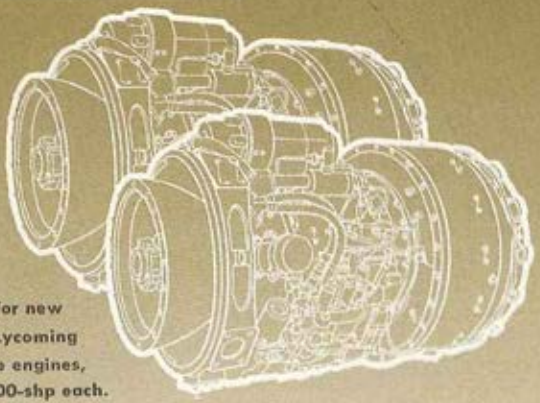
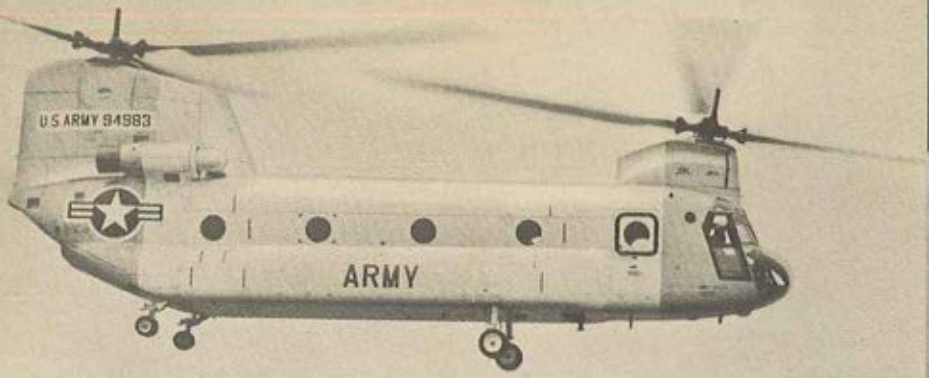
JUNE, 1962

ARMY AVIATION



Powerplants for new Army aircraft are twin Lycoming T55-L-5 gas turbine engines, rated 2200-shp each.

LYCOMING POWERS BOEING-VERTOL HC-1B "CHINOOK"



D.C. SCIENCE AWARDS

SOME 450 members and guests of the Washington, D.C. Chapter of AAAA attended a Science Fair Luncheon on May 15 at which twenty-one high school students received recognition for their entries in the local Washington Area Science Fairs.

ABOVE: Brig. Gen. Parker, Lt. Gen. Trudeau, and Mr. J.H. Broome (center) are shown with the 21 winning students.

LT. GENERAL Arthur G. Trudeau, Chief, Research & Development, Department of the Army, was the Luncheon's principal speaker and presented Association medals and certificates to the winning students.

CONCEIVED by Maj. Lewis E. Casner, Ret., a former Senior Army Aviator and currently an Aviation Analyst with the Research Analysis Corporation, Bethesda, Md., the Science Awards Project of AAAA is intended to foster the interest of young people in the aviation sciences.

THE PROJECT is administered by a Science Awards Committee consisting of military and industry members of the Washington, D.C. Chapter. Winning entries were selected by five separate judging panels, each monitoring one of the Senior Area Science Fairs in the Greater Washington Area.

GATHERING at the Army-Navy Club, the six selected students, and fifteen students whose projects earned Honorable Mention, were honored by the Chapter in the presence of their parents and teachers.

ASSISTING Major Casner on the Science Awards Committee were Lt. Col. Cloyd V. Taylor (FAA), Miss Jean Ross Howard (AIA), and Mr. Thomas R. Bean (Bell Helicopter Corp.) Overall guidance to the Committee was provided by Lt. Col. Darwin P. Gerard, Ret., (Grumman Aircraft Engrg. Corp.), the current President of the Washington, D.C. Chapter.

AWARDS/Continued on Inside Back Cover

ARMY IROQUOIS CLAIMS THREE MORE RECORDS

TIME TO CLIMB . . 6,000 meters (19,686 feet) in 5 minutes, 51 seconds.
TIME TO CLIMB . . 3,000 meters (9,843 feet) in 2 minutes, 14.6 seconds.
SPEED RUN . . 1,000 kilometers (621.4 miles) with top speed of 150 mph . . average 134.9 mph.

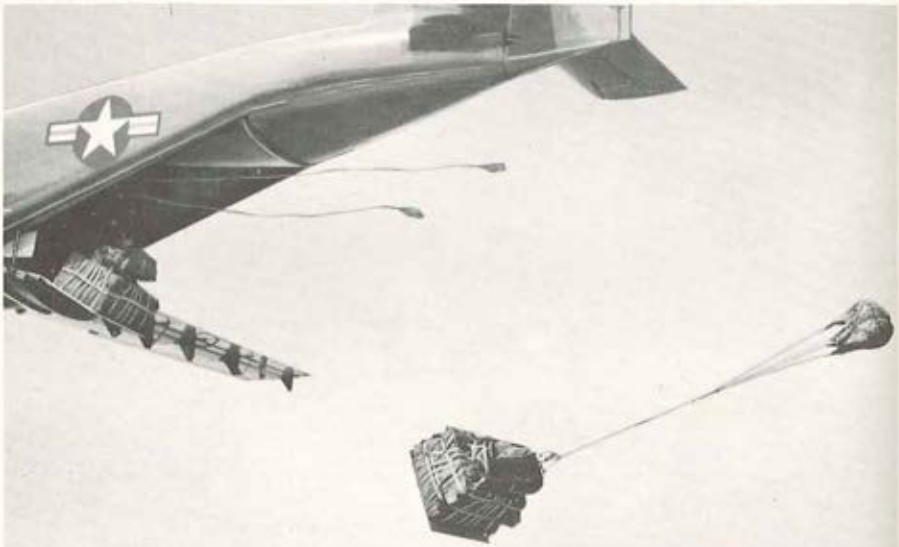
Faster climb . . higher speed . . greater range . . demonstrate the Iroquois' outstanding performance capability at all tactical altitudes. With these three new records, Bell now holds or claims 63% of all helicopter records held by U.S. manufacturers . . 36% of all world helicopter records. Bell commends the Army Aviation Board pilots for establishing these marks. The Iroquois used was a 13-place YHU-1D helicopter, powered by a 1,100 hp Lycoming T-53-L9 gas-turbine engine. In the speed run, using a standard auxiliary fuel tank, the HU-1 demonstrated its ferry range which exceeds 700 miles. Other services can get more helicopter performance for their dollars, too, with the HU-1. It has the inherent flexibility to meet today's mission requirements, and is now being phased into production ready for off-the-shelf procurement.

LOOK TO WORLD STANDARD **bell**
MILITARY & COMMERCIAL HELICOPTERS
FOR RECORD BREAKING PERFORMANCE

YHU-1D Iroquois rounds a searchlight pylon during the speed run.

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

SPOT-ON CARGO DROPS
With the STOL Caribou AC-1



The Caribou's slow speed under full control, and straight-out rear exit permits accurate delivery and close grouping of logistic supplies.

Four 1500-lb. pallets can be dropped in rapid succession to land within a concentrated area.

Air drops of jeeps and 3000-lb. pallets have been successfully demonstrated.

SHORT FIELD PERFORMANCE

The AC-1 hauls loads up to 4 tons in and out of tiny rough combat-area strips. Zero-wind landing roll is 670 feet . . . take-off, 725 feet at 28,500 lb. gross weight. Whether the mission calls for STOL delivery or air drop, the Caribou offers unsurpassed logistic close support.

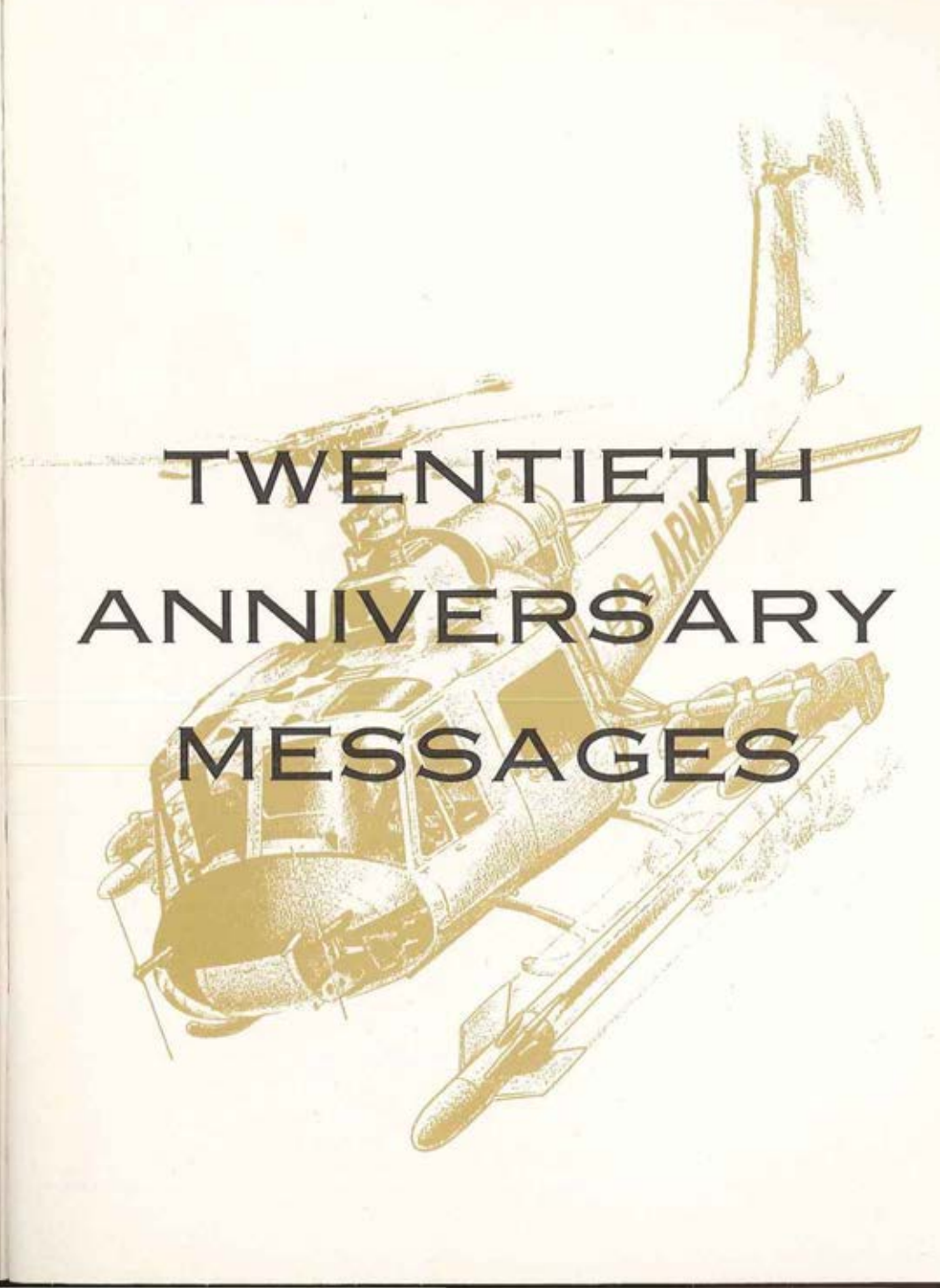
THE STOL CARIBOU—DESIGNED & BUILT BY

DE HAVILLAND AIRCRAFT OF CANADA

DOWNSVIEW ONTARIO

WASHINGTON REPRESENTATIVE: J. E. McDONALD - 319 TOWER BUILDING - 14th & K STS., N.W.

TWENTIETH ANNIVERSARY MESSAGES



SECRETARY OF THE ARMY ELVIS J. STAHR, JR.

IT IS A PLEASURE to greet the officers and men of the youngest and most versatile element of the Army team on its twentieth anniversary.

From a nucleus of light aircraft used for artillery adjustment, liaison, and observation in World War II, Army aviation has grown to a position of great importance in our modern, highly mobile Army. It affords the means to surmount obstacles and achieve surprise, and otherwise provides a degree of mobility never known before on the battlefield. Its tremendous potential has just begun to be realized, and its capabilities are limited only by the imagination of its users.

I join all members of the United States Army in expressing pride in the tremendous advance made by Army aviation over the past two decades. I am confident it will meet the challenge of the future with the same fine spirit that has made this progress possible.

ELVIS J. STAHR, JR.
Secretary of the Army

GENERAL GEORGE H. DECKER

SPEAKING for all members of the Army, I extend congratulations and best wishes to the officers and men of Army aviation on the occasion of its Twentieth Anniversary.

During the two-decade span of its existence, modern Army aviation has grown from an organization with a few essentially observation aircraft to a large complex one embracing virtually all arms and services, employing many types of aircraft. Today, new methods and techniques are being explored, as never before, to devise practical ways of putting aircraft to work in two vital battlefield requirements - mobility and surveillance. Adjusting fire, lifting troops and equipment over terrain obstacles, evacuating wounded, and dropping medical or other supplies are only a few of the routine missions of Army aviation.

The rapid advances in technology in the field of aviation are providing an ever-increasing and expanding means of air mobility. Army aviation has consistently kept pace with these changes by high standards of technical skill and devotion to duty.

On behalf of all members of the Army, I express appreciation for the past accomplishments of Army aviation and confidence that its members will meet the challenges of the future.

GEORGE H. DECKER
General, United States Army
Chief of Staff

GENERAL
HERBERT B.
POWELL

ON BEHALF of my command I salute Army aviation on its Twentieth Anniversary.

While this Army activity is a stripling in years it stands tall in its mission of supporting the ground soldier, the focal point of all Army effort.

Army aviation has taken a giant stride forward in its two short decades. The beginnings were humble - a few artillery pilots flying 70 mile an hour cub spotting planes. Today Army aviation has developed into a potent, versatile organization of professional ground soldiers with wings. Their knowledge and skill and the tools at their disposal - 300-knot combat surveillance aircraft, sizable transports which can live in the field with the troops, armed aircraft, air cavalry - give them ground-soldier support capabilities ranging the spectrum of warfare.

Army aviation will have an ever increasing role as our ground forces move toward complete mobility in enhancing the capability of the Army to perform its vital missions.

Speaking as a ground soldier who is privileged to wear the Army Aviator's wings, I can say that I am mighty proud of my association with those whose motto is "Above the Best."

Sincerely,

HERBERT B. POWELL
General, U.S. Army
Commanding General
Headquarters, U.S.
Continental Army Command
Fort Monroe, Virginia

LT. GENERAL
HAMILTON H.
HOWZE

I EXTEND my congratulations to the officers and men of Army aviation on this occasion of its Twentieth Anniversary.

The combination of the current world situation, the emphasis on combat in underdeveloped areas, and the remarkable advances in the aeronautical state-of-the-art make it obvious that Army aviation will continue to grow in importance. A major leap forward is possible in the near future.

The prime requirement for all of us in the Army aviation program is that of conscientious, devoted performance of duty. We must, in the best traditions of the military service, maintain and improve our standards of flight proficiency, maintenance, discipline, and personal behavior and appearance.

I urge you all to keep up your work in the development of tactics and techniques for employment of Army aviation. This effort will contribute greatly to the success of Army aviation.

Again, my congratulations.

Sincerely,

HAMILTON H. HOWZE
Lieutenant General, USA
Commanding General
XVIII Airborne Corps and Ft. Bragg
Ft. Bragg, North Carolina

LT. GENERAL
FRANK S.
BESSON, JR.

AS ARMY aviation celebrates its Twentieth Anniversary congratulations are due all those who have played a part in establishing a strong foundation for future growth.

Aircraft - and the men who fly and maintain them - are now contributing significantly to the Army's improved mobility. Problems of terrain and distance are overcome through application of increasingly capable aircraft.

Army aviation is now of age and we must each do our part to see that it realizes its full potential. The Army Materiel Command will exercise its responsibilities toward that end with vigor and imagination.

Sincerely,

FRANK S. BESSON, JR.
Lieutenant General, USA
Commanding General
U.S. Army Materiel Command
Washington 25, D.C.

BRIG. GENERAL
DELK M.
ODEN

I WOULD LIKE to express my sincere congratulations to all of the officers and men associated with aviation on the Twentieth Anniversary of Army Aviation.

I know the past twenty years is replete with many examples of overcoming difficult odds and with periods of great and rapid development; however, I wish to stress the future rather than recount the historical past. One does not have to be a prophet to foresee that tomorrow's future of aviation within the Army is going to be one of rapid growth and expansion.

TASKS ARE NUMEROUS

We are often prone to list several functions that organic aviation can perform for the commander. I prefer to think, and firmly believe, that the tasks aviation can do are so varied and numerous that they are, for the most part, limited only by the resourcefulness and imagination of the individual aviators, aviation officers, and commanders whom they serve.

Today, Army aviation stands on the threshold of unlimited horizons. We must be careful not only to look at the technical hardware but more specifically at the important and more difficult aspects of doctrine and employment. Through imagi-

BOTH BIRDS IN THE READY INVENTORY

. . . and for getting key people and critical parts to and from widely dispersed missile sites, nothing can beat the United States Air Force's H-43B HUSKIE. It's a twelve place heli-bus or a two ton cargo carrier with rear loading thru clam shell doors.

Performance? The rugged, reliable United States Air Force HUSKIE set five new world records in the past year for altitude, payload, and time to climb.

Putting this inventory helicopter to work in the MISSILE SITE SUPPORT mission makes dollars and sense in program time and costs.


Personnel Transport


External Loads


Cargo Carrier

Easy Maintenance

KAMAN AIRCRAFT CORPORATION · BLOOMFIELD, CONN.

nation and application of clear conceptual doctrine, aviation stands in a position to lead the Army to a bright, new future. On the other hand, it is essential that none of us in the aviation program forget for a moment that our mission must remain that of effectively augmenting the Army's capability of conducting prompt and sustained combat operations on land.

As the Director of Army Aviation, I wish to take this opportunity to thank each Army aviator, Army staff officer, all of our outstanding enlisted mechanics and supply personnel, our Department of the Army civilian flight and academic instructors plus our civilian contractors for working so diligently to make the program so successful.

Sincerely,

DELK M. ODEN
Brigadier General, GS
Director of Army Aviation,
ODCSOPS
Department of the Army

MAJ. GENERAL
THOMAS F.
VAN NATTA

WE ARMY AVIATORS can well be proud of where Army aviation stands on its Twentieth Anniversary.

First, it had to fight for existence. With this obtained, it had next to fight to be heard. This, too, has been accomplished, and Army aviation is now recognized as a powerful component of our fighting forces.

Each Army Aviator shares this prestige, and also the increased responsibility. More than ever, with attention focused on us, must we maintain a high standard of professional advice and action, for even the present position of Army aviation barely tests its full capabilities. The future is still wide open for us to mold.

Sincerely,

THOMAS F. VAN NATTA
Major General, USA
Director
Inter-American Defense College
Fort Lesley J. McNair
Washington 25, D.C.

MAJ. GENERAL
RICHARD D.
MEYER

ALONG with many others deeply concerned in the expansion and extension of the mobility of our Army forces in the field, I look to Army aviation as the major source. In our thinking and planning, we must seek to serve every element of our sustained combat power with the inherent capability and flexibility of organic aviation. To the mobility of fighting men and their weapons, we must seek to add a like mobility in combat and combat service support. We must have an Army truly mobile in all dimensions.

Sincerely,

RICHARD D. MEYER
Major General, USA
Deputy Chief of Staff for Logistics
U. S. Continental Army Command
Fort Monroe, Virginia

BRIG. GENERAL
HALLETT D.
EDSON

WHEN you're flying along in one of our old "clunkers" (we do have a few!), and feeling like "nobody loves us," just "do a 180," and go back with me just six short years.

At that time, I had the good fortune to be assigned to the Pentagon as Deputy to General Howze, who had recently assumed the post of the first Director of Army Aviation. Under his dynamic leadership and the continuous drive and foresight of those who followed him, the Army has succeeded in developing and procuring many new items of equipment and has tested and established new and unique operating procedures.

All of these are contributing to the progressive change in military operations by the employment of air-mobile forces in large numbers. The ultimate success of a force of this type is governed only by the initiative, ingenuity, and imagination of the force commander.

I realize this air-mobile capability is not presently in being as many of us would like, but remember new ideas grow slowly and they require considerable prodding from men with foresight and drive.

REVIEW OF PROGRESS

Let me review briefly the progress during these past six years. Four new aircraft, the Iroquois, Mohawk, Caribou, and Chinook have been incorporated into the Army inventory, two having engines directly sponsored by the Army. Preset frequency dials on many radios; a realistic helicopter instrument program; the development of weapons and procedures for firing from helicopters; FM homing procedures tied to ground units; the abolition of weight limitation on Army aircraft; and the establishment of an Airborne and Army Aviation Department at Fort Benning are but a few of the major achievements. Above all was the concentration of training and testing in our own Army Aviation Center at Fort Rucker, Alabama. a permanent installation of great potential for the present and the future.

LOGISTIC SUPPORT

■ The USAF has announced that the Boeing Vertol 107 twin-turbine helicopter has been selected the winner of the Air Force competition for a Long Range Logistics Support helicopter. When in use, the 107 will perform utility missions such as re-supply of Texas Towers, recovery of target drones, and rescue missions. (Boeing photo)

AAAA-AUSA ASSISTANCE

It is noteworthy that much of our aviation effort is developed and publicized through our young but extremely active Army Aviation Association which has integrated the Regular Army, the National Guard, the Reserves, and manufacturers to bring out the best that the country has to offer, and which has worked hand-in-hand with the Association of the United States Army for the all around development of the Army Aviation Program.

On our Twentieth Anniversary, we in Army aviation can take considerable pride in our progress. Let's make each succeeding year a milestone in the greater progress of the air-mobile forces.

Sincerely,

HALLETT D. EDSON
Brigadier General, USA
Assistant Division Commander
101st Airborne Division
Fort Campbell, Kentucky

MAJ. GENERAL
CLIFTON F.
VON KANN

ALTHOUGH Army aviation has made very material contributions to the fighting effectiveness of the Army, much more needs to be done, and much more is yet to come.

I believe that this, the Twentieth Anniversary of Army Aviation, will be regarded in the future as a year of great significance. The magnificent work of our helicopters in Southeast Asia and other vivid examples have finally brought recognition that only in the air can the Army achieve the flexibility, mobility, and surprise which modern warfare demands.

The fine efforts of all Army Aviators are now paying off as we move toward a truly air mobile, air minded Army.

Sincerely,

CLIFTON F. von KANN
Major General, USA
U.S. STRIKE Command
MacDill AFB
Tampa, Florida

BRIG. GENERAL
ROBERT B.
NEELY

TO ALL ARMY AVIATORS I extend greetings and heartfelt congratulations for the superb job of development of aviation in the Army to its current stature. All of those who have been associated with aviation in the Army recognize the tremendous contributions that have been made by those aviators who have been in the program since the beginning. Some of those were unfortunate and have gone to an early grave while others have persevered through the years, despite disheartening setbacks or lack of support that seemed to characterize the attitude toward aviation in the Army immediately after World War II.

A COMMON BOND

The personnel who have been in aviation since the early days, and those who joined more recently, are without a doubt as close-knit and dedicated a group as I have ever seen. Before World War II, when the Army had horses, it used to be said that horsemen had a common interest or a bond which seemed to set them apart from others to give them a special hobby which increased their value to the service. This common bond always helped at both social and business gatherings. Aviators have a common bond which increases their value to the services even more than the horsemen.

During these twenty years, aviation in the Army has grown from a small number of enthusiasts who were at times accused of being interested less in the Army than in flying an airplane, to a body of men who have Army-wide interests

and whose collective capabilities have won the respect of the military and civilians alike. For a time, in the early days, many looked upon Army aviators as hobbyists who were capable of flying airplanes but who knew little of anything else. Maybe this description did fit some. Unfortunately, all who wore the wings were "tarred with the same brush," or looked upon as being of the "flyboy" type described above.

STATUS GAINED

Recently, aviators have gained status and aviation is popular. This gain was not achieved without the assistance of much hard work by many able and far-sighted Army Officers who themselves are not fliers. Fortunately, aviation in the Army still enjoys the support of these far-sighted individuals. Army Aviators should be proud of the progress that they have made and cherish this Army-wide respect and support.

While great things have been done in the past and great progress has been made in improving the capability of the aviator and of his equipment, much greater things are to come. With the wholehearted acceptance of aviation as a vital part of the Army, the climate for further improvement is very favorable and we can all look forward in the next twenty years to even better equipment, greater responsibilities, and greater rewards.

The best piece of advice that I can offer to Army Aviators to maintain and increase the respect they have won is to maintain their perspective, and to keep uppermost in their minds the thought that while they are a vital part of the Army, they are performing a function as a member of a much larger team. The better they learn their respective functions and the better they learn the functions of the other members of the team, the better team members they will be.

Sincerely,

ROBERT B. NEELY
Brigadier General, USA
Assistant Chief of Staff, J4
Hqs, U.S. STRIKE Command
MacDill AFB
Tampa, Florida

BRIG. GENERAL
DAVID B.
PARKER

ON THIS Twentieth Anniversary, Army aviation enjoys a fine reputation and looks forward to a future which should be brighter than any period of its past.

Over these years, we have witnessed a general awakening by the Army to the possibilities offered by air mobility. This awakening has not occurred by chance but rather stems from technical progress in which the Army itself has been a leader. We are on the threshold of an exciting period of exploitation of many technical advances.

But while the future is bright, it will also be increasingly more challenging. It is certain that Army aviation is destined for an increasingly significant role. The tools for this role can be made available by our competent industry. It will be our job to use these tools with real imagination and boldness. If we do our part, we can count on an exhilirating time ahead for all of us.

DAVID B. PARKER
Brigadier General, USA
Director of R &D, OCofT
Department of the Army
Washington 25, D.C.

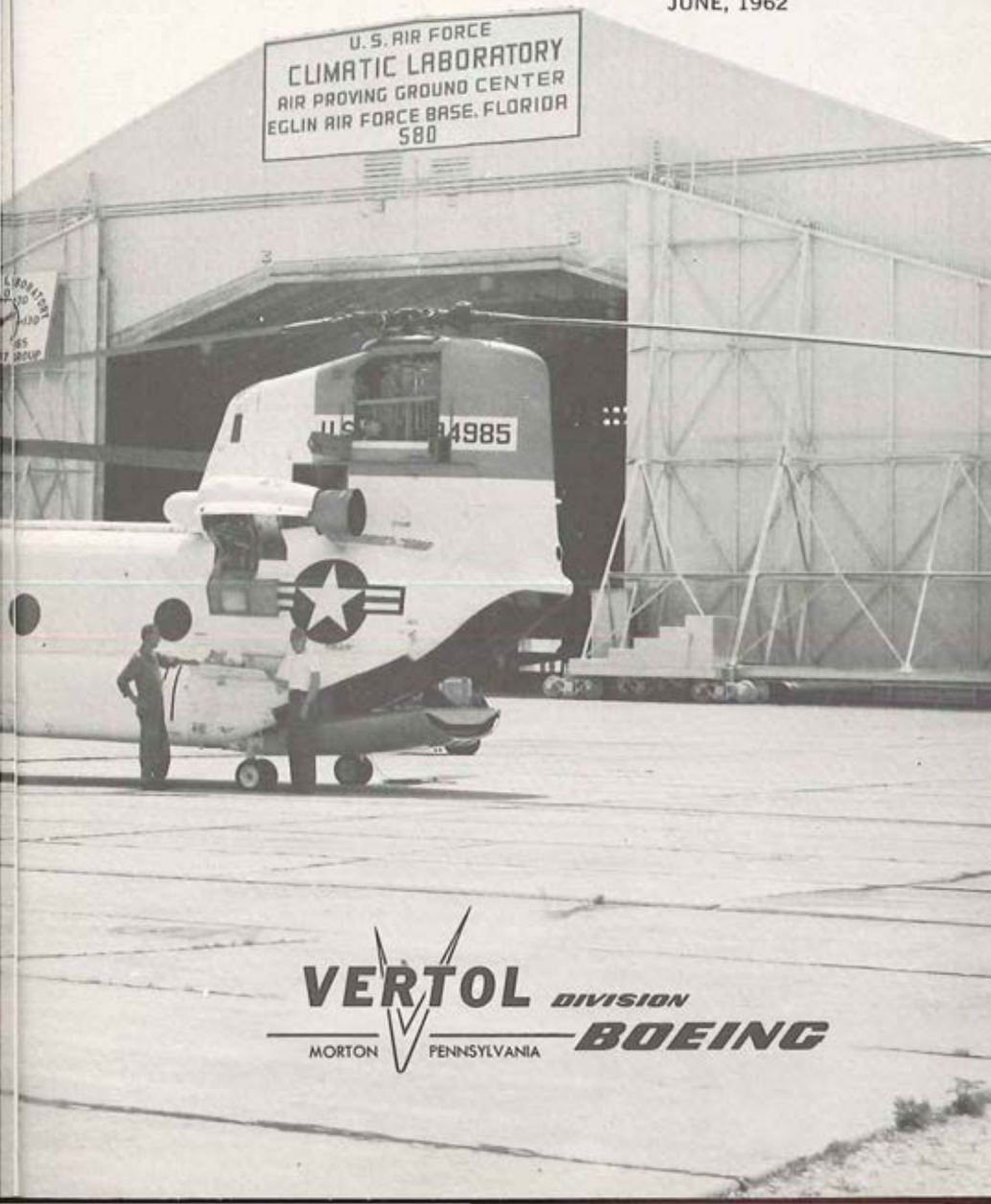
CHINOOK COLD WEATHER TESTING COMMENCES

During May, the Number 4 YHC-1B Chinook was flown to Eglin AFB in Florida to be prepared for tie-down applications as shown in photo. It will then be placed in the Climatic Hangar where all systems of the helicopter will be checked for proper functioning at temperatures down to minus 65°F. This operation will be carried on through July.

This fall, the No. 4 Chinook is scheduled to be ferried to Alaska, to undergo testing next winter under actual arctic conditions.

SUMMARY

JUNE, 1962



VERTOL DIVISION
MORTON PENNSYLVANIA
BOEING

LT. GENERAL
GORDON B.
ROGERS,
RET.

THE Twentieth Anniversary of Army Aviation marks a new and increasingly inportant milestone in the mobility of the Army. Whether we deal in Cavalry - Infantry, or Aviation - Armor, the mobility differential is the element of importance. I consider the addition of the Air Cavalry Troop to the Armor Cavalry Squadron to be a significant step forward in our reconnaissance - mobility potential.

Sincerely,

GORDON B. ROGERS
Lt. General, USA (Ret.)
Mutual Weapons Devel. Program
APO 230, New York, New York

BRIG. GENERAL
ROBERT R.
WILLIAMS

ON JUNE 6, Army aviation will celebrate its Twentieth Anniversary. Though still a youngster in the Army family, it has grown steadily since its beginning in 1942, maturing during World War II and Korea, until it has become an integrated part of virtually all of the Army's arms and services.

At times our progress might not have seemed as rapid as the Army Aviators and ground crews, whose vision, skill, and efficiency were major factors in our advancement, thought it should be. Energetic and imaginative men, dedicated to the development of an aviation program such as ours, are hard to convince they cannot do more. However, these same men if asked what their reaction would have been ten years ago, if they could have known what Army aviation would be today, would admit amazement.

16,000 IN NUMBER

Today the Army has more than 5,000 fixed-wing and rotary-wing aircraft, ranging from small reconnaissance aircraft through multi-place, multi-engine helicopters, and airplanes. Over 5,000 aviators - from warrant officers to a four star general - and 11,000 enlisted specialists support the Army Aviation Program.

As members of the Army aviation team, all of you should justly take pride in your contributions to the success of Army aviation in the past two decades. Without your efforts it would not have been possible.

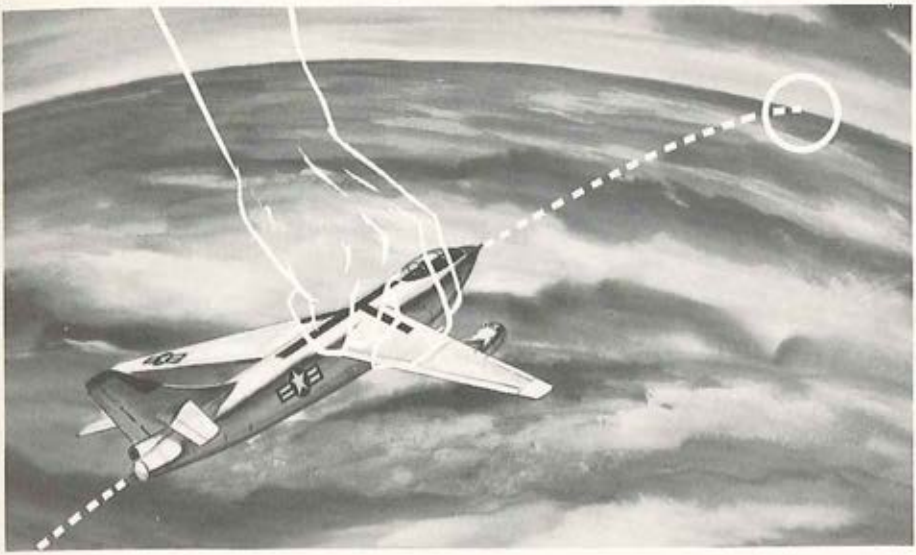
KEEP PACE!

But in pausing to look back, we must not forget that the future is even more important. In the years ahead, Army aviation must continue to grow and keep pace with the rapid changes being made if it is to remain a strong, important part of our national defense program.

I congratulate all of you on your past accomplishments and, with pride and confidence of your abilities, urge you on to even greater achievements in the future.

Sincerely,

ROBERT R. WILLIAMS
Brigadier General, USA
Commanding General,
U.S. Army Aviation Center



SILENT PARTNER . . .

from takeoff to target to bomb-drop and return

Aircraft crews can be relieved of many exacting and exhausting tasks by the now operational AN/ASB-7 all-weather navigation and bomb director system. In serving as systems manager for this equipment, Norden has achieved an integrated network of electronic and mechanical sub-systems which perform every function required . . .

Doppler type radar gives speed data. A precise dead reckoning system provides course, direction, and position. A Norden three-gyro platform furnishes stabilization. Search radar reveals targets, in all weather, at all distances within radar range, and an optical system delivers a direct view of ground and target. Finally, computing units coordinate entire system performance. The result: a high degree of automation *from takeoff to target to bomb-drop and return.*

The AN/ASB-7 has attained an outstanding record of accuracy and reliability aboard the Douglas A3D bomber. With slight modifications, portions of this sytem are applicable to Army transportation and surveillance aircraft. It is another demonstration of Norden's capability in advanced areas of electronics system engineering, where technical talents are devoted to . . .

EXTENDING MAN'S CAPABILITIES.

FOR ADDITIONAL INFORMATION ABOUT THE NORDEN ALL-WEATHER NAVIGATION SYSTEM AND OTHER AVIONIC SYSTEMS, WRITE:

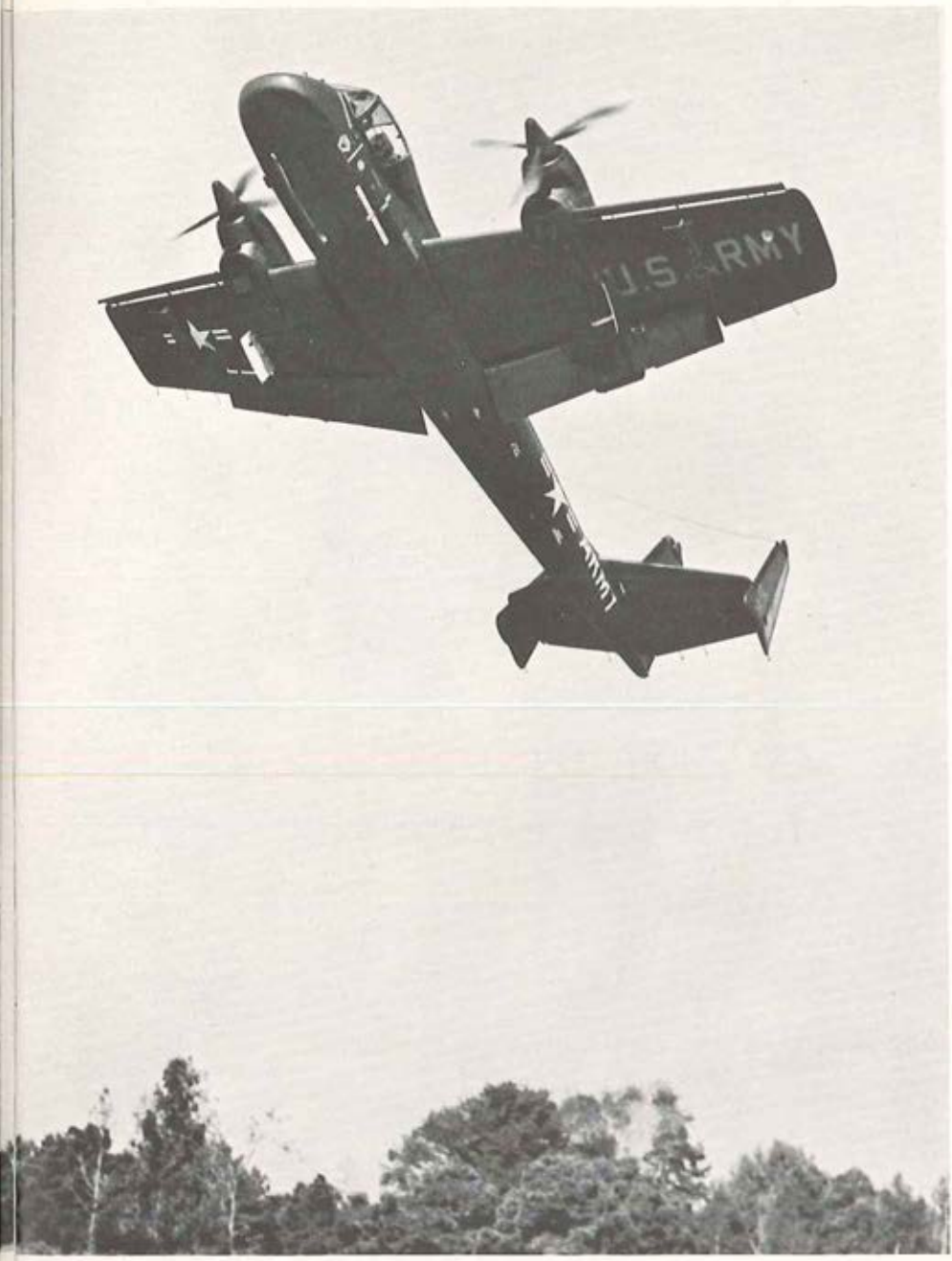
Norden DIVISION OF UNITED AIRCRAFT CORPORATION

NORWALK, CONNECTICUT

Congratulations to Army Aviation on its 20TH Anniversary... from the Mohawk

GRUMMAN AIRCRAFT ENGINEERING CORPORATION

Bethpage • Long Island • New York


U.S. ARMY

BRIG. GENERAL
CARL I.
HUTTON,
RET.

ALTHOUGH RETIRED and on the shelf, I continue to watch with admiration and pride the skillful and courageous efforts of that elite part of the Army, Army aviation. From my observation, no other part of the Army possesses the morale, the professional skills, and the friendliness of your group.

If you will remember the progress that has been made in the last twenty years in providing combat and service support for the Army, you will have a measure of what the next twenty years will bring. As the number of aircraft in the infantry division increased ten-fold from 1942 to 1962, you will see a ten-fold increase in the effectiveness of Army aviation in the future. There is no limit to the combat effectiveness which you can add to the United States Army.

Congratulations to all on the Twentieth Anniversary.

Sincerely,

CARL I. HUTTON
Brigadier General, (Ret.)
(Former Commandant, USAAVNS)
5 Phillips Road
Palo Alto, California

WORLD'S SMALLEST

■ Sweating out an H-13 trip to nearby Commerce Lake Nike Site, a G.I. at Ft. Wayne, Mich., passes the time by reading the comics. Note the austere airfield devoid of a cocktail lounge, customs inspectors, waiting lines, insurance machines, and PIO photographers. Frequently bombarded by "clouts" from the nearby Ft. Wayne baseball diamond, the 800 square foot asphalt jungle in right field lays claim to the title of the Army's SMALLEST airfield.

MAJ. GENERAL
ERNEST F.
EASTERBROOK

ON BEHALF of the members of the 25th Infantry Division, "Tropic Lightning" Division, I take this opportunity to extend congratulations and good wishes to Army aviation on this Twentieth Anniversary.

The past twenty years of Army aviation history have been marked with great strides in both material development and technique of operations. Equally significant is the understanding and appreciation by individuals throughout our Army that aviation is a requisite to improved tactical operations. More and more demands are being placed on Army aviation to contribute towards improved efficiency in mission accomplishment.

Members of Army aviation, aviator, crew chief, and mechanic, have all contributed towards this remarkable progress that has been accomplished in a relatively short time. You have reason to be proud.

To each of you though, may your every thought be focused on the future for the tremendous capabilities within the grasp of Army aviation have only been touched. We are still on the threshold of new techniques, new tactics, new capabilities and new utilization as part of a truly modern Army. The future of Army aviation and its role is dependent to a great degree on your ingenuity, your knowledge and your sense of duty.

To Army aviation personnel a salute in recognition of past accomplishments and an expression of confidence in your ability to meet all future challenges.

Sincerely,

ERNEST F. EASTERBROOK
Major General, USA
Commanding General
25th Infantry Division
APO 25, San Francisco, Calif.

BRIG. GENERAL
JOHN J.
TOLSON, III

I AM MOST grateful to Art Kesten for his kind invitation to submit a "Twentieth Anniversary Message" for my many friends in Army aviation. Located here in Addis Ababa, Ethiopia, I do my best to keep up with all the wonderful accomplishments you are making in our aviation program.

Just this morning I was thrilled to read in the Armed Forces Press Service Weekly Clip Sheet that Captain Gurley had set a new world speed record with the YHU-1D Iroquois. A big smile comes to my face when I think back a few years and reminisce over the knockdown, drag-out battle a few hardheaded Army aviators had to win against - what seemed at times - overwhelming opposition to go ahead with the HU-1D program.

There have been many similar battles that had to be fought by dedicated people in the past twenty years to make Army aviation what it is today. There will undoubtedly be many more in order to keep the program moving.

It appears that you are carrying on in splendid fashion and I hope that one day I will be fortunate enough to be in the program with you once again.

Sincerely,

JOHN J. TOLSON
Brigadier General, USA
Office Of The Chief,
MAAG - Ethiopia
APO 319, New York, N.Y.

COLONEL
I.B.
WASHBURN,
RET.

A LITTLE LESS than twenty years ago, I as an Artillery Battalion Commander in Camp Cooke, California, received a shipment I scarcely knew what to do with. Two airplanes were waiting to be unloaded from a box car! Orders were to do it now - even if no one there knew which part to unload first. Some lucky sergeant, of course, got the detail. "Sergeant, unload those airplanes and haul them to the battalion area, and don't wreck 'em."

A few days later a pilot and mechanic arrived and soon had them assembled and flying. It seemed only a few days later I called on his widow to inform her of her new status - the result of a training accident. I admit that I was a little less than fully convinced that aircraft were a proper and useful part of the Army Ground Forces!

Bruns Meeker (now a retired Lt. Colonel) won't let me forget it. He insists on telling all present, any time that he meets either my wife or myself, of the story of his application for flight training. On receiving it - approved by his Battery Commander - I called him in and said, "Lt. Meeker, you're a well-qualified young Artillery Officer. Are you sure you want to go into this thing? I'm afraid you'll find no future in it."

At the end of World War II I was reviewing some artillery records, mindful of the usefulness of the Cub, and came to the conclusion that ninety percent of my fires had been the result of aerial observation or aerially-observed registration. "Any well-rounded artillery man should know more about this flying business."

A few months later I was in San Marcos, one minute wondering "What's an old fool like you doing way up here and all by yourself yet!" The next minute thinking, "If I can get through this course, I might even get to spend a tour of duty in aviation."

Looking back, it appears not too long, but then it seemed to take an interminable time and many false starts to find something worthy to replace the Cub, and even longer to find the money to buy a few. Eventually they were found - both aircraft and money. And, with greater recognition throughout the Army, more missions, more money, more aircraft, and of more and larger types; until now we have a program to REDUCE the number of types!

TIED TO ARMY PROGRESS

Army aviation has made great progress in twenty years, largely because the Army as a whole has made great progress; still such progress could not have occurred without a devoted group of aviators. Men who constantly sought and found new missions which aviation could do for the Army - do it better, do it cheaper, or do that which otherwise could not be done. Men who, having found an answer, selflessly went about the business of selling it where it had to be sold until it became an established requirement. Yes, Army aviation made great progress, because it contributed greatly to Army progress.

A few things that I've learned in twenty years - perhaps I'm one of those who has a firm grasp of the obvious:

"There have been widows and there will be more, but Army aviation has a proper place in the Army - well earned.

Any well-rounded Artilleryman should know more about aviation, - and that goes for those of the other branches, too.

Army aviation will progress so long as it finds the ways to contribute to the progress of the Army."

And now maybe Bruns will let me off the hook. I now admit, "Lieutenant, I believe you may find a future in it - if you can contribute to Army aviation and through it to the Army."

Sincerely,

COL. I.B. WASHBURN, RET.
(Former Commandant, USAAVNS)
Chesterbrook Woods
McLean, Virginia

COLONEL I. B. WASHBURN FIRST COMMANDANT

■ Colonel Washburn was the first Commandant of USAAVNS, establishing the School at Fort Sill, Okla., prior to its move to the permanent home at Fort Rucker. Now retired, his son, Richard, is an Army Aviator (Captain, Arty) and is presently stationed with the 24th Infantry Division in Germany. ■■

A STABLE PLATFORM FOR INSTRUMENT PROFICIENCY TRAINING

The unparalleled stability of the Aero Commander provides the utmost in a level platform at all operating speeds . . . Completely dependable in any situation, the Aero Commander is capable of total operation on only one of its Lycoming IGSO-540, fuel injection engines.

At 70 percent power the Aero Commander cruises at 212 knots, surpassing the performance of heavier, more expensive aircraft. It easily carries a full complement of electronic nav/com gear . . . For flight and instrument proficiency training at low operating costs, the Aero Commander is without equal. Details are available on request.

Military Relations Department AERO COMMANDER

AERO COMMANDER, INC., BETHANY, OKLAHOMA, subsidiary of ROCKWELL-STANDARD CORPORATION

20TH ANNIVERSARY

MAJ. GENERAL
WILLIAM B.
BUNKER

WE of the Transportation Materiel Command, St. Louis, join our friends around the world in observing the Twentieth Anniversary of this fascinating business of Army aviation in which we are engaged.

Two decades have seen tremendous strides taken in equipment usage, importance, and logistics. From a start with equipment generally associated with weekend flyers, we have progressed to complex systems requiring many professional skills.

This growing sophistication has caused attendant problems logistically but has made Army aviation of greater value than ever before to the field commander.

VTOL/STOL ON HORIZON

The advent of the STOL and VTOL, both of which are in their relative infancy, will in future years bring about new concepts of operation and tactics. There is a trend towards simplification, a continuous search for aircraft that are simpler to maintain and less expensive to operate. The LOH is a step in this direction, with one aircraft replacing several presently in the system. The savings in parts required in the supply system will be significant, with the relative simplicity of the aircraft resulting in ease of maintenance in the field and greater utility and availability to the commander.

Logistics has been keeping pace with today's aircraft. The move into automation is perhaps the greatest single innovation to our supply system. It has resulted in greatly reduced inventories and considerably faster service to the requisitioner than ever before possible. The element of human error is being minimized. We expect that it will continue to be improved throughout the foreseeable future.

NEW INVENTORY

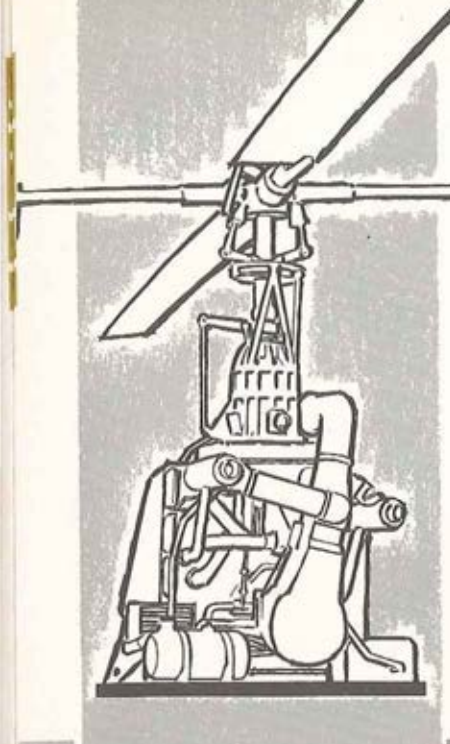
A directive by the Secretary of Defense has resulted in the formation of a board headed by Lt. Gen. Hamilton H. Howze, to study new methods of air transportation and flight, avoiding present concepts for new ideas that will be more dependable and less expensive. Thus, I believe we will see Army aviation taking more tremendous strides forward, probably in the VTOL field, but more certainly, steps that can make today's aircraft as outdated as those of two decades ago are today.

Our horizons are limited only by our imagination. As new aircraft come into being, they will undergo the intensive logistical testing which has resulted in increased knowledge of component life and avoidance of costly retrofit programs on present aircraft. Our logistics program, from parts to publications, will be geared to the new aircraft as they enter the system.

I am looking forward to the most interesting years in Army aviation that we have seen. I think that we will all be even more proud to be a part of this undertaking than we are now.

WILLIAM B. BUNKER
Major General, USA
Commanding General
U.S. Army Transportation
Materiel Command
St. Louis, Missouri

(Ed. Shortly after submitting the above message, General Bunker received orders assigning him to the U.S. Army Materiel Command, Washington, D.C.)



POWER
TAKES PRIORITY AT THE "NAP OF THE EARTH"

Today's tactical maneuvers at tree-top level have put new demands on helicopter capabilities. Out of the Hiller growth-planned family of rotorcraft comes the H-23D-1, to meet these demands with common sense qualities which it alone possesses:

Highest Power in Its Class — A continuous rating of 305 horse-power with the Lycoming VO-540 engine, now Standard in the Army H-23F.

Performance Where It Counts — More power means more maneu-verability with greater safety. Ex-ample: The H-23D-1 has unmatched vertical climb at military-specified gross weight.

Ruggedness – An obvious require-ment in an agile, top-performing aircraft. The H-23D-1 is designed to the highest flight and landing load safety factors in its class.

Practical Logistics — Today's H-23D "Raven," standard for the past four years in the Army's logis-tics system, becomes the new H-23D-1 by only converting to new power. All other dynamic airframe components have flown with this engine in many thousands of suc-cessful hours as the civilian 12E and E4 helicopters.

The H-23D-1 offers **today's** cap-abilities — not yesterday's — within **today's** logistics system — not tomorrow's.

Designs are one thing. Deliveries another. Both come from

HILLER AIRCRAFT CORP.

PALO ALTO, CALIFORNIA • WASHINGTON, D.C. • SUBSIDIARY OF THE ELECTRIC AUTOLITE COMPANY

COLONEL EDWARD O. HOPKINS, RET.

MY congratulations to Army aviation on its Twentieth Anniversary and sincere best wishes for its continued success in its contribution to National defense.

Sincerely,

COL. EDWARD HOPKINS, RET.
(Former Commandant, USAAVNS)
3904 Whann Avenue
McLean, Virginia

COLONEL GORDON J. WOLF, RET.

ARMY aviation was conceived, developed, and organized to meet the needs of the Field Artillery for adequate air observation. That Army aviation was able to meet this need was due to the validity of the original concept, to proper training, to an organization appropriate to the mission, and to the enthusiasm and tenacity of purpose evidenced by every pilot and mechanic.

However, the fact that Army aviation actually did meet this need required even more. Some of you may be surprised to know that many - perhaps most - Artillery commanders had to be "sold" on the value of that aviation, almost all had to be educated in its capabilities and limitations. So, in addition to his other duties, every pilot and mechanic had to be an educator and a missionary. He not only had to know his job and perform it well, but he had to demonstrate to his superiors that there was a mission which could best be performed by light aviation. It was due to this missionary and crusading spirit, more than anything else, that Army aviation grew from a little group of about thirty officers and men to the great Army aviation complex of which we are all so proud.

So long as that spirit continues, so long as the personnel of Army aviation maintain the will to serve, seek new ways in which to serve, and demonstrate that they themselves can best serve, then so long will Army aviation grow, prosper, and continue to make us proud.

Sincerely,

COL. GORDON J. WOLF, RET.
(Former Commandant,
Dept. of Air Training)
Fifth Third Bank Building
Cincinnati 2, Ohio

■ Fort Benning's Lawson Army Aviation Command experienced one of its busiest periods on May 8-10 when aircraft in support of the demonstrations for the 32nd Joint Civilian Orientation Conference (JCOC) recorded almost 7,000 landings. All of this activity was necessary for the demonstrations presented to the JCOC conferees showing the role of Army aviation in today's Army. Over 200 of the nation's leading business and professional men saw the demonstrations, viewing aircraft from Fort Rucker, Fort Bragg, Fort Campbell, and Fort Hood, as well as those from Lawson. Aircraft viewed by the conferees included H-13's, H-23's, H-21's, H-34's, HU-1B's, an AO-1, and an RL-23, and aircraft organic to Fort Benning units. ■■

L-19 Observation-Utility Plane

CH-IC Rotary Wing Aircraft

U-3B Light Twin Transport

T-37 Jet Trainer

This LOH will wear a lot of army hats!

Whatever mission comes its way—anywhere in the world—the Hughes HO-6 four-place helicopter will have the versatility to deliver. ■ Combat recon or counter-insurgency action. ■ Cargo fly-in, or fly-out of litter cases. ■ Hughes HO-6 design features: exceptional speed, small rotor diameter for getting into tight quarters, higher load capacity at *lower* over-all cost. ■ Flight evaluations will convincingly demonstrate that the HO-6 is just what the commander ordered—the optimum result of experience, imagination and outstanding production capability.

HUGHES TOOL COMPANY, Aircraft Division, Culver City, Calif.

HUGHES TOOL COMPANY

Hughes makes news in mobility

By BRIG. GEN. DELK M. ODEN
DIRECTOR OF ARMY AVIATION,
ODCSOPS

ARMY BOARD TO REVIEW

MANY of you have probably heard by now that the Army may take another big jump forward in its use of aviation. The appointment of Lieutenant General Hamilton H. Howze to head the U.S. Army Tactical Mobility Requirements Board to take a new "bold look at how the Army can best obtain TRUE battlefield mobility" should provide for a great quantitative and qualitative advance in Army aviation.

THE NEW BOARD, in a short time frame, will have to consider all aspects of increasing the Army's tactical and logistical mobility, and will determine the extent to which air vehicles can be substituted for military surface systems. Operational concepts, new organizations, cost effectiveness tests, personnel implications, facilities and training requirements, as well as aircraft requirements, will have to be evaluated.

EVERY Army Aviator can be proud to be in the program at this time and to be associated with aviation when such important contributions are in the making.

TACTICAL-LOGISTICAL MOBILITY

I WANT to make a few comments in the area of aviation accident prevention and to review certain actions currently being taken to supplement this important program further.

THE AVIATION Accident Prevention Program is designed to facilitate the accomplishment of the Army aviation mission and to maintain its operational readiness posture at the highest possible level by reducing the losses in lives and materiel which are sustained in the course of the Army's world-wide operations during peace and war. In view of the continuing growth in Army aviation and the introduction of larger and more sophisticated equipment, provisions must be made now for an even more active and aggressive aviation accident prevention effort to cope with the future.

IN THIS CONNECTION, on 27 February 1962 the Chief of Staff dispatched a letter to major commanders and chiefs of technical services stating that the aircraft accident rate must be reduced without compromising the capability of aviation in our modern Army. In addition, each commander was encouraged to review, thoroughly, procedures in effect in order to determine areas where improvement could be made and then to take positive corrective action. The replies to this letter have been most interesting, encouraging, and informative. They are being reviewed carefully to determine actions necessary to improve our existing accident prevention program.

IT IS AXIOMATIC that execution of the Army's air mission is the direct responsibility of command and that anything which can contribute to the successful accomplishment of the assigned mission is of primary concern to the commander. Accordingly, an important fundamental concept may be stated that aviation safety is the direct responsibility of command, beginning with the highest echelon and extending down through the chain of command to the most junior aviator, crewman, or mechanic in an aviation unit.

DCSOPS RESPONSIBILITY

MY BOSS, the Deputy Chief of Staff for Military Operations (DCSOPS), through the medium of this office and the Director of the U. S. Army Board for Aviation Accident Research (USABAAR), is charged with the responsibility of providing guidance and assistance to commanders in the development of a strong aviation accident prevention program in accordance with the provisions of AR 385-10. In consonance with our responsibility, we, in OPS, are endeavoring to prescribe and coordinate safe practices and to correct operating standards for flight operations of Army aircraft.

IN VIEW of the diversified missions of Army aviation, it follows that only broad guidance can be offered at DA level in the development of an accident prevention program. Therefore, it is the responsibility of each individual aviation commander- also, non-aviation unit commanders, i.e., post, camp, and installations commanders- to develop specific safety programs unique to his particular operation.

D/A PROGRAM OUTLINED

THE PROGRAM as developed by DA is designed, first, to determine what causes an aircraft accident; then to eliminate those causes without degradation of mission capability. In this connection, following a crash or other damage involving aircraft, an aircraft investigation board is appointed by the commander. The mission of this board of officers is to conduct an investigation to determine cause factors of the accident and to make recommendations to preclude recurrence of similar accidents.

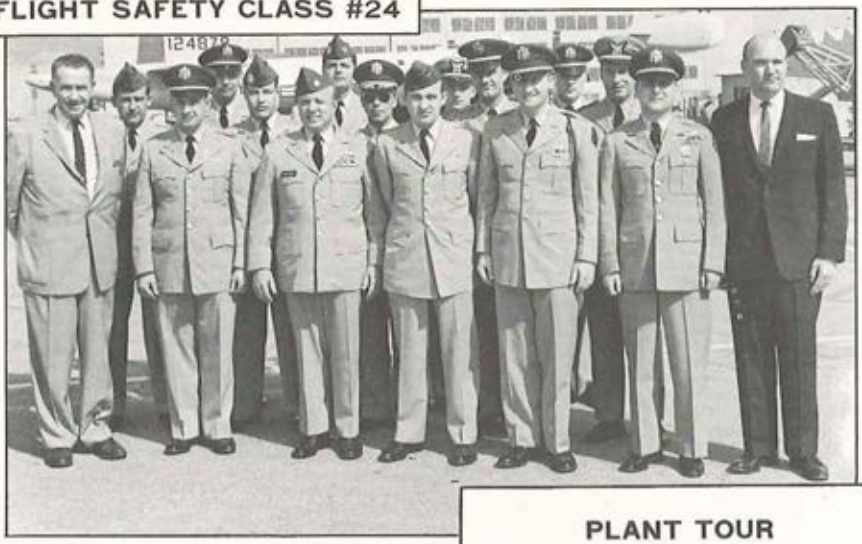
BASED UPON the data presented in the report and other Army-wide aircraft accident experience, recommendations are then made to the DCSOPS for action appropriate to prevent future such accidents and thus enhance the durability, reliability, and efficiency of Army aviation. USABAAR furnishes an additional service to the commands by participating, if specifically requested, via telephone or radio message, in the investigation of aircraft accidents of unusual significance. USABAAR is the Army's only agency for aircraft crash research and corresponds generally with the program developed by the Naval Aviation Safety Center, Norfolk, Virginia.

UCLA COURSE ESTABLISHED

A TIME-CONSUMING review of Army aircraft accident investigation reports conducted prior to 1955 pointed out the serious need to improve investigative procedures so as to insure that determinations of accident cause factors were authentic in order that valid corrective actions could be implemented. Accordingly, the U. S. Army Aviation Safety Course was established in 1956 at the University of Southern California, Los Angeles, under DCSOPS.

THIS PROGRAM has provided over 400 Army Aviators and safety directors with instruction in the technical aspects of aviation accident investigation. Since worldwide dispersion of these graduates, professional investigations of air crashes have improved greatly, thereby effecting better air safety throughout the Army. To add incentive to the over-all aviation program and to develop career aviation safety personnel, action is being taken now to establish an MOS for these graduates. When attained, this MOS structure will, we believe, insure even better utilization of their knowledge wherever aviation exists in the Army.

FLIGHT SAFETY CLASS #24



PLANT TOUR

Members of the U.S. Army Flight Safety Course given at USC are front row, left to right: Mr. Frank G. Andrews (S&F, USC), Capt Bobby M. Knight (Wisc.), Lt Col Leland R. Cantlebary (Ft. Rucker), Capt Donald A. Ice (Ft. Totten), Capt Joseph C. Boggs (Ft. Riley), Capt Joseph H. Masterson (Pres. of S.F.), and Mr. James A. Carmack (Host, Lockheed Plant tour). 2nd Row: Capt John T. Persch (Ft. Sill), Capt Robert L. Oliver (Ft. Campbell, Maj Sydney J. Hurley (Ft. Hood), Capt Herbert M. Webber (Sacramento Sig Depot), and Lt Robert E. Larson (USCG, San Francisco). 3rd Row: Capt Russell J. Johnson (RI-ARNG), Capt Marvin E. Gordon (Ft. Meade), Lt Thomas L. Wedgewood (USCG, San Juan, PR), and Capt Darrell D. Durling (Ft. Bragg). The photo was provided by Lockheed-California.

WITH CONSIDERATION to the fatalities and injuries sustained by crew members and passengers as a result of accidents, the Army has established a Crash Injury Investigator's Course which is conducted by the Aviation Crash Injury Research Division of the Flight Safety Foundation located at Phoenix, Arizona. This course provides training in the science of crash injury and crash survival investigations.

MATERIEL FAILURES and malfunctions often result in aircraft accidents. Every effort must, therefore, be exerted to eliminate these, mechanical deficiencies as expeditiously as possible. Prior to placing a new aircraft in the Army inventory, thorough and detailed analysis, laboratory, user and field tests are conducted to insure adequate performance capability and safety of flight characteristics.

AS A RESULT of user experience, aircraft modifications and product improvements are accomplished to increase both performance and safety of flight features. The major impetus for such improvements comes from the Unsatisfactory Equipment Reports (UER's) submitted by operating activities. These are vital to your success and safety - and to the same goals for the Army!

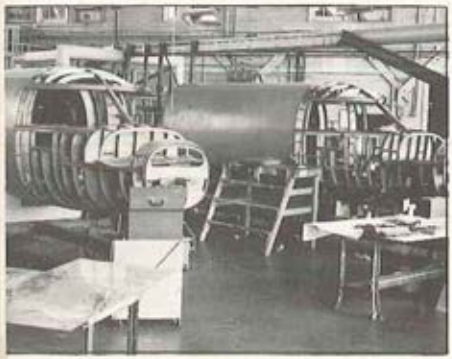
THE OPERATIONAL ASPECTS of the Aviation Accident Prevention Program stem from the mission of Army aviation. In case you have forgotten it - "Army aviation is organic aviation, responsive to the demands of the arms and services, to enhance the mobility, flexibility, and battle efficiency of Army combat forces". To meet this requirement, aircraft, crew members, and aviation units must be capable of "living with" the Army, and operating

ARMY AVIATION

MAY-JUNE PHOTOS

■ TOP LEFT: The new Beechcraft turboprop transport that is expected to fly early in 1964. Powered by two Bastan 900 shp engines, the pressurized twin will carry eight people - a crew of two and six passengers. The cruising speed is expected to be well on the plus side of 300 mph. Cost (equipped for all-weather flying): under $300,000.

■ TOP CENTER: Lt. Col. G.A. Peyer, Chief of the Technical Training Division at USATSCH, points out a small rotating part on a T-53 gas turbine training aid to Brig. Gen. Delk M. Oden (right), during the latter's recent visit to Ft. Eustis. Others (Left to right) are: Maj. R.E. Bywaters, Maj. S.B. Franklin, and Brig. Gen. E.W. Sawyer, USA Trans School Commandant.



■ BOTTOM CENTER: Two of three test airframes of the new Jet Commander 1121 are shown under various stages of development at Aero Commander's Engineering & Research facilities in Norman, Okla. Master jigs for the pure-jet executive transport are completed with component parts being on hand for the first three units. A full scale mock-up of the 1121 was shown to the aviation public for the first time in Reading, Pa., on June 8 at the 13th National Maint. & Operations Meeting.

■ BOTTOM LEFT: Col. Kuno Ebling (with dark glasses), deputy to the Chief of Airborne & Army Aviation for the West German Army, and Lt. Col. Karl Wulff (right), head of the West German Army Aviation Training, are shown inspecting an HU-1B during their recent visit to the Bell plant at Fort Worth, Tex. With them are Bell representatives C.J. Kalista (far left) and J.K. Hoenig.

■ RIGHT: Shown for the first time publicly at the recent AWA (Aviation/Space Writers Ass'n) meeting in California, the Hiller Aircraft "Camel" (Collap-

MILITARY OBSERVERS VIEW S-64 SKYCRANE

■ LEFT: Shown at the recent first public demonstration of the Sikorsky S-64 Skycrane are, left to right, Col. Oscar Davis, Maj. James W. Maschmann, Maj. Robert A. Filby, Mr. R.L. Ballard, Mr. L.J. Borges, Col. Robert H. Schulz (Deputy Director of Army Aviation), Lt. Col. George A. Lutz, Capt. Louis P. McFadden, Capt Robert T. Bagley, and Capt. William L. Murdoch, Jr. Not shown but attending first flight ceremonies at Sikorsky's Stratford plant were Col. Edwin L. Powell, Jr., Col. Russell P. Bonasso, Lt. Col. Frederick C. Goodwin, and Lt. Col. William H. Brabson. The photo was snapped during a lull in the rain showers - "Par for the course," according to one of the veteran observers. S-64 statistics: max speed - 122 mph; cruise - 110; range - 191 st. mi. with max fuel load; empty wt. - 17,240 lbs; useful load - 20,760 lbs; power - two P&W JFTD-12A-1 gas turbines, 4,050 max shaft horsepower.

sible Airborne Military Equipment Lifter) is capable, after airdrop, of rapid assembly in battlefield situations. Sixteen folded Camels can be carried into battle in a standard C-130 transport. Payload: five troops or equipment plus pilot. No production of the aircraft is presently contemplated, but the Hiller firm stated that lessons learned from the Camel program have already been incorporated into the Ten99 and the HO-5 Light Obs'n Helicopter.

■ RIGHT: As part of the user tests of the YHU-1D Iroquois at Ft. Bragg, N.C., eight 82nd Airborne troopers jumped from 1,500 feet. The paratroopers jumped from both sides of the YHU-1D, one man leaving the aircraft every two seconds. The Iroquois was slowed to a 50 knot speed for the test jumps. A total of 19 parachute missions were flown in all, six of the missions being held at night. Other evaluations included field maneuvers with fully-equipped troops, medical evac missions, and loading and unloading demonstrations with C-124, C-130, and C-133 transport aircraft.

from unimproved fields without the necessity of elaborate ground handling equipment.

OPERATIONS of this type necessitate a greater degree of risk than operations conducted under ideal weather conditions, continously controlled by a network of electronic navigational aids, from expansive areas of concrete and asphalt. As the degree of risk is somewhat greater, controlled standard operational techniques have been developed to insure minimum loss due to peacetime aircraft accidents.

UNIT PREVENTION PROGRAM

THE AVIATION UNIT Accident Prevention Program has contributed materially toward the safe operation of Army aircraft. Through this program, timely information pertinent to the unit is brought to the attention of all assigned aviators. At periodic safety meetings all phases of aircraft operating procedures are thoroughly covered. These procedures are based on the unit mission, location and type of aircraft assigned.

FACTORY-EQUIPPED

Four HU-1B Iroquois helicopters, first of an order of 16 turbine-powered Iroquois, to be factory-equipped with armament, rolled off the assembly line ahead of schedule. Each of the HU-1B's will be equipped to launch six lethal SS-11 guided missiles. The armament "package" utilizes a universal mount, designed and developed by Bell. The aircraft will undergo troop evaluation tests of the armament system at several Army bases. (Bell photo)

THE AVIATION UNIT Accident Prevention Program includes a comprehensive series of safety publications designed to supplement information contained in various technical manuals, technical bulletins, technical orders, circulars, regulations, flight messages, etc. These publications are intended to provide Army aviation personnel with up-to-date accident prevention information.

a. The United States Army Aviation Digest, published monthly by the Aviation School, contains appropriate operational, maintenance, and safety articles. This magazine contains information for commanders, aviation staff officers, aviators, maintenance, and ground personnel.

b. The Department of the Army Sense Pamphlet Series cover specific problem areas brought into focus through aviation accident research. They are written in an entertaining as well as an educational manner. Numerous illustrations are employed to lighten as well as to highlight important points. Six of these pamphlets have been published to date entitled: "Low Flying Sense" - "Inadvertent Instrument Flying Sense" - "Human Sense" - "Hot Weather Sense" - "Strange Area Sense" - and "Flight Surgeon Sense." "Mountain Flying Sense" will be published in the near future.

c. A series of Talks, 10 to 15 minutes in length, have been prepared by USABAAR covering a large variety of aviation subjects. These Talks were written to provide aviation units suitable and appropriate information in conjunction with their safety program.

d. Monthly, The Flight Safety Foundation, a non-profit organization, prepares the Pilot's Safety Exchange Bulletin, Mechanics Bulletin, and a poster on general aviation safety. Copies are sent direct to each airfield. A fourth publication, the General Aviation Exchange Bulletin, is sent to each Army aviator.

THE ARMY AVIATION Safety Course at the University of Southern California will be improved soon by lengthening each class from the present eight weeks to ten weeks per class. These two extra weeks will provide for a more thorough

Skycrane lifts 9 tons of almost anything

The new S-64 Sikorsky Skycrane, now in test, is a heavy-duty helicopter capable of lifting an astonishing variety of 9-ton loads of almost any shape.

Powered by two 4,050 hp Pratt & Whitney Aircraft JFTD-12 turbine engines, the Skycrane can hurry men and materials over marsh and mountain at 145 knots, or hover overhead to load ships and erect steel. It can string wire, lay pipe, tow boats, track submarines, position missiles, and lift everything from letters to logs. Fitted with interchangeable pods, the S-64 is a 60-man troop transport, vehicle carrier, supply ship for limited warfare, or mobile you-name-it. In fact, Skycrane is so versatile its uses are limited chiefly by man's imagination.

Through this versatility, Sikorsky's S-64 will reduce the time, trouble, and expense of moving things anywhere in the world. To find out how this busy bird can give *your* project a 9-ton lift, write today on your letterhead to Sikorsky Aircraft, Stratford, Connecticut.

Sikorsky Aircraft DIVISION OF UNITED AIRCRAFT CORPORATION

STRATFORD, CONNECTICUT

coverage of all facets of aviation safety. DA Circular 350-4 dated 9 March 1962, which concerns the Aviation Safety Course for FY 1963, will be amended to indicate the new class schedules as follows:

Class 25, 24 July - 4 October 1962; Class 26, 2 October - 14 December; Class 27, 8 January - 20 March 1963; Class 28, 25 March - 6 June 1963.

COMMANDERS' COURSE

IN ADDITION to the above, a one-week Aviation Safety Orientation Course for Army commanders and their staffs will be conducted at the University of Southern California, Los Angeles, 4-8 June 1962, for 30 students, grades of major through general officer or equivalent. This is a new course for Army personnel and is patterned after a very successful similar program given to U.S. Navy Senior officers on an annual basis.

FINALLY, in order to bring the aviation accident prevention program into closer focus for everyone, plans are now being formed to conduct a world-wide safety conference at Fort Rucker, Alabama, sometime in September 1962. As soon as the schedule is firm, invitations will be disseminated. I shall welcome any suggestions that you may have concerning measures that might be taken to improve our accident prevention program. Such suggestions should be forwarded through channels.

IN SUMMARY, may I say that an effective accident prevention program is possible only if everyone concerned performs his function and accepts his responsibility. An Unsatisfactory Equipment Report submitted today may prevent an accident or Boards appointed to investigate aircraft accidents play a very important part in our accident prevention program. Their reports make up the accident data for the Army, from which accident cause factors may be determined and subsequent corrective action taken.

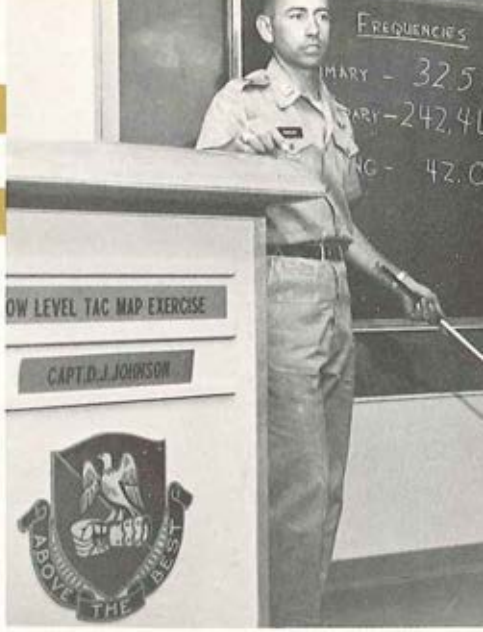
BEFORE CLOSING, I want to express my appreciation for the outstanding work performed by Colonel James F. Wells in establishing the Aviation Accident Prevention Program as we know it today. My best wishes for continued success go with him in his new assignment in Taiwan. With this opportunity, however, I wish to announce also that Colonel Bob Hamilton, now Aviation Officer at Headquarters, Eighth Army in Korea, will succeed Jim Wells as Director of USABAAR on 1 August. He will be a most welcome addition to the DCSOPS family of aviators. In addition, I am happy to announce that Lt. Colonel Jack Ruby will become Deputy Director, USABAAR, during the summer when he returns from duty as Commanding Officer, 937th Engineer Company, Inter-American Geodetic Survey, Panama Canal Zone, to take the position held by the late Lt. Colonel Dave Hill.

DELK M. ODEN
Brigadier General, GS
Director of Army Aviation,
ODCSOPS
Department of the Army

MASTERS ALL

Three civilian flight instructors at USAAVNS, Messrs Francis R. Werner and George H. Howard of Advanced F/W Training, and Mr. Malcolm F. Landrum of R/W Training, recently became the first civilian instructors to receive the Master Army Aviator rating. Each began flight instruction for the Army in 1943 at Fort Sill, Okla., and each has logged an average of 12,000 hours of flying time. As "Masters," they are F/W and R/W qualified and hold the Special Instrument Card. (U.S. Army photo)

USAPHS ACADEMIC INSTRUCTION



By

COL. JACK K. NORRIS

Commandant, USAPHS

THE Academic Division of the U.S. Army Primary Helicopter School was established in September 1956, the date of activation of Camp Wolters, Texas, as home of this "one-of-its-kind" military service school.

IN 1956, the role of the Academic Division was relatively simple. All academic instruction was presented by the civilian contractor and was limited to those subjects most directly related to performance of flight maneuvers. Personnel assigned to the Academic Division were responsible for supervising this contract instruction and for insuring that helicopter pilot students were presented adequate information in those subject areas common to civilian and military helicopter operations.

QUALITY CONTROL of contract instruction is no less important today than in 1956 and is still exercised by this division of the school. However, the growth of Army aviation in general and of military helicopter utilization capabilities and concepts in particular have resulted in the quality control of contractor taught subjects becoming a secondary mission of the Academic Division.

ADVANCED weapons systems, complexity of helicopter tactical utilization, additional numbers of TO&E helicopter units, and the ever increasing integration of tactical helicopters into Army units designed for operation in an era of air mobility have dictated that the helicopter pilot receive a minimum of military tactics instruction along with his flight and related technical academic instruction. Today the actual presentation of these military subjects has assumed primary importance in the staffing of the Academic Division of the U.S. Army Primary Helicopter School.

THIS change in role has been evolutionary in nature. It has been accomplished by gradually decreasing the number of hours of instruction offered by the contractor and by substituting hours of tactical instruction offered by the military. This evolution has not been completed nor will it ever be completed. Advent of the Observation Helicopter Course in June 1962, designed to produce qualified Army aviators to man armed helicopters engaged in low level flight operations is indicative of

the type of military instruction requirements now evolving.

THE OPERATIONAL success of this new weapons concept is directly dependent upon the technical and tactical knowledge acquired by aviators not yet produced. Most important to this production is the role played by the individual instructor.

THE IMPORTANCE of this role cannot be over-emphasized. The quality and the content of the program of instruction, adequate and qualified supervisory personnel, and appropriate material and training aids or devices are necessary elements of instruction, but the individual instructor remains the crucial element in a given teaching situation. It is with this thought in mind that the USAPHS continues to develop its academic subjects program.

A PREREQUISITE to assignment to the Academic Division is qualification as an Army Aviator, dual rated in fixed and rotary wing aircraft. Preferably, those officers who have had aviation operational experience are utilized. These prerequisites indicate that the average instructor will be in the grade of captain.

A NEWLY-ASSIGNED platform instructor must have a point of departure toward development of the appropriate techniques. Toward this end, the necessary facilities are provided and standardized. These include vault files of subject matter previously or currently offered for the purpose of retaining and passing on experience. Although USAPHS is not staffed to provide a detailed Methods of Instruction course for newly assigned academics instructors, adequate supervision is provided for development of lesson plans and for rehearsal of proposed platform presentation to insure effective instruction.

AS THE NEWLY-ASSIGNED instructor becomes more experienced and polished he will be given additional subjects so the instructional load can be equally distributed among all instructor personnel of the academic division. Additionally, he will be required to monitor the classes of other academic instructors, both military and civilian.

WITH THIS PROCESS of orientation, the new instructor becomes a member of a team devoted to the fulfillment of the mission of the Academic Division: to supervise and monitor all phases of preparation and presentation of academic instruction both military and contractor; to implement training directives from higher headquarters and prepare local training directives as required; and to prepare and present military instruction to resident classes.

DO-IT-YOURSELF PROJECT!

STREVE-AIR III

■ Four-year-old Jimmy Strever helps his father, Capt. Carl Strever of Fort Eustis, work on the dashboard of the amphibious airplane, the Streve-Air III, the captain is building in the family garage. The senior instructor in the rotary wing unit of the T-School Technical Training Division, Strever built "Streve-Air I" in a rented apple orchard near Frankfurt, Germany, and flew at 100 mph+ on his maiden flight. Streve-Air II was a three-seated helicopter, an adaptation of the bubble nose rotary wing plane. Those readers who have young sons prone to make "Let's do it, Dad" comments had best dispose of this particular issue quickly. (U.S. Army photo)

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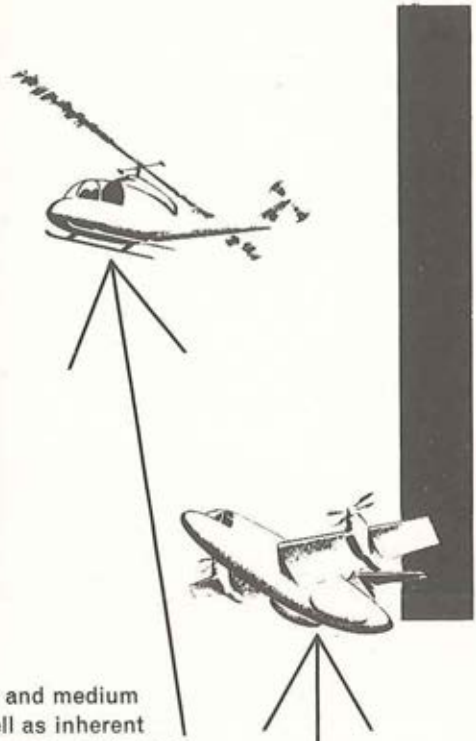

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NEW TEC
BY ROA

A QUICK look at the new ROAD Aviation Battalions of the 1st Armored Division and the 5th Infantry Division (Mechanized) this month.

AVIATION OFFICER of the 1st Armored Division, located at Ft. Hood, Texas, is LT. COL. J. C. HUGHES. He is also the Commanding Officer of the 501st Aviation Battalion. This unit demonstrates the finest spirit, morale, enthusiasm, and "can do" attitude for a newly-organized unit that I have observed in some time. They are busily engaged in an intensified training program as well as carrying out the normal routine administrative and tactical aviation support of the division and other units at Ft. Hood.

NEW TECHNIQUES EMPLOYED

SEVERAL excellent techniques used by this unit may be of interest to all. Since this was the first ROAD Aviation Battalion, it has naturally aroused intense interest, not only from the personnel in the Unit, but from the remainder of the division, the 2d Armored Division, and the many visitors from other headquarters.

TO SOLVE THIS problem, the Battalion Commander and staff have organized and present an excellent briefing, complete with the necessary training aids. When finished, there is little doubt about the status of ROAD Army aviation, the progress of Army aviation today, and as a natural by-product, the excellence of this unit. The battalion has received its coat of arms and unit crest and, has adopted and is wearing the new teal blue Army aviation scarf (in garrison) as well.

BY

MAJ. KENNETH D. MERTEL

HQS. USCONARC

IN ADDITION, dark blue blazers and grey slacks with the aviation battalion's special patch have been purchased and are worn by officers and NCO's at informal parties and other off duty social activities. Any time a soldier is promoted, his stripes and a copy of the promotion orders are awarded to him at a periodic battalion formation. In addition, a letter is written to his parents or wife congratulating them on his promotion. Letters of appreciation and commendations are also awarded at these formations as well as discharge or retirement certificates as appropriate. Wives, families and relatives are invited to attend.

THE BUDDY SYSTEM

A BUDDY SYSTEM is also used in this unit wherein all personnel are paired off, and personal and legal data are exchanged so that in the event of any injury or illness to one, there is someone available and prepared to help as required. All very good leadership techniques that are sometimes forgotten.

MAJOR T. A. LAVITE is Battalion Executive Officer and MAJOR I. M. STORER is the S-3. The General Support Company is commanded by MAJ. R.A. LEE. 1ST LT. D.A. KNAPP commands the H & H Company, which, by the way, has a very fine mess, including some excellent cooks. Con-

INIQUES EMPLOYED
AVIATION UNITS

gratulations again to you, Col. Hughes, and to your officers and men for a difficult job being accomplished in a superior manner. I am certain we shall soon hear more from your unit.

2ND ARMORED DIVISION

ANOTHER excellent unit at Fort Hood is the 502d Aviation Company of the 2d Armored Division. The Aviation Officer is LT. COL. RALPH O. BENNETT with MAJ. JAMES K. STERLING, Assistant Aviation Officer, and MAJ. CHARLES A. BRIZIUS, JR., the Company Commander. This unit was in the field engaged in Exercise TRACK DOWN during my short visit and were well organized and dispersed at a tactical field location.

THIS DIVISION integrates Army aviation in the DTOC (Division Tactical Operations Center) very effectively. The assistant aviation officer is a member of the DTOC and is responsible for coordination of all Army aviation within and attached to the division, including reconnaissance and surveillance elements. Then too, the division has a policy of placing Category I Army aviators on duty with the general staff sections for a period of sixty days at a time. This provides excellent training for the aviators and enables them to demonstrate their professional branch competence to fellow non-aviators. The division G-3 operations were being run very effectively by one such aviator at the time of my visit to the CP. The 502d Aviation Company is very ably supported by the 52nd Field Maintenance Detachment commanded by CAPT. JOHN D. HOLDER.

OTHER MAJOR UNITS

THE III CORPS Aviation Officer, is LT. COL. D. T. BOYD. He is assisted by MAJOR R. P. SWANN, as Assistant Aviation Officer and CAPT. R. A. BONIFACIO, the Operations Officer. This section participated in Exercise TRACK DOWN and was also located in the field with the Corps CP.

POST AVIATION OFFICER is LT. COL. ALBERT F. MYERS who has the job of coordinating the use of the air field and facilities of the Fort Hood Army Air Field among the several units stationed there. Providing field maintenance support for Fort Hood is the Post Field Maintenance Detachment, commanded by CAPT DALE E. HUCKE. This unit has excellent facilities, competent personnel and performs its job in a superior manner.

CARSON'S 5TH

THE AVIATION OFFICER of the 5th Inf Div (Mech) at Ft. Carson, Colorado, is LT. COL. CHARLES R. SHAW. He is also the commander of the 5th Aviation Battalion. This unit is well under way and shows promise of being a fine unit after it has had time to organize and commence training.

VERY INTERESTING FLYING in this area. The terrain averages about 6,000 feet above sea level with some of the training areas reaching up to 8,500 to 9,500 feet. You can imagine the density al-

titude on a hot summer day and the consequences of careless operations. Needless to say, aviators in this area become very proficient in mountain-type flying, particularly with helicopters. Post Aviation Officer is LT. COL. HARRY G. JENNINGS.

A REVISION of Annex F, "Army Aviation" to USCONARC Training Directive will be published in the near future. Among other changes are included renewed emphasis on mountain helicopter flying techniques, support of counterinsurgency operations, SKYCON and low level fixed and rotary wing flying techniques, and escape and evasion for aircrews.

ADDITIONAL DETAILS ON MECHANIC'S BADGE

A FEW MORE DETAILS on the "Aviation Mechanic Badge." As previously mentioned, a badge has been approved for aviation crew chiefs and mechanics. The basic badge will be the motor vehicle driver and mechanic badge. A propeller shaped bar will be provided for attachment to this badge. In addition, a bar for "Crew Chief" and a bar for "Mechanic" will be provided to be suspended from the propeller bar as appropriate. Criteria for awarding will be announced shortly by D/A.

A REVIEW of CONUS accidents during a one-week period in April revealed some interesting facts. An H-13E hit wires during a heavy rain - major accident; an H-13H struck wires - incident; three L-19's ground looped - one major, one minor, one incident; an L-19 flew into a box canyon, crashed - major; and several forced landings occurred with both fixed and rotary wing. It might be well to re-examine your training program and see what you are doing and can do to reduce aircraft accidents and incidents.

CONGRATULATIONS to all Army aviators and aviation enlisted personnel on this 20th Anniversary of Army Aviation. We have come a long way since that first day on 6 June, 20 years ago. This has been accomplished only by the hard work and unrelenting superior performance of duty by all members of the team - Happy Birthday.

PRESENTATION APPROVAL

REPLICA GIFT

■ Vic Schulte (left), VPP of the Lindbergh Chapter of AAAA; Col. John L. Klingenhagen (center), representing USATMC, St. Louis; and Charles Sherry, President of the St. Louis Jaycees, view a photo of the replica of the "Spirit of St. Louis" later presented to the City of St. Louis by owners Paul Mantz and Frank Tallman. The replica was flown in the June 3 Army Air Show by Maj. Emil E. "Jack" Kluever. ■■

LETTERS TO THE EDITOR

ADVICE

SIRS:

WITHIN a few days after receipt of the May '62 issue bearing the data and coupon on the Twentieth Anniversary Celebration at Fort Rucker, I heard by the grapevine that the 12-15 July gathering had been cancelled. Any good advice to give me here?

Don Botway
Consolidated Diesel Electric Corp.
Stamford, Connecticut

(Ed. Unpack.)

OFF-BEAT

SIRS:

REFERENCE the "No Sweat!" photograph appearing on Page 263 (AA, May '62), I am surprised that you did NOT recognize the current President of the AAAA in the 1942 snapshot. Joseph E. McDonald, Jr. (then S/Sgt McDonald) appears at the far left of the photo just to the right of the tent entrance. As a comparative oldtimer in AA himself, the editor should be brought to the brace for NOT remembering that many of the pilots in those days were Staff Sergeants. His "Where are the pilots?" captioning is off-beat.

Lt. Col. James W. Hill, Jr.
Headquarters, USAPHS
Camp Wolters, Texas

(Ed. Be at peace. We WERE brought to a brace. Glad you didn't suggest 25 pushups.)

INAPPROPRIATE

SIRS:

IN THE "Industry Member List" (AA, May, '62) an error exists in the functional identification for Mr. Hilliard L. Lubin and myself. It is understandable how "Nav. Systems" could be exploded (editorially in error) to "NAVAL Systems;" nevertheless, this latter functional title does seem inappropriate to appear in ARMY AVIATION.

For Mr. Lubin, this identification should read: Sales Manager, Navigation Systems (Nav. Systems), and for myself: Sales Engineer, Navigation Systems (Nav. Systems).

William A. Barabino
Navigation Systems Sales
Lab. for Electronics, Inc.
Boston, Massachusetts

ATTRITION

SIRS:

The "Attrition" photo on Page 241 (AA, May, 1962) looks strangely familiar. Was this taken at Fort Rucker, instead of Camp Wolters? Question #2: You "blacked in" three of the nine students pictured. Assumption: Attrition rate at Wolters is one in three. The article by Col. Norris puts the overall ratio at one in eight for the test period. Was this for emphasis?

Lt. Col. Wayne N. Phillips
Assistant Chief of Staff, G-1
U.S. Army Aviation Center
Fort Rucker, Alabama

(Ed. Nope - we'd "blacked in" two students, found it to be fun, and kept inking merrily along. Photo locale is Rucker. What gave it away?)

HAIRCUT

SIRS:

I KNOW that you receive many letters from readers on the humorous "goofs" that appear in ARMY AVIATION, most of which you own up to. If it will be of some solace to you, we in industry receive them, too. For example, one AA - who must remain anonymous - dunned us for the "Shawnee haircut on the Mohawk brave cartoon character" that identifies our Mohawk AO-1 ads.

When the readers STOP pointing out the little "gems" that creep into the magazine and the ads, we'll both have cause to worry. It will mean they've stopped reading the magazine.

Darwin P. Gerard
Washington Office
Grumman Aircraft Engrg. Corp.

ARMY AVIATION
FORT HOOD, TEXAS

1ST ARMORED DIVISION

LT. COLONEL
J.C. HUGHES
AVIATION OFFICER

MAJOR
ANTHONY LAVITE, JR.
BN EXECUTIVE OFFICER

MAJOR
IVAN M. STORER
BATTALION S-3

MAJOR
ROBERT A. LEE
CO, GENERAL SUPPORT CO

POST AVIATION

2ND ARMORED DIVISION

MAJOR
JAMES K. STERLING
ASST. AVIATION OFFICER

CAPTAIN
JOHN D. HOLDER
CO, 52D MAINT DET.

CAPTAIN
D.E. HUCKE
POST FIELD MAINT. DET.

III CORPS

LT. COLONEL
DONN T. BOYD
AVIATION OFFICER

MAJOR
ROBERT P. SWANN
ASST. AVIATION OFFICER

CAPTAIN
ROBERT A. BONIFACIO
OPERATIONS OFFICER

"COMMAND PHOTO CHARTS" IN FUTURE ISSUES
HQS, USCONARC - USATATSA - FORT CAMPBELL

ACROSS THE BOUNDARY!

BY
BRIGADIER GENERAL
CARL I. HUTTON, RET.

THE FLIGHT, toward the end of 1958, which took an Army H-19D into East Germany made world headlines for some weeks. Cold War diplomatic maneuvering went on during the six weeks of retention of the crew and passengers. The timing of the incident in the Cold War was unfortunate. Under calmer conditions little attention would have been paid to the incident. I have not seen an explanation in print of the reasons for the flight's going astray. I believe there is something to be learned from a description.

DURING the six weeks of diplomatic exchanges, as far as I know, nothing was understood about the flight and no investigation was made as to the conditions which led the flight off course. I believe it was assumed that the cause was pilot irresponsibility or stupidity.

THE ASSUMPTION, of course, did not correspond to the facts. The pilot of the helicopter was an intelligent young regular

officer with an outstanding record. He had received the best of the Army's flight training and held a standard instrument ticket. It seems reasonable to suppose that what happened to this pilot could just as well have happened to any Army Aviator of like intelligence, experience, and training. This includes most of the breed.

THE FLIGHT was a routine service mission to transport a half dozen staff officers from Frankfurt in Germany to the training area at Grafenwohr. The only unusual condition at the start was that the pilot, who had been promised the day off because of a previous heavy flight schedule, was roused from his quarters at the last moment and assigned to the mission. The co-pilot assigned was a recent graduate of the warrant officer helicopter course.

OFFICIAL INVESTIGATION

AFTER the return of the crew and passengers from East Germany, I was appointed president of a V Corps board of officers to make an official investigation and to make recommendations to the corps commander for appropriate action. In this way, I was given the opportunity of talking to everyone who was involved. It is my understanding that I was selected by the Army Commander for the job and I had intimations, if not indirect orders, that I was to lower the boom on the pilot.

THE DISTANCE from Bonames AAF to Grafenwohr is 120 nautical miles. The magnetic course is 110 degrees. The weather briefing forecast visual conditions with a cross wind from the north, the left. The flight path was off airways and as was the practice involved flying around the southern safety limit of the artillery range with a turn to the north when clear of the range to approach Grafenwohr AAF. At the H-19D's normal cruise of about ninety knots, the estimated time en route was an hour and twenty minutes.

THE PILOT'S STORY before my board of officers - he was appearing before several boards daily - was substantially as follows: The departure was routine and he tracked outbound from the Frankfurt Armed Forces Network radio using his ADF, on a heading of 110 degrees. He noted that factory smoke stacks showed a wind from the left and the helicopter appeared by the ADF to drift slightly south of course. He corrected a few degrees to the left but he was not concerned. An autobahn about twenty miles from Grafenwohr crossed his track at right angle and would provide a sure check point.

OVER THE MOUNTAINS east of Frankfurt the ceiling came down and visibility became so bad that he seriously considered aborting the mission. However, visibility appeared to be better ahead and he continued the flight. The co-pilot had the aeronautical chart in his hand. At one time he pointed off to the left and said he identified Bamberg.

FLIGHT TRACK BY ADF

ABOUT FORTY MINUTES after take-off, the pilot asked the co-pilot to tune the Grafenwohr homer, frequency 284, on the ADF. The pilot listened to the station's identifiers (GF) and remembered hearing the characteristic rather harsh and slow signals which were peculiar to the broadcasting tape. He continued tracking by the ADF with his small drift correction.

WHEN they reached the autobahn, the pilot asked the co-pilot if he could locate the clover leaf and small village which marked their course. The co-pilot pointed to the left and said he could see it about five miles away. Everything combined to make the pilot believe he was south of his track.

ACTUALLY, by this time the flight was already in East Germany. It had been observed about twenty miles north of its supposed position by a radar crew stationed near the boundary. They reported that the helicopter flew on a straight line right into East Germany and continued on out of sight without changing direction.

AFTER CROSSING the autobahn the pilot continued his heading of about 100 degrees and continued to follow the ADF. The artil-

iery range, which is unmistakable from the air, did not appear. The needle continued to point straight ahead. He held his course for another five minutes or so and then turned northward because he was sure he was south of course. Grafenwohr tower did not answer repeated attempts to raise them. Nothing on the ground was familiar and the co-pilot could not recognize any terrain features on his map.

THE PILOT now realized that he was lost. He landed once near a village and read the name on the sign. They could not find the name of the village on the map. He took off again looking for something which would indicate his position. By this time he suspected that he had over-flown Grafenwohr in spite of the indications of the ADF needle and he felt that, if this were the case, he was in Czechoslovakia. It did not occur to him that it was possible for him to be in East Germany. He flew over an airfield where sailplane operations were in progress. They could not identify this on the map either and from the ground a warning flare was fired which the pilot assumed meant that he should keep clear because of the gliders around the field.

AUTOBAHN LANDING

FINALLY, they came to an autobahn and the pilot landed beside it. A passing motorist showed them their position on the chart. They were over a hundred miles deep in East Germany. Fuel by this time was very low. After consultation with the senior officer passengers, who agreed, the pilot took off again heading southwest, the shortest course to safety, determined to remain in the air until the fuel was exhausted.

WHEN THE ENGINE QUIT, he made an autorotation into an open field. The landing was safe but the main rotor struck the tail boom during the landing roll and the helicopter was now unflyable. They were still in East Germany.

THE CO-PILOT'S STORY agreed in every essential with that of the pilot. When asked if he had been given responsibility for navigation, he denied it. When asked whether he had checked progress or passage with Nurnberg omni, he said he had never been instructed on the use of omni and would not even know how to turn the set on. He said that at the time he was positive that he recognized Bamber Army Airfield but he pointed out that it was quite a distance to the left of the helicopter.

BEE-LINE FLIGHT

THUS FAR, the incident was unexplainable. The time-and-distance factors showed that the flight had proceeded on a bee-line from Frankfurt, to cross the boundary less than 100 miles away and twenty miles off course. It hardly seemed possible.

ANOTHER WITNESS before the board, a captain, said that a day or two before the boundary crossing flight he had flown the helicopter involved on a local mission. During his run-up check, he noticed that the ADF needle pointed about twenty degrees right of the Frankfurt AFN broadcast towers, with the station to his rear. In other words, the ADF showed the station to be twenty degrees right of its real location. This pilot turned the ADF off and did not use it during the flight. Just before landing at the end of his mission he rechecked the ADF and it appeared to be working satisfactorily. Therefore, he did not write up the discrepancy but he did tell the mechanic assigned to the helicopter that the ADF needed checking.

THE MECHANIC was summoned as a witness. He recalled the incident and said that he reported the discrepancy to radio maintenance and that they had exchanged radios and they had written up the repair. When shown the maintenance records, he pointed to an entry "VHF transmitter replaced" as showing the action which had been taken. It appeared that he was confused by the terminology.

A TWENTY DEGREE error in the ADF did not explain the incident. Assuming that the pilot had followed a course of ninety degrees instead of 110, and had then homed on the Grafenwohr homer, with the error now indicating that the station ahead was

twenty degrees left of where it actually was, he would still have arrived at his destination although by a circuitous route.

THE FINAL CLUE came when a Signal Corps captain who was out in an airplane trying to check the signals of the Grafenwohr homer, in connection with this incident, tuned a decoy station in East Germany. The station was almost on the Grafenwohr frequency and its identifiers were obviously taped from the Grafenwohr signals because they had the same harsh tones and slowness of the true station. While the captain was listening to the signal and following it with his ADF needle, the station was turned off and the broadcast ceased. Within the next two or three days he was able to tune the station once more.

NOBODY, at that time, was able to tune the decoy station, except this crew. The U.S. Air Force put their checkers on the task of identifying the decoy. Although their findings presumably are classified, President Eisenhower announced some months later that the Soviet Union was using decoy signals.

DECOY CLARIFIES ELEMENTS

THE DISCOVERY of the decoy clarified the confusing elements of the incident. The decoy station alone would not have led the flight astray because when it was tuned half way through the flight its bearing would have been so far off course that it would have alerted the pilot to the fact that something was wrong. In combination with the defective ADF, however, the flight as it was made became understandable. The flight started twenty degrees north of its intended track. When the decoy was tuned, it showed dead ahead. By the time the pilot realized he was lost, he had been decoyed deep into East Germany.

OF COURSE, the incident should not have happened because the H-19D has suberb electronic navigational equipment. The recommendation of my board of officers. was that disciplinary action be administered under AW 15 for carelessness.

ABOUT THE AUTHOR
BRIG. GEN. C. I. HUTTON

■ Brigadier General Carl I. Hutton, USA, Ret., served as the Commandant of the U.S. Army Aviation School during the course of the School's move from Fort Sill, Okla., to its present location at Fort Rucker. Through his guidance and leadership the School was established on firm grounds at the Alabama facility. General Hutton presently resides in Palo Alto, Calif.

The V Corps Commander, who was unexcited and understanding, indicated that he thought a fine would be appropriate. He felt that there was nothing involved except some degree of ordinary negligence. Other views prevailed, however, and the pilot was removed from flight status by a flying evaluation board which was appointed subsequently in his division.

DISCIPLINARY ACTION would not be effective in preventing others from flying across the boundary. In fact, within a short time another pilot of the same division did fly across the boundary - but that is another story.

NEED FOR CORRECTIVE STEPS

THE INCIDENT did show the need for some corrective steps. In the first place, some standard instructions should be prepared concerning the duties of co-pilots. It is true that the pilot is in command of every flight and that the co-pilot must perform duties as prescribed by the pilot. In the absence of specific instructions on a particular flight, such standard procedures would alert the co-pilot to his duties. Such procedures would also show the requirement for additional training of co-pilots when it appears that the training being given does not prepare them for their duties.

THIS was the second recommendation of my board of officers but it was not accepted by higher headquarters. I understand that in the summer of 1961, after a long battle, the pilot succeeded in getting himself restored to flight status. I hope this is so.

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OBITUARIES

ANTHONY L. CRISTAN

Captain Anthony L. Cristan, Advisor to the Alaska National Guard at Bethel, Alaska, was killed in the crash of an Army H-21 helicopter near Bethel on April 25, 1962. Capt. Cristan was a passenger in the H-21 at the time of the crash. He is survived by his wife, Mrs. Mary L. Cristan of 2532 E. Battsford Avenue, Milwaukee, Wisconsin.

WILLIAM D. SHAW

Second Lieutenant William D. Shaw, assigned to the 149th Aviation Company, Fort Polk, Louisiana, sustained fatal injuries when the L-19 aircraft of which he was pilot crashed during the conduct of a service mission near Fort Polk on May 8, 1962. He is survived by his father, Mr. Bill Shaw of 4131 Rosa Road, Dallas, Texas.

BY
LIEUTENANT
JOHN H. GREENE

A REPORT ON DEEP FREEZE

ARMY aviation activities encompass the globe with the recent completion of "one of the most ambitious map control projects ever undertaken in the Antarctic," stated the National Science Foundation.

WORKING with the Navy's "Operation DEEP FREEZE," two Army HU-1B's and a detachment of the U.S. Army Transportation Board completed a mountain-hopping, map-making survey in record time. The project, designated TOPO-SOUTH and -NORTH, started from Plunkett Point at the head of the mighty Beardmore Glacier, less than 300 miles from the the South Pole. It extended northward along the spine of the "Antarctic Alps" for a traverse distance of over 1,500 miles terminating at Cape Roget, just north of Hallett Station.

HIGH ALTITUDE OPERATIONS

TRANSPORTING a team of surveyors of the U. S. Geological Survey, the HU-1B's established a total of 68 mountain-top sites. Over 30 of these sites ranged in altitudes between 10,000 and 13,500 feet (pressure altitude) in temperatures as low as -30 degrees F. Performance at the extreme altitudes was marginal even for the heavily loaded "B" models grossing 7,400 lbs. at take-off. More than a few landings were "hairy," to say the least, encountering high winds, turbulence, and billowing snow from the rotor downwash.

TEN MEMBERS of the Transportation Board qualified for the "Frozen Penquin Club" living in tents on the Ross Ice Shelf. All maintenance was performed in the open and the Army mechanic should never be "sold short." They accomplished what is probably the "highest" engine change on record atop 10,500 ft. Mt. Discovery is only one day enduring high winds and temperatures of 20 degrees below zero.

AN INTERESTING POINT for all turbine jockeys is the effect of high altitude on engine starting capabilities. Your baby blow-torch requires air and plenty of it. This commodity is in short supply above 10,000 feet and tailpipe temperatures rapidly become critical. Caution must be exercised above 8,000 feet and more precise control can be obtained by utilizing the emergency governor position resulting in better light-off and lower temperatures. Above 10,000 ft., satisfactory starts are a near impossibility without a high output APU.

SHALLOW APPROACHES

ALSO, another problem exists at these high altitudes. The turbine engine accelerates slowly and maximum power must be maintained during the approach without exceeding overspeed limits. The approach must be very flat and slow and if this appears to place high reliance on continued engine operation - you're right! The rule here is - the higher the altitude, the shallower the approach.

SUPPORTING the Army team in the field was the Navy's Air Development Squadron Six (VX-6) and in fuel delivery alone, this amounted to quite a task. Also unique in another respect was the involvement of all the services (Army, Air Force, Navy, Marines and Coast Guard) in some phase of the mission.

THE HU-1B'S deserve a major share of the credit for the successful completion of the mission. Over 100,000 square miles of Antarctica was surveyed in only 57 working days. Normally, a 3-5 year span would be required utilizing previous methods of dog teams or tractor trail parties.

THE ANTARCTIC is an ever present challenge to survival. No living animal, plant or tree can be found within the interior

SIKORSKY DEMONSTRATES S-64 IN FIRST PUBLIC FLIGHT

■ Unveiled on June 5 to representatives of the military services, aviation press, and commercial activities, the turbine-powered Sikorsky S-64 will be able to carry loads of up to 10 tons for short distances. The 87-foot prime mover features 9-foot ground clearance for easy positioning of cargo, pods, or vehicles beneath its attachment points.

of this rugged and barren land. But as Army aviators the world over say, :When the going gets tough, the tough get going."

THE T-BOARD Aviation element evolved from the Transportation Arctic Group and the Transportation Environmental Operations Group (TREOG) and is well versed in far-flung environmental operations. A review of the past three years environmental projects reflects the "Pole to Pole" capability of the unit.

1959 SUPPORT

IN 1959, TREOG aircraft supported two major projects, TOP DOG 59 and LEAD DOG 59, in Greenland. Also, at the request of the Navy, a small element participated with the naval aviation unit supporting Task Force #43 in the Antarctic.

AFTER recovering from the exposure of the snow and coldness of Greenland, a sortie into a much different environment was accomplished -- the tropics. Supporting TROPICAL WET, two H-34's were flown to Panama through Central America and return.

BY 1961, the Transportation Board was a full-blown environmental agency and, although no longer operating in Greenland, its environmental projects increased in number and scope. A second Panama project SWAMP FOX I, again entailed H-34's providing air support in the tropics while much farther south, the two HU-1B's supported the high altitude topographic project in the Antarctic. Other projects found T-Board personnel testing equipment in the wilds of Alaska and the deserts of Arizona & California. So don't be surprised at the location of future operations for the world is its backyard.

ONE last interesting point is the Board's test concept and that is: To determine the Go/No-Go of a piece of equipment by applying "Murphy's Law." As Army Aviators, we've had considerable experience along those lines for if there is but one way in which it can be damaged, issue the equipment to the operator in the field and he will, inevitably, find the one fault.

AN IMPORTANT facet of flight control in Germany and a big aid to the sophisticated side of Army aviation flight activities in Germany is the Army Flight Operation Facilities (AFOF). AFOF comprises eight officers, twenty-eight enlisted personnel, and thirty-eight German Nationals, organized into traffic, notam, flight, monitoring, and teletype sections. All Army flights in Western Germany, except tactical, are monitored by AFOF. This monitorship is accomplished through the sole user communication network to 51 Army airfields throughout Western Germany as well as the utilization of common user circuits to other Army landing strips and heliports.

ALSO, the ICAO teletype circuits permit communications to all major international airports under the ICAO agreements. In addition, communications are established with other flight service elements including a hot circuit to the air rescue facilities at Ramstein AFB, Germany. In this area lies one of the most important functions of AFOF - serving as the primary coordinator for USAREUR for all rescue operations in Western Germany.

ONE OF WORLD'S BUSIEST

THIS flight facility is one of the busiest in the world. It averages 550 flight plans a day during the peak summer flying period. This is no easy task when one considers that each Army flight plan normally averages anywhere from one to one-and-a-half hours, whereas the other services entail flight plans of much longer duration; hence, AFOF has considerably less time to process flight plans than similar agencies in the sister services.

IN FACT, this volume has lead to AFOF changing its methods of flight following. Whereas the aircraft flights were handled according to aircraft fin numbers - 00 to 49; 50 to 99, the current system is to control flights by rotary wing or fixed wing category. One section of AFOF monitors rotary wing flights while another follows fixed wing traffic. This method facilitates flight following since the operators become familiar with flight routes and location of landing sites peculiar to the operating characteristics of each category of aircraft.

AFOF is not without its problems, one of which, monitorization of tactical flights is a delicate one. This difficulty has been brought about primarily because the aviator himself does not know where he is going until the last minute when his commander tells him so. This is an extremely touchy area in light of the whims of the tactical commanders who fail deliberately or otherwise to inform their pilots of destinations until the last possible moment. The difficulty in subscribing this information in advance has led to the practice of commanders now monitoring their own flying activities.

THE OFFICER-IN-CHARGE of AFOF is Major Robert E. Brizee and his assistant is Major Thomas F. McNamara. Captain

USAREUR REPORT

BY COL. J. ELMORE SWENSON
HEADQUARTERS, USAREUR

Benjamin Waterman is the senior clearance officer assisted by Captains Virgil Danielson, Eugene McGowan, Nat O'Day, Merle McDonald, and Charles Teague. Sgt. John Martz is the NCO in charge of operations and Mr. Paul Weismueller heads the German employees who serve in almost every element of the detachment. Mrs. Hilda Hecker is secretary to Major Brizee and, of course, like all efficient secretaries, makes sure that everything works. The latch string is always out for people to visit AFOF located next to the Operations Building at the Heidelberg Army Air Field. It behooves each Army Aviator serving in Germany to see AFOF and how it works.

AIRLINE-TYPE FLYING

WHILE DELVING into the realm of navigation control, we find AFOF's sophisticated equipment being used primarily for point to point administrative flying while tactical flying control is relegated to the tactical commanders. Perhaps this "modis operandi" would be apropos along publication lines for navigational information too. Headquarters USAREUR is now probing into some future considerations about navigation in general and tactical flights in particular. This thinking was triggered by the proposed improvements in the Jeppeson Manual as reported by Capt. Egon J. Arndt of the USAREUR Signal Division. These forthcoming changes have been noted with considerable interest. It appears, however, that Army aviation is gradually becoming entrenched in the "airline" type of point-to-point flying with primary reliance on instruments and electronic aids as the only means of navigation.

THIS TYPE of flying is opposed to the basic concept of Army aviation operations where "nap of the earth" flying is fundamental to the existence of aircraft on the present day battle field. Accordingly, the feeling here is that efforts should be directed toward development of a flight information system which will furnish navigational information and assistance for the Army aviator during tactical flights on the battlefield, rather than the current "airline-type" of flying.

IN ADDITION, it seems that an "in house" capability for collection, production, and dissemination of such information must be developed within the Army because the commercial producer will not be in a position to provide tactical information in the event of hostilities. Such a system would have to be responsive to the changing situation on the battlefield and would require little or no significant lead time for preparation and dissemination. This thinking is a challenge, but is vital to future combat tactical operations.

APOLOGIES!

■ We wish to express our regrets for the tardy delivery of this issue of "Army Aviation." The 2 June cancellation of the 12-15 July Celebration at Ft. Rucker meant a last-minute remake of ten pages of the magazine, and we failed to meet our normal 15th of the month distribution date. ■■

GCA COMPETITIONS

THE GCA TEAM award winner for March and April was from Kitzigen Army Air Field, Germany. This team chalked up a total of 641 approaches during March and 302 approaches for April. Team members are Capt. L. Neville, Operations Officer; M/Sgt. R. L. Hendrix, ATC Supervisor; Sgt. L. McKinley, Tower Chief; Sgt. W. Pepin, GCA Chief; Sp/5 Jackson, Sp/5 Seale, Sp/4 Richardson, GCA Operators; and Sp/5 Malloy and PFC Amator, Maintenance personnel. The runner-up teams were Saran Army Air Field at Orleans, France with 569 approaches for March; and Hanau Army Air Field, Germany with 276 approaches for April.

EVEN THOUGH good flying weather is coming to Germany, let's keep up the practice runs. The last stretch for the plaque ownership will come up for keeps next December and that is the time of year when real GCA team proficiency pays off weatherwise.

WHY
NOT
SUBMIT

YOUR
PHOTO-STORY
FIRST-RUN

TO
ARMY AVIATION
MAGAZINE?

WE GUARANTEE
PUBLICATION OF
PHOTO "FIRSTS"

AAAA NEWS

MEETING in St. Louis on the occasion of the Lindbergh Chapter Celebration of the 20th Anniversary of Army Aviation, the National Executive Board of AAAA conducted its first quarterly meeting of the 1962-1963 membership year. The Board meeting was held at the Albert Pick Motel on 1-2 June upon the invitation of Maj. Gen. William B. Bunker, Midwestern Regional President.

THE BOARD MEMBERS concerned themselves with a review of all current AAAA Programs, to include the forthcoming Annual Meeting in October, the National Awards Program, and proposed amendments to the Association By-Laws. Some 26 agenda items were covered during the course of the two-day meeting. The Board will conduct its next quarterly meeting on 7-9 September at the National Office in Westport, Conn.

UPON RECEIPT of a petition bearing the signatures of 25 members, the Board approved the following changes to the By-Laws: a) Any Chapter or group of Chapters in the U.S. representative of 150 or more members is to be represented on the National Executive Board by a "Chapter Member-at-Large," and b) any overseas Regional area - USAREUR, USAFFE, USARCARIB, or USARAL - representative of 150 or more members is to be represented on the National Executive Board by a "Regional Member-at-Large."

NOMINATIONS forms for the four National Awards of AAAA have been forwarded to to the Chapter Presidents of the forty Chapter activities, to the 80-odd Designated Industry Member Representatives, and to the Commanding Officers of the major commands within Army aviation. All members of the Association will be invited by Brig. Gen. Delk M. Oden to submit Awards Nominations. The Director of Army Aviation will cover the subject of "National Awards" in his July, '62 Newsletter.

The Twentieth Anniversary of Army Aviation Celebration to be held at Ft. Rucker, Ala., on 12-15 July 1962 has been cancelled. Individual notices of the cancellation were forwarded to all persons indicating attendance by the Fort Rucker Planning Committee.

CURRENT AAAA membership stands at 5,368 individual members, representing 5,026 carryover '61-'62 memberships and 342 new memberships initiated since the start of the membership year on 1 April.

THE FLIGHT Pay Protection Program covering approximately 3,600 of the military members of the Association has passed the quarter million dollar mark in indemnity payments. Claims payments totaling $260,780.50 have been issued to 146 claimants through 15 May. As at 1 June 34 individual Insureds were collecting monthly indemnites under the FPPP.

DURING JUNE, Chapter Honorary Memberships were presented to Lt. General Arthur G. Trudeau, Chief, R&D, Department of the Army (Washington, D.C. Chapter) and Maj. General Lewis S. Griffing, Commanding General, Ft. Sill, Oklahoma (Jimmie L. Hilton Chapter).

JUNE, 1962 ACTIVITIES

CHAPTER ARMY AVIATION ASSOCIATION OFFICERS

BASED upon the signed Acceptance Forms received at the National Office of AAAA, the following Chapter Executive Boards are announced. Members elected to Chapter office are elected for a two-year term ending 31 March 1964. Elections within the Chapter activities of the Association follow a two-year staggered election plan with half of the elected slate being replaced in office during the 1 Jan.-31 Mar. period of each membership year.

OFFICES

Pres ..... President
ExVP .... Executive Vice President
Sec ..... Secretary
Trea ..... Treasurer
VPA ..... Vice Pres., Army Affairs
VPR...Vice Pres., Reserve Affairs
VPG...Vice Pres., Nat'l Guard Aff.
VPI...Vice Pres., Industrial Affairs
VPP.....Vice Pres., Public Affairs

KOREA

Pres.....Lt Col John R. Adie
ExVP.....Maj. John L. Holladay
Sec.....Capt. Roger H. Coye
Trea...Capt. Gregory F. Roche, Jr.
VPA.....Maj. William S. Hawkins
VPI.....To Be Elected
VPP.....Maj. Robert J. Standley

MONTEREY

Pres.....Maj. Joseph E. Henderson
ExVP.....Capt. James F. Neeson
Sec.....Capt. John R. Sisk
Trea....Capt. Clare F. Beames, III
VPA.....Capt. Edward C. Seymour
VPR.....Capt. John G. Swan
VPG.....CWO Jesse W. Leonard
VPI.....Capt. Delos A. McCoole
VPP.....Capt. Hugh C. Cate, Jr.

82ND AIRBORNE

Pres.....Lt Col Warren G. Cosby
ExVP.....Maj. Harold G. Keebaugh
Sec.....1st Lt Bruce A. Thomas
Trea.....Capt. Charles D. Fountain
VPA.....To Be Elected
VPR.....Capt. Walter E. Parker
VPI.....To Be Elected
VPP.....Capt. Loren W. Webb

METROPOLITAN N.Y

Pres.....Maj. Robert D. Hyman
ExVP.....Lt. Col. Sam Freeman
Sec.....Mr. Anthony L. Sacca
Trea.....Maj. George M. Kovacs
VPA.....Maj. John T. Berry
VPR.....Maj. William C. Taylor
VPG.....Maj. Charles Ende
VPI.....Maj. William H. Bell
VPP.....Capt. Edward R. Brophy

ALAMO

Pres....Lt Col William D. C. Jones
ExVP.....Maj. John R. Cross
Sec.....Capt. Kenneth E. Witten
Treasurer.....To Be Elected
VPA.....Maj. Michael Olijar
VPR.....Capt. Robert E. Blount
VPG.....Maj. Thomas W. Loftin
VPI.....Maj. Bill Rinkle, Ret.
VPP.....Capt. Myron D. Billy

PIKES PEAK CHAPTER BANQUET & MEETING: Lt. Col. Gordon L. Kinley (second from left), Chapter President, chats with Guest of Honor Col. Robert H. Schulz (center), Deputy Director of Army Aviation, before the recent Chapter banquet at which Col. Schulz was the Guest speaker. Others pictured, L to R, Maj. Robert Miller, 5th Inf Div (Mech); Col. Kinley, Col. Schulz, Maj. James Lefler, ARADCOM Operations Officer, and Lt. Col. Harry Jennings, Fort Carson Post Aviation Officer. (USA photo)

DAVISON CHAPTER BRIEFED ON VIETNAM: Shown during an "after coffee pause" are Head Table participants at the DUSAA Chapter's recent meeting at which Brig. Gen. Delk M. Oden briefed the members and guests on his Vietnam-Laos tour. L to R are Chaplain R.M. Hachsteadler, Col. Edgar C. Wood (DUSAA), Brig. Gen. Oden, Lt. Col. Nelson L. Lindstrand (Chap. Pres.), Col. Robert H. Schulz, Deputy Director of Army Aviation, Mr. Rudolph W. Riegner, and Capt. Austin J. Parker (Chapter Secretary).

NEW MEMBERS JOINING AAAA

ABBOTT, Basil G., Major
ANDREWS, Jack E., Major
BAHNSEN, John C. Jr., Captain
BAILEY, Harold M., Captain
BARNHART, R.G., Mr.
BARRETT, John T. Jr., Lieutenant
BATEMAN, Charles W., Lieutenant
BAUSLER, Donald R., Captain
BEAMES, Clare F. III, Captain
BELLVILLE, John P., SP/6
BERGERON, Andrew L., Lieutenant
BERRY, Carl S., CWO
BIGELOW, Robert W., CWO
BLECK, Max, Mr.
BOWES, H.E., Mr.
BRAGG, Walter L., Lieutenant
BROOKS, Milton D., Lieutenant
BROWN, James H. Jr., Lieutenant
BROWN, Leonard T., Captain
BUFFINGTON, Dale Ward, Captain
BURNETT, J.E., Mr.
BYRD, Roger D., Captain
CADE, Arthur, Mr.
CASALE, S. Arthur, Mr.
CASEY, Charles R., Lieutenant
CLINE, Richard T., Captain
COBB, Clinton W., Lieutenant
CONNER, John E., Captain
CUNNING, Dan W., Lieutenant
DANIEL, William L., Lieutenant
DAVIS, Leonard A., Lieutenant
DAVIS, Wallace R., Major
DAWKINS, Donald M., Lieutenant
DAWKINS, Thomas E., SP/5
DAYHARSH, Theodore J. Jr, Captain
DEE, Paul V., Major
DEW, Donald L., Lieutenant
DEWEY, Arthur E., Captain
DEXTER, Charles E., Lieutenant
DOODY, George R., Lieutenant
DOTY, Richard V., Lieutenant
DOUGLAS, George, Mr.
DUKE, W.M., Doctor
DUNAWAY, Fred C., Lieutenant
ECKERT, William N., Captain
EDISON, Thomas C., Lieutenant
ELTON, Dan K., Lieutenant
EVANS, Bill, Mr.
FLANNIGAN, T.E., Mr.
FOGG, William R., Lieutenant
FRANK, Karl M., Lieutenant
FRIEDMAN, Ralph, Mr.
FURST, John J., Mr.
GANNON, Francis J., Lieutenant
GARNER, James E., Lieutenant
GERTEIS, J.H., Mr.
GILLESPIE, Charles W., Mr.
GRAVES, Arthur W., SP/5
GRAY, John C.R., CWO
GREGORY, Rodes O., Captain
GRIFFING, Lewis S., General
GULLEDGE, Kenton E., Lieutenant
GUSTAFSON, E.E., Mr.
HAALAND, Carl J., Captain
HAISLOP, Edward G. III, Lieutenant
HALAS, F.P., Mr.
HARMON, Charles P., Lieutenant
HARRINGTON, Joe D., Mr.
HARRINGTON, Paul W., Captain
HATTAWAY, William E., Captain
HAY, William M., Lieutenant
HENDRICKS, David G., Lieutenant
HENKEN, Conrad F., CWO
HICKS, Thomas W., Lieutenant
HILL, Thomas E., SFC/7
HOGAN, Edward M., Lieutenant
HOLLOWAY, George H., Lieutenant
HOLLIS, Tommy G., Lieutenant
HOLTZCLAW, Bobby L., CWO
HOPE, William G., Lieutenant
HOUSTON, Joseph B. Jr., Lieutenant
HOWARD, Carl E., Lieutenant
HUGHES, Jerry L., Lieutenant
HUGHES, John C., Lt. Colonel
HUTSON, Bobby N., Lieutenant
HYERS, James E., Lieutenant
JOHNSON, Donald J., Captain
KEITH, Lloyd D., CWO
KING, Henry W., SP/5
KNIGHT, Sam E., Mr.
KRAHN, Wayne E., Lieutenant
KRISTOFFERSON, Kristoffer, Lt.
LALUMIERE, Paul R. Jr, Lieutenant
LAMBRIGHT, James H., Sergeant
LAMOTHE, Robert H., Lieutenant
LARKIN, D.H., Mr.
LAWRIE, Joseph, Brigadier General
LEFEBVRE, Joseph P. Lieutenant
LENTZ, Winfred, Mr.
LOCKWOOD, Roy C., Captain
LONERGAN, Peter J., Lieutenant
LUNSFORD, Mirt S. Jr., Lieutenant
MANDAP, Robert, Lieutenant
MARLIN, Patricia M., Mrs.
MARTIN, Larry R., Lieutenant
MATTSON, Bernard H., Major
MAYER, Hilmar Jr., Major
McCASKEY, Robert W., Captain
McDONALDSON, Elmer T., SP/6
McDUFF, Melvin A., Colonel
McKINSTRY, Jerome D., Lieutenant
MELLE, John A., SFC/7
METCALF, Ronald C., Lieutenant
MITCHELL, Edmund D., Lieutenant
MOGFORD, R., Mr.
MOORE, John W., SP/5
MOORE, W.W., Mr.
MOUNTJOY, T.M., Mr.
MULLER, Anthony N. Jr, Lieutenant
NEAL, Paul G., Lieutenant
NELSON, Richard D., Lieutenant
NOBLE, William H., Major
ODEM, James R., CWO
OGBURN, John R., Captain
OWENS, Bobby L., Lieutenant
PATE, Reuben M., Lieutenant
PEACOCK, Joel D., SP/5
PETTENGILL, Robert P., Mr.
PHILLIPS, Robert A., Captain
PINKERTON, James W., Major
PLEASANT, Arnold R., Lieutenant
POHLMAN, William F., Lieutenant
REED, Jerrell S. Jr., Lieutenant
RHODES, Lowell R., Lieutenant
ROBINSON, Bill, Mr.
ROOT, R.E., Mr.
RUDIS, Edmund P., Lieutenant
SANDERS, Clarence R., Lieutenant
SCHNEIDER, John, Mr.
SCHWALM, Wayne S., Mr.
SEMMENS, Phillip D., Captain
SIMERLY, Charles S., Lieutenant
SIMMONS, John F., Mr.
SNIDER, James E. Jr., Lieutenant
SPENCER, R. D.
STALIANS, Fred A., Lieutenant
STANDLEY, Robert J., Major
STEPP, Robert E., Lieutenant
STEWART, William L. Ret., Captain
ST. LOUIS, Charles, Mr.
STITELY, A.H., Mr.
STONE, James E., Lieutenant
STOUT, Stephen P., Lieutenant
SUGGS, Clarence E. III, Lieutenant
SWAFFORD, Dale W., CWO
TALCOT, W., Lieutenant
THIEL, Thurston T., Lieutenant
THISTLE, John B. Jr., SP/5
THRONER, G.C., Mr.
TILLMAN, Samuel J., Lieutenant
TINGLER, William N., Captain
TOLLEY, A.P., Mr.
TRENT, Franklin O., Lieutenant
TREVINO, Francisco Jr, Lieutenant
TRUDEAU, Arthur G., Lt. General
VALAER, John P., CWO
VAUGHN, Bill G., Lieutenant
VAUGHAN, Herbert E., Lieutenant
WALKER, James M., Lieutenant
WALTERS, R.E., Mr.
WARD, William E., Captain
WATERS, Derral R., WO
WEST, Gerald L., Lieutenant
WHITLOCK, Charles L., Lieutenant
WHITCHER, Glenn W., Lieutenant
WHITLEY, Henry G. Jr., Lieutenant
WHITEHEAD, Joseph D., Lieutenant
WHITEAKER, Jerry D., Lieutenant
WHITE, Robert L., Captain
WILCOX, Richard, Mr.

MAY - JUNE LISTING

CONTINUED
from Inside Front Cover

SCIENCE AWARDS

MAJ. GENERAL William G. Ely, Deputy Commanding General of the U.S. Army Material Command; Brig. General David B. Parker, Director of R & D, OCofT; Brig. General William F. Ryan, Director of Plans & Management, OCRD, D/A; and Col. Robert H. Schulz, Deputy Director of Army Aviation, ODCSOPS, were honored Head Table Guests along with General Trudeau.

WINNING PROJECTS

■ Arlington-Falls Church Area: David R. Green◆ and Gregory Rudziak◆ (Principles of Aerodynamics). Charles A. Fluet, Mike Manov, and John Redmond, Hon. Mention.

■ Alexandria-Fairfax-Prince Wm. Area: Jan C. Bochenek◆ (Wind Tunnel Analysis of Flex Wing). Russell Montgomery and Richard L. Buchanan, Honorable Mention.

■ Prince Georges Area: Richard Allen Bos◆ (Self-Contained Wind Tunnel). David M. Banworth, Richard W. Babst, and Vaclav Majer, Honorable Mention.

■ Montgomery Area: Bruce Wilkie◆. (Improvement of Two Stroke Engine). Joe Nelson, John Gualtieri, Janie Pughe, and Michael J. Nusbaum, Honorable Mention.

■ Washington, D.C. Area: Paul Dixon◆. (Table Wind Tunnel). William Bettum, Dennis McLaughlin, and Helen C. Charuhas, Honorable Mention.

FOLLOWING the Awards Ceremonies, President Gerard presented General Trudeau with a Certificate and credentials signifying his Lifetime Honorary Membership in the Washington, D.C. Chapter of AAAA (top right photo).

A ROSTER of the Judging Committees which evaluated several hundred projects exhibited at the various area science fairs included:

ARLINGTON-FALLS CHURCH AREA:
Brig. Gen. David B. Parker (OCofT), Dr. A. Hughlett Mason (OCofS, D/A); Mr. A.G. Thorne (Librascope Division).

ALEXANDRIA-FAIRFAX-PR. WILLIAM:
Mr. G.W. Fey (Sikorsky Aircraft); Lt. Col. Roy Haney (FAA); Maj. Robert C. Boatright (OCofT).

PRINCE GEORGES AREA:
Col. Daniel H. Heyne (Dept of Defense), Lt. Col. William H. Brabson (R&E, DOD), Mr. George F. Morris (IBM Corp.)

MONTGOMERY AREA:
Mr. George F. Morris (IBM Corp.), Mr. Warren T. Rockwell (Hiller Aircraft), Lt. Col. Robert J. Low (OASA, D/A).

WASHINGTON, D.C. AREA:
Col. Alexander J. Rankin (OCRD), Maj. John A. Todd (OCRD), Mr. W.R. Hankes (Boeing Vertol Div.)

ARMY AVIATION

VOLUME 11
NUMBER 6
JUNE, 1962

ANNIVERSARY MESSAGES

ARTICLES

DEPARTMENTS

ADVERTISERS

ARMY AVIATION is published monthly by Dorothy Kesten, Westport, Conn. Editorial and Business Office, 1 Crestwood Road, Westport, Conn. Phone: CApital 7-8266. The views and opinions expressed in the magazine are not necessarily those of the Department of the Army or the staff of the publication. Articles, news items, and photographs pertinent to Army aviation are solicited and should be mailed to the Editorial Office so as to arrive on or before the 10th of the month preceding the cover date month. Data submitted for publication should bear the name of the writer and should be accompanied by a return envelope bearing sufficient postage and the return address of the submitter. Accepted articles pertinent to any Army aviation subject except unit or AAAA activities are reimbursible at the rate of ten cents per published line. Subscription fees: Continental U. S., APO, and U. S. Possessions, $3.50 per year; all other addressees add $0.75 per year. Active Army personnel are requested to submit a residence or quarters address for magazine distribution purposes whenever possible. Back issues cannot be held unless an advance "Hold Notice" is furnished by the subscriber together with the date on which his "in transit" status will terminate. Advertising correspondence should be directed to the Business Office. Closing date for insertions is the first day of the month preceding the cover date month. Second Class Postage Paid at Westport, Connecticut.