Army Aviation

MARCH 29, 1968

Eye in the sky

(See back cover)

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BOEING HELICOPTERS

Major
Forrest H. Williams

Major
David Gray

Major
Max A. Davison

This plaque goes to each Army pilot who logs a thousand flying hours in the Army Mohawk surveillance system. This month Grumman salutes Major David Gray, Major Max A. Davison, and Major Forrest H. Williams, all of whom have earned the 1000-hour Mohawk plaque.

Man is the heart of the system. Grumman never forgets it.

Major David Gray has accrued over 1400 flying hours in the Mohawk since 1963. Maj. Gray was assigned to the 23rd Special Warfare Aviation Detachment, Vietnam, during 1964-1965, where he was awarded the Distinguished Flying Cross. Until recently Maj. Gray was serving a second Vietnam tour flying Mohawks with the 131st Aviation Company.

Major Max A. Davison has accrued over 1400 flying hours in the Mohawk since 1964. After serving a tour of duty as Maintenance Officer with the 131st Aviation Company in Vietnam, Maj. Davison is back at Ft. Rucker, where he is assigned as an instructor with the U. S. Army Aviation School. Maj. Davison had spent two years at the Aviation School prior to his assignment in Vietnam.

Major Forrest H. Williams is presently assigned to the Airborne Sensors Department, Combat Surveillance School, Ft. Huachuca, Arizona. Major Williams was rated in 1960 and completed Mohawk transition in December 1963. From August 1965 to August 1966 Maj. Williams was assigned to the 1st Cavalry Division in Vietnam, where he accrued almost 400 combat hours flying OV-1B and OV-1C Mohawks. Maj. Williams received the Bronze Star, Air Medal with seven Oak Leaf clusters, and the Army Commendation Medal.

GRUMMAN
Aircraft Engineering Corporation
Bethpage, L. I., New York

"AT *0315 hours, January 31, I received a call from an aircraft requesting to know if we were secure,*" says Richard O. Stark, tower operator at Hotel 3, the Tan Son Nhut heliport.

"*I replied in the affirmative, seeing no activity to the east of the field, and having no knowledge of enemy activity in the area. At 0325 he called again, saying he had reports of enemy contact in the area.*

"*I noticed sporadic tracer fire northwest of the helicopter tower, but I was not duly alarmed. Minutes later, when a C-47 departed from Tan Son Nhut and drew heavy ground fire, I realized that this was not nervous guards, but actual enemy contact.*"

Tan Son Nhut Air Base was under attack! Almost simultaneously, similar attacks were launched against military installations and population centers throughout the Republic of Vietnam. These attacks marked an all-out Communist offensive that continued throughout the Tet Holidays.

During that day and the days that followed, aircraft and pilots of the 1st Aviation Brigade played a major role in the routing and defeat of the Viet Cong attackers. Brigade aircraft and the men who flew them won praise from commanders and won the affection and admiration of the troops they directly supported for their quick response and accuracy in providing fire support for the men on the ground.

Multi-battalion attack

The attack on Tan Son Nhut was spearheaded by several Viet Cong battalions. VC-NVA elements attacked at eight strategic points around the air base.

"*The extent of the enemy buildup was surprising,*" said Major Ronald K. Kollhoff, commander of the 4th Gunship Platoon of the 120th Assault Helicopter Company. "*When it first started we expected a small token diversionary force – a suicide squad – to divert attention from an expected mortar attack. But after a while it became evident that the VC wanted to actually take Tan Son Nhut very badly.*"

Major Kollhoff's two *Razorback* fire teams – four gunships – pulled pitch within three minutes after the alert was given. They stayed in the air throughout the day, flying missions in support of the ARVN and U.S. forces defending the base from the ground. Major Kollhoff described flying a combat mission in Saigon as "*quite an experience – and often frustrating.*" The VC and NVA had utilized built-up areas to include churches, schools, and hospitals, knowing that Americans wouldn't hit them.

"*We flew one mission over an outlying village where VC activity had been reported,*" he continued. "*The VC were there, all right – in a church full of women and children. The VC saw us and decided to leave, and came out of the church using the women and children as shields. They would get 10 or 15 women and children grouped around them and then just walk away. All we could do was just sit and watch.*"

Intense ground fire

The fighting around Tan Son Nhut was heavy. "*The fire from the enemy directed toward the west end of the airfield was very intense,*" the major said. "*It's a wonder that we didn't take more hits than we did.*"

"*I received fire everywhere I turned,*" recalls Captain Chad C. Payne, a fire team leader and commander of *Razorback* 45. "*My ships received seven hits, but this was nothing considering the amount of ground fire directed toward us.*"

Captain Payne and the pilots of the 12th Combat Aviation Group flew far in excess of their daily average during the critical period, landing only long enough to rearm, refuel, and takeoff again. When daylight broke that first morning and the captain could see the battle area, "*There were hundreds of VC bodies everywhere in the vicinity of the Tan Son Nhut perimeter. I've never seen anything like it.*"

A tribute to the effectiveness of the gunships comes from Captain Nelson J. Garcia of Advisory Team 100, Tan Son Nhut Sensitive Area. When he received word that Tan Son Nhut was under attack, Captain Garcia took a patrol of 30 men out "*and we ran head-on into one of the attack forces. There were approximately 350 men against my 30. We were certainly outnumbered,*" he said.

"*Then those beautiful gunships came in*

and started circling the area," he continued. "*I threw up a pocket flare to mark the position, and the gunship radioed that we were too close to the enemy force and to pull back some, if possible. We pulled back and then he went in. He was right on target, placing rockets right in the middle of Charlie's position. Altogether, between us and the helicopters, we killed over 200 enemy, and I'd estimate that* 80-85% *was attributable to the helicopters. The morning of the 31st, if I'd met that pilot (Captain Payne), I'd have kissed him.*"

Another of Captain Garcia's units, the 531st Company of the 53rd Regional Forces Battalion, also received gunship support. Captain Garcia said, "*The gunships sure kept Charlie off our backs.*"

Another eyewitness to the effectiveness of the *Razorback* fire teams was Mr. Stark, the Hotel 3 Tower Operator. "*At 0330, the Razorback 45 team called for a scramble takeoff. On departure the team immediately broke left and started making gun runs where the activity was heaviest.*

"*Both fire teams continued receiving intensive ground fire that was visible from the heliport tower. The enemy appeared to have been driven back about 0600. Razorback 41 team was on station at the time, and Razorback 45 finished rearming, then scrambled to the location. The two fire teams engaged the enemy again, and drove them off.*"

Quick reaction

Further praise and recognition for the *Razorbacks* comes from Lieutenant Colonel Bernard L. Garred, Jr., who was in command of the Joint Defense Operations Center and controlled the battle area.

"*During the fight for Tan Son Nhut,*" he said, "*I employed the Razorback 41 and 45 teams with excellent results. The Razorbacks' quick reaction time and their constant aggressiveness were a major factor in the battle. Their accurate and overwhelming firepower greatly contributed to repelling the attack. Their unceasing devotion to duty, even when confronted with a very adverse situation, held the enemy off our defensive element, and in turn allowed us to reinforce the perimiter.*

"*The Razorbacks flew sortie after sortie against the enemy, and destroyed several mortar and rocket sites. Their relentless attacks on the enemy, combined with our artillery and ground units, beat back the enemy and denied him Tan Son Nhut Air Base.*"

While the gunships were providing fire support for the fighting ground forces, CH-47 *Chinooks* and UH-1D "*Slicks*" were bringing in reinforcements of troops and supplies. Three *Chinooks* of the Brigade's 147th Assault Support Helicopter Company *Hillclimbers* flew several hundred of the 101st Airborne Division to Tan Son Nhut.

As they approached Hotel 3 at Tan Son Nhut, the three aircraft received heavy ground fire from the surrounding areas, wounding one of the passengers.

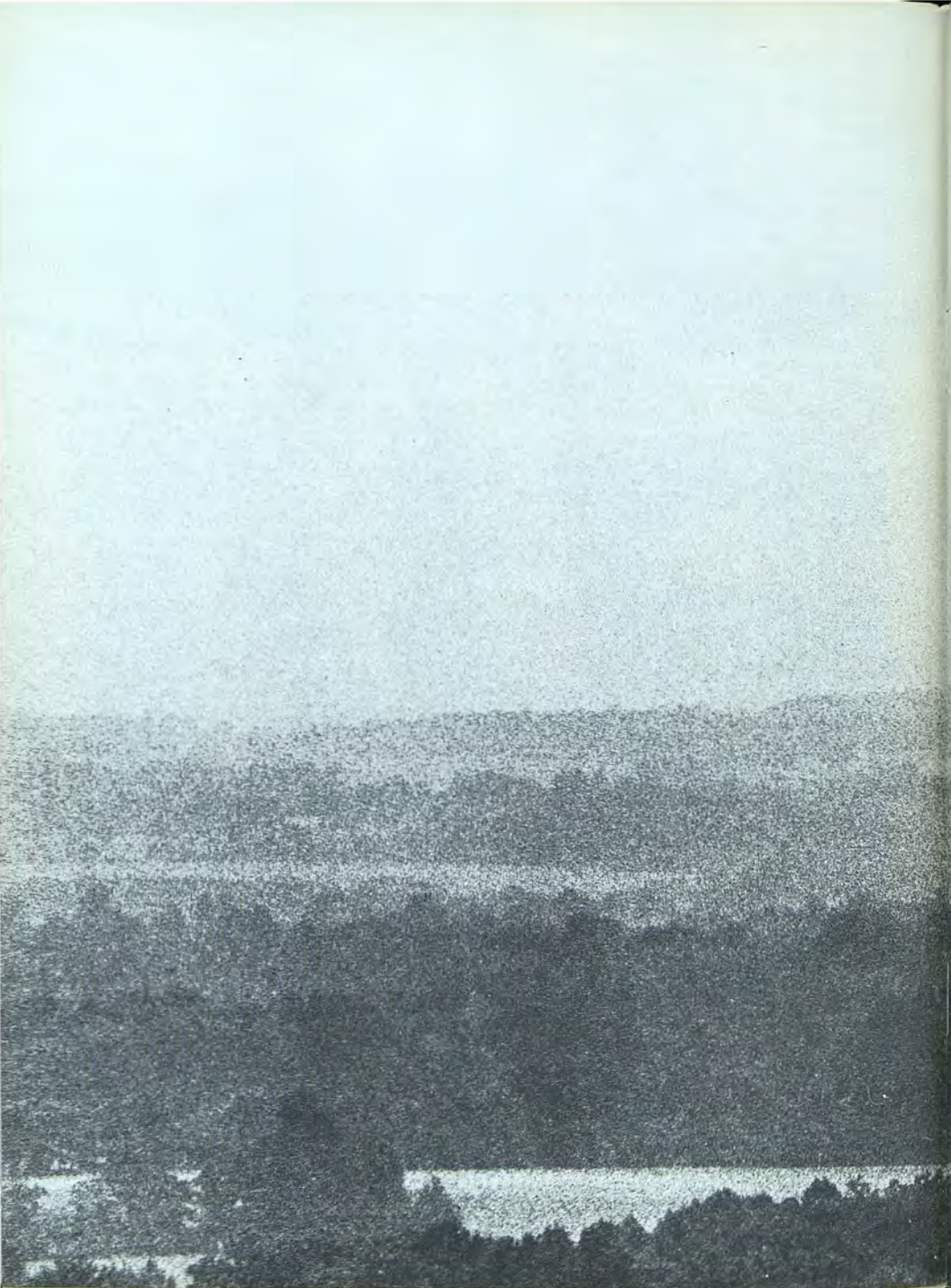
The remaining two ships continued to fly missions throughout the day, lifting a total of 452 passengers, 48 tons of supplies and ammunition, and evacuating casualties in support of actions at Tan Son Nhut and Long Binh.

Another area of heavy activity was at the U.S. Embassy in downtown Saigon. A pilot of the 191st Assault Helicopter Company was the first to land a chopper on the embassy during the heavy fighting, bringing ammunition and evacuating one wounded man.

Fighting had been raging around the embassy when Chief Warrant Officer Richard Inskeep brought his UH-1D "*Boomerang*" slick onto the top of the building.

"*We were receiving fire from all sides,*" said Mr. Inskeep, "*but we couldn't see any-*

(Continued on Page 32)



Now the LOH the Army wanted is where the Army wants it.

The Cayuse is in Vietnam—in strength. And the assembly lines at Hughes are rapidly approaching peak production. The Air Cavalry's new Light Observation Helicopter is a superb scout. It moves out swiftly to the action . . . threads its way between giant trees and twisting waterways . . . packs the firepower to fight its way out of tight corners. And it's proving its ruggedness in Vietnam's thick red dust and steaming humidity. The U.S. Army's OH-6A Cayuse—from Hughes Tool Company, Culver City, California.

Hughes Helicopters

VOLUME 17, NUMBER 3

ARMY AVIATION

MARCH 29, 1968

Endorsed by the Army Aviation Ass'n of America

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ARMY SELECTS JETRANGER

FT. WORTH, TEX. — The U.S. Army formally named the Bell Helicopter Company as winner of its re-opened LOH competition, awarding Bell a contract for 2,200 Model 206A JetRangers totaling $123,086,647. Initial funding to cover the first year of a five-year program is more than $20 million. Deliveries to the Army will commence in 1969.

The re-opened LOH competition was a two-step procedure that began last fall. The initial phase was a technical evaluation which successfully qualified the 206A to the performance specifications. It was followed by the cost phase in which Bell submitted the low bid for the program.

The Army light turbine helicopter that Bell has contracted to build is basically the same as the commercial JetRanger. It has a continuous cruise speed of 137 mph, top allowable speed of 150 mph, and a range of 400 miles.

The JetRanger is powered by a 317 hp Allison 250-C18 engine. Its seating arrangement places two persons up front and three in the rear of the aircraft.

10,000

THE HUEYCOBRA HAS PASSED THE 10,000 FLIGHT HOUR MARK.

Training is accelerating in the U. S., and the Cobra is now active in combat in Vietnam.

Bell salutes all those who have helped the HueyCobra reach this mark—the test and evaluation agencies, the training teams and the operational units. Without the men who test and train, the men who fly and fight, there would be no HueyCobra spitting its deadly venom at the enemy.

Thanks again to all those who have made this success possible.

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Cheyenne's mission: Pave their way with firepower

The day is nearing when the foot soldier gets a new battle-zone guardian: Cheyenne, the U.S. Army's flying firing platform. Now off the ground and undergoing extensive testing at Lockheed's Van Nuys, California, plant, this new warrior will use its 250-mph speed, aerial agility, and devastating armament in multiple-support operations that typify Lockheed's ready responsiveness to Army needs.

Ten prototypes are being tested or are nearing completion. And Lockheed is preparing for large-scale production of 375 of these advanced combat craft.

Cheyenne will escort troop-carrying helicopter convoys, diverting from column to knock out hostile ground targets, then dashing to rejoin and cover. As it approaches the combat destination, this revolutionary new compound helicopter will speed ahead, soften landing sites, and keep them suppressed during troop landings. Armed with grenade launchers, machine guns, rockets and antitank missiles, it will unleash stunning firepower with high accuracy—at top speed, at hover, and at any velocity in between.

The Cheyenne will be integrated into Army units and live in the forward combat areas with the ground troops. It will be immediately responsive to the ground commander's needs, for Cheyenne can be serviced and rearmed in just 10 minutes.

The proven ability to understand present mission requirements and anticipate future ones, coupled with technological competence, enables Lockheed to respond to the needs of the U. S. Army in a divided world.

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Bendix

TO TWIN OR NOT TO TWIN

THE MAJOR CONSIDERATIONS IN TWIN-ENGINE CONFIGURATION AS VIEWED BY COL. EDWIN L. POWELL, JR., DIRECTOR OF ARMY AVIATION, OACSFOR

AS you might suspect from a cursory glance at the newspaper, the Pentagon is especially busy about this time, so I trust you will understand any lack of cohesiveness in this letter.

The first subject is a touchy one, but I feel you deserve to hear our side of a complicated problem: **Should we strive to make most of the Army fleet twin-engined?** There are so many pros and cons to this question and I will only attempt to highlight some of the major considerations.

Before proceeding further, what do we mean by **"twinning"?** Just two powerplants geared into a single transmission? Or complete redundancy of all systems with wide separation of critical parts? Or power enough to complete a normal mission on one engine or power enough for safer emergency procedures?

You can see by the above that there is **"twinning"** and **"twinning".** The concept we've had under consideration in recent months for the **Huey** has placed two engines of approximately 800 h.p. each, side-by-side, operating through a single combining gear box.

There's no doubt in anyone's mind that the safety aspects and survivability factors are primary in any consideration of twin-engine configuration. Every aviator and passenger in an aircraft is unanimous in preferring two engines to one, and this is natural and understandable. Since the days of the Wright brothers we've wanted more reliability, more power, more payload, and more endurance. At the same time we have searched for simplicity and low cost.

Best example: The Huey

Our current fleet has grown in the last ten years to meet the expanding requirements generated by the airmobile

TO TWIN OR NOT TO TWIN

(Continued from Page 13)

concept. The **UH-1** is perhaps the best example (and is the most mentioned candidate) for **"twinning"** in the Army inventory.

The original **Huey** was conceived around a concept for an airmobile ambulance that could carry three litters and a medical attendant. (This requirement accounted for the "polywog" shape of the **XH-40** and the early **Huey** models). The first models had a gross weight of about 7,000 pounds and about 700 hp.

Like all aircraft, the **Huey** has grown (in size) over the years, and there have been times when **"twinning"** seemed to be a logical and practical step. The decision to **"twin"** or **"not to twin"** on the production line four or five years ago would not be the same decision required today to make such a major modification to our present fleet of thousands.

Today, the **Huey** has grown to the point where its airframe can no longer safely accommodate another increase in gross weight or an engine package more powerful than the T-53-L13 without major modification.

VALOROUS UNIT AWARDS

25th Aviation Battalion, and attached 116th Aviation Company and 118th Aviation Company, for action in Ho Bo Woods on 19 July 1966. USARV General Order Number 4040, dated 29 September 1967.

116th Assault Helicopter Company for action during "Operation KALIHI" on 22 October and 23 October 1966. USARV General Order Number 3603, dated 17 July 1967.

11th Combat Aviation Battalion, 12th Combat Aviation Group, 1st Aviation Brigade for operations during 4 November and 20 November 1966 in "Operation ATTLEBORO." USARV General Order Number 4040, dated 10 August 1967.

We also have very little concrete combat evidence that would support **"twinning"** the Huey from the point of survivability. The mere addition of one engine side-by-side with another does not automatically reduce vulnerability by 50%. An overwhelming number of **UH-1's** downed in combat were lost by damage that would have downed the suggested **twin-Huey's.**

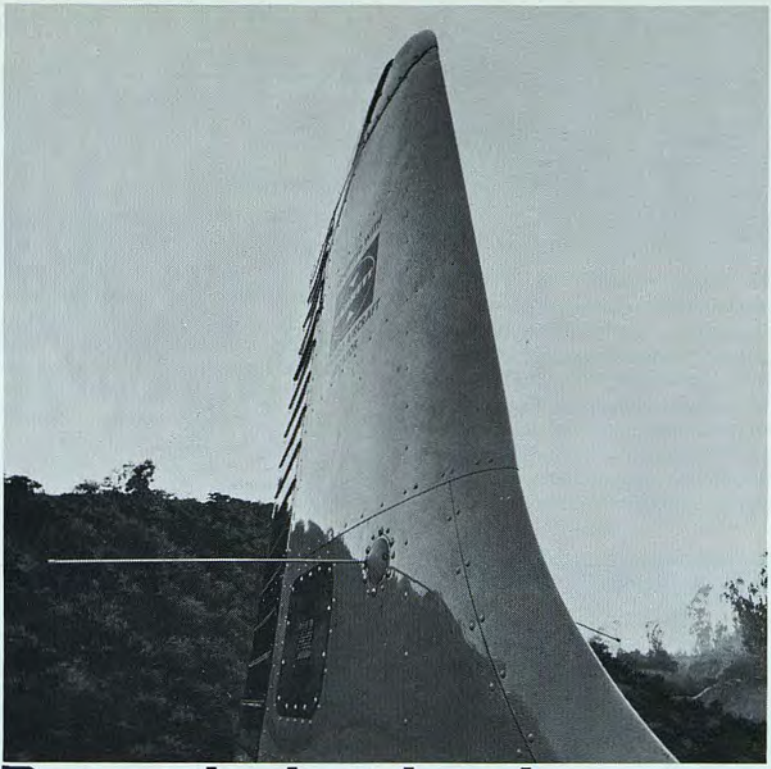
High reliability

Moreover, the reliability record of our single turbine is excellent and getting better. Statistics disclose very few **UH-1** accidents attributable to engine failures. In other words, we have a machine that is doing a great job, is spread throughout the world in large numbers, and whose requirements keep growing from day to day.

In the face of this you can readily understand our reluctance to stop or slow our current production and to call a major portion of the Army's fleet back for a very expensive factory overhaul. Of course, an exhaustive test program would have to be fitted in somewhere, and it would be well into 1970 before we could begin fielding **twin-Huey's** were we to decide to develop them.

Despite the problems of twinning the **Huey,** we have sought a basis for many months of justifying its very costly development. Frankly, I have felt that we owed each of you the concept of the additional safety it would provide, even if it exists only in the psychological "lift" it provides to the crew and passengers. However, we have been unable to justify the twinning program, and it's now been dropped.

Unfortunately, the **UH-1** program's history shows that the argument for **"twinning"** was never presented at the right time in a clear and compelling manner vs the cost/complexity arguments. I hope the lessons we have learned in the past will improve our future aircraft, and that the **Huey** replacement, when it comes, will provide



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VAN NUYS, CALIF. — Pictured flying over the Southern California countryside, the new rigid-rotor Cheyenne is currently in an intensive testing program conducted for the Army by the Lockheed-California Company. The test program is a prelude to an Army production order for 375 AH-56A compound helicopters. The heavily-armed gunships will provide direct fire support and will escort troop-carrying helicopters at speeds up to 250 mph.

FORT MONMOUTH — Gathered for the opening luncheon of the ECOM-AFCEA-AAAA-sponsored Advanced Planning Briefing and Technical Symposium are (l. to r.) COL Jack G. Condon, Director, Proc & Prod., ECOM; GEN Hamilton H. Howze, USA (Ret.), AAAA national president; John T. Planje, AFCEA national president; MG William B. Latta, CG of ECOM and Fort Monmouth; and COL James L. Burke, president, Monmouth Chapter, AAAA, and Spec Asst to the CG for Aviation and Aviation-Electronics. Additional details of the March meeting appear on page 47. (USA photo)

TO TWIN OR NOT TO TWIN

(Continued from Page 14)

optimized twin reliability. But I see little hope of turning back the clock now.

No contest!

Turning to a lighter subject (but one that is equally controversial), much has been said officially and unofficially about the title **"Aviation Company,"** especially as it applies to the current "airmobile company, light," or "assault helicopter company."

Recently, there have been many suggestions for a new name. **"Squadron"** brings back all the ghosts of an Army Air Corps; however, our cavalry friends will point to its honored Army ground force tradition, while also reminding us that in their language it means **"battalion."**

"Escadrille" reeks of the Red Baron and WWI. **"Flock," "Gaggle,"** and **"Covey"** have been suggested. One proposal was to name the unit a **"den,"** with the CO having the title of **"mother,"** with equivalent pay and privileges. The subcommand would obviously have been a **"pack."** Needless to say, I'm not sponsoring a **"Name The Unit"** contest at DA level.

A "Well done!"

As this goes to press, I have been receiving many complimentary accounts of the outstanding work during the recent V.C. offensive by those of you in Vietnam.* Many of you have distinguished yourselves on the ground as well as in the air. My hearty congratulations to all of you on another job well done. I know you will continue to keep up the good work. Good luck and may God remain with you!

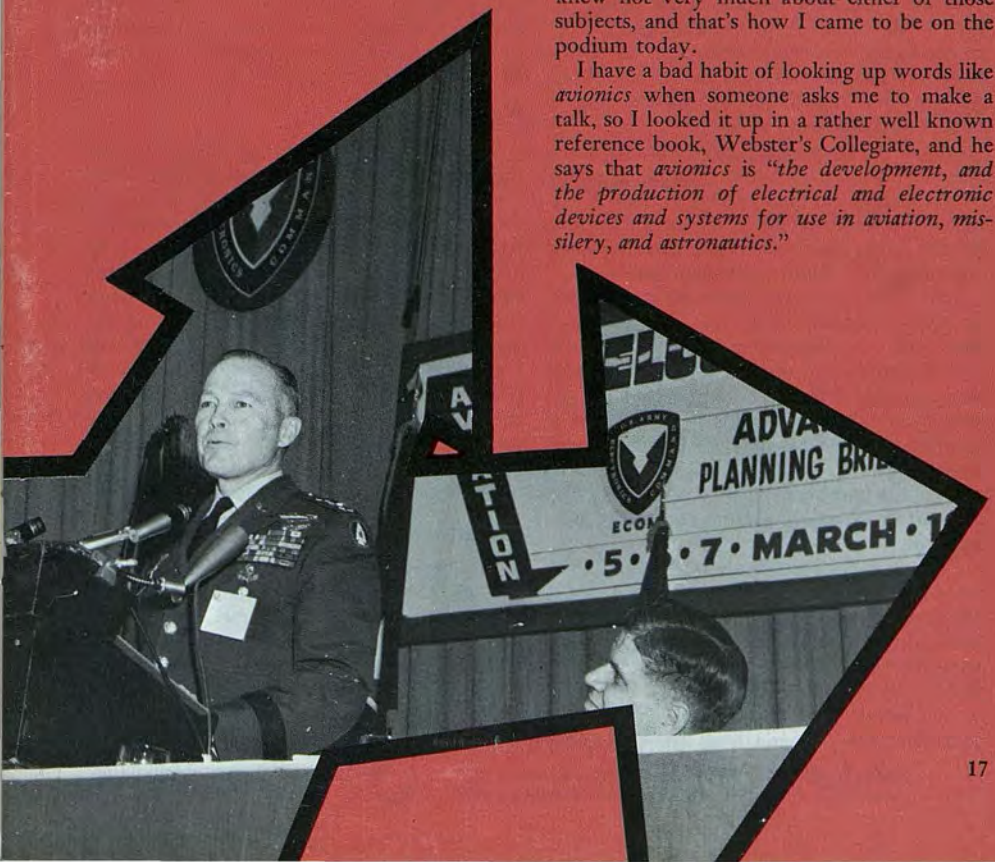
The "1968 Command and Control Directory" listing over 300 Army aviation units, agencies, and facilities will be published as the April 25, 1968 issue of ARMY AVIATION.

AVIONICS: ONWARD AND UPWARD!

Keynote address given by LTG Harry W. O. Kinnard, Commanding General, Combat Developments Command, at the March 5 ECOM-AFCEA-AAAA Advance Planning Briefings at Fort Monmouth

IT is my real pleasure to be here because I believe that what we are engaged in, this symposium on aviation-electronics, is, in fact, of great importance. General Latta told me that they had tried to find someone who was an expert in both electronics and aviation, and after a careful canvas of the entire country, he concluded that there was no such individual, so he settled for someone who knew not very much about either of those subjects, and that's how I came to be on the podium today.

I have a bad habit of looking up words like *avionics* when someone asks me to make a talk, so I looked it up in a rather well known reference book, Webster's Collegiate, and he says that *avionics* is "*the development, and the production of electrical and electronic devices and systems for use in aviation, missilery, and astronautics.*"



ONWARD AND UPWARD!

(Continued from Page 17)

He goes on in the next line to include, "*the devices and the systems so developed*," so without knowing whether that's a good G.I. definition or not, I propose to use it and the point I would like to have you note is that the definition says, "*for aviation*," and it does not just say, "*for aircraft*."

I think that this is significant because I strongly believe that the associated ground systems that interface with the systems in the aircraft are extremely important and I would like to extend the definition one step further and say that the maintenance and support of both the ground and airborne avionic systems are likewise extremely important.

A "growing importance"

What I propose to talk about today is, first of all, to allude to General Latta's reference to the "*growing importance of Army aviation*," and secondly, I'd like to talk about the growing importance of avionics that is associated with Army aviation.

I'd like to dwell then on where we have been in avionics, and next, where I believe we are today, and then finally, I'd like to say where I believe we are going in the future. At that point, I will summarize and stop talking – hopefully before you stop listening.

First of all, as to this "*growing importance of Army aviation*," with the Howze Board and with the designation of the 11th Air Assault Division to test and to develop these new concepts, I think the Army took an approach to the use of aircraft which was a different approach from the one that it had taken for the many previous years that it had used flying machines, even if one dates the start of Army aviation from the use of balloons in the Civil War.

I well recall what General Wheeler – then the Army Chief of Staff – said to me in his office when he called me up in January, 1963, and told me that I was to be the commanding general of the 11th Air Assault Division. His words, which are rather indelibly engraved on my mind, were that my mission was to determine how far and how fast the Army could go and should go in the substitution of aircraft for other systems wherever that substitution would offer the Army an enhanced operational capability.

Now that's a pretty big charter – a pretty broad mission. It is the mission that we in the 11th Air Assault took to be our job for the two and one-half years that we developed and tested the division. The point is that we were not trying to prove some foregone conclusion. Rather we were trying to determine those roles in which Army aircraft could, in fact, give the Army a better capability, and the other point is that the Army was eagerly looking for better solutions pretty much across the board.

We were searching for better solutions in the low intensity conflict, which is epitomized by Vietnam. We were looking for better solutions in the mid-intensity conflict, such as Korea or World War II, and we were looking in a very desperate way for solutions to waging a tactical nuclear war – which we all trust will never happen.

Forced look

In short the Army needed answers across the board and as we looked at ground-borne systems we didn't find these answers. I think this forced the Army to look to airmobility. I give Secretary McNamara, even though he has gone to the World Bank, full credit for issuing that sterling challenge to the Army that we should take a bold new look at the use of aircraft, but I would like to add that I personally believe that the Army was already going in that direction, because it was the direction in which it had to go. The thing that Secretary McNamara did that was important was to give it impetus and make it come sooner, rather than later.

Aviation role is vital

When one examines how the 1st Cavalry Division has used, and is using, its aircraft in Vietnam – you see that, in fact, the aircraft is playing a vital role, not just an important and necessary role, but a *vital* role in all the five functions of land combat which include firepower, mobility, intelligence, communications – or command and control, if you

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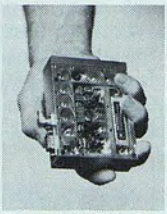
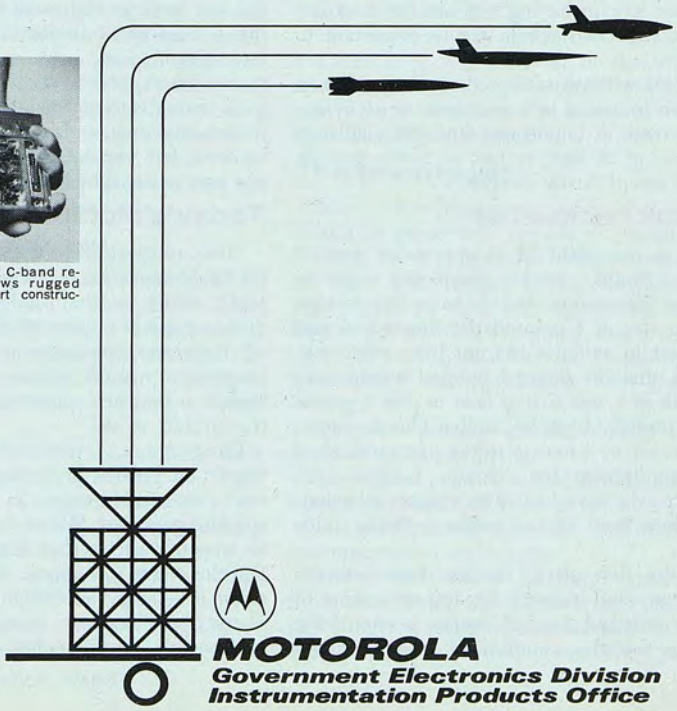
For more data on MINTACTS, write 8201 E. McDowell Rd., Scottsdale, Ariz. 85252, or call (602) 947-8181.



The up-link C-band receiver shows rugged state-of-the-art construction.



MOTOROLA
Government Electronics Division
Instrumentation Products Office

ONWARD AND UPWARD!

(Continued from Page 18)

prefer – and finally, logistics. In each of these five fundamental functions, the aircraft is performing a vital service.

I come now to my next point – the importance of avionics in this "*growth,*" which is not just continuing but is still accelerating with respect to Army aviation. I think it's rather obvious that we are demanding more and more of the aircraft that we fly every day.

Avionics as the key

I would say that the final goal really is to try to make our aircraft as flexible as the wonderful men who fly and maintain them. Since we don't have the Master Designer who made *man,* we can never quite get there, but that still should be the goal. I really think that it is the goal . . . we're trying to make our aircraft so they can live and operate in that extremely hostile environment, which is land combat, and I think that avionics are an absolute key in having our aircraft perform all the functions which are so important to us.

It goes without saying, then, that as Army aviation increases in importance so do avionics increase in importance and the challenge is growing at least as fast as is the growth of the use of Army aircraft.

A look backwards

As to the point of *where we've been,* I think I could probably point the finger in various directions, but I have the uneasy feeling that if I pointed the finger and said our past in avionics has not been extremely bright, that the finger I pointed would have a crook in it, and that at least in part it would point directly back at Combat Developments Command, or whoever in the past established the requirement for avionics. I think such faults as we have had, with respect to avionics, have been spread across a rather wide board.

In the first place, the interface between the Army and industry has left something to be desired, and that, of course, is one of the reasons for this symposium today. I think what was missing primarily was that the Army tended to tell industry what to do to meet requirements, and perhaps tell it too late, and that industry was placed in the position of reacting to Army ideas instead of developing on their own. That's not a 100 per cent accurate statement, but it is close enough.

Secondly, the people within the Army – the fliers and the communicators – were not looking at the complete problem of what the aircraft was required to do. They were not looking at the *total* spectrum of functions and roles that the aircraft had to perform.

Thirdly, I think we were starting the communications packages for our aircraft too late. The *LOHAP (Light Observation Helicopter Avionics Package),* for example, even though it's a very worthy approach, was started too late to marry up with the Light Observation Helicopter and will have to be introduced as a retrofit item in the LOH.

We have had, then, a less than optimum relationship with industry, and a fragmentation within the Army, and our requirements did not look at the total functions. Part of this is because hindsight is 20/20, and it's a lot easier to look back at these things and to see where you would have liked to have gone than it is to see them in advance. Nevertheless, my own summary of the past would be that, like the boxes that we talk about, our past is also a little bit black.

Today's picture

Now, to speak of today, I think that in the *IHAS (Integrated Helicopter Avionics System),* which is the total avionics package within the AH-56, we have the first example of a systems approach in which we challenged the manufacturers and in which we looked at the total spectrum of jobs we want the aircraft to do.

Furthermore, I think we're making very important strides in getting industry in at the conceptual stage in developing our avionics packages. We're making an extremely strong push in this direction in Combat Developments Command. We say – and we mean it – that we welcome the long range planners and designers from industry to come to Combat Developments Command and to

share with us, insofar as you are able within your proprietary limits, your hopes and your ideas, and to get in at the very earliest conceptual stage. We and ECOM and others in the Army are all doing better in this respect.

The requirements are being established with a much closer link between the aviators and the communicators. We recognize now that this is an inextricable relationship, and I think that we now have the organizational mechanism and a concept which will allow this to continue. And I believe we are doing a better job of defining the total avionics requirement.

I would mention in passing that we have in draft form a master plan for avionics for the next several years. Hopefully, we will get this approved before the next budget cycle. It will represent a central theme – a guide which will lead us through the complexities of future avionics in the next several years.

I believe this plan represents the way that the Army is getting together on avionics. With such a plan we will be able to present to the Office of Secretary of Defense a compelling argument that has been missing, and which I think has resulted in our getting less money than I personally would like to have seen going into avionics. I believe that with a better, more comprehensive, more integrated presentation of our requirements we can make a more compelling case.

A look at tomorrow

As to *where we're going from here*, I'd like to mention that we're going onward and upward and rather quickly. I think most of you know that the present generation of aircraft is large and growing. Most of you know that it will be succeeded by a future family of aircraft.

To mention a few, we are working hard now on the requirement for the *UTTAS (Utility Tactical Transport Aircraft System)*. In addition to that, we are working on requirements for an *HLH (Heavy Lift Helicopter)* which, hopefully, will be along about 1974. The *UTTAS*, as well as the *STAAS (Surveillance Target Acquisition Aircraft System)*, will be along in about 1975,

FT. MONMOUTH — GEN Hamilton H. Howze, USA (Ret.), AAAA national president (in cockpit), is briefed on ECOM's Tactical Avionics Systems Simulator (TASS) by William Keneally, leader of TASS Systems Engineering Team. The briefing took place during GEN Howze's attendance at the March 5 ECOM-AFCEA-AAAA Advance Planning Briefing for Industry. (USA photo)

and then in about 1977, a follow-on to the *Chinook*, the *LTAS (Light Tactical Aircraft System)*. Finally, in about 1980, we think that probably a very Heavy Lift Helicopter will be introduced.

So this family of aircraft – as we now visualize it – will have all of the avionics requirements of today's aircraft and a good many more because we're going to require these aircraft to do more.

The priority list

Now a few ideas about where I think we should be going with respect to avionics . . . I'll start by trying to list the priorities as I see them. You may not agree with them, but we've tried to think through which comes first to get where we're going, and we – and the "we" I use here is Combat Developments Command – have come up with the following:

The *first* priority on our docket is improvements in navigation.

The *second* priority would have to do with better approach and landing avionics.

The *third* priority has to do with improved instrumentation and display.

The *fourth* would be improvements in those areas which will improve our capability to fly in very marginal weather and at night, and I have in mind terrain avoidance, terrain

following, and a little later on, perhaps, instrument formation flying.

Our *fifth* priority is the integration of these systems.

You might quarrel with those priorities, but that's the way we see them.

Three major aims

In trying to be a little more specific in these areas, first, we believe that there are three major aims that we should work toward, particularly as we get to '75 and beyond. The first of these is a standard avionics configuration, and I'm talking about something which is standard in the sense that the subsystems in it are standardized. I don't suggest that every aircraft in the Army inventory will want the whole standard package. Most of them will certainly not want the complete package.

The point is that we need a standard configuration to which we can add the packages that relate to the specific missions of a particular aircraft, such as fire control packages, surveillance packages, or particular avionics for ECM, or for bullet detection, etc. They would be applique; they would be add-ons to the basic system. This is a fundamental of our approach.

Second in our aims would be the idea that I alluded to in my definition – that we must couple the ground portions of our avionics systems very closely and from the outset with our airborne systems. In a like manner we must couple the supporting systems, the supply, the maintenance, everything that goes to make these work. We must think of those, and yes, we must also think of the training side – the simulators and so on – that all become a part of the overall avionics requirement.

A time for refinement

As I see it, in the period 1975 on, we are talking primarily about refinements of systems which we now have pretty well in hand. I'm talking about considerably more precise navigation. I'm talking about communications which is certainly solid state, and which has been shrunk in size. I'm talking about doing away with the jillions of wires which are called harnesses, or some words like that, that I see everytime I see an aircraft being "glued" together, and replaced with coaxial cables or whatever. I see refinements all along the line.

The new big step which I see as a must after 1975 is the question of the flying, particularly in Europe, in very marginal weather and at night. Here I think the requirement, then, is to have terrain avoidance, and terrain following, and station-keeping so that we can fly formations in instrument conditions. We need to have ground approach systems that will enable us to have multiple approach lanes usable by formations of aircraft in bad weather.

Then we need to have the readouts from these systems displayed in a way that the pilot can cope with. We probably will also need an automatic pilot, or something like an automatic pilot in order that we can do the flying that I have in mind. Let me say that the concerns of my command with respect to whether the airmobile concept will work in the context of a European war is probably more dependent upon our ability to whip the weather problem than it is dependent upon our ability to cope with multiple sophisticated AA weapons. In other words, I regard it as an absolute must that we solve the problems of night and all-weather flying.

We have the "know-how"

I acknowledge that what I have tried to suggest as directions for avionics is broad and in the second place that it may sound like pie-in-the-sky. But I personally believe that we've done our basic research. We've passed by the scientific development stage, and what I'm talking about is technology. I think that we have the technological know-how to start on all of these ideas which I have suggested.

In the seminar which is to follow, I believe that you will explore these ideas, and I personally believe that as an outcome of this seminar, and as an outcome of the closer relationship between the aviators and the communicators, and between the Army and the industry, that we will allow Army aviation to fulfill its rightful goals because the avionics that it needs will be there.

FROM AN ORIGINAL PAINTING FOR CHANDLER EVANS BY KEITH FERRIS

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The Air Force's General Dynamics F-111A is now operational with the "Harvest Reaper" unit at Nellis AFB. With its variable-sweep wings it has excellent range, load, flight control, landing characteristics and can fly two and a half times the speed of sound. It is powered by two Pratt & Whitney Aircraft TF30-P3 afterburning jet engines—equipped with main fuel pumps engineered and precision-produced by Chandler Evans.

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Would You Believe That Army Aviators' Lives Are Being Placed In Jeopardy Needlessly?

They Are!

By
Major David F. Horton
Sixth U.S. Army

THIS article elicits the thinking of present and future Generals only. If you're not one and have no aspirations to be one, *stop here!*

If you're looking for humor – do not believe in airmobility – have no time for cold and hard facts – and/or have made up your mind that all's right with Army aviation, – *stop here!*

If you believe that the FO who can't direct fire *doesn't* negate the capability of field artillery – that the squad leader who can't translate the orders of his platoon leader into action *doesn't* invite disaster – that the rifleman who doesn't know the capability of his weapon *isn't* asking for sure death, *stop here.*

The problem . . .

Now that my remaining readers are made up of our Generals and Generals-to-be – those willing to spend their valuable time studying and thinking about a subject which is vital to achievement of the potential inherent in airmobility, I'll state the problem.

Army aviation's potential in Vietnam is not being fully realized – Army Aviators' lives are needlessly being placed in jeopardy – Army aviation missions are being carelessly and unprofessionally accomplished – dollars are being wasted and through improper utilization of aircraft resources.

Why? . . . The one man in Army aviation's chain of command who is like the FO to field artillery, the squad leader to his squad, and the rifleman to his rifle is *not* adequately trained, in-country oriented, and/or properly selected for his job based on his personal background and qualifications!

The man? The Brigade Aviation Officer!

Wait a Minute! *Don't* stop here. I know you're accustomed to an estimate of the situation, a staff study, and a presentation of facts before getting a half-baked conclusion. But remember you're a self-picked general (way

back in the 4th paragraph) – one whose intellectual curiosity and professional approach require consideration of all the facts. So give me a chance and read on . . .

I have been a Brigade Aviation Officer and I have needlessly placed aviators' lives in jeopardy. I have wasted aircraft flight time. I have inadequately planned and executed individual aircraft missions and airmobile assaults. I have inadequately and improperly advised the infantryman user.

I am also in the mill for a *Legion of Merit* for having accomplished the job at least as well as the average. The one conclusion that can be drawn from the foregoing and the reason you should continue with me is that while the professional aviator in this slot is doing his damndest (which, by the way, is miraculous under the circumstances) he could be infinitely *more* effective.

Example: I left MACV J-3 after 3 months in-country, reported to a brigade – whose Aviation Officer had been wounded and evacuated and whose unauthorized but required operations clerk in the TOC was on R&R, and conducted a battalion-size airmobile assault the next morning. I conducted the grunt-Aviation coordination meeting, laid on the LZ prep and air cover, briefed the supporting Aviation commanders, coordinated and controlled use of the airspace, overflew the operation in progress with the CG, and critiqued the "flyboys" and Infantry after the operation was over.

Rude awakening

This was a rude awakening for a Saigon Warrior 16 hours after leaving the REX bar. For the sake of the curious, we had no contact, so once again Army aviation looked good, and I breathed a sigh of relief.

You Vietnam veterans are probably saying at this point, "*Well, what did you expect, you jerk? We've done it a thousand times and by now we should know what we're doing.*"

That, with all due respect to your truly professional capabilities, is a bunch of hogwash. There's little excuse for a soldier to be placed in the position enumerated above based on the previous success of the system. If for no other reason, the peace of mind of the poor guy in the position should be considered.

Unfortunately, it's not the infantry commander but the aviation hierarchy that doesn't appreciate the enormity of the professional requirements demanded by the Brigade Aviation Officer's job. I was fortunate in having *MG Richard Knowles* looking over my shoulder to approve, teach, critique, and otherwise jack-up my performance, but the facts are that not many of us are so lucky as to have an airmobile expert on hand to keep us out of trouble.

The ratio of the Commander's airmobile experience is in inverse proportion to that required of his Aviation expert. Generals in command of Infantry got that way by understanding their own capabilities and limitations, and then working to expand their capabilities and overcome their limitations. Until the Commander achieves that degree of airmobile expertise required, it's the Aviation Officer who is the key to success.

In an Infantry Brigade there's only *one* Aviator. A General on his first airmobile operation must get the butterflies. It's time for us in aviation to provide him with the man to alleviate the butterflies, or failing that, to at least keep him from getting air-sick.

The vantage point

A simple analysis of Aviation "job descriptions" reveals there's only one assignment that enables the aviator to see all sides of Aviation's impact on the Infantry. The Aviation Officer is the only aviator on the *inside* in the initial planning, and he's the *only* aviator who lives with the effects of the airmobile operation once it's over.

In this position he's the guy who listens to the aviators complain about the *Chinook* sitting on the ground for an hour while grunts load A-rations, can by can. He's also the guy who listens to the grunts complain about the (loading) time, the dust, and the tieing-down required when "*using a Huey would be so much easier.*" He's the guy who causes it all by his selection of the type aircraft while at the same time appreciating everyone's problems. *The Brigade Aviation Officer is the single point at which and through which the impact of the supporting*

WOULD YOU BELIEVE . . . ?

(Continued from Page 25)

and the supported's point of view is revealed, if not readily evident.

The "Why" of it

At the expense of redundancy and for the sake of repetition, allow me to repeat what the Brigade Aviation Officer does:

He sows the seed in the Infantry's mind as to how, where, why, what, and when Aviation fits in.

He selects the type, numbers, and guns to support.

He coordinates the supporting arms.

He overflies the operation and obtains additional support, approves or initiates changes enroute, lines up the grunts for reinforcement when in trouble, and ensures there are prepacked ammo/rations/medical supplies/water ready for the unexpected.

He ensures that a fouled-up company in the PX isn't fouled-up the next time.

He checks the slings so the howitzers don't become bombs.

He trains the S-3's.

He tells the Aviation company and battalion commanders what to do, and he tells the Infantry commander what to do. Ad infinitum.

The field manuals would imply that some of the above are overstatements which would be true if every GI knew and did what the books call for. The fact is that people don't always know all they should, and as a result there is a requirement for the technician to fill in the gaps.

The broad expanse of the Army aviation effort in Vietnam taxes the technician 24 hours a day. If he's not well trained, in-country oriented, and properly selected on the basis of his Infantry and Aviation background, the less the possible potential of our total effort is realized.

Present DA policies in themselves preclude achievement of this by their abandonment of the assignment of young aviators to ground duty (a premise upon which Army aviation was founded). Under present conditions, I won't debate the rather obvious requirements for such a policy but will point out a weakness that will be even more prevalent as the oldtimers, who have had the training, are ranked-out of the slot.

To aggravate the situation, we in aviation don't select or train the men through whom our efforts will be achieved, but citing an overused cliche, believe that "*the Army Aviator will get the job done.*" Lest I be misunderstood, I wish to say without reservation that we did and are getting the job done. However, it could be done *better.*

Solution? . . . SISTER!

Every problem requires a solution. This one is very simple:

S elect . . . the Brigade Aviation Officer on the basis of *Infantry* as well as aviation experience.

I nclude . . . the nominee in the country-wide aviation problem-solving gettogethers.

S olicit . . . from him methods, procedures, developments, equipment, and TOE recommendations that *he* thinks will enhance the aviation effort.

T rain . . . the aviator in-country by letting him go through one operation before his own wet-run.

E licit . . . the support of the USARV assignment section in the preparation of a man for the job.

R ecognize . . . that he is the cog in the machine, one that if properly greased from both ends will ensure a successful operation.

Our idiot word: *SISTER.* If you can repeat its breakdown again without further study, you should be a General. For the few remaining readers, you can *stop here* . . . unless you're in a position to solve the problems. *If so, you've just begun!*

SINGLE FREQUENCY

FAA is currently evaluating a single frequency concept for use in air-ground communications. This concept calls for an aircraft to takeoff, fly through the system, and land while communicating on only one frequency. Instead of pilots having to change frequencies as they are transferred from controller to controller, the ground system would shift frequency each time it needed to communicate with a different aircraft. Operational advantage: continuous communications during transfer of control.

Are We Prepared for an Improved Chinook?

By
Major Malcolm D. Rixon

ARE the logistical planners and operators in Army aviation and ground combat units in Vietnam prepared for "droop snoot" support?

Forthcoming utilization of the CH-47B and "C" model medium transport helicopters will be greatly affected by the improved *Chinook's* uprated engines and transmissions, structural modifications, and redesigned "droop snoot" rotor blades.

The increase from an "A" model payload of 7,000-8,000 pounds presently carried, to the almost 15,000 pound allowable cargo load which the CH-47C will be capable of airlifting has, I believe, two significant implications for both the *Chinook* operators and the units they support.

The first is a requirement for development of a suitable container for externally airlifting equipment *not* feasibly transported internally. The second implication results from the absence of such a container in field use now: a practical, stop-gap measure must be implemented in the interim until such a container is available. The best method of describing this measure is *planning*.

The most effective utilization of the CH-47 occurs when the helicopter earns its investment by hauling troops, supplies, and equipment at or near its *maximum* space or

ARE WE PREPARED?

(Continued from Page 29)

weight capability with a minimum loss of time loading and unloading. Only in this manner can the CH-47 best support prosecution of the land battle.

The typical loads which are normally carried externally via the CH-47A will adapt easily to the higher payload allowance and should pose no particular problem. Such loads range from howitzers (105mm) with or without "piggy-back" loads of ammunition; vehicles, trailers, fuel containers, engines and radio vans, to certain loads conducive to being transported by cargo nets.

The result of the increased payload capability of the CH-47B and "C" will, of course, be reflected in the ability to either carry more of these at one time (i.e., fuel containers), more heavily loaded items (i.e., vehicles, trailers), or just plain heavier equipment (i.e., 155mm howitzers, or heavier engine bridging than that now transported).

Ineffective utilization

The main problem that requires timely solution concerns the effective utilization of the improved *Chinook's* load-carrying capability. My personal observations are that there is frequently less than effective utilization of CH-47 assets in Vietnam, at least among non-divisional *Chinook* units there. Such utilization, if continued with the improved *Chinooks*, will result in far from ideal employment.

To airlift the plethora of other types of material unaffectionately termed by the *Chinook* pilots (but nonetheless vital to the accomplishment of the ground combat mission) as "*ash and trash*," an aerodynamically suitable container for external transport of such type loads will have to be developed and placed into field service.

Major Malcom D. Rixon, Arty, served in Vietnam with the 178th Assault Helicopter Company, and is presently assigned to the Sixth U.S. Army Flight Detachment, Presidio of San Francisco, California.

Today's containers

For example, the A-22 aerial delivery cargo bag and the manila rope cargo nets presently used for transporting ammunition, among other things, do not lend themselves to carrying mess hall equipment (now manually loaded, internally), ice, or water cans (when water trailers – which are lifted externally – are available).

Using a Conex container doesn't solve the problem because its symmetrical shape is not conducive to transport at the higher airspeed at which the improved *Chinooks* will operate – it's not even a truly practical container when used with the CH-47A. I leave to the fertile minds of our research and development people, civilian and military, to develop such a container – posthaste.

Who does what?

Another problem defeating optimum utilization and requiring solution is the execution of inherent responsibilities on the parts of both the Chinook and supported units. The latest edition of FM 57-35 *(Airmobile Operations)* echoes a fact substantiated during airmobile operations in Vietnam when it states:

"*Aircraft availability is an overriding consideration in airmobile operations . . . Supported unit commanders and logistical planners can conserve the use of available aircraft by . . . timely and coordinated logistical planning to insure full utilization of all aircraft sorties and avoid duplication of effort.*"

. . . the other guy's role

Again, there is sometimes a tendency for each party to cite only the other guy's role when applying the following airmobile operations principle:

"*The responsibility for loading, lashing, and unloading supplies, equipment, and troops belongs to the commander of the supported unit concerned. The Aviation unit commander advises and assists the supported unit commander in preparing loading plans based on the lift capability of the aircraft.*"*(TM 57-210 Air Movement of Troops and Equipment.)*

To cite extreme, but nonetheless prevalent,

(Continued on Page 36)

Army Aviation

FEB.-MAR. PHOTOS

FT. BELVOIR — William A. Becker (center), Deputy Commanding General and Chief of Staff, Headquarters U.S. Army Combat Developments Command, is promoted to the rank of Major General by Lieutenant General Harry W. O. Kinnard, CDC's Commanding General, during ceremonies held March 1 at CDC Headquarters. Mrs. Becker (left) assists in the "pinning." (USA photo)

FT. WOLTERS — Members of Flight B-7, Flight Division B of USAPHS, reportedly hold the safety record for all student training flight — having logged over 26,000 safe flying hours. B-7 instructors are front, left to right, CPT Herbert L. Vossler (OpnsO); CWO Ronald O. Gaddis; CPT Freddie J. Ussery; CWOs Charles C. Wilson and Lawrence C. Messick; CPT William J. Pearson. Back l-r: CWOs Marion H. Rawls, Wallace R. Paddock, and Rodney G. Heckerman; MAJ Bruce S. Cochran (Flt Comdr); CWOs T. P. Grady & Chauncey A. Dummond; 2LT William R. Craig (SafO).

FT. WOLTERS — MAJ Fred W. Pierce, Jr. (left), commanding officer of the First Officer Student Company, presents an AAAA check for $360 to CPT Howard M. Newhouse, class leader of OFWAC 68-10 which graduated from USAPHS on February 16. The AAAA "Membership Incentive Refund" was presented to the 120-member aviation primary student class for attaining 100% membership in AAAA prior to graduation.

ST. LOUIS — Industry reps gathering at the February 15 AAAA Lindbergh Chapter dinner meeting to hear Bell VP Joe Mashman speak on "Russian Helicopters — Past and Present" included, l to r, front row: Bob Pettingill and Tom Hall (Hughes Tool); Dick Webster and Joe Mashman (Bell); Jack Peistrop (Solar); Allan Washburn (Chandler Evans); Eric Petersen (Lindbergh Chapter president). Back row: Dean Stravato (Bell); Allan Lasater (Lockheed); Everett Kenworthy (GE); B. K. Pickering (Sikorsky); Carl Weber (Parsons); Mancel Phillips (Chandler Evans); and Ford Fisher (Parsons).

GUNSHIP!

(Continued from Page 5)

body around so we lifted off. My gunner then spotted someone in a hole (stairwell) in the roof, so we made a tight turn and came back onto the pad. The fire was so intense that the gunner and crewchief had to pull the ammunition out of the ship and crawl across the roof as they pushed it in front of them. They pushed the ammunition down the hole and helped bring the wounded man back across the roof to the ship."

Watching from below was Mr. George Jacobson, Mission Coordinator of the U.S. Embassy. "*He came in low and I thought for a minute he was going to hit the building,*" said Mr. Jacobson, "*but at the last minute he pulled up and made a beautiful landing on the roof. Afterwards I realized that he did it on purpose to avoid the enemy fire. It was a tremendous piece of airmanship.*"

Marine Sergeant Rudy A. Soto, Jr., a security guard at the embassy, was one of the personnel evacuated by the 101st crew. "*As soon as I saw the helicopter come in,*" he said, "*I went up to meet it. The gunner and crew chief pushed the ammunition down the stairwell, and then we pulled the wounded man across the roof to the helicopter. There was a lot of fire coming up at us.*"

The *Boomerang* ship sustained many hits during the few moments it had taken to land, unload the ammunition, pick up the wounded man, and takeoff again.

The sister ships of the *Boomerangs*, the *Bounty Hunter* gunships, also flew through intense enemy fire while flying missions over Saigon and Long Binh. Due to the teamwork and efficiency of the 191st maintenance personnel, the ships were maintained in a flyable status throughout the period.

Bien Hoa — Long Binh

In the battle at Bien Hoa and Long Binh, aircraft of the 145th Combat Aviation Battalion were instrumental in repelling the enemy elements that attacked the air base with mortar and rocket fire. Within minutes of the attack, gunships of the 334th Armed Helicopter Company and the 118th and 68th Assault Helicopter Companies were in the air striking back. Expending their 2.75 inch rockets, 40 mm grenades and 7.62 mm ammunition in sortie after sortie, gunships from these units repelled the enemy forces and accounted for untold numbers of enemy dead.

"The turning point . . ."

One of the newer additions to the Brigade inventory of aircraft, the *Cobra*, proved itself to be accurate and hard-hitting in sustained combat operations. *Cobra* gunships of the 334th Armed Helicopter Company flew missions in Bien Hoa, Long Binh, and Saigon during the enemy offensive.

As daylight came over the Bien Hoa Air Base, fighting was still raging around the airfield. Small bands of VC had managed to penetrate the southeast and southwest areas of the air base, and reaction forces were sent out to stop them. The 3rd Security Squadron Air Force found an estimated 100 VC to be in the southwest area just beyond the taxiway. The VC were well dug in, and the security force could not flush them out. On finding themselves pinned down, they called *Cobras* of the 334th into action to suppress the infiltrators.

Air Force Lieutenant John A. Novac, was in command of the security force. "*As the Cobras came to our support,*" he said. "*They swept down about two feet over our heads and fired into the enemy position, knocking out the enemy who were pinning us down. I personally witnessed time after time the Cobras sweep into the VC area and pin down the enemy in the face of heavy fire being directed at them. The Cobras were the turning point in the enemy's destruction.*"

Watching from the perimeter of the 101st Airborne Division's defense perimeter was Staff Sergeant Matt Oley, of Headquarters and Headquarters Company, of the 101st.

"*I'm in my second year in Vietnam,*" he said, "*and one of the most impressive sights I have even seen was the Cobra gunships making their strikes. These ships were under some of the most intense automatic weapons fire I have ever seen put out by the Viet*

(Continued on Page 36)

Inside a ping pong ball!

Antarctic Support Team returns to Fort Eustis

THIRTEEN Eustis personnel who just returned from a summer stay in what may be termed the very deep South were much agreed on one aspect of their trip: "*It's an interesting place to visit, but . . .*" they wouldn't want to live there.

The men are all members of the Fort Eustis *Aviation Detachment for Antarctic Support.* They have just returned from four months of ferrying scientists back and forth across the vast ice pack that is Antarctica.

Seventh effort

For some of the men it was not the first trip to the southernmost portion of the globe. Detachment personnel have been supporting *USARP (U.S. Antarctic Research Project)* scientists sponsored by the National Science Foundation for seven years. The annual trek is made each year to assist scientists in the continuous search to find a link between the present and past geography and geology of the world in order to determine its future.

The trip this year was marked by several firsts. For the first time, the group was joined by a volcanist who studied one of several volcanos that dot Antarctica. A scientist from the University of Santiago, Chile, the volcanist would like to prove that the world's largest deep freeze was at one time a hot spot.

Trouble with whiteouts, though not eliminated, was at least countered with new radar altimeters on the three UH-1D *Hueys* used by the men of the detachment. Whiteouts are caused when a heavy overcast sets in and light from the sun is bounced between surface and sky, giving an airborne pilot the feeling that he is inside a ping pong ball with no up or down.

Once the relation between sky and earth is lost, landing and flying are made difficult. Last year, a *Huey* crash-landed on a mountain when the pilot was caught in a whiteout. The new radar altimeters aid pilots in reading absolute altitude above the surface, rather than the conventional reading of altitude above sea level. This year when pilots were caught in whiteouts, they were at least able to land their crafts safely.

First deployment

One of the prouder moments for the detachment came in December when they were able to move their base of operations and set up a new camp 300 miles from the original one. They also set up an intermediate tent camp between the two points. This was the *first* time that weather conditions had allowed them to make this maneuver, although they were prevented from setting up five camps as scheduled.

A slight problem arose, however, when some of the personnel left at Camp No. 1 to

clear up were isolated from Camps 2 and 3 because of bad weather. For a two week period the men were stranded. When the weather was good at Camp No. 1, it was bad at Camp 2 and vice-versa. Just as supplies were getting lower than the men wanted to think about, the weather cleared up in both areas and the move was made.

Weather is a big factor in the Antarctic. Maj. Bennie E. Luck, the detachment commander, noted that his men could cope with the minus 40 degrees to plus 25 degrees temperatures, but it was difficult for them to handle the wind which occasionally accelerated to 65 miles per hour, and the ice fogs, snow storms, or whiteouts.

"*We had to do our own weather forecasting*," he said. "*Sometimes it was a matter of guesswork and adverse weather set in before we expected it.*"

He termed this year's trip as good, however. "*The weather*," he explained, "*was bad only 38 percent of the time and the men were able to get in a lot of valuable flying time.*"

The weather affected the amount of work accomplished. Since the Ft. Eustis detachment visits Antarctica during the summer when there is constant daylight, time has no relevance. Therefore, the men worked whenever weather permitted, and sometimes this would mean 24-hour operations.

While outside their quarters, the men fought the weather in knee-length hooded parkas. Their feet were covered with eskimo-like mukluks and their pants were of a heavy canvas shell material which was worn over woolen long underwear. In flight they wore hooded nylon jackets.

Close quarters

Life for the men of the detachment was somewhat crowded. They lived in Jamesways which look like quonset huts, but are a bit smaller. Because of the close quarters, all detachment personnel must have the ability to get along with others. In fact, personality is one of the three primary requirements for a member of the group. The others are competency and proficiency.

Though there is no plumbing in Antarctica, which, with its cold air and snow white landscape is reputedly the cleanest place on earth, the men found it no trial to stay clean. They had a wringer-washer that was powered by a portable generator and they rigged their own version of a shower.

During this year's trip, their third in Marie Byrd Land, the detachment assisted an average of 12 scientists. (Not all scientists remained for the entire four month period.)

Major Luck noted that the main problem his detachment had was returning home to an area that is bisected by day and night. "*The changes in time, climate, and temperature can be unsettling*," he said.

USAF-USN airlift

The trip back was made in relative ease. At their base camp they dismantled their *Hueys* for shipment by Navy aircraft to Christchurch, New Zealand, for further shipment to Langley Air Force Base, Va., by Air Force C-130s. The men were strictly passengers.

Detachment members who made the trip this year, aside from Majors Luck and Leonard E. Small, were CW4 Richard Seefeldt, CW3 Desmon F. Burnette, CW2 Stanley J. Wujeck and CW2 Charles R. Stone.

Enlisted members were SSGs Billie J. Seaton, Daniel Cheu, and Robert Michalic; SP5 Jamie R. Hill, SP6 Clifford L. Crilly, SP6 George Brockman and SGT William L. Foster.

All the men were enthusiastic about their experience in the Antarctic, but they were just as enthusiastic about leaving behind a *summer* of 40 degrees below zero to vacation in a winter of 40 degrees above.

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GUNSHIP!

(Continued from Page 32)

Cong. The heroism displayed by the men of the 334th was sure an inspiration to me and to all who saw this action."

Another member of the 101st, CWO Gilmer W. Moore of B Company, 101st Aviation Battalion, was on the helipad of the 101st Aviation area watching the Cobras. "*On each of their passes they received an enormous volume of enemy fire from automatic weapons, which they ignored completely as they completed their attack against the enemy.*"

The VC attack at Long Binh was directed on the 12th Combat Aviation Group and II Field Forces, Vietnam where the enemy force was situated across Highway 1A directing a heavy concentration of fire into the 12th Group and II Field Forces compounds. The enemy was too close for artillery, so gunships were called in. The *Cobras* arrived in the area at the time the firing was most intense.

Major John H. Anderson, 12th Group Assistant S-3, recalls the battle: "*As defined targets were obtained, the aircraft rolled in on them. With complete disregard for their own safety the Playboys took the VC under fire. The professionalism displayed by all the crews of the gunships and their accuracy in placing the fire on the enemy within 100 meters of friendly troops, and their courage in the face of the intense fire, contributed to the defeat of the enemy force.*

"*If the gunships had not displayed such courage and determination in breaking the enemy attack,*" he added, "*the possibility existed that the VC could have penetrated the Plantation complex.*"

In the fighting that raged throughout the Republic of Vietnam during the Tet Holidays, the gunships were the undisputed heroes of Army aviation. Providing immediate, accurate firepower when and where it was needed most, the fire teams were instrumental in turning the tide of more than one battle.

But the importance of the other Army aviation elements cannot be overlooked: the *slicks* and *Chinooks*, which provided troop lift and resupply; the *Bird Dogs* and *Mohawks*, which provided reconnaissance and surveillance; and – most important – the personnel of the 1st Aviation Brigade, who provided the spirit, determination, and teamwork that made victory possible.

ARE WE PREPARED?

(Continued from Page 30)

examples: If the *Chinook* operator's attitude is, "*Here is my hook, hang anything you want on it!*" – "*If I lose the load, it's your fault!*" or, on the other hand, if the S4 of the artillery or infantry battalion takes an "*I couldn't care less about partial payloads so long as we get the goods to the LZ*" approach, effective utilization will never get off the ground.

I witnessed an almost ideal situation whereby the CH-47 units involved conducted mobile training team instruction, teaching the supported units the most effective methods of utilizing their medium helicopter support. The situation was enhanced by a marvelous rapport between supporting aviation and supported division command and logistics personnel. Few problems of load planning arose during major lift preparations when time was not critical.

However, in the day-to-day resupply phases, much was found wanting unless the helicopter companies provided liaison on a continuing basis. Personnel turn-over and rotation in the supported ground units also complicated matters when, as often happened, the experienced logistics personnel failed to pass along the lessons learned to their replacements.

The problem reverts to one of solving whether our units involved – the medium transport helicopter and their artillery and infantry comrades – can prepare for the advent of a helicopter which will be able to transport more cargo more rapidly. Given the advantage of 6,000 additional pounds payload, the difference is far more significant than a silly millimeter.

OBITUARIES

BEDWORTH — In Vietnam, Second Lieutenant Griffith Bronson Bedworth, 1st Cavalry Division (Airmobile), on November 30, 1967, due to hostile action; son of Mr. and Mrs. Griffith S. Bedworth,

BENNETT — In Vietnam, Warrant Officer Howard Duncan Bennett, 1st Infantry Division, on February 3, 1968, due to hostile action; husband of Mrs. Beverly D. Bennett,

BERRY — In Vietnam, Warrant Officer Paul L. Berry, 1st Cavalry Division (Airmobile), on January 10, 1968, due to an aircraft accident; son of Mr. and Mrs. Lloyd H. Berry, 7

CANNON — In Vietnam, Warrant Officer John Henry Cannon, 235th Aviation Company, on February 2, 1968, due to hostile action; husband of Mrs. Janice Cannon,

DYER — In Vietnam, Chief Warrant Officer Orrin Leonard Dyer, Jr., 4th Infantry Division, on February 3, 1968, due to hostile action; husband of Mrs. Herberta L. Dyer,

GRIFFIN — In Vietnam, Chief Warrant Officer Francis Lekirlas Griffin, 121st Aviation Company, on February 1, 1968, due to hostile action; husband of Mrs. Toni E. Griffin,

KING — In Vietnam, First Lieutenant Robert Henry King, 1st Aviation Brigade, on January 25, 1968, due to hostile action; husband of Mrs. Sharon D. King,

LEE — In Vietnam, Warrant Officer William Robert Lee, 1st Cavalry Division (Airmobile), on January 31, 1968, due to hostile action; son of Mr. and Mrs. Robert C. Lee,

McKIERNAN — In Vietnam, Warrant Officer Timothy James McKiernan, 145th Aviation Battalion, on January 28, 1968, due to an aircraft accident; son of Mrs. Ethel A. McKiernan,

MULLENS — Second Lieutenant Ray Mullens, at Fort Wolters, Texas, on January 31, 1968, due to an aircraft accident; son of Mr. and Mrs. Leroy

RUSSELL — Second Lieutenant N. D. Russell, at Fort Wolters, Texas, on January 31, 1968, due to an aircraft accident; son of Mr. and Mrs. Clifton Russell,

SANDEFUR — In Vietnam, Chief Warrant Officer Tommy Gerald Sandefur, 1st Aviation Brigade, on February 1, 1968, due to hostile action; husband of Mrs. Carole A. Sandefur,

SCHNEIDER — In Vietnam, Warrant Officer Roger Lloyd Schneider, 1st Cavalry Division (Airmobile), on February 2, 1968, due to hostile action; son of Mr. and Mrs. Robert W. Schneider,

STEELE — In Vietnam, Warrant Officer Daniel Scott Steele, 161st Aviation Company, on November 29, 1967, due to hostile action; husband of Mrs. Judith A. Steele, 613 South 9th

VAHLE — Second Lieutenant Harris Charles Vahle, at Hunter AAF, Savannah, Georgia, on February 6, 1968, due to an aircraft accident; husband of Mrs. Hannelore I. S. Vahle,

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We prefer military personnel who have been recently discharged or anticipate discharge or retirement soon.

AAAA CALENDAR

■ **Army Flight Training Center Chapter.** Dual presentations by **A. D. Hight,** Lockheed Aircraft Corp., "The U.S. Army AH-56A Cheyenne Helicopter," at Fort Stewart (afternoon) and Hunter AAF (dinner meeting). Members only. 1 March.

■ **1968 AAAA USAREUR Region Convention** at Garmisch Recreation Area, Germany. Host unit: USASETAF Aviation Company, "Outstanding Aviation Unit, USAREUR Region, 1966." Industry and military presentations; AAAA Regional awards. 6-9 March.

■ **David E. Condon Chapter** (Fort Eustis, Va.). Business-social meeting. Election & installation of Chapter Executive Board officers for '68-'69. Cocktails, movies, conversation. 8 March.

■ **1968 ECOM-AFCEA-AAAA** co-sponsored Advanced Planning Briefing and Technical Symposium, Fort Monmouth, N.J. 5-7 March.

■ **Washington, D.C. Chapter.** Professional luncheon meeting. **Colonel Yuri Yarom,** Assistant Attache, Embassy of Israel, guest speaker. "Use of Aviation by the Israeli Armed Forces." Installation of '68-'69 Chapter officers. 15 March.

SPEAKERS — Delegates attending the 9th Annual Convention of AAAA's USAREUR Region heard presentations on Army aviation in Great Britain and Germany. Here COL Maurice Sutcliffe of the British Office of Land/Air Warfare (2d from left), chats with (l. to r.), COL Russell P. Bonasso, president of the USAREUR Region, AAAA; BG Kurt Kauffmann, director of German Army Aviation; and GEN Hamilton H. Howze, USA (Ret.), AAAA national president. The convention was held in the Garmisch (Germany) Recreation Area during 6-9 March. (Photo: SP5 Ralph Boatright)

■ **Lindbergh Chapter (St. Louis, Mo.)** St. Patrick's Day Dinner-Dance and "Wearing o' the Green" — Lambert Field Officers' Club. 15 March.

■ **Army Aviation Center Chapter.** Professional meeting and membership dinner. Guest speaker from Lockheed Aircraft Corp. Announcement of new Chapter officers to take office on 1 April. Officers' Lake Lodge. 19 March.

■ **Fort Benning Chapter.** Professional - business meeting. **Colonel H. E. Wolff,** Commander, U.S. Army Training Center, Fort Benning, Ga., guest speaker. Installation of '68-'69 Chapter officers. Ft. Benning Country Club. 20 March.

■ **Ft. Bragg Chapter.** General membership business meeting. Members only. Pope AFB Log Cabin. 22 March.

■ **Korean Chapter.** General membership dinner meeting. Cocktails and dinner. Eighth U.S. Army Officers' Open Mess. 26 March.

■ **Bluegrass Chapter (Ft. Knox, Ky.).** General membership business meeting, election of '68-'69 Chapter Executive Board officers. Godman Officers' Open Mess. 28 March.

■ **Bonn Area Chapter (Germany).** General business meeting. Election of '68-'69 Chapter Executive Board officers. "Pils and prevarications." Hof von Holland, Plittorsdorf. 29 March.

■ **Alamo Chapter (Ft. Sam Houston, Tex.).** General membership business meeting; election of '68-'69 Chapter Executive Board officers. Fort Sam Houston Officers' Open Mess. 29 March.

■ **Fort Monroe Chapter.** Social-business dinner meeting. Installation of '68-'69 Chapter officers. Cocktail party and dinner. Langley AFB Officers' Club. 29 March.

■ **Richard H. Bitter Chapter (Corpus Christi, Tex.).** General election and balloting for 1968-1969 Chapter officers. Balloting closes 31 March.

■ **Lindbergh Chapter (St. Louis, Mo.).** General election for 1968-1969 Chapter officers. Mail balloting closes 31 March.

■ **Lindbergh Chapter (St. Louis).** Professional dinner meeting. **Dean L. Z. Seltzer,** Parks College of Aeronautical Technology, guest speaker. Kitty Hawk Lounge, St. Louis University, E. St. Louis, Ill. Tour of new Aeronautical Lab, 5:30; cocktails, 5:30; dinner, 7:00. 11 April.

ECOM-AFCEA-AAAA BRIEFINGS HIGHLIGHT "AVIONICS" FUTURE

More than 800 attendees from the U.S., United Kingdom, and Canada took part in the 3-day conference on aviation-electronics held at Ft. Monmouth, N.J., on 5-7 March.

Co-sponsored by USAECOM, AFCEA, and AAAA, the Advance Planning Briefing for Industry and Technical Symposium had the 1968 conference theme of "*Fresh Winds – New Approaches.*"

LTG Harry W. O. Kinnard, CG of Combat Developments Command, gave the keynote address at the opening luncheon on 5 March. (See page 17, "*Avionics: Onward and Upward!*").

Working Sessions

The working sessions got underway the same afternoon with representatives of aircraft, electronic, and supporting industries comprising the main part of the "briefings" group of over 400 persons.

The briefing teams were composed of guest speakers and some 30 technical employees from the Electronics Command's eight R & D elements. Their presentations covered avionics, electronic warfare, combat surveillance, night vision, command communications, meteorology, and the supporting sciences for avionics systems development.

GARMISCH — COL George P. Kelly, CO of the 15th Aviation Group, has been elected as the 10th president of AAAA's 650-member USAREUR Region. Also elected for the 1968-1969 term of office at elections held during the 6-9 March Regional Convention were:

Executive Vice President, COL William J. Maddox (3d Armd Div); Secretary, LTC William D. Kelly (15th Avn Gp); Treasurer, LTC Arthur F. W. Liebl (Hq. VII Corps); VP, Army Affairs, LTC George W. Aldridge, Jr.; VP, Industrial Affairs, COL John R. Adie (107th Trans Bde); VP, Public Affairs, Harry A. Striker (Bell Aerospace).

Chapter Members-at-Large serving on the Regional Executive Board include the presidents of the Region's chapter activities. They are: COL Alexander J. Rankin (Bonn Area Chapter), MAJ Charles H. Abbey (Fulda Chapter), LTC Patrick N. Delavan (Hanau Chapter), LTC Charles R. Sandidge, Jr. (Mainz Chapter), MAJ Thos. J. Warr (Actg Pres., Northern Italy Chapter), MAJ Robert S. Tamer (Actg Pres., Nurnberg Chapter), COL John F. Sullivan (Rhine Valley Chapter), and COL John R. Adie (Stuttgart Chapter).

1968 AAAA SCHOLARSHIPS

Some 60 sons and daughters of AAAA members and deceased members are competing for $4,150.00 in 1968 scholarship assistance provided through the member-supported AAAA Scholarship Foundation, Inc. The winners' names will be announced in the April, 1968 issue, following their selection on March 23 by the AAAA National Awards Committee.

The Foundation normally provides five or six $500 scholarships, and up to five $100 Honorariums each year. The Ross J. Paterson Memorial Scholarship, the Glenn D. McElroy Memorial Scholarship, and the Frank R. Kerbl Memorial Scholarship will also be awarded in 1968.

With the issuance of the 1968 awards, the Foundation will have provided over $18,000.00 in scholarship aid to some 43 young men and women since the inception of the program in 1963.

The Foundation is a tax exempt organization as described under section 501(c) of the Internal Revenue Code, and contributions, bequests, gifts, etc. made to the Foundation are deductible from Federal income, estate, and gift taxes as provided in the Code. Donations should be made payable to the Foundation and forwarded to 1 Crestwood Road, Westport, Conn. 06880.

Army Keynoters

Keynote presentations were made by COL James L. Burke, Special Asst to the CG for Aviation and Aviation-Electronics, and COL Edwin L. Powell, Jr., the Director of Army Aviation.

Joseph D. Blatt, associate director for development in the FAA, addressed the luncheon assemblage on 6 March; Dr. Eugene G. Fubini, an IBM group executive and VP and former Asst Secretary of Defense, addressed the closing luncheon on 7 March.

'68 NOMINATIONS SOUGHT

Nominations are solicited for AAAA National Awards for the period 1 April 1967 through 31 March 1968. Nomination forms may be secured by writing to AAAA, 1 Crestwood Road, Westport, Conn. 06880.

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