes upon you, not unlike a young boy would gaze upon his father. Following the pre-flight, the cockpit and starting procedures are presented in the same painstaking manner with the student again registering a *faint* glint of understanding. Actually that is all you can expect of him, on the first day so the remainder of the period is spent in a familiarization ride showing danger areas, boundaries, and possibly traffic patterns.

On the second day the student has no questions and usually sets out in a business-like way on the pre-flight. Naturally you double check the first few days but in such a way that the student does not feel his every movement is being observed.

After spending thirty minutes on a fifteen minute inspection he proudly announces that he's ready to go. You agree, but don't say where, as you calmly tell him that he must first remove the pitot tube cover, untie the aircraft, check the oil, drain the tanks, and check the proper fuel quantities. You laugh this off though and as you climb into the cockpit you assume that the fellow is just a little rattled.

This portion goes more smoothly, and very soon you are airborne. Enroute to the practice area there is just one wee, tiny, little danger area but you find it presents no problem for this student for he remembers that you showed it to him the previous day. With precision belying his inexperience and with enough control to keep the aircraft righted, he hits it dead center and proceeds right down the middle. The student then invariably breaks the ominous silence by asking how the fishing is in this part of the country.

* * *

The next week or so continues in the same vein with the IP growing older and wiser and the student growing older. The day finally comes when the IP can relax* long enough for the student to take-off, miss the control tower, enter traffic, and land. This progress continues to the point where you, as the IP, start to have confidence in the student when suddenly that evil scream comes forth and you grab the controls before he can act. You don't know what he has in mind and rather than ask you disregard his last transmission. These little ups and downs continue until the student proves himself one way or the other.

During this time the IP is gaining knowledge and is learning more and more about loving life. Up to this point I imagine that all readers believe the author is a drugstore throttle jockey that has never been closer to an airplane than the prop blast. Not so, for I have been in the position of both student and instructor and find there is very little exaggeration in what has been written. I have, however, stressed only the glum side although I have had many students who were sharp when they started and who finished with a really fine edge.

* * *

This has merely been a light-sided reminder that *all* pilots *except the Wright brothers* had instructors. Some were good and a few were bad, but all had a few breathless moments that can be appreciated only by a fellow IP.

With this in mind, remember the next time that you see an old, bent, gray-haired gentleman wearing the wings of an aviator, tread softly; give him a gentle, respectful pat on the back and then yell, *"YOU'VE GOT IT!"*

If he drops dead you'll know he never did any instructing, but if he answers with a brisk, resounding *"RAH-JER,"* you'll know that you have just seen a real pilot, a pilot's pilot—an *instructor pilot.*

**Definition of relax*: *The ability of the instructor pilot to uncoil himself enough to take one hand off the controls and light a cigarette.*

month's takeoffs

ALLEN, Henry G., Lt, P.O. Box 582, Fort Rucker, Alabama.
AMBERGER, Joe O., Capt, 24th Combat Aviation Company, APO 112, New York, New York.
AMOS, Charles, H., Capt, 8th Transportation Company (Lt Hel), Fort Bragg, North Carolina.
ASTRIKE, Charles H., Jr., CWO, 5478-H Kelly Street, Fort Knox, Kentucky.
ATCHISON, Eulen D., Capt, Quarters 6209-B, Fort Carson, Colorado.
BAILEY, Paul O., Capt, 11th Transportation Co (Lt Hel), APO 46, New York, New York.
BALLWEBER, Richard R., Lt, 16th Sky Cav, 2d USA Missile Command, Fort Carson, Colorado.
BARRON, John W., Capt, 317 Maxine Drive, Baton Rouge 8, Louisiana.
BAYLOR, William A., WO, 1681 Potomac Loop, Fort Belvoir, Virginia.
BEARDEN, William A., Capt, 7th Army Avn Training Center, APO 46, New York, New York.
BEAUMONT, H. C., Lt Col, 410 Wakefield Street, Alexandria, Virginia.
BELK, George M., Jr., Lt, Hq & Hq Det, 41st Trans Battalion, APO 28, New York, New York.
BENEDICT, Charles A., Capt, 36th Transportation Co (Hel), APO 165, New York, New York.
BERRY, Franklin, W., Lt, 34th Signal Battalion, APO 154, New York, New York.
BIERNACKI, Richard G., Lt, 401 Hensley Avenue, Olympia, Washington.
BILLS, Arthur D., Lt, 11th Armored Cavalry Regiment, APO 305, New York, New York.
BIRCHFIELD, James W., CWO, P.O. Box 423, Lafayette, Ala.
BLACK, William G., Maj, Hq, 3rd Logistical Comd Aviation Section, APO 58, New York, New York.
BLAKELY, Robert W., Capt, Box 9440, Fort Bliss, Texas.
BLUBAUGH, Thomas C., Lt, Aircraft Maintenance Section, USAAVNS, Fort Rucker, Alabama.
BOLTON, Leonard T., Capt, 47 Stanley Drive, Denbigh, Va.
BRADLEY, Edward D., Sp/5, 6965-B Spaulding, Fort Sill, Oklahoma.
BRIGGS, Fred C., Lt, 504th Avn Company, APO 696, New York, New York.
BROWN, Jesse C., Maj. 2d USA Contract Instrument School, Harbor Field, Baltimore, Maryland (Class 60-4).
BROWN, Richard A., Lt, Co B, 2d Battle Group, 8th Inf, Fort Riley, Kansas.
BUCHAN, Earl K., Maj, 101st Aviation Co (Abn Div), Fort Campbell, Kentucky.
BUDD, Alexander, S., Jr., Lt, P.O. 82, Fort Rucker, Ala.
BURNS, Robert L., Lt, 1st Aviation Company (JF Div), Fort Riley, Kansas.
CANTWELL, Franklin D, Lt, TOAC 60-2, Student Detachment, Fort Eustis, Virginia.
CARR, Glenn P., Lt, G-3 Air Section, Fort Stewart, Ga.
CARTER, Billy D., Capt, P.O. Box 103, Ft. Sill, Oklahoma.
CHRISTIAN, Cecil G., Jr., Lt, 110th Trans Co (Lt Hel), APO 29, New York, New York.
CLARK, Noble N., Capt, USAAVNS, Fort Rucker, Alabama.
CLARK, Norman S., Lt, 7724-A Nelson Loop, Fort George G. Meade, Maryland.
CLAYBOURN, Guy R., Jr., Capt, Crs 1-A-1081, Class No 5-60, USAPHS, Camp Wolters, Mineral Wells, Texas.
COATS, John ,I., Lt, 227 Harris Drive, Ft. Rucker, Ala.
COCKERHAM, Samuel G., Maj. 1014 Pennsylvania, Leavenworth, Kansas.
COMINOS, Anthony M., Lt, 1618 North 48th, Lawton, Okla.
COOPER, Robert G., Lt, 110th Aviation Company (Surv), APO 221, New York, New York.
CROWELL, William B., Capt, 20 Edgemore Drive, Lee Hall, Newport News, Virginia.
DAMRON, Herbert C., Lt, 45th Trans Battalion (Hel), Fort Sill, Oklahoma.
DAMSKOV, Donald M., Lt, 304 Spear Drive, Ft. Bragg, N.C.
DILLING, Grover C., Mr., 2241 Baroness Drive, St. Louis 36, Missouri.
DOUCETTE, Roger A., Capt, 54th Trans Company (Med Hel), Fort Sill, Oklahoma.
DRESSLER, Stanley E., Lt, Box 84, Howard AFB, Canal Zone.
DUPREE, Burton L., Lt, 937th Engr Co (Avn) (IAGS), Fort Kobbe, Canal Zone.
EARL, George L., Lt, 4542 Atom, Lawton, Oklahoma.
EGGERS, John F., Capt, USA ADGRU, Korea, APO 102, San Francisco, California.
ELIASSON, Arne H., Maj, US Army Human Research Unit, PO Box 428, Ft. Rucker, Alabama.
ERHARDT, Chris, Capt, 2nd Engineer Amphibious Support Comd, Fort Lewis, Washington.
FERGUSON, Robert M., Lt, ACRD, Simmons Army Airfield Command, Fort Bragg, North Carolina.
FISHER, Donald W., Capt, 1405 49th Avenue, Meridian, Mississippi.
FLEMING, Thomas E., Lt, 5445-D Brett Drive, Van Voorhis Manor, Fort Knox, Kentucky.
FRANCE, Paul W., Capt, USATSCH, Class 60-2, Ft. Eustis, Virginia.
FRENCH, William C., Lt, 49 Olson Lane, Ft. Rucker, Ala.
GORDY, Terry L., Lt, 101st Aviation Co (Abn Div), Fort Campbell, Kentucky.
GRABSKI, Edward J., CWO, 269 Everett Drive, Colorado Springs, Colorado.
GRAHAM, Donald, WO, 1222 Hurley Drive, Sumter S.C.
GRAVES, Theodore J., Capt, 225B Lowe Court, Fort Riley, Kansas.
GREYHOSKY, August, Capt, 15 Midway Lane, Eatontown, New Jersey.
GRIMMINGER, Charles O., Lt, 2457 Wood Valley Drive, East Point, Georgia.
GUERRERO, Manuel G., Capt, Class 60-5, Off Rotary Wing Qual Crse, Camp Wolters, Mineral Wells, Texas.
HADDOCK, Jimmie J., CWO, 1674-B Potomac Loop, River Village, Fort Belvoir, Virginia.
HALE, Warren C., Capt, 220 Woodhaven Road, Denbigh, Virginia.
HARRIS, Charles E., Capt, 117 Byrd Street, Enterprise, Ala.
HAWTHORNE, James D., Capt, 1st Officer Student Battery, Fort Sill, Oklahoma.
HEDGPETH, Louis G., Maj, Class 60-5, Camp Wolters, Mineral Wells, Texas.
HELLER, Clarence A., Lt, "B" Co, 1st BG, 29th Infantry, Fort Benning, Georgia.
HENDERSON, James A., Lt, USA Arty & Msl Center (4050), Fort Sill, Oklahoma.
HENRY, William H., Jr., Capt, 3d Aviation Company (Inf Div), APO 36, New York, New York.
HERBOLD, Robert A., Lt, 16 Virginia Terrace, New Providence, Tennessee.
HILL, Roy W., Jr., Lt, 115 Dilts Drive, Newport News, Va.
HODGES, George A., Jr., Lt, Hq & Hq Svc Co, 11th Engr Group, APO 403, New York, New York (Eff 15 Jan.)
HOOD, Baxter M., Lt, 402 Tokay Drive, Fayetteville, N.C.
HORAN, Michael J., Lt, 3542 Ida Drive, Columbus, Ga.
HOUSTON, Joseph B., Jr., 17th Aviation Co, Ft Ord, Cal.
HOVLAND, Dennis A., Capt, Hq, 7th US Army Aviation Group, APO 154, New York, New York
HOWELL, Thomas R., Lt, 541 East Mayner Street, Williamsburg, Virginia.
HUCKE, Dale E., Capt, 71st Trans Bn (Trans Acrft), Fort Riley, Kansas.
HUBER, Walter F., Capt, 1107 Liberty Road, Boise, Idaho.
HUNTLEY, David L., Capt, 809-A Terry Drive, Fort Benning, Georgia.
HURST, Robert H., Maj, Material Developments, Hq, USCONARC, Fort Monroe, Virginia.

Plant Visit

Visiting Wichita, Kan., on a recent familiarization trip for orientations and inspections of the production facilities of local aircraft manufacturers, Brig. Gen. Clifton F. von Kann; Director of Army Aviation, ODCSOPS, is shown with Cessna Aircraft officials after an informal briefing. Pictured, l. to r., are V. G. Weddle, Gen. Mgr., Commercial Aircraft Div.; Frank Boettger, Vice Pres. and Treasurer; General von Kann; Del Roskam, Vice Pres. for Aircraft Division; Bob Lair, Vice Pres. and Gen. Mgr., Military Aircraft Div.; and Tom Salter, Vice President, Engineering.

HYYWA, Nicholas G., Lt, 1200 West Beach Boulevard, Apartment No. 5, Biloxi, Mississippi.
IACOMINO, Gennaro J., Lt, 69th Signal Battalion, Co "C," Avn Section, Ft. Meade, Maryland.
ICE, Donald A., Capt, 3522 Decatur Street, Omaha, Nebr.
JACKSON, Lloyd S., Capt, Vientiane, Laos (Off of Army Attache), Dept of State, Washington 25, D.C.
JACKSON, Roy D., CWO, 245 Everett, Colorado Springs, Colorado.
JAENICHEN, Paul H., Lt, 541st Signal Company, APO 189, New York, New York.
JARRARD, Frank C., Maj, Quarters 172-C, Fort Lewis, Wash.
JOHNSTON, John A., Capt, 4306 O'Donnel Heights, Apt 7, Fort Riley, Kansas.
JONES, Robert J., Lt, 2405 N. 23rd Street, Lawton, Okla.
JOYCE, John J., Lt, 655th Trans Company (Hel), Fort Eustis, Virginia.
KASTNER, Joseph H., Lt, 901-B O'Brien Circle, Fort Benning, Georgia.
KENNEDY, Richard J., Maj, 71 Harris Drive, Ft Rucker, Ala.
KAUL, Lloyd K., CWO, Building 2356, Apt "B," Fort Eustis, Virginia.
KELTZ, Richard E., Sr., Capt, 912 Foley Drive, Williamsburg, Virginia.
KENT, George S., Capt, 15th Aviation Company, APO 24, San Francisco, California.
KERNER, Robert C., 320-2 1st Street, Fort Leavenworth, Kansas.
KLICK, Clyde F., Capt, 3021 Ormand Drive, Columbus, Ga.
KOEPP, Robert W., Capt, Hq, Davison USA Airfield Command, Fort Belvoir, Virginia.
KOEHNKE, Joseph A., Lt, Aviation Company, USATC, Fort Ord, California.
LANGSTON, James M., Lt, 1st Aviation Company (Inf Div), Fort Riley, Kansas.
LARSON, Kay R., Capt, Route No. 2, Kimberly, Idaho.
LAUTERBACH, John W., Capt, 121-B Artillery Post Road, Fort Sam Houston, Texas.
LEEDS, Charles E., Capt, 8th Aviation Company, APO 111, New York, New York.
LEER, Edwin H., Col. (Ret.), 56 Holman Road, Carmel Valley, California.
LeBLANC, R. J., Jr., Lt, 91st Transportation Co (Lt Hel), Fort Campbell, Kentucky.
LEONARD, Dan S., Lt, Co B, 29th Signal Battalion, APO 164, New York, New York.
LEONARD, John F., Jr., CWO, RFD No. 2 c/o T. C. Gillian, Baldwinsville, New York.
LIEBL, Arthur F. W., Capt, Dept of Primary Fixed Wing Trng, USAAVNS, Fort Rucker, Alabama.
LINDSTEDT, Roy E, Lt, 1st Aviation Co (Inf Div), Fort Riley, Kansas.
LOPES, Francis J., Mr., 2316 Monroe Street, N.E., Washington 18, D.C.
LORETT, Robert M., CWO, 2325 Sharon Avenue, Columbus, Georgia.
McCALL, Leroy W., Lt, Officer Student Company, Box Mc-6, USAAVNS Regt, Fort Rucker, Alabama.
McCRARY, Richard D., Mr., P.O. Box 2213, Lawton, Okla.
McEVEN, Roger S., Lt, 6th Armored Cavalry Regiment, Fort Knox, Kentucky.
McHENRY, Paul M., Lt, 3561 St. Mary's Road, Columbus, Georgia.
McMILLON, Don, Lt, Box 30, Weatherford, Oklahoma
MANTOOTH, Glen W., CWO, Officers Student Company, Box M-24, Fort Rucker, Alabama.
MARTIN, John F., Sp/4, 13 Prospect Street, Brewster, N.Y.
MASSENGILL, James R., Lt, 140 Harris Drive, Fort Rucker Alabama.
MAXSON, Ronald G., Lt, 4th Aviation Company (Inf Divl, Fort Lewis, Washington.
MELLIN, James P., Lt, 1967 Sargent Avenue, St. Paul, Minn.
MENDENHALL, Thomas D., Lt, 44305-D Davis Street, Fort Huachuca, Arizona.
MIZELL, Louis L., Capt, 650 Onley Drive, San Antonio 9, Texas.
MOCK, Newell A., Jr., Lt, Hq & Hq Det, 41st Trans Battalion, APO 28, New York, New York.
MOORE, P. W., Capt, Avn Sect, USA Ordance Missile Command, Redstone Arsenal, Alabama.
MORRILL, George H., Capt, 408 Patrick, Wolters Village, Mineral Wells, Texas.
MORRIS, Marvin, Lt, 502d Aviation Company, 2d Armored Division, Fort Hood, Texas.
MORRISON, George E., Capt, 36 Red Cloud Road, Fort Rucker, Alabama.
MOSLEY, Douglas, Capt, RFD No. 1, Winthrop, Maine.
MUCK, James B., Capt, Box 309, Ft. Rucker, Alabama.
MULLEN, Warren E., Lt, 15021/6 South 32nd Avenue, Omaha, Negraska.
MUSTAIN, James C., Lt, 1st Student Officer Battery, AOAC No. 1, Fort Sill, Oklahoma.
NEAL, Lawrence W., Lt, TSMC ASC No. 1, Fort Eustis, Va.
NEEDLES, Paul E., Capt, 7th US Army Aviation Training Center, APO 46, New York, New York.
NOEDING, John P., Capt, 3820 Dearborn, Lawton, Okla.
NUN, John B., Lt, 3rd Aviation Company (Inf Div), APO 36, New York, New York.
OLSON, Frederick N., Lt, 106 East Brunson Street, Enterprise, Alabama.
ORSBURN, Presley O., Lt, 11th Armored Cavalry Regiment, APO 305, New York, New York.
OSHESKY, Gerlald K., Lt, 4122 10th Street, Menominee, Michigan.
PARKER, James M., CWO, 13th Transportation Co (Lt Hel), APO 358, San Francisco, California.
PATTERSON, John F., Lt, USA Engineer Center (2420), Fort Belvoir, Virginia.
PAUL, James H., Capt, 10th SFG Abn, APO 108, N.Y., N.Y.
PAULSON, Norman W., Capt, 5306 Warwick Road, Denbigh, Virginia.
PHILLIPS, Calvin F., Jr., Lt, Army Pictorial Center, Long Island City, New York.
PIGEON, Carl R., Capt, USA ADGRU (NG-Va), 103 State Office Building, Richmond 9, Virginia.
PLAMONDON, Robert P., Lt, 1st Student Officer Battalion, Fort Sill, Oklahoma.
PORTER, Paul E., Capt, USA ADGRU (NGUS), Texas, PO Box 5218, West Austin Station, Austin 31, Texas.

First of Many

Operating together for the past two months, the USAAVNS-Hawthorne School of Aeronautics "team" turned out its first class of students with the graduation of 27 officers in November. Shown are, l. to r.., Brax Batson, Hawthorne Director of Training; Lt. Col. Wilfred G.Jaubert, Director, Dept. of Primary F/W Training; Jesse Bitterman, Flt Comdr of the F/W Qualification Course; and Leo Carver, General Manager of the Hawthorne School at Fort Rucker. (USA photo).

PREM, Donald J., Capt, 3055 Oak Forest Drive, Jackson, Mississippi.
REDMAN, Peter, Lt, 1st Aviation Company (Inf Div), Fort Riley, Kansas.
REDMON, Burt P., Lt, 24th Aviation Company (Inf Div), APO 112, New York, New York.
REINE, Charles M., Lt, 540th Engineer Group (Cmbt), APO 154, New York, New York.
RICE, Foy, Maj, 82nd Aviation Company (Abn Div), Fort Bragg, North Carolina.
ROBERTS, Donald A., Lt, 379th Signal Battalion, APO 46, New York, New York.
ROBERSON, Thomas C., Capt, 1515 Delaware Street, Leavenworth, Kansas.
ROBERTS, Milton R., Lt, 101st Aviation Company (Abn Div), Fort Campbell, Kentucky.
ROBERTSON, Charles D., CWO, Team No. 2, 150th Trans Det (CHFM), APO 957, San Francisco, California.
SABEY, Walter D., CWO, 33rd Trans Company (Lt Hel), Fort Ord, California.
SALCH, Joseph F., Capt, Hq & Hq Co, CCA, 3rd Armored Division, APO 39, New York, New York.
SALTEE, Lawrence T., Capt, CMD, APO 135, San Francisco, California.
SCHLIM, Albert W., Capt, 807 Warwick Road, Newport News, Virginia.
SCOTT, Richard R., Lt, c/o Mrs. R. R. Scott, 7822 Sharondale, Houston 33, Texas.
SHARPE, Roy H., Mr., P.O. Box 1262, Burlington, N.C.
SHAW, Robert T., Mr, 1280 Wadsworth Drive, Florissant, Missouri
SHEFFLER, Robert J., CWO, 80th Trans Detachment (CHFM), Fort Devens, Massachusetts.
SMITH, Bill G., Lt. Col., Office of the DOI, USAAVNS, Fort Rucker, Alabama.
SMITH, Elwood L., CWO, R-1, Box 303, Elm City, N.C.
SMITH, Henry H, Jr., Lt, 11th Armored Cavalry Regiment, APO 305, New York, New York.
SMITH, Herbert M., Jr., Capt, 143-A Arrowhead Road, Fort Benning, Georgia.
SOUCEK, Leo E., Capt, Hq Co, 2nd Engineer Group, APO 76, San Francisco, California.
SPEEDMAN, Richard L., Capt, Dept of Maintenance, USAAVNS, Fort Rucker, Alabama.
SPROWLS, Leigh R., Lt, 1st Aviation Company (Inf Div), Fort Riley, Kansas.
STECKBAUER, Curtis J., Lt, Quarters 1112-C, Ft. Eustis, Va.
STENDER, Curtis R., Lt, 320 West 14th Street, Junction City, Kansas.
STEVENS, Story C., Capt.,. 501 Stanton Avenue, Terrace Park, Ohio.
STOVER, Jacob R., Maj, 715 W. Johnson St., P.O. Box 10546, Raleigh, North Carolina.
STOWE, Norman L., Capt, 11th Trans Company (Lt Hel), APO 46, New York, New York.
TANTAU, William M., L, P.O. Box 112, Ft. Rucker, Ala.
THOMPSON, Frank W., CWO, 42nd Trans Company (AAM), APO 177, New York, New York.
TOBIN, Kenneth, Lt, 713 Hillview Drive, Neptune, N.J.
TONER, Francis J., Lt, Co "B," 1st BG, 26th Infantry, APO 34, New York, New York.
TRAUTMAN, Leonard A., Capt, Hq Det, 379th Signal Battalion, APO 46, New York, New York.
TREAT, Donald E., Capt, 2d Armored Division, Ft. Hood, Texas.
TRIPP, Frederick G., Lt, Stu Off Co, USAPHS, Class 60-04, Camp Wolters, Mineral Wells, Texas.
WAUL, Robert A., CWO, 65th Trans Company (Lt Hel), Fort Eustis, Virginia.
WASH, William B., Lt, 7th Aviation Company, APO 7, San Francisco, California.
WEMMER, Louis W., Capt, Hq & Hq Det, 41st Transportation Battalion, APO 28, New York, New York.
WILKINSON, Robert M., Capt, Det "R," KMAG Aviation Section, APO 18, San Francisco, California.
WILLIAMS, Eric A., Capt, 7315 Bath Street, Springfield, Virginia.
WILLIAMS, Richard L., Lt, 212 Slagle Place, CC, Ft. Bragg, North Carolina.
WILLIAMS, Robert D., Capt, 8 Mulberry Lane, RFD, Westford, Mass.
WILLIAMS, Robert M., Lt, 24th Aviation Company (Inf Div), APO 112, New York, New York.
WILSON, Walter C., Jr., Lt, 257 Sherri Drive, Security Village, Colorado Springs, Colorado.
WINGATE, Charles S., Lt, Hq & Hq Det 41st Trans Bn, APO 28, New York, New York.
WITTSTRUCK, Robert A., Maj, 3440 Touzalin Avenue, Lincoln 7, Nebraska.
WOLF, Philip G., Lt, Officer Student Company, Box W-33, USAAVNS Regt, Fort Rucker, Alabama.
WOLFE, Rodney D., Lt, Off Stu Co, Box W-30, Ft. Rucker, Alabama.
WOOD, Gordon F., Capt, 26th Trans Co (LH), APO 122, New York, New York.
WOODARD, Harry L., Lt, 360-B Chance St., Ft. Devens, Mass.
WYRICK, Monda R., 202 So Charles, P.O. Box 174, Manteca, California.
YENNE, Walter D., Capt, Comp Sup Co, USASMCA, APO 949, Seattle, Washington.
YOUNG, Raymond H., Lt, ACAN Facility (Transmitter Det), USA Sig Comm Agency, Japan, APO 99, S.F., Calif.

A MERRY

As usual we're just about out of white space and here it is the 23rd of December . . . Hence, we'd best grab these remaining two inches while we can . . . It's been a privilege to serve you in 1959, and our staff would like to wish you and yours a most healthy and happy New Year. As part of "our family," you will be in our thoughts as we ring in the New Year.

—Dotty and Art Kesten

BRIEFS

Shoot and Scoot

• Seven Army Choctaws from Fort Campbell, Fort Carson, and Fort Bliss participated in a successful transportability test of the Army's Lacrosse guided missile system. Airlifting unit personnel, missiles, and the missile guidance systems, the H-34's returned 15 minute "shoot and scoot" displacements during the Army Artillery Board Missile Division tests.

USAAVNS Construction

• Congress has authorized some $2,069,000 on construction for FY 60 at the Army Aviation center. Top projects: a high-priority heliport with four concrete runways ($1,336,000); enlargement and lighting of Hanchey Field heliport ($700,000); and a supply & storage building at Lowe AAF ($30,000).

"Drum Stick"

• Transporting more than 1,200 short tons of cargo from off shore barges to Fort Eustis, Va., four helicopters of the 65th Trans Co (Lt Hel) took part in "Exercise Drum Stick," a field exercise conducted by the Transportation Training Command to train and test the combat readiness of the Terminal and Port activities.

Master AA

Maj. Theo L. Moore (2d from right) is shown being awarded Master Army Aviator Wings by Col. Kenneth D. Macomber, Senior Army Advisor, Iowa-ARNG, as, l. to r., M/Sgt Leo H. Free and Lt. Col. Milford L. Juhl look on. The Aviation Advisor for the Iowa-ARNG, Moore is a 17-year, 5000 hour plus veteran.

Housing at Wolters

• The recent assignment of a Nike missile Battery and the increased in-resident load of student officers are factors that have created *sizable* waiting lists for on-post and Wolters Village housing at *Camp Wolters, Texas.* A concurrent sharp decline in off-post housing in surrounding communities has also occurred. *Recommendation, if Wolters bound*: write the Post Billeting Officer first.

Low and Slow

• Operating from Fort Stewart's Liberty Army Air Field, a Benning ARS (Aerial-Reconnaissance-Security) Troop, composed of 2d Infantry Division troops from Fort Benning, has initiated "tree-top" flight training in conjunction with its forthcoming ACR test by USCONARC in January.

Recommended

• Named on a recent recommended list for promotion to the rank of colonel were *Lt. Colonels William H. Byrd, Jr., Oliver J. Helmuth, Jack W. Hemingway, Richard T. Neumann,* and *Alexander J. Rankin.*

Follow-on Order

• Contracts totaling $26 million have been received by the Bell Helicopter Corporation for the follow-on production of the Army's HU-1A utility helicopter and the development and future production of the Lycoming T-53-L-5 powered HU-1B.

Bell Trainee

• *Captain Charles Fox* has reported to the Bell Helicopter Corporation's Hurst plant for duty under the Army's Industrial Trainee Program. The former operations officer of the 3rd Trans Co (Lt Hel) at Fort Belvoir, Va., *Fox* is dual rated.

Complete Tour

Maj. Gen. Gemal Madanoglu, G4 of the Turkish Army Ground Forces (center), is shown as he receives a briefing from Maj. James H. House, senior instructor for the Aircraft Repair Group of the Transportation School, during the Allied Officer's recent tour of Fort Eustis facilities. (U.S. Army photo).

"Here's Our Big One!"

Educators from the Richmond, Virginia area take Lt. Robinson R. Watson at his word as he explains the characteristics and capabilities of the Army's giant H-37 Mojave helicopter during the teachers' late November visit to the Transportation School, Fort Eustis, Virginia. (U.S. Army photo)

"Clear to Land"

M/Sgt Donald M Fulton (left), first sergeant of the newly activated 52nd Aviation Operating Detachment at Fort Ord, Calif., gives the "go-ahead" as the unit's CO, Capt. Eugene J. Fody, looks on. The unit—composed of 44 highly trained technicians—will direct and control all Army aviation flight traffic at the Fort Ord airstrip. (U.S. Army photo)

Inspection Trip

Combat-equipped troops pour out of a YAC-1 Caribou during a demonstration of the new aircraft before Seventh Army authorities at Stuttgart, Germany. Brought to USAREUR by a special company team from De Havilland, Canada, the Caribou drew high praise from Army officials viewing the demonstration (U.S. Army photo).

Met N.Y. Chapter to Hear General von Kann as Speaker

The *METROPOLITAN NEW YORK CHAPTER* has scheduled a January 23rd Dinner-Dance at Governors Island, N.Y., for its New York, New Jersey, and Connecticut membership.

The first "social" arranged by the Chapter, the Dinner-Dance will hear a welcoming address by *Maj. Gen. Willis S. Matthews,* First U.S. Army Deputy Commanding General for Reserve Forces.

Brig. Gen. Clifton F. von Kann, Director of Army Aviation, ODCSOPS, and *Colonel John J. Tolson,* Deputy Director, and their wives are expected to attend the informal affair. *General von Kann* will be the main Guest Speaker. *Col. Robert R. Williams,* Chief, Air Mobility Division, OCRD, and Mrs. Williams are also expected to attend. The affair promises to be the largest gathering of Army aviation supporters in the greater New York, New Jersey, and Connecticut areas.

At an earlier business meeting following their well-attended October 30th "stag," Chapter members elected their permanent '59-'60 slate of officers. (See *NEW OFFICERS*).

Fort Hood Chapter Seeks Aircraft for its Explorer Scout Troop

Embarked on a most noteworthy Chapter project—sponsorship of an Explorer Scout Troop—members of the *FORT HOOD CHAPTER* have high hopes that they will be able to purchase a surplus aircraft for use in their *Explorer Scout Program.*

Lt. Colonel Robert L. Brown, Jr., Chapter President, writes that he has contacted several manufacturers, and that reasonable prospects for success are evident.

One of the most active Chapters in AAAA (see Index), and the largest in the Southwest, the *FORT HOOD CHAPTER* has many "AAAA" firsts to its credit, including the first inter-component *"Fly-In."* Their recent membership proposal approved by the National Board will have the National activity providing banners to each organized Chapter activity.

Heidelberg Chapter Hears Doblhoff Discuss "Helicopter Design"

Holding its quarterly business meeting at the Haarlaas Hotel Restaurant in Heidelberg, *HEIDELBERG-MANNHEIM CHAPTER* members heard *Friedrich Doblhoff* discuss *"Progress in Helicopter Design."*

Following *Col. Warren R. Williams* and *Col. Robert B. Neely,* both of whom spoke briefly on Association and Chapter business, the Director of Engineering for the International Vertol Corporation (Bonn, Germany) emphasized the importance of inter-related technological developments which must exist before a piece of equipment such as the helicopter can be placed into operation.

Chapter members viewed a sequence of slides illustrating the advances in helicopter design technology. Also present at the meeting were Chapter members, *Ted McVay,* European Tech Rep for the Beech Aircraft Corporation, and *John Albone,* Bell Helicopter Tech Rep in Europe.

Maj. Carl A. Colozzi, Chapter President, presided over the dinner meeting.

—Capt. Frederick B. Weller

Stuttgart Chapter to Hold Winter Meeting at Garmisch, Germany

Plans are underway for an *"Unforgettable Weekend"* for *STUTTGART CHAPTER* members and their families. Booking the *Garmisch Recreation Center* during February 18-20, the height of the winter season for all spectator and participation sports, the host unit, the *8th Trans Bn* (Trans Acrft), has a BIG family weekend in store for the Chapter membership and all *USAREUR REGION* members who desire to "hot toddy and harder" at the same time.

Capt. John W. McKinney, 8th Trans Bn (TA), APO 29, is handling details for the Winter Meeting which includes a Tyrolian Dance, Industry Display, Ladies Coffee, Children's movie, cocktail hours, a dinner-dance, and ice revue as part of the "Unforgettable Weekend." *Baby sitters at $1.50 till midnight, too.*

Industry Member firms desiring to participate at Garmisch are urged to contact *Capt. McKinney.*

Autumn Ball at Fort Eustis Aids Post AER Fund

Having the two "essentials," strong leadership and membership interest, the *FORT EUSTIS CHAPTER* of AAAA has progressed to the point where the Chapter is now the AAAA's second largest Chapter activity. Reflecting their "programming with a goal" approach, the Chapter held a most successful Autumn Ball, culminating their efforts in the presentation of a $112.00 check to the *Army Emergency Relief Fund.*

Chapter president *Lt. Colonel Edwin L. Harloff* (center) is shown presenting the Chapter check to *Maj. Gen. N. H. Vissering* (left), Commanding General, U.S. Army Transportation Training Command, Fort Eustis, while *Lt. John R. Broscheid* (right) post AER officer looks on.

Algerian Combat Techniques Outlined by Vertol Guest Speaker

Gathering his facts during combat missions with the French forces in Algeria, *T. R. "Ren" Pierpoint,* a well-known Vertol official, in addressing an *ARMY AVIATION CENTER CHAPTER* membership meeting at Fort Rucker, stressed that the pilot was the most vulnerable part of the helicopter during helicopter-borne assaults that suppressed rebel activity.

Detailing the use of armed helicopters in augmenting French movements, *Pierpoint* had an attentive audience throughout the "social-educational" Chapter meeting.

In the photo above, the main speaker (second from left) is shown with *General Easterbrook* (left) and *Col. Delk Oden,* Chapter President, and *Maj. Gen. Thomas F. Van Natta.*

Prior to his address, the AAAA *"Rockettes,"*

100% AAAA

Compiling an outstanding training record since reporting to Fort Rucker on July 10, 1959, Class 59-B-11 is pictured below prior to their graduation on November 20th. Under the leadership of Capt. John W. Lauterbach, the class flew 3,341 accident free hours. Top man in the 100% AAAA class was Lt. Alexander S. Budd, Jr., standing third from left. who finished with an average of 93.7.

went through a well-received number. *Mrs. Barbara Oswalt, Mrs. Lill Bruce, Mrs. Shirley Jaubert,* and *Mrs. Carolyn Hughes* bedecked in appropriate chorus girl costumes entertained "the boys."

Alabama Members Activate Fort McClellan Chapter

Some twenty-five members in the general Fort McClellan area have activated the Association's 32nd organized Chapter, joining with the two Fort Rucker Chapters within the ALABAMA REGION.

Present plans of the Chapter call for quarterly meetings throughout each membership year. A list of newly-elected officers is found under *"NEW OFFICERS."*

NEW OFFICERS

METROPOLITAN N.Y. CHAPTER

(Governors Island, N.Y. 4, N.Y.)

Pres: Capt William C. Taylor, USAR
XVP: Mr. Gale V. Smith
VPA: Lt. Col. Gordon L. Kinley, USA
VPG: Maj. Francis D. Rooney, ARNG
VPR: Lt. Col. Joseph W. Kilkenny, USAR
VPI: Lt. Nazareno Casadido, USAR
VPP: Captain John N. Bradshaw, USA
Trea: Captain George M. Kovacs, USAR
Sec: Mr. Anthony L. Sacca, DAC

CORRESPONDING ADDRESS

Mr. Anthony L. Sacca, Secretary
METROPOLITAN N.Y. CHAPTER, AAAA
Army Avn Sect, Hq, 1st US Army
Governors Island, N.Y. 4, N.Y.

FORT McCLELLAN CHAPTER

(Fort McClellan, Alabama)

Pres: Major William B. Cooper
XVP: Captain Joseph W. Waterbury
VPA: Lt. Walter N. Wharton
VPI: Lt. John H. Fellerhoff
VPP: Lt. Bobbie B. Fernander
Treas: Lt. Norman L. Dupre
Sec: Captain Donald E. Keen

CORRESPONDING ADDRESS

Major William B. Cooper
President, FORT McCLELLAN CHAPTER, AAAA
3335-A Avery Drive
Fort McClellan, Alabama

INDUSTRY MEMBERS, AAAA

Aero Design & Engineering Company
Aircraft Radio Corporation
AVCO Lycoming Division
Beech Aircraft Corporation
Bendix Radio Division
Boeing Aircraft Company
Cessna Aircraft Company
Chance Vought Aircraft, Inc.
Collins Radio Company
Continental Motors Corporation
De Havilland Aircraft of Canada, Ltd.
Douglas Aircraft Company, Inc.
Fairchild Engine & Airplane Corporation
General Dynamics Corporation
General Electric Company
Grumman Aircraft Engineering Corporation
Hawthorne School of Aeronautics
Hayes Aircraft Corporation
Hiller Aircraft Corporation
Hughes Tool Co.—Aircraft Division
International Telephone & Telegraph Corp.
Jeppesen & Company
Kaman Aircraft Corporation
Lockheed Aircraft Corporation
Lear, Inc.
McDonnell Aircraft Corporation
North American Aviation, Inc.
Page Maintenance, Inc.
Petroleum Helicopters, Inc.
Republic Aviation Corporation
Ryan Aeronautical Company
Sikorsky Aircraft Division
Southern Airways Company
Vertol Aircraft Corporation

RECENT INDUSTRY MEMBERS

INTERNATIONAL TELEPHONE & TELEGRAPH CORP.

General P. C. Sandretto, VP, ITT Laboratories
Mr. S. H. M. Doddington, VP, IT Laboratories
Mr A. M. Levine, VP, ITT Laboratories
Mr. A. G. Kandolan, VP, ITT Laboratories
Mr. T. M. Douglas, VP, ITT Federal Division
Mr. T. P. Leedy, VP & Director, Govt Relations
Mr. R. A. Marshall, Director of Marketing
Col. H. V. Evans, Mgr, Electronics Systems Plans
Mr. R. V. Mrozinski, Manager, Information-Bid Control

HAWTHORNE SCHOOL OF AERONAUTICS

Mr Beverly E. Howard, President
Mr. Leo E. Carver, General Manager
Mr. Thomas J. Barbree, Dir. of Administration & Personnel
Mr. Brax H. Batson, Director of Training
Mr. Earl W. Mengle, Director of Flying
Mr. Samuel M. Phillips, Director of Safety
Mr. James C. Thursby, Director of Academics
Mr. Glenn E. Wyatt, Test Pilot
Mr. Dewey L. Lee, General Foreman*
Mr. Milburn R. Geibel, General Manager*
*Fort Campbell, Kentucky operation.

New Members Joining AAAA Within Recent Months

Col George M. Miller
Col George F. Winton

L/Col William E. Zins
L/Col Jas. W. Kilkenny
L/Col Edgar L. Parker, Jr.
L/Col Henry C. Beaumont
L/Col Lewis H. Aten
L/Col George S. Beatty
L/Col Wm. L. Miley, Jr.
L/Col Gustave A. Peyer
L/Col A. F. Myers
L/Col John R. Riddle

Maj William B. Larson
Maj Ed. C. Edmonston
Maj John A. Todd
Maj Robert A. Filby
Maj Floyd R. Closinger
Maj James E. Childers
Maj Louis G. Hedgpeth
Maj Hunter G. Hotchkiss
Maj Lloyd M. Bernstein
Maj Robert L. Gabardy
Maj Jack D. Loughman
Maj William C. Silbert
Maj Robert S. Kellar
Maj Ted A. Crozier
Maj Robert J. Dillard
Maj John H. Meeris
Maj Clifford J. Kollsted
Maj Robert H. Hurst
Maj Gerald L. Kline
Maj Jessie J. Atkins
Maj Henry H. Kosvicka
Maj Rizalito Abanto
Maj Charles M. Bussey
Maj J. A. Murray
Maj Alvin F. Futrell

Capt Jerry R. Curry
Capt William E. Kenny
Capt Vernon W. Archer
Capt K. J. Leonard
Capt Andrew K. Bentley
Capt Charles C. Pursley
Capt Salv. J. Vaccaro
Capt John H. Lynn
Capt John T. Hayden
Capt Douglas J. Wood
Capt Richard S. Hale
Capt Leo J. Dalton
Capt Bernard R. Cobb
Capt William H. Hark
Capt Jack B. Del Forte
Capt James H. Patterson
Capt William Claggett
Capt Richard A. Hartert
Capt Chas M. Honour, Jr.
Capt William H. Dill
Capt W. D. Brandon
Capt Donald T.M. Wall
Capt J. A. McWhorten Jr.
Capt James M. Leslie
Capt Hilton E. Pugh
Capt Richard K. Brown
Capt Donald G. Forchette
Capt Harry E. Archer
Capt Richard T. Yunck
Cap Wayne B. Sargent
Capt Richard H. Marden
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Capt John W. Leuterbach
Capt Joseph C. Boggs
Capt Harry Miller
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Capt Bert F. Bass
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Capt Eugene Irvin, Jr.
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Capt H.B. Dierdorff, Jr.
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Capt Vernon R. Lawrence
Capt Frank M.S. Dean
Capt John G. Kamaras
Capt Paul E. Carpenter
Capt Charles A. Mateer
Capt Byron F. Howlett Jr.

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Capt Henry C. Vaughn Jr.
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Capt Charles M. Paulk
Capt Cleatis M. Crain
Capt Maurice C. Sykes
Capt Robert O. Brown
Capt Thomas P. Perkins
Capt Thomas E. Sears
Capt W. A. Ackermann
Capt Emmett F. Proctor
Capt Leo A. Gomolchak
Capt James W. Jarvis
Capt Gordon F. Otto
Capt William M. Clay
Capt Carlisle R. Petty
Capt Henry W. Schober
Capt Homer L. Walker
Capt Algie S. Hawkins
Capt Ray M. Carson
Capt Hendri A. Somrall
Capt Donald A. Smith
Capt C. J. Heathcote
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Capt Maurice C. Avery
Capt Chas V. Shores, Jr.
Capt Bidwell A. Owens
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Capt John E. Denney
Capt Lyle H. Mebruegge
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Lt Oliver J. Brown
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Lt Charles W. Washington
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Lt Gary V. Pugh
Lt Paul S. Denyow
Lt Wendell C. Vincent
Lt Benj. A. Lodenquist
Lt Jas E. Grey
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Lt Anthony J. Ortner
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Lt James C. Mauldin
Lt Charles G. Griminger
Lt John J. Griffiths
Lt Richard D. Estes
Lt David W. Hill
Lt A.R. Jenks
Lt Gary F. Beaulieu
Lt Ottie A. Ladd
Lt Charles W. Eagertown
Lt Robert C. Ussery
Lt Milton R. Roberts
Lt Robert V. Blake
Lt Joseph A. Koshnke
Lt Dale Stockwell
Lt Donald F. Ward
Lt Glenn P. Carr
Lt Henry F.C. Gebelt
Lt Turner L. Nelson
Lt Elgin R. Marsh
Lt Curtis R. Stender
Lt Ronald K. Anderson
Lt Robert L. Irish
Lt Norman L. Gustilis
Lt Raymond K. Sato
Lt Raymond A. Ingram
Lt John E. Dugan

Lt Thomas G. Hines
Lt Charles J. Teal
Lt William B. Carley
Lt David L. Starkey
Lt Alvin W. Cartwright
Lt Walter D. Harman
Lt Gilman J.K. Lemon
Lt Isaac R. Jones
Lt James L. Kidd
Lt F.E. Trylankowski
Lt Bernadr J. Smith
Lt William J. Hoffman
Lt Lucien R. Garneau
Lt John F. Comer
Lt Clifford D. Foster
Lt Phillip N. Cutting
Lt Carl O. Midgett
Lt Donald J. Gribble
Lt Charles E. Teeter
Lt Ronale L. Filson
Lt Howard E. Malone
Lt George W. Farah
Lt Bradley J. Johnson
Lt Thomas C. Blubaugh
Lt Peyer Redman
Lt William M. Tantau
Lt Jeremiah J. Harrington
Lt Paul D. Vanture
Lt Alex. S. Budd, Jr.
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Lt Ronald D. Renfro
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Lt Jack D. Kincaid
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CWO David C. Sorrick
CWO Gerald D. Lyon
CWO S. J. Kozlowski
CWO LaVaughn Whitston
CWO Robert D. Kirtley
CWO Mike V. Mayville
CWO Dean R. Ludwig
CWO Quincy A. Bearden
CWO Charles O. Warner
CWO Herbert Higgins

CWO Ronde H. Schuman
CWO Lewis W. Hawn
CWO Billy E. Ball
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CWO G. E. Valentine
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WO T. W. Barnes, Jr.
WO John S. Seeley

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M/Sgt Leon E. Wojcik

S/Sgt Wm. H. Harrison

SFC Elias G. Perez
SFC Nasario N. Diaz

Sgt Leonard Lester, Jr.
Sgt E/5 J. H. Calhoun

Sp/6 Robert W. Roller
Sp/6 Frank V. Rodes

E/5 Raymond D. Pestana
Sp/5 A. J. Rawlinson

Dr Scott Retherst
Mr Charles E. Oestreich
Mr Aubrey L. Sacco
Mr John W. Powell
Mr G. Glenn Spence
Mr Harvey H. Wetzel
Mr Ralph W. Harkison
Mr Henry M. Pauline
Mr Hugh E. Walker
Mr Karl L. Kocmanek
Charles M. Gower
Bobby S. Wallace
Edward A. Wing

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GENERAL NEWS

Second Class Mail Privileges Authorized at Westport, Conn.
ARMY AVIATION MAGAZINE, WESTPORT, CONN.

Major Van. T. Barfoot, currently well on his way to becoming an Army aviator, is the first Congressional Medal of Honor winner to enter the Army aviation program. A native of Mississippi, the USAAVNS student won the nation's highest award for his actions during an enemy armored attack at Carano, Italy, in May, 1944.

Three aerial rockets of a system now being tested by the U.S. Army Aviation Board for target marking with smoke are shown mounted under the wing of an L-19 Bird Dog. If adopted, this system, which couples the rockets to an in-cockpit sighting device, will replace the verbal-geographical target location system now in effect.

As Major Hunter G. Harbison, Commander of the 21st Aviation Company, Ft. Rucker, reads the citation, the Master Army Aviator Badge is added to his many decorations by 2nd Battle Group Commander, Col. W. C. Chapman. A 15-year AA, Harbison has never been involved in an accident.