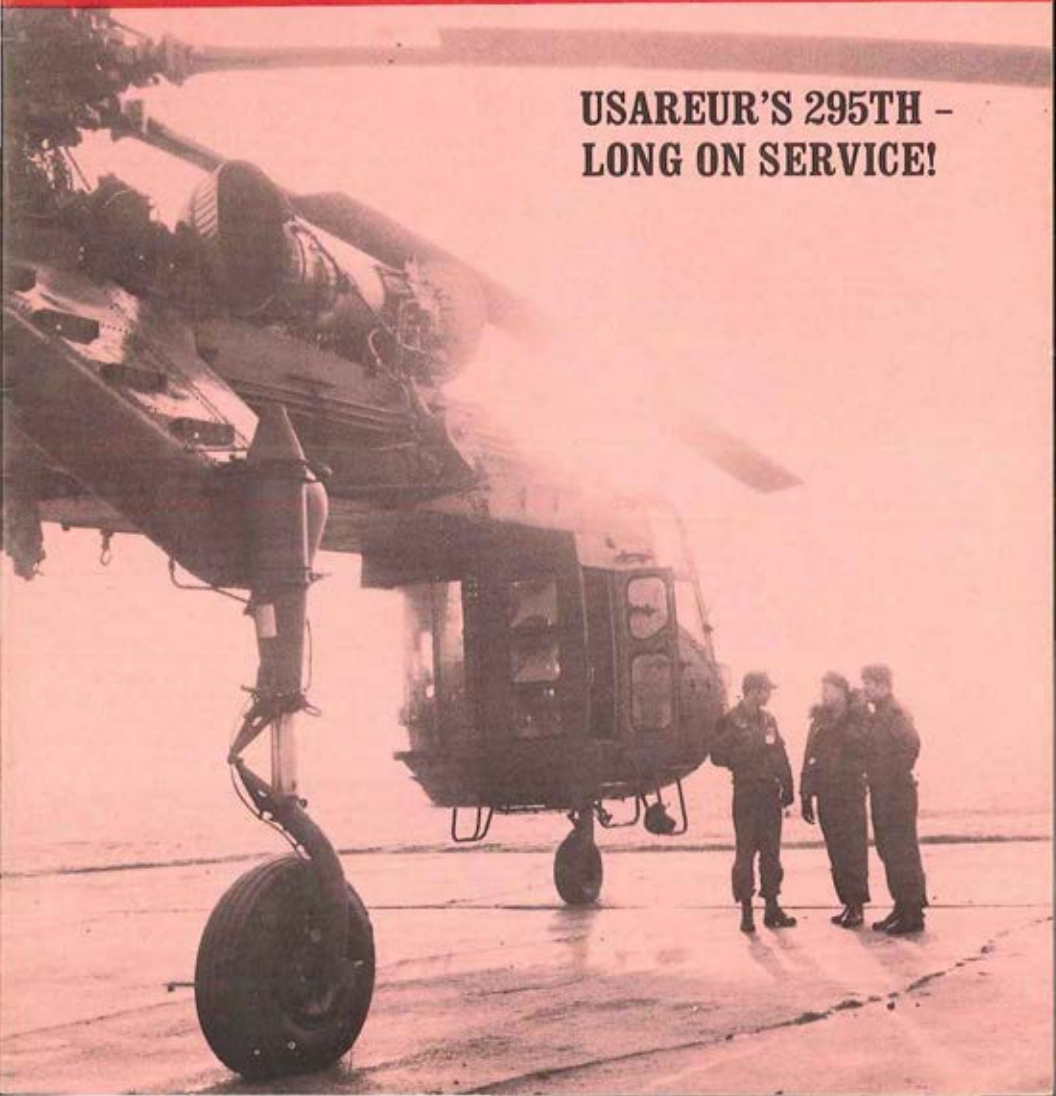
Army Aviation

FEBRUARY 8, 1974



USAREUR'S 295TH – LONG ON SERVICE!

ARMY AVIATION

VOLUME 23 — FEBRUARY 8, 1974 — NUMBER 2

CONTENTS

BIG BUY — The Imperial Iranian Air Force has purchased 12 Beechcraft Bonanzas, bringing its total to 30 since '72. The new aircraft are Model F33C aerobatic versions of the single-engine, 200-mph Bonanza F33A. The F33C's will be used in both primary and advanced pilot training programs, and as liaison aircraft.

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We're confident it will perform the Army's attack helicopter mission better. We know it will cost the Army less.

Hughes Helicopters & Ordnance Systems

DOES HISTORY REPEAT ITSELF?

THE "BALLOON PLATOON" OF THE 9TH INFANTRY DIVISION IS LAUNCHED AGAIN BY LTC ROBERT A. WEAVER ASSOC. PROFESSOR • INDIANA UNIVERSITY OF PA.

QUESTION: When was the last time a Signal Corps unit had a balloon platoon?

ANSWER: 1968. The place? The Mekong Delta. The unit? The 9th Signal Battalion of the 9th Infantry Division.

Yes, history does repeat itself and the story of the 9th Signal Battalion's provisional *"Balloon Platoon"* confirms this.

In this case, history had many parallels. For example, there's the parallel that took place before the 9th Division's move to Dong Tam when a balloon wrapped itself around a large tree at the base camp, and an incident on the 21st of July in 1861 when the Chief Signal Officer's impatience to get to a battle site before it ended resulted in the Army's only balloon of that day being impaled on a tree limb.

There were other balloon activities in the Civil War, but it wasn't until the Spanish-American War that the Signal Corps deployed its first balloon to an overseas combat area, where it was reported that the balloon's main activity appeared to be one of serving as a target for Spanish marksmen.

The balloon used in Cuba was the only one the Army had at the start of the war and was a homemade model of silk with a capacity of 15,000 cubic feet of hydrogen gas. After being shot down it had to be shipped home because of the lack of equipment to repair it.

The lessons learned from the use of the balloon in Cuba were not totally negative and other countries of the world began military balloon programs. U.S. development also continued and in 1908 the Army Signal Corps took delivery of *"Dirigible*

(Continued on Page 38)

The Chinook Comes To Canada

Boeing's CH-47C Chinook will now serve Canada with more capabilities than ever before. Canadians will operate Chinooks at their full capability by utilizing:

- 44 troops—seated.
- 26,000 lb payload on external cargo hook.
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- Expanded IFR, navigation and operational flight ranges.
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- Water operations with high payloads.

BOEING HELICOPTERS
BOEING VERTOL COMPANY

RESOLUTION

WHEREAS, the proposed legislation on flight pay, HR 8593, presents the minimum essential incentives to attracting and maintaining a combat-ready aviation force, and

WHEREAS, Warrant Officers and Commissioned Officers in aviation units fly side by side in the cockpit and share equivalent flight responsibilities and demands on their skills, experience and judgment, both in peacetime as well as in combat, and

WHEREAS, there exists an implied contract in the payment of flight pay throughout a military career,

BE IT RESOLVED that the Army Aviation Association of America, Inc. (AAAA) encourages and supports the passage of HR 8593, and additionally requests Department of the Army to undertake whatever action is necessary to equalizing the flight pay of a Warrant Officer to the Commissioned Officer.

(This Resolution was approved by the National Executive Board of the AAAA on 17 August 1973. A copy of the Resolution has been sent by the President of the AAAA to the Secretary of the Army.)

SECRETARY OF THE ARMY
WASHINGTON

6 November 1973

Dear General Oden:

Thank you for your letter of 1 September 1973 announcing the support of the Army Aviation Association of America in behalf of flight pay legislation.

The flight pay issue is one of the more critical problems facing the Army and the Services in the volunteer environment. Adequate incentives are required to attract and retain the qualified professionals needed to meet the Army's programmed manning levels.

As you know, the Congress is very much concerned with increasing manpower and materiel costs. We can expect a detailed analysis of each request. The Services are working closely with the Congress to insure that the flight pay issue is fully understood. The support of your fine organization in meeting this goal is appreciated.

Again let me express my thanks to each member of the "Quad A" for continued support of the Army when we need it most. This kind of dedication and commitment is what is essential if we are to make the volunteer Army work, a task worthy of the efforts of each active and retired member.

Best wishes to the membership of the Association.

Sincerely,

Bo Callaway

Howard H. Callaway

Major General Delk M. Oden, USA (Ret.)
President
Army Aviation Association of America
1 Crestwood Road
Westport, Connecticut 06880

TM-USA-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

ADHERENCE! NOT "USE"

By Brigadier General
JAMES H. MERRYMAN
Director of Army Aviation,
OCSFOR, D/A

I want to preface my remarks this month by once again addressing energy; specifically, the fuel shortage that faces our nation. Because of the potential major problems that a fuel shortage poses to the Army, I cannot place enough emphasis on urging each of you to do his bit in overcoming this shortage.

In this regard, I have recently received a paper prepared by *Major General "Bill" Maddox* and his guys at Ft. Rucker that warrants the widest dissemination. I have sent the information contained in the paper to all units. However, I would like to once again call your attention to the main thrust of the paper which emphasizes the use of the *Operator's Manual*. "Use" in this case is a poorly chosen word; adherence would be more appropriate.

The paper points out that we in Army Aviation, even with standardization procedures implemented, often fail to read that bible, the *Operator's Manual*, as much as we should. I fear that this is true and as we become increasingly familiar with an aircraft I think that we tend to use check lists, but become less prone to study the operational data and performance charts found in our –10s.

Particularly applicable in light of this fuel shortage are fuel consumption charts, prepared by the aircraft manufacturers to be considered in the selection of power settings and altitudes during flight planning. I urge each of you to use the performance charts for your particular aircraft in your flight planning and in the actual conduct of flights. Your actions will be directly translated into gallons of fuel conserved.

Also your attention to this type detail in flight planning will enhance not only your overall professionalism, but also will interface with aviation safety. Finally, and most importantly, you will be helping your Army and your country.

HEADQUARTERS, DEPARTMENT OF THE ARMY

Senior Service Colleges

Congratulations are in order for 28 aviators selected for senior service college attendance in 1974. I have listed all officers now scheduled by grade, branch and academic institution at which each will study, and their names appear in the boxes. Selection for senior service college attendance marks a milestone in an already distinguished military career. We are immensely proud of our selected aviator representatives.

Construction authorization

Several aviation-related *Military Construction Authorization* projects have received formal approval and appropriations. Aircraft of the 101st Airborne Division (AM) Artillery and its colocated air cavalry squadrons will be provided new facilities at Fort Campbell, Kentucky and Robert Gray AAF, Fort Hood, Texas, will receive a radar approach control facility, an ILS and airfield lighting. It should be noted that Fort Hood has air traffic control responsibilities for the Killeen-Fort Hood area.

Libby Army Airfield, Fort Huachuca, Arizona will have its taxiways upgraded and sufficient parking area and lighting provided for safe 24 hour operation. Existing facilities were originally underdesigned for wheel-loading of current aircraft. Various facilities at Fort Rucker will be improved to include a stagefield, lighting, as well as security-oriented projects resulting from the consolidation at Fort Rucker of training previously conducted at Hunter AAF and Fort Wolters. Finally, Sherman Airstrip, Canal Zone, will have its runway lengthened and strengthened to accommodate C-130 aircraft.

Aviation testing

The Department of the Army *Test Schedule and Review Committee (TSARC)* met in the Pentagon on 11 December 1973. Chaired by *Major General Elmer Ochs*, Commander of the Operational Test and Evaluation Agency, the General Officer *TSARC* comprises 11 permanent members which meets semi-annually to review and approve the Army *Five Year Test Program*. Aviation user testing approved at this latest meeting accounts for over 20%, by number, of the Army's test program for fiscal years 1974-1978.

User testing is divided into three general categories. The first, *Operational Testing*, is conducted on new hardware to provide data to estimate its military utility; operational effectiveness and suitability; and the adequacy of doctrine, organization, and tactics for the employment of the system. *Operational Testing* is scheduled for the AH-1Q *Cobra/TOW*, the Advanced Attack Helicopter, and several other aviation hardware items. Results of these tests will be used to assist DA and DOD in making key decisions on whether or not a system should enter advanced development, engineering development, and, finally, production.

Force Development Testing and Experimentation is the second type of user testing considered by the *TSARC*. These tests support the force development process by examining impact, potential and effectiveness of selected concepts, tactics, doctrine, organization and materiel. Most aviation testing of this type is conducted by *MASSTER* at Fort Hood, Texas, and the Combat Development Experimentation Command (CDEC) at Fort Ord, California. *MASSTER* is currently conducting several tests on helicopter ground movement devices and equipment for use at the *Forward Area Rearming and Refueling Point (FARRP)*, while CDEC is concentrating on developing employment techniques for attack helicopter teams in the anti-armor role.

SELECTEES, ARMY WAR COLLEGE

Colonels

Kaser, William T.	Tanner, Eugene P.

Lieutenant Colonels

Aguanno, Edwin M.	Godwin, Ralph L. (P)
Andrews, Donald G.	Hensley, William R.
Benson, Frederic S.	Howsinger, Larry E.
Bullock, Charles A.	Maddox, Bobby J.
Butler, Alman I.	Olsmith, Edwin S., Jr.
Cooper, Robert G.	Page, George W.
Corliss, Reginald H.	Pate, Robert L.
Crosmun, Clifford A.	Tolfa, Edward, Jr.
Walker, Wiley W.	

STARS IN ALABAMA — During a recent Ft. Rucker ceremony James M. Leslie, (Aviation School Assistant Commandant), center, was promoted to the rank of Brigadier General. Pinning on the insignia of the new grade are Mrs. Leslie and MG William J. Maddox, Jr., Post Commander and School Commandant.

Finally, the Army is participating in several *"joint tests"* which are conducted to evaluate Army systems or concepts that have an interface with other services. For example, the Army, Air Force, and Navy are together conducting an *Airborne Target Acquisition Test.* This test is designed to evaluate alternative systems and techniques for acquiring targets in combat air support. Data provided by these tests will be used to develop techniques for training new aviators to acquire targets, both visually and through the use of aids.

Testing has always been important in the materiel acquisition process. However, it has received new impetus since the Army adopted the "fly before buy" philosophy. In addition, the advent of the anti-armor helicopter and the resulting need for new tactics has added significant importance to aviation testing.

SELECTEES, AIR WAR COLLEGE

Lieutenant Colonels

Bills, Arthur D. **Sullivan, William F.**

SELECTEES, NAVAL WAR COLLEGE

Lieutenant Colonels

Goode, Franklyn C. **Oberg, Robert E.**

MAST

Recently enacted legislation provides authority for the Secretary of Defense to participate in the *Military Assistance to Safety and Traffic (MAST)* program. *MAST,* for those of you not familiar with the program, was originally a 1969 test effort exploring the feasibility of using military helicopters and medical personnel to respond to civilian medical emergencies, particularly highway accidents.

Today, *MAST* continues to augment existing local civilian emergency medical helicopter service by airlifting civilian traffic accident victims to hospitals, saving many American lives. The feasibility of the *MAST* concept was tested initially at five sites; Fort Sam Houston, Tex.; Fort Carson, Col.; Fort Lewis, Wash.; Luke Air Force Base, Ariz.; and Mountain Home Air Force Base, Idaho.

Its success has led now to the program's expansion to nine additional sites. These sites, already approved by the Deputy Secretary of Defense, are Fort Jackson, S.C.; Fort Sill, Okla.; Fort Hood,

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Adapting to changing needs has led to many advancements in Bell helicopters. Like elastomeric bearing hubs, that need no lubrication—ever. Gear boxes that won't seize, even after loss of oil. A nodalized suspension system that eliminates fuselage vibration. Application of advanced materials. Highly effective integrated weapon systems. Plus techniques in manufacturing and cost-control that have become standards for the helicopter industry.

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nations the world over depend on Bell HELICOPTER

Tex.; MacDill AFB, Fla.; Fort Riley, Kan.; Fort Bragg, N.C.; Fort Ord, Cal.; Fort Benning, Ga.; and Fort Bliss, Tex.

"Flying Neighborly"

Recently a voluntary program came to my attention which I consider sufficiently important to warrant mentioning. *Mr. Robert Richardson,* Executive Director, Helicopter Association of America (HAA), has, with his entire organization, launched what he calls a *"Flying Neighborly"* campaign directed primarily at the abatement of noise emanating from aircraft in flight. I heartily endorse any program toward the reduction of those factors, peripheral to aviation operations, which adversely affect the civilian population in communities throughout our nation.

To be less general, however, I feel we in Army Aviation can add significantly to *Bob Richardson's* effort. With our aircraft and type operations we have the capability to control much of the low level aircraft noise which could cause concern to the citizens over whom we fly. Simple consideration given to altitude, airspeed, and proximity to populated areas while planning flights, could relieve much of the noise irritant *Bob Richardson* is addressing. Some additional correlated information was offered by Bell Helicopter Company, information which I think is quite clearly presented and might be of interest to you.

Bell Helicopter Company compiled a brochure entitled *"Flying Neighborly — How to Operate the Medium Helicopter More Quietly."* Within the booklet is an article with the same title prepared by Bell's Research Project Engineer, *Mr. C. R. Cox.* The author addresses the unique UH-1 acoustical signature to which he refers as "blade slap".

As described by *Mr. Cox,* blade slap will occur generally in two instances.

SELECTEES, INDUSTRIAL COLLEGE OF THE ARMED FORCES

Lieutenant Colonels

Geise, William — **McConnell, Lewis J.**
Hegdahl, James O. — **Peachey, William N.**
Sullivan, Jerome J.

First, during high speed forward flight, *"...when a main rotor blade enters the compressible-flow region on the advancing blade side. Shock waves make the blade's airloads fluctuate . . . and these fluctuations generate noise."*

A second case, *Cox* adds, occurs at lower speeds, *"...when a blade intersects its own vortex, or that of another blade. When this happens, the blade experiences locally high velocities and rapid angle-of-attack changes. This can momentarily drive a portion of the blade into compressibility and possibly shock stall, both of which produce aerodynamic load variations. Either or both mechanisms generate noise."*

In the past, when asked about this unique noise aspect of UH-1 aircraft, I frequently felt my explanation left the inquirer as baffled as before he asked. *Mr. Cox* has succinctly presented his explanation, which, if you had as much trouble as I explaining blade slap to other than aviation oriented citizens, bears remembering.

AAAA National Convention

I recently received a letter from *Colonel "Ed" Neilsen,* President of AAAA, in which he advised that the 1974 AAAA National Convention will be held this fall in Washington, D.C. during the period 16-18 October.

Each year this meeting provides an unusual opportunity for military and civilian members of the Army Aviation community to gather and freely exchange ideas, dis-

Flexible solution to rotor blade/ bearing design.

That's what Lastoflex® laminated bearings from Lord Kinematics are providing for the U. S. Army's Heavy Lift Helicopter (HLH), being designed and built by the Boeing Vertol Company.

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- eliminating lubrication
- reducing maintenance
- increasing service life

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For additional information on motion accommodation or vibration/shock control write: Lord Kinematics, Lord Corporation, 1635 W. 12th St., Erie, Pa. 16512.

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cuss requirements, and emerge after three days of conference having experienced a general reunification of goals and commonality of purpose.

The conference, as perhaps few other annual affairs, offers each of us a first hand opportunity to examine the symmetry and balance in our aviation program. We're still some months away, but keep the dates in mind.

OV-10 interest item

The managing editor of *Aerospace Safety Magazine*, Air Force Inspection and Safety Center, Norton Air Force Base, California, permitted me to reproduce the following excerpts from his September 1973 issue. I think you'll find it interesting.

"Would you believe . . . ? Takeoff was rough on a bumpy runway, and as pilot pulled to rotate, the left main tire blew on the heavily loaded OV-10. Soon it became apparent that the bird wasn't going to fly and had departed the runway. Naturally there was a lot of action in the cockpit — differential reverse thrust, brakes, etc., but it couldn't fly and wouldn't stop. The view ahead was rather dismal, the usual ditch, fence, bank, etc., so the jock ejected.

"Now the interesting part. The Bronco stopped on all three legs with the props idling in reverse. The pilot's ejection was successful, and he landed about 100 feet from his bird. He then walked over and shut down the engines before being taken to the dispensary where he was found to be unhurt. Ho hum, what's new?"

Above and beyond

Mrs. Edith M. Todd, Army Aviation's grande dame, retired from active duty on 24 December 1973, completing 22 years of outstanding federal service. *"Toddy,"* as she is affectionately known to us, began her career at Fort Devens, Massachusetts. She joined the Aviation Directorate in July, 1968 where she served as personal secretary to the Director of Army Aviation who at that time was *General Edwin Powell.* After *General Powell* she served General, then Col. Jack Hemingway.

In 1969 and part of 1970 *Toddy* went on a short tour to the Republic of Vietnam. There she served in a secretarial capacity for *Generals Burdett* and *Putnam,* sequential commanders of our 1st Aviation Brigade. With her 1970 DEROS *Toddy* returned to the Directorate where she became secretary to *General Burdett.* Three subsequent years were spent under *General Maddox,* and now I, too, have had the good fortune to have had her as my right hand.

The pace to which *Toddy* is geared apparently will not change. January found her in Massachusetts, and soon she is scheduled to depart for a brief tour of the Soviet Union. Home remains, however, 4527 South 31st Street, Arlington, VA 22060, a stone's throw from the Directorate. We in the aviation family wish *Toddy* all the happiness life can bring for in the traditional, professional term of the Army, we thank *Edith Todd* for a job "well done".

Toward increased safety

I recently reviewed a study by Darwin Ricketson (USAAAVS) on pilot error as a cause of Army helicopter accidents. This study is notable because it goes beyond the citing of statistics and preconceived types of accidents in dealing with that catch-all explanation, "pilot error".

This study used an analytical technique called factor analysis which lets the accident data speak for itself. Here is what the data said: First, 96 of these accidents were caused by mistakes made in nine basic flight skills; second, each of these mistakes is caused by an overload on the pilot's basic ability or his capacity at that moment; third, this overload results from an out-of-tolerance condition in one or more of the aviation system elements.

What the data convey is not surprising. When the basic elements of selection and training, design, maintenance, facilities, environment, supervision, and man's psychological and physiological states are out-of-tolerance, our aviation system will not function properly.

If we expect to minimize overloads on the pilot and maintain an effective capability we have to get back to basics. We must make each element of the aviation system work as efficiently as possible. It's just another form of Professionalism in Army Aviation, this time directed toward flight safety. □

Low-cost Bendix VHF Com-Nav goes military.

The ultra-reliable Bendix com and nav is available now for military use. Already flying in OH-6, OH-58 and UH-1 Army National Guard helicopters and U.S. Navy T-34 aircraft, these super-rugged avionics units first earned an enviable reputation aboard hundreds of business aircraft. Now they've passed their military enlistment test with flying colors.

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Bendix

AAAA FOUNDATION OFFERS $4,000 IN SCHOLARSHIP AID

The AAAA Scholarship Foundation announces the availability of $4,000 in 1974 scholarship assistance funds for the sons and daughters of members and deceased members with an effective date of membership on or before March 31, 1973.

Students applicants are asked to request the appropriate application forms by writing to: AAAA Scholarship Foundation, Inc., 1 Crestwood Road, Westport, Conn. 06880. The applications, together with other supporting application data, must be returned to the Foundation on or before March 1, 1974 to receive Awards Committee consideration.

ELIGIBILITY

Eligibility requirements have been minimized. The AAAA applicant must be: (1) the son or daughter of a member or a deceased member with an effective date of membership on or before March 31, 1973; (2) a high school graduate or senior who has made application to an accredited college or university for Fall, 1974 entrance as a freshman, or who has been accredited for freshman enrollment in the Fall of 1974; and (3) unmarried and a citizen of the U.S.

FINAL SELECTION

Selection of scholarship award winners will be made by the AAAA National Awards Committee, a permanent standing committee of the National Executive Board of the AAAA that has been designated by the Foundation to serve as its judging agency. The selection will be made during the month of March, 1974, with the winners to be notified not later than April 15, 1974.

BACKGROUND

A separate non-profit educational activity created to administer scholarship assistance for the children of members, the AAAA Scholarship Foundation, Inc., was incorporated in December, 1963. With the provision of 20 scholarships in 1973, the Foundation has furnished $40,900 in direct aid to 133 children of members or deceased members since the program's start in 1963.

HELICOPTER R&D IS PAYING OFF

BY COL WILLIAM C. BOEHM
CHIEF OF AIR SYSTEMS DIV.
RD&E · AVIATION DIRECTORATE

THIS is a time of change and a time of challenge for the Army. There are concerns with race relations, difficulty in meeting recruiting goals, use of drugs, and the public image of the Army.

While these problems receive high visibility there is one thing that appears bright on the horizon — it stands out sharply — and that is that our future weapons systems look good indeed. *R&D appears to be paying off!* Nowhere is this more apparent than in our aviation programs. Our future aircraft are, for the most part, now clearly defined but there are areas still under evaluation.

This is as it should be because what we need tomorrow depends on our evaluation of the threat, the state of technology, and the age of the existing equipment — how rapidly it is becoming obsolescent. The Model A and Model T automobiles are still recalled with affection but they couldn't meet the needs of the motorist in the 1970's. And neither can early technology helicopters.

When we develop new aircraft our first thought must be to the threat — or the environment in which the aircraft will be used. The development of scenarios in which mission profiles are established is one of our biggest headaches. When Sam Damon in *Once an Eagle* decided to make the Army his career after World War I he was asked why by his hometown folks as they couldn't envision another struggle since they had just participated in the war to end all wars.[1/]

Before that war the Army staff had formulated color plans, *ORANGE* for Japan and *RED* for Great Britain, which set forth joint operations in the event the U.S. were attacked by one of these nations. This seems almost absurd in retrospect as far as Britain was concerned. After World War I there was correct emphasis on plan *ORANGE* but there was also an improbable *ORANGE-RED* in which the Japanese and British teamed up against us.

However improbable, a fall-out of this plan was the concept that with widely separated opponents the emphasis should be on defeating the European opponent *first;* this became the dominant thought in Army planning as far as our participation in World War II was concerned.[2/]

The problem in the 1970's is similar to the concern of Sam Damon's neighbors, as encounters in the future are difficult to

1/ As an aside from the subject of R&D and helicopters, the author feels that *Once An Eagle* is one of the finest novels ever written about the military.

2/ The color plans are discussed in Forrest C. Pogue's second book on George C. Marshall entitled *Ordeal and Hope (1939-1942)*, page 123.

foresee. Yet the concern is paramount because it impacts on the size of forces and certainly the type of equipment which has to be developed.

Use determines "specs"

An attack helicopter in a sophisticated air defense environment might look considerably different than one in a low-intensity Vietnam-type situation. Should we then develop a single aircraft to do diverse missions or would it be more economical to develop two helicopters for specific roles? In Europe the principal role of the attack helicopter would be to function as an anti-tank platform with standoff capability and terminal homing weapons. In a Vietnam-type environment we would be more interested in improved anti-personnel weapons. In the desert we might need *both*.

Hence, the importance of scenarios in determining what we should develop. Europe obviously has to be considered but perhaps there has been an over-emphasis on the requirements for Europe. Current arms limitations talks and expressions of some members of Congress suggest the possibility of withdrawals — the situation is ever-changing due to continued detente with the Russians and the realization that the Western nations have the capability (with an increased effort) to assume more of the financial burdens of their own defense.

Thus, many think that we cannot place an inordinate amount of effort on weapons solely geared to a European conflict when this has become an unlikely probability albeit a possibility. On the other hand, the Middle East poses problems and becomes a viable consideration in the light of the energy crisis and Arab-Israeli continued difficulties. A Middle East scenario could be envisioned as a much more realistic situation than the *ORANGE/RED* planning during the pre-World War II era when we were evaluating a Japanese-British accord.

Equipment for many areas

Southeast Asia and Korea remain potential troublespots and must be considered in spite of the bad taste left as the aftermath of Vietnam. But time alters moods and limited Asian scenarios in Thailand, the Philippines, or the more conventional possibility of North Korean aggression certainly are logical developments. Thus, the Army is faced with the continuous problem of structuring forces and manufacturing equipment to fight in many areas, not merely in Europe.

Other nations have this problem but to a smaller degree. Britain has lessened its commitments considerably and is primarily concerned with Europe. France no longer has an overseas empire and its attention is directed at home. Thus, our problem is somewhat unique as we must plan for various contingencies whereas most nations have much more restricted locales and climates for their military planning.

Now let us look at where we are in the helicopter business, what we are developing and where we might go. This chart outlines the story.

ARMY HELICOPTER SYSTEMS

ROLE	*CURRENT*	*DEVELOPMENT*	*POSSIBLE FUTURE*
Utility, Assault, Medical Evacation	UH-1H	YUH-60, YUH-61 (UTTAS)	
Heavy Lift Cargo Transport	CH-54	XCH-62 (HLH)	
Medium Lift Cargo Transport	CH-47	—	CH-47 Up-date or new development
Attack Helicopter	AH-1G	AH-1Q (COBRA/TOW) YAH-63, YAH-64 (AAH)	
Observation, Aerial Scout	OH-6 OH-58	Austere Improvement (Stabilized Optics)	New Aerial Scout

Single engine limits Huey

First, we currently have the ubiquitous *Huey* in the assault, medical and utility roles. The follow-on is the long-titled *Utility Tactical Transport Aircraft System* or *UTTAS*. The two competitors are the Sikorsky YUH-60 and the Boeing YUH-61. The *Huey* is a fine helicopter and a significant improvement over the early rotary wing craft. It was developed during the late 1950's initially as a medical evacuation ship but then enlarged or stretched into a command aircraft and a limited troop carrier.

While it was probably the world's finest helicopter in its day it also had numerous performance and maintenance limitations in light of today's technology. About 8,700 *Hueys* in five different models were bought by the Army and about 3,900 remain in the inventory. The attrition rate was high in Vietnam as it was the assault aircraft.

The *Huey* lacked power and its single engine feature certainly contributed to accidents and limited operations at night. While the merits of a twin engine helicopter are difficult to justify analytically and sufficiently to assuage operations research people there is no aviator who feels comfortable with a single engine aircraft over water, at night, or in restricted weather conditions.

Future squad carrier

Hence, the *UTTAS* will have the desired two engines indicating that Army aircraft are now being designed to enhance safety as well as performance. Power limitations of the *Huey* were exceptionally critical in the central highlands of Vietnam where the density altitude conditions permitted only four passengers along with a crew of four and full fuel.

In most other areas the norm was six soldiers without exceeding maximum gross weights, and this is far from the squad that was operationally required. And it is a dramatic and tragic fact that over 5,100 Americans were killed in helicopters in Vietnam and most of these were in *Hueys*. That amounts to nine percent of all U.S. deaths. About 40% of these were in accidents, combat-induced to be sure, but still a startling statistic.

For all of these reasons and to take advantage of 1970 technology, improve reliability, and maintainability, enhance survivability, reduce accidents and to increase operational capability the *UTTAS* will be the squad carrier in the late 1970's. In maintainability alone it is anticipated that the manhour relationship to flying hour can be reduced from about nine for the *Huey* to less than half of this for the *UTTAS*.

Broad spectrum operation

Now back to scenarios and the environment in which the *UTTAS* will operate. It will operate in all areas and is not being designed for a specific area. Its light, more efficient advanced technology engones will permit the *UTTAS* to operate out of ground effect and with a vertical rate of climb at 4,000 feet altitude and ambient temperature conditions of 95 degrees. This will permit operation in over 86% of the world's land masses . . . And all while carrying a full squad.

Of course. the *UTTAS* will not be used for Vietnam-type assaults in a mid-intensity environment with relatively sophisticated enemy air defense weapons; but even in Europe it can be used to carry weapons, re-position troops to key sites, move reserves, and outload the wounded.

UTTAS to phase-out Huey

In a desert or tropical environment and possibly in Korea, the *UTTAS* will be an assault ship à la Vietnam but carrying a full squad. If one engine goes out the remaining engine will permit a safe landing.

In summary, the *UTTAS* development will be the chief aviation activity to increase the mobility of the Army in the early 1980's. The first YUH's will fly next fall and the fly-off to determine the winning chopper will be completed in 1975. This doesn't mean that all the *Hueys* will go out of the inventory at that time as

PHOTO STORIES

NEW COMMANDER — The guidon of Hqs Battalion, Ft. Rucker, Ala., is passed to the new commander, LTC Bill G Lockwood by COL Crawford Buchanan, Deputy Post Commander, I.The former took over command from LTC Jonah B. Davis., Jr., in an early January ceremony held at USAAVNC.

COOL LINE-UP — These Cobras of the 101st Airborne Division (Airmobile) are pictured at Eagle Army Heliport with icicles galore. Note the large accumulations hanging below each

SURPRISE — The new NORS System delivered the requisitioned shims to SGT Wm. T. Buehler, Tech Supply NCO of the 117th Avn Co (AH), Korea, and included a holiday gift of one piece of home fried chicken. Here, SGT Buehler does his best to explain the extra package to CPT Robert A. Snyder, left, the 117th commander.

DOUBLE AWARD — CW4 Walte J. Schramm, 2d from right, is pre sented with Master Aviator wings by BG Lee C. Surut, ADC of the 3d Armored Division, and also re ceives the German Sportsmeda from Herr Ludwig Hobein, Hana

tail. The icy experience was the result of the worst ice storm to ever hit Ft. Campbell, according to the local residents. Despite the ice no serious damage was recorded at the unit.

MASTER — LTC Daniel C. Dugan, USA Air Mobility R&D Laboratory (AMRDL) experimental test pilot, receives his Master Aviator Badge from COL Norman L. Robinson, Deputy Director of AMRDL in an early January award presentation held at the Ames Research Center, Moffett Field, California.

Police Director, for having passed rigid physical fitness tests as a member of the Hanau PD Sports Club. LTC Robert E. Hedgcock, commander of the 122nd Maint Bn, Schramm's unit, is shown second from the left. (USA photo)

ASSISTANCE — CW4 Robert J. Kean, Treasurer of the AAAA's David E. Condon Chapter at Ft. Eustis, Va., is shown presenting a $100.00 check to Command Sergeant Major Leo Pike. The check was a donation from the Chapter membership to the local area drive for needy families. One of AAAA's most active Chapters, the Chapter will hold a Scholarship Dance on Feb. 22.

HELICOPTER R & D
(continued from Page 19)

there will be a gradual phase-in of the new aircraft coincident with an orderly reduction of the *Hueys*. Most units probably won't be equipped with the *UTTAS* until the mid 1980's.

In the attack helicopter field we now have the AH-1G *Cobras* and some UH-1Ms. These aircraft have many of the same deficiencies as the utility *Hueys* and have limited weaponry with rockets, 7.62mm machine guns, and 40mm grenades. Some *Cobras* are also equipped with a fixed 20mm gun. All of these systems are basically designed to attack personnel and have only a limited anti-materiel capability.

Accordingly, there has been a concerted effort to develop an aerial anti-tank system. We experimented with the *TOW* on the *Hueys* and two models were sent to Vietnam in the late stages with outstanding results. Now there is a program to retrofit some Cobras to the *TOW configuration* and this model is called the AH-1Q. Eight Q models are now undergoing extensive testing.

The Army can expect to have operational *TOW*-equipped *Cobras* in the not too distant future and this may be the most effective anti-tank weapon on the battlefield. The fleet will consist of both regular *Cobras* and *TOW/Cobras* and they will be able to perform individually or working as a team as the situation and locale may dictate.

AH-1G to complement AAH

The *Cobra*, as the *Huey*, represents older technology and has limited payload and performance capabilities particularly when we are talking about nap of the earth, hover, and pop-up tactics. It also has a limited night capability, primarily the eyeball on a moonlit night plus some normal battlefield illumination.

These limitations have dictated the need for the advanced attack helicopter which will have a night capability and the ability to perform extremely well under most ambient weather conditions. The two competitors are the Bell YAH-3 and the Hughes YAH-64. Again there will be a fly-off to determine the best aircraft and in the early 1980's the Army will have indeed an *Advanced Attack Helicopter*.

In what environment can these gunships operate? The regular *Cobras* will still have weapons primarily designed against personnel though obviously even a small rocket directly hitting a tank in a vulnerable spot would have some impact. These *Cobras* would be best suited for an operational situation where tanks are *not* the chief target. In such areas, the AH-1Q

Cobra/TOW would be well suited for the anti-tank mission.

On the other hand, the *Advanced Attack Helicopter* has increased capability against both personnel and tanks. It will be able to effectively operate and acquire targets at night, a problem that is especially acute in areas of dense vegetation. Its performance characteristics would provide the power, maneuverability, and weapons payload to do just about any job required of a gunship. Current plans are to have a complementary mix of AH-1G, AH-1Q and AAH to effectively utilize all available aircraft and to tailor our forces to meet varying threats.

Possible Scout phase-out

An area where firm positions have not been established but where opinions are legion is the future light observation/aerial scout helicopter. Primarily designed as a command and control and observation ship, it was especially productive in Vietnam working as a daytime aerial scout. Team tactics were developed with the scout and the *Cobras* forming a deadly tandem.

The same situation is envisioned with *Cobra/TOW*. This would require the scout to work on the deck in a tank environment. Since the eyeball is not sufficient to find the targets from low altitudes, we are considering a modest product improvement to some existing LOH's to provide the necessary optical systems permitting a stand-off target acquisition capability. The scouts can then hand off targets to the *TOW-armed Cobras*.

For the long range the question is whether we want a new aerial scout to perform in the environment of the AAH, complete with a night navigation and target acquisition capability. To study this system it is anticipated that the Army staff will convene a Special Task Force to determine what is needed, in what numbers, and at what cost. A possible fall-out of the aerial scout concept formulation could be a common airframe which could replace all the existing LOH's, not only in the aerial scout role but also in the observation and command and control functions.

New HLH required

In the heavy lift area we have the CH-54 *cranes* and are working on a heavy lift helicopter. Boeing is developing a prototype which has been designated the XCH-62. This is the world's largest vertical lift aircraft and is being designed to lift 22½ tons at sea level under 95 degree temperature conditions.

The primary role envisioned is in the logistics area particularly in *logistics-over-the-shore (LOTS)*. The payload will permit unloading of practically all cargo from container ships. Other missions are retail logistics and while the XCH-62 is not considered a tactical aircraft, it can obviously be used to move equipment over short gaps and lift the MICV and other large vehicles across barriers and rivers.

This major effort is costly as relatively small numbers of these logistics helicopters are required but nothing else can do the required job as well as the *HLH*. Assuming successful development, the *HLH* could enter the Army's inventory in the early 1980's.

Chinooks may be updated

The last helicopter role is that of the medium transport which now consists of CH-47 A, B and C models. The C model has a much greater capability as it can lift about 10 tons at sea level on a standard day. The A and B models have a reduced capacity and also suffer from aging. Possible up-dating of these aircraft is now being evaluated but there are no firm plans or requirements.

An aircraft once described in requirement documents was the so-called *LTTAS, the Light Tactical Transport Aircraft System*. This was somewhat of a misnomer as it certainly was not light except in comparison with the *HLH*. Any decision to update the A and B Chinooks would obviously impact on any future development. A key consideration to giving the older *Chinooks* a greater capability is the need developed and refined in Vietnam to move artillery and other weapons and equipment on a routine basis. A pacing

factor in the design of the new-towed 155mm artillery piece (XM-198) is that it must be capable of being moved by the C-model *Chinook*.

The Army's development plans for helicopters are not necessarily modest but they are realistic. The principal innovation in warfare since World War II has been the role of the helicopter, first to carry troops and equipment in the assault, then to perform in the logistics and medical evacuation roles, and finally the last and perhaps the prime innovation has been the gunship or attack helicopter.

Accurate terminal homing weapons such as the *TOW*, when employed from an aerial platform as part of the coordinated ground battle, portend a new era in tank/antitank warfare. And in areas where tanks may not be employed the improved performance of aircraft, weapons, and fire control indicate continued progress in giving our ground troops a capability no other Army possesses against personnel targets.

In summary, helicopter R&D conducted by the Army and American industry in the last few years appears to be paying off. We now have crashworthy fuel cells to prevent fires which occurred with regularity in the past. Engines have become lighter and more efficient as a result of far-reaching increased knowledge of small engine technology.

A promising future

Aircraft survivability is being enhanced by the use of twin engines; by infrared protection equipment which worked quite well in Vietnam; by redundant controls so that if small arms puts one set out of action there is the other to rely on; and by overall performance improvement which gives the pilot that extra margin of safety so that power can be applied and critical maneuvers performed in tough situations.

Other improvements are in structure and the use of rotor blades made entirely or in part of fibre glass or titanium. New point target weapons promise increased effectiveness with the *TOW* and possibly *HELLFIRE (Helicopter Fire and Forget)* in the future. The 30mm cannon being planned for the advanced attack helicopter will far exceed today's 7.62 capability. Another new technique is the *HLH* fly-by-wire where controls are actuated by triply redundant electrical impulses which can eliminate most mechanical controls.

This is merely a brief recital of some of the more glamorous improvements. Add them all together and the Army in this decade and the next will have better helicopters, more operationally effective, safer by far and certainly more survivable. The future certainly looks promising.

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END OF MISSION — LTC Ludwig Probst, Cdr, German Defense Sub-District 632, and MG Gordon J. Duquemin, Cdr, 1st Inf Div break open a pallet of German beer to celebrate the departure of American troops from W. Germany at the end of the late '73 Reforger V Exercise.

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HIGH-ALTITUDE — Two Army Aviators, MAJ James A. Burke (l.) and LTC Daniel C. Dugan, AMRDL, Ames Research Center, supported NASA by flying astronomers in Ames Lear Jet in high altitude scientific flights to observe the Comet Hakoutek. Altitude? 45,000 feet, plus!

Branch Briefs

I was impressed by the recent article, *"Attitude + Attitude + Attitude,"* written by *CW3 Stanley E. Whiteman* for the *"Digest"*.

Mr. Whiteman describes the effect, and what I consider the importance of the little word, *attitude,* as it pertains to safety. The purpose of the article is well taken, however. It obviously has wider application in terms of an individual's overall daily interactions.

Speaking as the Chief of the Aviation Warrant Officer Branch, I know of no other personal characteristic that has more impact on an individual's career, either good or bad, than that of attitude. I think we can say *"a positive attitude is the oil that makes our military machine run smoother"*.

A positive attitude in any assignment, will in most cases reflect an improved manner of performance. A positive attitude toward your enlisted crew, tower/GCA operators, and operations NCOs can be contagious and will usually be rewarded with improved results. Last, but not less a factor, a positive attitude towards regulations and established procedures will pay great dividends. Think of the time and effort that is wasted trying to beat the system.

We must all constantly strive to improve our attitude and through our own actions, such as our appearance, influence the attitude of our co-workers. In so doing, we will be advancing the professionalism of the aviation warrant officer corps and the efficiency of the Army.

Message to Senior Warrants

As you know, the Vietnam drawdown, the return to a peacetime posture, and the corresponding reduction in strength have brought back some old problem areas we haven't had to face for some time.

Already, we are starting to experience some dissatisfaction due to the cutback in flying hour requirements. Many of you experienced this same thing in the late fifties and early sixties. I am sure you know the feeling and can possibly ease some of this frustration.

In the future you can anticipate assignments to locations that will allow the Army to draw on your unique background and experience to aid in managing and influencing our younger personnel. Your advice and assistance can be very constructive in developing our younger aviation personnel.

New MOS Structure

At the present time, the aviation warrant officer MOS structure is under review. The problem, from a management point of view, is that present codes do not identify specific aircraft qualifications. For example, MOS 100B identifies a rotary wing aviator who could be qualified in the UH-1, OH-6, and the OH-58. This has caused requisitioning problems for people in the personnel business.

The revised MOS structure will provide a code for each aircraft. Additionally, new codes will be established to identify standardization instructor pilots, maintenance test pilots, and air traffic control technicians.

This revision will also provide codes for

Branch Chief asks for a positive attitude

By COL TED CROZIER
Chief, Aviation Warrant Officer Branch

identifying and managing aviation warrant officers who are removed from flight status, but can still be utilized in certain skill areas of aviation. These changes should be implemented by October 1974. I believe they will increase the accuracy and utility of our personnel management and strength accountability documents.

Current Education Programs

Branch currently has 149 warrant officers enrolled as fulltime students in civilian institutions. Programs available to aviation warrant officers who desire to further their educational development are the *Warrant Officer Associate Degree Program (WOADP)* and the *Degree Completion Program (DCP).*

The *WOADP* is a fully funded program for which the Army bears all expenses for those applicants who desire and qualify to pursue an associate degree. The *Degree Completion Program* is a partially funded program for applicants desirous of a baccalaureate degree. The Army authorizes full pay and allowances while the individual bears the total cost of tuition, fees, and textbooks. Financial assistance may be obtained through the Veterans Readjustment Benefits Act.

Priority in selection for both programs is given to those who can complete degree requirements in the shortest period of time. Eligibility requirements and procedures for submission of applications are prescribed in Chapters 4 and 8, AR 621-1. I encourage you to look into this program.

Recall Program

A recall program is open to Reserve Aviation Warrant Officers not presently on active duty. Aviation Warrant Officer Branch has authority to recall a very limited number of warrant officers during Fiscal Year 1974. Interested personnel should write the Commander, Reserve Components Personnel and Administration Center, 9700 Page Boulevard, St. Louis, Missouri 63132 to request the necessary forms.

Applications are submitted to RCPAC who then forward them along with the individual's official military file to Aviation Warrant Officer Branch for evaluation. Selection for recall is based on an overall evaluation of an applicant's record with emphasis placed on past manner of performance as indicated by the Officer Evaluation Reports; civil education level; advanced aviation skills such as instructor pilot, cargo, or attack helicopter qualifications; and combat experience.

Applicants are notified as soon as possible through RCPAC as to the outcome of the evaluation. Personnel selected for recall to active duty can expect assignments which will utilize their existing skills in locations where the Aviation Warrant Officer Branch has valid requirements at the time of recall.

TOP CWOs — Shown with MG William J. Maddox, Jr., left, USAAVNC Commander, and MG James C. Smith (right), Commander, ARR V, at Ft. Sheridan IL and graduation speaker, are CW3 Billy Allen (2d from left) Distinguished Graduate of the 63-member AWO Advanced Course, and CW2 David C. Thill, DG of the 103-member Intermediate Course. Each received engraved plaques from the AAAA as well as AUSA Certificates.

24-Hour Service

In an effort to better serve our warrant officers in the field, we now have a system to record telephone calls made to the branch after normal duty hours. This will greatly assist those officers assigned to overseas commands who have difficulty contacting the Branch during normal duty hours due to time zone differences.

To take advantage of this system, all incoming calls must be made on AUTOVON 221-7507. The caller will hear one

ring, followed by a short tone. The caller can then record his request for as long as he wishes to speak.

However, the caller must not let the line remain silent for 12 seconds or the system will automatically be disconnected from the line. At the beginning of the next duty day, the recorded message will be given to branch action officers for appropriate action.

Regular Army Career

As we continue to reduce in overall strength the Regular Army Program becomes increasingly important for those individuals who desire a full 30-year career in the Army. Title 10 of the United States Code (USC) authorizes 9,000 RA warrants within the total warrant strength.

Based on current strength authorizations, approximately 63% of the warrant officers on active duty can be RA. Presently there are about 2,200 RA warrant officers, which is less than 25% of the authorization. Because of a recent change in eligibility criteria, warrant officers with one year active service as a WO1 can now apply for RA status, where before only CW2's with three years service could apply.

The primary reason for the change is the large number of vacancies for warrant officers in the Regular Army. If you are considering remaining on active duty beyond 20 years' service, it is in your best interest to integrate into the Regular Army as the Long Range Active Duty Program for non-RA warrants is being replaced with a new policy of managed tenure.

Assignment and Use of WO's

The growing shortage of commissioned aviators has caused an increase in the number of requests being received by the Aviation Warrant Officer Branch for utilization of Aviation Warrant Officers to fill these vacancies. The utilization of Aviation Warrant Officers in commissioned officer positions can be advantageous to the commander by allowing him temporary use of qualified assets during periods of turbulence and advantageous to the aviation warrant officer by allowing him to perform and receive an evaluation report while occupying a position of higher responsibility.

Certain precautions must be taken to insure that an aviation warrant officer is not placed in a position which he is not qualified to fill. Carte blanche approval cannot be expected and the interest of the aviaition warrant officer selected to fill the higher level position must always be taken into consideration. Requests that require the aviation warrant officer to be removed from fulltime flying duties are not considered to be in the best interest of the individual and will require full justification prior to receiving approval.

Commanders are required to obtain branch clearance in writing as outlined in paragraph 6d(2), AR 611-112, and the clearance must be filed in the permanent section of the officer's MPRJ. The officer receives credit for performance in the higher level duty by accurately reporting his actual duty assignment and actual duty grade and MOS. Care should be exercised to insure that the Officer's Evaluation Report cites the authority for utilizing the officer outside his MOS.

Aviation Warrant Officers upon completion of one year of duty in the commissioned position (cumulative, not necessarily consecutive) can apply for 12 semester hours of college credit.

Where The Action Is

Although we try to assign every aviation warrant to the location of his choice, the hard fact is that a valid requirement must exist in order for Branch to make an assignment. To give you a feel for where the requirements are, I've broken the major overseas and CONUS assignments out as a percentage of total branch authorized strength:

Campbell	13%	Bliss	2%
Hood	12%	Eustis	2%
Rucker	10%	Ord	2%
Bragg	8%	Meade	1%
Lewis	6%	Europe	12%
Knox	4%	Korea	5%
Riley	3%	Hawaii	3%
Sill	3%	Alaska	3%
Benning	2%	Panama	1%
Carson	2%	Other	6%

On Guard!

New Multi-Media program introduced to ARNG units

By LTC CHARLES R. JONES
Chief, Army Aviation Branch
National Guard Bureau

ON 3 December, the Army National Guard introduced its *Multi-Media Program* to more than 90 Guardsmen representing all 50 States, Puerto Rico, and the District of Columbia at a one-day conference at Fort Rucker.

The *Media Program* is designed to supplement National Guard Aviation Training by producing aviation-oriented lessons utilizing audio-visual techniques. The program is being administered by the ARNG Multi-Media Training Group located at Fort Rucker.

The Group, equipped with the latest in recording and high speed duplicating equipment, is independently capable of producing all program requirements in the audio area. Close cooperation with the Fort Rucker Training Aids Service Office also enables the Group to produce visual aids locally.

Mini-Learning Centers

During the conference audio - visual equipment was distributed to the States for use in their training programs. With the equipment each flight facility will establish a *"Mini-Learning Center"* which will cater to self-paced, individualized instruction on the various aviation topics produced by the Multi-Media Group.

Topics now in production deal with aircraft systems, instrument flying, and emergency procedures. A novel approach has been taken in the area of distribution. Unlike the Training Film Program in which the material is returned to a central distribution center, the Media Program will allow each flight facility to maintain its own library of these audio-visual lessons.

Safety notes

Aviation Safety Program are drawing additional emphasis with more States requesting speakers for State Aviation Safety Conferences. States recently requesting the speakers include PA, IN, and TN.

USAAAVS assistance visits are continuing with CA and GA scheduled to be visited in January. NC, SC, TX and AL will be visited in February.

NEW — Members of the 316th Avn Co (Hel Amb) have activated a "Cleveland Area Chapter" of the Army Aviation Ass'n, and plan to meet quarterly. Shown, front, l-r, are CW2s Joseph Beseda (VP, Publ); Carl Rossomme (Sec), and Robt. Cushman (VP, Ben). Rear, l-r, 1LT Bernard Zdrokowski (Pres), CPT Robt. J. Roffey (Trea), XW2 Walter B. Harris (ExVP), and MSG John Zastudil (VP, Prog). Following its Dec. activation, the Cleveland Area Chapter next plans to meet in March.

USAAAVS advises that Commands requesting aviator accident history must send a request signed by the Commander in addition to records release signed by the aviator. Numerous requests recently contained only the aviator's release.

Standardization Conference

The *1st Army Standardization Conference* held December 7, 8, and 9 was very productive. *MG William J. Maddox's* open-

ing remarks set the trend for the fact-filled days which followed. The conference afforded all elements of the active Army, ARNG, and USAR, the opportunity to discuss problems and seek solutions.

Progress report

The first three months for the ARNG Aviation Division have been hectic, but the move to the *Operating Activity Center (OAC)* at Edgewood Arsenal, Maryland has been completed and the new home is shaping up. New Personnel: *CPT Wally Mueller,* TNARNG, has been selected the Deputy to the Standards and Training Branch.

The only position not presently filled in the Division is for a Quality Assurance Analyst. The GS-11 position is open to any Commissioned or Warrant Officer who meets the following criteria: A thorough knowledge of and managerial ability in the field of Army aviation maintenance, quality control and technical inspection. □

AWARD OF MERIT — MAJ David A. Measels, l., Commander of the 335th Aviation Company (AH), of the 1st Infantry Division, receives a DA Award of Merit for the unit's 11,650 accident-free flying hours between November 71-73. MG Gordon J. Duquemin, r., Division Commander, makes the presentation at a late January ceremony.

Fort Rucker takes novel energy crisis action: It salvages used crankcase oil!

FT. RUCKER, ALA . . . This post went to work immediately to help out with the energy crisis. The standard things, such as lowering thermostats to 68 degrees, turning off heat overnight in buildings where no personnel remained at night, dropping speed limits, and cutting down on driving were done.

The Department of Facilities-Engineering (DFAE) decided to dig a little deeper. Since DFAE personnel are in control of the post heating facilities they began to devise energy-saving techniques that could be used in this area.

One solution they developed was the use of used crank case oil from internal combustion engines in anything from helicopters to Jeeps to the general's staff car.

It was found that a blend of 40% crank case oil to 60% No. 5 fuel oil would burn efficiently.

According to Guy Dunnavant, Chief of the Utilities and Pollution Control Division, the use of crank case oil will bring about a 21-cent savings per gallon on fuel oil as well as reusing an energy source that normally would have gone to waste.

The Division has approximately 40,000 gallons of this crank case oil on hand and is trying to get all such oil available. It picks up the oil in 55 gallon drums or asks that it be delivered to the storage area in the Firefighter Training Area on Dilly Branch Road. The drums of oil should not be contaminated with extraneous cleaning fluids.

The department, in addition to all of its work with "recycling" oil, has two coal-burning heating plants, currently not in use due to air pollution laws, that could be put into use on a short notice should circumstances require.

"News Briefs"

Oil Analysis Laboratory Opened at Fort Hood

FORT HOOD, TEX. — A great deal of emphasis is placed by the Army on a good preventive maintenance program which, by anticipating problem areas in equipment, and performing scheduled maintenance checks, can avoid many major breakdowns.

To further this goal, the Army Spectrometric Oil Analysis Laboratory was officially put into operation at Ft. Hood with a ribbon-cutting ceremony held Dec. 21, at the Aircraft Maintenance Branch, Division of Industrial Operations. This laboratory is *one* of only six Army Oil Analysis laboratories in operation within the CONUS area.

The function of the laboratory is to perform spectrometric analysis of the used oil samples removed from all oil lubricated components installed on Army aircraft and selected items of Army ground equipment.

A spectrometric instrument is used to detect the kind and quantity of the different metal particles in the oil system. The metal particles identify the alloy and assembly they came from. By periodic sampling and testing the oil from the mechanical system, abnormal wear of the parts can be detected.

Information gathered by this analysis is fed into a central data bank at AVSCOM in St. Louis, Mo. where stored information serves many useful purposes such as product improvements and for use in engineering and design of future aircraft.

REAL CUT-UPS — Shown at the ribbon-cutting ceremonies opening Ft. Hood's new Oil Analysis Laboratory are, l-r, Bill Arnold, Chief of the Acrft Main Branch; COL Benjamin Silver, Director of Indus Opns; and LTC John Easterwood, Chief of Maint Div. (USA photo)

Tornadoes hit Ft. Rucker; Injuries few; damage high

FT. RUCKER, ALA. — In the late afternoon of Dec. 29-30, tornadoes hit residential areas of the post. Damage from the first storm was relatively minor, but the Sunday, Dec. 30 storm left behind extensive evidence of its wrath. Included were 14 family units that were totally destroyed, seven that sustained major damage, and approximately 90 others that felt the brunt of the raging wind to varying degrees.

Miraculously, injuries were few. Officials at Lyster Army Hospital reported that only 26 patients were treated as a result of the two storms; none were seriously hurt. All of the families whose homes have been made unlivable by the storm have since been relocated. Especially important to those who lost all or part of their possessions were the efforts of the Staff Judge Advocate's Claims Section, which began a prompt payout of claims.

Immediate assistance came from all sources: post engineers, ACS Center, all on-post ladies organizations, the surrounding towns, and private citizens.

TRANSFER OF ASSETS

DALLAS — Aerospatiale, the French Aerospace firm, and LTV Aerospace Corporation, made a joint mid-January announcement that Aerospatiale has formed Vought Helicopter Corp. (VHC), a wholly owned U.S. subsidiary, which has acquired the assets of Vought Helicopter Inc. (VHI), a subsidiary of LTV Aerospace Corp. Under the agreement, VHC will be based at Grand Prairie, Tex., retaining VHI's assembly and flight operations facilities under a lease arrangement with LTV Aerospace. Purchase price was not disclosed.

USAAAVS plans Workshop

The U.S. Army Agency for Aviation Safety (USAAAVS) will hold a special System Safety Workshop, 19-20 February at Ft. Rucker. The purpose of the workshop is to discuss the various system safety programs being applied to new Army aviation systems currently under development.

A highlight will be a special dinner address by Dr. Leslie J. Ball, Director of Safety and Manned Space Flight Awareness Office, George C. Marshall Space Flight Center, NASA. Attendance at the workshop is by invitation only.

AAAA Activities

Richard H. Bitter Chapter. Barbeque and Western Dance, music and prizes, at Moravian Hall from 1930 hours on 18 January.

Alamo Chapter. Professional luncheon meeting with slide presentation on 1973 Convention highlights and a short film about Iranian Army Aviation at the FSHOOM, 1130-1300 hours, 23 January.

Fort Monroe Chapter. Professional luncheon meeting with a presentation by the G. G. Space Division on "Innovations in Flight Simulation," at the FMOOM, 1130-1300 hours, 23 January.

Delaware Valley Chapter. Professional dinner meeting, with "The Commercial Heavy Lift Market, Today and Tomorrow," the topic of **E. E. "Tug" Gustafson,** guest speaker, Erickson Aircrane Company, at Walbers, 1800 hours, 23 January.

Mount Rainier Chapter. Professional luncheon meeting with a film report on the 1973 Convention and a discussion of the '74 Chapter program at FLOOM, 1130 hours, 24 January.

Bonn Area Chapter. Professional dinner meeting with **COL Nicholas Psaki** updating on the 1974 Garmisch Convention plans at the American Embassy Club, 1900 hours, 24 January.

Valley View Chapter. Social-business meeting at the Officers' Club, Peden Barracks, 29 January.

Monmouth Chapter. Professional luncheon meeting with **BG Jerry B. Lauer** discussing the Army's Heavy Lift Helicopter Program at Gibbs Hall, 1130 hours, 5 February.

Air Cav Chapter. Professional luncheon meeting with a slide presentation on the 1973 Convention and a short film about the Iranian Army Aviation at the Brick Mess, 1130-1300 hours, 7 February.

BRIEFING -- Shown at the recent AAAAS. California Chapter professional dinner meeting are, l-r, Ron Hattin, Litton (VP, Publ); Norm Hirsch, Hughes (Pres); BG Sam Cockerham, AAH Program Manager and guest speaker; Ron Ressler, Hughes (VP Prog); Ken Witt, Lockheed (VP, Memb); and Pete Schulz, Army Avn Magazine West Coast Advertising Repr. (Litton photo)

Midnight Sun Chapter. Business meeting and a film report on the 1973 Convention and discussion of '74 Chapter programs at the Ft. Richardson Officers' Club, 1600 hours, 7 February.

Tennky Chapter. Business meeting with a slide presentation of the 1973 Convention and a short film on the Iranian Army Aviation, Ft. Campbell Officers' Club, 1700 hours, 13 February.

Ft. Sill Chapter. Business Meeting and a slide report on the 1973 Convention and a short film on Iranian Army Aviation, at the Blade and Wings, 1430 hours, 14 February.

Washington, D.C. Chapter. Annual Sweetheart Ball, a formal dinner-dance, 16 February.

Connecticut Chapter. Professional dinner meeting; "Recollections of a Pioneer," the topic of **Sergei I. Sikorsky,** Sikorsky Aircraft Division, guest speaker, at Manero's Restaurant, 1830 hours, 20 February.

David E. Condon Chapter. Fifth Annual LTG William B. Bunker Scholarship Memorial Dinner-Dance with **Sergei I. Sikorsky,** Division Vice-President, Sikorsky Aircraft Division discussing "Recollections of a Pioneer" at FEOOM, 1830 hours, 22 February.

Fort Hood Chapter. Professional luncheon meeting with a slide presentation on the 1973 Convention and a short film on Iranian Army Aviation at Hide Army Club, 1130 hours, 26 February.

Persia Chapter. Professional dinner meeting at 1930 hours in ISFAHAN, 1930 hours, 27 February.

Latin America Chapter. Professional business meeting with a slide presentation on the 1973 Convention and a short film on Iranian Army Aviation at the Room of the Americas, FAOOM, 1500 hours, 13 March.

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WANTED TO BUY - Complete set or individually - Technical manuals TM9-6081 series of Sperry "Skysweeper" system for historical collection. Dave Leising 447 Daniel S.E., Kentwood, Mich. 49508.

* * *

WANTED. Contact with COL Harry L. Bush, or any member of 1965 "Bush Board". Reseach Project 7234. Bell AH-1G. American Aviation Historical Society. James D. Sprinkle, 8516 E. 11th St., Tulsa OK 74112.

* * *

REUNION - The 334th Aviation Company (Attach Helicopter), formerly UTT, will celebrate Unit Day on 19 March 1974 at Fliegerhorst Kaserne, Hanau, Germany. All former members and friends are invited. Further information may be obtained by writing the CDR or 1SG at APO NY 09165.

INBOUND — Troops of Hq Co, 2/63 Armor of the 1st Inf Div wait in silent anticipation for a pallet of good German beer to be helilanded at Nurnberg Airport, W. Germany. The beer celebrated the end of Reforger V exercises and the departure of U.S. troops.

A FIRST! — CWO Henry Childs, 2d from right, and his wife, hold the former's diploma, the first AWOIC sheepskin earned by correspondence. MG Wm. J. Maddox, Jr., r., USAAVNC commander, and MG Frederick J. Kroesen, 82d Div commander, were on hand at the award. Childs completed the 6-mo. resident course in 3 months.

LEADERSHIP — The Ft. Monroe Chapter Exec. Board includes, l-r, Bud West (VP, Prog), MAJ Gary Bailey (Sec), CW3 Richard McLaughlin (ExVP), Bill Holden (VP, Benefits), COL Clement Wyllie (Pres), CW2 Harry Paul (VP, Memb), LTC Wm. Fraker (VPPubl), and H.W. "Rocky" Jones (Trea).

HISTORY REPEATS

(Continued from Page 4)

Number One", a gas-filled balloon which was powered by a gasoline engine.

This buildup in free, powered, and captive balloon craft reached its peak just prior to World War I and then was reversed as the war progressed. As balloon guns and armed aircraft became more plentiful, the number of balloons in the combat theatre decreased.

The use of balloons in World War II is still too current to require extensive refreshing of the reader's mind and suffice to say that new and ingenious uses were developed, including the use by the Japanese to carry incendiary bombs to the northwestern United States.

The 9th Signal Battalion's balloon activities actually started in 1967 when Division *Long Range Patrols (LRPS)*, found that they were frequently unable to communicate with their base station without the assistance of a helicopter acting as an aerial radio-relay. The balloons they used were approximately 33 feet long, nine feet

in diameter, and held about 4000 cubic feet of helium.

The techniques of balloon handling operations had to be learned the hard way and from the beginning. It was a sharp sergeant with a lot of initiative who developed the knowhow to keep the sometime patched, radio-relay platforms flying.

The tales of the 9th's balloon triumphs are many and no retelling would be complete without mentioning how, when the Air Force insisted that the mooring cables be lighted at night, the platoon improvised a 600-foot light cable from cut up Claymore firing lines and the dayroom Christmas lights, or how on the occasion of the rocketing of Bear Cat, soon after the first balloon went up, someone forgot to turn off the Christmas tree lights.

Of course, this story would not be worth telling without recalling the day that high winds at Dong Tam snapped the mooring cable and the Red Baron of the 9th Aviation Battalion went up to shoot down the balloon. The balloon got away from him and was last seen headed north. If it did not destroy itself, it surely must have caused consternation wherever it came down. There were truly never dull moments for the men of the 9th Signal Battalion's Balloon Platoon.

So for you old timers who remember the barrage balloons of World War II and for the few who still recall with fond memories the dirigibles, there is still hope. And, while no one can predict what the future may hold for the versatile military balloon, they have always risen again to meet some new requirement for attaining even greater heights. □

The Personal Side

AVN SOLDIER OF MONTH

DITMORE — SP4 Johnny M. of Co F, Hq Btn, for December 1973.

FARBER — SP4 James S. of Co F, Hq Btn, USAAVNC, for November 1973.

BIRTHS

GINTER — James Milton was born to LTC and Mrs. Duane L., at Walter Reed Army Medical Center, Washington, D.C., on 7 June.

INGRAM — Laura Ruth was born to CW2 and Mrs. Nickie O., on 14 January.

WILEY — Kevin James, was born to MAJ and Mrs. Noble J., at Tripple Army Hospital, HA on 27 October.

COMMAND & STAFF

Brigadier General James M. Lee, as ADC, 1st Cavalry Division, Fort Hood, TX 76544.

Colonel John F. Eggers, as Director, Aviation Maintenance Training Department, U.S. Army Transportation School, Fort Eustis, VA 23604.

HONOR GRADUATES

BERG — WO1 Clifford S., DG of WOR-WAC class, USAAVNC, 18 December.

CURTIS — MAJ Danny D., MBA from Babson College, Wellesley, MA.

HOOTMAN — CW3 Mary L., DG of Aviation Warrant Officer Advanced Course, USAAVNC.

MITCHELL — 2LT Eric L., DG of ORWAC class, USAAVNC, 18 December.

PYLE — SFC Leon R., DG of Senior Flight Operations Chief Course, USAAVNC.

ROMASZAWSKI — CW4 Alfred, has returned to USAAVNC Warrant Officer Senior Course after completing a short course in Safety System Safety at USC.

TOLFA — LTC Edward, MBA from Babson College, Wellesley, MA.

WATSON — CPT Don, MBA from Babson College, Wellesley, MA.

Experimental Test Pilots Induct 1st Army Aviator

EDWARDS AFB — The Society of Experimental Test Pilots has named its first Army Aviator as an associate fellow. He's LTC Gary C. Hall, a Master Army Aviator assigned as Dep Cdr of the USA Aviation Systems Test Activity.

A '56 USMA graduate, he holds a Masters Degree in Aero Engineering from the Univ. of Texas, and completed test pilot training at the Naval Test Pilots School. He was the first AA qualified in the AH-56A Cheyenne and conducted its Preliminary Evaluations [APE].

WOOD — CPT Norman M., MBA from Babson College, Wellesley, MA.

MEDALS

DILLIONAIRE — LTC Williard W., Meritorious Service Medal.

EVANS — CW2 Bobby J., Meritorious Service Medal.

HERNDON — LTC George W., Meritorious Service Medal.

RATINGS

JOHNSON — CPT Gerald Lee, Senior Army Aviator.

While most of the above listings are gleaned from various Service journals, the staff welcomes direct submissions from its AAAA member-subscribers. Copy should be mailed to: 1 Crestwood Road, Westport CT 06880.

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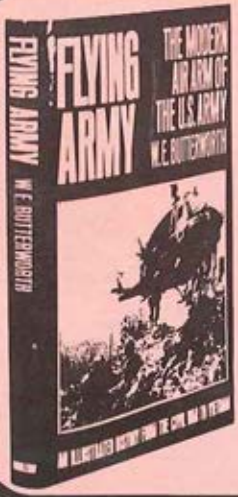

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