

Army Aviation

November-December, 1976 Issue

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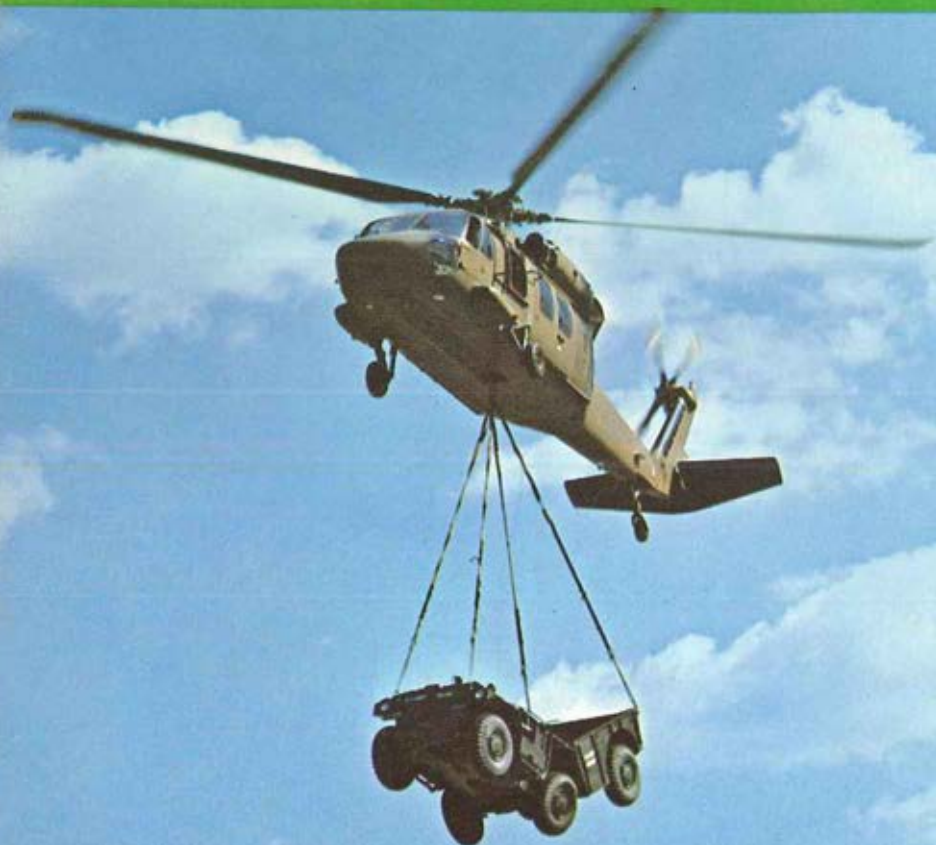
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**Sikorsky's UTTAS lifts the 7,262 lb.
M561 Gama Goat and
transports it 125 nautical miles**



Lord Kinematics helped Sikorsky turn promise into fact.

Sikorsky has combined maximum reliability and minimum maintenance into their UTTAS. They've done it with the latest technology. That's why they depend on Lord Kinematics for Lastoflex Bearings for the main rotor bearings.

Lord Kinematics' technical experience, design and manufacturing capabilities helped make the Sikorsky UTTAS Elastomeric Rotor Head require minimum maintenance and provide maximum reliability. When the unique demands of the main rotor spherical and thrust bearings for Sikorsky's UTTAS were presented, Lord actually advanced the state of the art in order to meet them. The thrust bearings shown below were both designed and built according to detailed specifications. The bearing on the right was not as tough as Lord and Sikorsky wanted for UTTAS. Its condition is shown

after 19,000 test cycles.

Lord's Response... Triple Life

The bearing on the left is a modification of the original design, using new design techniques. Its condition is shown after 60,000 test cycles.



This capability is available to you. For your elastomeric bearing requirements, contact Lord Kinematics, Lord Corp., Erie, Pa. 16512, (814) 456-8511.

We have Lastoflex® bearings to suit your needs, or we'll do our best to extend product capability for you.

That's a promise.

LORD Lord
Kinematics

Today and tomorrow



On departing Fort Rucker on his retirement, Major General William J. Maddox, Jr., provided his superior, General William E. DePuy, TRADCOM Commander, with notes on where Army Aviation stands today, and some specific thoughts about the future. He said this in letter format on his last day of active duty at USAAVNC. Of particular interest to the aviation community, his report ends with this third segment.

Dear General DePuy:

In addition to our local efforts at reenlistment and recruiting, we've provided the base of support for the U.S. Army Aviation Precision Demonstration Team, the "Silver Eagles." In their four years of existence at nominal cost, they have brought an understanding of the unique capability of helicopter operation to some 4.5 million spectators in the U.S. and Canada. Concurrently, their appearances have been a decided stimulus to aviation recruiting programs wherever they performed. In this bicentennial year, they should appear before 3-3½ million people this season alone. Unfortunately, fiscal constraints dictated their demise in November of this year.

A recap

At the Aviation Program Review in August 1974, we identified three major deficiencies in the aviation program which set the course for the succeeding months. We considered that aviation did not have **sufficient doctrine** for the next battlefield. Today I evaluate our doctrine to be well ahead of the ability of most units to utilize it. This is as it should be and it is a prerequisite to turning the tactical

corner that we have discussed so often. Certainly, there are a number of worthwhile areas of activity for which new doctrine must be written; EW, chemical-biological, counter air and air defense suppression being the most pressing. Other areas such as combat in built-up areas and even the massing of attack helicopters deserve much more experimentation, testing, and refinement. This would develop and sharpen techniques.

Major deficiency: Training

Training was the second major deficiency and I have devoted a great deal of this letter to that subject. In summary, the courses we teach currently are out of date with the new threat and the new skills we must teach. However, we are utilizing the new training technology as rapidly as it becomes available. Unit training is poorly organized and executed for the most part. The decentralized training approach of the Army would be appropriate if units knew what they were supposed to do and had the published training yardsticks by which to measure their progress. As the trainer of the Army, you should know that I consider training to be Aviation's grossest deficiency.

The third deficiency was **staying power**. This involves the development of the new skills to permit around the clock and adverse weather operations even in a high threat combat environment and the hardware necessary to support this type of flying.

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As covered earlier, we have written the rules for the new skills and most hardware programs are well underway, although many won't come to fruition until the 1980's. I would cite our requirements for better cockpit lighting, initial provisioning of anti-icing devices and the 30mm gun/fire control system for the Cobra as being our priority hardware needs still basically unresolved.

In the final analysis, I suppose that our approach to these three major deficiencies parallels our American approach to warfare. We are strong on the hardware and materiel side, but we tend to draw back from accomplishing the necessary preparedness with our people. In this case, the people-oriented requirement is a suitable level of readiness.

The period of this stewardship appears at this writing to have been a cresting of the watershed. We moved out of one war into the prospects of a completely different combat environment. Few elements of the Army have been so affected by the new environment as has Army Aviation.

Although our general course has been charted, all of the tasks necessary to prepare us for the next battle have not been completed. I would like to comment on several of the major tasks which I feel will require priority attention and your support in the coming months.

Ongoing actions

ARCSA must be pressed to a successful conclusion this year. I would hope that it is not prematurely constrained by resource considerations before a true evaluation is made of the capability of aviation to contribute. While I understand the limitations of the dollar, aviation provides so much potential capability that it must be accommodated in our force structure even at the cost of some other contributing activities.

I am sure that the attack helicopter will sell itself as more commanders become acquainted with the Cobra TOW. However, we can expedite this success by developing and practicing the tactics of massing and further exploring the tactics of raids and penetration. In quantitative terms, each division must have at least a three company attack



FOUR-TIMER — COL B.B. Sapp, right, Dep CDR, USAADCENFB, presents the 4th consecutive DA Aviation Accident Prevention Award to CPT Webster Langhorne, CDR, 283d Med Det (HA), Ft. Bliss, TX. The unit's Safety Officer is CW2 Russell D. Capps. □

battalion and such other aviation resources as may be necessary to keep such a force in the field.

I do not favor a completely different philosophy for infantry attack helicopters because the basic attack helicopter pilot has to perform both area suppression and point target killing, just as the tank destroyer pilots do. In the final analysis, the difference in attack helicopter employment between the heavy and light division revolves around the relative amount of time you perform either mission. These missions are not mutually exclusive.

The automatic weapon may well be as important on the battlefield as the tank killer — especially in air defense suppression, for instance. The infantry needs to find a role for the attack helicopter other than the sterile escort role. I see its chief value as direct support of deployed troops on the ground rather than solely as an assist to the other helicopters.

Without getting into the implications of a nuclear battlefield, there are three major areas in mid-intensity warfare which require much greater attention by the Army. In fact, we may well be pushed by OSD if we don't move out on our own. The areas are electronic warfare, air defense suppression, and counter air. We scarcely have given serious thought to these areas. Our EW field manual will be a first when it is published next year.

(Continued on page 36)

BOEING'S UTTAS - FOR THE 1980'S AND BEYOND

**KEY ELEMENTS OF
BOEING'S UH-61A PROGRAM:**



- A hingeless fiberglass rotor system for unmatched survivability, safety, reliability, and life-cycle cost.
- A drive system using advanced gear and bearing materials and design, having a reliability already demonstrated to be twice the Army's requirement.
- A life-cycle cost below the Army target... based on a credible design-to-cost effort and demonstrated dynamic-component reliability.



- ✓ An overall configuration, refined by a successful prototype development program, to meet the Army's objectives.
- ✓ A program management plan and organization that incorporates the key knowledge and experience of the YUH-61A program.
- ✓ Warranties that express Boeing's confidence that the UH-61A will better U.S. Army requirements for safety, operating costs, and performance.

ADVANCED TECHNOLOGY MAKES THE DIFFERENCE

BOEING'S UTTAS

BOEING VERTOL COMPANY

Philadelphia, PA 19142

A6784A

**MAJOR AAAA NATIONAL FUNCTIONS FOR
THE 1977 CALENDAR YEAR**

February, 1977

**Friday, 18 February through Monday, 21 February
Sixth Region - AAAA Convention, Colorado Springs, Colo.
The Broadmoor Hotel**

March, 1977

**Monday, 21 March through Sunday, 27 March
1977 AAAA Ski Week
and 1977 USAREUR Region-AAAA Convention
Garmisch, Germany**

April, 1977

**Thursday, 28 April through Friday, 29 April
1977 Product Support Symposium
sponsored by the Lindbergh Chapter, AAAA
Breckenridge Hotel, St. Louis, Mo.**

**Friday, 29 April through Saturday, 30 April
Fifth Region-AAAA Convention
Breckenridge Hotel, St. Louis, Missouri**

June, 1977

**Saturday, 4 June
1977 Army Aviation Hall of Fame Induction
and Banquet sponsored by
the Army Aviation Center Chapter,
Fort Rucker, Alabama**

August, 1977

**Thursday, 25 August through Sunday, 29 August
First Region-AAAA Convention, Sheraton Nashville Hotel
Nashville, Tennessee**

October, 1977

**1977 AAAA National Convention
[Washington, D.C. hotel site to be announced]
Friday, 14 October through Sunday, 16 October, or
Wednesday, 19 October through Friday, 21 October**

LTG "Bob" Williams elected as AAAA's thirteenth President



INSTALLED at a National Board meeting held upon the conclusion of the 18th AAAA National Convention in Washington, D.C., a new 50-member National Executive Board slate looks ahead to increased '76-'77 activity at three Regional Conventions to be held in 1977 in Colorado Springs, St. Louis, and Nashville.

Lieutenant General Robert R. Williams, USA [Ret.], President of Bell Helicopter International, Bedford, Tex., was elected as the 13th National President of AAAA, succeeding Lieutenant General John M. Wright, Jr., USA [Ret.]. Maj. Gen. William J. Maddox, Jr., USA [Ret.] of Amman, Jordan, is the Association's new Senior Vice President.

The new governing board also reelected Colonel John W. Marr, Ret., of Arlington, Va., as national Secretary-Treasurer.

Incumbent Board members who'll serve as National Vice Presidents include Major General John N. Brandenburg, Ft. Meade; Colonel George W. Adamson, Ret., McLean, Va.; Colonel Jack H. Dibrell, San Antonio, Tex.; Colonel Ted A. Crozier, Ft. Campbell, Ky.; and CW4 E.M. "Mel" Cook, Springfield, Va.

Newly-elected Vice Presidents are Colonels William E. Crouch, Jr. and Rudolph D. Descoteau, both of Alexandria, Va.; and Paul L. Hendrickson, St. Louis, Mo.

Completing the full Board are Arthur H. Kesten, Executive Vice President, Westport, Conn., an appointee; Past Presidents Robert M. Leich, IGR, Evansville, Ind.; Bryce Wilson, Glenbrook, Nev.; James N. Davis, Springfield, Va.; Darwin P. Gerard, Alexandria, Va.; Brig. Gen. Glenn Goodhand, Ret., McLean, Va.; General Hamilton H. Howze, Ret., Ft. Worth, Tex.; Colonel Richard L. Long, Ret., St. Louis, Mo.; Lt. Gen. Harry W.O. Kinnard, Ret., Athens, Ga.; Maj. Gen. Delk M. Oden, Ret., Alexandria, Va.; Colonel Edward L. Nielsen, Ret., Falls Church, Va.; and Lt. Gen. John M. Wright, Jr., Ret., Trenton, N.J.

Three Regional Presidents, Maj. Gen. Alton G. Post [First]; Colonel Frank A. Nadeau [Sixth]; and Brig. Gen. Rufus C. Lazzell [USAREUR]; five to nine National Members-at-Large appointed by the President; and some 18 to 20 Chapter Presidents of those CONUS Chapters with 150 or more members, complete the Board.

T700 Reliability

Here's One of the Reasons Behind Unprecedented Engine Reliability for UTTAS and AAH



The T700 advanced technology combustor. When the Army established its UTTAS and AAH engine reliability goals, the combustor became a prime area for attention, because current operational engines are limited primarily by "hot section" life. New combustors or major repairs are needed after only a few hundred hours of operation.

The T700 goal? A combustor that will last 5000 hours. We're well on our way to achieving it. With more than 25,000 total engine hours experience, all combustors in the program remain

operational. Several have already exceeded 1000 hours of operation. Not one has had to be repaired or scrapped.

Its reliability is a key reason why 75% less maintenance manhours will be required on the T700 when compared with current operational engines.

For UTTAS and AAH, the T700 offers the first real long-life combustor in helicopter engines.

205-158

The T700. The engine for the Army of the 80's.

GENERAL  **ELECTRIC**

Dedicated to Support!



IN this issue I would like to depart from my usual procedure of providing an overview, and discuss a specific program development through the R & D efforts undertaken at AVSCOM.

THIS PROGRAM I refer to is the "**Standard Crash Attenuated Armored Co-Pilot Seat**."

THIS PROGRAM was initiated as a result of the grim statistics of impact trauma injuries and deaths accumulated during the Vietnam era. It became readily apparent that many severe injuries and deaths were suffered from **impact forces** in otherwise survivable crashes.

A CRASH can usually be considered survivable if the cockpit enclosure retains sufficient structural integrity to maintain a protective envelope around the crewmember.

IT WAS REALIZED that two major remaining causes of death and injury were the high impact ("g") forces, and the separation of the crewman-seat from the airframe. Thus, the basic approach in the development of the crashworthy seat was the elimination of these two unacceptable factors.

THE AVERAGE CREWMEMBER can withstand impact forces of 18 to 23 "g"s and survive. This, then, was used as the acceptable upper limit to which the impact forces must be attenuated.

THE PROGRAM was undertaken through a joint effort with the Navy CH-46 **Service Life Extension Program (SLEP)**. In addition to the engineering development requirements we faced the requirement of minimizing development and production-retrofit costs.

Existing components utilized

THIS WAS ACHIEVED by retaining the common UH-1 armored bucket, and concentrating our efforts on the carriage frame. This allowed maximum usage of existing components in a UH-1 retrofit program and use of a proven concept for any future aircraft systems.

THE NEXT STEP was the attenuation of 48 "g"s (peak "g" level for the 95th percentile rotary and light-fixed-wing aircraft accident) to an acceptable level of 18 to 23 "g"s. This was accomplished by the addition of energy attenuators (shock absorbers) and ball joint swivels to the seat frame.

The grim statistics

BY MAJOR GENERAL EIVIND H. JOHANSEN
COMMANDER, U.S. ARMY AVIATION SYSTEMS COMMAND



Judge for yourself...

With Sikorsky's UTTAS, "fly before you buy" means prototype aircraft that are virtually production ready.

- **Minimum vibration.**
No changes are required for production.
- **Improving handling qualities.**
No changes are required for production.
- **Building greater maneuverability.**
No changes are required for production.
- **Engine/airframe compatibility.**
No changes are required for production.
- **Rotor system geometry.**
No changes are required for production.

The success of the UTTAS program will be heavily influenced by the ease with which the selected contractor is able to move from prototype to production.

Sikorsky has been acutely aware of the adverse consequences of delaying needed design improvements. Our policy has been to correct problems during the Basic Engineering Development (BED) Phase and not postpone solutions to the production phase.

Sikorsky believes in making changes during development instead of after. Sikorsky not only builds an aircraft that's ready to be flown, but one that's ready to be produced. Sikorsky Aircraft, Stratford, CT. 06602.

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

**SIKORSKY
AIRCRAFT**



Division of

**UNITED
TECHNOLOGIES.**

THE SWIVELS allow seat alignment with the force direction and prevent binding in the attenuators. The attenuators are of a novel design by ARA Inc., West Corina, CA and use the patented name TOR-SHOKS.

THE DEVICE consists of a continuous rolling helix coil placed between two cylinders. Without attempting to explain the physical phenomenon which takes place, the coil elements literally turn inside out when the cylinders experience relative motion. We then had what we felt was a seat offering a three-fold improvement over current seats, which physically fail at approximately 15 "g"s.

THE PROGRAM then entered an extensive testing phase to verify our design parameters. The seat successfully passed the full test spectrum from environmental to fit and flight tests. The initial dynamic tests used a drop tower with a fully instrumented anthropomorphic dummy restrained in the seat.

THE SEAT was pitched down 30° and rolled 10° to simulate a real life impact condition. The impact velocity was 50 feet per second. **Figure 1** shows the seat and dummy prior to release and **Figure 2** shows them after impact. The seat remained attached to the floor and intact. The energy attenuators were fully stroked down and forward as predicted.

SUBSEQUENTLY, we performed more realistic tests using a crash damaged UH-1H air-



Figure 1
Prior to release

Figure 2
After impact

frame. The developmental seat was installed in one crewmember position and a conventional seat in the other. The fuselage was given a drop velocity of 28 feet per second using a self-propelled crane and reached an impact velocity of 52.4 feet per second.

AGAIN THE HULK was rolled 26° to simulate actual crash conditions. The results of the test afforded an excellent verification of the developmental seat's potential. The conventional seat separated from the floor and the dummy's head impacted the windshield post. The developmental seat remained intact and attached to the floor with the dummy fully secured.

Figure 3
The first production seats made at ARA, Inc. prior to shipment to Bell Helicopter Textron



Figure 4
Army-NASA
Drop Crash
Testing at
Langley Test
facility.
The CH-47C
is shown
prior to
impact.



SHORTLY THEREAFTER, the crashworthy seat was chosen for the Iranian model 214A utility helicopter. Figure 3 shows the first production seats at ARA Inc., prior to shipment to Bell Helicopter Company.

THE FINAL SEAT TESTING was conducted in conjunction with the Army-NASA crash test of a CH-47C at the Langley test facility. The crash-damaged aircraft had been repaired to the extent that major structure

and high mass components were representative of a flightworthy aircraft. Figure 4 and Figure 5 show the CH-47C immediately before and after impact. As with the UH-1 test, the seat performed as predicted. Figure 6 shows the dummy restrained in the seat with the seat fully stroked. This test concluded our active seat testing.

CURRENTLY ARA INC. is under contract to modify the UH-1 seat configuration to the

Figure 5
The CH-47C
undergoing
drop testing
is shown
after impact
at the Langley
drop test
facility.





UTTAS and AAH airframes. Utilization of a standard crashworthy pilot-copilot seat will enhance the commonality of Army aircraft seats by providing 75% more common parts. This would ultimately result in reduced life cycle costs and logistic burden.

THE SEAT IS under consideration for the Navy UH-1N, and a version has been selected for the CH-46E. We firmly believe that once installed, the seat will accumulate the same impressive statistics in reducing trauma injuries and deaths as the crashworthy fuel systems have shown in reduction of thermal injuries and deaths.

THIS IS ONE of the most successful projects in which AVSCOM has been involved to improve the aircraft crewmember's chance of survival in the event of a crash.

THE U.S. Army Aviation Systems Command (USAAVSCOM) is committed to furnishing the user quality aviation equipment free of defects in workmanship and material.

TO ACCOMPLISH this mission we have established a goal of **0-0-5: zero** flight safety defects, **zero** major defects, and **not more than five** minor defects per weapon system delivered.

An essential: Good field reporting

THE AVIATION COMMUNITY supporting AVSCOM is fully dedicated to this objective. Keeping Army aircraft in top condition, ready to fly and to perform any mission, requires quality products, first rate maintenance support, and **good field reporting**.

THE LAST POINT, **good field reporting**, means clear and effective communication. Our key communication tool is **DA Form 3703-R, Product Quality Inspection Summary Report**, which the user must complete accurately and as quickly after receiving the aircraft as possible.

DA FORM 3703-R assures that each newly-assigned aircraft received from the manufacturers and Army depots arrives in a safe and reliable operating condition. Each contractor or depot agency has put the aircraft through a series of production checks and functional tests to detect and correct any deficiency before releasing it to the user.



A COPY of **DA Form 3703-R** is then placed aboard the aircraft when it is ready for delivery. Another copy is sent directly to AVSCOM to document its release and destination.

THIS SUMMARY REPORT serves as a final record of the quality actually being received in the field. Deficiencies discovered during the user's aircraft acceptance inspection, and noted on **DA Form 3703-R**, are traced back through AVSCOM, verified at the depot or manufacturer's plant, and corrected to prevent future occurrences.

IT SHOULD BE pointed out that normal servicing and maintenance required because of a lengthy delivery flight should **not** be recorded as a deficiency in the acceptance inspection form.

Cooperation by the gaining unit

TO BE AN EFFECTIVE tool, **DA Form 3703-R** must be completed in a timely manner following the aircraft's arrival at the gaining unit. Aircraft left unattended and exposed to the elements for weeks before they are inspected may well display corrosion or other defects. These defects of normal use and/or storage cannot be traced to the depot or the manufacturer, and their inclusion in the inspection can only serve to distort the reporting process.

IN OUR THRUST to improve the quality of aviation items received in the field, AVSCOM

has produced a film entitled "**Product Assurance Aircraft Acceptance Inspection**", available under Army film distribution number **SF46-361**.

AMONG OTHER THINGS, the film stresses the fact that our depot maintenance program does not restore an aircraft to its original manufacturing standards, but it does assure that aircraft are restored to airworthiness standards.

THE FILM provides general directions in the classification of discrepancies. Most importantly, it restates the fact that safety-of-flight defects must be described fully and AVSCOM notified by emergency **Equipment Improvement Recommendation [EIR]**. In this way, AVSCOM can conduct an emergency investigation and notify all other users, if necessary.

REMEMBER, AVSCOM's goal is to provide aviation equipment **free** from defects in workmanship and material. Achieving this **0-0-5** mark depends on good communications between you, the user, and the manufacturer or overhaul agency. I hope you'll all see the film and help to improve the quality of our equipment through your support of the program.

IF YOU'RE UNABLE to obtain a copy of the film, contact the Director of Product Assurance, at AVSCOM, ATTN: DRSAV-L, P.O. Box 209, St. Louis, MO 63166.

**General Johansen calls
for good field reporting . . .**

You tell us!

A NEW SILHOUETTE ON THE HORIZON



SOTAS

USACDEC, Ft. Ord, CA — "From all the reports we get, Team IV did just a terrific job in Europe," says **BG Donald F. Packard**, Commander of the Combat Developments Experimentation Center.

Project Team IV, referred to by **Gen. Packard**, is the SOTAS Test Directorate Team which recently tested the **Stand-Off Target Acquisition System [SOTAS]** near Ansbach, Germany, during Exercise **REFORGER 76**.

SOTAS, a side-looking, airborne radar mounted on a UH-1H Huey, was employed under realistic combat conditions for the first time, with the 1st Armored Division using the system during Operation **LARES TEAM**.

The **SOTAS**, a prototype system under de-

velopment by ECOM, detects and accurately locates moving targets at extended ranges. The targets are displayed on radar scopes mounted in a display van located near the division TOC. **SOTAS** operators are able to provide accurate, real time locations of enemy targets with which intelligence analysts quickly evaluate enemy movement patterns.

During the **REFORGER** testing, CDEC's 12-man crew were located with the tactical units, as well as with the umpires and controllers, to gather as much information as possible to evaluate its potential. This data will be used by Army planners to assess the capability of **SOTAS** to provide responsive, battlefield surveillance data and other information to the commander.

**It took—
proven management,
proven technology
to produce an outstanding
Advanced Attack Helicopter.**



**There are no shortcuts,
and the YAH-64 proves that
Hughes knows it...**

The YAH-64: Affordable



In 1973, the Hughes AAH TEAM promised a different approach for the Army's advanced attack helicopter.

- Smaller in size
- Larger in payload
- More agile
- More survivable
- Easier to maintain
- Lower in cost

In 1976, that's what we delivered.

Combat Effectiveness.



The Hughes TEAM realizes there are no shortcuts. 852 hours of ground and flight tests proved that performance, survivability, reliability and operational suitability are **available now**.

During this intensively competitive period, the YAH-64 accomplishments included:

- First to fly
- First to fly second prototype
- First to conduct airborne weapons firing
- First AAH to be delivered for government test
- First to complete government test

**The Hughes TEAM delivers
Technology of the 80's
Helicopters for the year 2000**



YAH-64 pilot-in-rear crew compartment.



Hughes XM230 Chain Gun



Air-launched 2.75-inch rockets.



12°-15° slope-landing capability.




Hughes "Black Hole" IR suppression system.



Hughes Helicopters

A Division of Summa Corporation

WHEN THE HEAT'S ON, DEPEND ON SUNDSTRAND TO KEEP IT COOL!



In designing the YAH-63, Bell Helicopter TEXTRON held mission accomplishment as primary. Utilizing their years of gunship experience, they built a durable, maintainable machine to satisfy the Army's airborne attack requirements.

Bell recognized that their Advanced Attack Helicopter would be only as effective as the men at the controls. In combat situations, it is vitally important that the crew be in an optimum environment for critical decision making. THAT'S WHY SUNDSTRAND HAS BEEN SELECTED BY BELL TO PROVIDE THE ENVIRONMENTAL CONTROL SYSTEM FOR THE YAH-63.

Sundstrand Aviation Mechanical

ROCKFORD, ILLINOIS 61105
A Unit of Sundstrand Corporation



Viewing Army Aviation's overall stance, COL Sam Kalagian calls for the abolition of the "100% instrument qualification" policy

Anachronisms Revisited

THE U.S. Army having experienced an average of about eight catastrophic accidents each FY attributable to weather, and with 12 pure weather-related accidents out of 94 total accidents in FY 76, the **Instrument Flight Training Program** needs modification, in my opinion.

Using these 12 cases, some assumptions and some facts can be derived that can be used as a basis for the necessary changes. In eight of the accidents which accounted for the loss of 25 lives, entry into inadvertent IMC conditions — or unusually marginal flying weather — occurred so suddenly that the crew usually lost their lives within five minutes of their encounter with the weather conditions.

In reviewing the records of the flying crews involved in these eight weather accidents, it was found that the average total rotary wing flying hours per flight crewmember was about 1,300 hours and that the average actual instrument (AI) time recorded by each of these aviators in rotary wing aircraft was four hours. (From one of USAAAVS previous survey of 7,500 rotary wing-only qualified aviators covering the period FY 71-72, the median AI flying time recorded by Army Aviators at that time was three hours out of an average 1,100 total flying hours per man).

In examining individual **DA Form 759's** for the aviator crews involved in

the eight weather-related catastrophic accidents during FY 76, it was found that although they had logged an average of four AI hours per man, in reality the actual weather time probably was closer to one hour and one-half.

A bit of the "fudge factor"

Records indicated that on single pages of the **DA Form 759** an aviator would have a flight logged reflecting .2 hour AI and, later in the year, another flight with .3 of an hour AI logged. When that sheet was closed out, he was credited with one hour. Based on experience and observations, it is logical to assume that even these .2 hour and .3 hour flights probably included quite a bit of "fudge" factor.

Since the average instrument-qualified helicopter — the UH-1 — is limited in its range to somewhere around two hours, it is difficult indeed for an aviator to file and log two complete hours of AI. He just simply does not have the range to reach an acceptable alternate airfield; therefore, rotary wing AI time is generally obtained by piercing an overcast from 500 to 3,000 feet thick for a total lapse weather time of five minutes, flying on top for an hour and finally descending through the thinnest portion of the overcast below.

In other instances, a crew may place

When the ops order comes down, depend on Bell to be ready.

An anti-armor assault is no place for a hangar queen. But you can depend on Bell to be available . . . as proved during recent Government Competitive Tests which Bell's YAH-63 completed in *two thirds of the planned time*, because of its high reliability characteristics. Further, of the total hours flown in GCT, over 90% was actual evaluation time.

In producing the YAH-63, Bell relied on its many years of combat experience to design out future field service problems. Bell's modular maintenance concept, for example, means that major components can be quickly replaced as a unit, dramatically increasing aircraft availability. And removals will be significantly minimized, since each critical dynamic component of the YAH-63 has already achieved the production required 4500 hour life.

And here's another unique fact: Bell's YAH-63 completed the most demanding test of all in Phase 1, the structural demo, thus verifying the original structural design goals.

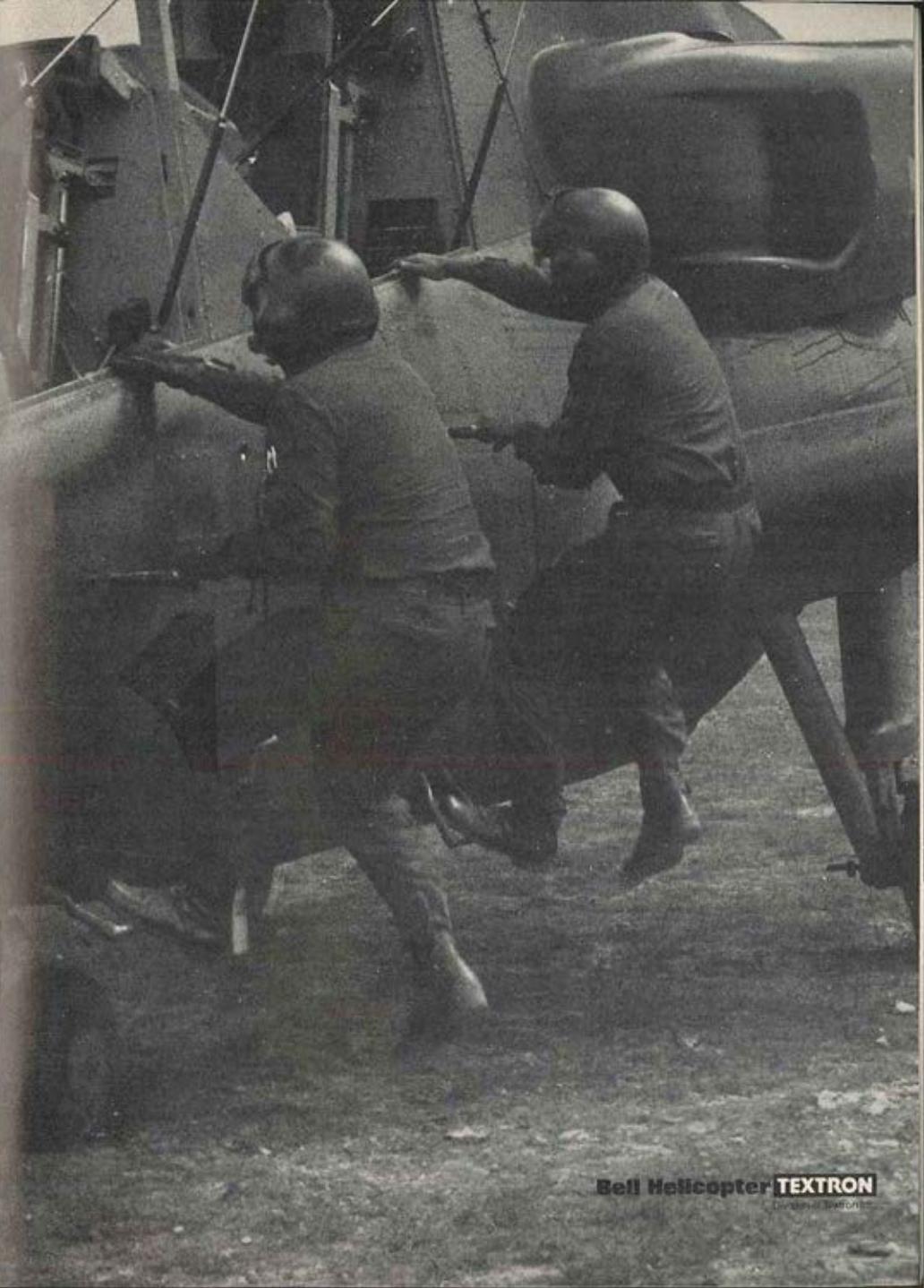
From the beginning Bell's ability to utilize complex technology resulted in a simple design. A case in point is the YAH-63's drive train that uses 38% fewer moving parts than conventional helicopter systems . . . resulting in less down-time, more flying time.

The Army must be able to depend on its Advanced Attack Helicopter to be available whenever the order comes down.

The Army can depend on Bell.



**Bell Helicopter. The company
with gunship experience.**



Bell Helicopter **TEXTRON**
A Textron Company

themselves just on top or just below an overcast and log AI time for that portion in which they fly through the ragged extensions. In this latter case, they will log 15 minutes (.3 hours) of AI time when, in reality, their total period on instruments may have equaled four minutes. Last, but not least, time flown on top of an overcast with no reference to the ground, but in beautiful VFR conditions, is logged as AI time by a number of aviators.

There is no specific requirement that any aviator acquire AI time throughout a year in order to renew his instrument ticket as long as he has "logged" his CRF requirements of 20 hours — in an aircraft or simulator — and can successfully pass an instrument checkride, usually administered by a "friend of the family" examiner.

His instrument ticket qualification is faithfully renewed annually. The checkride is passed and the examiner generally passes on the following admonishment: "You are a little rusty and sloppy, but not dangerous. I would advise you to do a little more review on both air work and study of the regulations, and be sure you do not go flying AI unless you have a fully

qualified, proficient copilot or instructor pilot with you."

The problem magnifies

Adding to this problem in training and qualifications is the stated DA policy that one of the key goals for Army Aviation is to attain 100% instrument qualification for all aviators in a fleet of aircraft which is unsuitable and unqualified for instrument flight in accordance with para 4-22, AR 95-1. Even worse is that recent DA policies have reduced the minimum weather conditions under which helicopters can be flown and have directed the aviator community to qualify itself for instrument renewal in those non-instrumented aircraft that they fly on a daily basis, in geographic areas where instrument facilities are unavailable.

The problem with the lowering of the weather minimums is not particularly with the aviator himself. The problem lies with the commander/supervisor, rated or non-rated. Many non-rated commanders are making the decisions today to launch aviators into marginal weather conditions because in the judgment of these commanders, the weather is at or near the DA minimums.

"Someone please help me!"

The crews, because of peer influence and/or the total dependency of an officer's career on the current efficiency reporting system, are simply too afraid or too ashamed to state that the mission is beyond their capability. This is termed the "got to try or die" syndrome. The results are generally catastrophic; and the last transmission usually heard from a crew involved in such a mishap is "Help me! Someone please help me!"

Curiously, some senior aviators have also been involved in weather accidents during FY 76, but their accidents were of a peculiar nature. Four accidents bear out the theory that will follow. All four were involved in a weather-type accident



PROCLAMATION FROM THE CAPITOL

Major James A. Williamson, VP-Prog, Aloha Chapter (left), is shown accepting a proclamation from Governor George Ariyoshi, State of Hawaii, proclaiming a recent period as "Military Assistance to Safety and Traffic Week" in Hawaii. MAJ Williamson commands the 25th Inf Div's 68th Medical Detachment.

where their delay in transitioning from VFR to IFR prior to placing themselves in the time phase of the accident caused the problem.

One was a "White out" in Alaska; one was a "Dust out" in Guatemala; one a "Dust out" at Fort Sill; and one was a fixed wing accident near Roanoke, VA, wherein a fully qualified, instrument-rated, experienced aviator tried to get home under VFR rules in an obviously IFR environment. The problem with most senior aviators in these circumstances is that they fail to anticipate that the helicopter, due to rotor wash, is prone to enter inadvertent IMC conditions beyond their ability to handle. The crew, as a team, should have made plans prior to pulling pitch specifying that the pilot would lift off on instruments, just in case, while the copilot would check to see if they could maintain VFR.

Emphasis on crew coordination

Instead, the pilots in the three rotary wing cases cited, lifted off, tried to maintain VFR, went inadvertent IFR, and, in trying to regain VFR conditions, or transferring their attention to the gauges for instrument flight, rolled their helicopters over. This is very similar to the crew making an ILS or GCA actual instrument approach under minimum conditions, when the pilot on the controls attempts to transfer his attention from instruments to VFR conditions, when the copilot has announced that the ground is in sight.

The Army simply fails to emphasize crew coordination before, during, and after flight as other Services do. Army copilots end up on most flights as highly paid, over-qualified passengers. If crew coordination is to be stressed, we could start with the annual Army Aviator written, open-book exam.

Why isn't the examination — in the interest of saving time and funds and to insure the interchange of accrued knowledge — administered simultaneously to a crew of TWO aviators rather than only to



APPROPRIATE LICENSE PLATE

"While at Parris Island, S.C., recently, picking up my son, Wayne, after "Boot Camp", I saw this license plate that symbolizes the 101st to me . . . 'FTA [First Team AirAssault] 101'. I hope you can use it in a coming issue.

— CW4 Don Joyce, Ret.

each individual aviator? Annual savings of \$40,000 could be achieved by so doing. The Army must start somewhere to engender the philosophy of **crew coordination** and the annual written exam is a good start.

Let's revise the philosophy!

We should revise our training philosophy in instrument training, beginning at the Aviation School. The School, their instructors, and senior aviation officers throughout the aviation program must drop the old axiom, "We teach instruments so the aviator learns how to execute a 180° turn if he runs into inadvertent weather." The 180° turn is what kills our unskilled "instrument-rated" aviators.

The keys to surviving entry into inadvertent IFR conditions are: (1) get the aircraft under control; (2) get yourself under control; (3) get altitude; (4) call for assistance on the radio; and last, (5) initiate a turn — ever so gently — after you have established radio contact and have received instructions to do so!

A sorry thing happened recently on our way to professionalism. To accommodate badge and award collectors, DC-

SOPS has changed the requirement for qualifying for the MAA badge. No longer does one have to have flown 50 hours of actual weather to earn the badge. All you need now is 3,000 hours and 15 years of Army Aviation service.

You don't get extra money for earning an SAA or MAA badge; I even wonder if there is any prestige associated with either one anymore! We still must have had a small, but powerful lobby group hidden within our midst (not WO's, I guarantee) who just had to work out some gimmick to get one more badge. Well, they have it now — but the badges don't mean anything anymore! Therefore, the following recommendations which I have made up probably won't ever fly because they are oriented toward real life. I'll still submit them, however.

Recommendations

- Revise the initial flight training POI at USAAVNC and require that each student pilot log a minimum of two hours of actual weather flight prior to his being awarded an instrument rating and being permitted to graduate.

- Revise the philosophy of instrument flying away from the "180° turn" to aircraft and personal self control, altitude, and communication by strong publicity through every form of media possible and

This is the second in a four-part series of articles written for "Army Aviation Magazine" by Master AA, COL Samuel P. Kalagian, Ret.

revision to current lesson plans at the School.

- Abandon the Army philosophy of "100% instrument qualification" until such time as adequate aircraft, facilities, and flying hours are available. In the interim, permit unit commanders to determine who among their aviators will retain instrument ratings and who among their aviators will receive the available flying hours to do so.

- Revise AR 95-63 to specify that no instrument rating will be renewed for a rated aviator unless he has flown and logged **two hours of first pilot actual weather time in the 12 month period preceding the month in which he is to renew his instrument rating.**

- Revise AR 600-106 to require the accumulation of **25 actual weather flying hours** by an aviator before he qualifies for the rating of **Senior Army Aviator.**

- The requirement for an aviator to have flown and logged **50 actual weather flying hours** to qualify for award of a **Master Army Aviator** rating should remain sacrosanct.

- Permit aviators to take the annual Army Aviator Written Examination as a crew of two should they desire to do so.

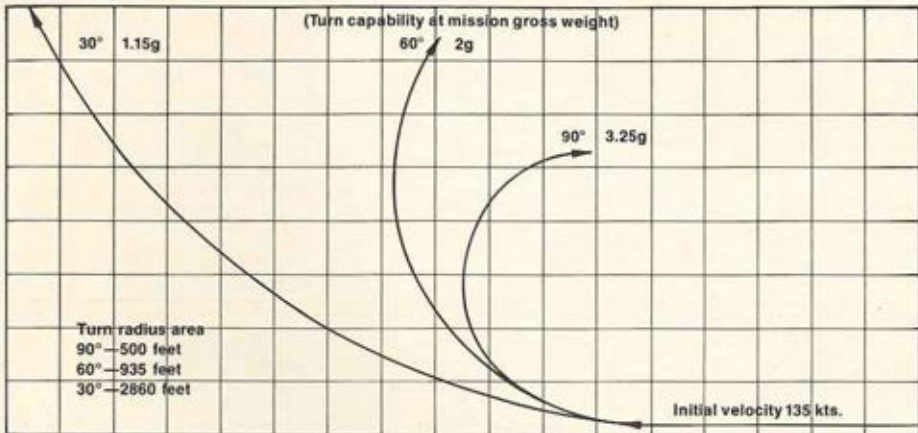


AAAA LUNCHEON — Ralph Alex [standing], addresses Monmouth Chapter members on "Military 'Copters." At head table, l. to r., are MAJ George Crowfoot and Harry J. Smith [VP's]; J.F. Mannix [SrVP]; Mr. Alex; COL Darwin A. Peter-

sen [Pres]; and Al Smith, B.H. Dean, & George Hogelin [Chap VP's]. Founder and first President of the American Helicopter Society, 10-year Quad-A member Alex is the Chief of R&D Marketing at the Sikorsky Aircraft Division. □

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A Capability

THE 101st Airborne Division [Air Assault] is truly a unique organization — the only Air Assault Division in the world.

Its 422 helicopters provide mobility and tactical flexibility found in no other division in the Army. This unprecedented battlefield mobility enables the Division to be employed with decisive effect against conventional or unconventional enemy forces in either a low or mid-intensity environment.

The Air Assault Division has been characterized as the Army's "All Purpose" Division. This is suggestive of the broad spectrum of tactical purposes and environments for which the Division is capable of being employed.

Key organizational features

A better appreciation for the unique capabilities of the Division can be gained by reviewing briefly a few of the key organizational features which collectively provide these capabilities [Figure 1].

The major subordinate elements of the Division base include: three brigade headquarters with three Air Assault Infantry Battalions each; an Aviation Group with two Assault Helicopter (UH-1H) Battalions, one Assault Support Helicopter (CH-47) Battalion, and a Provisional Attack Helicopter Battalion (presently AH-1G); and a Division Artillery with three 105mm towed howitzer battalions.

The Division Support Command is composed of maintenance, medical, and supply and service battalions plus an aviation maintenance battalion which provides direct support and backup direct support maintenance to the aviation owning units in the Division. The Air Cavalry Squadron consists of three Air Cavalry Troops and one ground troop.

The Signal Battalion has a Command Operations Company, which provides communications support to Division Headquarters elements and Division Support Command; and a Forward Communications Company, which provides one communications platoon to each of the three Infantry Brigades. All of the construction equipment in the Engineer Battalion, when sectionalized, is helicopter transportable. The Air Defense Artillery Battalion has four towed **Vulcan** batteries.

The Division's 422 helicopters are distributed throughout the organization, as shown in **Figure 2**. The UH-1 **Iroquois** is the workhorse. The Division has 199 of these aircraft, of which the 120 found in the two Assault Helicopter Battalions provide the primary tactical transport capability. The Division's 48 CH-47 **Chinooks** are the backbone of its logistic support system and also serve as the prime movers for the 105mm howitzers.

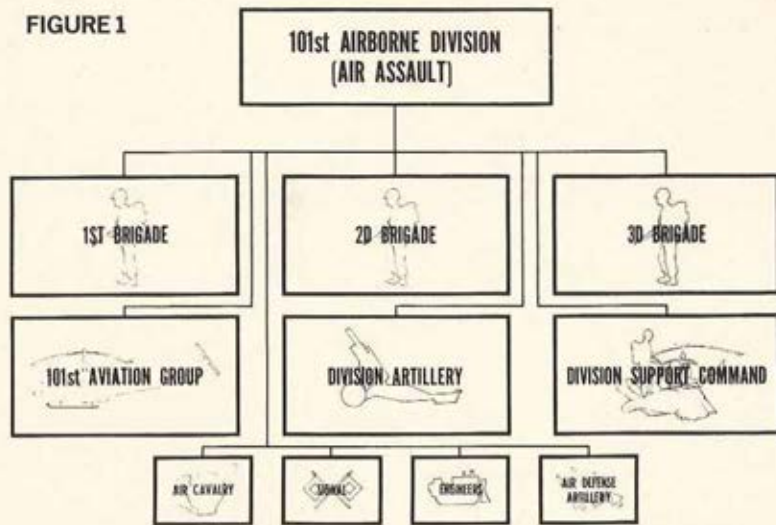
The 87 AH-1G **Cobra** helicopters are located in the Provisional Attack Helicopter Battalion and the Air Cavalry Squadron. The Division's "Jeep" is the OH-58 **Kiowa**. There are 88 found in the three Brigade Headquarters, the Division Artillery, Aviation Group, the Attack Helicopter Battalion, and Air Cavalry Squadron. The Divisional Air Cavalry Squadron includes a mix of helicopters especially tailored for its reconnaissance and security role.

Tactical employment

The inherent strength of the Air Assault Division is embodied in the collective mobility which these helicopters provide. The capability to mass, disperse, and recycle forces rapidly throughout the battlefield is the essence of the Air Assault concept. The air assault force is well-suited for screening, covering force, and delay operations, reinforce-

es Briefing

FIGURE 1



ment and economy of force roles, rear area security against enemy airborne, airmobile, and guerrilla attacks, exploitation of nuclear strikes, pursuit operations, reconnaissance in force, and offensive operations into the enemy's rear area.

These operations can be conducted in all terrain but best in terrain which tends to canalize the enemy and during periods of marginal weather and reduced visibility, which enhances concealed flight routes and degrades the enemy's surface to air missile and high performance aircraft capability.

The Air Assault Division can provide a flexible, highly mobile reserve capable of concentrating forces at the critical time and

place on short notice. Over obstacle operations, such as river crossings, and by-passing refugee and other traffic congestion, towns and villages, frequently pose major problems for terrain-dependent forces. The Air Assault Division offers a new dimension of tactical flexibility because of its relative freedom from the constraints imposed by physical topography.

Strategic deployability

Another aspect of the uniqueness of the Division is its strategic deployability. The Air Assault Division is one of the **lightest** divisions in the force structure. As can be seen in **Figure 4**, after extensive study the optimum mix of C-141 and C-5A aircraft has been determined based on Campbell Army Airfield (CAAF) capacity and desired C-141 interval.

Deployment times for one Brigade Task Force or the whole Division with all TOE personnel and equipment, moving entirely by air, are as shown in **Figure 3**. These figures assume that sufficient air frames are available to sustain a 15 minute interval in the

This article is based on a "Capabilities Briefing", developed to provide an orientation on the organization, capabilities, tactical doctrine, techniques, training, and future concepts of the Army's only Air Assault Division. The article is the first in a series that will describe the new, exciting ideas and the challenging training that are being conducted at Fort Campbell by the 101st Abn Div [Air Assault].

air stream. For a short duration operation neither the Brigade Task Force nor the Division would require all TOE personnel and equipment; therefore, fewer USAF sorties would be required with an accompanying reduction in deployment times.

A simulated load-out of the entire Division was conducted in September 1975 with the lead Brigade deploying by air and the remainder of the Division by surface. Three C-5A and five C-141 were pre-positioned at CAAF, and 125 rail cars were moved into several sidings on the Post. The exercise was extremely beneficial and further refined load plans, outloading procedures, and strategic deployment data.

The load-out verified, for example, that **Chinook** helicopters can be disassembled in less than 180 manhours per aircraft and re-assembled and test-flown in less than 200 manhours per aircraft. This allows one **Chinook** company to be operational prior to closure of the lead Brigade Task Force and the remainder of the **Chinook** Battalion to be operational prior to closure of the rest of the Division.

FIGURE 3

DEPLOYMENT TIMES* - 15 MIN. INTERVAL

Division	5 Days, 9 Hours
Division less Brigade Task Force	4 Days
Brigade Task Force	1 Day, 15 Hours
*Wheels up first A/C to wheels up last A/C	

It should be noted that the Air Assault Division does not require prepositioned equipment in the destination area in order to conduct a rapid deployment. However, substantial amounts of POL and ammunition are required once in country to sustain operations, as they are for other types of divisions. After arriving in the contingency area, the Air Assault Division can move by organic means to establish an operating base from which to commence combat operations.

Air assault training

The techniques and skills required to deploy the Division and successfully execute air assault tactics in combat do not come easily. Considerable emphasis must be placed

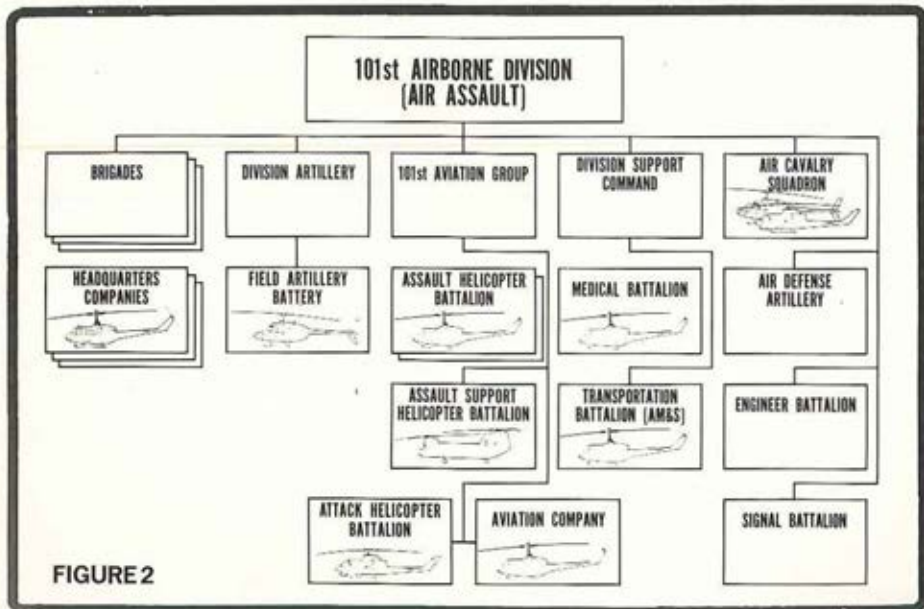


FIGURE 2

on the specialized training required by Air Assault soldiers and units. To this end, the Division operates an Air Assault School, which teaches the individual soldier air assault techniques and tactics and such fundamental skills as rigging, rappelling, climbing troop ladders, and pick-up zone or landing zone operations.

Aviator skills are refined through continuing emphasis on tactical flying and night operations. The Strategic Deployability School prepares officers and NCO's from each company and battalion for air and rail movement control duties.

The Air Assault School and Strategic Deployability School teach individual skills. Unit skills and mission training are developed through an intensive program of joint air transportability training using Air Force aircraft. In addition, the division maintains 30 rail cars, and each unit is required to conduct rail load training semi-annually. Tactical training is enhanced through continuing emphasis on camouflage discipline, night operations (including artillery raids), anti-armor tactics, and air assault techniques.

Future developments

There are a number of actions presently under consideration which will have significant impact on the Division in the near future. The Division's current aerial anti-armor capability consists of attack helicopters armed with 2.75 inch HEAT rockets. Air assault operations over broad frontages in a

**FIGURE 4
SORTIE REQUIREMENTS**

Lifted Unit	Acrft Used	Total by Type	Total by Type
Division	C-141	515	
	C-5A	98	613
Div. less Bde T.F.	C-141	384	
	C-5A	69	453
Brigade Task Force	C-141	131	
	C-5A	29	160

mid-intensity environment will require a much more formidable armor defeating capability. When the Division receives the AH-1S **TOW Cobra**, it will have a suitable aerial anti-armor weapon system.

The Division's ground anti-armor capability consists of **TOW**, **DRAGON**, and **LAW** weapon systems. Although the **DRAGON** has not yet been received by the Division, each Air Assault Infantry Battalion is authorized 18 **TOW** and 27 **DRAGON**, and the Air Cavalry Squadron is authorized six **TOW** and six **DRAGON**. The Division, then, will be authorized 168 **TOW** and 249 **DRAGON** — a very significant anti-armor capability. It is anticipated that **DRAGON** delivery will commence in the very near future.

At the direction of the Chief of Staff of the Army, the Division is formulating plans for the organization and testing of an Air Assault Anti-Armor Battalion. Consideration is also being given to incorporating motor bikes into the Air Assault Infantry Battalions to provide ground mobility for the scout platoons and **DRAGON** gunners.

Summary

In summary, the 101st Airborne Division [Air Assault] is unmistakably a "one of a kind" division. The Air Assault Division can bring to bear powerful ground and aerial firepower concentrated at the critical time and place using its unprecedented battle-field mobility. Once the planned density of anti-armor weaponry becomes a reality, the Division will possess an even greater potential for employment in a mid-intensity environment.



JOE GUDE JOINS de HAVILLAND
Colonel Joseph L. Gude, USA [Ret.] has been appointed to represent de Havilland Aircraft of Canada, Limited in the company's office at 4858 Chevy Chase Boulevard, Washington, D.C. 20015. A former AAAA Nat'l Board member, Gude served in Army Aviation for over 30 years.



On August 31, Chinooks of the 180th Aviation Company at Schwaebisch Hall, Germany, made Army medical history. The 11th Aviation Group unit airlifted hospital modules from Finthen to Friedberg, marking the first time a 60-bed, two operating room hospital was fully operational within 48 hours at a precise site. On the drawing boards since 1962, but never tested until now, the plan utilized USAF C-130 lift from Stuttgart to a forward landing strip at Finthen, and then airlift by the Chinooks to the exact position required. □



FT. RUCKER, AL — Ralph P. Alex, Chief of R&D Marketing of the Sikorsky Aircraft Division, addresses AAAA members at the Aviation Center Chapter's late September professional meeting. The president of the Helicopter Council of the Federation Aeronautique Internationale, he discussed Russian rotary wing technology at the Quad-A meeting. □

HELP! — RVN unit insignia urgently needed. Project to record Army Aviation in RVN. Will return 33rd Trans Co [LH] CH-21/135th Avn Co [CV-2]; also need photos of 135th CV-2's in RVN in '66. Ralph Young, 274 County Rd #2F, Tenafly NJ 07670.



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TODAY AND TOMORROW (Cont.)

Its development should be monitored closely.

We are even less far along in air defense suppression thinking and have only evasive tactics for counter air. The Stinger shoot from the Cobra recently at Eglin Airbase confirmed the feasibility of firing counter air seeker weapons. A 30mm system on attack helicopters should be of as much value for counter air as it will be for stand off attack of ground targets.

In the training field, our training study that was sent to your headquarters in early July should have been supported strongly to DA and OSD. The Army in good conscience cannot turn its back on the advantages of the optimum initial entry program. We cannot permit threat appropriate aviation training to wallow aimlessly any longer, and there are new skills begging to be learned. Even without the optimum initial entry program, our current graduate is substantially more capable than many aviators already in the field. This includes many of those with combat experience. Our efforts are squandered, however, unless we activate the whole pyramid. The one-time SIP course should be implemented as soon as possible and some form of multi-track instructor pilot course will be most worthwhile.

Whether or not we implement the plenary IP course, we must expand our AH-1G Qualification Course. Two years ago we had DA approval for an increase to 43 hours from the current 25 hours, but we lost the funds in a decrement exercise. If we are to get full measure from attack helicopters, we had better start training the new skills.

Let me recap and say that the Army is on the brink of a major tactical breakthrough with helicopters. However, it won't reach the full potential unless it takes bold action to train our people to get the most from their hardware in a threat-oriented environment.

We have glaring deficiencies in our understanding of human factors and learning transfer related to the new tactics. The Army Research Institute, with limited funds, is making a substantial contribution, but its work must be broadened and deepened at once if we want to resolve the training uncertainties.

Selection criteria need review

Aviator selection criteria are also badly in need of revision. We eliminate some 12% of our WOC's and 10% of our officers for lack of aptitude. A portion of the eliminations charged to other reasons also are basically aptitude problems. These percentages have remained fairly constant which means that our selection criteria must be at fault.

When the new Chinook and Cobra simulators come aboard we must conduct some extensive tests to determine how much actual flying time can be traded off. The same applies to the night vision module that has just been added to the Huey simulator for testing purposes. As a means of overcoming any lingering aviator resistance, we should tally sophisticated simulator time together with actual aircraft flight time.

Our tactical lab which is just getting underway will need further expansion and effort. Its development must be placed in exportable packages so that the field can benefit. This is especially necessary for the self-paced map interpretation and terrain analysis packages being sent to Fort Hood for evaluation.

The new skills of night flight and tactical instrument flight must be strongly sup-



TEXAS-SIZE WINGS — On being made a Master Army Aviator, LTC Stuart G. McLennan, Jr. is presented with KINGSIZE wings by fellow Master Army Aviators at a Hq Fifth Army ceremony at Ft. Sam Houston. L. to r., LTC Roy R. Steves, LTC E. Val Hoey, LTC McLennan, COL Jack H. Dibrell, and LTC John T. Vaillie.

ported. A capability of fighting at night even though not with full daytime efficiency will be most important on the next battlefield.

Prior to general issue of night vision goggles for troop use some careful training of instructors and preparation of the troops will be required. Otherwise, we will have some unavoidable accidents. Also, it is important not to let the goggles get a bad name. Concurrently, we must push to get the front-line aircraft modified with proper lighting to accommodate the night vision goggles. AVSCOM already has panel lighting fixes available which also aid in night flight without goggles. Regarding the goggles themselves, we must have the bifocal variety at once so that the aviators can see their instruments while flying. I flew them recently and know bifocals will work.

We must continue to carry the message to the field. Your training developments emphasis should help in getting the word out and implemented.

Standardization-training interface

Publication of ARTEPS, soldiers manuals, SQT's, and the like should be expedited. I have sent Max Thurman a letter proposing SQT's for officer aviators to insure that the individual aviator is properly prepared for unit training and for eventually undergoing the unit ARTEP. After all, the officer singularly is performance-oriented when he is in the cockpit. Most of his officer contemporaries are required to lead rather than to perform, thus SQT's may not be as appropriate for them.

Please also consider that our standardization program is an arm of training developments. It provides face-to-face contact between TRADOC and the field. It carries the word out, evaluates what it sees, and returns with front-end analysis material for the training cycle. It should assist both the commander and the trainer and be particularly helpful for unit readiness. In the high cost world of aviation, standardization efforts will pay big returns.

Our two week readiness training package should be expanded to become a routine part of our operations. I think that we could handle perhaps 20 companies here individ-



PERSONALIZED! — Ben Schemmer, seated right, autographs a copy of his new book, 'The Raid,' for Bill Stuyvesant, as, l-r, Gerry Gard and Marty Leff [Chap Pres] look on. The publisher of the 'Armed Force Journal' spoke to a recent combined meeting of the AAAA, AHS, and AFA in Stratford, Conn. on October 19.

ually during the course of a year. This would reap readiness benefits for the Forces Command. An Active Army company or at least the equipment package for an active Army company would be most helpful to this program. There are many other benefits to both the training and the combat developments houses that a company could provide. After all, Fort Rucker is the only center that has no troop units of its own specialty in residence.

Consolidation of the maintenance contract must be pushed to a successful conclusion. The efficiency involved and the better posture of the government in labor disputes argue strongly for a single contractor.

The Army-Industry Team - A must!

It is imperative that we stimulate consciously the best talents of the Army and industry as a team to the requirements of Army aviation in the field and the need for a constant re-evaluation of today's equipment while searching for new technology to meet future requirements.

Hardware proponentry, as opposed to organization and doctrine proponentry, should be restored to Fort Rucker which has the integrating function for aviation matters and the technical expertise to monitor the spectrum of hardware programs.

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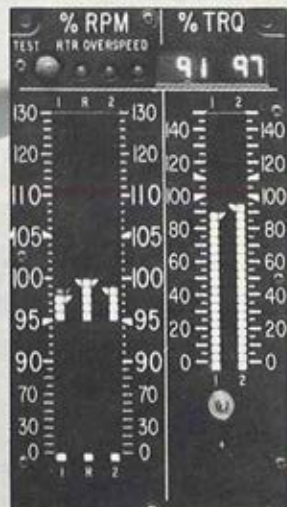
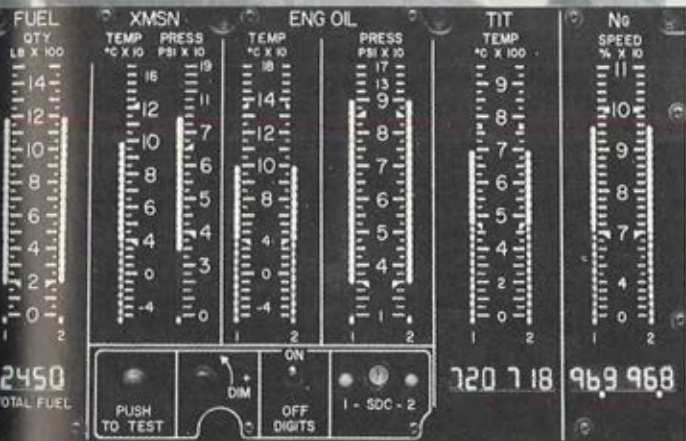
The CMA-730 series is available as discrete instruments as well as integrated display panels. Full information on request.



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TODAY AND TOMORROW (Cont.)

Fort Rucker possesses an excellent and underutilized maintenance training facility. It is appropriate and a logical follow-on to our UH-1 maintenance training responsibilities for UTTAS training to be assigned here. I think it further appropriate that attack helicopter basic maintenance training be performed at Fort Rucker. I would like to see this post completely wrapped up in the attack helicopter hardware business. I feel that Fort Rucker should be pushed into developing "crosswalks" between the maintenance and pilot training. Only the maintenance contract has prevented me from putting the aviator and the mechanic trainees into the field together in tactics problems. We particularly need more interplay within our student population, and we could generate a worthwhile interplay within the Center Team.

Duplication: Two test boards

The creation of two test boards constitutes a duplication, at least in the overhead functions. The TRADOC user board and the TECOM aircraft development test activity should be consolidated into a single organization. Certainly, we can be professional enough to conduct both development and user tests objectively without compromising the interest of either. Manpower constraints and efficiency argue very strongly for consolidation. If the boards remain separate, they should be collocated here where they can draw on each other and be closely related to other members of the Center Team.

My last caution also concerns people. We must monitor how our most precious commodity is handled under the new OPM and EPM Systems. I am more apprehensive that they are no pinched further by "the system" which tends to deal with them in traditional

NEW CAREER

This is the concluding segment of a three-part article written by MG William J. Maddox, Jr., Ret. He is now the President of the Arab Air University in Amman, Jordan, and may be contacted at the University at Box 6191. □

terms as an add-on to an existing structure. And we must continue to train a steady flow of new aviators to assure a base from which we can move into the ARCSA III period.

Summary

All in all, this is a rather pedestrian list of tasks for a program as big and bustling as Army Aviation. In the main, the program is moving rather well. There have been some major gains in the last several years. A chief gain is that we have identified our direction and goals. It does not bother me that the aviator feels he still must fight uphill despite his recent combat accomplishments. The day he feels he is getting his share of the pie is the day he will begin to lose his drive. The individual tasks are all resolvable — many without significant outlays. You may note that I have not dwelled significantly on affordability and funding matters because these can be resolved in the normal staffing process.

In the nearly three years that I've served at Fort Rucker, the terrain does not look nearly as rugged as that we have just been through. Your guidance and counsel have been invaluable in smoothing the way. In my last day as titular head of the aviation community, I want to assure you that your very special volunteers, the Army aviator and the aviation enlisted man, are capable of meeting whatever challenge may be thrown their way. I have been honored to serve in their ranks for more than 30 years of rated service.

I can describe their nobility and pride no better than Mr. Peter T. Chew did 10 years ago this past June in the National Observer. In closing an article on my 13th Aviation Battalion, he wrote:

"More than 250 Viet Cong lay dead on the battlefield as against 27 friendly dead. It was Easter Sunday, but no one had had time to go to church.

There is something of the old Lafayette Escadrille spirit about these young men of the Delta Battalion. And when Bailey Jones, the gunship pilot, talks with his soft Southern accent and his cavalryman's mustache, he conjures visions of Mosby's guerrillas."

PCS - Changes of Address

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TURNOVER — Colonel Charles F. Drenz (2d from right), the Cobra PM at AVSCOM, presents the keys to the first AH-1S Cobra/TOW helicopter provided to USAREUR by DARCOM to Brigadier General Dan Williamson, ADC(S), 3rd Armored Division. Shown l-r, are: LTC Grey, Cav Sqn CDR; BG Williamson; COL Price, Cofs, 21st SUPCOM; COL Drenz; and MAJ Hudgins, Air Cav Trp CDR, 3rd AD. □

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