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COVERS—Front: The TAV-8B will be used by the Marine Corps to train pilots in the V/STOL *Harrier II*. (McDonnell Douglas photo) Ms. L. A. Anderson designed the 75th Anniversary of Marine Corps Aviation logo. Back: Power and Naval Air go together – but most important are people, see page 26. For more on pumping iron, read "Editor's Notebook."

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In an interview, Lt.Gen Keith A. Smith, Deputy Chief of Staff for Aviation, discusses the state of Marine Aviation today and looks to the future. **Page 4**

A quick flight through 75 years of Marine Aviation relates vignettes of the early years and traces development through the present. **Page 6**

Not just spit and polish...*NANews* looks at the presidential chauffeurs and HMX-1's multi-faceted mission. **Page 12**

Dramatic rescues mark two stories – one about today's heroes during the invasion of Grenada, and the other in a time gone by complete with biplanes and parachutes. **Pages 20 and 22**

Fat Albert Airlines. The *Blue Angels* could not get along without the C-130 and its talented team of professionals. **Page 24**

NANews welcomes VAdm. Robert F. Dunn, DCNO (Air Warfare), as a regular contributor. In this issue, he spotlights "People." **Page 26**

New NANews Editor

Cdr. John A. Norton reported for duty as editor of Naval Aviation News in February. From the MPA community, he most recently served as assistant chief of staff for training with Commander Patrol Wings, Atlantic, NAS Brunswick, Maine. Other tours include two with Patrol Squadron Eight; USS John F. Kennedy; at the Navy Public Affairs Center, Norfolk, Va.; and NAS Willow Grove, Pa.

As I transition to a new world where editorial deadlines replace the realities of meeting a daily flight schedule and selection of stories or photographs replace the pressures of a turnaround period, I worry that I will lose the perspective that can only be gained by operating with the fleet. It is important that this flagship publication continues to serve the needs of you, who deal with much more significant deadlines than I. It is with that premise that I assume my responsibilities.

I'd rather be flying. There are few among us who have the great fortune to remain in a Navy cockpit our entire career. I have known a few but it seems that, for most Naval Aviators, too frequently our orders possess that bureaucratic delimiter "not involving flying." Sadly, so read mine.

I will not miss the zero dark thirty preflights, NATOPS exams or extended separations from my family. I will miss the great camaraderie shared by all, the excitement and unknown that accompanied every flight, and I will especially miss the people. For it is the people who, through professional application of their own special skills, make Naval Aviation a great and exciting place to work.

One significant lesson I have learned throughout my career is that most of the good ideas in our business come from the fleet. In my brief period here, I have learned that very few of those thoughts reach *Naval Aviation News*. We are always looking for good stories and outstanding photography but, without fleet input, we run the danger of losing our perspective and failing in our mission to keep all of Naval Aviation informed.

People make memories, have good ideas and are integral to any good story. Help us keep our perspective. Tell us about the great people in your niche of Naval Aviation.

Write us or call at (202) 433-4407 or autovon 288-4407 to discuss story ideas.

Former Editor Retires

That man with the grimace on the back cover is the outgoing editor of *Naval Aviation News*, Commander Howard A. Wheeler, who retired from the Navy on March 31 and is pursuing a new career in the civilian world.

Cdr. Wheeler brought *Naval Aviation News* into the computer age. A helicopter pilot with a journalism degree, he is also a self-taught whiz on computer operations and maintenance. He obtained old but serviceable equipment, procured newer gear to go with it, and trained members of the staff in their use. He designed NANci—Naval Aviation News computerized information — an innovative electronic bulletin board that grows in popularity by the day. NANci is an expanding storehouse of magazine articles and various data from the world of Naval Aviation, past and present.

Cdr. Wheeler helped plan Diamond Anniversary of Naval Aviation events and participated directly in many of them. Indeed, he was the only person injured — a thigh wound — when "The Spirit of U.S. Naval Aviation" (the PBY that accompained Connie Edwards and the lead "NC-4" *Catalina* from Rockaway, N.Y., to England) crash-landed in Plymouth harbor.

Reflective of his own version of the spirit of Naval Aviation, he smiled, shrugged off the incident and moved on smartly to the next event.

Cdr. Wheeler's leadership and editorial skills helped sustain this magazine's reputation for excellence. His first book, incidentally, on attack helicopters, will be published this year.

His leadership was also manifested in other ways. Wanting to improve his physical fitness, he led the way, three times a week, to the NDW Washington Fitness Center across the Anacostia River from the *Naval Aviation News* Washington Navy Yard office. Under the unrelenting tutelage of fitness director—and champion power lifter—Dave McIlwain, Howie trimmed down and shaped up, dramatically. McIlawin, runs a taut ship, makes no differentiation between officer, enlisted and civilian "clients," and knows how to extract maximum effort from his charges. That's McIlawin monitoring a Wheeler press.

Asked about his performance over a six-month training period, Dave said, "Cdr. Wheeler went above and beyond all expectations. He came in like a wimp and went out like a lion!"

Cdr. Wheeler has been a talented and friendly lion around these spaces for five fruitful years. He will be missed.

GRAMPAW PETTIBONE

DO Bother Me with Details

A VP-24 *Orion* was on an airways flight. Radar operator AW1 Timothy Walker had helped guide the P-3 through frontal weather. When the bird was in the clear, Walker went to the flight station. He wasn't required to do so, but he examined the exterior of the aircraft and noted a large piece of rubber partially torn loose from the prop afterbody. It was being ingested into the number two engine intake. He quickly told the pilot who, just as quickly, feathered the engine. Later, on the ground, maintenance pros determined that it would have been only minutes before the seal would have torn completely loose and fodded the engine with potentially catastrophic results.

Grampaw Pettibone says:

Kudos to Petty Officer Walker for superb professionalism and being on the ball! His actions bring to mind David Noonan's words from an article he wrote for Esquire magazine:

In the end,
it is attention to detail
that makes all the difference.
It's the center fielder's
extra two steps to the left,
the salesman's memory for
names,
the lover's phone call,
the soldier's clean weapon.
It is the thing that separates
the winners from the losers,
the men from the boys and, very
often, the living from the dead.
Professional success depends on
it,
regardless of the field.

David Noonan, Copyright 1985

First Tour, Final Tour

The OV-10A was on a photo drop mission during a combat readiness evaluation (CRE). An aerial observer in the rear seat accompanied the pilot. Both were on their first squadron duty tour. The *Bronco* passed overhead the zone assigned as the mission drop point and, because he had launched early, the pilot proceeded to a canyon area awaiting the precise drop time. The OV-10 performed terrain masking and tactical maneuvers below 1,000 feet in a manner which persuaded ground troops that they were being attacked by an "aggressor' aircraft.

After a time, the aircraft flew straight and level above a ridgeline. The *Bronco* rolled to the inverted position. The nose fell through the horizon and the *Bronco* entered a steep dive. The OV-10 flew directly into the ground, impacting at a descent rate of 4,000 fpm, with 11 degrees left wing down, and the nose 47 degrees down. Both flyers were killed, the aircraft destroyed.

Grampaw Pettibone says:

What a sock to the esophagus! Two men and a good bird gone forever. This young aviator lost what we nowadays call "situational awareness," which is another way of saying the *Bronco* got away from him. The accident report said he "made a gross error in judgment by initiating a maneuver that he had neither the altitude nor proficiency to recover from." No argument with that.

Turns out the pilot had four student pilot disposition boards during flight training, took two months more than the average time to complete the course, and had the lowest flight time in the squadron for four out of six months prior to the mishap. Taken together, these factors added up to trouble. No doubt about it, he was marginally proficient. The pilot flew about six hours every 30 days compared to the unit average of 15. He had asked for more flight time and the squadron tried to accommodate him but lack of funds, among other things, worked against this. The flyer asked for a transfer to the training command where he might get more time in the sky but was directed to remain on board for his full three-year tour.

Nevertheless, on the day of the accident, the pilot was enthusiastic about the mission, particularly since it was part of his first CRE. He briefed thoroughly and was in good physical shape. (The day before he had flown a good hop monitored by a CRE evaluator.) Maybe it was the enthusiasm that clouded his judgment during the extra 30 minutes of "loiter' time available due to the earlier takeoff.

Ole Gramps has gotta say that supervisors aren't all clean on this one. We are our brothers keeper. You old heads, keep an eye on younger ones. You can compensate for their inexperience with professional attention. Make sure they're gettin' the best possible training and advice you've got to offer.

Roll, Go, Whoa!

The student Naval Aviator in a TA-4J proceeded to the approach end for a "roll and go" takeoff and entry into the

ILLUSTRATED BY

field carrier landing practice (FCLP) pattern. He taxied onto the runway at a slightly fast rate, decided he was on centerline, and added military power. He then looked inside the cockpit. As he was reading his engine instruments, he sensed something was wrong. He looked up and saw that he was drifting left. He applied right rudder and right brake to correct but did not reduce power, actuate nose wheel steering, or elect to abort takeoff. The LSO realized the *Skyhawk* was heading off the side of the runway as the aircraft passed abeam the platform. He transmitted "Check your lineup" three times, then told the student to eject. The ejection was successful. A voice from the tower exclaimed, "Oh God." The *Skyhawk's* left main gear was sheared by an arresting gear motor housing. With the engine still at military power, the aircraft sped toward the embankment of another runway left of the original, and smashed into it. The TA-4 became airborne, rolled inverted, then fell to earth on the opposite side of the runway. It slid to a halt and the engine shut down by itself.

Grampaw Pettibone says:

Good grief, what a brain bruiser! This gent got in a hurry and learned the hard way that haste makes waste. The investigation showed he wasn't lined up to begin with. Matters really turned to worms when he didn't come back on the power and try to stop.

The student may have been a bit distracted or anxious because he had "disqualed" on a previous trip to the boat and surely wanted to look good. He was also in the process of transferring fuel from one tank to another, which was safe and OK, but somethin' for him to think about. Then there was the audience at the LSO platform. Count 'em: three LSOs and three wives, a fiancee and a girlfriend of other students on the FCLP hop! Good for morale but bad if it pumps you up and enthusiasm crowds out proper procedures, specially one like linin' up on centerline before pourin' on the coals.

An informal study by the Naval Safety Center has revealed that roll and goes have little tactical value, while representing an unnecessary risk during a critical flight phase. The training command no longer uses them.

By the way, nose wheel steering can be used during a takeoff abort in the *Skyhawk*. But it won't help much unless you haul back on the power real quick like when trouble comes, as it did to this young flyer.

NANews Interview

JO2 Julius L. Evans

Lieutenant General Keith A. Smith

Deputy Chief of Staff for Aviation
Headquarters, Marine Corps

Lieutenant General Keith A. Smith, born in Cheney, Wash., graduated from Washington State University in 1952 and was designated a Naval Aviator in 1954. His first assignment was with Marine Night Fighter Squadron 542, MCAS El Toro, Calif., prior to his transfer to Marine Night Fighter Squadron 513 in Korea.

During his career, Lt.Gen. Smith has served in various capacities in Phantom II *squadrons. In April 1965, he was a member of the first Marine F-4B squadron to see action in Vietnam, where he flew 156 combat missions.*

Before assuming his present position in September 1984, Lt.Gen. Smith served as Commanding General, 2nd Marine Aircraft Wing; Commanding General, MCAS Cherry Point, N.C.; Commander, Marine Corps Air Bases, Eastern Area; and in staff posts at Commander in Chief, U.S. Pacific Fleet and Headquarters, U.S. Marine Corps.

NANews: How would you describe the state of readiness of Marine Corps Aviation?

Smith: It's never been better. All the indicators are going in the right direction. Full-mission-capable and mission-capable rates are higher than in our entire 75-year history, while things that detract from that readiness are at an all-time low. On balance, we have not only higher readiness but a significantly better capability.

Are you satisfied with performance in the field of aviation safety?

I am not satisfied nor should anyone else be satisfied until we have zero-pilot or aircrew-caused accidents. But being a realist, and humans being humans, we are going to have some accidents. We are having too many today. When aircrews make mistakes they have to be held accountable. The single most important factor for everybody to understand is that they have to know their systems, and how to fly them, maintain them, operate them and commit them in combat.

Last year, we had the lowest accident rate in the history of Marine Corps Aviation. Although we are off to a rocky start for this calendar year, I'm positive that it will settle out and that we will have another record year of safe flying. Folks like myself do not get off all that easy. As an institution, we have to make a balanced investment in safety-related items and, when we have problems in the field that require a fiscal fix, we have to react with alacrity and take the correct procedures to resolve that problem. We need to work harder at that.

There seems to be more interoperability between Navy and Marine Corps units. How is this working out?

It's working extremely well. Marines are one of the three legs of Naval Aviation and we get a product out of interoperability that some people tend to overlook. The Marine squadrons on carriers can provide our own support over the beach when and if that becomes necessary. The Navy squadrons that join us in our land-based locations, such as Iwakuni, have prime-time exposure to what Marines are all about and how we conduct our sustained operations ashore once the amphibious operations are over. The great value is that we know more about each other because of joint training.

In television ads, the Marines ask for a few good men — youngsters with mettle to become Marines. Thinking back when you started out in the Corps, how do today's recruits compare?

I am very glad that I don't have to compete with today's recruit. They are the best young men and women that this nation has to offer. They are smart, dedicated, have a great sense of nationalism about them and they are prepared to do whatever their country asks of them. There is one constant: the training offered the first few days an individual is aboard. That's boot camp, or basic training for officers. It is the single most important effort that turns civilians into Marines. That training has remained constant from the time I entered the Corps until now.

What are Marine Corps Aviation's most serious problems?

In the total force concept, the readiness of the Marine Corps Reserve to join the fight is a short-term problem for us. As we modernize the Navy and Marine Corps, we have different type/model series aircraft in the active establishment than we do in the reserves for a period of about six to eight years. The reserves have A-4s and F-4s; the active forces have AV-8s and F/A-18s. We are doing everything we can to shorten that period of time, but fiscal constraints will keep us from shortening it very much.

It has been said that, by 1995, the services must recruit one of every two eligible high school graduates to meet our needs. How does the Marine Corps stand in this regard?

While that may be a forecast, we do not see it as a real problem as yet. If it does turn out that way, we will cope with it at the time. Americans want to be sailors and Marines because of what sailors and Marines stand for, not just because it's another job. It's a challenge to them and, so far, they are rising to the occasion in the right numbers with the right skills in the right place.

Now that you have completed 75 years of Marine Corps Aviation, where do you see the Corps going in the next 75 years?

Although my crystal ball is not particularly clear, we undoubtedly will continue to develop and field weapons systems that are giant steps forward, like the contrast between the F-4 and the F/A-18. The F-4 was a great airplane for its time; the F/A-18 is a remarkable airplane. Ninety-nine percent of the time, when a young Marine walks from the ready room to an F/A-18, he is going to fly. You couldn't say that about the F-4 or the A-4. The technologies that are emerging today show great promise, and there is no reason to believe that those technologies will not become realities.

Do you have any other comments you would like to make about your Diamond Anniversary?

Anniversaries provide an opportunity for all of us performing a function in the organization to rededicate ourselves to the future. This way, we don't waste the heritage that has been passed along to us by those who went before, and it provides an opportunity for those who follow us to serve with the same honor, skill and dignity. To that end, there are events to recognize those people who are serving today.

The signal that this significant year is coming to a close is the Marine Corps Aviation Association's convention next October in California. I would encourage anyone who is a part of Marine Corps Aviation, and who has the opportunity, to attend that gala event. ■

Harry Gann

Two VMFA-531 F/A-18 Hornets team up with an AV-8B Harrier from VMA-231 on the way to the air combat maneuvering range near Yuma, Ariz.

75 Years of Marine Corps Aviation

Edited by John M. Elliott

Seventy-five years ago, on May 22, 1912, U.S. Marine Corps Aviation was born when First Lieutenant Alfred Austell Cunningham reported to the Naval Aviation Camp at Annapolis, Md., "for duty in connection with aviation." After serving in the Army during the Spanish-American War and then working in Atlanta, Ga., real estate for 10 years, he accepted a commission as a Marine second lieutenant in 1909. While he was at the Advance Base School in the Philadelphia Navy Yard, Major General Commandant William P. Biddle wrote that "...great benefit to an advanced base force...might result from trained aviators."

Lt. Cunningham's orders to aviation were closely followed by those of First Lieutenant Bernard L. Smith also at the school. The next three Marines to become Naval Aviators were Lieutenant William M. McIlvain in December 1912, First Lieutenant Francis T. Evans in June 1915 and First Lieutenant Roy S. Geiger in March 1916. These five were the nucleus of pre-WW I Marine Aviation. With their vision of how the new arm could aid and enhance the effectiveness of Marine Corps operations, they were to be the guiding hands in the growth and development of Marine Aviation for the next 30 years.

During fleet exercises in January and February 1914 at Culebra, P.R., Lt. Smith, C.O. of the "Marine Section of the Navy Flying School," and Lt. McIlvain — along with 10 enlisted mechanics, one flying boat and one amphibian — operated with the Marine Brigade for the first time. Using the C-3 (the first aircraft assigned to the Marine Corps), they flew numerous scouting and reconnaissance missions. During these maneuvers, they made 52 flights, totaling 19 hours and 48 minutes, and carried many of the brigade officers to demonstrate the speed of aerial reconnaissance and the range of vision of an aerial scout. This first joint operation evolved into the air-ground concept.

Lt. Smith did participate with the Navy pilots during the Mexican intervention of 1914, but there was no oportunity to fly in support of the Marine Brigade at Vera Cruz. Following a colorful career during WW I, he was in charge of assembling material and equipment for the famous transatlantic flight of the Navy NC flying boats, during which the NC-4 became the first aircraft to fly across the Atlantic.

After the maneuvers at Culebra, Lt. McIlvain returned to Pensacola and was the senior Marine for awhile until Lt. Cunningham reported aboard after a short period away from aviation. Due to the acceleration of the war in Europe, an agreement was reached between the Army and the Navy to train Navy and Marine pilots in landplanes at the Army Signal Corps Aviation School at North Island, San Diego, Calif. Secretary of the Navy Daniels had made this arrangement in the belief that defense of advance bases and, in the case of the Marines, possible joint operations with the Army, required an aviation force able to operate from either land or water. Lt. McIlvain and Lieutenant Junior Grade G. deC. Chevalier were the first two Naval Aviators trained to fly landplanes.

Early in 1917, Lt. Evans made an outstanding contribution to aviation. At that time, it was considered impossible to loop a seaplane due to its heavy pontoon and, if a person inadvertently got into a spin, there was no known recovery technique. Since parachutes were not required, a spin usually meant the loss of both pilot and aircraft. Flying a Curtiss N-9 over Pensacola, Evans tried to resolve these problems.

Stalling out in his attempted loop, he went into a spin. Instinctively, he pushed the control wheel forward to gain airspeed and corrected the turning motion with the rudder. Recovering from the spin, he climbed back up and tried again. After several attempts, he finally managed a loop and, to be sure he had witnesses, flew over the hangars and repeated the performance. It was only then that he realized he had also solved a major flight safety problem common to all airplanes. He was retroactively awarded the Distinguished Flying Cross in 1936 for this discovery.

First Lieutenant Geiger made 107

Capt. Alfred A. Cunningham, Naval Aviator No. No. 5 and Marine Corps Aviator No. 1, stands in front of a Curtiss JN-4 "Jenny," circa 1916.

The Curtiss C-3 was the first aircraft assigned to Marine Corps aviators specifically for their use during the 1913 maneuvers at Culebra, P.R.

flights in an airplane during his flight training, totaling 73 hours, in addition to 28 hours of free balloon flights. He always considered himself primarily a line officer, additionally qualified as a Naval Aviator. From the beginning, he had a keen appreciation of the closely associated roles of the fighting man on the ground and his counterpart in the air.

As the war in Europe increased in intensity and direct involvement by the U.S. came closer, it was these five early aviators who were the foundation of Marine Corps Aviation. Thousands were enrolled in the Naval Aviation Reserve. Training facilities were established at universities and other bases to take the pressure off Pensacola. Under the direction of Major General Commandant Barnett, the Marine Corps' primary goal was to send a brigade to France to fight alongside the Army. Marine Aviation began an aggressive effort to ensure that its units would be sent to France in support of the brigade. This was not to be the case.

Marine Aviation at the Philadelphia Navy Yard was soon split into two missions. The formation of a Marine unit of landplanes to provide reconnaissance and artillery spotting for the brigade being sent to France was approved by the Navy Department. This resulted in the First Aeronautic Company which flew seaplanes, and the First Aviation Squadron flying landplanes. When Capt. F. T. Evans took the First Marine Aeronautic Company to the Azores for antisubmarine patrol duty, it was the first American flying unit of any service to go overseas completely equipped and trained.

Capt. McIlvain's First Aviation Squadron went to the Army Aviation School at Hazlehurt Field, Mineola, Long Island. By December, the temperature was dropping rapidly and, with the squadron living in tents, something had to be done. In the absence of any orders, McIlvain packed his troops, equipment and aircraft on a train and headed south. En route, orders were received to report to the Army's Gerstner Field at Lake Charles, La. The Aeronautic Detachment at Philadelphia, most of whom were detached from McIlvain's squadron, under the command of Capt. R. S. Geiger, moved to NAS Miami, Fla. Soon afterwards, Geiger took over the Curtiss Flying School on the edge of the Everglades as a base for the entire First Marine Aviation Force. This became the first Marine flying field. On April 1, 1918, McIlvain's squadron arrived from Louisiana and, at last, the nucleus of the First Marine Aviation Force was consolidated in one location.

Capt. Cunningham, serving as the de facto Director of Marine Aviation and C.O. of the First Marine Aviation Force, launched a vigorous campaign to obtain men and equipment. In order to quickly obtain sufficient pilots for the proposed four squadrons, he recruited Naval Aviators, already qualified seaplane pilots, by transferring them from the Navy to the Marine Corps where they were trained to fly landplanes. Of the 135 pilots who eventually flew in France with the First Marine Aviation Force, 78 were former Navy officers.

On July 10, orders were received for the four squadrons of the First Marine Aviation Force to embark for France as the Day Wing of the Northern Bombing Group. Squadron D was left behind temporarily to complete training and Squadrons A, B and C sailed on July 18 aboard the transport USS De Kalb. Upon arriving in France, they found no preparations had been made for them. A French train was requisitioned by Maj. Cunningham for the 400-mile trip from Brest to their bases near Calais. A problem of major proportions developed when it was found that their aircraft were delayed. Arrangements were made with the British to allow Marine pilots to fly bombing missions with two of their squadrons in their DH-4s and

A Great Lakes BG-1 of VMB-2, a forerunner to today's VMFA-232.

W. T. Larkins

DH-9s. Another deal was made to provide the British with engines. For every three Liberty engines, they would send back one DH-9A with an engine installed.

The Day Wing flew its first all-Marine mission on October 14, 1918. From then until the end of the war, it conducted 14 bombing missions, all without fighter escort. During the short time in France, the wing participated in a total of 57 missions and dropped 33,932 pounds of bombs, at a cost of five pilots killed and one pilot and two rear seat gunners wounded. It had four German fighter aircraft kills confirmed and claimed eight more. Four officers and 21 enlisted men died in the influenza epidemic in October. Wing personnel won a total of 30 awards, including two Medals of Honor and four Distiguished Service Medals.

Having proven itself in war, Marine Aviation now had to prove itself to the ground Marines and the public. After a rapid demobilization, the small force was scattered to Haiti, Santo Domingo, Guam, Parris Island, S.C., and Quantico, Va. In 1924, the air unit was withdrawn from the Dominican Republic and, with this strength, Marine Aviation was established on the West Coast at North Island, in San Diego.

While the organization developed, mission concepts evolved. Several long-distance flights established records that were not only a test of the equipment being used but the skill and dedication of those operating it. Air races became an American institution during the 1920s and 1930s. While money was tight, these races were a means of developing and testing new engines and airframes. Marines participated in many of these races, flying either Navy or Marine Corps aircraft.

During the twenties and well into the thirties, Marine Aviation units flew in support of the Marine brigades in Haiti, the Dominican Republic, Nicaragua and China. During these operations, the close cooperation of air and ground units started to develop. New tactics, such as dive-bombing, were tried and refined. Air support of the besieged garrison at Ocotal, Nicaragua, showed how effective this new attack method could be. One of the earliest medevacs took place at Qualili, Nicaragua, when Lieutenant C. S. Schilt (later general and Director of Marine Corps Aviation) flew out 18 seriously wounded Marines and brought in a new C.O. and much needed supplies while under fire. Through all of these expeditions, the Marines — both ground and air — were the only U.S. troops to serve in combat. Many lessons learned in these jungles were to be practiced again by the same men in the jungles of the Pacific.

Two Marine carrier squadrons were formed and served aboard *Lexington*, *Saratoga* and *Langley* between 1931 and 1934. This provided carrier training for the majority of the Marine pilots. It was also the beginning of disciplined syllabus training under a clearly defined mission.

The creation of the Fleet Marine Force in 1933 changed the Marine Corps from an expeditionary force to a fleet component.

As the war in Europe heated up during the late 1930s, Marine Aviation started to expand and receive new aircraft. Biplane fighters were replaced by the Grumman F4F, while the Great Lakes dive-bomber biplane gave way to the Douglas SBD. These two aircraft would see Marine Aviation through the first year of the war. In fact, the SBD remained in combat till early 1945. By the time of the attack on Pearl Harbor, Marine Aviation had grown, at least on paper, to the First and Second Marine Aircraft Wings (MAWs). However, each had only one Marine Aircraft Group (MAG) at this time.

The attack on MCAS Ewa, Hawaii, was simultaneous with that at Pearl Harbor. At its conclusion, 48 of the 92 aircraft of MAG-21 were destroyed or out of action. The remainder were deployed aboard *Saratoga*, *Lexington* or at Wake Island in the northern Pacific. The entire First MAW at Quantico was dispatched to the West Coast the following day.

Wake Island had been used as a stopping point for the Pan American clippers flying to the Orient since 1935. But it was not until 1941 that the military defenses were started. VMF-211, with 12 F4F-3s, was shipped to Wake Island aboard USS *Enterprise* and flew ashore on December 4, 1941. The narrow strip only allowed single plane takeoffs. The taxiways had inadequate surfaces and there were no revetments for parking aircraft. The island had no radar, and fuel had to be hand pumped from 50-gallon drums. The squadron had just transistioned in September from the Grumman F3F biplane. All but two master sergeants were ordnancemen.

The first attack on December 8 left

only the four aircraft which had been on patrol. Three pilots were killed and four wounded. The major supply of gasoline, the few spare parts, maintenance manuals and tools were destroyed in this raid. All that was left were four aircraft and salvageable parts of the wrecks.

Through concentrated efforts, aircraft were maintained for the next two weeks until the last was lost on the 22nd and all aviation personnel joined the defense force as riflemen. All resistance ceased on the morning of December 23 when the Japanese landing force finally overwhelmed the small garrison. In the two weeks, VMF-211 accounted for:

Killed	Damaged
5 bombers	1 bomber
1 four-engine flying boat	2 light cruisers
1 fighter	1 medium transport
1 destroyer	

Immediately after the fall of Wake Island, efforts were made to reinforce Midway Island in the central Pacific. Due to the rapid expansion of Marine Corps Aviation and the lack of modern equipment, Midway was garrisoned with a combination of inexperienced pilots flying obsolescent aircraft, as well as new types with which they were not familiar. While the decisive Battle of Midway belongs to the Navy carrier pilots, the heroic efforts of the Marine flyers at Midway substantially reduced the number of aircraft, particularly dive-bombers, that were available for the Japanese attack on the carriers. The older fighters gave a good account of themselves against the dive-bombers but were no match against the Japanese Zero fighter. The dive-bombers sent against the Japanese fleet suffered greatly without fighter cover and the necessity of making glide-bombing attacks rather than dive-bombing, due to lack of training. When the emergency came, they met the attack against vastly superior numbers and made the enemy's assault ineffective.

The Battle of Midway broke the back of Japanese naval aviation, but the Battle for Guadalcanal marked the end of the Japanese expansion in the Pacific and the beginning of the long road to victory.

While the operation was supported by carrier aircraft as well as those of the U.S. Army, Australia and New Zealand, Marine Aviation assumed the overall aviation command. Following weeks of bitter fighting, the perilous toehold on Guadalcanal was secured and the advance up the Solomon Islands chain began. Along with this was the introduction of the F4U *Corsair* which, within six months, equipped all Marine fighter squadrons in combat. This ended the supremacy of the Zero and began to repay the score of losses up to that time.

The capture of New Georgia put the fighter planes within comfortable range of southern Bougainville. During operations in New Georgia, attempts were made to accomplish a version of what later became the Marine close air support system. The difficulties involved in accurately determining a position on a map made it less than a great success. At this time, several names became prominent in the fighter ace category. Among them were Marines Greg "Pappy" Boyington, Joseph Foss, Bob Hanson, Ken Walsh, Don Aldrich and John Smith.

Following the adopted practice of bypassing strong points and letting them "die on the vine," the next step was the invasion of northern Bouganville at Empress Augusta Bay. The first Marine night-fighter squadron (VMF(N)-531) entered combat at Bouganville flying Lockheed PV-1 *Venturas*. Hardly suitable aircraft for this mission, they filled the breach until the later versions of the F4U and F6F became available.

With the capture of Bouganville, the direct air assault of Rabaul commenced. This resulted in the neutralization of this Japanese strong point, without the need to invade it, and the securing of the Solomon campaign.

While advances were being made up the Solomons chain, another major push began. The island-hopping action that started at Tarawa and carried on through the central Pacific was predominantly a Marine operation. However, due to the extended distances between objectives and the lack of Marine Aviation aboard carriers, there was little Marine air support for the divisions involved.

A reevaluation of Marine air missions resulted in the placement of Marine Corps squadrons aboard escort carriers. By the end of the war, there were 14 Marine carrier air groups, either formed or scheduled for formation, each consisting of a fighter and a torpedo-bomber squadron and a carrier aircraft service detachment.Four

Sgt. Jack Carey

Combat-weary Marines disembark from an HRS aboard USS Sea Lion, a troop-carrying submarine, off the coast of Onslow Beach, N.C., to test the feasibility of boarding subs at sea for various reconnaissance missions. The operation was the first of its kind and was successfully completed through the use of eight helicopters from Marine Helicopter Transport Group 26, based at MCAS New River, N.C.

of these groups were deployed before the end of the war. During the first half of 1945, 10 Marine fighter squadrons also deployed aboard Essex-class carriers. In the Philippines, two groups of Marine SBD dive-bombers spearheaded the drive to Manila by the Army. Fighter, scout-bomber, and medium-bomber squadrons also participated in the southern Philippines.

The battle for Okinawa which brought the war to an end reunited Marine air and ground units on a scale heretofore unknown. This was the culmination of all that was learned in the Pacific war. Knocking on the door of the enemy homeland, after four long years, was the final test. The III Amphibious Corps was commanded by Maj.Gen. Roy S. Geiger. When U.S. Army General Buckner was killed, Geiger was appointed Commanding General of the Tenth Army — becoming the only Marine and the only aviator of any service to command an Army.

At war's end, Marine Aviation, as well as the other services, faced a drastic reduction. Within the first 18 months, it dropped from 103 fighter and bomber squadrons to 21. On June 30, 1950, it reached 16, just three more than the size of Marine Aviation at Pearl Harbor.There were many advances during this five-year period as aviation progressed from props to jets, and the helicopter was accepted as a military weapon.

Art Scarborough

When the Korean war started and Marine assistance was requested, the First Provisional Marine Brigade was activated. It was an air-ground team basically composed of the Fifth Marine Regiment and MAG-33. Activated on July 7, 1950, it sailed seven days later.

W. T. Larkins

A massive call-up of reserves fleshed out skeleton units, allowing the brigade to be expanded in Korea into the First Marine Division and First Marine Aircraft Wing.

Aviation units flew in support of the ground troops, from carriers as well as shore stations, throughout the Korean conflict. Close air support was provided during operations along the Pusan Perimeter, landing at Inchon, and in the epic withdrawal from the Chosin Reservoir. For the first time, helicopters carried troops into combat when Marine Helicopter Transport Squadron 161 lifted 19,000 pounds seven miles in just 2.5 hours and evacuated 74 casualties.

Radar bombing, which was later used extensively in Vietnam, was first employed in Korea. While it only provided "almost close" support, it did

An A-4B of VMF-214 aboard USS Hornet in 1964.

This memorial was made from parts of the F4Fs found on the island after the war. The cowl is now on the Wildcat displayed in the National Air and Space Museum.

give some support under conditions that had previously closed the door to close air support. Photo-reconnaissnace became a Marine capability with the introduction of Marine Composite Reconnaissance Squadron One and the F2H-2P *Banshee*.

Due to the nature of the armistice, it was necessary to deploy additional Fleet Marine Force units to the Far East to maintain a posture of amphibious readiness. MAGs11and 16, along with Marine Transport Squadron 253, were deployed to Japan in the summer of 1953. In June 1956, the 1st MAW moved its headquarters to NAS Iwakuni, Japan.

In the intervening years before Vietnam, tactical aircraft went from props to jets, which had much greater ordnance capabilities. Helicopters developed so that greater loads could be carried at a faster speed. Armament increased and all guns in fixed-wing aircraft were of cannon caliber, and air-to-air, as well as air-to-ground, missiles were standard armament in addition to the new low-drag series of bombs.

By 1961, the situation in Vietnam had deteriorated to the point where an increased commitment of U.S. helicopters was required to improve the mobility of the South Vietnamese troops in counteractions against guerrilla attacks. The decision was made to deploy a 1st MAW helicopter squadron to the delta area. After the landing of the 9th Marine Expeditionary Brigade at Da Nang on March 8, 1965, the aviation elements built up rapidly. Helicopters arrived first, with the fixed-wing aircraft following in April. Marine Composite Reconnaissance Squadron One, with its electronic warfare equipment, was deployed and provided the bulk of this mission for all services. In May, MAG-12 landed at Chu Lai and operated from the first short airfield for tactical support to be used in a combat situation. During the same month, the 1st MAW headquarters was established at Da Nang and the air-ground team began to function in all respects.

Marine Aviation in Vietnam was basically an air-to-ground commitment. With the deployment of the A-6 and its radar bombing capability, the air wing could provide round-the-clock support to the troops on the ground. One squadron of F-8s (VMF-212) embarked on board USS *Oriskany* in 1965 and flew missions in the north.

Of all the air support provided by the wing, perhaps the most remembered by the troops came from the helicopter. To the ground troops, Vietnam really became a helicopter war. Seven medium transport squadrons and three heavy squadrons were deployed in addition to the helicopter gunships of the Marine observation squadrons. Troops were lifted into a combat zone and extracted, supplies were delivered and wounded evacuated under the most trying conditions.

Marine Aviation left Vietnam, as did Marine ground forces, in June 1971, just short of six years after arriving. North Vietnamese operations against the weak government in the south brought MAG-15 back in April of the following year. On January 27, 1973, the so-called "Peace Accords" were signed, officially ending the conflict. The collapse of the governments of Cambodia and South Vietnam in April brought Marine Air personnel back to conduct the evacuation of the embassies and U.S. nationals. The evacuations were conducted with helicopters from the 31st Marine Amphibious Unit and the 9th Marine Amphibious Brigade.

With the Vietnam conflict behind it, the Corps looked to the future and evaluated its air-ground concept and amphibious techniques. Training exercises were held all over the world involving allied nations as well as the joint services. Along with new concepts, such as the prepositioning of supplies in ships in a forward area, new aircraft were obtained. The AV-8A and B have replaced many conventional aircraft and provide the capability to operate from relatively unprepared forward areas, bringing air support response closer to the requesters. F/A-18s have begun replacing the F-4 workhorse and new helicopters have been acquired.

With its new equipment and tactics, Marine Aviation does more and does it better than before. It does this with a continuing, ever-improving safety record and day-to-day systems availability that represent the best that has ever been achieved in its 75-year history.■

F-4 Phantoms were the Marine Corps' fighters for many years, serving in a variety of missions.

The information in this article was taken from the historical monograph, U.S. Marine Corps Aviation, by Major General John P. Condon, USMC(Ret.), to be published later this year.

Transporting the President

JO2 Julius L. Evans

By JO2 Julius L. Evans

A penetrating wind whips the clothes of several well-dressed men, their faces hidden behind mirrored sunglasses. They fight to keep their balance on the lawn of the White House, but the turbulence created by the incoming green and white helicopter continues to unsteady them.

It is clear why these men are present. Shortly after the helicopter lands, the Secret Service agents board the aircraft to ensure the safety of the President of the United States. But safety is a job delegated long before the Secret Service becomes involved.

Marine Helicopter Squadron (HMX) One, commanded by Lieutenant Colonel R. E. Peasley, is based at Marine Corps Air Facility, Quantico, Va., and is tasked with providing helicopter transportion for the President and Vice President of the United States. It's a job in which the squadron personnel take great pride and pleasure. The safe, efficient helicopter support for the president has been the responsibility solely of the Marines of HMX-1 since 1975. Before that, it was a mission shared with the Army.

For this unique mission, the squadron is assigned helicopters that are not found anywhere else in Naval Aviation.

HMX-1 flies the VH-3D *Sea King*, a variation of the Navy's SH-3. The VH-3D is highly modified to better perform its important assignment. It is equipped with an executive interior and a special communications package so that the president may instantaneously contact any location in the world.

Major Mike Aldridge, the squadron administrative officer, explained why the VH-3D is used in the executive mission. "It was chosen over the other helicopters because of its proven technology, and it affords us all the things we are looking for in an executive transport helicopter. It can get into small zones with useful payloads and does not create large amounts of rotor wash." When long-distance trips are at hand, the VH-3D can easily be loaded aboard a USAF C-5A *Galaxy* and taken anyplace in the world.

HMX-1 flies the president about 200 times per year, including trips to Camp David, Bethesda Naval Hospital and Andrews AFB, Md. In addition, the squadron has a host of other duties. It supports the Marine Corps Development and Education Command at Quantico (MCDEC), Headquarters, Marine Corps (HQMC) and Department of Defense (DoD) VIPs in the Washington, D.C., area; and assists in local search and rescue operations with the U.S. Coast Guard.

Almost as important as its presidential mission is the job for which the "X" in HMX-1 was originally assigned. HMX-1 is the only Navy or Marine Corps helicopter squadron tasked with operational testing and evaluation (OT&E) of new helicopter concepts, systems and equipment. Recent involvements in the areas of night vision systems, infrared countermeasures, and the MV-22 *Osprey* have kept the OT&E department in a high tempo of operation.

The MV-22 *Osprey*, a tilt-rotor aircraft and hybrid helicopter and fixed-winged airplane, will garner much of HMX-1's OT&E expertise in the near future. This new aircraft, with its unique potential for fleet use, could bring some interseting possibilities into HMX-1's presidential mission. "We will help write the operational guideline manuals, NATOPS manuals and test

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Above left, LCpl. William A. Little keeps a close eye on a VH-3D parked on the HMX-1 flight line during a chilly eight-hour aircraft watch. Above, a CH-46 creates alot of turbulence on takeoff, then accelerates with ease.

A powerful-looking CH-53 demands ownership of the sky when it makes an appearance in its airspace.

the concepts of deployment to make sure the *Osprey* meets the future operational requirements of the fleet," Aldridge explained.

With it's variety of missions, it is easy to understand why, in addition to the VH-3, HMX-1 has six other models of rotary-wing aircraft. The UH-1 is the standard Navy/Marine Corps twin-engine utility model. The VH-1N, a VIP version, is modified with car-type passenger doors, executive interior and air-conditioning. Other HMX-1 helicopters include two models of the *Sea Stallion* — the CH-53D and CH-53E, the CH-46E *Sea Knight* and the SR&M-46 (service/safety, reliability and maintenance) helicopter, which is an updated CH-46E. These helicopters often carry members of the White House staff, press corps and HQMC and DoD personnel, as well as providing squadron logistics support and assisting in the training of Marines at the service schools located at MCDEC Quantico.

The squadron has received approval to make additions to its present inventory. As a replacement for the H-1s, it is slated to receive the (Sikorsky-built) VH-60, which is a cross between the Army's UH-60 *Blackhawk* and the Navy's SH-60 *Seahawk*.

The varied aircraft coupled with a vast assortment of missions, presents a real challenge to the HMX-1 aircraft

maintenance department. The obvious need for security and the uniqueness of the presidential helicopter creates the need for two separate maintenance divisions. The Executive Flight Detachment is affectionately called the "cage" or "white side," and the Marine Aircraft Maintenance Division is known as "green side."

Personnel to support the two maintenance divisions come from Fleet Marine Corps aviation units and Naval Aviation schools. Each squadron member is screened prior to assignment and upon arrival is normally placed in green side maintenance. Reassignment to white side comes after completion of a background security investigation. Since there are no other VH-3Ds in the Marine Corps, maintenance personnel receive special contractor training to enhance what they've already learned through Naval Aviation schools.

In the cage, work continues in shifts throughout the day. No one goes home until their aircraft is in an "up" status, and ready for lift-off at a moment's notice. "The aircraft is always mission-ready before anyone assigned to that bird leaves for the day," according to Captain Dick Graham, white side maintenance control officer. "It's not unusual for our crews to remain six to eight hours after normal secure time."

The Whiteside operates on the 50-percent principle. If an inspection is required to be completed at the 750-hour mark, HMX-1 does it at 375 hours. If a part is supposed to be changed after 150 hours, it's changed at 75 hours. "We demand a lot from our people and they know what is expected," said Graham.

Those expectations are met aggressively by the enlisted Marines who form HMX-1's foundation. "We have to be very flexible here," said Staff Sergeant Dennis R. Dwyer, a VH-3D crew chief. "No two days are the same."

Flexibility is also the watchword for the officers of HMX-1. Fleet Marines first, the pilots and ground officers bring a wide range of diversity to the squadron . The pilots, representing all Marine helicopter communities, enjoy the variety in the job and the challenges that are presented to them. " Usually, while in the fleet, we are tasked with flying only one helicopter but, here," Maj. Aldridge explained, "most pilots must maintain proficiency in at least three aircraft."

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No one is allowed near the aircraft carrying the Seal of the President of the United States without proper authorization and an armed guard escort.

Similarly, the ground officers must meld the assorted maintenance backgrounds to achieve a common goal and help maintain the highest of standards.

Working alongside the white side helicopter mechanics, but in a different role, are the security guards of HMX-1's Presidential Security Department. Trained as military policemen, these Marines provide constant watch over the helicopters and their support equipment, wherever they may be. It's a full-time, often tedious job that is proudly performed by these young men and women. "You know you are among the cream of the crop when you are assigned to HMX-1," said Corporal John E. Schmoyer, a graduate of the Military Police Academy at Lackland AFB, San Antonio, Texas, who is now assigned to the squadron's security department.

The chief executive can be proud of the people and helicopters with which he flies. The helicopters that carry the Seal of the president of the United States are the safest, cleanest and smoothest flying transports that travel the skies today.

The Marines of HMX-1 revel in the opportunity to serve the president and are proud to represent Naval Aviation in this the most important of tasks. ■

Marine Warrant Officer Holds Unique Title

CWO-3 Jack Grinstead

Story and Photo by Warrant Officer Randy Gaddo

Growing up during the post-WW II era on a farm in Cortland, Ind., Jackie Lee Grinstead never imagined he would one day be the only Marine Corps chief warrant officer (CWO) wearing Naval Aviator's wings and flying helicopters.

His career has led CWO-3 Grinstead to his present assignment as a helicopter pilot in the First Marine Aircraft Wing, Okinawa, Japan. Along the way, he has been a Marine Corps officer and a gunnery sergeant. He also held the distinction of having more flight hours than any other squadron pilot during his tour at Marine Helicopter Squadron (HMX) One, MCAF Quantico, Va.

It started in 1960 when he was a freshman at Indiana University. "My roommate came in one day and said he'd joined the Marine Corps for the Platoon Leaders Class (PLC) program," recalled Grinstead. "I thought he was dropping out of school to join. But he explained the program and I found I could finish my degree, join the Marine Corps and fly, too. He showed me the pay scale. I was bussing tables for 95 cents an hour at the time so, between the base pay and flight pay, it looked pretty good."

As a PLC member, Grinstead attended two six-week summer camps at Quantico. "The summer camps weren't that bad, he said. "It was hot, but I was in good condition. Actually, the camps gave me a goal — a reason to get a degree. The only reason I had before was to please my parents."

June 1963 was a busy month for Grinstead. He graduated from college, was commissioned a second lieutenant, married, and reported for flight training in Pensacola, Fla. He spent 18 months there, learning flight basics in fixed-wing trainers, then went on to helicopters. "There was a need for helicopter pilots in Vietnam at the time, so that's the way I went," Grinstead explained.

He saw plenty of action in Vietnam during two tours there — 1965-66 and 1969-70. His time in Southeast Asia is not a subject he discusses much. "It was interesting," he commented. "Anytime you're getting shot at, it's interesting."

His record for that time speaks for itself. He flew more than 350 combat missions and earned the Air Medal with 17 awards (each equals 20 missions), the Distinguished Flying Cross, the Bronze Star with combat "V" and a host of unit citations.

From Vietnam, Grinstead reported for his first tour with HMX-1 in November 1966 and flew the CH-46 *Sea Knight*. When the first CH-53 *Sea Stallion* was introduced to the squadron, he learned to fly it, too. "That was the aircraft for me," he declared.

Grinstead's career changed course in 1975 when he was flying CH-53s with a California-based squadron. "I got passed over for promotion to major and was being forced out," he recalled. "It was a blow to the ego, but it wasn't all that unusual at that time. After Vietnam, the Marine Corps started thinning its numbers to return to peacetime strength."

He was faced with a decision — stay a Marine or find a civilian job. Grinstead said he considered getting out and finding civilian employment. "I went so far as to look around for civilian flying jobs," he said. "But I already had 12 years in. I was over halfway. I wanted to stay for 20, mostly for the family security it gave my wife and four kids.

"I resigned my commission and enlisted at the end of June 1975," Grinstead continued. "They made me a gunnery sergeant, which was [the highest rate] they could give me by law because you need at least five years enlisted [service] before you can make master sergeant. They did as well by me as they could."

He admitted that it took thick skin to adjust to his new situation, but pointed out that his fellow Marines helped smooth the transition. "People were quite sympathetic," he said. "They actually thought it was worse than it really was for me. But nobody made a big deal of it. Thanks to them, I didn't have too bad a time."

In 1975, Grinstead went to navigation school and became a navigator in C-130 *Hercules* fixed-wing transports. "I enjoyed navigating, but it just wasn't the same as flying," he reminisced.

He soon applied for the warrant officer program, even though he wasn't yet fully qualified. "I didn't have enough time as a navigator, and I was running against the maximum allowed years in service to qualify, which at the time was 12, waiverable to 14," he said. "I applied anyway. I figured nothing ventured, nothing gained."

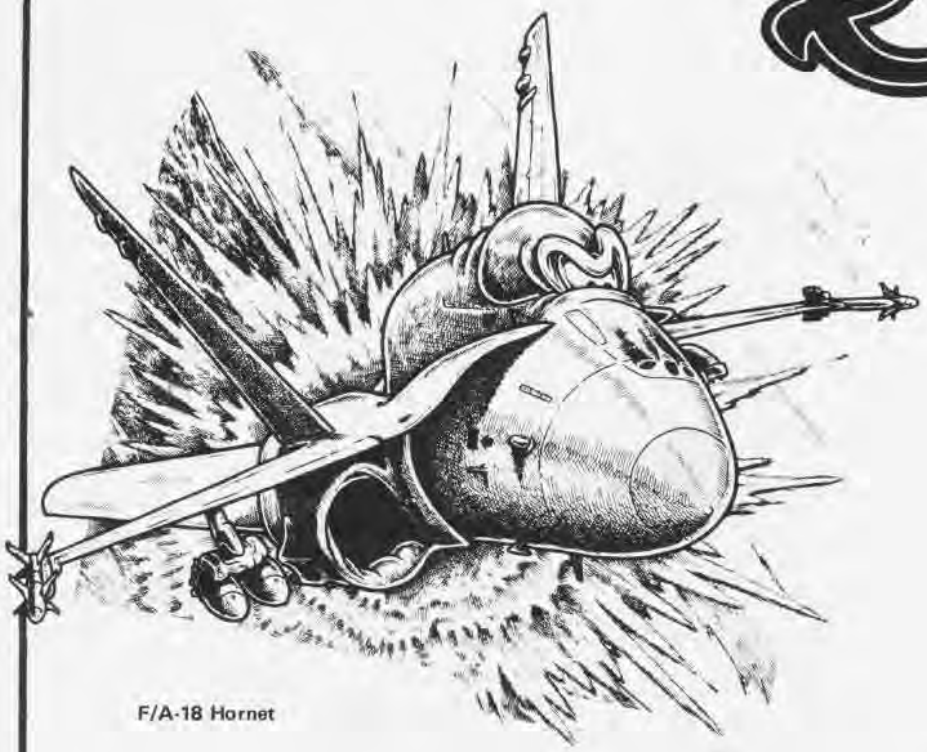
He didn't make it and resigned himself to staying a gunny. But, during the next year, there was a one-time waiver of the 14-year limit and he was accepted.

Returning to officer status was not a drastic transition for Grinstead since he had already been there. "Actually, once you get up in the aircraft," he said, "the rank insignia takes on a different importance. We all depend on one another to survive, regardless of rank."

After pinning on the red-and-gold bars of warrant officer in 1978, he pursued getting back into the cockpit as a pilot. In 1979, he received authorization to fly CH-53s while he was in Okinawa, Japan. He finished his tour there, refamiliarized himself with flying in a training squadron, and stayed on as an instructor.

In the past, it was not unusual for Marine Corps warrant officers to fly, although there was never a great number of them at one time. But, over the years, the role of warrant officers in Marine Aviation changed, putting them on the ground in technical specialties such as aircraft maintenance. The number of flying WOs slowly dwindled until there were only three left. The other two recently retired, leaving Grinstead in sole possession of a unique title — the only warrant officer in the Marine Corps who is a designated Naval Aviator. ■

SOME MARINE Sea



F/A-18 Hornet

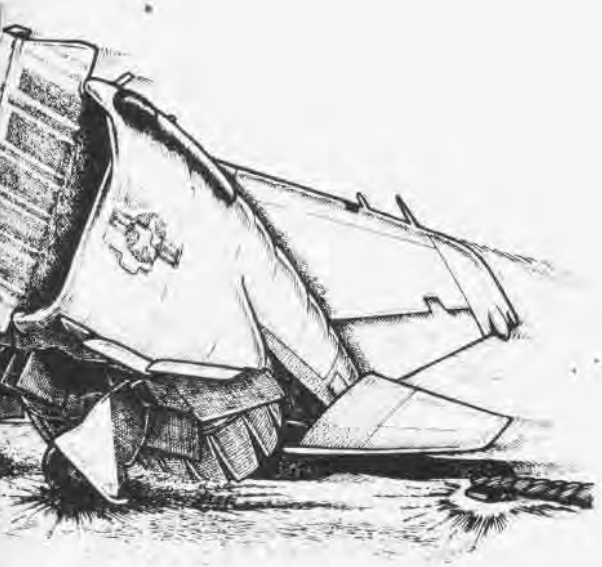
F-4S Phantom

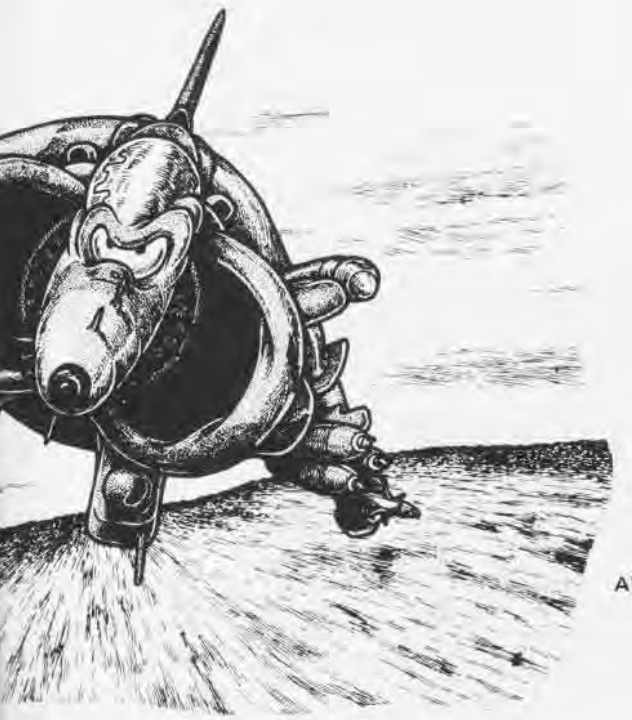
AH-1 Huey Cobra

Birds

Reprinted with permission from the Forefeathers Aerocatures Calendar

A-4M Skyhawk





AV-8B Harrier

CH-46 Sea Knight

Thomas-

By Hal Andrews

When the Marine Corps began its post-WW I buildup of Marine Aviation, it wanted a pursuit plane to operate at the new flying field being developed near Quantico, Va. The Corps selected the U.S. Army's latest, and the Navy requisitioned 12 for the Marines in April 1921, as add-ons to the Army's contract for 50 Thomas-Morse MB-3s. At that time, the Army was initiating competitive procurement for 200 more — an indication of the Army's overall assessment of the MB-3's competitive qualities.

Unfortunately, while the Marines received 11 of the 12 ordered, the MB-3's service with the Corps was short-lived. After a few months' use and a year or more in storage, all but one (lost in a crash) were "sold" to the Army in late 1923 as spares support for its MB-3/3As.

Today, the Thomas-Morse Aircraft Corporation of Ithaca, N.Y., is only vaguely recalled as one of General Dynamics' aircraft antecedents. It had been purchased by GD's main predecessor, Consolidated, in the late twenties, after a number of years of innovative pioneering designs that failed to reach production. At the beginning of 1921, Thomas-Morse was one of the leading aircraft manufacturers in the country.

During WW I, the company built some 600 S-4 series *Scouts* as advanced trainers. Late in 1918, it was developing one of three new pursuit plane designs for the Army, using the U.S.-built Wright-Hispano 300-hp version of the French Hispano-Suiza V-8 engine. Four prototypes of Thomas-Morse's MB-3 were built, one for static test and three flight articles. The first flight didn't occur until February 1919, after the November 1918 armistice. Initial flight results were most impressive — the Army's desire for a fighter equal to or better than those of the European combatants was more than met.

The MB-3 was a typical wood structure, fabric-covered, single-place biplane of the period. It had cleaner lines than most of its contemporaries, in part due to the location of the radiator in the upper-wing center section, allowing a streamlined nose. Two .30-caliber guns were fitted. The compact MB-3 was the smallest fighter that could be built around the military load and engine. It was considerably smaller and lighter than its two Army competitors, accounting in part for its superior performance. While structural tests showed strength that more than met flight requirements, the small size brought with it a too small cockpit, an undersized radiator and a lot of reliability and maintenance access problems.

Modifications resulting from flight tests led to improvements (at some cost in performance) and, in the summer of 1920, 50 MB-3s were ordered from Thomas-Morse with plans for purchasing another 200 competitively in the following fiscal year. It was this order to which the Marines' 12 were added in April 1921.

About the same time, two other events occurred: the upper wing leading edge of a new production MB-3 collapsed when being dive tested by an Army pilot at Ithaca, and the contract for 200 MB-3As was awarded to a little-known company in Seattle, Wash., the Boeing Airplane Co. Boeing had greatly underbid the rest of the competitors, including Thomas-Morse. As events transpired, it was the start of Boeing as a major company — and the end of major Thomas-Morse production in Ithaca.

All MB-3 production was held up while the wing leading edge was redesigned. At the same time, the Navy's interest in racing planes for the 1921 Pulitzer Race led to a proposal by Thomas-Morse to replace two of the Marine MB-3s with two specially designed high-wing monoplane racers — with the fuselage, landing gear and tail being basically derived from the MB-3.

Using higher powered versions of the Wright-Hispano H, the MB-7s were even smaller than the MB-3s. The radiator remained in the wing center section over the fuselage, with anhedral to the strut bracing attachment points and conventional dihedral outboard. The center section also had a higher incidence angle than

MB-3

MB-7

Morse MB-3

the outboard panels. At high speed, the outboard panels would be at minimum lift and drag, with the center section providing the necessary lift. The Navy's request was processed by the Army and the order amended to two MB-7s and 10 MB-3s.

The first MB-7 was barely completed in time for the races at Omaha, Neb., in early November. A decision that the Army and Navy couldn't compete in the 1921 Pulitzer led to their racers being loaned back to the manufacturers for the race. Unfortunately, the MB-7 was lost in a forced landing crash after a fuel pump failure on the first lap.

The second MB-7 was completed late in the year. By then, the Marines' MB-3s were also being built, following completion of the Army's order. Since the first MB-7 racer was being flown by the company when it crashed, it was agreed that it would be replaced by an eleventh MB-3 on the Navy order. The second MB-7 was delivered to Mitchell Field, L.I., where, flown by a Marine pilot, it was groomed for the 1922 Pulitzer Race at Selfridge Field, Mich. Dogged by cooling problems, it was forced out of the race and lapsed into obscurity at the Naval Aircraft Factory, Philadelphia, Pa.

MB-3 prototype

The 11 MB-3s were delivered to the Marine Flying Field at Quantico (subsequently Brown Field) in late February and early March 1922. With assembly of the first one, the first Marine flights were made in mid-March, highlighting both the impressive performance and the reliability and maintenance headaches of the MB-3. Other MB-3s were assembled and flown. In April, one was lost in an accident. The MB-3s were flown by Flight F of the Marines Third Squadron.

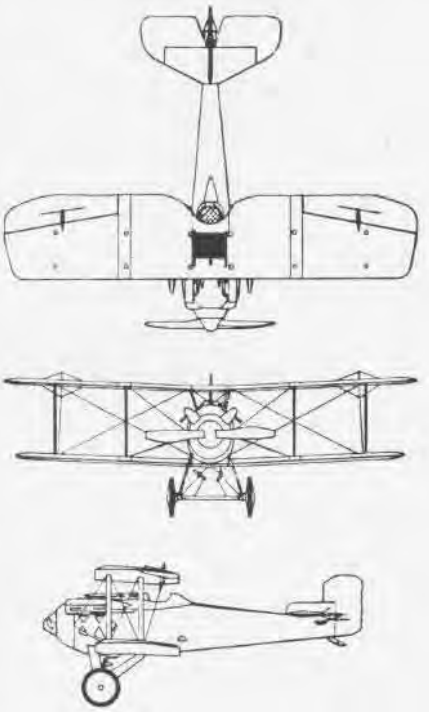
Through July, seven of the 11 were put into service. By this time, Army experience had indicated that a lot of detail fixes were needed. Most were tied to the high vibration of the Wright H engine. The Navy's Bureau of Aeronautics had two of the Marine MB-3s transferred to NAS Anacostia, D.C., where the Army's MB-3 changes could be made and tested. Meanwhile, the remaining Marine MB-3s were grounded pending the results. While the Army's MB-3s resumed flight status, the two Anacostia test airplanes were returned to Quantico in November, and joined the other eight in storage.

In the spring of 1923, the Marines requested permission to modify and fly two of the MB-3s. The Bureau of Aeronautics reversed an initial approval and all remained in storage. In November, they were "sold" to the Army and barged to Langley Field, Va., where they were used for spares to support the Army's continued use of its MB-3/3A fleet. They were replaced by new Curtiss and Boeing pursuits beginning in the mid-twenties. The last MB-3As completed their service as advance trainers by the end of the decade. ■

MB-3

MB-3

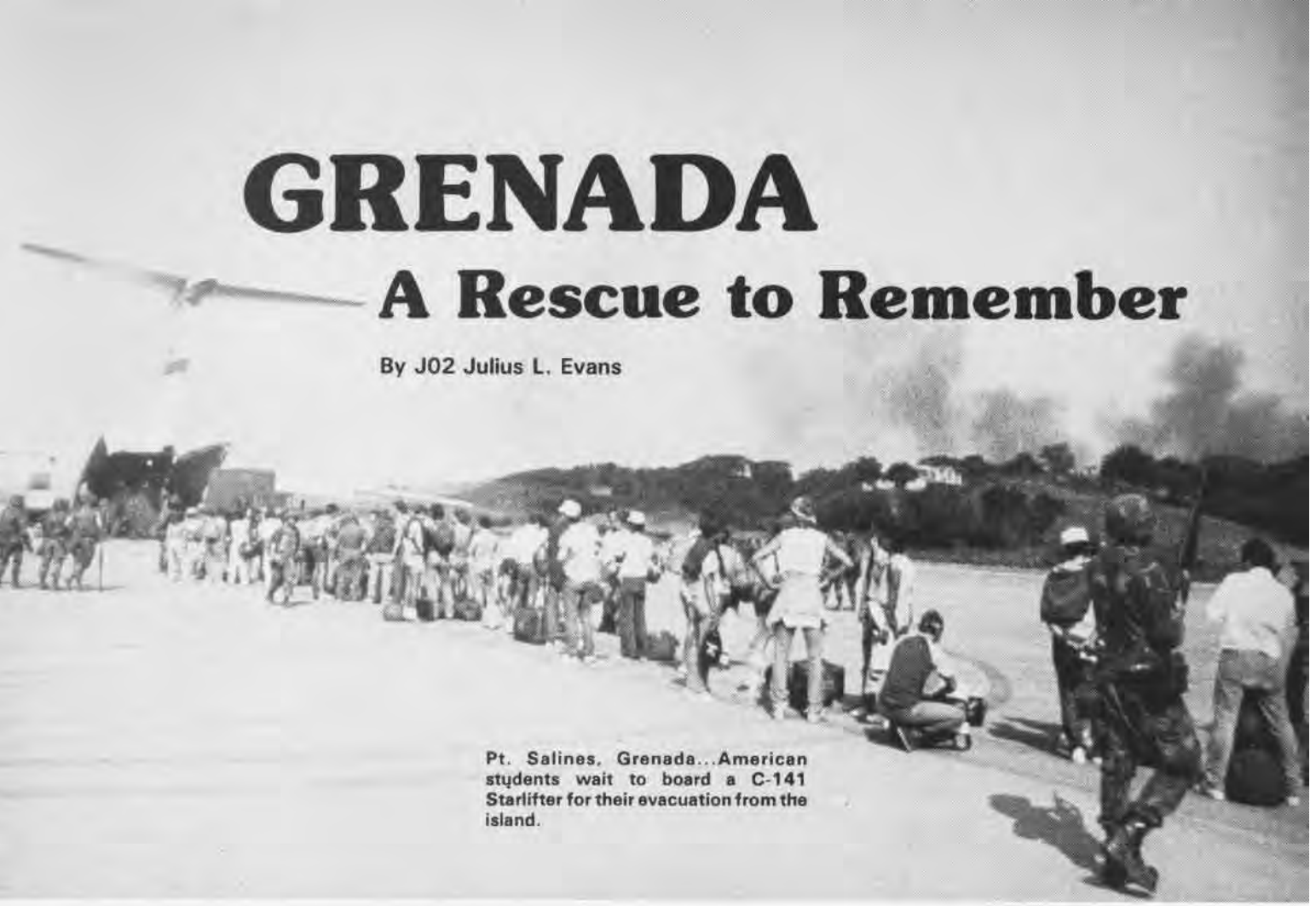
Span	**26'**
Length	**20'**
Height	**8'6"**
Engine	
Wright-Hispano H	**300 hp**
Gross weight	**2,095 lbs.**
Maximum speed	**152 mph**
Service ceiling	**23,700'**
Range	**290 mi.**
Armament	**Two .30 machine guns**



GRENADA

A Rescue to Remember

By J02 Julius L. Evans



Pt. Salines, Grenada...American students wait to board a C-141 Starlifter for their evacuation from the island.

"My heart was pumping unnaturally fast as bullets from small arms fire invaded the area in which we sought refuge. A feeling of defenselessness overwhelmed me because the bone in my right leg was exposed and protruding about three inches above my knee. My right arm was also rendered helpless since a slug had ripped into it while I tried to prevent the helicopter from crashing.

The helo burst into flames before I managed to set it down, which was not only a miracle in itself, but it seemed to make the enemy fire more desperately at us."

Captain Tim Howard, USMC

About 30 minutes later, Captain Tim Howard told his copilot, "Get the hell out of here, I'm already dead." If it weren't for Captain Jeb Seagle, Howard may not be alive to tell his story.

At the time, Capts. Howard and Seagle were AH-IT *Sea Cobra* pilots from Marine Medium Helicopter Squadron (HMM) 261 stationed aboard USS *Guam* (LPH-9). "Rumors had it that the U.S. ambassador to Grenada was going there [for whatever reason], and we were going just in case," Howard said. But the rumors changed frequently and so did the Marines' outlooks.

The word was passed to write one more letter home. "When you sit down to write a letter like that to Mom, Dad or a loved one, it tends to focus the mind," Howard noted. "We realized we were going into a hostile third world nation."

They received their mission to enter hostile airspace in the predawn hours of October 25, 1983. "The crew was in high gear preparing to go into Grenada, but news of Prime Minister Maurice Bishop's brutal murder had a sobering effect on them," Howard said. "When you're heading somewhere to show force and the dominate authority in the place is killed, you know things aren't going to be rosy," he added.

No one entered the Grenada crisis with the attitude that death was imminent for them, but there was a perception of that possibility. "When we initially entered hostile airspace," Howard explained, "the anticipation was very high. It was like going into an event for which we had been training for a long time. There were butterflies in our stomachs, not unlike the ones that are there before a big sporting event — only there was a great reality of potential catastrophe that highlighted the Grenada crisis if we lost."

Howard added that everyone there had a certain job to do. "Each individual, whether a sailor, Marine or soldier, had a particular responsibility and everyone lived up to that standard. I'm not saying that we were cold-hearted. We just knew how to respond to the situation and we did what we were expected to."

However, the American response did not discourage the enemy from opening fire on the first aircraft they spotted. Capts. Howard and Seagle, along with Major Pat Giguere and First Lieutenant Jeff Scharver, were a two-helo team that was to escort transports into the island of St. Georges and mark the landing zones for HMM-261's CH-46 *Sea Knights*.

"Pat and Jeff dashed in front of the '46s, marked the spot and Jeb and I covered them," Howard explained. "The first CH-46 that made it to the landing zone got bombarded with heavy antiaircraft fire from the tops of some hills by Pearls," he went on,

referring to the Pearls Airport/Grenville area. "Consequently, both *Sea Cobras* went to Pearls to neutralize and suppress the firing."

Most of the day for both crews involved going from place to place supporting U.S. ground troops by stifling enemy fire.

"We had flown several missions and, near the end of the day, we were called to support another group of military troops in the town of St. Georges," Howard said. "It was then that we got hit."

Both crews were about 3,000 meters west of Fort Frederick making runs. They would maneuver around a large hill protruding out of the valley about 2,500 meters away from the target, accelerate to red line speed (120 knots), attack, then swing behind the hill for protection.

During one of the runs, 20mm rounds slammed into the side of the *Sea Cobra* just as Seagle was preparing to fire a tube-launched, optically tracked, wire-command (TOW) missile. Because he positioned himself close to his instruments, upon impact, Seagle hit his head on the camera and was knocked out.

"We got hit three times," Howard explained. "The first blast took out the engines. The second came through the cockpit and hit my arm. The last round that hit us before we went down came through the avionics equipment and ripped through my right leg."

By this time, the helicopter was uncontrollable. "I had one hand, no engines and one foot to use to get the helo back under control," he said. "I couldn't use my right foot, which meant I had no rudder control."

Miraculously, Howard landed the *Sea Cobra* on its skids and, when they touched down, Seagle regained consciousness. At that time, Howard fell from the burning wreck and could hardly move. "The helo was still loaded with 20mm rounds, TOW missiles and other ordnance," he continued, "so it was only a matter of time before the whole thing blew."

Howard knew it was about to explode and continued to call his buddy. Seconds later, Seagle climbed out of the helicopter and dragged Howard about 60 feet away from sure death.

The enemy fire that brought their aircraft down into the 14-inch grass, searched the weeds to finish its prey. "Bullets were kicking up dirt all around us and they seemed to be getting closer," Howard said. "As we lay there, the enemy was closing in on us. They knew we were down and I could hear them yelling, 'You're going to die Yankee,' " Howard recalled with excitement in his voice.

Suddenly, blasts from above scattered the hunters as they drew nearer to the two U.S. pilots. "[The second AH-1T came] to our rescue and got the enemy off us for the time being," Howard explained.

For more than an hour, the enemy tried to regain ground on the two, while the airborne *Sea Cobra* continued to fight them off. They got as close as 200 meters and, each time, the airborne AH-1T suppressed their fire. [It was only one hour but] "it seemed like I was down for three or four days before a CH-46 landed and drew some of the fire away while trying to get to me," Howard exclaimed. It was then that Howard urged Seagle to save himself.

Considering the accuracy of the firing and Howard's pleas, Seagle decided to get help. "When he ran away, he was waving his arms and yelling, trying to distract the enemy from shooting in my direction," Howard recalled.

"The first blast took out the engines. The second came through the cockpit and hit my arm. The last round that hit us before we went down came through the avionics equipment and ripped through my right leg."

By this time, the *Sea Cobra* crew was low on ammunition, but they kept making firing runs to keep the enemy off the CH-46's crew and Howard. GySgt. Neighte of the *Sea Knight* crew ran out into the firing zone to retrieve Howard. After getting him on board, they waited for Seagle to join them. The longer the helo sat on the ground, the more fire from Cuban rounds it drew. "As we sat there waiting for Jeb to come running out of a shack or wherever he was hiding, the firing got heavier and heavier," Howard explained. "We could see bullets flying through the helo. Then, we got a call from [Maj. Giguere] saying we had to lift off."

Pt. Salines barracks suffer a damaging blow from an American air strike.

Even though the *Sea Cobra* continued to make runs through the heavy antiaircraft artillery, and the CH-46 waited as long as it possibly could on the ground, Capt. Seagle did not run for the waiting helicopter.

After the CH-46 safely lifted off with Howard aboard, the *Sea Cobra* made another run, suppressing the fire aimed at the *Sea Knight*. It was then that Maj. Giguere and 1st Lt. Scharver in their *Sea Cobra* were shot down. They perished in Grand Mal Bay.

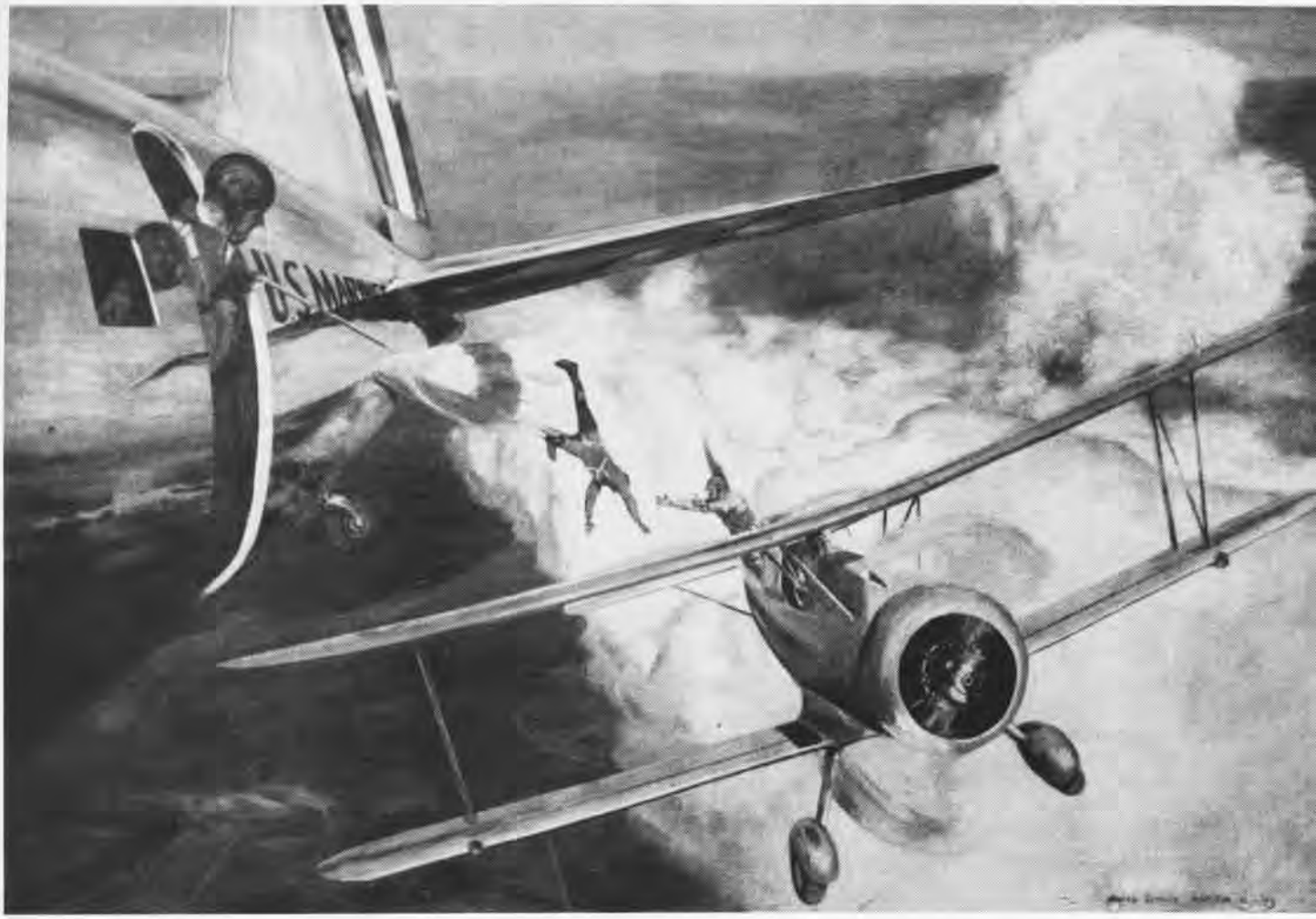
About a week later, Howard found out that his close friend, Jeb Seagle, had also been killed.

Thinking back on the ordeal, Howard expressed his feelings on being so close to death. "It's hard to justify my existence when you think of the guys that are not around anymore," he said. "Being a part of an organization that had the caliber of people who would do anything to save one another is what being a Marine is all about. [You associate with] guys like Maj. Mel Demars, who flew the CH-46 under enemy fire and waited on the ground in case Jeb was running out from somewhere; and Jeff and Pat, who made repeated runs at the enemy through heavy aircraft fire even though they were out of ammunition. What words can you choose to describe the character and the commitment of these individuals."

After a moment of silence, Capt. Howard found these words to describe his copilot: "I have bittersweet memories of Jeb. I am very proud and privileged to have known and served with him. When the chips were down, he did everything he could to save my life and, for that, his was taken."

Today, Capt. Howard is the commanding officer of the First Remotely Piloted Vehicle Company, Twentynine Palms, Calif. He hopes that the knowledge gained in Grenada will help prevent the sacrifice of human life in the future.

The bible says, "Greater love hath no man than this, that a man lay down his life for his friends." (St. John 15:13.) For Capt. Tim Howard, there is no greater truth. ■



WANTED: Something with

In tribute to Marine Aviation's 75th anniversary, there are many spectacular stories to tell. The following account of a daring rescue in 1941 is only one — a stirring real-life drama that demonstrates the unique bond between Marine Corps and Navy flyers.

The trouble had started only minutes before aboard a USMC R2D-1 transport participating in parachute exercises over Camp Kearney, Calif., on May 15, 1941. The aircraft's jumpmaster, Marine Second Lieutenant Walter S. Osipoff, had fouled the D-ring of his parachute with a 150-pound cargo dummy that he was shoving from the airplane. Eleven men and the first cargo dummy landed squarely on target in the drop zone, but the second dummy took Osipoff's ripcord and opened his chestpack as he stood in the aircraft's doorway. Bursting from the chestpack, the parachute canopy was immediately sucked out the door into the roaring slipstream, dragging the startled jumpmaster with it.

It shouldn't have happened that way. Once clear of the transport, the parachute should have opened normally, allowing Osipoff a safe landing in the target zone. Instead, he became entangled with the dummy's long ripcord, traveled the length of it and stopped at its end with a wrenching shock. He was trapped, feet first, face down and half out of his now-broken parachute harness in a mass of flapping silk, 100 feet behind the aircraft.

The pilots, Captain Harold A. Johnson and Major Raymond E. Hopper, turned the aircraft toward NAS North Island. At the same time, the crewmen in the main cabin began hauling Osipoff back into the plane. This proved to be more difficult than expected. By the time the Marine transport reached North Island, the crewmen had pulled the jumpmaster to within 25 feet of the R2D's tail. This only compounded the problem by making it more dangerous, and Osipoff was still a long way from the safety of the cabin. Until he was back aboard, a landing on the runway was out of the question. A water landing in San Diego Bay was becoming a distinct possibility.

Word of the emergency spread quickly at North Island. As the transport arrived over the air station, personnel left their jobs to stand on the ramp to watch and wonder what would happen next.

Two Navy men were not content to be spectators. Lieutenant William W. Lowery and ACMM (NAP) John R. McCants, test pilots at the air station's assembly and repair department, assessed the situation and took action.

an Open Cockpit

By ACC Eric L. Liebenow, USN (Ret.)

They needed an aircraft with an open cockpit. Conveniently, a Curtiss SOC-3, just out of flight test, was parked nearby.

Minutes later, with everything pushed "to the firewall," the sturdy little scout plane climbed to meet the circling transport.

Joining the R2D at 500 feet over Point Loma, just west of the air station, it was immediately apparent that this, too, would be more difficult than expected. Osipoff was riding much too close to the Marine aircraft. Bouncing in the propwash behind the two engines, he was a fast-moving object to retrieve. Bringing a large, injured man through the opening in the cockpit canopy, in rough air, was going to be a difficult challenge for the Navy flyers. Meanwhile, the biplane's propeller was dangerously near the transport's tail. Looking the situation over, and not liking what he saw, Lowery abandoned the effort. He pulled alongside the R2D's cockpit, signaled the pilot to gain altitude and headed out to sea, away from the updrafts rising from the point. Thus began a series of attempts to seize the trapped Marine and drag him down into the rear cockpit with McCants.

Over open water, in smoother air, Lowery eased the biplane toward the

Lt.Col. Walter S. Osipoff was a member of the tactical operations group at Quantico in 1950.

target. For the moment, the Marine was not bouncing. Maneuvering carefully to keep the SOC's propeller away from him, Lowery closed in. At the last moment, with one hand holding the open canopy, McCants stood up to grab the victim but his large frame in the slipstream changed the air flow. The biplane lost speed and the propeller came perilously close to Osipoff's floating form.

The next two attempts were equally frightening. Both times, as they closed in to grab the Marine, he resumed bouncing, moved over to the left side and slammed down on the fabric of the biplane's upper wing. The two Navy pilots watched as Osipoff slid off the trailing edge.

After several more unsuccessful tries, McCants saw a chance. Ignoring the possibility that he might drop the Marine or be tossed over the side of the airplane himself, he reached up with both hands, caught his quarry and stuffed him head first into the rear cockpit. Unable to get all of him into the plane, McCants crammed the Marine's legs into the machine gun storage well behind the cockpit. Osipoff, with a desperate hold on McCants' legs, was not yet safely aboard. The biplane was engulfed in flapping silk, and the cargo ripcord still tied it to the transport. McCants, now forced to stand out in the slipstream, jackknife in hand, slashed at anything that might connect them to the other plane. Finally, the job was done. In the turbulence of the R2D's propwash, with the increased load in the rear cockpit, the scout plane nosed up, climbing toward the transport and cutting the ripcord with its propeller.

That was not all that the propeller cut. It also cut off 12 inches of the metal tail cone at the end of the R2D's fuselage. The two aircraft had suffered a minor midair collision. Miraculously, the transport's rudder and elevators were left intact.

Walter S. Osipoff had ridden as a captive at the end of the long ripcord for 33 minutes. Badly bruised, bleeding from numerous lacerations and in shock, he was immediately taken to the naval hospital where his injuries were found to be extensive. After three months in a body cast, he returned to active duty.

On June 5, 1941, William W. Lowery and John R. McCants were presented Distinguished Flying Crosses (DFCs) by Secretary of the Navy Frank Knox. Their citations read, in part:

" . . . This is considered to be one of the most brilliant and daring rescues in the annals of our naval history. The skill, courage, initiative and resourcefulness displayed by LT Lowery and Chief McCants in effecting the rescue of LT Osipoff at the imminent risk of their lives is in keeping with the highest traditions of the Naval Service." ■

Author's note: I, too, served at North Island. In 1946, at the beginning of my career as a Navy aircontrolman, my first assignment was in the air station's control tower where my tower officer was Lieutenant Commander John R. McCants. I remember that he wore the DFC but it wasn't until years later that I learned that he was the man in the back seat of the SOC the day they rescued Walter Osipoff.

This oil painting, "The Rescue of Lieutenant W. S. Osipoff, USMC," is by artist James Coward Martin II.

Left to right, ACMM John R. McCants and Lt. William W. Lowery receive DFCs from Secretary of the Navy Frank Knox for their daring rescue of 2nd Lt. Osipoff.

Fat Albert Airlines

Flying the Blues

By JO2 Larry Coffey

As the new, blue F/A-18s, trimmed in gold, taxi in tight formation on the runway for a flight demonstration, the only sounds are the roar of the jet engines and the occasional boom of the narrator's voice shouting over the loudspeaker, trying to be heard above the high-pitched whine.

All heads turn toward the jets and their crew chiefs, and admiration can be seen in the eyes of the spectators. Undoubtedly the jet pilots and crew are the center of attention and receive most of the recognition from the faithful fans of the U.S. Navy Flight Demonstration Squadron, *Blue Angels*.

But a look to the right brings into view another essential member of the *Blues*' team. The large blue and white transport, with gold accents, boasts a big, yellow Jimmy Durante-type nose. The aircraft is affectionately known as "Fat Albert."

The primary mission of the C-130 *Hercules* and its all-Marine crew is logistic support, according to USMC Captain Mike V. Mullally, one of the pilots assigned to "Fat Albert Airlines."

"We're a very important aspect of the air show," he said. "We transport all of the personnel and equipment to and from the show sites. If we didn't perform this vital mission, there wouldn't be any air shows.

"During the winter training season, we make logistic runs from NAS Pensacola, Fla. to El Centro, Calif., about twice a week," Mullally went on. El Centro, located about 120 miles east of San Diego and 11 miles north of Mexico, is the winter training site for the *Blue Angels*.

Fat Albert's pilots do more than fly the aircraft. "During the season," Mullally said, "we monitor the air show with a Federal Aviation Administration representative as well as being ground safety observers. We actually listen to the pilots talk during the air show."

Although the C-130 pilots and crew are an integral part of the *Blues*, they are equally important to the Marine Corps. "We are a recruiting tool," said Mullally. "In huge letters on the side of the airplane it says 'United States Marines.' We represent not only the *Blue Angels*, but also the U.S. Marine Corps."

The recruiting support isn't limited to standing next to the aircraft, shaking hands and answering questions. "We do a lot of public speaking," Mullally explained. "The first time I did it, I went to a high school and talked to a 100 students. I thought I was the world's worst speaker. I was very nervous but, after I got into what I was doing, it went smoother and easier."

Sgt. Gary A. Sharkey, Fat Albert's navigator, added, "We have other commitments, such as visiting local hospitals. It usually involves a pilot and one of the enlisted personnel. If we're at a high school, we may show a short film about the squadron to the students and answer questions. At every commitment, we explain a little about the *Blue Angels*, including some history and our role in the Marine Corps."

One of Fat Albert's demonstrations during an air show is a jet-assisted takeoff (JATO). Four small rockets are strapped to both sides of the C-130's

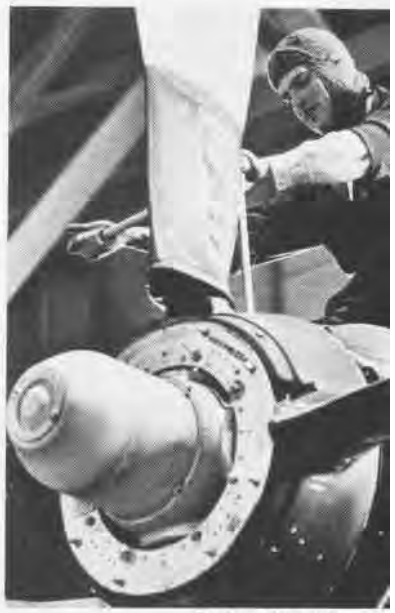
fuselage, and spectators are shown just what this modification can accomplish.

According to Sharkey, a JATO isn't just for show. "Its tactical purpose is to help the aircraft clear high obstacles at the end of a runway or to do takeoffs on short runways," he explained. "We do it to show how fast a big airplane can get off the ground." At 85,000 pounds, with JATO, Fat Albert leaps into the sky using 1,500 feet of runway.

Fat Albert's crew is composed of three pilots and five enlisted personnel. The pilots are Major Franklin Welborn, the senior officer; Capt. Mullally; and Captain Mark Mykityshyn. The enlisted crew includes Gunnery Sergeant Chuck Mullins, a flight engineer and the senior enlisted Marine; Staff Sergeant Alex Hawkes, flight engineer; Staff Sergeant Lee Adams, flight mechanic; Staff Sergeant Eddie Kemp, loadmaster; and Sgt. Sharkey.

Duty with Fat Albert Airlines means different things to each of the team members and each has his own feelings about the ups and downs of an assignment with the *Blues*. But there is no doubt about the pride they all feel when selected to serve as role models for Marine Corps Aviation.

The Blue Angel C-130, with its all-Marine crew, during a JATO.



SSgt. Eddie Kemp installs a stand-by filter assembly on one of Fat Albert's engines.

PH2 Jeff Wood

"I consider it an honor to have been picked from all of the people who applied to fly for the *Blues*," Capt. Mullally said. "...when I found out, I was ecstatic!"

SSgt. Adams, described his duty as "interesting and very demanding." He said, "I've met a lot of interesting people and I've made a lot of good friends in all parts of the country."

Adams' pride was obvious when he recalled, "In the four years that I've been in the squadron, we have never missed a mission. There's not another outfit I can think of that can compare to that record."

Duty with Fat Albert Airlines is not all glamour. GySgt. Mullins said some problems are encountered. "There are a lot of impromptu changes to the schedule during the winter training months," he explained. "On those occasions, things get a little hectic and out of sync. But other than that, there's not a great deal to dislike."

Mullins explained that their job parallels that of any other Marine Corps C-130 assignment. "We're performing basically the same functions you would in the fleet, just on a smaller scale....Here, we're basically logistic support.

"During the season," he added, "if a jet goes down, we'll launch on a moment's notice, go wherever necessary to get that part and return before the next show starts."

One thing that is obvious is the amount of travel involved in duty with the *Blues*. When "talking shop" with the Marines, you can be assured that travel is going be discussed.

Capt Mullally feels that the travel involved isn't as hard on him as other squadron members. "I'm not married, but I think travel is hard on a family," he said. "We're on the road from Thursday morning until Sunday night...on a one-week trip. On a two-week trip, we leave on Wednesday and come back a week from the following Monday, so it's a lot of time on the road."

Mullally explained that any Marine Corps Aviator who meets the requirements can apply to be a *Blue Angel* C-130 pilot. He must have completed 1,500 flight hours, an overseas tour, and a tour as an aircraft commander with a Marine transport squadron. The application is submitted to Headquarters, U.S. Marine Corps and to the *Blue Angels*. Applicants are screened and interviewed by the *Blues*.

According to Sgt. Sharkey, enlisted Marine Corps personnel in paygrades E-5 to E-7 with 1,500 hours of flight time may qualify for duty with Fat Albert Airlines. The application procedures are the same as those for pilots.

You can be sure that on April 25, when the *Blue Angels* opened their 1987 season at MCAS Yuma, Ariz., all eyes were on the jets as they taxied in formation on the runway. If you find yourself at an air show featuring the *Blues*, look a little further to the right. The big, yellow Jimmy Durante nose and Fat Albert's crew are sure to stand out in the crowd."■

Smoke pours from the eight rockets strapped to Fat Albert during a jet-assisted takeoff.

People

Regardless of sophisticated weapons and fancy hardware, Naval Aviation's main strength is the individual human being: the men and women who make it all go.

It is easy to lose sight of this when discussing wide-ranging military operations. We tend to focus on ships and squadrons and aircraft. While I know that most of you — officer, enlisted, civilian — have a deep and abiding respect for the people up and down the chain in your command, it doesn't hurt to remind ourselves now and then that each and every person should be made aware of that fact, on a continuing basis.

If this sounds like a pep talk, it is. But it is a pep talk to a team that is on a hot streak. Naval Aviation is on a roll and we want to keep it that way. *Achille Lauro*, Libya, Norwegian Sea, North Pacific, Indian Ocean, movies, books and headlines are the outward signs.

Morale, training and readiness are its inward signs. Talent, whether it be officer, enlisted or civilian, has never been better. Clearly, performance overall has been superb.

The country expects this trend to continue. We want it to continue. Indeed, we have to find more efficient ways to get the job done. There is a phrase in the industrial world: "Work Smarter, Not Harder." There has never been a greater need to do this in Naval Aviation. We have some manpower shortages now and they will likely continue well into the next decade. We have to find ways to do more with less. I know we can because it's done somewhere every day.

Not long ago a chief petty officer put together a training program at a fraction of the cost of an outside contractor. This CPO was working in another field at the time. It was only by happenstance that a visiting officer learned that the CPO had a master's degree in computer science. That officer was tasked with generating the training program. The CPO was the economical answer to his problem.

So, the familiar division officer axiom, "Know your men and women," remains good advice. Make yourself acutely aware of the capabilities of those with whom you work. Could be that they have untapped talents that might be applied to the tasks at hand. There will be a growing need for those untapped talents. ■

MCAS Camp Pendleton

Airfield Named for Marine Aviator

Fallen heroes are often honored with decorations and medals, especially in wartime. During peacetime, a unique honor is sometimes bestowed upon a member who has contributed much to naval service. Naming an airfield in his honor is a way to preserve his memory.

Such a dedication took place at MCAS Camp Pendleton, Calif., on January 12. General Paul X. Kelley, Commandant of the Marine Corps, designated the airfield Munn Field, after receiving a request from Lieutenant General John C. Munn's widow.

Lt.Gen. Munn was selected because of his background as assistant commandant of the Marine Corps, the first Marine Aviator ever to command Camp Pendleton, and for his accomplishments as a Marine Corps flyer.

He was commissioned a second lieutenant upon graduation from the U.S. Naval Academy in June 1927. Munn received his Wings of Gold in January 1931. He served with the first Marine squadron aboard an aircraft carrier; flew off the USS *Saratoga*, *Lexington* and *Langley*; and was a Naval Attache and Naval Air Attache in Columbia, Panama, Venezuela, Ecuador and Peru. During WW II, Lt.Col. Munn served at Guadalcanal as commander of the Marine Aircraft Group (MAG) in the New Hebrides Islands. He later commanded MAG-31 at Okinawa, Japan.

During the Korean War, General Munn was the chief of staff of the 1st Marine Aircraft Wing, Republic of South Korea. A Naval War College graduate, he served on strategic planning staffs in the Pacific and later on the staffs of the Chief of Naval Operations and the Joint Chiefs of Staff. From 1960 to 1963, Munn was the assistant commandant of the Marine Corps. He was then named commanding general of Camp Pendleton, where he remained until his retirement in 1964.

Lt.Gen. Munn died on April 14, 1986. He is survived by his wife, Mrs. Ben Alice Munn, who retired as a lieutenant colonel in the Women's Marine Corps Reserve, during a joint ceremony with her husband at Camp Pendleton. ■

Lt.Gen. John C. Munn

Sgt. N. D. Scales

Lt.Col. Ben Alice Munn and Maj.Gen. John C. Munn pose on the day of their joint retirement ceremony at Camp Pendleton with an old friend, Lt.Gen. Dana, USMC(Ret.). Maj.Gen. Munn was promoted to Lt.Gen. prior to his official retirement from the Marine Corps.

Sherri R. Jones contributed to this article.

Established

The following squadrons were established this year: VS-27, NAS Cecil Field, Fla., January 22; VA-36, NAS Oceana, Va., March 6; and HS-16, NAS North Island, Calif., March 10.

Redesignated

VA-305 was redesignated VFA-305 on January 18 to reflect the arrival of the squadron's first F/A-18 *Hornet*. The *Lobos*, under the command of Cdr. Dennis J. Sapp, are the second naval reserve squadron to transition to the new strike fighter.

Awards

VA-203 has won its third consecutive CVWR-20 bombing derby during a recent deployment to NAS Fallon, Nev. Squadron maintenance personnel produced reliable delivery aircraft, which the pilots used to capture eight of the top 10 places in the competition.

Lt.Cdr. Bill Bailey was the overall individual winner; Cdr. Tom Verrengia tied for second; and Lt.Cdr. Mike Foster claimed the best overall laydown delivery title.

Decommissioned

After 41 years of service, USS *Norton Sound* (AVM-1) was decommissioned on December 11, 1986, at her home port of Port Hueneme, Calif. Her legacy will live on through the Norton Sound Association.

Records

The following individuals marked personal career milestones:

VA-35: Lt.Cdr. Deen Poe achieved his 1,000th carrier arrested landing in the A-6. He has 3,400 hours in the *Intruder* and recorded the milestone trap aboard *Nimitz*.

VA-46: C.O. Cdr. Bob Klosterman recorded his 1,000th trap on board *Saratoga* on November 11.

VA-86: Flying an A-7 *Corsair II*, Cdr. J. M. Johnson, C.O., logged his 1,000th carrier arrested landing aboard *Nimitz*.

VF-21: C.O. Cdr. Frank Roberts reached two personal records on board *Constellation*. He made his 900th carrier arrested landing and, two days later, recorded his 600th F-14 trap.

VS-24: Skipper Cdr. J. R. Tomanelli completed his 200th *Nimitz* trap on January 7.

Two AV-8Bs from VMA-331 recorded a first for the *Harrier* by flying a ship-to-ship takeoff and landing transcontinental flight on December 10, 1986. Flown by Lt. Col. Jim Cranford, C.O., VMA-331, and Capt. J. R. Running, the flight began from USS *Okinawa* in the Pacific Ocean and ended off the coast of North Carolina aboard USS *Guam*.

The pilots flew nonstop with refueling assistance provided by four VMGR-252 KC-130 *Hercules*. Flying the more than 2,000 miles at 480 knots, the *Harriers* had to refuel twice.

This record was performed as the 2d MAW's tribute to the 75th Anniversary of Naval Aviation.

An H-3 from HC-16 logged the 3,000th landing on the IX-514 helicopter landing trainer (HLT) on January 7. This also marked the 45th day of operations for the HLT. The H-3 is the largest helo to date to land on her flight deck.

Raleigh (LPD-1) recorded her 21,000th accident-free landing during her Mediterranean deployment when a CH-46 from HMM-162, carrying Commodore J. H. Springer, ComPhibRon-8, landed aboard on January 8.

Theodore Roosevelt (CVN-71), recorded her 71st landing on November 6, 1986.

Rescue

It was New Year's Eve 1986 and everyone was celebrating — everyone but the people in the Dupont Hotel, San Juan, P.R., and SAR crews from VC-8.

In less than one hour after the distress call was made, two SAR helicopter units arrived on the scene to evacuate people from the burning hotel set afire by an arsonist. "Saltspray 24" was first on the scene, manned by helicopter aircraft commander (HAC) Lt.Cdr. Dave Small, copilot Ltjg. Stephan Cundari and aircrewmen PR1 John Barber, AE3 Mike Glatter and HM3 Larry Janolino. Because of the roof's design, the helo could not land and people had to be transferred by rescue nets to the aircraft. By the time "Saltspray 25" arrived, the fire was under control. However, her crew members, consisting of HAC Lt. Scott Griffith, copilot Ltjg. Mark Ripkey, aircrewmen AD2 Tim Batan and AMS3 Lee Hilligas and flight surgeon Lt.Cdr. Rodney Dunseath, were still needed to rescue victims.

When all visible survivors were evacuated from the roof, both helos were called off. Unfortunately, the smoldering fire reignited, which sent more survivors scurrying to the roof. Standing by in "Saltspray 21," HAC Lt.Cdr. Keith Canty, copilot Ltjg. Dave Sanchez and aircrewmen ADI Fred Roach and AEI James Williamson swiftly manuevered through the dense smoke and darkness to lift the remaining survivors from the roof.

In all, the three SH-3G *Sea Kings* from VC-8 rescued 75 people from the Dupont Hotel.

Honing the Edge

After experiencing engine failure while on a low-altitude training mission, Lt.Cdr. Dan McNeil, a Naval Reserve aviator assigned to VA-1287, NAR Alameda, Calif., landed his A-7E safely in Arcata, Calif.

Approximately 15 minutes after takeoff, Lt.Cdr. McNeil experienced a sudden loss of engine power. He climbed as high as he could with available airspeed and power, in case he needed to eject. Seeking assistance, he contacted the Red Bluff Flight Service station. Fortunately, an alert air traffic controller at nearby Arcata picked up the distress call. He told Lt.Cdr. McNeil he was closer to Arcata than Red Bluff and quickly provided him information about the airport for an emergency landing.

With the aircraft at minimum flying speed, its malfunctioning engine could not produce enough thrust to maintain altitude. Keeping clear of populated areas, in case the engine quit completely, McNeil did everything he could to stay in the air and coax the aircraft into Arcata. To help reach the runway, he delayed lowering the landing gear and flaps until the last possible moment. As soon as he touched down, he started maximum braking to stop safely on the runway.

A post-flight inspection revealed extensive internal engine and turbine blade damage.

Last December, the Los Angeles Area Chamber of Commerce sponsored the annual Wright Brothers Banquet in a ballroom of the local Beverly Hilton Hotel. The 75th Anniversary of Naval Aviation was the main theme. Befitting the occasion, as depicted in this photograph, the stage was configured with a simulated flight deck, complete with proper lighting, as it would be viewed by an aviator approaching for a nighttime arrested landing. It was a dramatic and memorable centerpiece for the event.

Et cetera

This photo of an F-14 breaking the sound barrier was taken by Joy Samuelson, a civilian employee at the naval hospital, Camp Pendleton, Calif., while she was aboard USS Kitty Hawk on a dependents' day cruise last year.

Joy Samuelson

Whenever an S-3 flies from a carrier to a shore station to pick up a passenger, all empty seats have to be filled for safety purposes in case ejection is necessary. In the past, if there weren't enough crew members to fill all seats, dummies weighing 160 pounds were used. On the return trip, the dummy was secured in the aisle. Because of the weight, carrying a dummy off and on the aircraft was cumbersome and usually required two people.

The Naval Air Development Center, Warminster, Pa., was tasked with with resolving this problem. The seating and escape branch decided to use an assembly of four interlocking aluminum blocks, weighing less than 45 pounds, known as ballast block assemblies. With the reduced weight, one person can carry, assemble and secure the blocks to the ejection seat using the existing restraint strap system.

The S-3 is a carrier-based ASW aircraft equipped with four ejection seats. If an emergency occurs during a carrier landing or launch, the pilot can activate all four seats from his position. The two back seats go out together, followed by the front seats. If one of the back seats is empty, it accelerates ahead of its adjacent seat. The hot rocket catapult exhaust may then strike the crew member ejecting in the slower moving seat. To avoid this hazard in the past, all empty seats carried a dummy. They now carry the lightweight ballast blocks.

Upon advancement to captain on October 1, 1986, Thomas W. McMahon became the Navy's first former enlisted air traffic controller to achieve his rank. Capt. McMahon is currently assigned to DCNO (Air Warfare), OP-554.

Change of Command

America (CV-66): Capt. James A. Lair relieved Capt. Richard C. Allen.

CVW-13: Capt. William H. Switzer III relieved Capt. Byron L. Duff.

FitMAtAEWWingsLant: RAdm. James E. Taylor relieved RAdm. Gerald L. Riendeau.

HC-16: Cdr. Clifford J. Strohofer, Jr., relieved Cdr. Michael R. Suldo.

HMH-462: Lt.Col. Robert Shillito relieved Lt.Col. Walter Dehoust.

HMM-161: Lt.Col. Hugh O'Neill relieved Lt.Col. Robert Yeend.

H&MS-13: Lt.Col. Roger William relieved Lt.Col. E. C. Schriber.

Kitty Hawk (CV-63): Capt. F. Lee Tillotson relievd Capt. David W. Hoffman

LAtWing-1: Cdr. John W. Peterson relieved Capt. Charles A. Cook.

NAS Kingsville: Capt. Frederick D. Litvin relieved Capt. Clinton L. Smith.

NAS Whiting Field: Capt. Paul E. Pedisich relieved Capt Carlton L. Lavinder, Jr.

VA-65: Cdr. Stephen H. Baker relieved Cdr. Robert L. Leitzel.

VA-82: Cdr. G. A. Pike relieved Cdr. R. J. Sanderson.

VA-115: Cdr. Paul D. Cash relieved Cdr. Richard J. Rhoades.

VA-128: Cdr. Bruce V. Wood relieved Cdr. Robert R. Wittenberg.

VAQ-129: Cdr. Thomas J. Ford relieved Cdr. Walter D. Bird.

VAW-112: Cdr. Terry E. Magee relieved Cdr. Richard F. Braden.

VAW-127: Cdr. Ward J. Cooper relieved Cdr. T. S. Eseman.

VF-32: Cdr. Charles K. Crandall, Jr., relieved Cdr. Alan M. Gemmill.

VF-43: Cdr. Jerry Merritt relieved Cdr. Peter Burggren.

VF-102: Cdr. William Fischer relieved Cdr. John Lyle.

VF-114: Cdr. William G. Trainor relieved Cdr. J. P. Kilkenny.

VF-201: Cdr. Stephen Brainerd relieved Cdr. Dave Palmer.

VFA-15: Cdr. John W. Curtin, Sr. relieved Cdr. Craig Landon.

VFA-106 Cdr. Les Kappel relieved Cdr. John W. Peterson.

VMA-211: Lt.Col. Jonathan Ingersoll relieved Lt.Col. Hal Henderson.

VMA(AW)-242: Lt.Col. John M. Valovich relieved Lt.Col. Willis W. Hansen.

VMAQ-4: Lt.Col. Michael E. Hewett relieved Lt.Col. Rodger D. Milton.

VP-6: Cdr. Gary B. James relieved Cdr. Billie L. Tempel.

VP-19: Cdr. Richard A. Crosby relieved Cdr. James R. O'Donnell.

VP-67: Cdr. Eric M. Crayon relieved Cdr. James E. Turner.

VR-60: Cdr. Bernard F. Carlson relieved Cdr. Richard E. Graner.

VS-31: Cdr. John L. Ahart relieved Cdr. William M. DeSpain.

VS-37: Cdr. Danny L. George relieved Cdr. Hugh J. McCullon.

Gray Eagle

Lt.Cdr. Alan Dooley

Outgoing Gray Eagle VAdm. R. F. Schoultz admires his replica of the larger trophy.

VAdm. Robert F. Schoultz (left), former U.S. Commander, Eastern Atlantic, Deputy Commander in Chief, U.S. Naval Forces, Europe, turned over his dual-hatted position on February 17, 1987. He retired at the end of the month – as the 33rd Gray Eagle.

The Vought-sponsored award goes to the active duty Naval Aviator with the earliest date of designation. The trophy is inscribed "in recognition of a clever eye, a stout heart, a steady hand and a daring defiance of gravity and the law of averages." Each recipient receives a replica of the larger trophy, which is displayed at the Naval Aviation Museum, Pensacola, Fla.

The title was officially passed to VAdm. C. J. Kempf, Director of Naval Reserve (right), on February 25 when he became Gray Eagle No. 34.

The above insignia were recently approved by the Insignia Board.

1987 Blue Angels Schedule

May		2	Seattle, WA
2-3	NAS Cecil Field, FL	8-9	NAS Miramar, CA
7	NAS Chase Field, TX	15	NAS Brunswick, ME
9-10	NAS Corpus Christi, TX	16	McGuire AFB, NJ
16	NAS Patuxent River, MD	22-23	Rickenbacker AFB, OH
18	Naval Academy, MD	29-30	Fort Wayne, IN
23-24	Otis AFB, MA	September	
30-31	Daytona Beach, FL	5-6	Harrisburg, PA
June		11-12	Broomfield, CO
6-7	MCAS El Toro, CA	19-20	NAS Oceana, VA
13	Mather AFB, CA	26-27	NAS Bermuda
14	NAS Lemoore, CA	October	
20-21	Hamilton, Ont., Can.	3-4	Detroit, MI
27-28	Griffiss AFB, NY	10-11	San Francisco, CA
July		17-18	NAS Point Mugu, CA
3-5	NAS Moffett Field, CA	24-25	MCAS Beaufort, SC
11-12	Redding, CA	31	Carswell AFB, TX
18	Pensacola Beach, FL	November	
25-26	Richards Gebaur AFB, MO	1	Carswell AFB, TX
August		7-8	Opa Locka, FL
1	NAS Whidbey Island, WA	14	NAS Pensacola, FL

PROFESSIONAL READING

By Commander Peter Mersky, USNR-R

Sullivan, Jim. *Bent and Battered Wings, USN/USMC Damaged Aircraft 1943-1953*. Squadron/Signal Publications, Carrollton, TX 75011-5010. 1986. 64 pp. Illustrated. $8.95.

One of the more unusual pictorials in recent years, this latest addition to the extensive Squadron/Signal line carries a number of interesting photos along with captions packed with nuggets of information. Many squadrons and activities are covered, as well as Naval Reserve units in Korea.

This volume is aimed at the modeler, but the interested researcher and history buff can use it to glean certain information.

Padden, Ian. *The Fighting Elite Series: U.S. Marine Air Wings*. Bantam Books, New York, NY. 1986. 149 pp. Illustrated. $2.95.

This paperback is one of the few recent books dealing with Marine Aviation. There are details on USMC aviation WW I, complete with entries from diaries and combat logs. WW II and Vietnam action are also included, as well as a fairly complete rundown on current Marine aircraft and missiles, and unit organization and mission.

For a quick survey of the subject, this is a good effort.

Porter, USMC(Ret.), Col. R. Bruce, with Eric Hammel. *Ace! A Marine Night-Fighter Pilot in World War II*. Pacifica Press, Pacifica, CA 94044. 279 pp. Illustrated. $22.95.

This is a somewhat offbeat book, written at a very personal level. It tells of the author's frustration at spending the early years in rearline units while his friends fought at Guadalcanal, the problems encountered as he progresses to senior captain and major after gaining three kills, and the transition to the budding night-fighter community in the last year of the war. The story is well-told with interesting glimpses into USMC action early in the war as well.

All in all, it is a good book for those interested in Marine Aviation, celebrating its 75th anniversary.

Hallion, Richard P. *The Naval Air War in Korea*. The Nautical & Aviation Publishing Company of America, Baltimore, MD 21201. 1986. 244 pp. Illustrated. $21.95.

This volume completes a trilogy of books by this publisher chronicling the naval air wars in WW II, Korea and Vietnam. It begins with an overview of post-WW II U.S. military aviation and the interservice struggles which characterized the late 1940s as each service sought to establish its role. The development of Navy and Marine aircraft and missions, including close air support, receives good treatment.

The section on air-to-air operations emphasizes the night-fighter war fought by the Marines in their F7F *Tigercats* and F3D *Skyknights*. Supported by photos and side drawings of various aircraft discussed, the book covers the political and tactical developments affecting the Navy and Marine roles in the war. The final chapter touches on the legacy which American involvement in Korea left to the next generation of U.S. servicemen who fought in Vietnam, little more than a decade later.

Walton, Frank E. *Once They Were Eagles: The Men of the Black Sheep Squadron*. University Press of Kentucky, Lexington, KY 40506-0024. 1986. 213 pp. Illustrated. Indexed. $18.

Written by the intelligence officer of VMF-214, this short, personal account of the famous fighter squadron's WW II birth and wartime service sheds new light on many areas of the unit. The memoir was written to dispel many postwar myths surrounding the *Black Sheep* and their famous leader, Greg "Pappy" Boyington, one of the war's leading Marine aces, ex-Flying Tiger, POW and winner of the Medal of Honor and Navy Cross.

This is a wonderful insider's wartime report, written 40 years after the events but no less vividly remembered.

Telfer, Rogers and Fleming. *U.S. Marines in Vietnam, 1967: Fighting the North Vietnamese*. Headquarters, U.S. Marine Corps, History and Museums Division, Washington, D.C. 20374. 1984. 338 pp. Illustrated. Indexed. $10.00.

Written by three combat veterans of the Vietnam conflict, this volume is the latest in the Marines' ambitious project of presenting the Vietnam war in complex, in-depth, well-researched books. The series will eventually include 10 similar volumes, each book taking full advantage of the Marines' prodigious repository of written reports, oral interviews on tape, and photographs.

Although this volume concentrates on the ground war, there are interesting peripheral references to Marine air power and its role in Southeast Asia. Chronologically written, *1967* details every ground operation which took place during that year and sets the scene for the climactic struggle which was to come at the forlorn little outpost at Khe Sanh in early 1968.

Marine air is basically discussed in the chapter entitled, "Supporting Arms," and here the reader and researcher are well served with numerous details of how Marine fixed-wing and rotary-wing aircraft were used as well as "inside" anecdotes and observations not available before. There is a lengthy glossary, a chronology, a chart detailing the distribution and equipment of the various FMF aviation squadrons, and a section which gives all of the Medal of Honor citations for the year.

Montbazet, Jean-Pierre. *Super Carriers: U.S. Naval Airpower Today*. Osprey Publishing, Ltd., London. 1985. 128 pages.

There is a burgeoning interest in U.S. carrier aviation, especially in Europe, as evidenced by the growing number of books on the subject. Many of these publications are picture books, and this latest paperbook is full of first-rate color photography depicting American carriers in action. The book is a fine effort, worthy of inclusion in the air enthusiast's library.

AWARDS

F. Trubee Davison Award

The Chief of Naval Reserve proclaimed the *Golden Hawks* of VFA-303 as the number one reserve tailhook squadron for the 1986 competitive cycle. Chosen for its outstanding training record, the NAS Lemoore, Calif.-based squadron is led by Cdr. Jon Green.

The award is sponsored by McDonnell Douglas and honors Lt. Davison who, while a student at Yale in 1917, anticipated U.S. entry into WW I and organized a group of fellow students to take flying lessons. The group formed the First Yale Unit, which later became part of the Naval Air Reserve.

Lt.Cdr. Ron Smeltzer

This VFA-303 F/A-18 Hornet flies near Mt. Whitney in June 1986, piloted by Lt.Cdr. Mike Brady.

CNO Safety Awards

The following are the CY-86 winners of the CNO Aviation Safety Awards:

ComNavAirPac: VFs 24 and 126, VAs 22 and 95, VFA-195, HSLs 33 and 43, VRC-50, VAQs 129 and 134, VS-29, VAW-113, VP-9, HS-6 and HC-11.

ComNavAirLant: VF-11, VFA-131, VAs 46 and 55, VAQs 33 and 132, HM-12, VP-23, VS-32, VAW-120, HS-15, VX-1 and HSL-32.

CG FMFLant: HMMs 261 and 263 and VMFAs 115 and 333.

CG FMFPac: HML-267, HMTs 301 and 303, HMM-364 and VMFA-323 (third consecutive).

ComNavAirResFor: VF-301 (second consecutive), VA-203, VAQ-209, VP-64, VR-46 and HS-85.

CNATra: VTs 6 (fourth consecutive), 7, 23, 27 and 31.

4th MAW: HMM-774 (third consecutive) and VMA-142.

ComNavAirSysCom: NWC China Lake, Calif.

The 1986 CNO Readiness Through Safety Award went to co-winners Commander, Naval Air Force, U.S. Atlantic Fleet and Commanding General, Fourth Marine Aircraft Wing. ComNavAirLant was also winner of the 1986 Admiral James S. Russell Naval Aviation Flight Safety Award.

Flatley Awards

The CY-86 recipients of the Admiral Flatley Memorial Award are USS *Forrestal* (CV-59) and USS *Tarawa* (LHA-1). Sponsored by Rockwell International, the annual award honors VAdm. James H. Flatley, Jr., and recognizes superior operational readiness, outstanding safety records and significant contributions to aviation safety during the preceding year.

STATE OF THE ART

EA-6Bs Retrofitted for HARM

Grumman Corporation is under contract to incorporate the adaptation of the high-speed, anti-radiation missile (HARM) into the electronic warfare EA-6B. The Navy's investment in the aircraft will include retrofitting the HARM system in ICAP II (increased capability) *Prowlers*, plus the installation of HARM control panels manufactured by Texas Instruments. The EA-6B can carry as many as four missiles. It will use its five stations for a mixture of jamming pods and HARMs, depending on mission requirements.

HCS/MRR Helo

The Navy awarded an $84.5 million contract to United Technologies' Sikorsky Aircraft for an initial production of five combat search and rescue/special warfare support (HCS) helicopters for the Navy and two medium range recovery (MRR) helos for the Coast Guard.

The HCS/MRR aircraft is a derivative of the SH-60F *Seahawk*. It combines the best of combat attributes, seaworthiness, integrated systems, supportability and helicopter performance to provide the Navy and Coast Guard the optimum HCS/MRR capability.

The total number of aircraft expected to be produced is 53, with 18 going to the Navy and 35 to the Coast Guard.

Hydrographic Airborne Laser Sounder

The hydrographic airborne laser sounder (HALS) recently, underwent successful flight testing at the Naval Air Development Center (NADC), Warminster, Pa. Sponsored by the Defense Mapping Agency and managed by the Naval Ocean Research and Development Activity, the HALS system is designed to replace conventional methods for mapping the bottom of coastal waterways. Two conventional — but time-consuming — processes included deploying a ship with sonar capabilities, transmitting sound downward and waiting for a response; and lowering a lead weight on a cable and physically measuring the distance. The HALS system's greatest advantage is that, with the use of an aircraft, it operates 500 times faster, thus saving time and money.

HALS emits a 10-foot-diameter shaft of light, 400 times per second. The receiver has an 80-square-inch aperture. It uses an elliptical scan pattern with a 268-meter swath at an altitude of 500 feet. HALS will determine depths from two to 60 meters with better than one-meter accuracy at a 60-meter depth. It is capable of gathering data over a four-hour mission at a coverage rate of over 100 square kilometers per hour.

After tests aboard an NADC P-3 *Orion*, HALS was determined to be a "workable idea."

Fleet Air Arm Museum

The above USMC F-4J/S, BuNo 155848, was recently acquired for display at the Fleet Air Arm Museum, RNAS Yeovilton, Somerset BA22 8HT, England. Museum director D. C. B. White would like to compile a history of the aircraft. Former members of VMFA-232, its last squadron, or anyone with information or personal anecdotes on this Phantom II, please write Mr. White.

Fleet Liaison/Airborne Weapons

ComNavAirSysCom, Washington, D.C., now has on board a fleet liaison officer for airborne weapons in the Airborne Weapons Logistics Division to assist all Navy, Marine and Reserve fleet users of 2E and 8E COG airborne weapons. Questions or problems concerning ordnance/ammunition material (general), improved rearming rates system (IRRS), captive air training missiles (CATM) inventory, maritime prepositioning ships (MPS), near-term prepositioning forces (NTPF) and CV/CVN mission load allowances are encouraged to contact Lt.Cdr. Perry D. Driver, AIR-41832G, autovon 222-8182/8216 or commercial (202) 692-8182/8216.

Lt.Cdr. Driver is an aviation ordnance limited duty officer (LDO/6360) with many years of fleet experience. He recently reported to NavAir from the staff of ComNavAirLant Weapons Readiness and Training and is on-line to assist fleet operators.

Battle of Midway

For research purposes, *Naval Aviation News* is trying to identify surviving aviation squadron commanders who participated in the Battle of Midway during WW II. Capt. Jim Gray of VF-6 aboard USS *Enterprise* is one. We would appreciate hearing from or about the others.

Reunions, Conferences, etc.

USS Salisbury Sound (AV-13) reunion, July 20-26, Charleston, SC. Contact Don Wade, 560 Campbell Hill, Marietta, GA 30060, (404) 426-7883.

Tactical Electronic Warfare Symposium, May 19-21, NAS Whidbey Island. Contact Lt.Cdr. Lee Holbrook, VAQ-129, NAS Whidbey Island, Oak Harbor, WA 98278, AV 820-2093 or comm (206) 257-2093.

Assoc. of Aviation Ordnancemen reunion, June 18-21, Comstock Hotel, 200 W. Second St., Reno, NV. Contact G. F. Gannon, 1245 Cunningham Ave., St. Charles, MO 63301, (314) 946-0503.

USS Badoeng Strait (CVE-116) reunion, September 27-30, Las Vegas, NV. Contact Henry C. Trotter, 106 Sage Dr., Universal City, TX 78148, (512) 658-3447.

VA-82 reunion, August 7-8, NAS Cecil Field, FL. Contact Cdr. Rick Eason, VA-82 X.O., FPO Miami, FL 34099-6217 or Capt. Don Thomas, 503 Fatio Ln., Orange Park, FL 32073, (904) 269-0018.

VR-24 reunion, August 20-23, Monterey, CA. Contact ATI Pete Owen, USN(Ret.), 24633 Mulholland Hwy., Calabasas, CA 91302, (213) 348-4056.

HAL-5 reunion planned. Personnel please contact AFCM Roger W. Tully, Command Master Chief, HAL-5, NAS Point Mugu, CA 93042.

NAS Kaneohe Bay (October 1939-June 1950) reunion, September 9-13, Everett Pacific Hotel, WA. Contact Orrie S. Reed, 1423 Grand Ave., Everett, WA 98201, (206) 252-2449.

VMB-614 (WW II) reunion, planned for October 1987 on West Coast. Contact Maj. Walter W. Dean, USMCR, 1303 Overlook Rd. N., Tuscaloosa, AL 35406, (205) 752-5844.

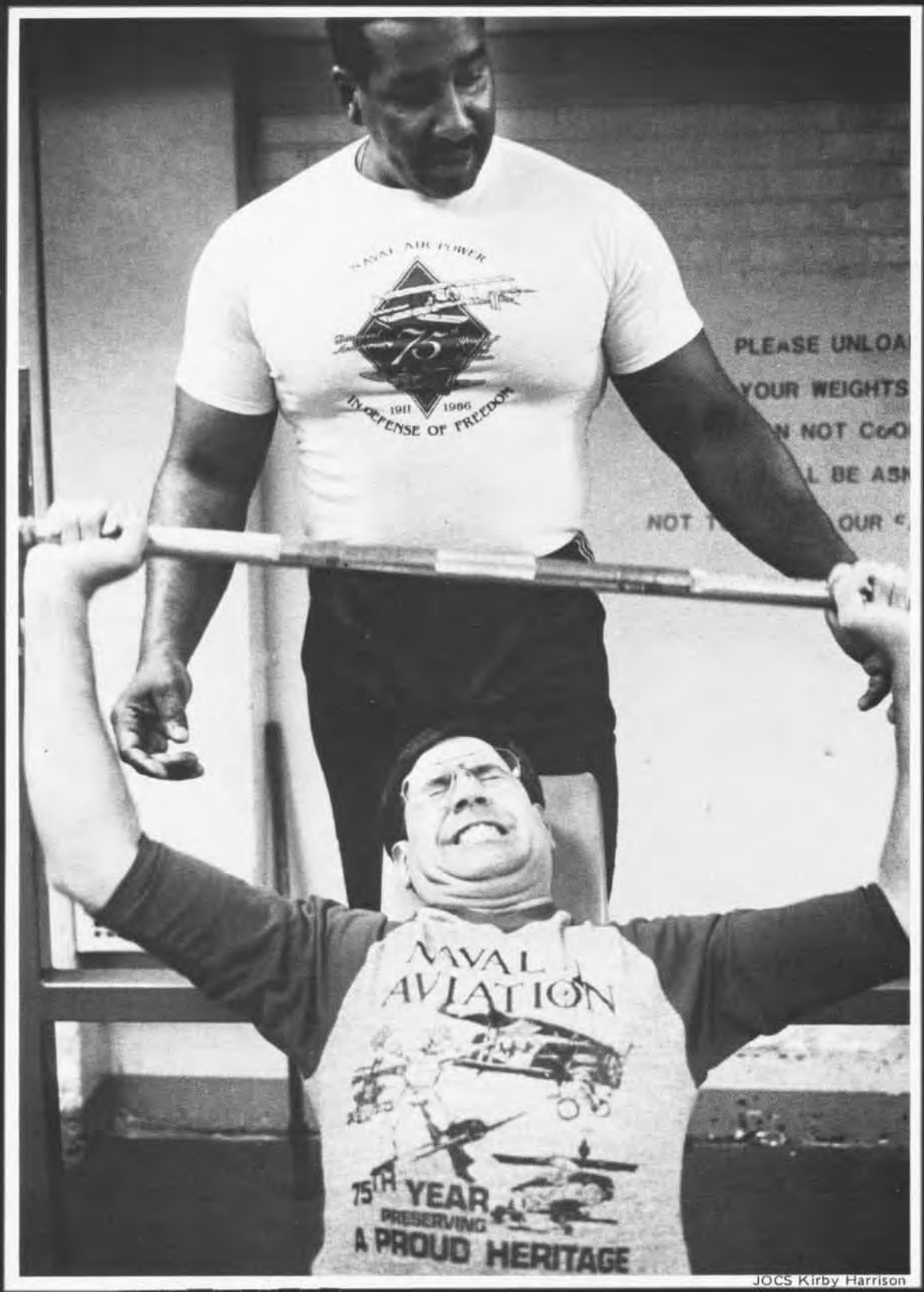
USS Lexington (CV-16) reunion, September 23-27, Seattle, WA. Contact Al Rogers, 595 E. 43rd St., Eugene, OR 97405.

VX-5 reunion, May 30-31, Ridgecrest, CA. Contact Bill Stein, 2556 Pepperwood Dr., Camarillo, CA 93010, (805) 373-2637/(805) 482-4114 or Lt. A. J. Rizzo, AV 437-5056/7 or comm (619) 939-5056/7.

Interservice/Industry Training Systems Conference, November 30-December 2, Sheraton Washington, DC. Contact Conference Publicity Office, Naval Training Systems Center, Orlando, FL 32813-7100.

USS Cabot (CVL-28) and air groups 29, 31 and 32 reunion, September 10-13, Torrance Holiday Inn, CA. Contact Ray Miller, 318 Milan Pl., Anaheim, CA 92801, (714) 828-1851.

Correction to NANews, January-February 1987:
Page 4 — The lead photograph for "Fifth Nuclear Carrier Joins the Navy" should have been credited to PHC W. J. Scallan from USS Theodore Roosevelt's operations division.



JOCS Kirby Harrison