Army Aviation

August-September, 1976 Issue

Put yourself

On the battlefield, availability, performance and survivability count for everything. That is where the YAH-64 Advanced Attack Helicopter excels. And it's built for the men who will have to live with it.

A. Built For The Pilot—Outstanding visibility. Near the center of gravity for best "feel" in nap-of-the-earth flying. The proven four-blade quiet main rotor and fail-safe stationary mast provide maximum agility, safety, negative-G control. Top forward speed, 204 knots. Sideward and rearward speed, 45 knots. Vertical rate of climb, twice the Army's requirement. Low canopy glare, quiet tail rotor and small radar and IR cross sections make the YAH-64 most difficult to locate. Survivability: up to 23mm hits absorbed with only localized damage. Redundant systems to prevent loss of control.

B. Built For The Copilot-Gunner—Unobstructed front seat location for best visual target spotting. In front of weapons firing effects to avoid interference with IR target acquisition. Flight controls identical to the pilot's for safety, survivability, ease of training and interchangeability. Fully integrated weapon systems deliver a deadly barrage of Hellfire missiles, 2.75-inch rockets and 30mm fire under all operating conditions.

Pilot and copilot compartments enclosed with protective armor. Crew crash survivability at

Hughes YAH-64.

in their place.

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D. Built For The Maintenance Crew—Maintenance hours per flight hour have been reduced 38% from Army requirements. Only standard tools required. Easy access to all dynamic components. Inspection and maintenance require no ground workstands. Upper deck access panels and engine nacelles serve as maintenance/inspection platforms. Easy maintenance features include two-man blade installation and removal; lubrication-free rotor system; grease-filled intermediate and tail rotor gear boxes; 20-minute engine change; slide-in/slide-out main rotor transmission without removing rotor, hub or controls.

Designed to Cost—The YAH-64 will be produced within Army cost objectives.

Hughes Helicopters
A Division of Summa Corporation

Built for the men who have to live with it.

Advance Registration Form for the 20th Anniversary AAAA National Convention

HYATT REGENCY WASHINGTON — WEDNESDAY, 13 OCTOBER 1976 THROUGH FRIDAY, 15 OCTOBER 1976

I plan to attend the functions of the 1976 AAAA 20TH ANNIVERSARY CONVENTION indicated below and have enclosed a check made payable to "AAAA" to cover the costs of my attendance at this convention. I understand that I may receive a refund through October 4, and that my "Advance Registration" entitles me to receive a souvenir AAAA Anniversary Coffee Mug claimable at the AAAA Advance Registration Desk during the Convention.

FUNCTION	Active Army Delegate	Civilian Delegate	Military Member	Civilian Member	Non-Member
Registration [All AAAA professional Sessions]	$5.00	$11.00	$8.00	$15.00	$25.00
Thursday, 14 October, 0930-1100 Ladies' Coffee, Presidential Suite	No charge	No charge	No charge	No charge	No charge
Thursday, 14 October, 1130-1400 AAAA General Membership Luncheon	$6.00	$12.00	$10.00	$16.00	Members Only
Thursday, 14 October, 1930-2400 AAAA 20th Anniversary Dinner and "Presidential Roast"	$11.00	$21.00	$20.00	$30.00	$40.00
Friday, 15 October, 1100-1400 1976 AAAA Annual Honors Luncheon and Reception	$7.00	$11.00	$12.00	$16.00	$25.00
Total Payment	$29.00	$55.00	$50.00	$77.00	$90.00

Name ..... Rank/Grade .....

Unit or Firm .....

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City ..... State ..... ZIP .....

A $3.00 offer! Take home an AAA souvenir coffee m for registering in advance.

NOTE: "Military Member" fee applies to active Army, Retired, Reserve Component, and DAC personnel. Wives' tickets may be purchased at the "Military Member" fees, and wives need not pay a "Registration Fee." Members who advance register prior to 4 October, and who submit full payment for same on or before that date, will receive a souvenir "AAAA Anniversary Coffee Mug" as well as preferential seating for all AAAA functions having reserved seats. This Advance Registration Form should be completed and returned to: AAAA, 1 Crestwood Road, Westport CT 06880. For direct information on any of the foregoing, phone AAAA at Area Code [203] 227-0948.

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JOIN US AT THE 1976 NATIONAL CONVENTION
October 13-15, 1976
Washington, D.C.

Having the time of their lives. That's what some 600 AAAA members do annually at the National Convention in Washington each fall, and the photographer has only captured a part of the many activities at "National." Put yourself into many of these scenes! See you Chapter Secretary for appropriate AAAA and hotel forms.

1976 AAAA Convention Programming Details

Wednesday, October 13, 1976
General Membership Meeting - Early Birds' Reception
Thursday, October 14, 1976
"New Dimensions in Army Aviation" - Professional Programming
Air Traffic Control Panel, BG J.H. Kastner, Chairman
Safety, Tng, & Standardization Panel, MG J.C. Smith, Chairman
AAAA General Membership Luncheon
Aviation Structure Panel, BG C.E. Canedy, Chairman
Personnel Management Panel, MG R.G. Gard, Jr., Chairman
AAAA 20th Anniversary Reception and Dinner
Friday, October 15, 1976
Aviation Hardware Panel, COL W.E. Crouch, Jr., Chairman
1976 AAAA Honors Luncheon and Reception
Diehards' Reception

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CHECK OUT TIME 12 NOON • CHECK IN TIME 3PM

Reservation To Be Guaranteed ☐ Yes ☐ No

NOTE: Reservations will be held until 6:00 P.M. of the indicated arrival date unless accompanied by deposit or company guarantee. Reservation must be received 21 days prior to arrival to insure confirmation.

ARMY AVIATION ASSOCIATION OF AMERICA
ANNUAL CONVENTION
OCTOBER 12-15, 1976

Circle Rate Desired

SCHEDULE OF RATES		No. of Rooms
Single—1 person—1 bed	$35 mil. $37 civ.	
Twin—2 persons—2 beds	$39 mil. $48 civ.	
Double—2 persons—1 bed	$39 mil. $48 civ.	
Suite—1 bedroom	$90-$200	
Suite—2 bedroom		

Name(s) of Additional Person(s) Sharing Room

Special Requests

Teledyne Ryan's AN/ASN-128-LDNS puts the emphasis on the 'Human Interface.'

It was designed specifically for the crew that has its hands full down in the rocks and weeds.

Flying NOE creates a whole set of problems that are unique to that razor edge of airspace. Not the least of which is navigation. That's where Teledyne Ryan's Lightweight Doppler Navigation System is at its very best. At the turn of a switch it will tell you where you are, or where your target is, or help put you on your preplanned route for improved survivability.

The AN/ASN-128 was designed with all the human factors of helicopter navigation taken into account. That's why we built it with the emphasis on simple usability and the man-machine interface under stress.

This simplicity, which meets or exceeds the U.S. Army's requirements, starts with just two units. The Doppler Radar Velocity Sensor and antenna all in one small box, and a Computer Display Unit that gets a superior Human Factors rating from everyone that uses it. And since nearly 60% of all field failures occur in connectors, fewer connectors mean greater reliability—in the field where it counts.

There are a lot of other features that give Teledyne Ryan's LDNS an edge. Things like more check points and more mission data, true air speed backup mode, automatic magnetic variation and deviation compensation, simple installation and maintenance and extremely low life-cycle cost.

But it's the way it takes the load off the crew, the operationally oriented functions, that make it an operator's system from the ground up. A winner that has earned a "roger that" from everyone who has flown it.

TELEDYNE RYAN ELECTRONICS

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THIS POPULAR CORPORATE JETPROP IS AT HOME IN THE ARMY.

The Army C-12A utility transport first gained its world-wide reputation for capability as a corporate jetprop, the Beechcraft Super King Air.

A reputation gained for a number of solid reasons that make it particularly well-suited for its new role in Army aviation.

Because the Army, like industry, needs to move people and cargo swiftly, economically and dependably. And more often than not, the Army needs on-demand transportation that commercial carriers do not deliver, plus small-field capabilities that many other aircraft cannot provide.

This fine transport comfortably accommodates eight passengers and two pilots, and it provides a lavatory plus adequate space for baggage. It has a useful load of 4,425 lbs. Cruise speed is more than 228 knots and maximum range with full load is more than 1,200 miles. Cabin pressurization allows over-the-weather operation to 30,000 ft. without oxygen.

With these performance capabilities, the C-12A gives the Army an economical alternative to other aircraft in its utility fleet. Because operating and maintenance costs are significantly lower than most other available personnel and cargo carriers.

Even though the C-12A begins its Army service as a utility transport, its versatility, performance and economy suggest several other mission possibilities: aerial surveillance, photography, tactical field support, proficiency flying for desk-bound pilots, courier service, shuttle air-service over heavy traffic routes, to name a few. There are many more.

In addition, Beech's new C-12A program introduces a first for the Army. All C-12A's under current order have full contractor support on a world-wide arrangement, wherever these airplanes are stationed. Through full Beech logistic support, these airplanes are exceeding the contractual requirement for 80% operational readiness.

The versatile, economical C-12A. It's right at home in the Army.

ASK FOR OUR C-12A INFORMATION KIT.

Perhaps your organization has a mission requirement that this hustling jetprop can fulfill. We'd like to show you how it can.

For your information kit, write or call E.C. Nikkel, Vice President-Aerospace Program, Beech Aircraft Corporation, Wichita, Kansas 67201. Phone: (316) 689-8175.

Beechcraft

AVIATION IN THE FAR EAST

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**BY BRIGADIER GENERAL CHARLES E. CANEDY,
DEPUTY DIRECTOR OF OPERATIONS AND ARMY AVIATION OFFICER,
ODCSOPS, DEPARTMENT OF THE ARMY**

SHORTLY after assuming this job I reported to you on the health of Army Aviation in Europe.

Since that time I have made two additional trips back to Germany and the progress continues at a significant rate. Cobra TOW's are continuing to replace the G model gunships and training is supporting that transition.

Not until July did I have the privilege of spending a few days with our aviators in the Orient. My first stop was in Camp Zama with the USARJ Aviation Detachment, "Red Carpet Service for Honshu." Based at Rankin AAF, Camp Zama, Japan, the detachment is not a large one but does perform two extremely important and time critical missions.

It . . boggles the mind!

If you have been to Tokyo lately you can readily appreciate the value of the helicopter in transiting the Canto Plains area. Eight to ten kilometer car rides can take over an hour.

With USARJ's and IX Corps requirement to coordinate the Army's activities in Japan, together with the maintenance of U.S.-Japan relations, it is not difficult to appreciate the true value of this detachment of eight UH-1's. Of the eight aircraft, two are dedicated to the medical evacuation role, which translates to an overseas MAST mission in many regards.

Flying in the Canto Plain/Tokyo area is like nothing else in the world. It's been nearly 15 years since I've seen that megalopolis and I was stymied by it at that time. Today it absolutely boggles the mind.

Not only does the area suffer from visibility restrictions normally associated with huge industrial complexes but the population is such that the only meaningful autorotational technique is to a roof top. I'm not too sure that we have trained many for that eventuality.

The USARJ flight detachment, under the command of **LTC Jesse H. James,** is doing a superb job supporting LTG John R. Guthrie in his most demanding job in Japan. How about zero accidents in five years?

Land of the Morning Calm

Korea — much like Japan — truly is an economic fireball. The course of development which this country has planned and more importantly has executed is phenomenal. Such things as cruising from Seoul to Pusan at 70 mph on an interstate highway, or flying Korea Air Lines in either a Boeing 747, DC-10, or A300B Air Bus, with some of the finest service in the world, is truly an extraordinary accomplishment which the leadership of that country has achieved.

These are not just superficial accomplishments. One need only check the growth of Korea's gross national product to appreciate her accomplishments fully.

Just as Korea has progressed so has its

AVIATION IN THE FAR EAST (Cont.)

Army Aviation. Unfortunately, time did not permit me to visit all of the units but I did see a good bit of the 17th Aviation Group and talked with the CG, 2d Infantry Division, which has the 2d Aviation Bn and D Troop, 4th Sqdn, 7th Cavalry.

My first visit was to **MAJ William D. Collar's 117th Assault Helicopter Company** at Camp Stanley. This outfit claims the distinction of being "first in Korea." Quite obviously that must be qualified, or I am sure that several CH-21 drivers from Pyengtack would scream foul (and rightfully so).

Recognizing the support mission

The **117th** has a great training program and is doing it well. One unique aspect about our aviation in Korea is that with our limited U.S. Forces in country and rather sizable aviation assets, the bulk of the missions — in time of war — would be to support the ROK Army.

We haven't done too well in the past in planning or training for this task. However, I can report that we are today. All of the commanders to whom I talked were quick to recognize this support mission and had developed training programs with the supported First Republic of Korea Army (FROKA has the forward defense mission).

EURO/NATO TRAINING — German student Max Schmidhuber inspects the rotor blade of a TH-55 Osage helicopter while fellow student, Andreas Kraus, right, and instructor George Stevens look on.Twenty German students are now at Ft. Rucker, Ala., under the European/North Atlantic Treaty Organization helicopter pilot training project.

The 2d Division goes Air Cav!

In the **2d Division** area, plans have been approved by DA to convert their Armored Cavalry Squadron to an Air Cavalry squadron. This will be accomplished in the fourth quarter 77, and will give the **2d Division** and the 1st US/ROK Group the capability of providing air cavalry coverage to nearly the entire peninsula.

Assets for this conversion will come primarily from within Korea. Unfortunately I did not have time to visit with the **2d Aviation Battalion** or the **4/7 Cav.** However, with **MG Morris J. Brady** as the Division's head aviator I'm sure they'll do great things.

The **19th Aviation Battalion** at Pyengtack is really moving. LTC Frank Estes has two CH-47 Companies, an Assault Helicopter Company, and an OV-1 Platoon, and will soon pick up the **146th ASA Co.** I had the opportunity to fly one of their CH-47 low level training areas with a sling load — a most realistic and challenging course.

Hopefully, all of the **19th Aviation Battalion** will be on "Project Inspect" by 1 August. The **19th** already enjoys a great availability rate and this should get even better.

The **284th Aviation Unit [Air Traffic Control]** has a confusing name but a very real and demanding mission. One might expect a "unit" to be commanded by a captain. However, this one is commanded by **LTC Billy B. Dooley** and is an OPMS-designated battalion level command. Unlike Germany, there is no host nation air traffic control or regulation for tactical aircraft in Korea.

All of the tower support, flight following, and regulation is provided by the **284th** and they are doing a super job in spite of severe personnel and equipment shortages. Hopefully, the **284th Aviation Unit** will soon gain its proper battalion designation.

We visit 'Tropic Lightning'

The **25th Infantry Division, Hawaii, [Tropic Lightning]** has one of the largest aviation organizations of any of our regular divisions and, without question, enjoys one of the finest stations in the world. The **3rd Squadron, 4th Cavalry**, the organic Air Cavalry Squadron commanded by LTC Mike Harvey, is unique in that it is the only active Air Cavalry Squadron which is rounded out with a National Guard Air Cavalry troop, **E Troop, 19th Cavalry**.

The **25th Aviation Battalion**, commanded by **LTC Jerry W. Childers**, has all of its organic assets as well as the **118th Assault Helicopter Company** and the **147th Assault Helicopter Company**. While training areas are not ideal the Division has made maximum use of both the ranges and training areas on both Oahu and Hawaii. Stationing for the aviation assets is accommodated at Wheeler AFB, which should be Wheeler AAF, and Barbers Point.

COL Paul Smithey, the USA Support Command Hawaii Staff Aviation Officer, is the big daddy for all Aviation coordination on the Island, while LTC Tony Miklinski coordinates the activities for USA CINCPAC Support Group which is the DA interface for planning with the CINCPAC.

NEW ROLE — Major General James C. Smith, right, newly-assigned USAAVNC Commander, pins Army Aviator wings on WO1 James M. Deason, II, the Distinguished Graduate of the WORWAC Class that graduated August 3. Brigadier General Grayson D. Tate, Jr., left, DCG of the Army Missile Command at Redstone Arsenal, and graduation guest speaker, looks on. □

End of trip . . some observations!

As is true on every trip, I learned a great deal about what and where our Army Aviation is and the problems that it faces. I can honestly report that we truly are getting better. Our overall appreciation of the threat and the tactics required to counter that threat has vastly improved.

Areas requiring greater effort

General areas requiring greater efforts to improve our profession are summarized:

• The lack of senior grade [CW 3/4] warrant officers in the really hard aviation jobs.

What I find around the world is the migration of these experienced people to higher headquarters flight detachments. I have nothing against these jobs. However, the experience is also demanded in the attack/air cavalry troops and assault/support helicopter companies. The real solution is to designate TOE positions in the organization as requiring CW 3/4 grade aviators. DA is working on this one.

• Aviators arriving in theater not NOE- or instrument-qualified, and in some instances aviators not series or model rated.

Our regulations are quite clear on this in that the losing unit is responsible for insuring that the aviator arrives at his new unit fully qualified. Although it is an understandable policy, I submit it is not a workable one.

The real solution is to enhance this policy with a refresher training program at Fort Rucker prior to a new "operational aviator" getting to an operational unit. We are pursuing this program with TRADOC. Although I have cited the overseas Commands, the identical problem exists in CONUS.

[Continued on Page 14]

Judge for yourself...

How Sikorsky's UTTAS combines maximum reliability with minimum maintenance to build high availability and unit readiness.

It's all done with technology. Not yesterday's technology — today's.

Technology that built in ease of maintenance right along with reliability.

For instance, modular components — including avionics — are easily removed and replaced. Built-in work platforms, walkways and steps afford ease of access.

An aircraft mountable crane facilitates in-the-field removal of major components. An on-board unit provides both electrical and hydraulic power for systems checkouts without the need for mules or power carts.

On-condition component maintenance eliminates specified TBO's, minimizes scheduled downtime.

Add interchangeable components, integral lubrication of engines and transmission, and the fact that Sikorsky's UTTAS is self-supportable in the field, and what you come out with is an aircraft that's built for its mission. Add it all together, and that's mission suitability.

Sikorsky Aircraft, Stratford, Conn. 06602.

Sikorsky's UTTAS.
It's a fact, not a promise.

SIKORSKY AIRCRAFT Division of UNITED TECHNOLOGIES

AVIATION IN THE FAR EAST (Cont.)

• The subject of instrument qualification — and the maintenance of that qualification — keeps coming up, particularly in units that seldom have a need to apply their instrument qualification, such as scouts and attack helicopters.

No one questions the requirement to gain full qualification on instruments during flight school. What is being questioned is the waste of 20 hours of blade time (for those stations not equipped with the 2B24 simulator) maintaining instrument proficiency when that is not part of the unit's mission.

As indicated, we can solve this problem when we get the proper simulators. I would also point out that I believe we should be authorizing instrument check rides in the simulators as well. Every airline in the world does, so it can't be all bad.

• The management of the flying hour program is a subject that has long bothered me. During the trip to Korea I was able to gain some meaningful information. Below is a quarterly breakout of the flying hours by one of our best airmobile companies:

Total Quarterly Flying Hours	2,279
Training Missions	39%
Service Missions	61%

The training missions represent "readiness" whereas I have a difficult time supporting the 1,400 hours that went into service missions — perhaps better described as "ash and trash". I realize that there are service missions that can be accepted which contribute to the readiness of the unit, but it takes a skillful and imaginative commander to gain this benefit.

* * *

If we don't start policing our own flying hours soon, you can bet your bottom dollar that someone else will! When the mission doesn't contribute to the training of the individual and the unit, then the mission should not be accepted.

Let me again point out that these observations are general in nature and are not related specifically to the Pacific. Our aviation units in the Pacific are as good as, and in some cases better than, any units in our force.

California ARNG is proud of its vintage aircraft

The Stockton Army Aviation Support Facility, Cal ARNG, located at Stockton Metropolitan Airport, has the distinction of having a couple of the Army's oldest flying, repeat, flying helicopters.

The first production CH-47A Chinook, No. 61-2408, is assigned to the 49th Aviation Company [Assault Support Helicopter] here . . and this "Grand Ol' Lady" was the FIRST Chinook off the Boeing production line. [Contract AF33[600] 42055 Boeing Tab #B-12]. It is STILL flying and is STILL in good shape and mission ready.

We ALSO have the only remaining flying, repeat, flying pre-production CH-47, No. 60-3451 [original effectivity Code B [JCH-47A, Boeing Tab B-10], now Code X and X.1]. The rest of the pre-production versions were either stricken, or they are now Category B or Category C maintenance trainers. It doesn't look quite as nice as the next oldest. Nevertheless, it STILL gets the mission done!

Additionally, we have the FIRST production UH-1D model, No. 62-2106. It's since been converted to an H model, but she STILL has some miles on her! We understand that there are some pre-production YUH-1D's around [and perhaps one of ARMY AVIATION's readers can help us to confirm this], but our No. 22106 was the first for Army issue.

We can't figure out just why all of this should be — it must be the warm California sun, or that the powers-to-be trust us more than other facilities, but we have the "oldies" . . . . and now, we wouldn't be the least surprised to see the world's OLDEST OH-58, or whatever, come careening through our gates at any moment. You're welcome at any time to stop by to see all of our antiques.

AVIATION — TODAY AND TOMORROW

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Dear General DePuy:

Under your guidance, we conducted a study that resulted in aviation being designated an advance entry specialty in lieu of a skill. We felt that the officer-aviator was not being handled properly under the Officer Personnel Management System (OPMS). This could be shown graphically in his failure to keep up with contemporaries in such things as schooling and promotions. To make matters worse, the aviator felt that OPMS was hostile to him. As no group work well under a system they do not like, it was necessary that new arrangements be made.

The new aviation specialty system is relatively new and I am unable to make a good evaluation of its ability to handle the aviator properly. There are some indications that certain branch animosities toward aviators still exist in the day-to-day handling of individuals. This area must be watched very carefully to assure that the treatment of the aviator is equitable.

After all, he is a special kind of volunteer who still must tread a triple track career pattern. This will be true as long as we require that the aviator have a non-aviation basic entry specialty in a branch or service. I am not prepared at this point in time to throw in the sponge and opt for aviation as a basic entry specialty because this equates to an aviation branch. Our Air Corps experience stands as our best lesson in this regard.

You will recall that the second major recommendation of our OPMS study called for an increased flow of new aviators to keep a reasonable 'year group' balance and cover expected losses. This area will need new attention in light of anticipated expansion due to ARCSA III.

Fort Rucker played an important part in influencing the new flight pay legislation. The Stratton Special Flight Pay Subcommittee visited Fort Rucker in late 1973 and took back to Washington a better view of Army Aviation than it had had before coming. While it imposed a gate system on us, the Congress did recognize in legislation the concerns of the aviation warrant officer by increasing his flight pay although not making it comparable with officer rates.

On departing Fort Rucker on his retirement, MG William J. Maddox, Jr., provided his superior, GEN William E. DePuy, TRADCOM Commander, with notes on where aviation stands today at Fort Rucker and elsewhere and some thoughts about the future. He said this in letter format on his last day of active duty. The report is of interest to the full aviation community and is being serialized in this magazine over several issues.

TODAY AND TOMORROW (Cont.)

DA assignment policies

We also proposed and DA adopted policies that assigned our initial entry graduates to the field for aviation duty and eliminated the turn around instructor pilot. We want aviators on our staff and faculty who have served in TO&E units rather than new graduates who really haven't joined the program yet. In this period of gates for flight pay and heavy demands for officers to perform ground duty, it was unreasonable that our new graduates should be siphoned off — many never to have the opportunity for company duty in a line aviation unit.

However, our assignment policies need some further refinement. It seems unreasonable that we turn around new graduates and give them fixed wing qualification after we have spent nine months teaching them to fly a helicopter. It would be better to take the individuals after a line unit tour and transition them based on demonstrated performance. As you know, only 8% of our aircraft are fixed wing.

Also, all transitions to medium and heavy cargo helicopters should occur after the initial line assignment in smaller aircraft. Greater numbers of experienced aviators should be encouraged to take Cobra transition training.

The old "flight detachment" bugaboo still exists. So much of our senior experience, particularly among warrant officers, is tied up with these high headquarters detachments draining away the type of experience that the field so badly needs.

BUILD-UP!

The international flavor of aviation instruction at Ft. Rucker continues under the EURO/NATO helicopter pilot training project initiated last April as more German students are scheduled to undergo the flight training. Some 56 additional students are expected to start the initial entry program in FY77 with the first Norwegians to arrive in the same period. Students from Denmark are expected in FY 1978.

Retention

Fort Rucker has identified reenlistment as one of its most important tasks. It views the retention of qualified enlisted people as the most cost effective way to high morale and readiness. After all, the trained individual who stays with the Army is a better solution than the recruitment of new people to replace those who departed in disillusionment.

This line of thinking played an important part in Fort Rucker designating itself as a "People's Post." We recognize our members as being important individual components of our training. We want them to have challenging and meaningful assignments and we want to recognize adequately both success and failure. Our reenlistment record as the group leader for TRADOC posts of our size for the entire period of this report attests to a favorable response to the "People's Post" environment.

Standardization

The Army Aviation Standardization Program, for which Fort Rucker is proponent, is designed to assist the commander in evaluating his aviation. You funded it this year at a level which has permitted our standardization assistance and evaluation teams to cover the Army from Germany to Korea and assess individual aviator and instructor qualifications and the relevance of unit training efforts to the next battlefield. Acceptance of the teams has been excellent even in units where serious deficiencies had been identified.

For the first time ever Fort Rucker has a written agreement with the Aviation Systems Command at St. Louis that formalizes user input into the technical manuals that govern aircraft operation. Formerly these manuals were written by aeronautical engineers with little regard for the requirements and abilities of the average aviator in the field.

UTTAS

AAH

Here's why a Solar APU flies with everybody in the UTTAS and AAH competitions.

The advanced T-40 *Titan*® gas turbine auxiliary power unit offers even better performance and reliability and longer life than the thousands of Solar APU's that went before it.

That's why all four finalists in the UTTAS and AAH flyoffs chose Solar for main engine starting and auxiliary electric and hydraulic power.

The T-40 *Titan* engine APU has an extra margin of bleed air for engine starting and to handle sand, dust or salt water spray better.

This APU delivers 90 shaft horsepower or 72 pounds/minute of bleed air and weighs only 88 lbs.

Proven under the most rugged combat conditions, *Titan* turbine APU's are in use on every major military helicopter that has an APU. And one has been chosen for the F-16's self-sufficient starter system.

Altogether, Solar has designed and built more than 6,600 gas turbine APU's which have logged over 8 million operating hours.

Get complete details on the APU everybody in the UTTAS and AAH finals has his money on.

Write Solar, Division of International Harvester, Dept. Y-401, San Diego, CA 92138.

Solar Gas Turbines

BOEING'S UTTAS

Advanced technology makes the difference:

The Blade

The fiberglass-spar rotor blade is the single most important development in the new generation of helicopters. Boeing Vertol is clearly the leader in fiberglass blade technology.

The Rotor

Flight and ground testing on the Boeing YUH-61A have confirmed the stability and exceptional flying qualities provided by the hingeless rotor's rapid, powerful, and precise response to pilot inputs.

The Dynamic System

Major YUH-61A dynamic components have demonstrated a mean time between removals (MTBR) of 2500 hr. The maturity objective of 3200 hr will be met or exceeded.

The Savings

Direct maintenance costs for the UH-61A will be 70% lower than possible with other helicopter technology.

Technology leadership establishing a new state of the art in performance, flying qualities, survivability, reliability, maintainability, and availability—at lower than design-to-cost targets!

BOEING'S UTTAS

BOEING VERTOL COMPANY

Philadelphia, PA 19142

TODAY AND TOMORROW (Cont.)

Our standardization people have also embarked on an effort to reduce the content and complexity of aircraft checklists. In the first review of the OV-1 checklist, some 200 items of a total of 850 were deleted, thus, making the checklist more practical, concise and easier to use.

As part of our effort to bring the rules into line with our new needs, we have rewritten Army Regulations 95-1 and 95-63 which govern aviation and our individual readiness flying. For the first time we have incorporated a type unit training program for individual aviators as a guide to commanders. These AR's have been staffed through the Department of the Army and are presently ready for printing.

Two-week readiness package

In early 1974, Fort Rucker proposed a two week readiness training package designed primarily for reserve component aviation companies. We intended to spend one week in individual training and then assemble the unit for standardized unit training. Subject matter was to be left to the discretion of the unit. Our first customer was an XVIII Airborne Corps active Army company. Then in 1975, we trained two Fort Bragg units to include a cav troop plus one National Guard company.

This year, we have handled an active Army and three National Guard companies (North Carolina, Tennessee, and Missouri) and expect two more with the promise of several more XVIII Airborne Corps companies after 1 October. This training has been good not only for the visiting units, but has helped stimulate the user orientation of the Aviation Center.

THE FULL STORY

The Aerospace Industries Ass'n publishes an Annual Directory of Helicopter Awards as a public service. A 1976 Directory may be obtained by writing to AIA; Attn: Off of Pub Aff/Jean Ross Howard; 1725 De Sales St., N.W.; Washington, D.C. 20036. □

A home for USAR units

As another means of supporting readiness, we turned our Knox Base Field over to the Army Reserve and moved active Army elements at that field to other base fields. The 121st Army Reserve Command then moved the 376th Transportation Company (Aircraft Maintenance) here from temporary facilities in Dothan. That unit has a large area maintenance responsibility for reserve units. We also activated the 282d Aviation Company in the Army Reserve and collocated it with the maintenance company.

Knox Field lies between Cairns Airfield and Hanchey Base Field and, since the Army Reserve flying activities occur principally on weekends when the other two fields have minimum traffic, this arrangement works very well for all concerned parties.

Incidentally, our own Airborne D package ground units have passed their XVIII Corps readiness inspections on each occasion since the tests were initiated here two years ago. I'm told no units outside Fort Bragg have matched this performance.

Attack helicopters are the key

Regarding unit tactics, I consider that the attack helicopter is the key to any major aviation operation on the new battlefield. Now that we have fielded an operational anti-tank system in the form of the Cobra TOW, I visualize a great number of airmobile activities that otherwise could not occur in a high threat environment. I believe that the attack helicopter itself creates requirements for helicopter operations.

You may remember that I surfaced a proposal on the massing of attack helicopters at our March 1974 meeting with the Center Commanders at Fort Leavenworth. This was first proposed to the Army at large during the Army Aviation Program Review in August of that year. At this writing, the massing of attack helicopters to maximize helicopter

killing power generally has been accepted. Our writings in FM 90-1 and the graphic demonstration at Fort Hood during OFTCON last October seemed to have resulted in an acceptance of that tactic.

It seems logical to many that the mobility and hitting power of the Cobra TOW and the AAH will be so great that aircraft performance should not be limited to operations behind friendly lines. I can visualize attack helicopter operations accomplishing in a matter of minutes or hours what in the past has taken days of heavy fighting. While the helicopter cannot hold ground in the traditional sense like the infantryman or tank, it has the inherent mobility and reach to be able to dominate specific areas with fire.

The attack unit can also bore in on a specific hit and run raid to destroy enemy installations. I readily agree that such penetration and raid operations will not take place regularly, but must be carefully planned and executed with combined arms team assistance. Once through the crust of the forward edge, the helicopter could play a moving game, shifting laterally depending on enemy counter action while generally tearing up headquarters, lines of communications, supply installations, and the like.

Let's visualize new objectives!

While this tactic may be somewhat advanced for our state of training, I do not want to see our thinking become immobilized. We must visualize new objectives beyond the capabilities that we accept at present.

In this vein, the Warsaw Pact has an existing capability to conduct both airborne and heliborne operations in depth behind the main defense forces. In these actions the attack helicopter units rely on a rapid reaction capability to destroy the enemy before he has time to consolidate and repel the force.

Combat in built-up areas will also receive increased significance in future conflicts. Since World War II extensive construction has taken place in Europe metropolitan, industrial, and suburban areas. As cities are often barriers to armor, it can be further expected that airborne and helicopter infantry forces will be prelanded in cities to clear a path so armor can drive through.

TOP RECRUITER?

Six for sure and a good chance of five more out of 12. That's the recruiting record LTC Ronald A. Jones has with his children. Jones, who is Director of the Dept. of Resident Tng Mgmnt at Fort Rucker, said he and his wife, Velma, and their dozen are friends of the Army because it has been a friend to them.

Attack helicopter units can rapidly mass combat power while additional ground forces are maneuvering. The point target weapons on attack helicopters offer selective and precise destruction of targets within the built-up area. Flares and night vision devices allow effective employment around-the-clock. But no one has done any experimentation or training in these tactically worthwhile enterprises. Thus, I'm not sure we are ready to do all the great things I've just discussed.

Proponency - Need for integration

In order to posture the aviation program properly for the future, Fort Rucker has sought the responsibility for studies and tests. As you know, proponency for aviation is located in many areas — Benning, Knox, Sill, Bliss, Eustis, Huachuca, and Monmouth. We agree with this. However, there must be an integrating center which has a specific interest in airmobility and the technical ability to perform the coordinating function.

Fort Knox and Fort Sill recognized this and sometime ago transferred their aviation hardware responsibilities here. This has in no way detracted from the assigned proponency of those centers for organization and doctrine.

The Studies accomplished

As a result, Fort Rucker has performed the Selective Effects Armament System Study (SEAS), the HELLFIRE Special Study,

a smoke evaluation and the PASS IN REVIEW effort (Cobra product improvement). Additionally, we conducted the CH-47 modernization COEA and chaired the OSD helicopter commonality study. We also performed the air traffic management study which resulted in a major simplification to the air traffic management system for the combat zone and was the basis for your agreement with the USAF Tactical Air Command.

Additionally, we made major input into the advanced scout helicopter COEA and headed a repackaging effort of the ASH study at your headquarters. Each of the cited studies has received general approval by DA.

Significantly, most of these studies have depended on SCORES war gaming and I believe that SCORES has served as an integrating format throughout the combat developments system. However, your experience with General von Reichert recently indicates that we and our allies do not necessarily share a common view of the next battlefield. Therefore, a logical progression for SCORES would be to utilize it with the Germans as a first step to making it a common means for viewing the modern battlefield throughout NATO.

A LOOK-SEE — More than 2,300 Reserve Office Training Corps cadets in attendance at their Advanced Camp at Fort Bragg, N.C. had many opportunities to view actual Army hardware, to include this display of Army aircraft at Simmons Army Airfield. Aviation was a prominent factor in their summer field training. [USA photo]

ARCSA III - More camel in the tent

To date, we have briefed the attack helicopter phase of the Army Requirements for the Combat Structure of the Army (ARCSA) Study at DA to meet the 30 June deadline we have been working against. As you know, we have identified the requirement for an all-S Model Cobra fleet and a major increase in our requirements for advanced attack helicopters. While we were unable to accommodate for reasons of affordability an attack helicopter battalion in each division, we did so for divisions stationed in Europe.

The rationale for such an organization is based upon the utility of the Cobra TOW on the out-numbered battlefield and the great flexibility that the "rule of three" gives the commander. Three Cobras permit him to task one company to each of his three brigades or to take the more likely step of concentrating in support of his main effort or his most endangered brigade. There are other options between these extremes, yet the aviation hitting power is forward and is backed up by an attack battalion under the Corps commander's control.

In my view, ARCSA brings a little more of the camel into the tent, but the prospects of exploiting the attack helicopter to a fuller degree probably will depend on a complete evaluation of the heavy division such as you are undertaking in your "Systems Division Study." I hope that your study does not reject the attack battalion per division approach solely because ARCSA was constrained from a resource standpoint.

Maintenance - The logistics side

Now let's turn to the logistics side of the post. In the aftermath of last year's maintenance contractor strike, the need for greater quality control in contractor maintenance operations was identified. In addition to a number of personnel changes instituted by the contractor, Northrop Worldwide Air-

craft Services, the following steps have been implemented:

- Daily inspections are performed inside hangars, to the extent possible, where better lighting and control are available rather than on the flight line at night.
- A tighter degree of responsibility exists. The fleet has been subdivided into flights at each field with permanently assigned foremen and crews. Thus, specific individuals are identified with specific aircraft.
- Turbine engine maintenance which was fragmented among the various base fields has been centralized in a single maintnance support shop.
- The contractor has increased the frequency of quality control inspections and broadened the spectrum of review of all grounding conditions.
- A visible quality indicator program has been initiated in each work area to instill a professional attitude and individual pride within the work force.
- Additionally, improved controls in accountability of government property in the hands of the contractor have been implemented.
- Twenty-three in-depth inspections were implemented and controls tightened in each area. The industrial property account has been automated, excess repairable assets in shop areas reduced and repairable/recoverable assets placed on a direct exchange basis.

Contract consolidation

Based on recent approval by DA, Fort Rucker is implementing a single consolidated aircraft maintenance contract to take effect 1 October. This will supersede the present Center contract with Northrop Worldwide Aircraft Services, Inc., and the Test and Evaluation Command's contract with Hawthorne Aviation. The consolidated contract should reduce management overhead cost, eliminate duplication of functional support shops, reduce the amount of support equipment required, permit the establishment of a single TC air supply account and eliminate the union advantage of playing one contractor against another during wage negotiations.

NEW RECORD!

Karl Striedieck, a Pa. ANG pilot, is claiming the world's soaring record for out-and-return distance of 1,004 miles, the first 1,000 mile flight in soaring history. Striedieck took off at 5:30 a.m. on May 19, 1976, landing 13% hours later. □

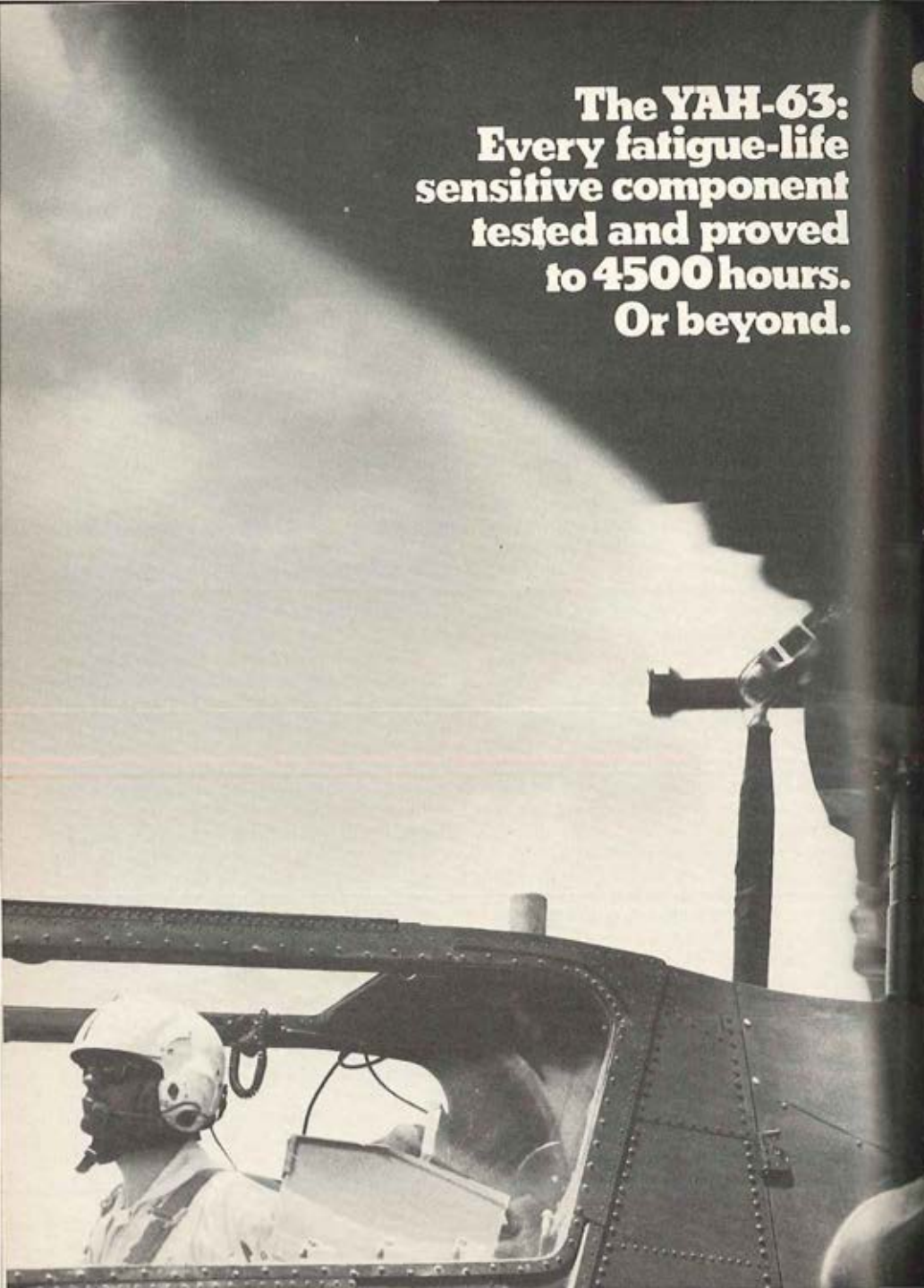
Management of the Stock Fund

To overcome shortages in our stock fund allocations, prudent management actions were required in our supply accounts. We established a Stock Fund Council headed by the Director of Industrial Operations and representatives from each accountable property office as members. The council determined that we could not afford stockage at full authorizations so variable stockage objectives and reorder points were established based on varying customer demands, available obligation authority and my priorities.

We found that we can operate successfully with less than the authorized stockage provided we watch our current status carefully at all times. We have done so for the past several years. By diligent management we were able to maintain an excellent cash position in our stock fund throughout the current fiscal year even though we were required to use approximately $250,000 in March for the resale commissary which did not flow back to us. Nevertheless, we end the fiscal year with a very favorable obligation to sales ratio of 1.003 to 1 against the approved program of 1.086 to 1.

Economy initiative

For the past several years, we have been concerned with the waste of aircraft parts. Following our appeal, supported by your headquarters, the Aviation Systems Command has now established procedures whereby locally declared excesses are returned to the supply system rather than turned into property disposal channels as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sensitive component
tested and proved
to 4500 hours.
Or beyond.

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The result is a more mature flying prototype. One in which all 33 critical dynamic components have been thoroughly tested under elevated loads, meeting the highest fatigue-life standards of any attack helicopter.

It also means that the predicted operating cost of the YAH-63 is highly realistic. That, after all, is a major objective of thorough testing.

Everyone at Bell is very aware of this, because we've been working that way for years. Over 15 years of gunship experience enabled us to spend more time proving the critical components of the Army's Advanced Attack Helicopter. And that makes all the difference in the world.

The big difference is Bell.

All 33 critical dynamic components, in the rotor hub area and elsewhere, meet the Army's structural objective now.

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we were instructed to do by the supply system computer. We estimate this change in computer programming will save the Army $150,000 at this installation alone this fiscal year.

Also, we have established separate procedures for parts for nonstandard and outdated aircraft such as the C-47, T-41, and T-42. Although we had $265,000 in excess repair parts for these models at the beginning of this fiscal year, we have transferred over $139,000 worth to other government agencies and are holding the remaining parts until potential users can be identified.

Other logistic actions

In another cost savings step, we recommended that DA place all repair parts for the synthetic flight trainer systems under MILSTRIP. By utilizing MILSTRIP to the extent possible and assembling spare parts packages at Fort Rucker for shipment worldwide, an estimated $500,000 cost savings annually will be realized over the previous supply plan. This system will yield benefits as the SFTS program is expanded worldwide.

A phased upgrading of maintenance facilities and equipment is underway so that our support capability is suitable from an OSHA standpoint and effective considering the new technology that is available. This past year, we have established a modern spray paint booth for vehicles and equipment, a renovated battery repair shop with new battery chargers, an engine dynamometer, a modern carburetor test stand, and calibration equipment. These advances cut manpower requirements and will result in early amortization.

The Army Communications Command has selected Fort Rucker for an area maintenance facility for Air Traffic Control and Navigation Aids. The facility will service aviation activities throughout the Continental United States, Alaska, Hawaii and the Panama Canal Zone. It will repair and return equipment direct, exchange components and provide mobile maintenance personnel for on-site maintenance and the resolution of operating problems. This step ties in nicely with our ATC responsibilities and our broad equipment interests.

Every property disposal action is challenged to assure that nothing to be turned in has further value to Fort Rucker or its area of responsibility. We watch the management of sensitive high dollar value items very carefully and have broadened the serviceability standards of equipment and clothing. We estimate that in the clothing repair area alone, we achieved a cost avoidance of $20,316.

Our Transportation Motor Pool operates its 407 vehicles at a cost per mile of $0.14 or $0.03 less than the TRADOC target of $0.17. This sufficiency level has been achieved by the turn-in of all vehicles not regularly required and through close evaluation of administrative vehicle control operations.

NOSTALGIA - A smiling Major General Jack Tolson, on his return to CONUS after having served as CG of the 1st Cav Division in Vietnam, holds up a copy of a "Chicago Tribune" with the headline, "Copter Downed by [Viet Cong] Arrow." Did it really happen? □

Energy conservation actions

Energy conservation has been of prime concern since the Arab/Israeli War. We took the normal steps of reducing administrative runs, turning in excess vehicles, and exercising more stringent controls over the use

of petroleum products. We have been especially diligent regarding security of petroleum products because of the great amount we utilize in so many different locations. We burn used crankcase oil in our heating plant for a savings of about $10,000 a year over the purchase of new fuel and a considerable reduction in contamination of the environment.

At the behest of the Alabama Volunteers for Energy Conservation, we outfitted an energy conservation van which has toured extensively in Alabama and Tennessee and was borrowed for use in Arizona by Fort Huachuca. Unfortunately, well organized drives to collect paper, glass, cardboard and metals were abandoned for lack of recycling markets. Also, our efforts at carpooling were not particularly successful. To achieve a higher rate will undoubtedly require the economic pinch of higher gasoline prices.

Employee schooling

Although it does not have headline grabbing significance, Fort Rucker has established an active program addressing the technical aspects of equipment modernization and training to enhance career progression. During the past 18 months, our civilian logistical personnel have been trained in nine managerial and six technical schools. This has permitted us to divert numerous small maintenance contract projects to in-house maintenance with a savings of more than $30,000 and more efficient, responsive support. In the procurement area, our employees have completed 72 courses and equivalency tests in specialized procurement matters. We feel that this is paying important dividends in the administration of our procurement programs.

New construction

During the period a new Center library containing 35,000 volumes was opened as was a showplace recreational center and a new physical fitness center. Modern volunteer Army improvements of the existing barracks are nearing completion and new modular barracks of four modules with a central administrative/recreational building have been opened. Two additional modules for the hospital enlisted complement are scheduled for opening in August.

Completion of these facilities permitted the relocation of the Youth Activities building and the post nursery. The latter moved from four wards in the old hospital area into a World War II recreational hall type building in the center of our housing area. Consequently, our participation rose from an average of 150 children per day to 280. In the two years preceding the move, the nursery had a net loss of $4,653. In less than two years since the move, our net profit has been approximately $22,850.

Since the new physical fitness center has opened, the old post gym has been redesignated Youth Activities Gym and is particularly popular and well used. The new physical fitness center with its four basketball courts, three handball courts, squash courts, four dressing rooms, two exercise rooms, indoor swimming pool with patio, and two steam rooms and two sauna rooms is fully utilized. In fact, we must limit participation because some activities operate fulltime at capacity. Our experience may be of help to the engineers who design such facilities. For example, our squash and racquet ball courts are completely unable to meet the demand.

*****

[Editor's Note: This is the second part of a multi-part "end-of-tour" report written by MG Maddox. It will be continued next month.]

Your Back Cover Key

We've received several notes from our readers regarding their back cover "key" — the line ABOVE their name. Your key is composed of the first six letters of your LAST name, and the FIRST three letters of your first name, and then using the next two spaces to separate "duplicates." Hence, our FIRST reader named John Williams would have a magazine and/or AAAA key of "WILLIAJOH00" and the sixth duplicate would be keyed "WILLIAJOH05." □

SYSTEMS THINKING
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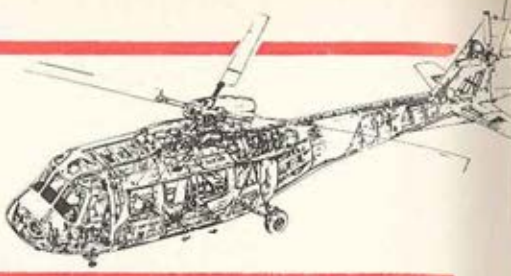

**BY COLONEL WILLIAM E. CROUCH, JR.,
CHIEF, AVIATION SYSTEMS DIVISION, WEAPONS SYSTEMS DIRECTORATE,
ODCSRDA, DEPARTMENT OF THE ARMY**

THERE are compelling reasons to continue to use and improve the "systems approach" in the development of aviation hardware.

The materiel developer (project manager, laboratory, etc.) and industry have been applying the system approach for years while accomplishing "system integration", i.e., arranging and connecting all of the subsystems and components of a weapon system, and making sure they all "play" together. As our aviation systems became more complex and we worried more about things such as maintainability and the man-machine interface, the user became more involved in the system integration process - a welcome development. Additionally, the user and the developer have improved the use of the systems approach in formulating the concepts for our new systems.

The "driving forces"

My concern results from watching all the forces which drive our aviation systems and the way we react to these "driving forces". I think of the user, the developer, and industry as the key forces which push our systems forward. If these were the only significant driving forces, system development would be relatively simple for the Army.

But we know that life isn't that simple and that there are other important driving forces. Congress, OSD, the other Services, the FAA, other nations and the threat are but several. Politics and parochialism are characteristics of these forces. They push and pull our systems in many directions and are often unpredictable.

These forces have been around for years, and we've become expert in coping with them. First, we try to control some of these forces, but as we all know, these forces are largely beyond our control. Secondly, we consistently expose ourselves (and our systems) to these forces. I sometimes wonder if all this exposure is necessary. In any event, the way that we often accommodate these driving forces is by adding functions — to the system and to the cockpit.

Adding a "black box"

Adding a function to the system often means adding a functional subsystem. Consider, for example, an electronic subsystem whose heart is a functional "black box." In most cases the crew is in the loop so control and/or display units are added. Sometimes, of course, the controls and displays are combined in a single unit or integrated with the functional black box.

Many times, the black box must talk to the outside world so an antenna is added to the system. When the functional black box talks to the outside world, securing the signals may be prudent. Securing the signals usually means the introduction of a crypto box, a frequently changed key, and some kind of control. The point is that each new function adds cost and physical burdens to the system, and potential workload to the crew —

no matter what the number and configurations of the boxes.

Life was much simpler in the good old days of the L-4 and it often was quite exciting. The reason life was simpler then is that the driving forces were fewer and more predictable. Accordingly, aircraft systems and cockpits did not show the effects of function proliferation. The forces that drive Army Aviation have been at work during all the years since the days of the L-4. It's no surprise, then, that lots of functions have been and continue to be added to our aircraft systems.

Growing in complexity

The most dramatic evidence of these new functions is in the cockpit. Our helicopter cockpits are beginning to rival those of the jumbo-jets in complexity. Our crews can handle it - right? Right! But not when they're flying Nap-of-the-Earth in the combat zone.

The aviation community has done an admirable job in coping with functions. Because of rapid advances in technology, it's difficult to keep up with the ways in which subsystems are becoming smaller, lighter, and relatively more affordable. Great progress is also being made in getting individual subsystems or black boxes to perform more functions.

The man-machine interface is a harder problem on which to get a handle, but significant progress is being made. Very important is the making of better crews — the product of better training — which is being accomplished at the Aviation School and in the unit.

Heretofore, we typically could add functions to a system until we ran into space, weight, and dollar limits. We seldom bumped into the crew workload limit because we couldn't afford enough functions to really load them to their capacity. Now, thanks to the tremendous progress in aviation technology, the situation is different. The space, weight, and dollar limits are less of a problem because subsystems are smaller and lighter. In relative terms many subsystems are more affordable.

MASTER ARMY AVIATOR — Shown receiving his Master Army Aviator wings from LTC David K. Yantis, RASA Commander, left, is LTC Thomas W. Downes, Jr., USAMICOM AvnO and Chief, Flight Opns Div, RASA. Downes graduated from flight school in 1954. □

What concerns me is that we may be quickly approaching the point where we can afford enough functions to overload the crew. This, despite the fact that crew capacity has increased because of better training, and despite the fact that the man-machine interface is improving.

Function proliferation is an area in which improved and broadened systems-thinking can be applied profitably. Systems-thinking that considers the driving forces more fully is what I have in mind. Wiser heads than mine need to address the problem but let me suggest one approach:

Basically, I think we should consider limiting or reducing the number of functions we incorporate in the system and the cockpit, if we can do it without sacrificing mission effectiveness and survivability.

Three questions to answer

I also think there are three major questions involved that deserve some systems-thinking:

First, which driving forces can be avoided? Avoiding the driving forces may not be possible but why don't we try it and find out?

Next, which functions can be eliminated?

SYSTEMS THINKING (Continued)

If we can avoid some of these forces then we can take a look at eliminating functions.

Finally, which functions should be improved? I think that in order to avoid some of the driving forces and to eliminate other functions we may have to improve some functions. For example, if we improve certain functions to get better night and adverse weather terrain flying capabilities, could we partially avoid certain driving forces, such as the FAA, and then eliminate some functions?

Let's have some ideas!

While I don't have the answers, I'll venture to suggest some things that will be required in order to find answers. Imagination and innovation will be required to achieve a limit on or a net reduction in system and cockpit functions — as much as has been used to date to increase functions continually. Then too, much more than hardware must be considered. New approaches in training, tactics, and non-tactical flying may be indicated. Finally, I think a total system approach must be fully implemented, one that recognizes the driving forces, — whether we're considering a brand new system or the improvement of an old one.

If any of you systems-thinkers out there agree or disagree with me, I'd be happy to hear from you.

Hang Gliding Highlight

Gene Blythe, flying a Phoenix VIB, took off at Parker Mt., a popular 1,000 ft. flying site north of L.A. recently and in 100+° heat, and mild Santa Ana wind conditions, he used strong thermal lift for the first 15 miles of his flight. At one time, he was flying at a cold 12,000 ft. ASL, having gained 8,800 ft. above takeoff. Entering a shear, he flew south into the San Fernando Valley where he eventually landed on a golf course just south of Van Nuys Airport. Distance flown 23.5 miles! [Ed. Note: The first mid-air is inevitable if we have 1,000-12,000 ft. in a 25-mile area.] □

OOPS! — No, it wasn't done intentionally — the transposition of the above photographs on page 18 of the June issue. The "negs" were reversed and similar "Oh, my God!" utterances were heard in both Culver City and Ft. Worth.

Seven readers took the time to point out that the Bell AAH [at the left] was miscaptioned as the Hughes entry, and the Hughes AAH [right] was called the Bell YAH-63. Our apologies, Carl, Cliff, Tom, Hans, George, Phil, and Les. □

YUH-60A undergoing tests above Stratford, Connecticut

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Dedicated to Support!

We're Modernizing the CH-47 Fleet!

BY MAJOR GENERAL EIVIND H. JOHANSEN,
Commander, U.S. Army Aviation Systems Command, St. Louis, Mo.

AVSCOM's CH-47 Modernization Program has been established as the most cost-effective means of extending the life of our older "Chinook" helicopters.

The program will satisfy the Army's Medium Lift Helicopter requirements by providing substantial improvements in maintainability, reliability, safety, survivability, and vulnerability.

Proven technology derived from the Utility Tactical Transport Aircraft System (UTTAS), the Heavy Lift Helicopter (HLH), and other R&D programs will be applied to the CH-47's major components, including rotor blades, drive system, electrical system, hydraulic system, cargo handling system, auxiliary power unit (APU), and the advanced flight control sytem (AFCS).

These design improvements will eliminate or greatly reduce the number of deficiencies in the present system, thereby significantly reducing the operating and support costs of the entire CH-47 fleet.

The new fiberglass rotor blades

The present blade is one of the most expensive major components of the "Chinook" in terms of removal rates, maintenance manhours, overhaul costs and aircraft losses. The steel spar in the present blade is susceptible to corrosion, necessitating periodic and costly inspection and repairs. It is also sensitive to minor damage, causing fatigue failures. The Integral Spar Inspection System (ISIS) has been installed on metal blades and is effective in detecting spar failures, but remains a high maintenance failure rate item due to seal leakage and faulty indicators.

The new fiberglass rotor blade affords reliable solutions to all major metal blade problems. Among other features, fiberglass does not corrode and is insensitive to small defects. The existing aluminum honeycomb core will be replaced by NOMEX honeycomb which will eliminate corrosion problems. Overstress damage on the fiberglass spar will not result in rapid or catastrophic failure as it does on the metal blade.

Survivability is enhanced and vulnerability reduced through fiberglass construction, which can survive a direct hit from 23mm rounds.

The Mean Time Between Removal (MTBR) will be improved from the present 1,400

ON THE LINE AT BOEING

A CH-47 undergoing modernization action goes down the line. The multi-step AVSCOM provides 'substantial improvements in maintainability, reliability, safety, survivability and vulnerability.

hours to a design objective of 3,600 hours.

Finally, eliminating most of the existing blade failure modes will reduce maintenance manhours per flight (MMH/FH) by 75%.

The new CH-47 drive system

The present CH-47 transmission is another very costly item in terms of total malfunctions, component removal rates, MMH/FH, and overhaul costs. The current system has extensive lines and reservoirs for lubrication and cooling, its size and complexity making it vulnerable to enemy fire.

The new system will feature integral oil cooling and self-contained lubrication, reducing leak points from 116 to 28, thereby improving maintenance and decreasing vulnerability.

An improved debris detection system will improve safety and lead toward an "on condition" capability in lieu of Time Between Overhauls (TBO).

Design and material changes to the gears and bearings, derived from HLH and UTTAS technology, will improve the MTBR from 750 hours to a design objective of 2,000 hours. The improved transmission will also have a design objective of two hours operation after loss of the main oil system, and 30 minutes following the loss of all oil. Lower O&S costs will also result as MMH/FH is reduced 32%.

Hydraulic subsystems

Both the flight control and utility hydraulic subsystems in the modernized version represent a major design change for the CH-47, incorporating a modular concept.

This is accomplished by integrating separate subsystem components into a single housing, reducing the number of components, lines, and leak points (from 1,040 to

CH-47 MODERNIZATION (Cont.)

219). This also reduces system vulnerability to ground fire.

On-demand pressurization reduces leaks and increases pump life, while MMH/FH of the hydraulic system is reduced by one-fourth.

The electrical systems

Load capacities of the current system are inadequate and prohibit the installation of additional electrical subsystems. To help correct this, the 20KVA main generators will be upgraded to 30/40 KVA, and will be oil- rather than air-cooled. This will minimize bearing failures due to heat and/or foreign contamination.

The wiring will be relocated and separated, improving the system's reliability, maintainability, survivability, and vulnerability. MMH/FH will be reduced 33%.

Advanced flight control system

At present, the "Chinook" exhibits some instability and control handling deficiencies when operating in high density altitudes and/or under heavy load conditions. Several accidents have been attributed to these flight control problems.

The advanced flight control system (AFCS) will add altitude hold and heading hold features, while improving roll trim hold, air speed hold, and pitch control characteristics. AFCS will thus improve handling and load acquisition time, and enhance safety in confined area operations.

ARMY ORDERS ADD'L 22 AH-1S's

The U.S. Army exercised its option to acquire 22 additional AH-1S helicopters and related services from Bell Helicopter Textron, value of the contract award being $15,772,074. The option was included in the Dec., 1975 production contract for 44 units of the AH-1S, an improved version of the HueyCobra. Deliveries of the aircraft under the option will take place between January and March of 1978.

Triple hook load suspension

The existing single point system requires flight at reduced air speeds and limits the CH-47 to a single external load/single site per mission role.

In our program, a triple hook load suspension system is proposed. This will eliminate load oscillations, permit flight at air speeds up to the power limit of the aircraft, and allow greater versatility in load/site missions. Significant improvements in aircraft safety and productivity will result.

Auxiliary power unit

The auxiliary power unit (APU) will be modified to include a right angle gearbox. This will eliminate the direct link to the aft transmission accessory gearbox (AGB) presently necessary for ground operations. A starter/pump and 20KVA generator will be mounted on the APU to provide power for ground operations and systems checkout.

Eliminating the direct link to the AGB will reduce horsepower requirements and eliminate many failure modes present on the existing configuration. This, coupled with internal modifications to the APU, will improve the safety and reliability of the unit.

Summary - Lower operating costs

The prime thrust of the CH-47 Modernization Program is to reduce fleet operating and support costs by improving reliability and maintainability. Conceptually, this will be accomplished by personnel reductions and increased intervals between major component overhaul.

The total field direct productive maintenance requirement for the current CH-47C is 23.18 maintenance manhours per flight (MMH/FH). The objective for the modernized CH-47 is 17.66 MMH/FH. These improvements are expected to reduce the annual unit operating cost of the "Chinook" by an estimated 15%.

A veteran Army Aviator takes aim at flight training for senior officers and women and a host of other things

Anachronisms Revisited

THIS will be my last hurrah as an active duty aviator. After more than 25 years as an Army Aviator, and 33 as an aviator-pilot, I'm hanging up the goggles, white scarf, and helmet.

During my career, I've tried to fight the good fight for the young professionals in our business. I'm a believer in an **Aviation Branch** (Warrant Officer aviators are proof-positive that an officer aviator doesn't have to serve on ground duty with a ground unit to provide **outstanding** aviation support.)

Let's have more 'full career' Army Aviators!

I'm **against** flight training for senior officers (Let's see more of the **Bob Williams'** and **Bill Maddox's** who are willing to devote their ENTIRE careers to Army Aviation).

I'm **against** women Army Aviators (We have no shortage of male volunteers without **any** assignment limitations. I don't deny that women can fly and fly well. My P-47N was delivered to me in 1944 by a WASP, but she didn't come to Iwo Jima with me! It's just that we have 1,500 too many aviators today and a number of those who are "excess" will be released from active duty while the women aviators will be retained!)

I'm **against** civilianization in any phase of Army Aviation — in the cockpit, behind the wrench, on the platform, anywhere! Again, we're told we have 1,500 too many aviators for the number of authorized slots. Many of our senior EM maintenance supervisors, wrench benders, and TI's are having their MOS changed **involuntarily** because their positions have been **civilianized.** The claim that a civilian provides continuity **is only valid if** the civilian does not move to earn a promotion elsewhere.

On the other hand, many of our civilian-oriented activities, such as AVSCOM, suffer from a "stagnation stigma" in handling all tasks in the same old way, unable to cope with changes in technology, tactics, and the threat because the **same** person serving in the **same** slot for umpteen years fights any change that might impact on his security.

100% instrument qualification isn't attainable today

I **detest,** repeat, **detest** these three expressions: "100% instrument qualification," "all-weather capability," and "realistic" training — as applied to Army Aviation. We can't have 100% instrument qualification as long as we **exempt** one-half of the aviator community from achieving and maintaining the rating, and as long as we cannot provide adequate funds, equipment, and facilities for the other half. We have to be honest and state openly that there really are times and

conditions where Army Aviators **can't** — or **shouldn't** — launch.

Our commanders should **not** be permitted to hide behind the facade of "realistic training" as license to abrograte their responsibility for safety. How many of the commanders who preach the axiom of "realistic training" actually fly the same missions as their troops, or even lead them on those missions?

How many of our senior advocates of "realistic training" are qualified in an OV-1, in a **Cobra** (and particularly, firing from a high hover at night), or even in NOE? The next time one espouses vocally on "the need to conduct realistic training," take a look at his 759! See if the shouter does more than fly a UH-1 on C&C with a CW4 along to hold his hand on every flight!

Anyway, these are some of my key hangups. What are yours?

I've passed on some other philosophical ideas and thoughts to Art Kesten, the editor, for his use in this and future issues. If you have comments on any of them as they appear, I'd be happy to hear from you.

I love Army Aviation and I want it to continue to be the best. Keep it that way!

COLONEL SAMUEL P. KALAGIAN

A former Army Air Corps fighter pilot in WW II with two kills to his credit, COL Kalagian served as Deputy Commander of the U.S. Army Agency for Aviation Safety [USAAAVS] prior to his retirement this July 31. Orinally rated in 1944, he is a Master Army Aviator with over 6,000 flying hours. While a DCSPER action officer, he handled the assignments of 7,000 aviators and was instrumental in expanding WO training.

Unit Indivi
It simply isn'

There is no question that **USAAVNC** can and does produce an aviator who can fly. Unfortunately, the Aviation School training program is not authorized sufficient flying hours for training aviators extensively in unit operations.

When students graduate from flight school, they are assigned to many and sundry tactical and non-tactical aviation units throughout the world. Their **total unit tactical operational experience for the future** is determined by what they will learn in such widely-dispersed organizations.

Today, our tactical divisions and aviation units which support them have been given a very nebulous, broad objective charter — prepare to fight in a mid-intensity, high-intensity warfare climate. Much emphasis has been placed on the threat which dictates the training objectives and operational mode by which these objectives will be achieved.

Yet this threat is predicated, for the most part, on what I consider to have been insignificant helicopter operations during the last Arab-Israeli war and on the U.S. Army's short-term encounter with the hand-held Soviet **Grail** missile in RVN. We appear to have forgotten that successful, impromptu countermeasure tactics were developed by our aviators in RVN to negate the effects of the **Grail** and to successfully prosecute the aviation mission of combat support.

We also downplay the fact that the helicopter operations in the Sinai and around the Suez Canal were **not** of sufficient size to warrant the emphasis we have placed on them. Unfortunately, when this new and nebulous mission was

al Training: working out!

specified, the training guidance necessary to achieve the objective failed to keep pace. A few ARTEPS were finally prepared — FM 1-1, **"Terrain Flying,"** was actually published; and, occasionally, TRADOC and FORSCOM issued some standard guidance for specific or specialized areas of the training . . . But no single commander had nor has it all!

Para 2a(b) of CDR FORSCOM message, DTG 162315Z Apr 76, Subject: **Recurring Irregularities — Aviation Resources Management Surveys,** recently stated, "All units, down to and including separate detachments failing to establish training objectives (FORSCOM Regulation 350-1)" as a major deficiency, require additional emphasis.

Funds, policies work against us!

The contraints of funds which limit PCS moves and/or TDY for schooling as well as certain personnel policies (station of choice, reenlistment rights, all volunteer Army, command selection list, promotions, etc.) have limited the capability of tactical units to attain necessary manning and training levels, to develop innovative training techniques, and to professionally develop untrained personnel.

The current configuration of the Army — each tactical unit with the singular objective of training to fight a mid-intensity, high-intensity war — is counterproductive. Because of the geographic dispersion of the divisions in CONUS, for example, there is little to no interchange of common training problems, of lessons learned, of new techniques developed, and/or the interchange of experienced, qualified personnel between such units to assist in each other's training programs. Each aviation battalion commander in each of the CONUS divisions is training **his** unit personnel to achieve **his** training objective in widely divergent ways.

So what we have going in Army Aviation today is a gigantic 11th Air Assault Division concept without any of the advantages that the 11th Air Assault Division had at Fort Benning. When the 11th Air Assault Division was formed, its mission was to train personnel and units in the aviation techniques and tactics necessary to fight in a highly airmobile, low-intensity threat environment — a new concept for the Army.

Much of the charter and guidance to attain this training objective was provided by the **Howze Board** and by a selected pioneer training group of the 11th Air Assault Division itself. Attainable training objectives were established before the 11th Air Assault Division units began their training and before new ideas and new techniques were introduced and tried out. The building block method of training was a keystone to progress.

A continuous interchange of ideas

The 11th Air Assault Division was given top priority in the assignment of qualified experienced aviators and enlisted members. Because individuals and units were collocated in a single complex, and operated together in the field, there was a **continuous** interchange of all new ideas that were generated and the techniques which were established or discovered to improve daily operations. All members of the Division operated toward a **common goal.**

Because of time constraints, however, there was a tendency to "leap frog" concept to get to the readiness phase, a less than systematic approach. But the accrued wisdom and experience of the 11th AAD personnel perservered in most cases.

Today's Army Aviation units do **not** have the luxury of such experience. The **Aviation Career Incentive Act** has forced the Army to load its divisional and tactical aviation units with two types of aviators — the new graduate who must be assigned to an operational flying position for three years after graduation and the company grade aviator, rated some time between 1966-70, with a little over 1,500 total hours gained from two tours in RVN, but who has not served in any kind of flying assignment since 1970-71.

It's no wonder we crash aircraft!

When we meld these two types of aviators together into a tactical unit that never flies over 200 feet AGL; that is trying to qualify everyone in NOE, day, and night; that is supposed to launch on any mission, if the weather is forecast to be 300 feet ceiling and ½-mile visibility or better; or that works in and out of the most difficult confined LZ's at night to a flashlight held by a non-flyer . . .

Or that maintains its aircraft with a mechanic force newly-graduated from school and with less than 30% of the senior supervisors and TI's available to guide and monitor their maintenance efforts; and that attempts instrument flights in aircraft which do not meet the criteria for instrument flight listed in AR's 95-1 and 95-63.

Or that must live in a real world where money for flying hours is constantly cut so that individual and unit training hours must be used to provide support for the ground troops and to hell with training — when you put all these together, it's no wonder we crash aircraft and raise doubts about our true professionalism.

Who leads the troops?

The problem is compounded even more by other factors:

The first is the selection of Commanders — Who Leads the Troops? In the past, installations and major tactical unit commanders were the primary officials involved in the selection of their aviation commanders. Whenever an aviation command slot became available, **they** selected the commander from among the most senior and most experienced aviation officers in the appropriate grade assigned to their command; officers who had demonstrated their proficiency and potential in other assignments within the command.

Centralized command selection

As a result, most aviation units in the past were commanded by aviators with great leadership and managerial potential and those generally possessing the most or highest technical aviation qualifications.

With the advent of the centralized command selection system administered by HDQA, installation and unit commanders no longer had a choice as to who should command their aviation units. The officers who make up the aviation command list are generally those who have demonstrated their "potential" for command by recorded success in **non-aviation** staff work, civilian schooling, **non-aviation** military schooling, and **non-aviation** assignments at DA/DOD and JCS staff level.

A return to aviation after four years

The majority of those officers who now appear on aviation command lists have **not** been in an aviation assignment for four years or more. Usually, the record will reflect that a command-selected major's last aviation assignment was as an aviation company platoon leader in RVN five to six years ago, and the command-selected lieutenant colonels last served with aviation on an aviation battalion staff, or — in rare cases — commanded an aviation company. Each of these selected commanders knows that he must demonstrate his leadership qualities and potential for future promotions and selection to senior service school by what he accomplishes during his tour of command.

None are provided refresher flight training at a central flight facility operating

under an approved POI. No senior aviation officer/commander school or courses have been established to upgrade his knowledge or currency in aviation-oriented matters such as maintenance management, tech supply, current tactical aviation doctrine, aviation medical problems, safety, standardization, aviation enlisted career fields, gunnery, etc.

Few seek current information

Some selected commanders take leave or TDY and visit USAAVNC, USAAAVS, Fort Eustis and AVSCOM on their own seeking current information, but they are the exceptions; **most do not**. Since the average new aviation commander lacks current technical aviation qualifications and competency, he devotes the majority of his command time to those **non-aviation** management indicators which determine a successful commander, i.e., availability rate, personnel management, motor pool, meeting reenlistment quotas, mess, personal appearance of troops, military discipline, etc.

His close involvement with the aviation activities of his unit is generally limited to the daily availability rate. If the rate meets the established DA or MACOM standards, he goes no further into his aviation activities. His choice of officers to handle the key aviation functions in his organization — such as operations, maintenance, and supply — is premised on the seniority of the individuals and their past military schooling, **not** their overall technical qualifications.

"The bland hand of leadership"

Old experienced hands of a lesser grade are sometimes assigned as assistants to these unqualified key personnel. Until the unit suffers an accident or the availability rate falls below standards, "business as usual" is the credo for the day. In units such as these, which have been observed during many assistance visits, the lack of clear guidance and the bland hand of leadership is obvious and reflects itself in the accountable achievements of the company observed. Thank goodness, though, that even with this selection system, many winners still surface who are keeping Army Aviation healthy and viable.

BIG SWITCH — Shown manipulating the hoist control switches in a CH-54 Tarhe at Ft. Rucker, SP6 Kenneth H. Nye can maneuver loads weighing as much as 12 tons. Recently awarded the Master Aircraft Crewman Badge, Nye only gets to work on the CH-54 for 18 weeks a year, since it's used just for IP courses. The rest of his time is spent as a flight engineer on a CH-47 Chinook operated by the Dept. of Graduate Flt Training.

Selection of Operations Officers

The problem surfaced in the selection of aviation commanders extends to the selection of unit aviation operations officers. In divisional TO&E aviation companies, the TO&E limits the grade of the operations officer to that of lieutenant. Captains are assigned as platoon leaders or as supply, maintenance, personnel, or intelligence officers. Even in those units where the commander ignores the grade specification on his TO&E, the selection of a captain to serve in the operations slot is accomplished by deference to seniority.

In more than the usual number of cases, this still means that the conduct of operations and training is relegated to a senior captain who well may have just grad-

uated from flight school. He has had experience as a liaison officer or scheduling officer in a combat or combat support non-aviation unit prior to attending flight school, but is in no way qualified to determine when a mission should be launched; when a mission should be cancelled; how to make up the crews; determine the type of aviation training required to bring the company personnel up to acceptable standards; how to deal with the maintenance officer to assure that maintenance and operations are coordinated on mission support; or even to determine just what classes are required to train his unit in the technical subjects related to aviation, such as safety, weather, instruments, unit tactical operations, and/or administrative support.

The Maint O's interest: Availability

The selection of maintenance officers is generally based primarily on whether the officer selected has attended the Aviation Maintenance Officer Course at Fort Eustis. The MO knows very little about the unit's tactical operations; his primary interest is in **availability**. Neither he nor the operations officer is generally given, or authorized to have, the responsibility for canceling missions due to problems associated with maintenance flow, availability of parts, availability of personnel to maintain aircraft, and/or the experience level of maintenance personnel.

Yes . . we have some suggestions!

- FORSCOM should develop and place roving training instructional teams — highly qualified in standardization, maintenance, supply, operations, safety, and training — **on the road**, making assistance visits to all of their subordinate tactical units on a regular basis.
- USAAVNC, along with proponent aviation agencies such as the Infantry School, Armor School and Transportation School, should be charged with developing and publishing, **as first priority**, the necessary training manuals to assist both aviation and non-aviation combat units to achieve the Army's stated training objective: To . . . be capable of fighting, surviving, and winning in a mid-intensity or high-intensity conflict environment and to win the first battle!
- Army Aviation training and training environment should be placed in its proper perspective, acknowledging that the demands for "realistic combat training" cannot be thrust only upon aviation where the slightest error can lead to such catastrophic results.
- Division Commanders and MACOM commanders should be permitted to select aviation unit commanders from among the best qualified and proven aviators — Regulars or Reservists — available from within their commands **or** from the DA aviation commanders list.
- The TO&E of aviation battalions and aviation companies should be revised to authorize senior captains or CW4's to serve as company operations officers.
- An aviation commander's course should be established at Fort Rucker with a POI of about 80 hours to refresh and retrain command selectees in purely aviation-oriented subjects before the individual assumes command.
- FORSCOM, in conjunction with TRADOC, should be required to conduct quarterly aviation unit commander training conferences and require aviation unit commanders — company/troop and higher — to attend.
- Lastly, the USAAVNC function, budget and manning level should be expanded to encompass an Army Aviation Center that trains units and individual aviators in the techniques and tactics of unit operations in a mid-intensity or high-intensity threat environment.

SPEAK OUT!

ARMY AVIATION reimburses its writers $0.05 per word [2,000-word maximum] for general articles on any Army Aviation subject. No product pitches or unit "plugs" included. Send your article to the address on the back cover.

Redesign of Career Management Field 67

BY MAJOR FREDERICK D. BLANCHARD
ENLISTED PERSONNEL MANAGEMENT SYSTEM TASK FORCE
MILITARY PERSONNEL CENTER, DEPT. OF THE ARMY

THE redesign of **Career Management Field 67, Aviation Maintenance,** has been approved by Department of the Army for implementation under the new **Enlisted Personnel Management System [EPMS].**

CHANGES WILL BE announced in **DA Circular 611 Series** later this year, and with a change to **AR 611-201.** The MOS changes should take place in 1977 along with the required modifications to training. **Skill Qualification Tests** and **Soldiers' Manuals** will follow at a later date.

CAREFUL ATTENTION was given to the new **Aviation Unit Maintenance [AVUMS], Aviation Intermediate Maintenance [AVIMS],** and depot maintenance concepts. All efforts have been made to assist in the professional development of the 17,500 soldiers now serving in the highly-skilled Aviation Maintenance Career field.

THE "WIRING DIAGRAM" that accompanies this article reveals some major changes. For example, there will be 16 MOS, instead of the current 22 MOS. Some of the other key changes are as follows:

- There is one fixed-wing repairer, MOS 67G (Airplane Repairman); MOS 67B, 67C, and 67H will be deleted from the MOS inventory.

- Helicopter Repair MOS have also been changed. Soldiers will henceforth be trained to maintain **categories** of helicopters:

67V-Obsvn/Scout — 67N-Utility
67Y-Attack — 67U-Medium Lift
67X-Heavy Lift

All of the foregoing should make the opportunity for varied assignments better.

- MOS 67W, now titled "Aircraft Quality Control Supervisors", will be trained to perform inspection and quality control on **both** fixed- and rotary-wing aircraft; MOS 67F has been consolidated into 67W.

- MOS 68D, now titled "Aircraft Powertrain Repairer", will include most of the duties of the current 68D and 68E.

- MOS 68K, "Aircraft Components Repair Supervisor", is new! Soldiers in this MOS

THE REDESIGN OF CAREER MANAGEMENT FIELD 67 (Cont.)

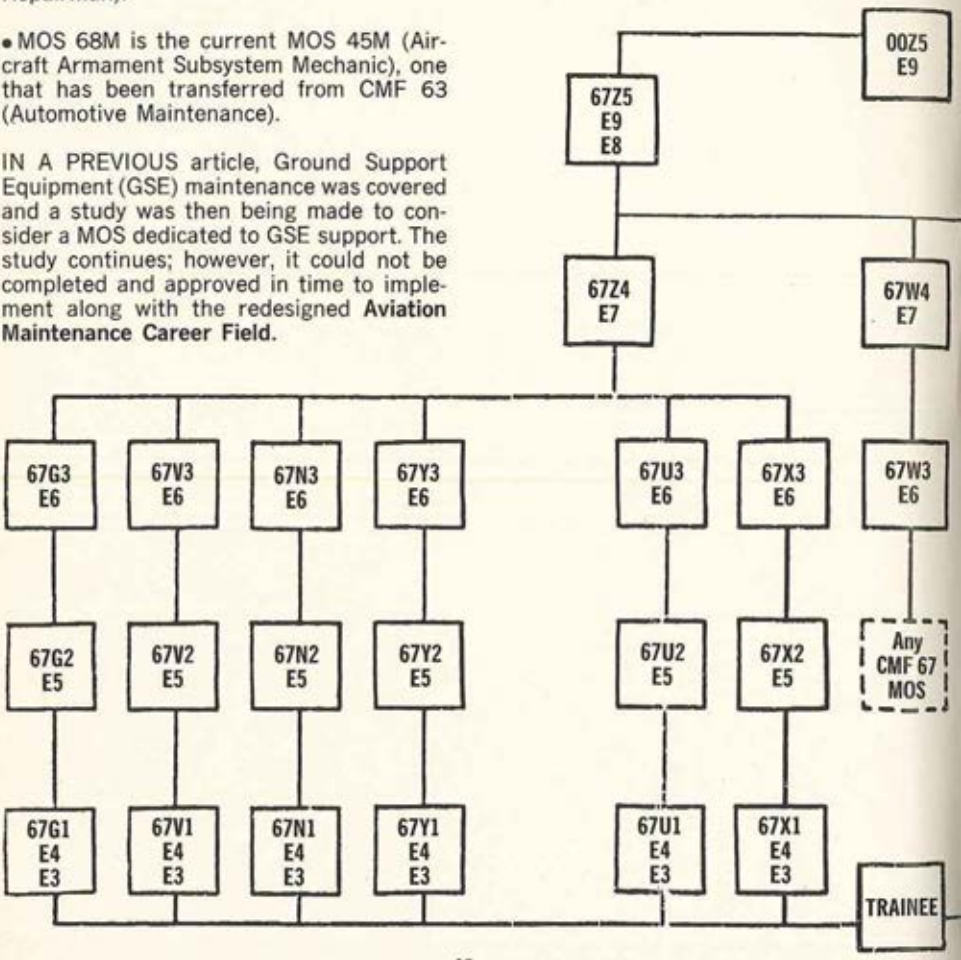
will be capable of supervising the activities of all of the "Aircraft Component Repairers."

• MOS 68J, retitled "Helicopter Missile Systems Repairman", is a consolidation of the current MOS 35J (Aircraft Fire Control Repairman) and MOS 45J (Aircraft Armament Repairman).

• MOS 68M is the current MOS 45M (Aircraft Armament Subsystem Mechanic), one that has been transferred from CMF 63 (Automotive Maintenance).

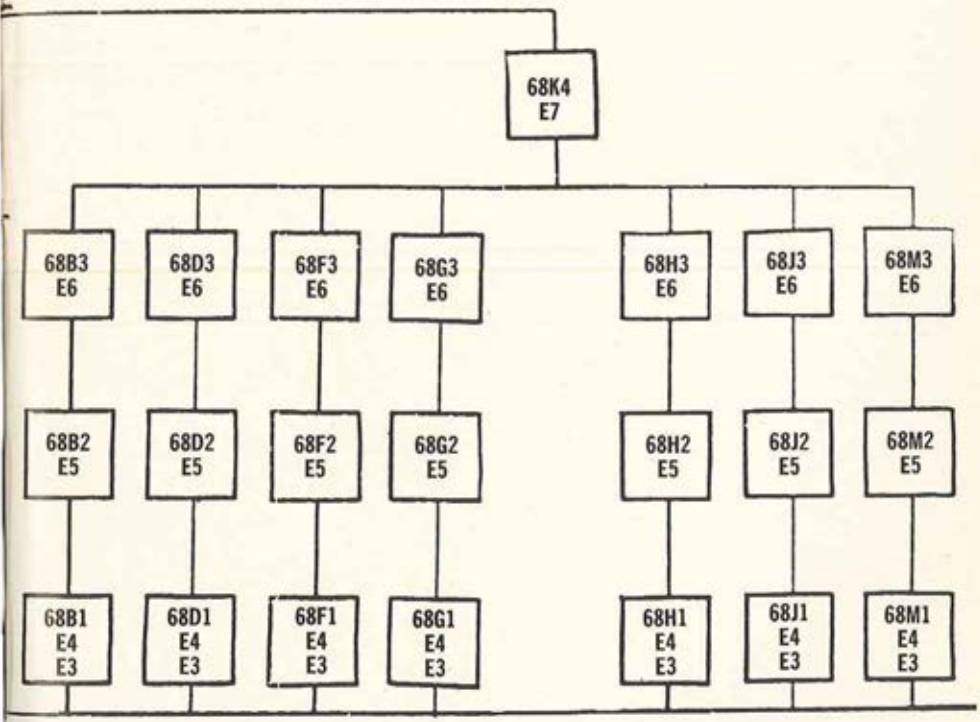
IN A PREVIOUS article, Ground Support Equipment (GSE) maintenance was covered and a study was then being made to consider a MOS dedicated to GSE support. The study continues; however, it could not be completed and approved in time to implement along with the redesigned **Aviation Maintenance Career Field.**

The "Wiring Diagram" shows some major changes!



Aviation Maintenance - CMF 67

67U Medium Lift Helicopter Repairman	67X Heavy Lift Helicopter Repairman	67W Aircraft Qual. Control Supervisor	00Z Command Sergeant Major	68B Aircraft Powerplant Repairman	68J Armament Repairman
67G Airplane Repairman	67V Observation/ Scout Hcptr Repairman	67N Utility Helicopter Repairman	67Y Attack Helicopter Repairman	67Z Aircraft Maint Sr Sergeant	68M Aircraft Armament Subsystem Mech
68D Aircraft Powertrain Repairman	68F Aircraft Electrician	68G Aircraft Structure Repairman	68K Aircraft Comp. Repair Supervisor	68K Aircraft Pneu/Hydraulic Repairman	



318 aircraft of 101st descend on Norfolk

THE preparations by Fort Campbell and the 101st Airborne Division (Air Assault) for REFORGER 76 make interesting reading.

The move - which involved the trans-Atlantic displacement of some 348 helicopters - was made, in part, by trains, ships, and globe-girdling jet transports.

Five trains were made up of the 460 railroad cars at Ft. Campbell, the trains being loaded with unit vehicles and milvans. Departure from Ft. Campbell for the Norfolk, Va. embarkation point took place over a five day period.

All 318 of the Ft. Campbell helicopters were given five days to fly to Norfolk — the flight covered about 600-miles — and three days to load them on ships.

The, initial instructions required all helicopters to be loaded with the blades off, but 101st Aviation Group tests showed that loading could be done just as well when ⅔ of the helicopters had their blades on.

FINAL PREPARATIONS — SP4 Rick Smart [left] and Dave Napheney, Co C, 159th Avn Bn of the 101st, take off a tail rotor of a Chinook during port operations at Norfolk Naval Base, Va. The 'copter was one of 318 being readied for sea-lift to Europe for REFORGER 76.

At Norfolk, the Callaghan, Meteor, and Comet — roll-on, roll-off type ships — and the American Ranger, a "break bulk" cargo ship, took on the full complement.The Meteor came from the Pacific, stopping at Beaumont, Tex., to load 30 helicopters of Company C, 7th Squadron, 17th Cavalry from Fort Hood.

Oddly enough, only 28 101st soldiers crossed the Atlantic on ships to care for equipment. Approximately 12,000 other 101st and other non-divisional personnel deployed to Europe starting August 17 aboard USAF C-141 aircraft from various military bases in CONUS.

The hustle and bustle

The hustle and bustle at Norfolk Naval Base's Pier 12 was generated by more than 2,500 vehicles and trailers, and approximately 320 aircraft from the 101st. The Chinooks, Hueys, Kiowas, and Cobras that flew in in sorties of five about a half hour apart made stops at Chattanooga, Tenn., Greer, S.C., Simmons AAF at Ft. Bragg, and Franklin, Va., prior to terminating their 600-mi. flight at Norfolk.

This REFORGER exercise is different from previous ones in that a U.S.-based unit has deployed to Europe with its equipment, and the Benelux countries will play an active part in receiving and deploying equipment from areas in their countries.

In previous exercises, the U.S.-based unit deployed to Europe and picked up equipment already stored there.

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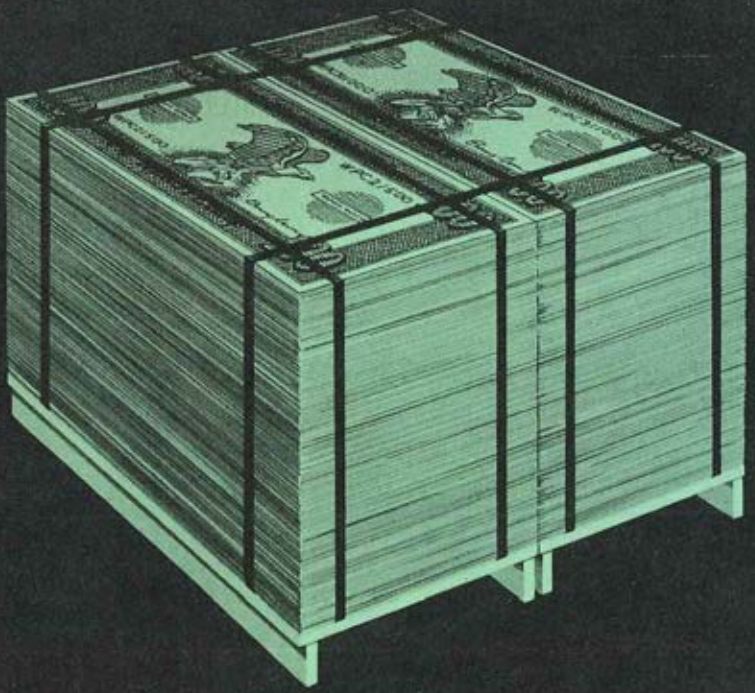

$1.3 million.

Initiated in 1957, the AAAA-endorsed Flight Pay Protection Plan exceeded $1.3 million in flight pay claims in July of this year. More than 867 Army Aviation flight personnel in the active Army and Reserve Components have shared in the $1.3 million in claims during the program's nineteen year duration.

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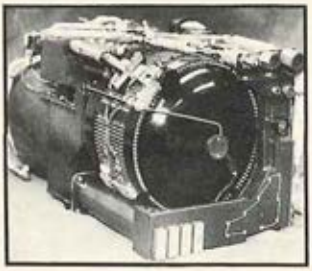
•• BELOW LEFT: A 101st UH-1 with blades on is hoisted aboard a Military Sealift Command ship at Norfolk bound for REFORGER. •• BELOW RIGHT: Joseph L. Haley, Jr., an aerospace engineer assigned to the USA Aeromedical Research Lab at Ft. Rucker, shows MG Kenneth R. Dirks, left, Commander, USAMRDC, the crashworthy troop seat he developed and tested. Haley had received a DA "Outstanding Research Development and Technical Achievement Award" for his efforts. •• RIGHT: The first woman aviator assigned to the 101st, WO1 Janis Zeimet is greeted by COL Larry Baughman.

•• LEFT: Air traffic controllers are being trained at USAAVNC to man the radar approach control facilities at Ft. Campbell. The Army will take over the ATC job from the USAF in December.

•• BELOW LEFT: GE's 65-lb. new oxygen regeneration system that may replace liquid oxygen systems in future military aircraft measures 25-in. x 15-in. x 13-in.

•• BELOW RIGHT: CWO George Justice, an IP with Co C, 4/77th Atk Hel Bn, and Secretary of Defense Donald H. Rumsfeld discuss the mission for Rumsfeld's impending Cobra flight during 101st air assault demonstrations at Ft. Campbell, KY. □



Now another go-anywhere transport from de Havilland joins the U.S. Army...

the UV-18A Twin Otter.

The U.S. forces had already chosen the Beaver, the Otter and the Caribou—more than 1,300 go-anywhere planes from de Havilland. They knew our performance first hand. And they had a very demanding order to fill, selecting transports for "command administrative, logistical and personnel flights from battalion headquarters to remote village sites throughout western and northern Alaska on a year-round basis."

It's no wonder they chose the Twin Otter. With their de Havilland experience. Plus these Twin Otter features:

It converts readily from wheels to wheel-skis, floats or high-flotation tires. (The U.S. is equipping each Twin Otter with all of these.)

It carries 19 troops in and out of rough, makeshift 300 m (1,000 ft) strips with room to spare.

In 15 minutes, two men can change it to a cargo plane that will carry a payload of more than two tons.

On a hundred-mile-radius reconnaissance or search and rescue mission, it can stay aloft for more than 6 hours because of its exceptional fuel economy.

It cruises at 182 knots at 10,000 feet. Or handles easily at 70 knots for pin-point paradropping of men or supplies.

The de Havilland Twin Otter. The go-anywhere plane that has proved its dependability, versatility and economy with 18 other defence, police and government organizations. And with 135 civil operators.

The de Havilland Aircraft of Canada Limited, Downsview, Ontario, M3K 1Y5.

Twin Otter: the standard of dependability and versatility in more than 50 countries.

de Havilland

THIS MONTH

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