

# ARMY AVIATION

AUGUST 56

The Army's  
DOMAN YH-31

powered by

**avco**  
**Lycoming**

SO-580 engine  
400 h.p.



**avco**  
**Lycoming**

defense and industrial products  
Stratford, Conn. • Williamsport, Pa.

Dependable Avco Lycoming engines  
power more different types of fixed and rotary-wing  
aircraft than any other engines in the world.

*An address by Mr. Guy Mallery before a large Ft. Rucker audience presents a new battlefield concept and stresses the many values of . . .*

## Water-Based Aircraft

Nearly every piece of military literature and even a great deal of our political literature is devoted today to atomic warfare and the new requirements it imposes on our military services. The advent of nuclear weapons and guided missiles has had a tremendous impact on all of our service doctrines. While none of us can say for sure exactly how the Army of the future will look, how it will be equipped, or how it will fight, several points seem to be apparent—it will be highly mobile; it will have tremendous fire power, it will have a simplified logistics organization; and it will have the flexibility to fight anywhere in the world on any type of battlefield, atomic or non-atomic.

You here at Rucker are making daily contributions to this Army of tomorrow. Nearly all of the proposals for equipping and organizing the Army for the atomic-battlefield revolve around the great increase in tactical mobility made possible by the helicopter. One of the reasons I was so happy at General Hutton's invitation to talk to you today is that at Martin we have been working for the past several years on an aircraft that we believe is an important companion to your helicopters in the combat areas. This is the large, high-speed water-based transport.

To show you some of our thinking along this line, I would like to talk a few moments on two Army problems in the atomic era—strategic mobility of major troop units and the field army line-of-communications. After this we might spend a few moments on the new state-of-the-art in water-based aircraft and what needs to be done to integrate its capabilities into Army requirements.

First of all, *strategic mobility*.

An examination of our country's current strategic and tactical doctrines reveals a greater emphasis than ever before on speed of reaction to enemy attacks. We know that our Army has strategic reserve combat troops which must be transferred to combat theaters, wherever these might exist, on the day combat breaks out (rather than weeks or months later as in the past). At the recent NATO conferences, Lord Montgomery voiced the need for moving ground reaction troops from the continental United States to various



Mr. Guy Mallery — The Glenn L. Martin Co.

theaters of war in less than one day. Obviously, this can only be done by air.

Under our present tactical doctrines, these reaction troops would consist of combat teams, operating in isolated centers of combat and depending for their existence on the ability of our airlift system to transport them to the combat areas and to support them there. If we examine these combined arms teams and their atomic-age equipment, we find an increasing emphasis on the ratio of fire power to manpower and the same emphasis on mobility. The requirements of the nuclear battlefield have brought us advanced types of weapons and weapon carriers, new types of vehicles capable of affording protection against battlefield special weapons, and helicopters, which are rapidly replacing trucks as our primary organic transports in the forward areas.

Unfortunately, helicopters, advance weapon carriers, and guided missile batteries do not grow in combat areas. They must be transported there generally over considerable distance. The great weight and the large cross section of many of these items severely limits our ability to transport them with our present airlift vehicles. Yet, in any future conflict we must expect them to be air-transported, particularly in the crucial early days of the conflict. The design emphasis must be on satisfying the needs of combat troops for their special fighting tools, rather than on compromising these tools merely so that they can be fitted into today's aircraft.

Obviously, we cannot fulfill our present troop commitments anywhere in the world if at the start of a war, we can airlift only

*(Continued on Page 32)*

### Guy Mallery

Project engineer on water-based aircraft at the Glenn L. Martin Company, Guy Mallery has been guest lecturer at the Army War College and the Naval War College. His military career was spent chiefly in Armor with one tour as Army liaison officer to the Atomic Energy Commission.



## ARMY PIONEERS DEVELOPMENT OF TIP PROPULSION WITH THE YH-32

Limited in range and carrying capacity only by its few years of development, the Army is ushering in a new era in simplified rotary wing aircraft design.

Paralleling major improvements of jet propulsion during the past, the YH-32—with improving performance and operational characteristics—is ushering in an

entirely new concept of simplified rotary wing aircraft design: tip propulsion, in which power is applied where it is required.

The YH-32 is another development of Hiller Helicopters made possible through the constant cooperation and guidance of the United States Army.

**HILLER HELICOPTERS • PALO ALTO, CALIFORNIA**

# ARMY AVIATION

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Courtesy of Kollsman Instrument Corp.

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## NOTAM ON WHO'S WHO YEARBOOK

The '56 Yearbook, "Who's Who in AA," will be published in late October for late November distribution. A final questionnaire for a personal listing appears in the centerfold. Please submit corrections to your previous questionnaire on the enclosed questionnaire. Note that the names of children may be listed in the appropriate blanks.

## Transfers

WASHINGTON, D. C.—As a result of a Department of Defense approved agreement between the Departments of the Army and Air Force, the Wolters Air Force Base, Mineral Wells, Texas, will be transferred from the Air Force to the Army on July 1, 1956, and a similar transfer will be made at the Edward Gary Air Force Base, San Marcos, Texas on or before January 1, 1957.

Primary fixed-wing pilot training will be conducted at the Gary installation and primary cargo helicopter pilot training at Wolters. Army aviation training at both installations will be conducted by civilian contract. Army aviation tactical fixed wing and advanced cargo helicopter pilot training will continue at the Army Aviation School, Fort Rucker, Alabama.

### Gary

Installation will be a contractor operated base. The Commanding General, Flying Training Command, U. S. A. F., Waco, Texas, will negotiate and award the contract for training to be conducted at Gary. Once the contract has been awarded its supervision will be the responsibility of the U. S. Army.

The military population will include a programmed average of 500 officer-students in residence, with a programmed input of approximately 1700 during Fiscal Year 1957. It is planned that a permanent 45-man military detachment will also be stationed at the post. In addition, the civilian contractor is scheduled to have 700 employees.

### Wolters

Will be operated as a military installation. In addition to helicopter training, the Department of the Army plans to conduct certain non-aviation activities there which will utilize the installation facilities.

The military population will include a programmed average of 75 helicopter pre-flight students, and 200 helicopter pilot students—in residence, with a programmed annual input of approximately 600. The size of the civilian training force will be approximately 360.

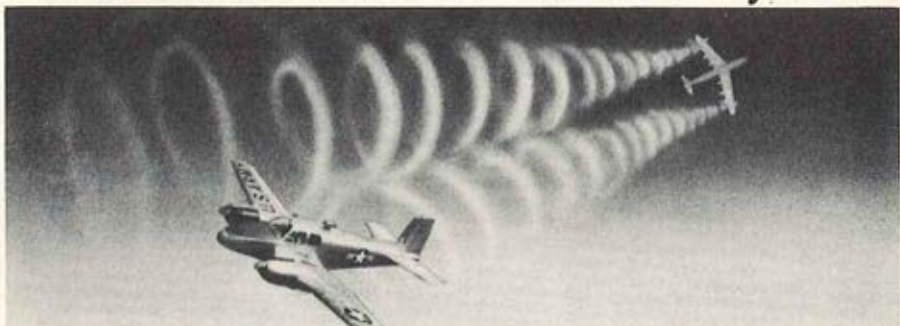
The first class is expected to begin in January, 1957. The length of the primary cargo helicopter pilot course is 18 weeks. New classes will report at 4 week intervals.

# Beechcraft

## SAFETY SUGGESTIONS

**PUBLISHED AS A SERVICE TO PILOTS**

### BEWARE THE WASH FROM BIG PLANES AND JETS



**UP GUST FOLLOWED IMMEDIATELY BY VIOLENT DOWN GUST EXPERIENCED**



**VIOLENT ROLL TO LEFT EXPERIENCED**

### FROM FLIGHT SAFETY FOUNDATION ACCIDENT PREVENTION BULLETIN 55-18

#### WORD OF WARNING — JET WASH AHEAD!

*Note: This Safety Article is the eleventh in a series to be published in Army Aviation. They are short recaps from Beechcraft Safety Suggestions which have been published as a service to pilots since 1939. A Beechcraft Customer Service Program.* "A CAA airways flight inspection pilot has attempted following a B-47 at various distances, to determine the effects of jet wash upon lighter aircraft. At one mile his Twin-

Beech was violently uncontrollable; at three miles it was in violent turbulence, and at four miles control was barely possible. It appears to us that a word to your pilots on the inadvisability of crowding multi-engine jet aircraft might easily prevent a few gray hairs, if nothing else." — ARDC Flying Safety Newsletter — June 1955.

# Cessna's armored OE-2 protects Marine pilots

Cessna's reconnaissance-liaison plane—the OE-2—brings greater versatility to Marine Corps air operations, is specifically designed to give the pilot protection in combat.

The rugged plane's 220-m.p.h. dive-speed capability combines with its self-sealing fuel tanks, flak curtain and armored seats to give the Marine pilot maximum protection, get him in and out of targets, fast!

A more powerful version of Cessna's famed L-19, the OE-2 is the first liaison airplane with built-in target-marking capabilities. It also is used as an artillery spotter, to lay communications wire and to drop supplies to troop positions.

The versatile OE-2 meets a specific need, is another example of Cessna's cooperation with the military in planning for today's air age. CESSNA AIRCRAFT CO., WICHITA, KAN.



*Thick, nylon flak curtain and armor plate in rear compartment protect observer.*



*Flak curtain and armor plate afford pilot maximum protection.*



*Three-quarter inch armor plate fits under pilot and observer seats.*



CESSNA AIRCRAFT COMPANY, Wichita, Kans.

**VERTOL***Aircraft Corporation*

Gentlemen:

In keeping with our efforts to keep you informed through the ARMY AVIATION magazine of some of our more interesting projects I am writing to apprise you concerning the twin-turbine version of the H-21 helicopter which we are currently developing for the Army under contract with the Bureau of Aeronautics.

The twin-turbine version of the H-21 is equipped with two G.E. T-58 "free" shaft turbines. Substitution of these turbines for the reciprocating engine results in reduction of the empty weight, an increase in power available, and an increase in normal gross weight and payload, and a marked increase in cruising speed. Exact weights and performance with the turbines is classified, but it can be stated that the substitution of turbines for the piston engine more than doubles the capability of the H-21 in terms of ton-miles per hour. In addition, the free-shaft turbines permit elimination of the clutch, greatly simplify power plant maintenance, make warm-up unnecessary, reduce engine-induced vibration, and obviate the requirement for the pilot to constantly monitor rpm. The ability of the turbine to operate satisfactorily on a wide range of fuels is an added advantage.

The twin-turbine power-plant package for the H-21 has been designed so that it can be retrofitted in the H-21C, thereby permitting these aircraft to be modernized at IRAN or during overhaul.

Sincerely,

*H. J. Dugan*  
H. J. Dugan  
H-21 Project Engineer

MORTON, PENNSYLVANIA \* PHONE-SW 3-1186 \* 6-4000 \* CABLE-VERTOL  
*formerly - Piasecki Helicopter Corporation*





A study of the *passovers* in the promotion lists reveal that approximately 85% of the overall officer strength receive a promotion on the first go-around, while 88% of the Army aviators make the grade on the first try. This should scotch a few rumors. Another oddity: It's been found that AAs have been clobbering other AAs in the rating set-up. The DA feeling is that the rating AAs have incorrectly stressed pilot proficiency and have not considered the rated officer's overall abilities.

Interesting sidelight at Gary AFB: Col. Jules E. Gonseth, Jr., an Army officer, now wears two hats and is responsible to the CGs of two services. With Gary slated to be turned over to Army control on 1 Jan '57 the AF requested that an Army officer take over administrative supervision. The oddity of an Army commander of an AFB continues while the AF personnel on base are being phased out.

SR 605-95-1 is now being rewritten into a new AR (600-106). Other separate ARs will also be written to achieve clarity & brevity. One pertinent fact: *Senior pilot*—Must have been designated as an AA or rated as a Liaison Pilot in the AUS on flying status for a minimum total of seven years (a maximum of 3 years as a rated pilot in the active AF, Navy, USMC, or CG may be credited against the 7 year requirement).

The jet training program for 30 qualified personnel is hitting on all 3 cylinders. AF will loan 3 craft for test purposes. Possibility?—the Navy has jets, too.

The critical shortage of qualified maintenance personnel as exemplified by the grounding of cargo helicopters at some installations has caused considerable DA concern. It's been found that school-trained

mechanics are in the "Top Ten" incorrectly assigned, and incorrectly utilized specialists. DA has asked commanders for a review of personnel records so that maintenance personnel can be properly placed. This review is expected to be a recurring process. Statistically, 80% of the requirement have been trained with 15% of the personnel being incorrectly utilized. By training the needed 20% and at the same time taking the *missing* 15% out of the mess halls and motor pools DA hopes to alleviate the situation.

Pipeline says Sikorsky will lay claim to a new speed record. Tapes are in but not officially approved as of late July. Record-breaking endurance hop by Hiller H-23C was a true AA milestone. Next milestone: Aerial refueling of choppers. This would open a new book of endurance records.

The recent USAR shot in the arm, the Aviation Company Program, may have hit the usual *monetary* snag . . . DA authorities hashing out the flight instructor selection system. One school insists all aviation personnel should be capable of this proficiency. They point to the Navy where an instructor tour is customary. Argument from the cons: You can lead a horse to water, etc. . . . Late July training pow-wow at ARMAV covered all phases of current AA training in small groups and collective assemblies.

Army participation at the Oklahoma City National Air Show should be extensive if the current AA activity on the project is an indication . . . The *Johnny on the Spot* participation of Army aircraft & crews at the Grand Canyon disaster emphasized the value of having rotary-wing craft at widespread locations. One such move: the current transfer of the first helicopter transportation company to the New England area (Ft. Devens).

A sidelight to the Grand Canyon mission is that experts had predicted that neither helicopters nor ground crews would ever reach the United crash site. Capt. Walter Spriggs landed his Army H-21 atop a tiny pinnacle 2,600 feet above the floor of the Grand Canyon. Spriggs said: "The landing was made on a spot no larger than the copper itself," and told newsmen that if you misjudge the distance 10 or 15 feet you drop a good 1,000 feet.

Recent confab of NG State Maint Supervisors at Ft. Eustis heard Lt. Col. Wayne N. Phillips (Chief, NGB, AA Div) lay it on the line. "You're a key part in the defense picture; if the flag goes down, you've got to be the best." His criteria: hard work & constant practice.

## New Faces

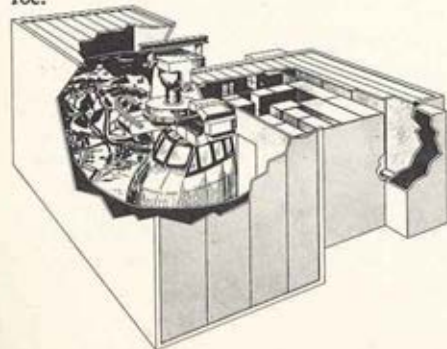
WASHINGTON, D. C.—Twelve senior Army officers have been named by the Department of the Army to attend a special 35-week course of Army aviation flight training beginning next September. This is the second such group to be selected for this particular type of course to provide aviation-qualified senior officers for the Army. The training will take place at The Army Aviation School, Fort Rucker, Ala.

Included in the recently announced group are Colonels John J. Tolson, John L. Lied-enheimer, Christian Hanburger, Daniel H. Heyne, John Norton, Jack K. Norris, Robert H. Schulz, James L. Kaiser; and Lieutenant Colonels Russell W. Humphreys, William Hupalo, Raymond G. Jones, and Charles E. Rousek.

Selected from about 450 applicants, the twelve officers will complete their course in May 1957. Department of the Army officials said that many highly outstanding officers could not be accepted for the course due to the limited number of available spaces.

The first group of twelve senior officers began their course in fixed and rotary wing flight training last August and graduated in May. Members of this group and their present assignments are: Col. John D. Edmunds, Asst Commandant, ARMAV; Col. John Inskeep, CO, Wolters Air Base, Texas; Col. William R. Tuck, Staff & Faculty, ARMAV, where he will act as project officer for the National Air Show at Oklahoma City in September; Col. Hallett D. Edson, ODCS-OPS, DA, Washington.

Col. Horace M. Wood, Electronic Proving Ground, Fort Huachuca; Col. Charles L. Murray, Hq, CONARC, Ft. Monroe; Col. George P. Senaff, Jr., Office, Chief of Staff for R & D, DA, Washington; Col. John W. Britten, Overseas Replacement Center, Oakland Army Terminal, Cal.; Col. John R. Dale, The Pentagon, Washington; Lt. Col. James H. Lee, Hq, XVIII Abn Corps, Ft. Bragg; Lt. Col. George W. Putnam, TAGO, DA, Washington; and Lt. Col. Edward B. Bissell, Hq, CONARC, Ft. Monroe.



## Redesignation

WASHINGTON, D. C.—Wolters Air Force Base, near Mineral Wells, Texas, recently redesignated as an Army installation, has been renamed Camp Wolters, the Department of the Army announced recently.

The redesignation of the Texas post is a result of a Department of Defense directive which transferred responsibility for Army Aviation training from the Department of the Air Force to the Army.

The installation was named in honor of the late Brigadier General Jacob F. Wolters, Texas author and military leader, who served as lieutenant in the Texas Cavalry during the Spanish-American War. He later became a Brigadier General in the Texas National Guard. Camp Wolters will be used principally for primary cargo helicopter pilot training with an average of 275 students in residence after January 1, 1957.

## Simulator

WASHINGTON, D. C.—Award of a contract for the development of a Helicopter Flight Simulator was announced recently by the Department of Defense. Army Research and Development funds are being used to finance the \$1,983,981 contract awarded to Melpar, Inc., Falls Church, Virginia.

Administration of the contract and subsequent technical assistance in the development of the Flight Simulator is being accomplished by the U. S. Naval Training Device Center, Port Washington, N. Y., under the direction of the Office of Naval Research. Scheduled for completion in 1958, the new Flight Simulator will incorporate the cockpit of the Army's H-37A helicopter in its design.

The new device will be used to train Army helicopter pilots in all phases of operation including starting of engine, take-off, hovering, transition to forward flight, blade stall, and autorotation including flare-out for landing. Cockpit motion, rough air and other flight conditions will also be simulated for the pilots. Development of a Helicopter Flight Simulator by the military services ultimately is expected to reduce substantially the cost of training cargo helicopter pilots and provide a device which will aid materially in the advancement of helicopter instrument flying.

(See photo at left)

# Another kind of INSURANCE

Ralph D. Ritchie was selling life insurance in Panama City, Fla., when the U. S. Army recalled him from reserve status as an enlisted man at the outbreak of the Korean conflict.

In 1952, he received a direct commission in the Army's Medical Service Branch and orders which sent him to helicopter flight school.

Today, Lt. Ritchie is helping provide a new kind of insurance... a strong and versatile aviation unit of the Army.

With more than 1200 hours of helicopter flight time, mostly in Bell H-13s, Lt. Ritchie is now an instructor at the Army Aviation Center, Fort Rucker, Ala. Here, he is teaching seasoned pilots and aviation cadets helicopter tactics that apply directly to the Medical Service Branch.



LT. RALPH D. RITCHIE  
"an assist to the medics"



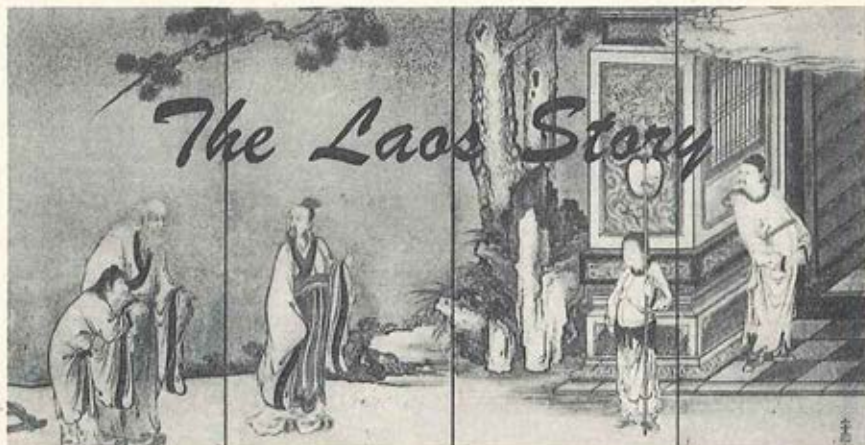
The Army is giving increasingly more responsibilities to its helicopter pilots. It is teaching these men to evacuate wounded, speed plasma and other supplies directly to where they are critically needed, fly in doctors, nurses and medical corpsmen. Helicopter pilots are doing dozens of different jobs for the Army... and doing them all well.

**Helicopters need pilots and mechanics!  
Apply to Army Aviation for career training!**

**BELL**  
*Aircraft Corp.*

TEXAS DIVISION  
P. O. BOX 492  
FT. WORTH, TEXAS

Flying in a primitive country with few navigational aids offers a constant challenge to the observant Army aviator . . .



VIENTIANE, LAOS—(Office of the Army Attache, American Embassy)—After 15 months in Southeast Asia, I would like to record some of my observations of this tropical paradise.

When I received my assignment as Assistant Army Attache to Laos, my first question was, "Where is Laos?" In order that the reader may visualize this area I will attempt to paint a brief political, geographic and aviation word picture of this area.

The *Battle of Dienbienphu* focused worldwide attention on Indo-China. Subsequent internal struggles for power in Vietnam, Cambodia, and Laos and other communist activities have kept these countries in the news. While these countries are now independent, they previously were known as the Associated States of Indo-China under French colonial control. The Geneva Accords of 1954 established the two northern provinces of Phong Saly and Sam Neua as regroupment zones for communists in Laos and divided Vietnam on the 17th parallel with the communists in control of North Vietnam and non-communists in control of South Vietnam.

The Royal Government of Laos has not had complete control of Phong Saly and Sam Neua Provinces since the days prior to Dienbienphu. Major portions of these provinces are still occupied by communist dominated Pathet-Lao military forces and repeated armed conflicts between these forces and Royal Government Forces is commonplace. The political future of Laos has a direct bearing on the political future of all Southeast Asia since it borders on Communist China, Communist North Vietnam, South Vietnam, Cambodia, Thailand, and Burma.

Mountain peaks up to 9,000 feet covered with dense jungle characterize the terrain of north and central Laos. Southern Laos

is not as mountainous but it has an extensive 5,000 foot high plateau area known as *Plateau des Bolivan*. Most of southern Laos is covered with sparse jungle-type vegetation. The mighty Mekong River forms a great portion of the western boundary of Laos.

Flight Information Regions (FIR) which compare with the Flight Information Service Areas (FISA) of the CONUS divide the area into zones of responsibility. The FIR's in this area are Saigon, Bangkok, Hong Kong, Manila, Singapore, and Rangoon. More will be said about the FIR method of operation when radio aids are reviewed. Flight clearance is obtained in the usual manner. Generally, the same information is required on all flight clearance forms; however a different format is used in Manila, Hong Kong, Bangkok, and Vientiane.

One variation that has always puzzled me is the insistence upon designating an alternate airport on a VFR flight plan. Flight clearance will not be granted unless diplomatic flight clearance has been obtained. For example, a 3½ hour flight from Vientiane, Laos direct to Saigon, Vietnam requires a Thailand over-flight clearance and Saigon landing clearance plus a radio call to Phnom Penh, Cambodia when the Cambodian border is crossed.

The normal diplomatic clearance request requires the following information: (a) purpose of flight; (b) aircraft serial number and type; (c) names and positions of crew members; (d) names of passengers and purpose of visit; (e) description of cargo; and (f) details of route and ETA's and ETD's. Current information on foreign clearance can be obtained from the USAF Foreign Clearance Guide.

Radio aids to navigation are quite limited in this area. The primary navigational aid is the nondirectional radio beacon. Laos has

only four beacons. The only navigational aid to supplement the radio beacon is the VHF/DF stations. These DF stations can be used for a let-down.

An instrument flight plan will not be accepted unless aircraft have a reliable high frequency (HF) radio in addition to the VHF radio. The HF radio is used for en-route traffic control. Towers or VHF/DF stations will not accept position reports as they do in the CONUS. The Air Route Traffic Control (ARTC) stations that handle the traffic outside the 100 mile control areas are Bangkok, Saigon, Hong Kong, Rangoon, Singapore, and Manila. There is one station for each FIR.

An AN/ART-13 transmitter has been installed in Army 6183, the L-23 assigned this office. This radio has a 100 watt output and gives reliable voice communications for 500 to 1000 miles. Usually position reports are required each hour with an "operation normal" between position reports whether on VFR or IFR flight plans. It is usually desirable to file IFR for reasons to be explained when weather problems are presented. Area control within 100 miles and approach control is handled on VHF with a HF channel as an alternate.

Weather forecasters are not available in Laos, and unreliable. Daily weather forecasts for Laos are made up in the early morning in Saigon and transmitted to Vientiane with no knowledge of late weather observation. Weather forecasters are not available in Laos.

I have inadvertently gotten into several thunderstorms but have managed to stay out of the big ones. The highest rate of climb with partial power at 120 MPH I have experienced is 3000 FPM rate of ascent. On occasions one will fly thru downpours so heavy the wing tips are barely visible. During the dry months of February, March and April, the natives burn off the rice paddies for the next year's rice crop and clear and burn the forest areas for the next year's opium crop. Since a light southwesterly wind prevails at this time of the year it will pack this smoke and haze against the mountain chain that divides the Indo-China peninsula. Flight visibilities of 1 mile at 8-10,000 feet are not uncommon.

With the advent of the rainy season May

thru October, the visibilities increase. This is a monsoon type climate with intermittent heavy or light showers. It is unusual to have a shower last more than 4 hours. I thought the monsoons would bring day after day of heavy continuous rain but this is not the case.

Ceilings are seldom below 1,000 feet, usually 2,000 feet, with  $\frac{3}{8}$  to  $\frac{7}{8}$  cloud cover and the tops 16-20,000 except for the large cumulo-nimbus. Large thunderstorms can usually be seen in adequate time to go around them. The longest "in the soup" flight I have had was a  $3\frac{1}{2}$  hour flight from Tourane, Vietnam to Hong Kong. During the cool season, November thru January, flight conditions are excellent.

Much of the flying in Laos is dead reckoning with few check points. I have never been lost, but on numerous occasions I have been misplaced in a area. I have made short 20 mile hops from one airstrip to another and never could find the strip because the mountains in the area were about 6,000 feet and the ground would not be visible from 8,000 feet because of the haze.

With a temporary ferry tank installation fabricated at Chofu, Army 6183 has  $8\frac{1}{2}$  hours fuel. The initial ferry flight from Tokyo to Vientiane was reported in an earlier article. Since that time, I have made two maintenance trips to Clark AB, PI. One flight was direct from Saigon to Clark and return. It takes 6 hours from Saigon to Clark with 5 hours overwater flight.

The second trip to Clark was via Tourane, Vietnam and Hong Kong, BCC. The flight from Tourane to Hong Kong is four hours and all overwater since Communist-held Hainan Island must be avoided. The flight from Hong Kong to Clark takes 4 hours with 3 hours overwater flight.

I have enjoyed my tour of duty in Laos despite its operational drawbacks. My next assignment will take me to Headquarters, CONARC, Fort Monroe with the Wright Air Development Center at Dayton, Ohio station. The contrast in navigational aids between Laos and WADC should be interesting. Captain Samuel Walker, my replacement, will begin his tour of haze-cutting on 1 July. Your correspondent, Major Leland F. Wilhelm, GS, Acting Army Attache.

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### AERIAL APPLICATION?

FORT MONMOUTH, N. J.—The development of a radar device for speedy surveying of distances up to fifty miles was announced recently by the Signal Corps.

Using a radar "ruler" instead of the conventional optical transit, the surveyor will no longer have to make twenty or thirty "hops" to measure distances. The device will also enable him to "see" through fog, darkness and foliage.

Surveying is done with two radar stations carried in jeeps, one at each end of the line to be measured. A signal is tossed back and forth thousands of times a second. Automatic computers register the distance in terms of the time it takes the signal to make 10,000 round trips.

The station consists of a collapsible antenna and three metal suitcases crammed with electronic equipment. It fits into the back of a jeep and can be operated by one person.

In a formal ceremony 30th Topo personnel award a unique citation and plaque to one of de Havilland's technical representatives . . .

## "A Well Done, Ben!"



LATHROP, CALIF.—Before an entire military assembly drawn up in ceremonial parade order at Lathrop, California recently, a shy young man from Toronto was asked to come forward to receive from the hands of the Commanding Officer a plaque presented in recognition of his services. The recipient of this signal honor was Ben Cox, Technical Representative of the de Havilland Aircraft of Canada, Ltd.

Mr. Cox has been stationed with the 30th U.S. Engineer Group (Topo Aviation) since the unit first took delivery of its de Havilland U1-A *Otters* some five years ago and spent considerable time with the unit in Alaska before transferring to his present post at Fort Riley, Kansas. During that time he rendered valuable technical advice to the United States Army, not only in connection with the operation of *Beaver* and *Otter* aircraft, but with field maintenance problems in a broad general way. For these services he was awarded the plaque with a citation.

The presentation was made by Colonel Wayne E. Downing in a speech that was a glowing tribute and in words that were as sincere as they were well chosen. Cox opened his mouth to reply but no sounds came forth. For once in his life the usually garrulous technical instructor was completely speechless.

And little wonder. If it was not the first occasion on which the United States Army has paid such a tribute to a civilian, it certainly is the first time that such an honor has been bestowed on a citizen of another country.

In addition to the presentation of the plaque and the citation, the 521st made Cox an honorary member of the regiment. The 521st Engineer Company is a topographic survey unit and much of its flying operations have been carried out over the rugged terrain of Alaska and the vast barren waste lands of the Arctic.

### PHOTO ABOVE

Ben Cox, de Havilland Aircraft of Canada Technical Representative, receives a plaque for outstanding service from the hands of Colonel Wayne Downing, Commanding Officer of the 30th U.S. Engineer Group (Topo Avn) during a ceremony at Lathrop, California. The award was for service rendered to the 521st Aviation Co. in Alaska.

Looking on are; Major Phillips Melzer (left); Lt. James Allen to the immediate right of the recipient and Captain Samuel Boyer (far right); Cox was also made an honorary member of the regiment.

*A joint BuAer and Army project now  
faces service testing and evaluation . . .*

# Remotely Controlled HTK



WASHINGTON, D. C.—A remotely controlled helicopter which can perform a wide range of military missions has been developed by the Navy, Army and Kaman Aircraft Corporation, Bloomfield, Connecticut, the two services announced recently.

Uses for remotely controlled helicopters could be in battlefield surveillance, where a flying TV camera and transmitter directed from behind the front lines would give combat commanders a running view of action on the battlefield and movements behind enemy lines. Nor does the versatility of the remotely controlled helicopter end here. It can lay communication wires rapidly over rough terrain, carry cargo and supplies to otherwise inaccessible areas, drop smoke bombs to mark targets for artillery fire, lay smoke screens to obscure troop movements, carry motion-picture and still cameras for permanent records of battle surveillance, or be used as a highly maneuverable vehicle against such land vehicles as tanks. It can even lay a line of explosive charges through an area which has been spotted with enemy land mines and can explode those charges, thereby clearing a path for the movement of troops and vehicles. Thus many dangerous missions can be accomplished without hazard to pilots and other personnel.

Several years ago the Office of the Chief of Naval Operations began exploring the possibilities of remotely controlled helicopters through the marriage of automatic stabilization equipment under development by the Navy Bureau of Aeronautics for a Kaman HTK helicopter and an Office of Naval Research-sponsored guidance system. In August 1952 the Office of Naval Research awarded Kaman Aircraft a contract to develop a remotely controlled helicopter. Kaman engineers developed the radio remote-control system and the electro-mechanical controls in the helicopter used to transfer radio signals into the mechanical movements which operate the helicopter controls. Although this system is somewhat similar to

the remote control of airplanes, the problems that had to be overcome in the remote control of a helicopter were far more complex because of the helicopter's ability to rise and descend vertically, stand still in mid-air, and fly forward, backward and sideways, slowly or rapidly.

The first remote-control flights were made in May, 1953, and the vehicle had its first demonstration before Navy personnel in September of that year. This first machine was flown from the ground-control station by a helicopter pilot.

The next step was to further develop the remote-control system to where a man with no flight training whatever could fly the helicopter from the ground control station. This was accomplished in April 1956 when a Kaman employee who had never flown any kind of aircraft made the remote-control helicopter take off, fly through various maneuvers, and land.

The success of the remotely controlled helicopter as it was developed under the Office of Naval Research contract led to interest in the project on the part of the Navy Bureau of Aeronautics and the Army. In June 1955 a contract sponsored jointly by the Bureau of Aeronautics and the Army for three remotely controlled helicopters was awarded to Kaman Aircraft. These machines will be used by the services for evaluation purposes. Also in June 1955, RCA became interested in the possibilities of flying in the remotely controlled helicopter their "back-pack" TV camera and transmitter which they had developed for the Army Signal Corps. A number of successful remote-control TV-broadcast flights have been made.

Today the remotely controlled helicopter can be flown not only from a ground station, but from another helicopter as well. Control can be switched back and forth between airborne and ground control stations. It is also possible to have the remotely controlled helicopter fly a "memory" course fed into the control station. By this method one ground station could operate a number of remotely controlled helicopters at one time.

The significance of remotely controlled helicopters, in addition to eliminating personnel from hazardous operations, lies in simplicity and light weight. All the safety devices and structural strength necessary in manned helicopters to provide the utmost in safety for crewmen can be eliminated in remotely controlled helicopters. Compact remotely controlled rotary-wing units carrying the special equipment required for any particular mission can be more easily produced than can man-carrying helicopters.

## New Aircraft Projects

**H-13H HELICOPTER (BELL)**—Test to determine if unsatisfactory conditions in service test of model have been corrected and to investigate the suitability of design changes and modifications incorporated subsequent to the service acceptance test. Description: Two-place, side-by-side, two-bladed, main rotor and anti-torque tail rotor type helicopter. Powered by 6-cylinder, aircooled, 260-hp Lycoming O-435-23 engine. (See AA, June '56, P. 1). The production helicopter—scheduled for delivery during June—has not been rec'd by the Board.

**OE-2 AIRPLANE (CESSNA)**—Board will determine the model's relative qualifications to meet the present and future requirements for an observation-reconnaissance type aircraft. Also sought are comparative performance characteristics of standard L-19, L-19 equipped with McCauley Constant Speed Propeller, and OE-2 Airplane. Description: High-wing, two-place, all-metal monoplane having dual-controls; electrically operated, single slotted high lift type wing flaps; and steerable tail wheel. (See AA, July '56, P. 6). Powered by Continental 6-cyl. supercharged, aircooled engine developing approx 265 hp at takeoff. Cowl flaps, McCauley two-bladed constant-speed prop, full panel flight instruments, ADF-R14B radio compass, and AN/ARC-60 Radio are incorporated. Nr N41767 rec'd 4 June with Part I of service test already initiated. Test time to date: 40 hrs.

## New Electronic Projects

**ADF EQUIPMENT (ARC TYPE 21)**—Aircraft Radio Corporation's Type 21 ADF is a 3-band superhetrodyne receive employing 14 miniature tubes. Although critical components are hermetically sealed, unit as a whole is not. Remote tuning & band switching provisions. Manufacturer claims operational use throughout the environmental test range of —55 deg. C to —71 deg. C. Power requirement is 2.8 amperes at 28 volts; OC weight (less interconnecting cables) is 20 lbs. Equipment has been installed in an L-23B and service tests to determine its suitability and adequacy for Army use have been initiated.

## New Equipment Projects

**BEKON LIGHT (STA-PARTS MFG CO)**—Three-pound, self-contained, battery-powered lighting unit to provide various airfield illumination requirements. Bekon light has 27-ounce duck base which is water-repellent & fire-resistant; also has an explosion-proof, water-proof switch. Interchangeable plastic domes offer a means to change the color of the light. A zippered base allows the loading of ballast. Thirty lights have been received for service testing.

**TOW KIT FOR H-21C HELICOPTER (VERTOL)**—When installed, the tow kit consists of a 14-foot tow boom, mechanically operated hook and release mechanism, hydraulically operated



## Project Reports Board Nr 6, CONARC Fort Rucker, Alabama

boom retracting mechanism, and fuselage reinforcement plates and beams. Tow kit now in installation process on test H-21C; total man-hours required to date: 329:30, which includes 288 man-hours expended by maintenance personnel in the installation of reinforcing members and fittings. Kit installation requires the removal of the engine, mid-transmission, and main landing gear struts.

## Sustaining Aircraft Projects

**YH-32 HELICOPTER (HILLER)**—Test models of the YH-32 have not as yet been received by the Board.

**H-21C HELICOPTER (VERTOL)**—Two test acft. Total time on each: 530 & 412 hrs. Test flying limited by the installation of tow hook on one test craft and the installation of external fuel tanks on the other.

**YH-13H HELICOPTER (BELL)**—Draft report of test has been prepared and was mailed to interested agencies for comment on 11 June. H-13H embodies new features over previous H-13 series: Lycoming O-435-21 engine, hydraulic boost in cyclic controls, "Push to Start" type starter switch on instrument panel, altitude-compensating carburetor which automatically adjusts fuel-air mixture, generator and rotor tachometer generator located on and driven by the transmission, dampers installed on swash plate for purpose of dampening feed-back forces in the event of hydraulic boost failure, engine & transmission oil supplied from a XH-13F (Bell) oil tank separated from the engine.

**H-34A HELICOPTER (SIKORSKY)**—Two test acft. Total time on each: 300 & 338 hrs. ARMAV utilized one craft in continuing their determination of checkout procedures. Second test craft was utilized by the Board in support of requirements from Redstone Arsenal and in pilot orientation in simulated instrument flying.

**YH-13H HELICOPTER (BELL)**—Separate test to determine if YH-13H craft will operate satisfactorily under extreme low temperature conditions & to determine if a service test under Arctic conditions by the Arctic Test Branch is

## PROJECT REPORTS

### Board Nr 6, CONARC

warranted. Testing completed with draft report slated to go to interested agencies for comment during July, '56. Deficiencies noted were brought to the attention of the manufacturer so that corrections can be made prior to test under Arctic winter conditions.

**HSL MODEL 61 HELICOPTER (BELL)**—Coordination relies on draft report of test have been rec'd. Final report awaiting Project Review Board consideration with expected forwarding to Hq, CONARC during July, '56.

**U-1A AIRPLANE (DE HAVILLAND)**—One craft under test with 221 total test time. Board has requested that action be taken to obtain troop type seats for tests in the U-1A airplane.

**YH-31 HELICOPTER (DOMAN)**—One craft under test; total test time 250 hrs. Board Nr 6 has started Part II tests of this model which involve the tactical suitability of equipment. Transition training of rated pilots with varying degrees of experience is being continued in conjunction with ARMAV.

**H-23C HELICOPTER (HILLER)**—Endurance run of 30 hrs continuous flight undertaken on test craft with no unusual problems being experienced on the extended flight. In-flight refueling was accomplished by one of the crew of 2 pilots picking up gas from a ground crew while at a hover and manually pouring the gas into the tank. Temporary impairment of the hearing senses was the only noticeable adverse effect uncovered by the physical exam given the crew immediately after the flight.

**HOK-1 HELICOPTER (KAMAN)**—All initial arrangements have been undertaken and the service tests of this model will be initiated upon the receipt of the model from the manufacturer.

**INDIVIDUAL LIFT DEVICE (DE LACKNER)**—A delay in the delivery of two Aerocycles has postponed testing. Craft were scheduled for delivery on 22 June with tentative delivery date now set at 15 July.

### Sustaining Electronic Projects

**LANDING SPEED INDICATOR (SAFE FLIGHT)**—A new model LSI designed specifically for the L-19 airplane has been installed by the manufacturer, replacing the original LSI. During early July, a factory rep is expected to visit the Board to orient pilots on the proper use of this equipment.

**QUADRADAR & SPAR RADAR**—Comparative evaluation of the SPAR suspended pending receipt of the SPAR; QUADRADAR evaluation completed. During test period, QUADRADAR was employed successfully in numerous GCA approaches at OZARK AAF. Partial report (covering evaluation of the QUADRADAR) is being processed.

**HOMING ADAPTER AN/ARA-31**—A need for additional testing at the lower end of the frequencies available was revealed by a review of the test results. Test completion expected in early July.

**UHF EQUIPMENT AN/ARC-55**—100 hrs of service testing were completed during 3-week period ending 30 June. Testing included checking of all frequencies necessary for IFR flight for range and reliability under all weather conditions encountered. Testing was conducted with the CAA through the frequency range.

**RADIO SET AN/ARC-44**—Six-watt transmitter with 280 channels featuring auto-tuning. Test installations expected to be completed by 30 June. Troop testing, involving 46 sets mounted in various type aircraft, will be initiated at Ft. Benning 1 July.

**TACAN RECEIVER AN/ARN-21**—Test equipment, as rec'd still short some minor essential items of hardware. Board has been notified by Dept of Navy that these items will be furnished. Loan period has been extended from 90 days to 180 days. Stromberg-Carlson will supply technical representation during installation period.

### Sustaining Equipment Projects

**UNIVERSAL SKI ALIGHTING GEAR FOR L-19 (ALL AMERICAN ENGINEERING)**—Dynamic testing of water operation continues with some interruptions to maintain aircraft & beach site. Total hrs flown on ski-equipped aircraft: 63 (39 land, 24 water). Project officer continuing checkouts of other board pilots in water operation. Flotation pod safety device, on loan from USMC, has been repaired and installed on L-19 with water & land testing undertaken with pod installed. Project officer appointed to install ski equipment on school L-19 craft and to conduct test to determine transitional training requirements.

**CONSTANT SPEED PROPELLER (McCAULEY MET-L-MATIC)**—Testing completed. Draft report of test is being prepared and should be mailed to interested agencies for comment during July, '56.

**PERSONAL BODY ARMOR**—The Air Mobility Group, Airborne & Army Avn Dept of the Inf School jump tested both the Naval and QM type armor. Tower & static line jumps from L-20 aircraft were made. Observations taken of body restrictions due to armor, opening chute shock, descents, and landing falls. Water immersion testing was undertaken to determine freedom of movement while swimming, buoyancy, removability during immersion, and time of water penetration of armor. Draft report of test is now being prepared. In late June, Board rec'd 14 suits of Naval Personal Body Armor through Norfolk, Va.

**DE-ICER AND ANTI-ICING EQUIPMENT FOR L-23 AIRCRAFT**—Equipment consisting of de-  
(Continued on Page 36)

## CONTRADICTION

(Dear Editor:) Just read the entry from Fort Kobbe, CZ in the June issue and would like to make a correction. The "Superlink" referred to has been in use at the 7th Army Tng Ctr here in Stuttgart, Germany for about nine months now. The first one was set up about last Sept and two additional links were modified in Nov. 55. These conversions were made by SFC's Ewing and Hofsheier and Mr. Heinz Schmidt one of the German Instructors. Sincerely, Sgt. John O'Grady.

## HOW COME?

(Dear Editor:) Several months ago our unit went 100% for AA and we still haven't received our 100% Certificate. You renegeing on the deal? (Capt.) Afton Dare, EUCOM.

(Ed. No, sir! Upon receipt of a group photograph from a 100% unit, we'll dispatch the Certificate. This requirement shouldn't be too hard to take since 100% photos are immediately published. Besides, we're out to make you camera-conscious. We're still of the opinion that the Aviation Section and the PIOs haven't been introduced.)

## THE DRUMBEATERS

(Dear Editor:) Why don't those who beat the drums for technical data, gather some and submit it? I'm certain you'd publish it. (Lt.) Bob Koepp, FECOM.

(Ed. That we would . . . were we to receive it . . . and it would be published without

# A Many Sided Thing

## Letters to the Editor

*changing the personal character of the periodical. We know on which side our bread is buttered.)*

## WHY NOT?

(Dear Editor:) I noted the *Anonymous* suggestion made last month to have separate wings for maintenance personnel. With but few exceptions in our unit, all of the commissioned officers agreed that this would be a step in the right direction. Gen. LeMay has the best answer, of course, higher pay for skilled aircraft technicians, but I do believe that there is a strong morale factor involved in awarding those wings. Best example? The Airborne with their distinctive insignia and the furor aroused in the late forties when the patch removals occurred.

Sincerely, J. S. EUCOM.

Whether it's constructive criticism or a pat on the back, this column will do the job. Send it in!

## Clank Stories

A keening in the Land of the Morning Calm heralded the bug-out of the self-styled *Nasty Nine* in March 1952, a year after they landed in Korea.

At their departure, the *Nine* left behind them an impressive record resulting from an aggregate of 72 years of flying experience. They had flown a total of 1768 combat missions which had earned them two DFCs, 56 Air Medals, and a Bronze Star Medal.

The four Captains and five Lieutenants in the group were all artillerymen. Two were Senior Army Aviators: Capt. Thomas G. James of Wilkes-Barre, Pa. and Capt. Arnold M. Cochran of Wakefield, Mass. Four had seen service as pilots in the ETO, a fifth had been an aerial observer in the ETO, and two others had taken part in the development of the Brody system for landing small aircraft in highly restricted areas.

The "May Massacre" in 1951, the last major offensive before peace negotiations, set the scene for the award of the DFCs to

Lt. Jesse M. Wright of Newcastle, Del., and Lt. Phil Teale of Levittown, N. Y. The Bronze Star was awarded to Wright for the efficiency with which he accomplished his duties as operations officer of *Dragon Flight*, upon its rotation to the rear.

Other members of the *Nasty Nine* were Lt. Lawrence W. Thrasher of Jackson Heights, N. Y.; Lt. Richard E. Hyde of Olean, N. Y.; Capt. Alfred J. Lemire of Granby, Conn.; Capt. John J. Walters of Pittsburgh, Pa.; and Lt. David E. Osmund of Delanco, N. J.

The *Nasty Nine* were reserve officers. Their self-styling was apt, since they reached Korea only two months after recall with Far East orders.

They arrived in a group and, unusual for the Army, were shipped Stateside in the same group. But their civilian *clank stories* must be uncommon now that they have returned to their professions of engineer, claims examiner, wildlife conservationist, post office clerk, insurance man, salesman, and electrician.

The *Nasty Nine* have bugged-out.

—Dario Politella

# Last Call on '56 "Who's Who" Yearbook

The '56 Yearbook will be compiled and published in late October for late November distribution. Personal listings are welcomed from all Army aviation personnel. The submitter need not be a subscriber to the monthly publication.

**IMPORTANT:** If you wish to correct a questionnaire submitted at an earlier date, detach this four-page form showing your corrections. Please note that the names of children may be listed in the appropriate boxes.

Last Name, First Name, Middle Initial				Rank/Grade	Branch	Component	Primary Mos.
Current Mailing Address							
Job Title	Ratings Held					PCS	W
S   D—   Age		S   D—   Age		S   D—   Age		S   D—   Age	

**1 Last Name, First Name, Middle Initial****2 Rank or Grade**

Col	Lt Col	Maj	Capt
1/Lt	2/Lt	CWO	WOJG
M/Sgt	SFC	Sgt	Cpl
PF	Pvt	Mr	Other

**3 Branch of Service**

Arty	Inf	Arm	Engr
Sig C	TC	MSC	Other

**4 Component**

RA	Regular Army
AD	USAR on Active Duty
USAR	U.S. Army Reserve (Civilian Component)
NG	National Guard
Civ	Civilian

**5 Current Mailing Address**

- Address as of February 1st when the Yearbook will be placed into circulation.
- List address at which you desire to receive personal mail.
- Abbreviate where possible all unit and geographical designations (St, Ave, Blvd, Ft, Bn, Sqdn, Sect, Hcptr, Det, etc.)

**6 Current Job Title****Commissioned:**

AO	Aviation Officer
GS	General Staff
CO	Commanding Officer
EX	Executive Officer
AD	Administrative Officer
EO	Engineering Officer
MO	Maintenance Officer
FE	Flight Examiner
FI	Flight Instructor
GI	Ground School Instructor
OO	Operations Officer
SO	Supply Officer
PT	Plans & Training Office
AA	Army Aviator

**Enlisted:**

AD	Administration
SU	Supply
LC	Line Chief
CCF	Crew Chief, Fixed-Wing
CCH	Crew Chief, Helicopter
LK	Link Instructor
GR	Ground School Instructor
OP	Operations

**7 Ratings Held****Commissioned:**

AA	Army Aviator
SR	Senior Army Aviator
LD	L-Pilot, Denton, Texas
LC	L-Pilot, Civilian Ranks
LE	L-Pilot, Enlisted Ranks
LF	L-Pilot, Wichita Falls
LG	Army Aviator, Gary AFB
LP	L-Pilot, Pittsburg, Kan.
LS	L-Pilot, Ft. Sill
LW	L-Pilot, Waco, Texas
HC	Army Cargo Hcptr Rating
HU	Army Utility Hcptr Rating
AI	Army Instrument Rating
AM	Army Multi-Engine Rating
AX	Army Flt Examiner Rating
FS	AF Single-Engine Rating
FM	AF Multi-Engine Rating
FG	AF Glider Pilot Rating
NS	USN Single-Engine Rating
NM	USN Multi-Engine Rating
CA	CAA Airline Pilot Rating
CC	CAA Coml. Pilot Rating
CH	CAA Helicopter Rating
CI	CAA Instrument Rating
CMI	CAA Multi-Engine, Land
CSL	CAA Single-Engine, Land
CMS	CAA Multi-Engine, Sea
CSS	CAA Single-Engine, Sea
CP	CAA Private Pilot Rating
ME	Maintenance Course, Eustis
MS	Maintenance Course, Spartan

**Enlisted:**

LC	Line Chief
CCF	Crewchief, Fixed-Wing
CCH	Crewchief, Helicopter
FWM	Fixed-Wing Maint Course
HCM	Cargo Hcptr Maint Course
HUM	Utility Hcptr Maint Course
IRM	Instrument Rep & Maint
MEM	Multi-Engine Maint Course
RRM	Radio Repair & Maint Course
TW	Tower Operators Course

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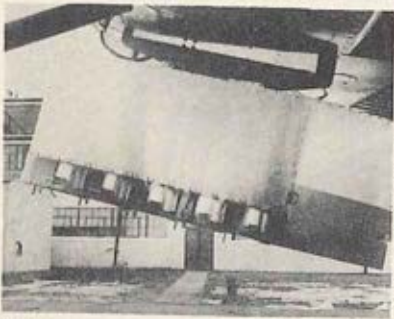
**8 Permanent Change in Station shown in Months (Optional)****9 First Name of Wife****10 Children**

Circle S-Son or D-Daughter and show age to nearest half year.

Insert names of children in appropriate boxes.

An Old Pro comes up with a

## New Bombing Device



US Army

FORT DEVENS, MASS.—Invention may prove the answer to some of the army's light aircraft training and maneuver problems if the simple but unique device created by an aviator GI at this post meets the test of approving authorities.

Sergeant Carl D. Comstock, a veteran of 18 years' flying for all the armed services and several civilian concerns and presently a member of the air section of the 74th RCT here, has invented and developed a bombing device for light aircraft. From initial reports on the construction, operation, and performance of device, it appears to be well qualified for submission to the training and testing boards of Army Field Forces.

The 35-year-old native of Santa Fe, N. Mex., saw the problem of light aircraft in this light: Prior to this time, dropping objects from light aircraft has been accomplished by diving on the target, with the pilot or observer leaning out at the proper moment and attempting to drop his missiles with whatever accuracy was possible. A pilot attempting this alone while flying the aircraft often found himself either far off the target or in danger of losing control of his plane while making the drop.

Sergeant Comstock's bombing device is designed primarily to give the pilot complete control of the drop while retaining complete control of his aircraft. With the bombing device, it is only necessary for the pilot to touch the trigger switch on the control stick to make the drop, also assuring greater accuracy, higher normal flying altitudes and an increased margin of safety.

Already produced by the Fort Devens training aids sub-depot, the bombing device consists of five tubes, 5 by 8 inches each, carried in a streamlined plywood frame. Each tube has a solenoid-operated, tear-drop shaped door. The tubes are fired individually by means of a solenoid-operated selector mechanism mounted in the rear portion of the device.

The entire unit is covered with 1/32-inch aluminum skin and is hung from the drop load shackles on the aircraft in the same manner as a bomb, smoke tank or other external load.

**ADDITIONAL DATA:** The entire unit is designed to operate *without* modification of the aircraft. Can take four on aircraft (4 units at 5 tubes each). Selectivity provided by turning arming switch corresponding to tube he wishes to fire, or all four units can be fired simultaneously. In case of emergency, units can be dropped clear of aircraft by pressing *salvo* button. Production cost of bombing device (Sgt. Comstock's estimate) is approx. \$40. Loads that can be carried vary from leaflet bundles and flour bags to flares, message streamers, smoke grenades, and explosives. Approx. wgt of unit (empty): 35 lbs. During Devens testing, general flight characteristics of L-19A acft using devices revealed only a slight deviation from normal stalling speeds.

## Disaster

FLAGSTAFF, ARIZ.—Army aviation personnel of the 93rd Trans Hcptr Co and the 14th Army Avn Fixed Wing Tactical Company recently had the grim and treacherous task of removing the bodies following the worst air disaster in commercial airline history.

Four Vertol H-21C helicopters from the 93rd and 3 De Havilland Otters from the 14th flew nearly 500 miles to the Grand Canyon from Douglas, Ariz. to participate. Ironically enough, the units had been involved in Army Air Traffic Control and Navigational System Tests conducted by the Signal Corps at the Electronic Proving Ground.

Maj. Jerome Feldt, CO of the 14th, headed the Army recovery party that bucked powerful air currents within the steep canyon to recover the remains of the 128 fatalities. The bodies were flown from the canyon in rubberized bags to nearby Grand Canyon airport where Otters took them 80 miles to a mortuary set up in the Naional Guard Armory in Flagsaff.

Among the Army personnel taking part were Maj. Feldt; Capt. Kenneth E. McGaughey; and Lts. John E. Ahern, Roy A. Hudson, and Warren A. Strong, all of the 14th, and Capt. Walter E. Spriggs, Lt. Paul S. Walker, and CWO James B. Spearman of the 93rd TC. (PIO, Ft. Riley, Kan.)

## Shacking Up

FORT KOBBE, CZ—USARCARIB airplane radios are getting the finest "shack job" in the world. Long harried over who was supposed to do what to which, the command issued a local memo establishing a superbly equipped radio shack in the 7438th AA Det hangar.

Now all a/c in the command, including those of the 937th (IAGS), have first-rate repair and installation service right on the flight line. Gone are long miles of paper work and the long days waiting for Ordnance tube jockeys to come around. The shack is complete with 12,000 simoleons worth of solder and wire and four specialists in the new field of Army Aviation Electronics. Matter of fact the only thing they're short is color TV.

Lt. William L. Lax, a Sig C pilot, is non-technical (to be technical) supervisor of the shack. That's OIC to us idiot stick wearers. It's a real break to have a flying boss down there who can appreciate the problems of our ultra-powered Army radios.

One problem arising out of command-wide radio responsibility is servicing IAGS commo which stretches from Mexico to Cape Horn. When the Laxmen get word of such they either send out a repair team or exchange the lame part by air mail from their shelf of running spares. Supply-wise,



### Photos Above

TOP: 14th Avn Co Otters and H-21s from the 93rd Trans Co RON'ing at El Paso enroute to Douglas, Ariz. CENTER: Briefing of 14th by Maj. Jerome Feldt (CO). Front L-R: Lt. Moran; Capts. McGaughey & Cleveland; Lts. Reed, Anderson, & Greenquist. Back L-R: Capt. Campbell; Lt. Melton; CWO Tiersnan; Lts. Fewsmith, Ahern, Niederbrach, & Strong. BOTTOM: Bisbee-Douglas International Airport, Ariz., scene of "Operation Traffic Cop." U-1As in foreground and H-21s in rear.

the shack has it knocked. A direct outlet of the CZ Signal repair depot, it gets parts and all by phone or visit. No requisitions needed! Read it and weep, you supply officers.

Down here in jungle-land, the terrain makes VHF something of a joke. Nearly all non-military ground stations have HF only. The shack has authorization to install a Sun-Air 55R7R trailing-wire antenna HF set in all L-20, L-19 and H-19 a/c. It's a shoe-box-sized 26-pound job that will reach out 1000 big tropical miles at 7500 feet. Getting these Sun-Airs installed and adding to their stock of navigational aid repair equipment are the two biggest anticipated shack jobs.

More 7438th Link developments (also the work of the two civilians and two enlisted Laxmen): our *Superlinks* (see last month) are linked (oops) to a central approach control that can route both "hoods" into the same airport via the same facility. Both students can hear all traffic directions, wx briefings etc. You can even take an outside telephone call while flying in the box. No candy machine in there yet, though.

We flew 456 medical evacuation miles last month. Capt. Jack O. Ray and Lts. Arthur R. Van Horne and William L. Lax shared in retrieving a GI who was injured when his wrecker went off a 30-foot bank; Lt. John K. Ottley III flew a fever patient here from the Rio Hato maneuver area; Capt. Ray and Maj. Robert Winkler made an L-23 night landing by jeep-light at the Rio Hato strip to bring in a man whose arm was severed in an auto accident.

Long ago, in the early construction days of the Panama Canal, a young Army lieutenant envisioned squadrons of Army a/c blackening the sky with colored smoke. In the intervening years, while he grew in rank, an air service grew within the Army capable of realizing his dream. The man made colonel and ended up back here again. So, in the last five parades (in as many weeks) the 7438th has found its part in the parade scheme the same. Three L-19's to fly by trailing smoke (red, white and violet, there being no blue). YC (Lt.) John K. Ottley, III.

## Hosts

FT. RILEY, KAN.—The 1st Inf Div Aviation section played host to about 1,200 ROTC cadets at Marshall AAF recently with an air show and a static display of the equipment being highlights of the program. Fixed wing aircraft, including an L-19, L-20, and U-1A, participated in flight maneuvers, as did the H-21 and H-23. After the flight demonstrations the cadets inspected the aircraft on static display. All appeared to be

*Each statement that my wife may make  
Has truth and frankness in it,  
But this one I'm inclined to doubt,  
"I'll only be a minute."*

very interested in Army aviation and many indicated that they would apply for the program after they earn their commissions as Army officers, according to Lt. L. K. Adams who served as narrator at the Air Show.

The Division Avn Section and Army aviation in general were well represented at the annual Civil Air Patrol Show held in Junction City, Kan. Fixed-wing planes drew the attention of the assemblage as did the H-21 and H-25 helicopters displayed by the Army Aviation Unit Training Command. An interesting event at the show was the fly-by of three AF B-47 Stratojets based at McConnell AFB, Wichita, Kan. The jets made three swift, low passes over the field. The CAP's scheduled events demonstrated the skill of the civilian pilots in the show. Ribbon cutting, flour sack bombing, and a balloon bursting contest entertained the crowd.

**PERSONALS:** The many units in the Division having organic aircraft have all been placed under a single section designated as the Division Aviation Section. Lt. Col. Grady F. Lilly serves as DAO and commander of the Section . . . We've started a regular courier service between Riley and Camp McCoy, Wisc. in support of the 1st Inf units at McCoy. A *Beaver* is being used for this courier service and departs and returns on a regular Wednesday-out and Friday-back basis . . . Upped to 1st Lt. recently were George Blakely and John T. Ralph . . . Lt. William L. Curtis, fresh from KMAC, has joined the unit. YC, Lt. William J. Lumpkins, Jr.

## A New One!

FORT RILEY, KAN.—Maj. Keith Bauer, Operations & Training Officer of the 71st Hcptr Bn and the AAUTC since October, '54, has been named CO of the newly activated 33rd Trans Company at Marshall AAF. Lt. Walter C. Lorenz has been named CO of the 33rd's supporting unit, the 573rd Hcptr Field Maint Det.

## More Firsts

FECOM—The *First* helicopter transportation company in the Army, the *First* one in the Far East, and the *First* chopper unit in Korea has added one more first to its long record.

With the recent promotion of the last *Indian*, the 6th Transportation Company now boasts all *Chiefs* and no *Indians* in its Warrant Officer ranks.

Another first: PFC Frederick J. Rumker is believed to be the first man ever to be re-enlisted in a hovering helicopter. He was given the oath by Capt. Neville A. Pearson. The comment was that it was a bit noisy but enjoyable in a different sort of way. At any

rate, the man re-upped and that's the important thing.

The unit recently returned from two amphibious exercises conducted at Iwo Jima. The 6th airlifted a helicopter assault force to the top of Mt. Suribachi, the famous mountain of WW II. After the mountain was taken by the assault forces, the company performed various other re-supply and medical evacuation missions. The exercise provided excellent training and was enjoyed by all who participated in it.

**Personals:** Recent new arrivals include Capts. Brown and Pearson; Lts. Moeller, Buffington, and Stockton; and CWOs Waid and Warns.

The 6th helicopter company, commanded by Maj. Elmer V. "Buzz" Merritt, has completed another fiscal year with many new accomplishments and is looking forward to the next year so that we can add new *Firsts* to our already long list of old *Firsts*. Your Correspondent, CWO Robert G. Warns.

## I Bailed Out!

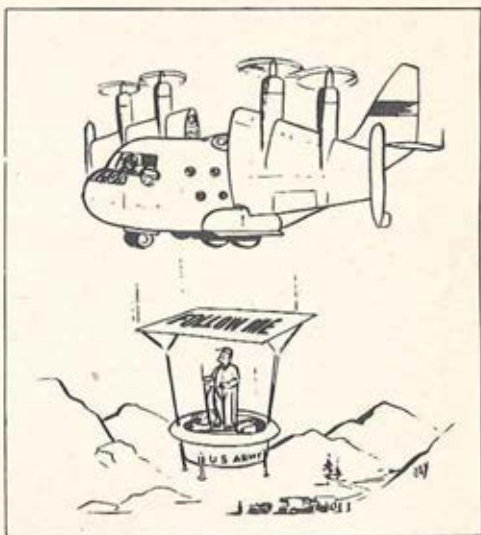
OTTAWA, CANADA—As an ex-30th Topo pilot now flying the bush country in civvies, I thought the readers might be interested in how this half lives . . . Since bailing out of the 30th I've been with *Spartan Air Services, Ltd.*, a company that has several former Army, Marine, and USN helicopter pilots. All told, we have 7 US pilots with the company. In addition to the 7, we have 8 English pilots and about 6 or 7 Canadian pilots in the helicopter section.

The company has a fixed-wing section but I must admit that I know little about it as yet but will let you know if you fellows are interested. They use Lancasters mostly (for high altitude work) and Mosquitos and P-38s for medium and low photo work.

Since I'm a neophyte with Spartan I'll have to brief you on their various activities at a later date but I can pass on a few facts that I've learned. This year we have approximately 27 Bells (D-1s to G-1s to G-2s) operating in the field from the eastern to the western slopes of Canada. Right now ol' Ish is cloistered in the vicinity of Ft. Liard on the Liard River north of Ft. Nelson about 200 miles. Don't bother to look at your wall-to-wall sectionals, fellows; it's off the map.

The contract we have is one of three for Western Canada and this one is with Standard Oil of Indiana who have offices in Calgary. This is the second year that we've utilized helicopters for field survey and exploration parties.

Being an old Hiller man with the 30th (and not having had too much experience in Bells, except in initial training) I for one will not wager as I have before that I could outdo it in a Hiller . . . It just isn't so since operating in this country with maximum gross loads from camp elevations of



800 feet to 5,600 and 6,200 feet with temperatures at landing altitudes of 60 to 70 degrees F. (and with floats on, too) makes quite a difference. I know that my buddies in the 30th will be prone to argue with me but I've tossed my hat in the ring with the Bell boys.

Later on, we're going back down the eastern slope of the Canadian Rockies at altitudes of six to 8,000 feet and will change over to the skids then.

Comparing this with life in the 30th I'd say that this is quite a soft life in comparison; just deliver the boys in the morning, come back to camp, and wait until evening to pick them up. The food is good; the cook the best; and to top it all they set up camp before you get there. So I'm living a life of Reilly, that is, until Paddy comes around.

I'll be glad to get back to Ottawa though; those French Canadians are a bit of all right, and for all the ratio is 5 to 1. That's right, five WOMEN to one man. Anyone dropping through Ottawa is welcome to call the Spartan office to check the welcome mat; when I'm there it's certainly out. Otherwise, you can call William McCarthy (another former AA), who is Chief of Operations, but now currently in Chibiugamou, Quebec.

Another note: Spartan Air Services, Ltd. has no relation to the Spartan in the States. Still another: They rate helicopter pilots in the following order of training and experience: Army, Marines, Navy, AF, and Coast Guard, 1st to last. So we stand on top. I'll be glad to answer any inquiries directed this way, should anyone else be interested in bailing out. YC, (Ex-Capt.) Chuck Dunifer, Box 551, Spartan Air Services, Ltd., Ottawa 4, Canada.

MAIL ALL COPY ON THE 1st

FORT SILL, OKLA.—The 26th Trans Co (formerly the 284th) departed this post in early July for EUCOM duty. Twenty-one aircraft in 3 flights made the two day flight to Mobile, Ala. with the remainder of the unit using the rails. Commanded by Major Isidro S. Valdez, Jr., the 26th has 9 off, 34 WO's, and 95 EM.

Attending a familiarization course at the new station in EUCOM are 3 pilots of the unit. Also paving the way for our move was the advance party (one MaintO and one SuppO). The 26th and its equipment are expected to sail on the USS Tripoli from Mobile to Bremmerhaven and it is our understanding that our new station will be Illschiem.

Morale is exceedingly high and the entire Company is looking forward to the move. A good indication is our 100% in a recent Bond Drive at Sill. So that other Trans Co personnel will know the *time factor*, we were activated on 6 June '55 and originally designated as the 284th Trans Co (Hcptr). YC, WO R. P. Sword. ◀◀

### With a Smile!

*The following appeared in the personal columns of a military newspaper:*

*"My husband and I have four sons. Has anyone any suggestions as to how we may have a daughter?"*

*Letters from all over the world poured in. An infantryman reminded the woman of the adage, if at first you don't succeed, try, try, again.*

*An Alaskan survey engineer suggested checking with the Dionnes.*

*A Quartermaster officer suggested a special diet.*

*A paratrooper suggested yogi.*

*But an Army aviator merely wrote:*

*"Can I be of any service?"*

KEFLAVIK, ICELAND—Just got back from a wild goose chase and we aren't kidding!

In fact, these were Pinkfooted Geese nesting in the vicinity of Hofsjokull, one of Iceland's highest glaciers, where the popular British game bird goes for privacy during the mating season.

Heretofore, the Pinkfooted Goose has been safe from the prying eyes of mankind because of terrain impassable even to horses during this season. However, the two H-13G's of the 2d Battalion Combat Team flown by Captains William H. Harper and William G. Phillips made short work of shuttling in a group of Icelandic ornithologists together with supplies and equipment for a week of peeping on the mating habits of the birds.

Members of the air section set-up a base camp near Asolfsstadir in central Iceland, approximately sixty air miles from the glacier and everything was shuttled from there to a forward camp in the marsh at the foot of the glacier.

High winds, rain, snow, sleet, ice, fog and maximum loads at altitudes from two to three thousand feet gave us a real work-out.

Flight operations were conducted around the clock and a total of fifty hours were logged during three days of flying. This means approximately eight hours a day in the saddle for the two pilots. However, the helicopter mechanics were the real heroes of the expedition, working like beavers to keep the aircraft running and doubling as cooks and K.P.'s in their spare time.

This was the first time in history that the data collected has been available to naturalists and the expedition was considered a great success and will ultimately provide ornithologists throughout the world with vital information. YC (Capt.) William G. Phillips ◀◀



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An Army H-21 taxis past a parked H-23 at Ft. Bragg. Both types are assigned to Army Transportation Companies (21 H-21s and 2 H-23s).

## Ready To Roll

FT. EUSTIS, VA.—The semi-trailer mounted and 1½ ton trailer mounted maintenance shops (AA, Apr' 56) contracted for to equip one of each type of Army TO&E aviation maintenance units are now on hand at TRADCOM and are undergoing engineering tests by the Test Division prior to shipment to organizations for user tests.

The engineering tests have been designed to determine the ruggedness and reliability of the vehicles; the performance capabilities; the security of loads; and the operating limitations on highways and rough terrain. The vans are undergoing 350 miles of roadability and 150 miles of rough terrain driving tests.

To date, the tests have revealed only minor discrepancies and the Test Division's maintenance shops are effecting repairs and keeping the vans moving. The Engineering tests should be completed by 15 July at which time all tools will be loaded and the vans processed preparatory to shipment to using units. The user tests will be of 1 year duration and monitored by personnel from TRADCOM and The Transportation Board to evaluate the adequacy of the vehicles and their maintenance facilities to support Army Aviation in the field.

The vans have been exposed to public and military scrutiny several times, receiving many favorable comments. The vans were displayed at Building T-7, Washington, DC and at Anacostia Naval Air Base during the American Helicopter Society's annual forum; at Bolling Air Force Base on Armed Forces Day; and at Fort Eustis for the benefit of the Department of Army Senior Research and Development Review Board.

The vans were again displayed at Fort Eustis during the period 10 through 12 July, at which time, members of the AAM-TEC and ICAAM Committees, and Army aviation maintenance personnel of Army areas were invited to observe and critique the maintenance facilities of the vans.

*Personal:* Capt. Paul Thornton returned from helicopter school with a flying infection. We have the desk saddled but have been unable to get Paul into it . . . Our unit has been bolstered by five new additions, and they'll help to keep the ball rolling at TRADCOM. Your correspondent, Capt. H. W. Huntzinger. ◀◀

## No Tow!

FORT HUACHUCA, ARIZ.—The Systems Test AEPG-1, a test of air traffic control for tactical situations, got under way on 25 June at Ft. Huachuca, Arizona. Participating in the test were the 416th Signal Aviation Company from Huachuca, the 14th Aviation Company (Otter), and the 93rd Helicopter Company (H-21). In addition to these units, many officers were assigned TDY from their

# PROS' SAY

## Active Service Aviation

home stations to the 416th for the duration of the test.

On 24 June two AA's on TDY to the 416th from Ft. Bragg were asked to perform a flight of an emergency nature. A CAP pilot and the Operations Officer of CAP Squadron 93, Long Beach, Calif., landed their Navion at Bisbee-Douglas Airport, home of the 416th. They told of how the glider which they were towing broke loose over the desert about 60 miles east of Douglas, Arizona, leaving the pilot and co-pilot stranded without water.

Capt. Lane Westberg and WOJG Custer Bolton went to the rescue, returning the occupants of the glider to civilization (and water) in one of the 416th's trusty H-19's. The glider was being towed to a CAP Air Show in Dallas, Texas from El Centro, Calif. in an attempt to set a world's distance record for a towed glider. YC, (Lt.) Ted Florco ◀◀

## No Slouches

FT. BRAGG, N. C.—Our regular correspondent, Don Joyce, has finally gone to H-21 school (about time) and I'll try to give the readers a little of the late scoop here for propaganda purposes . . .

The H-21's and crews of the 8th Trans Co (Hcptr)—formerly the 580th—amassed an impressive total of flying time for the months of May and June. During May, flying an average of 2.5 acft per day, pilots of the 8th logged a grand total of 351 hrs. flying local proficiency flights & assigned missions (troop lifts, VIP flights, etc.).

In June, with an average of 1.8 acft actually flying per day, a total of 298 hrs. were logged in flying tactical support and resupply missions, both day and night. The above figures *do not* include acft & crews currently on TDY (and it seems that we face these commitments quite often.)

Notwithstanding a certain amount of maintenance difficulties, shortage of maint personnel, etc., the totals shown here reflect very accurately the amounts of time these acft are capable of flying and this was made possible by the excellent spirit of cooperation between the opns and maint sections of the unit.

*PERSONALS:* Just returning from the H-21 Transition Crs at Riley are our CO, Capt. Stewart, Lts. Benedict & Ganevsky; and CWOs Kelley, Aaron, Everhart, Little, & Simmons. We have another class there at present learning how to fly the Big Bird. These fortunate people include Lt. Moore; CWOs Potts, Irvine, Dye, and Holt (he of the longest Army helicopter XC fame); and WOs McVay & Joyce. We'll be glad to see them get back and change that duty block symbol from CP to P time. YC, (CWO) William H. Parker.

## New Discovery

**CANAL ZONE**—(Episodes)—Capt. Bill McKeown sent word over from Haiti that he had an exciting and thrilling experience. Seems he made an instrument flight to Guantanamo, Cuba, and discovered a new electronic navigational gadget which sends out a couple of letters in the form of four beams, and by "*riding the beam*", he ended up at the station. He allows as how these Latins are pretty clever people.

Of course, Bill had been told of Radio Ranges before but he's been out in the boondocks for so long he'd forgotten. Forgetting is easy because radio facilities we just ain't got. But that's putting it a little strong actually because we do have a Range and even an Omni in Mexico City and then 7,000 miles south we have *another* range. In between we have some non-directional beacons, some of which don't always work. And then, of course, we have thunderstorms—everywhere, but homing on a thunderstorm with a loop or a Lear doesn't always get us where we want to go. So we have to fly a lot by guess and by God, and God is very important, I guess.

Then Capt. John Duke sends word from Colombia (via donkey express) that he flew his H-19 into Bogota and lifted some local War College brass around. To get to his destination he had to get up to 11,300 to *clear the pass*. Upon reaching his destination, 8,600 feet up, he picked up four each of said brass at a time and showed them their country. I wouldn't call this a normal day of flying but these little side trips do break the monotony for all of us.

Capt. Nielsen and Lt. Ortiz-Santiago flew in an H-19 up to Guatemala from Nicaragua, to help in the search and rescue operation of the Aviateca DC-3 that crashed. Only one survivor. They dumped out a couple of paratroopers, and supplies of all kinds for the ground rescue party bucking its way up thru the jungle. By the time Air Rescue got there from Panama—so the rumor goes—they discovered and reported *three* survivors—the two paratroopers plus the one actual survivor. But that's only a rumor, of course.

For the past few weeks the boys have been coming in from far and near to get their annual requirements. This is always a problem as aircraft are scarce here in the Zone when the pilots flock in and they usually have to fly the "full course" after they get here. Seems most of these Latin countries don't allow night flying—fear of revolutionists I guess—and instrument flying is virtually impossible in helicopters and with few radio aids. But we make our minimums one way or another.

And so ends another chapter of Latin Living. Renew your subscription now so you will not miss next month's thrilling ques-

tion—Will Consuela marry Pedro, or would he rather pick bananas? YC, Capt. Paul Hopkins

## Can Be Done

**JAPAN**—In a recent submission in AA I stated that the Twin-Engine Course given at ARMAV was a well conducted course and then implied that I had doubts if any unit in the field could or would handle it as well. Now—just three months later—I must admit that other units not only can but do handle the L-23 checkout procedures very adequately . . . and I'm still all for the ARMAV technique.

Specific reference is made to the unit to which I am presently assigned—the AFPE Flight Detachment, Camp Zama, Japan. In addition to an excellent Twin-Engine Transition course, standardization in the L-19, L-20, and H-13 are included in our operations, plus both flight and written instrument exams for all AA's in the Far East.

Presently, this unit is undergoing quite a shuffle in personnel with still more to come (and go.) Therefore, *please* realize that by the time this appears in print (*we're distant*) some of the individuals I mention may be your current co-pilot in South Africa, Istanbul, of the USA. *Today*, the following are present: Maj. Tom Rankin (New CO) and his Exec, Maj. Floyd Wilson. The rest of the group includes: Capts. Berry, McLaughlin, Blatt, Burhoe, Blunck, High, Duell, and Ferguson; with Lts. Caudle, Briggs, Grossman, Jones (Colver), and old "Ish." Lt. Col. Oswalt and Capts. O. B. Butler and Jim Smith have offices in the little Pentagon and round out the organization. This paragraph is for those of you who argue in favor of a *personal-type* magazine. YC, (Lt.) Bob Koepp.

## Bustlin'

**FT. RILEY, KAN.**—On the 1st of July, the 2d Army Avn Co (FW/TT) welcomed its new CO, Maj. George E. Bean. A native of Birmingham, Ala., he cut short his Canal Zone tour to come to Ft. Riley. He likes the company more each day and has practically completed his *Otter* checkout. Speaking about acft, we now have 12 *Otters* on base and have approximately 37 officers here or on the way.

We still badly need school-trained mechanics, but this handicap doesn't prevent us from carrying out our full-time training program, transition tng, and performing passenger and cargo missions to distant points (*We carry 11 persons total*). We've found that we can fly the *Otter* 5 or more hours without fatigue with the help of a good co-pilot and this type of breed we have. The *Otter* is becoming a familiar sight—we've

flown in 5 Air Shows, including displays in several.

**PERSONALS:** Since our initial report we've added the following to our Charter Members: Lt. Delbert Ott (14th AA Co); Lt. Charles Peach (1st Inf); Lt. Paul Stansel (Fl. Knox); from Ft. Hood we rec'd Capt. Charles Sweeney, and Lts. Elmer Konrad and William Martin. Also, Lt. Ira Laney (Brogg); Capt. George V. Jarrard (Armor Sch); & Lt. Harry Fox (Ryukus) with others due in soon. Watch us grow! This Second Army Aviation Company is going places! YC, (Capt.) Edward P. Valaer.

## One Candle

**VAIHINGEN, GERMANY** — Seventh Army's Aviation Training Center at Echterdingen, Germany, grounded all personnel on July 1st to celebrate the first anniversary of the flight school. The vital training center, designed to make Seventh Army pilots "at home in the air over Germany", became a reality July 1st 1955.

Since that time, flight center personnel have trained 288 officers and 100 enlisted men in every phase of Army aviation in Europe. Instrument flying, zone orientation, and aviation maintenance are stressed at the Echterdingen school. The fore-runner of the Aviation Training Center was established at Echterdingen Air Field in 1954. Two small groups of aviation experts handled the myriad responsibilities of preparing Seventh Army pilots for their European mission.

Five officers and two EM were charged with instruction in instrument flying and renewal of flight qualifications for all pilots. A board of flight examiners—3 officers and 3 EM—briefed pilots on local weather conditions, signal beacons, and international boundaries. Growing emphasis on the Seventh Army flight program called for increased training facilities. On July 1, 1955, the 7737th Training Detachment commenced operation of the present-day center.

The original July 1 morning report showed a total strength of 12 officers and 25 EM. Maj. James O. Townsend, combat veteran of World War II and the Korean Conflict, directed the initial program. Outlining

the tremendous potential of the newly-launched training center, Major Townsend said, "It will help commanding officers maintain a high level of proficiency within their aviation sections and will favorably affect the overall combat readiness of all Seventh Army aviation elements . . ."

Major Townsend commanded the Center's varied operations until January, 1956 at which time he was succeeded by Lt. Col Charles A. Wirt, present commandant.

From the start of the Seventh Army flight training program until August, 1955, the Center conducted a standardization course for all new pilots. This training included a flight check-out, briefing on flight procedures, and weather situations in Germany, and an American zone checkride. Individual work with each newly assigned pilot eventually proved too much for the small staff of the Seventh Army Center. In September, they launched a three-man instructor pilot's course to teach older flyer's standardization training procedures. These instructor pilots, in turn, taught incoming flyers.

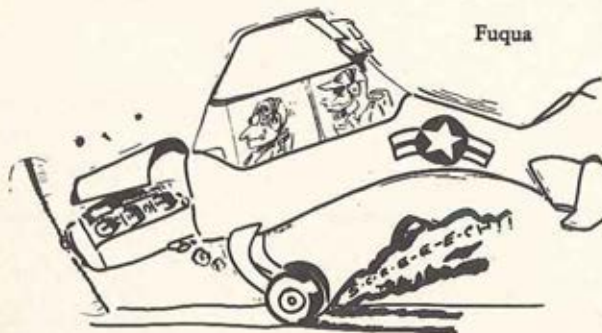
At the same time the Center started a maintenance and supply course for enlisted mechanics. A month later a program was established to check and maintain the standards of instructor pilots in the field.

In October the first quarterly Army Aviation Accident Review was published—detailing all aerial accidents in Seventh Army and making recommendations to prevent similar mishaps. During the next month the first monthly Seventh Army Aviation Conference was held at the Echterdingen Base. During its first year of operation, the Center has trained 84 instrument pilots, 57 instructor pilots, and 100 organizational maintenance mechanics. An instructor refresher course has been presented to 36 veteran pilots, and 111 newly assigned pilots have completed the standardization course offered by the school. Your assignment may shortly bring you to this zone of responsibility. If so, you'll cross paths with the personnel of the Center. No fret. They're here to help you.

Fuqua

## PHOTO

A good photo can considerably enhance a news story. If you submit an article or report for publication, check on the availability of a photo to document your submission. One word of caution: Postal handling can ruin good photos unless they are protected by inserts.



No, no, Fosbey! Go around when you overshoot!

# Randoms

We were told a humorous—and rather pertinent—joke the other day that we'd like to pass on to you. It goes like this:

*A young lady, shivering at night in her upper berth in a Pullman, rang and rang for the porter without result. In her desperation she began shaking the curtain. A man in the lower berth scowlingly asked her what was the matter.*

*"I'm cold," she chattered. "I need a blanket. Could you get me one?"*

*"Are you married or single?" he asked.*

*"I'm single," she replied.*

*"How would you like to make believe you're married tonight?" he asked.*

*After a pause, she answered, "That might be fun."*

*"Then go get your own blanket," he snarled.*

The humor in the above situation depends, of course, upon your experience in and data on the field of matrimony.

The punch line is what intrigues us. We've got cold peckers who look for *this* blanket. We've tried *comp copies* but no amount of comps seems to warm them . . . and this despite our long-time *Welcome Mat* and the fact that we've not been ashamed in the past to state in print that we need and want their support.

We're not *telling* you to throw them the "punch line" when they mooch your personal copy; we're simply saying that if they can't be warmed up, perhaps a little *chill* is in order.

We're off our rocker? Well—most people whose hearts beat inversely with paid circulation are a *little* nuts.

For example, two *Life* staff members dangled a *Frankenstein* mask from their of-

fice window on the twenty-fifth floor in the Time-Life skyscraper so that it faced a dentist's window 3 levels down. It was a mask they'd used at their Halloween party the previous fall.

Each night, they hoisted the mask up to find it untouched. One night, they found that the dentist had rigged it with a set of uppers. The *Life* people then blacked out some of the teeth, affixed a note asking for tooth repairs, and then lowered it again the next day.

When they hauled it up that evening the blacked out teeth had been extracted (No doubt, they desired a cleaning only.) Moreover, the dentist had pinned to it a bill for \$50 for professional services. They lowered the payment the next day—\$50 in Confederate currency. The dentist, probably familiar with the foibles of magazine personnel, gravely accepted the payment and released the mask.

So you can easily see that instability is an occupational trait. It doesn't stem from heredity; it's an environmental handicap acquired in dealing regularly with the most unstable customers available—magazine subscribers.

In this respect our subscribers bow to none—each month 10% of them move to a new location (and to make certain we're kept in a constant state of mental agitation, about half of this group doesn't tell us where to send the blanket—pardon, *magazine*.)

Be honest with yourself—who are the strongest supporters for general mental health programs and who freely devote ample lineage to this subject?—the publishers! If we again *unwittingly* set our circulation altimeter 1000 off as we did last month, we're going to get on the Mental Health Bandwagon, too—and before said suggestion is made to us by you nice people.

The motion's been made to *chill 'em*: we second it; all in favor say, "*Aye*." Pass me the strait jacket, Mama; the mailman's just brought a fresh batch of mail.

Your editor, Art Kesten

## Crew Chief of Month

FORT KOBBE, CANAL ZONE—Sp-3 John W. Barnes (second from the left), a *self-made* fixed-wing mechanic of the 7438th Army Aviation Detachment, is shown being handed a three-day pass by Capt. William S. Hawkins, OIC, for getting the top weekly grades in the unit's aircraft checks. Shown also are (l. to r.): Lt. Arthur R. Van Horne, MO; Sp-3 Barnes; Capt. Hawkins; Capt. Jack O. Ray, Ops Officer, and Sgt. Chester E. Piekielniak, Line Chief of the 7438th. Barnes was entirely trained on-the-job and won a full-time Mechanic's MOS while in Korea. Barnes' L-19A flew 44 of the total 297 hours logged by the 7438th in June, YC, (Lt.) John K. Ottley III.



ABBETT, JAMES W., Major, The Armor School, Fort Knox, Kentucky.  
 ALEXANDER, RICHARD A., Mr., 203 Crockett Street, Fort Lavaca, Texas.  
 ALLAN, JAMES R., Lt., 2912 Prentice Street, Lawton, Oklahoma.  
 ANDERS, CHARLES T., Maj., Student Det, C & GSC, Fort Leavenworth, Kansas.  
 ANDERSON, ZANE L., Major, 1015 Allan Avenue, Falls Church, Virginia.  
 ANDRUS RULON, Lt., 908 Myrtle Avenue, Apartment 71, Inglewood 1, California.  
 AMICK, JOHN W., Plc, 64th Transportation Company, Fort Sill, Oklahoma.

CUNNINGHAM, FRANK P., Sgt., 48th Trans Army Avn Maint Co, APO 29, New York, N. Y.  
 DAILEY, JAMES, CWO, 6th Transportation Company (Hcpr), APO 43, San Francisco, Calif.  
 DANIELS, GEORGE B., Mr., 132 Chadwick Drive, South Windermere, Charleston, S. C.  
 DAVENPORT, JAMES D., JR., Maj., Aviation Branch, Rm 2085, OTSG, Main Navy Bldg, Wash 25, D. C.  
 DAVIS, ROBLEY W., JR., Lt., 1215 Poyntz Avenue, Manhattan, Kansas.  
 DEAN, EDWARD R., Lt., Aviation Company, 82nd Airborne Division, Ft. Bragg, North Carolina.  
 DELIERE, HARRY M., Lt., Lawson Army Airfield Command, Fort Benning, Georgia.

# The Month's Takeoffs!

ASHBY, RONALD, Pvt., 30th Transportation Company (AAM), APO 34, New York, N. Y.  
 AVERY, MAURICE C., 1802 West Wier Avenue, Phoenix, Arizona.  
 BACON, EUGENE F., Maj., Route 1, Walnut, Miss.  
 BALDASARE, MICHAEL L., Lt., 25th Div Air Section, APO 25, San Francisco, California.  
 BANKER, PAUL E., Sgt., Hq & Hq Btry, Div Arty, 3rd Arm'd Div, APO 39, New York, N. Y.  
 BARRIOS, WILLIE W. J., Major, Board Nr 6, CONARC, Fort Rucker, Alabama.  
 BAUGH, DONALD P., Capt., 71st Army Aviation Unit Training Command, Fort Riley, Kansas.  
 \*BEACH, JAMES R., Lt., 14th Army Avn Company, Bisbee-Douglas Sub Post, Douglas, Arizona (Temp).  
 BEEBE, HUGH G., Lt., 54th Medical Detachment Helicopter Ambulance, APO 24, San Francisco.  
 BILL, GARY R., Lt., Box 253, Lee Hall, Virginia.  
 \*BILLY, MYRON D., Lt., PO Box 950, Edward Gary Air Force Base, San Marcos, Texas (Temp).  
 BIRK, RICHARD T., Lt., 6025 Northcliff Avenue, Cleveland 9, Ohio.  
 BLACK, HARRY H., Mr., Sikorsky Rep, PO Box 13, Naval Air Test Cen. Patuxent River, Md.  
 BLACKBURN, C. V., CWO, Nr 4 Monument Drive, Williamsburg, Virginia.  
 BLAIR, RUSSELL T., Major, 101 Artillery Post, Fort Sam Houston, Texas.  
 \*BOATWRIGHT, EARL W., Sfc, c/o John Burkett, Lexington, South Carolina.  
 BOGERT, HERBERT T., Lt., Route Nr 4, Batavia, Ohio (Perm. home address).  
 BOWEN, JEROME F., Capt., Headquarters, 60th Field Artillery Bn, Ft. Carson, Colorado.  
 BOWERS, JOSEPH M., Maj., 4525 31st Street South, Apt. 201, Arlington 6, Virginia.  
 BOYD, RALPH W., CWO, Headquarters & Svc Co, ARMAV, Fort Rucker, Alabama.  
 BOYLE, DENIS M., Lt., 710th Tank Battalion, Fort Stewart, Georgia.  
 BRANDON, WILLIAM D., Lt., Hq Company, 9th Infantry Regt, APO 731, Seattle, Washington.  
 BRECKONS, WALTER W., Capt., Avn Sect, Hq, COMZ, 7966th SU, APO 58, New York, N. Y.  
 BRINTON, GEORGE D., JR., CWO, 43 Atherton, Ayer, Massachusetts.  
 BURCH, ALVIN F., Maj., Hq, 37th Engineer Group, APO 165, New York, N. Y.  
 BURHOE, JOHN M., Capt., AFEE Flight Detachment (8026) APO 343, San Francisco, Calif.  
 BURRESS, JAMES H., JR., Lt., Nr. 49 Rodney Street, Fort Riley, Kansas.  
 CARNEY, CHARLES V., Capt., 42nd Transportation Company (AAM), APO 177, New York, N. Y.  
 CARRILLO, ARNOLD R., Lt., Quarters 119 D, Gaffey Heights, Fort Knox, Kentucky.  
 CHAIRES, WILLIAM R., Capt., Trans Supply & Maint Cmd, 12th & Spruce Sts, St. Louis 2, Missouri.  
 CHAPPEL, JAMES H., Capt., Office of the CG, Hq, 25th Inf Div, APO 25, San Francisco, Calif.  
 CHRISTY, DERYCK G., Lt., Quarters AC 63-B, Fort Lewis, Washington.  
 COLE, LOYAL J., Maj., 507 Santolina Road, Dothan, Alabama.  
 \*COLEMAN, CHARLES W., Capt., 1924 St. Clair Avenue, Brentwood, 17, Mo.  
 CORLEY, WILLIAM L., Army Aviation Section, Fort Monmouth, New Jersey.

\*DEL PORTE, JACK B., Capt. En Route FECOM.  
 DEMPSTER, ROBERT N., Capt., 5110 61st Street, Sacramento 20, California.  
 DEWITT, FAUL A., Major, 705 McKinley Avenue, Lawton, Oklahoma.  
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# The Month's Takeoffs!

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\*Temporary address; less than 4 month's duration.  
 \*\*Changing station; withhold correspondence until new address appears here.

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WHY POLISH your Military Insignia? Wear fine quality Balfour rank and cap insignia in sterling silver and gold filled qualities. Write for free Army Aviators' military insignia flyer. L. G. Balfour Co., Attleboro, Mass.

LATHROP, CALIF.—Everyone in the 521st Engr Co (Topo Avn) is being kept hot and bothered this month by the summer heat, a review of the annual flight minimums, and preparations for projects scheduled to commence this Fall. The Yuma project has drawn to a close and we can't help but note the well-tanned faces around the hangars. During the day 118 degree temperatures were not uncommon at the Yuma training site. So it's easy to see why the boys are glad to be back home at Lathrop where the temperature only reaches 107.

Three officers and one enlisted technician of the 521st have been presented with the Sikorsky Winged "S" awards for performing life-saving missions. Receiving the Winged "S" were Lts. Donald S. Smith, Frank R. Wilson, and Bobby Bogard and Sp-3 Frederick C. Rhodes.

Lt. Smith received his award for his outstanding flying and navigational ability under the most adverse weather conditions in northern Alaska. He successfully evacuated a very sick US Coast & Geodetic surveyor in an H-19 over 150 miles from his home base.

Lt. Wilson (pilot) and Lt. Bogard (copilot) flying an H-19 were responsible for the rescue of a woman during the December floods in Yuba City, Calif. Flying under power lines and low over the flood waters in very gusty winds the two rescued the woman who was clinging to a roof. They then proceeded to arrange the rescue of many others trapped by the floods.

Sp-3 Rhodes, crew chief on an H-19, rescued a civilian from a burning automobile without regard for his own personal safety and life. The helicopter crew noted the burning car on the highway and landed immediately. Rhodes leaped from the 'copter and rescued the civilian and then directed traffic around the craft while the patient was being loaded into the 'copter for hospital evacuation.

PERSONALS: Home from hcptr school is our Group AO, Maj. John Briggs. Also returning were Capt. Richard Roberts (new degree in twin-engines); and Lts. Homer Brem and Kenneth Fletcher.

## Brick, Gold, One

"Doc," said the too pooped to pop pilot, "if there's anything wrong with me don't frighten me half to death by giving it a long scientific name. Just tell me in plain English what it is."

"Well," the flight surgeon replied hesitantly, "to be perfectly frank, you are just plain lazy."

"Thanks, Doc. Now, will you give me the scientific name for that condition so that I can tell my Air Officer."

## WATER-BASED AIRCRAFT

by Guy Mallory

(Continued from Page 2)

men and small weapons—while their fire support, atomic defense and tactical transportation follows weeks later by slow steamer. Yet, this is the position of our strategic mobility capabilities today.

The strategic airlift for the Army of tomorrow must be capable of carrying between theaters of war and within a theater of war any item of equipment required by any of our combat doctrines.

A corollary to this consideration of *what* cargo must be transported is a consideration of *where* this cargo must be transported.

We know that our entire military posture is one of reaction and defense, not aggression. The choice of time and place of battle is the aggressor's. We must, therefore, be prepared to transport the required land forces wherever in the world aggression takes place. Yet, a land-based air transport system, with its *vulnerable* fixed runways, can deliver and support our combat forces only after elaborate peacetime preparations and only under conditions of sanctuary from guided missile, ground, and air bombardment. We must expect that one of the aggressor's first actions in initiating combat would be to demolish any airfields and port facilities which we might use as landing areas for our strategic combat forces. This would *not* be a large or formidable task.

For example, if an aggressor were to thrust at oil-rich Iran, it would need to stage attacks on only four airfields to prevent our airlifting troop units into that area. Should Turkey be attacked, the destruction of three airfields there would preclude our fulfilling our present strategic commitments. In addition to enemy destructive efforts, we must also consider the absence in many potential theaters of war of airfield facilities capable of accommodating an air transport system based on our combat payload requirements.

These limitations, however, do not apply

to an air transport system using water-based transports. Surveys show that in every potential theater of war there are a great many inland water bodies—rivers, lakes, canals—which are suitable for the operation of water-based transports. These rivers and lakes, which are part of the natural geography of nearly every country in the world, form an instantly available and an indestructible basing system.

We mentioned two countries a moment ago, Iran and Turkey. In Iran a water-based transport system would have the use of over 1000 miles of protected coastal waters, the interior rivers, and a half dozen inland lakes. In Turkey, with even fewer land bases available, the water-based system would find almost limitless operating areas on the 2000 miles of coastal waters and a more than a score of usable interior lakes. Other areas which possess few if any airfields have an abundance of inland and coastal water areas.

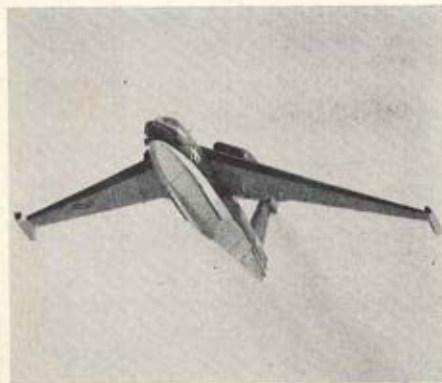
Thus, without regard to the prior existence of airfields, without the prior peacetime commitments of large bodies of construction troops, without the peacetime political difficulties attendant base construction, but with a relative invulnerability to enemy counter-action, the water-based transport system can support the entire range of our strategic mobility commitments. I can do this with aircraft of sufficient size to carry any item of equipment required to initiate and maintain combat on the atomic battlefield.

Suppose we turn our attention now to still another facet of the Army's air transport requirements—*logistics*.

Military forces in combat require resupply. Continuous streams of arms, ammunition, and food must flow from the continental United States to the combat theater, from the ports of entry forward to the combat zone and within that zone on forward to the troops in contact with the enemy.

Army aviation, both here at Rucker and in the Transportation Corps at Fort Eustis, is developing new and improved distribution systems within the forward combat units. I would like to spend a moment or two on the line-of-communication that moves the supplies from the theater port-of-entry forward to the dump where your aviation takes over for distribution.

A major element in our atomic age combat doctrine is the replacement of the old communication zone, with its truck and rail lines and its multiple depots, by a logistic system rapidly responsive to the needs of combat forces. As was previously indicated, these combat forces will probably be dispersed in combined arms teams, each completely equipped to fight as a small self-contained unit at a considerable distance from its operating base. These battle groups may operate independent of fixed depots and will probably be tied to no ground lines



of support. If this type of combat force is to be effective our line-of-communications must be an aerial one and must be capable of transporting and delivering the complete logistic requirements of these units.

Now, when we start to talk about resupplying by air everything combat troops require, we begin to run into some very specific requirements, particularly when we add guided missiles and nuclear weapons to the enemy's arsenal.

For one thing, let's consider our previous experience with combined arms groups and their logistics patterns. Our World War II experience shows that 1/6 of the daily tonnage resupply (of these battle task forces) involves replacement of armored vehicles, motorized weapons and organic transport vehicles. Remembering that we have now substituted helicopters for "six-by-sixes," guided missiles for howitzers, and with other combat items similarly growing in mobility, it is apparent that this resupply requirement will not decrease on the future battlefield. The extent and importance of this resupply phase alone would dictate that we are going to require a large aircraft operating from the theater port of entry, marrying with your helicopter distribution system in the combat zone.

In short, the air system to support the Army on the atomic battlefield is definitely not a limited cargo operation. The vast tonnages which must be moved to support the combat units will in themselves assure a high load factor as well as a high frequency of service for aircraft of almost any conceivable size.

Aside from considering tactical requirements we can approach our logistics airlift by inquiring into the basic economics of air transport. We all know that in any combat theater we must strive for maximum conservation of manpower and petroleum. It also goes without saying that we strive for dollar economy.

It is fortunate that all three of these areas,—manpower, petroleum and dollars—appear to be inter-related functions of two major aircraft parameters, aircraft speed and aircraft payload. I have time to detail only one of these areas here.

## WATER-BASED AIRCRAFT

by Guy Mallory

(Continued from Page 32)

When the manpower requirements of an air transport system are plotted against various combinations of aircraft speed and payload, we find that the system which requires the least manpower is based on the largest and fastest aircraft. This can be shown by a typical field army problem in logistics. If we were to attempt to support a field army using 200-knot aircraft with a 10-ton payload we would require 35 wings (or about one-fourth of our total Air Force). To do the same job with a 100-ton payload aircraft of transonic speed would require less than two wings.

To get a still better idea of what this means to the Army and its manpower problems, these two wings of large jet transports would require probably around 13,000 men for their complete wing slices. These 13,000 would be doing the job that we used 230,000 for in World War II.

It can also be shown that the greatest number of ton miles of air transport results from a ton of petroleum when the transport system is based on the largest and fastest aircraft. In fact, airlift will considerably reduce the petroleum consumption in the ComZ area.

Because of its bearing on peacetime utilization of our defense airlift, I probably should say a word or two on dollar costs. In analyzing dollar costs, we engineers like to talk in terms of direct aircraft operating expenses, such as petroleum, direct maintenance, aircraft amortization, and crew costs. We are finding more and more everyday that speed is a vital factor in reducing these costs. Contradicting a view held a few years ago, some recent costing studies show that a jet transport operating in the high subsonic speed regime will have lower operating costs than a propeller driven transport. Economists prefer to talk in terms of total system costs which includes not only our direct operating expenses, but also such indirect items as overhead personnel, base amortization, and airway operating costs. Since



Mars



Sea Master.

## WATER-BASED AIRCRAFT by Guy Mallery (Continued from Page 33)

most of these are generally fixed costs and since during the life of this fixed cost a high speed, high payload aircraft will produce more ton miles of cargo than today's aircraft, once again we find that having a large fast aircraft will result in a low overall system cost.

The economy of the fast military transport is particularly apparent when we consider both the extreme ranges over which theater logistics aircraft will be operating and the large volume of cargo required to support our Army forces.

In the logistics mission, equivalent land-based and water-based aircraft would have equal costs, but the water-based system would have the same advantage as it had in the strategic mobility role we have already talked about. We cannot logically expect our forward area landing fields to survive either enemy attack or the high obsolescence caused by rapid fluctuation in combat lines.

It is for precisely these reasons that your helicopters have such an important use in the combat zone. Our forward landing areas of necessity will have little if any preparation. We can live with this in our distribution system but not in our theater supply system. If we tie this logistic system to land-based aircraft, the size of plane we may use is severely limited. The necessary economies cannot be realized, and more important the logistic requirements of our combat forces cannot be met. On the other hand, the largest water-based aircraft can utilize an operating area no larger and requiring no more preparation than that for a smaller water-based transport. Geographic studies indicate the availability of inland water bodies throughout possible areas of conflict.

We have talked for some time here now about the capabilities of a water-based transport and what it could mean to the new Army. How about the aircraft itself?

Today's water-based aircraft is of an entirely new type, much different from the old flying boats. We have only to compare the old and the new to see this at a glance. The great *Mars* in its splendid service over the last decade established enviable logistic records. It is still in constant use and is far from being obsolete from most missions. However, it is cumbersome, heavy, and relatively slow and it requires special docking equipment and techniques. In short, it is not system engineered for the Army's requirements.

Typical of the new era in the water-based aircraft is the *XPGM Sea Master*, the first high-performance water-based aircraft in the strike role. Now, this aircraft (which is flying today) was designed as a minelayer for Navy missions. A transport aircraft, de-

signed along the *Sea Master's* lines, would bow to no other transport in the matter of speed and payload carrying ability.

While our knowledge of the aircraft and the airframe are well along it must be admitted that water-basing as a system has not been perfected. Over the past 25 years amazingly little effort has been put into water-basing systems as such. Our methods of handling aircraft and cargo are strikingly out of date. This situation is being remedied today with the system development now being prototyped on the Navy's *Sea Master*. Other efforts are underway involving the handling of cargo to and from a water-based transport.

One of the cargo handling techniques that I particularly like makes extensive use of the water itself as a cargo handling medium. This technique combines the quick unloading capabilities of the water-based transport with the hovering and "flying-crane" techniques of the helicopter. It consists simply of pre-packaging bulk cargo in buoyant unitized pallets. This equipment is currently in existence. In the discharge area, the cargo is simply unloaded into the water, towed to one side of the landing area, and left floating there until a "flying-crane" picks it up and delivers it to the using unit.

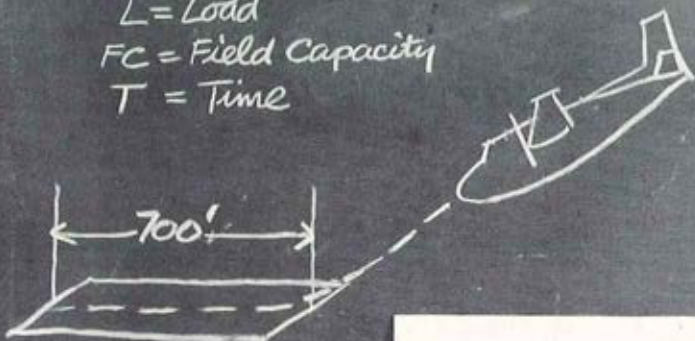
Another technique for handling even larger cargo—something on the order of tanks and guided missile batteries—is a mobile ferry. This would operate something on the lines of the "Rhino barges" we used in World War II, although of course it would have to be considerably lighter and more mobile.

Summing it all up, we find that we have several guiding principles in the establishment of a transport system to meet the Army's requirements. We have a national military policy and national strategic commitments. We also have combat doctrines for our operations on the atomic battlefield. Essential to the success of both the commitments and the doctrines is the development of an air transport system which is capable of meeting the requirements of this new combat age we find ourselves in. The aircraft in this system must be capable of carrying over long distances all the items of equipment required by our combat forces. It must be prepared to deliver this equipment under conditions of only temporary or local air cover and not under conditions of base sanctuary.

It is evident that we have a new state-of-the-art in warfare brought about by the advent of atomic weapons and guided missiles. We also have a new state-of-the-art in water-based transports making possible large high-speed aircraft which can operate from unprepared forward areas. We believe that the key to many of the concepts of modern warfare for the atomic Army is to be found in the large water-based transport.

$$\frac{L \times FC}{T} = C-123$$

L = Load  
FC = Field Capacity  
T = Time



**Battle Situation:** 10 105mm howitzers, with ammunition and gun crews, plus 10 bulldozers and operators must be delivered to an enemy-surrounded field. **Field conditions:** Ungraded field, sandy and eroded; 1000 ft. at its widest dimension. Assume 15 mph velocity wind. Troops must be ground landed. **Solution:** Load 20 Fairchild C-123

assault transports at supply center 450 miles away; take 3 hours to fly to destination. Land your airplanes 8 seconds apart—allow 700 ft. ground roll for each. **Theorem:** Fairchild C-123 rugged performance and reliability is proved daily in stateside assault and overseas logistical missions.

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**PROJECT REPORTS  
(Continued from Page 16)**

icer boots on the leading edge of the wings and the horizontal & vertical stabilizers and slinger ring anti-icing provisions on each propeller. Pending receipt of modified anti-icing slinger ring. AF tanker plane will provide a spray of water under icing conditions. Testing scheduled for mid-July.

GRIMES LIGHT—Testing is to be continued upon the receipt of additional lights to be mounted on the various acft asgd to the Board.

KIT, RAIN REPELLENT (SNELL)—Testing of rain repellent has been expanded to include the H-13G with the rain repellent applied to the right half of the windshield.

HELICOPTER EXTERNAL SLING NET (EASTERN ROTORCRAFT, 5000-LB RATED CAPACITY)—Pending receipt of sling nets from manufacturer, service testing will be undertaken by employing various helicopters equipped with cargo hooks.

Note: Until such time as the project conclusions and recommendations are approved by the Commanding General, CONARC, they represent only the opinion of Board Nr 6 as obtained through test results without consideration of other factors.

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