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Scenes from the
Peacekeeping Force

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FRONT COVER—GySgt. Robert Sheid, a crew chief aboard an HMM-261 *Huey* helicopter, takes a break at the Marine landing zone, Beirut International Airport. Photo by JOC Kirby Harrison.

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The Naval Aircrewman Candidate School is no rose garden. It's five weeks of tough training where "They Learn to Serve" (p. 4). Rotary-wing types get four more weeks of Rescue Swimmer School for SAR training to become "Aircrewmen Plus" (p. 6), *so others may live.*



Maintenance people have Naval Aviation's mission squarely on their shoulders. That's why they are, indeed, the "Backbone of the Squadron" (p. 8). It takes brains, motivation, strength and, at times, tenacity to keep aircraft flying at sea. Just ask any maintenance control chief.



Flight decks are safe only for those with sharp wits and training. Against the backdrop of gray aircraft, catapult steam and fast action are colorful jerseys worn by the flight deck professionals. They know the question and the answer, "Margin for Error. . . None" (p. 11).



Beirut is a hot spot that involves U.S. Marines, 6th Fleet ships and Naval Aviation. JOC Kirby Harrison, *NAVNews'* award-winning photojournalist, traveled to Lebanon to bring back "Scenes from the Peacekeeping Force" (p. 14).



He didn't let anything get in the way of his dream to become a Naval Aviator. He was Ensign Jesse L. Brown—the first black Naval Aviator—and he did it more than a decade and a half before Dr. Martin Luther King began his crusade for equal rights. "From Dream to Reality" (p. 26).



Naval Aviation has stood the test of time in the United Kingdom. "70 Years of Royal Naval Aviation" (p. 28) is a story of how the British developed the Fleet Air Arm with courage and ingenuity.

Naval Aviation Wings



Naval Aviator



Naval Flight Officer



Naval Aviation Observer
and Flight Meteorologist



Marine Aerial Navigator



Naval Aircrew

For more than 65 years, U.S. Navy and Marine Corps aviators have been easily identified by the symbol of their chosen career — Naval Aviation wings.

The first Naval Aviator's device, a winged fowl anchor with the letters "U.S." incorporated into the design, to be worn by qualified Naval Aviators, was officially approved by the Secretary of the Navy on September 17, 1917, as Change 12 to the Uniform Regulations. Before the wings were issued, a second change, approved on October 12, removed the letters "U.S." and the design adopted became part of the Navy uniform as the first Wings of Gold.

It seems that history sometimes confuses rather than enlightens, and the lineage of some of the Naval Aviation wings provides a good case in point.

Naval Aviation Observers (NAOs) in the Navy were redesignated as Naval Flight Officers (NFOs) in 1965. NAO wings had a plain disk in the center on which was placed a single erect fowl anchor, and were worn by NFOs until December 1968 when a new breast insignia was adopted for both Navy and Marine Corps flight officers. The NFO wings, with a shield in the center over two crossed fowl anchors, were approved for unrestricted line officers designated as radar intercept operators, bombardier/navigators, airborne electronic countermeasures operators, and airborne reconnaissance officers.

NAO wings did not disappear, however, and are known today officially as Naval Aviation Observer and Flight Meteorologist wings, worn by Marine Corps ground officers who are graduates of the 11-week Naval Aviation Observer School, MCAS(H), New River, N.C. They fill flying billets as tactical observers primarily in the OV-10 *Bronco* but are also qualified for the UH-1, AH-1 and OA-4, acting as the link between the aircraft missions' air and ground elements.

A similar thing happened to the Navy's old Navigator wings, which had a compass in the center superimposed over two fowl anchors. In 1968, when Navy Navigators became NFOs, their Navigator wings were replaced with NFO wings. At that time, the Navy discontinued issuing the Navigator device.

The evolution of the Navigator wings went the complete circle in the Marine Corps, however. Marine Corps enlisted Navigators changed insignias several times during a 25-year period but began and ended with Navigator wings. In 1951 they switched to NAO wings, and then to Naval Aircrew Wings in 1968, and back to the Navigator wings in 1976 — known today officially as Marine Aerial Navigator wings. They are also worn by Marine Warrant Officer Navigators.

An insignia for aircrew members was first established

during WW II. The wings had a center disk containing a fowl anchor with a scroll below reading "AIR CREW" and a bar above with stars. In 1958, this design was redesignated Combat Aircrew insignia. It remained in use by the Marine Corps but was discontinued by the Navy, which adopted Naval Aircrew wings with the letters "AC" superimposed over an anchor in a disk. Combat Aircrew wings are presently being worn by Marine Corps enlisted personnel who qualified for them during the Vietnam conflict and, most recently, in Lebanon. Naval Aircrew wings are worn by qualified Navy and Marine Corps enlisted members.

A second set of Navy enlisted wings was adopted in 1980, with the implementation of the Enlisted Aviation Warfare Specialist program. These wings carry a center shield with a fowl anchor and scroll below reading "AIR WARFARE." They are presented to petty officers who have served at least two years of sea duty in an aviation assignment aboard ships, aviation squadrons/detachments or aviation-related staffs afloat. The designation Aviation Warfare Specialist signifies that an individual has acquired specific skills, knowledge and military experience, and has demonstrated exceptional professional competence while assigned to an aviation unit.

The vital contribution of aviation medicine personnel to the aviation community was officially — and visibly — recognized during WW II when medical officers and nurses qualified for distinctive wings as Naval Flight Surgeons and Naval Flight Nurses. The Flight Surgeon's wings evolved through several changes to the present design with the Medical Corps device — a gold oak leaf and silver acorn. The Flight Nurse's wings omitted the acorn.

In 1967, wings were approved for Naval Aviation Experimental Psychologists and Naval Aviation Physiologists, a relatively small group of officers who specialize in such duties as in-flight analysis of human performance in fleet and training operations. The wings feature the gold oak leaf of the Medical Service Corps.

The last, but certainly not least in importance, of the Navy wings belongs to the Naval Astronaut. The first set was presented to Commander Alan B. Shepard in 1961, its adoption recognizing man's new quest of space. The insignia consists of a shooting star, symbolizing the astronaut's spacial environment, superimposed over the traditional Naval Aviator's wings.

No matter what job the breast insignia denotes on the uniform of an officer or enlisted member of the Navy and Marine Corps, Naval Aviation wings represent highly qualified individuals dedicated to naval service in the sky. ■



Combat Aircrew



Aviation Warfare Specialist



Naval Flight Surgeon



Naval Flight Nurse



Naval Aviation Experimental
Psychologist
Naval Aviation Physiologist



Naval Astronaut



No Thanks for the Tip

An instructor pilot (IP) and student Naval Aviator (SNA) were on a FAM flight in a *Turbo Mentor*. The SNA, an ensign with seven hours in the T-34C and no other flying experience, was the IP's first student in type. The IP, who trained in T-28 *Trojans*, had 500 total hours, 80 of them in the *Turbo Mentor*. Both were well rested and well fed. The brief was thorough. Neither was under any unusual stress although it was the IP's second hop of

the day. The aircraft had no significant discrepancies.

The SNA's basic air work was a bit rough but not uncommon for this stage. During landings at a practice field the student's pattern work was improving except for consistently tardy and/or insufficient transition to the landing flare attitude. Twice, the *Turbo Mentor* porpoised after touchdown due to nose-low attitude and had to wave off.

The pair worked doggedly and, after 10 touch and go's and three wave-offs, were fatigued and distressed because of the amount of work done and the perception that more was needed.

They returned to home base for a full stop. The SNA was high and close abeam downwind, requiring the IP to coach him much of the way. Approaching touchdown, the SNA raised the nose to a level attitude and continued to reduce power without increasing the flare to cushion the landing. The aircraft touched down and bounced into the air, prompting the IP to take over and add power for a wave-off. The T-34C touched down again before power took effect. The aircraft was flown around the circuit once more and the SNA made the final approach to a "flat," full-stop landing. On postflight inspection it was noted that the propeller blades were damaged at the tips. An engine change was required.



Grampaw Pettibone says:

This one furrows my brow! I'm all for hard work and hangin' in there to



solve problems. But as my carpenter cousin back in the Blue Ridge is prone to say, "Sometimes it's better to stop poundin' the peg into the beam when it don't seem to fit right. Sleep on it. Try agin tomorrow."

Both players were at fault here, the student for improper landing technique, the IP for insufficient attention at a crucial point, knowing the lad up front was struggling with landing technique. After a lengthy stay in the pattern, it's natural to grow weary. It was the IP's second go of the day and, considering the problems at hand, maybe the horse should have been brought back to the barn earlier. Another point, the T-28's response to wave-off power is quicker than that of the Turbo Mentor PT-6 engine. The IP could have been influenced by prior time in the Trojan. Had the IP intervened earlier, the engine might have spooled up in time to avoid a mishap. Tryin' hard has its merits but better technique and better judgment in knowing when enuff is enuff might have saved our favorite Uncle a power plant overhaul.

Pickle, Pause and Pull

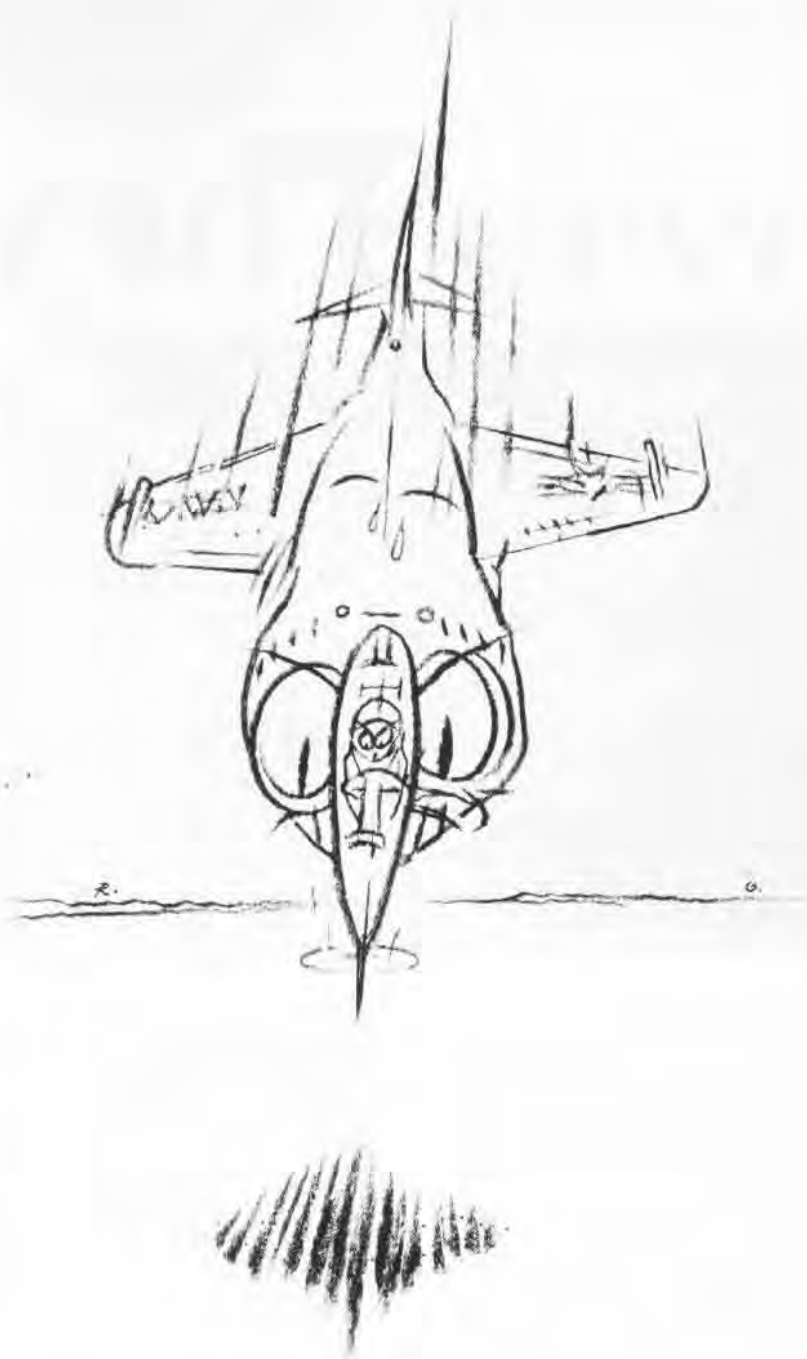
A *Harrier* pilot with 500 total hours and 200 in type was on a solo, practice bombing hop calling for varying dive angle deliveries. The target was remotely monitored by the weapons impact scoring system (WISS). In accordance with his preflight plan, the young flyer made three dummy runs before commencing live drops with Mk 76 practice bombs. His first hit was 180 feet at six o'clock. On his second live run, the bomb struck the desert floor 100 feet at 10 o'clock from the bull's-eye. The aviator called "off target," after which radio contact was lost. After a time, a search/rescue effort began. The AV-8 had crashed approximately 1,000 feet beyond the target with wings level in a 15-degree, nose-up attitude. The pilot was killed, the *Harrier* destroyed.



Gram paw Pettibone says:

Sad. Sad. Sad. The true cause of this loss wasn't determined but a very possible reason is an old foe of those who train for combat: target fixation.

Dive angles can't be judged through



WISS, but the sequence for the hop being flown called for four live 30-degree dives before steepening up to 45. It's likely the pilot intended a 30-degree dive on the fatal run. Could be that, in his zeal for a better hit, he pickled late and/or a bit steep and ran out of recovery room.

Pickle, pause and pull is a fair thumb rule. But when you're barreling down the chute toward the target, especially in single-seaters, thumb rules aren't enuff.

Concentrate, track, scan and pull up on time. It's as simple and as demanding as that. Enuff sed!

They

Story by Ensign Wade Russell



PH1 Richard J. Oriez

The minutes crawled by as the aircrew candidates stood at attention in two formations. Their instructor scrutinized their appearance as they awaited the commanding officer's arrival. It was the climax of five weeks of arduous training at the Naval Aircrewman Candidate School in Pensacola — the first step in forging the skills they would need as aircrew members. It was graduation day.

Seventy percent of the candidates had chosen aircrew candidate school from the time they were recruited, and had come to Pensacola immediately after nine weeks of basic training. For the others, it was the beginning of their second enlistment in the Navy. All of them had been screened prior to acceptance.

During the five-week curriculum, aircrew candidates undergo the same intensive physical conditioning and water and land survival training as aviation officer candidates, except in

a condensed version. The program is designed to teach them the challenges and demands of their specialty and the basic procedures of survival, to give them the know-how they need and the faith in their ability to survive. Approximately 12 percent do not make it through the rigid aircrew training and are given the option of being released from active duty or pursuing another career in the Navy.

An academic workload marks the first week of training. Aviation physiology lectures acquaint the candidates with the demands that gravity and high altitude make on the human body. Then comes the practical application. Each student takes a "ride" in the altitude chamber to experience for himself the effects of oxygen deficiency, and learn not to panic.

After hours of instruction in swimming and water survival techniques, the students take a plunge in the Dilbert Dunker or the Helo Dunker. In



PH1 Richard J. Oriez

Above, a student ponders a test during training. Left, candidates ride the Helo Dunker to learn how to survive a helo ditching.

the former, they learn how to get out of a submerged cockpit, while the Helo Dunker teaches them how to free themselves from a submerged and overturned aircraft. Navy divers are always on hand in the water to ensure the student's safety.

Basic boxing instruction is one phase of physical conditioning, as is the 1.6-mile cross-country course which the students run two to three times each week. Sand traps along the trail make this not the run-of-the-mill jogging path.

Towards the end of the program, bay operations provide practical experience in deep-water survival techniques. After two classroom hours, the students in their flight suits are taken out to the bay for realistic training in what it is like to be hoisted from the water by a helicopter. Depending on whether this takes place in the summer or winter, a student might emerge with either a skintone of tan or of granite blue. Whatever his color, the experience is one he remembers.

The final week of training includes a three-day exercise in land survival in the wilderness area on Eglin Air Force Base, which the stu-

Learn to Serve



PH1 Richard J. Ortez



PH1 Richard J. Ortez

An aircrew candidate and an aviation indoctrination officer work as a team during land survival training.

dents share with the aviation officer candidates. They experience landing safely by parachute, and learn to recognize edible plants, build simple shelters, fashion small game traps, find their way on their own, and overcome the stress of the survival situation. The instructors who monitor this exercise take the training very seriously and, while the students may leave Eglin AFB tired, hungry and dirty, they have learned how to cope with a situation they hope they will never encounter.

Each student must learn to handle and fire a .38-caliber revolver. A score of 180 or more earns a marksman's ribbon; 200-224, a sharpshooter's; and 225-300 makes him an expert. The range officers follow and teach strict safety procedures in handling a gun.

Graduation sends the aircrew candidates on their way with an aircrew training NEC (naval enlisted code) 8201, which puts them in a flight

Ens. Wade Russell



Top, students give a thumbs-up before starting a simulated flight in a low pressure chamber. Above, a candidate qualifies on the pistol range.

status where they can begin earning aircrewman wings. They can go on either to further training which will qualify them for helos or to an A school to learn specific aircrew operations.

Those who are chosen for helos have four weeks of search and rescue training to reinforce their water survival skills at the Rescue Swimmer's School at Pensacola. The others attend school in Memphis, Tenn., where they specialize in antisubmarine warfare, cargo operations, logistic support or electronic countermeasures.

When the candidates have finally won their aircrewman wings, they become an integral part of the Naval Aviation community. They are totally prepared, mentally and physically, for the sea environment, and will serve among the few who are launched from U.S. Navy carrier decks in the daily pursuit of their duties. ■

Rescue Swimmers: Aircrewmen

Mission accomplished. . .to a Navy Rescue Swimmer means that a life has been saved. To the Navy's search and rescue (SAR) community, the art of saving lives is the end to which all of their training is dedicated. It affords the ultimate satisfaction in a challenging and demanding profession, and instills a very personal pride in achievement.

The need for a school to train helicopter aircrewmen in rescue techniques became apparent in the early 1960s. Training was initially conducted by the individual squadrons for their own personnel. Over the years, rescue training evolved into East and West Coast schools and then into what it is today — a single site, CNO-approved school in the Naval Aviation Schools Command at NAS Pensacola, Fla.

Because it is so often necessary in the open ocean — the most hostile environment for man — to assist downed aviators who may be injured or entangled in parachute shroud lines, the Navy realized the need to train helicopter aircrewmen as Rescue Swimmers. Nearly all Navy helicopter commands have Rescue Swimmers assigned, even though no fleet unit has search and rescue as a primary mission.

January 1984 saw further improvements when all training for Navy Rescue Swimmers was consolidated into a standardized program at the Rescue Swimmer School at Pensacola. Former training sites at HS-1, NAS Jacksonville, Fla., and HC-1, NAS North Island, Calif., are now refresher training schools for qualified swimmers who have had a tour which did not require swimming and who are ordered back into a swimmer's billet. The Rescue Swimmer's duties are a collateral function of his primary responsibilities and require dedicated training time to maintain proficiency.

It's a tough program to get in and stay in. To meet the entry requirements for Rescue Swimmer School, an aircrew candidate must first graduate from the Naval Aircrewman Candidate School (NACCS) at Pensacola, which is a five-week course that teaches physical fitness, first aid, water survival and pistol qualifications. He must also be able to swim 440 yards within 12 minutes using the crawl, side and breast strokes, and be able to swim a mile in less than 60 minutes using any stroke. Presently, no less than designated antisubmarine warfare operator (AW) or nontactical Group IX maintenance (AD, AM, AE, AT, AO) strikers are eligible to become Rescue Swimmers. The Rescue Swimmer's mission is combat-oriented; therefore, women are not being accepted into the program at this time.

The Rescue Swimmer School, headed by Lieutenant Commander Roy E. Hey, and NACCS make up the Aviation Enlisted Aircrew Training School (AEATS), with Commander Charles T. Fowinkle as its director. The AEATS is just one of several schools within the Naval Aviation Schools Command, under Captain J. W. Ryan, which is not only responsible for training Naval Aviators and Naval Flight Officers but also enlisted aircrewmen, who

The special patches worn by SAR Aircrewmen and Rescue Swimmers are in recognition of their unique specialty and the importance of their mission to the Naval Aviation community.

The Search and Rescue patch features a silver albatross (symbolizing the rescue vehicle) carrying a navy blue fish (typifying the survivor) in its beak, comprising the National Search and Rescue Symbol which was developed by Grumman Aerospace Corporation. The symbols are superimposed on a golden foul



anchor with a silver background, on which a navy blue and a light blue circle are drawn as a boundary. The words in the outer ring are in navy blue on a light blue background. In the lower portion, the SAR motto is displayed in navy blue against a golden scroll.



The Rescue Swimmer insignia depicts a silver albatross carrying a navy blue fish in its beak over a golden foul anchor, which has the letters "SAR" embossed on it. All of these characters are superimposed on a pair of crossed navy blue swim fins with a silver background. The words in the outer ring are in navy blue on light blue. ■

Plus

are a vital link in the Naval Aviation mission.

Cdr. Fowinkle says that the swimmer's course is designed to train a young man to jump out of a helicopter during daylight hours or be lowered by hoist at night into seas as high as 20 to 30 feet. He must be able to swim to the survivor, evaluate and resolve any problems, then effect a rescue.

One hundred sixty hours of arduous training are packed into the four-week course. Sixty percent of that time is spent in the water perfecting the skills taught in the classrooms. The curriculum includes 36 hours of academics, 19 hours of first aid and 5 hours of land rescue procedures. The remainder of the time is devoted to physical conditioning and in-water training. Students are outfitted in the best gear available, including the latest designs in buoyancy compensating vests, wet suits, fins, masks, etc., and a newly configured Rescue Swimmer harness.

The swimmer's job is physically and emotionally demanding. The business of saving lives is certainly not for the fainthearted. When asked what motivates an aircrewman to become a Rescue Swimmer, Cdr. Fowinkle says, "The same thing that motivates a man to become a Green Beret, an underwater demolition team SEAL or anything



A Rescue Swimmer makes a typical daylight water entry.

that requires more than the norm. Our [training] philosophy is that if you build a fire into their soul and spirit, they'll come out extremely motivated." He says swimmers have to be in tremendous physical condition and have a lot of spirit and heart. He adds that the swimmers' job is unique because, although they are soldiers hired to defend their country, they are also in the business of saving lives. And *that* is what inspires them.

Some information in this article is from a statement by then SAR Model Manager Lt.Cdr. K. J. Sullivan before the Subcommittee on Coast Guard and Navigation of the House Merchant Marine and Fisheries Committee on Navy Rescue Swimmers, 27 July 1983.

So Others May Live

For the five-year period from calendar year 1978 through 1983, U.S. Navy helicopters participated in 220 open-ocean search and rescue missions, accounting for 421 lives saved. Rescue Swimmers were aboard these aircraft in 212 of the missions, or 96 percent of all missions. As testimony to their expertise, to date, there is no record of a Rescue Swimmer injury or death during a rescue mission.

The primary killer today in aircrew accidents is parachute entanglement — the swimmer's most dangerous

challenge. Due to their extensive and specialized training, Rescue Swimmers are able to significantly reduce the number of injuries and deaths.

A Naval Safety Center analysis of rescue reports over a 10-year period revealed that Rescue Swimmers were essential to the rescue and survival of over half of the aircrews involved in over-water ejection mishaps, since the crews were incapable of effecting their own unaided extraction from the water via hoist. This equates to over 140 tactical aircrews rescued who otherwise would have been lost.

In his 16 years of flying helicopters, Cdr. Fowinkle has observed that those who become Rescue Swimmers are typically leaders and producers. "Because they're so motivated, these people accept a challenge," he says. He points out that, in addition to their rating, they have taken on two extra challenges: Aircrewman and Rescue Swimmer. To top it off, they must compete for promotions with people who spend all their time working in their respective ratings.

There are 1,026 billets for helicopter aircrewmen that demand Rescue Swimmer training and qualification, which is 67 percent of all Navy helicopter aircrewmen. About 45 percent of the Rescue Swimmers are AWs and the rest are Group IX maintenance personnel who fly as aircrewmen for other Navy helicopter missions. The helicopter antisubmarine squadrons aboard aircraft carriers are airborne with a Rescue Swimmer ready for immediate water entry during all carrier flight operations, day or night.

The U.S. Navy Rescue Swimmer program is aimed at providing a search and rescue capability for its own forces. The program has proven vital in almost every SAR mission conducted by the Navy, whether in support of naval forces or when assisting others in distress. SAR aircrewmen and swimmers have been credited with saving many lives which otherwise might have been lost without their training, experience and commitment to search and rescue.

Being a Rescue Swimmer is a job which provides considerable personal satisfaction to the individual, and the program has paid ample returns to the Navy in both human and monetary terms. The members of this elite group are volunteers, dedicated to the rescue mission and saving lives. ■

Backbone of the Squadron

By JO2 Timothy J. Christmann



JOC Kirby Harrison

It's check-up time for an S-3 *Viking* and the "doctors" — maintenance department specialists — are standing by. Although they substitute screwdriver for scalpel, electronic computers for stethoscope and hangar bays for operating rooms, these technicians share, in a way, a doctor's chief responsibility, the preservation of human lives.

"After all, four people fly in the *Viking*," says Aviation Electronics Technician (AT) Chief David A. Wonsley, maintenance control chief for VS-30, NAS Cecil Field, Fla. "And

we're accountable for their lives. It's our job to ensure that all 10 of our jets are safely flyable."

Maintenance technicians (ATs, AQs, AMEs, ADs, AEs, AMHs, AXs...) know the innards of a naval aircraft as well as an M.D. does the human body. Specialized Navy schools have groomed them to analyze, diagnose and treat any plane or helicopter malfunction — from faulty wire to structural corrosion, bad engine to worn tire — and keep naval aircraft maintained and in the air.

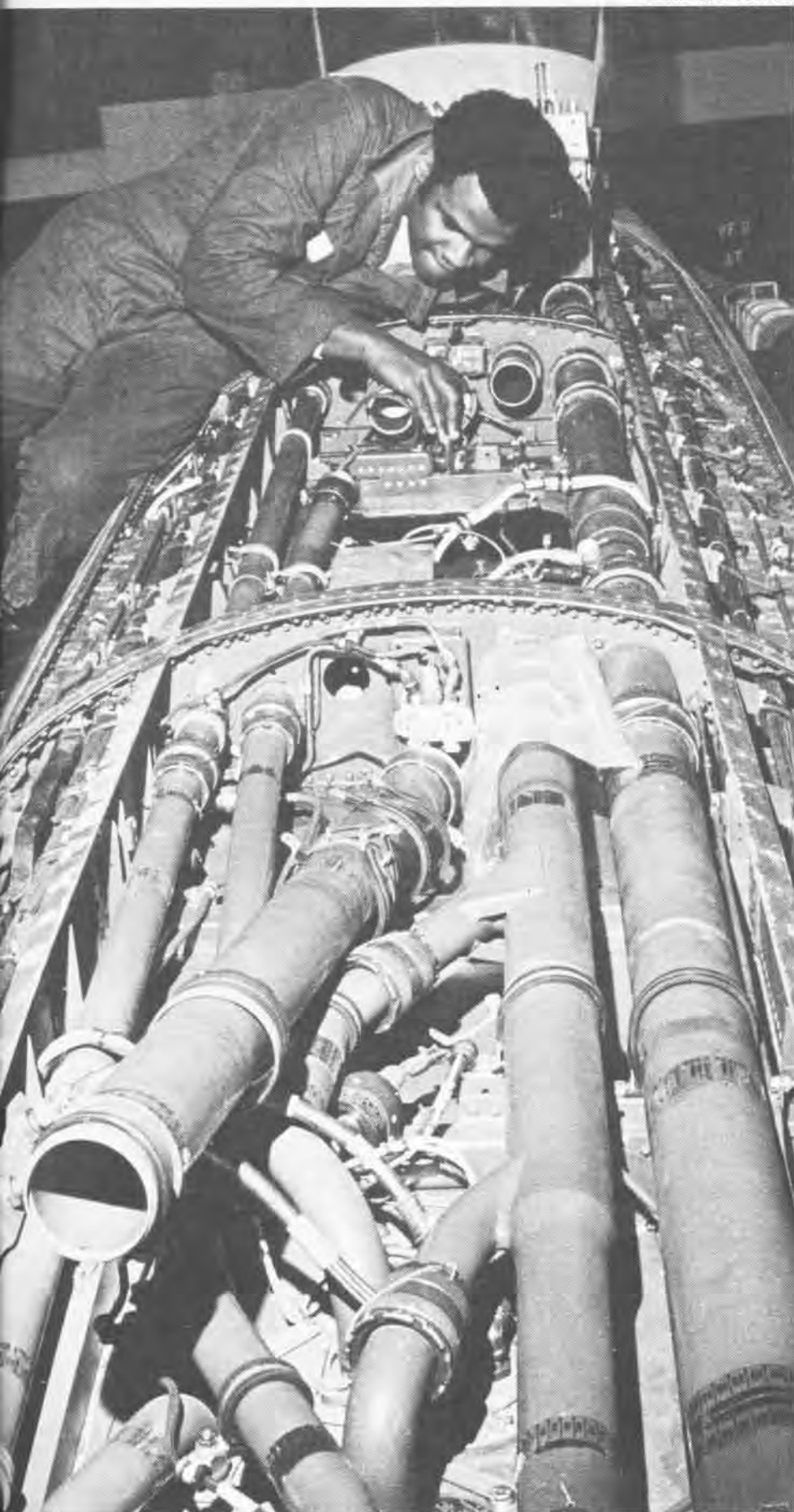
Quipped one maintenance control

Above, an aviation structural mechanic (right) gives VF-21 mechanics a hand in repairing a down F-4 Phantom II at NAS Miramar, Calif.

chief, "Without maintenance personnel, squadrons wouldn't fly. Without squadrons, Naval Aviation would be a grounded museum showcase."

Maintenance technicians (who average age 21 and below) labor long hours in aircraft repair departments aboard aircraft carriers and on naval air stations. Much of their work is complex and requires painstaking attention to detail.

For example, the S-3 *Viking* is one of the Navy's most advanced antisub-



marine warfare aircraft. Because of its sophisticated array of instrumentation, it's capable of locating, tracking and destroying submerged enemy submarines. Such a function is critically important to the Navy's wartime punch because submarines threaten both ships and land-based targets.

Keeping this valuable weapons platform maintained requires constant aircraft test checks. Such checks, although often routine, occasionally call for total examination of the plane's vital components.

For instance, maintenance personnel dismantle the *Viking's* fire control and mission systems to ensure all its electrical and electronic gadgetry is wired securely. This is essential because everything about the *Viking* (or any combat aircraft) is fundamental to the accurate firing of weapons.

In addition, computers are fastened to electrical circuits to check the condition of the aircraft's flight control and mission systems. The hydraulic system is examined, as are the *Viking's* radios, radar, throttle, automatic landing system, brakes, navigation, oil, tires and engine. Aircrew survival equipment (parachutes, ejection seats, oxygen tanks, life jackets, signaling instruments, etc.) also goes through tough checks.

"In the end nothing is overlooked," says Aviation Aircraft Maintenance Master Chief (AFCM) Jerome J. Brunner, maintenance control chief for Fighter Squadron 142, at Oceana, Va. "Naval Aviation is too critically important for us to miss checking anything."

As with any type squadron (fighter, attack, antisubmarine warfare, airborne early warning. . .) all discrepancies are reported directly to the maintenance control chief, who is the overseer of the day-to-day maintenance effort.

"We make sure all work is handled correctly and double-checked," said Brunner. "Usually this is done by a collateral duty inspector and shop supervisor."

The maintenance control chief is the individual jack of all trades who is responsible for making sure all squadron aircraft are maintained on sched-

An aviation machinist's mate prepares to change a fuel cell on an F-4 Phantom.

ule to meet operational requirements.

"It is a high-tempo job," said one helicopter maintenance control chief at NAS North Island, Calif. "Something's always going on and I have to come to work two hours early each day just to keep up."

Brunner, who is enjoying his twenty-sixth year in the Navy, said the most important ingredient is experience. Since joining the Navy as an aviation machinist's mate, reciprocating engines (ADR), Brunner has worked in numerous types of squadrons — fighter, attack, composite, ASW, AEW, helicopter — and says his current job "boils down to the learning I've done in each of those squadrons."

Being the boss, the maintenance control chief has to have an overall knowledge of every aviation maintenance rating, according to Brunner.

"We don't necessarily have to be able to go out and work on an aircraft as professionally as every rating but we have to know how to do it," he remarked. "Everything my maintenance personnel do directly affects me," he added. "I depend on all of them, but I depend more on my petty officers because they have the experience level I rely on. If they say repairs have to be made on an airplane, I expect them to be able to intelligently look at the discrepancy and give me a rough estimate of how long it will take to fix, so I can inform the plane's pilot. Petty officers are the backbone of my squadron."

Brunner, who is in charge of 170 men, remarked that although most of his petty officers are young (early to mid-twenties) he gives them all the responsibility they can handle and keeps them accountable for it. "Most of the time they do an outstanding job," he said.

Many maintenance control chiefs agreed that for awhile the Navy had problems keeping the E-4s through E-6s, because of offers from higher paying civilian jobs. Fortunately, now the Navy has more incentives to curb that problem, according to Brunner. "Sailors are staying in because of better pay, more job responsibility and a new feeling of patriotism," he said. The post-Vietnam blues have diminished and there is a revived respect for the military — hence there are more enlistments and plans to

make the Navy a career.

It's difficult to maintain aircraft, especially combat types (S-3 *Vikings*, F-14 *Tomcats*, etc.) which are flown daily and are needed to perform at a moment's notice. And, says Brunner, part of a maintenance control chief's job is keeping his men motivated in spite of long deployments and hectic work schedules.

The job frequently demands many long hours both ashore and at sea. Surprisingly, however, most maintenance control chiefs find that their technicians are receptive to increased work loads. "They are hardworking, intelligent, dedicated and motivated," said Brunner of his men.

Aviation Electrician's Mate Senior Chief William G. Smith, Jr., maintenance control chief for VS-32 at NAS Cecil Field, Fla., concurs with Brunner. "Maintenance guys overall are smarter than they used to be," he said. "They are willing to work."

Smith, who has been in the Navy 18 years and is now in charge of 165 maintenance personnel, attributes this feeling to the increased level of educa-

tion in Navy technical and mechanical schools. In addition, more sailors are cross-training. This delights Smith because men are learning more than just their own rating. They are branching off voluntarily to pick up pointers in other fields of expertise.

"It's terrific," added Brunner, "Because in maintenance every bit of training helps you in one way or another."

Brunner and Smith agree that the key to success is to respect the men who work for you, treat them fairly and develop good working relations with them.

ATC Wonsey, who's in charge of more than 125 people, said that when his men are in doubt as to the purpose of their mission in the squadron, he suggests they think in terms of the whole Navy picture. He tells them that their jobs are tremendously important and that keeping planes and helicopters in the air is vital to the Navy's mission of providing a front line of defense. "Without them," said Wonsey, "this simply could not be done." ■



An aviation fire control technician checks a bomb rack of an A-7 Corsair II.

PHAN William F. Flynn



Two aviation structural mechanics change the damper bearing on the flight control of an RH-53D helicopter at NAS Norfolk.



Two aviation machinist's mates dismantle an engine in a squadron hangar.

Margin for Error ...None

"There are so many dangers working here, it's a wonder we stay so efficient," says a senior chief.

"You would expect more accidents but most of us are safety conscious and stay alert," says an airman.

By JO2 Timothy J. Christmann

At any time of day, on any day of the year, thousands of sailors between ages 17 and 48, in ranks E-1 to E-9, labor in a unique and critical environment. It is an area of such pandemonic activity that its efficiency often baffles those involved, let alone outsiders. One so necessary that much of the Navy's wartime strategy depends on its swift effectiveness.

The environment? The aircraft carrier flight deck.

Those who make it work? Dedicated sailors whose talents and expertise are as varied as their colored jerseys.

With today's modern technology continually upgrading sophisticated frontline aircraft, like the F-14 *Tomcat*, S-3 *Viking* and A-6 *Intruder*, many people believe such specialized equipment is what wins battles and ends wars. Not entirely true. Despite the high-tech systems, sensors and laser-guided bombs these aircraft carry, the Navy's real strength has

PH2 David B. Loveall



Surrounded by catapult steam, a green shirt waits to hook up an aircraft aboard Midway.



A flight deck crewman leans into a 25-knot wind as the amphibious assault ship Guam prepares to launch aircraft off the coast of Lebanon.

always been its people. In the case of the aircraft carrier its strength continues to be flight deck personnel.

Before Navy jets can win battles, end wars and keep the peace, they first have to be maintained, fueled, armed, positioned and launched aboard ships. And this enormous task rests with the men (averaging age 19 and below) who wear blue, green, red, yellow, purple and white jerseys.

Right now, at least half of the Navy's 14 aircraft carriers patrol the oceans and seas around the world. And on their long, flat decks, up to 500 sailors hustle about their jobs. In all types of weather, rain or shine, night or day, they labor tirelessly — for long hours on end. It's sweaty, dangerous and grueling duty which reaps unique rewards, says one flight deck senior chief. "One is seeing the planes launch and recover safely. It gives them satisfaction to know they help play a major part in that success."

Flight deck duty is a different kind of challenge. It's fraught with tremendous responsibility in an environment that teems with potential hazards such as jet intakes, engine blasts, turning propellers and moving aircraft. Each crew member, doing his job responsibly, contributes to smooth, efficient flight operations. The color of the jersey he wears indicates his role on the flight deck.

Blue jerseyed sailors are normally nonrated airmen or airmen apprentices who are striking for a job in the aviation boatswain's mate community. In their hands, around their necks, or in canvas bags they carry heavy chocks and chains. The chocks are placed beneath each plane wheel to keep the aircraft from rolling across the deck as the ship tosses and rolls.

The chains (at times dozens are used for each aircraft) ensure the plane's security in even the worst weather conditions. It takes brawn to lug the chocks and chains around the sometimes pitching flight deck for hours each day but, more important, it takes endurance and motivation. The environment demands nothing less.

Although many blue shirts typically have less than a year's time in the Navy, they are responsible for the multimillion-dollar aircraft they service. Some are tasked with additional responsibility like operating the ship's elevators and escorting planes up from and down to the hangar bay. Others drive the many boxshaped, yellow tractors which tow the 20-ton jets around the four-acre flight deck. One wrong turn could cause injury to crew members or millions of dollars worth of damage to aircraft and equipment.

All 80 to 90 carrier planes and helicopters are fueled by the purple shirts, nicknamed "grapes." When an aircraft needs a "fill-up" these gas jockeys run a hose out onto the deck from a pump along the catwalk, insert the nozzle, and pump thousands of gallons of JP-5 jet fuel in a matter of minutes.

Besides spending hours gassing aircraft, purple shirts continually maintain the ship's huge two-million-plus-gallon fuel tanks and the hundreds of valves and pipes that go with them.

The yellow shirts are in charge of the movement of all aircraft on the flight deck and hangar bay. They are specialists who know which aircraft will launch, and which are on standby.

They also know the sequence in which each plane will taxi from its parking area and which catapult it will launch from.

A sailor must have a professional attitude and experience in working the flight deck in order to wear a yellow shirt. The task of rearranging aircraft is comparable to a sliding-tiles game where you have to move others around to make room for one. A wrong move could be disastrous and costly.

All carrier aircraft are armed by red shirts. Probably the most brawny of all the colors, the red shirts shuttle bombs up from the ship's magazine on elevators. The ordnance they move and lift can be a slender heat-seeking missile or a beefy 1,000-pound cluster bomb. The job demands a knowledge of weapons and how to secure them on the ordnance racks.

Flight deck personnel wearing red shirts with black stripes down the front and back drive the ship's fire and crash trucks and are prepared for any eventuality.

Brown shirts are plane captains who are responsible for monitoring all work done to their assigned aircraft. They hold daily preflight checks, perform minor maintenance, wash the aircraft and help chain them down after each flight. Because they are the pilot's link to maintenance personnel, the two share a close professional relationship.

Once the pilot boards his aircraft, the plane captain straps him in securely. He then closes the cockpit, steps down off the aircraft and begins to talk to the pilot through hand signals. During this period, the plane captain checks the aircraft's movable parts while the pilot monitors the instruments on his control panel. A salute from the pilot says, "Thanks and goodbye," and he taxis to the catapult.

Waiting at the catapult are the

green shirts. Often whipped by 30-or-more-knot winds crossing the flight deck, the green shirts move to within inches of a whining jet and attach it to the steam-shrouded catapult. Their senses are assailed by the plane's thundering roar, parching exhaust and acrid smell of burning fuel. Once the aircraft is securely fastened, the green shirts duck away and wave the pilot off. Other green shirts in the rumbling steam-conditioned catapult chambers below the flight deck push the button which sends the 70,000-pound plane into the sky. In less than three seconds, two 6,000-pound pistons slam the aircraft 250 feet down the deck.

Green shirts typically work around the heat, noise and danger of the catapults. If the cat isn't working properly, it could put a plane and pilot into the water. Needless to say, their responsibility is awesome.

Flight deck personnel wearing green shirts with a black stripe perform all maintenance on the aircraft. They are electrical wizards who know a jet's

entire electrical system. They maintain power generators, lighting systems, instrument systems, noninstrument-type indicating and warning systems, aircraft automatic flight control systems, etc.

White shirts are individual squadron trouble shooters who inspect all aircraft coming up to the catapult for launch. They are multitalented technicians with a keen sense of how to repair just about any last-minute aircraft malfunction.

Safety personnel wear white jerseys with green crosses and constantly pace the flight deck and hangar bay searching for anything potentially hazardous to equipment and crew. Ship's medical corpsmen also wear white jerseys, with red crosses, and are always on watch in case of emergency.

On the flight deck the action seldom stops and the dangers never go away. But the men in the colored jerseys know the importance of their jobs to the carrier mission. They're also aware of the margin for error... none. ■



JOC James Jones

With chains draped around their necks, three blue shirts wait to tie down an aircraft aboard America.



A variety of Navy aircraft pack the parking apron at NAS Sigonella, the hub of Naval Aviation operations in the Mediterranean.

JOC Kirby Harrison



Scenes from the Peacekeeping Force

By JOC Kirby Harrison

Naval Air Station
Sigonella, Sicily
Dec. 5, 1983

On the Road to Beirut

There was a time when this field was a sleepy, little Naval Air Facility. Aircraft carried parts and passengers through Sigonella regularly, en route to scattered locations in the Mediterranean. Life had an established rhythm. That was before elevation to Naval Air Station status in 1981, and before the conflict in the Middle East brought U.S. Marines to Lebanon as part of the multinational peace-

keeping force.

On this day, parked on aprons in front of the hangars, there are more than 17 different aircraft types alone, ranging from F-14 *Tomcats* to a C-9B *Skytrain II*. The terminal no sooner empties of passengers headed for the naval base at Rota, Spain, than it refills with another group awaiting a plane to Souda Bay, Crete, en route to ships supporting the peacekeeping force.

Fleet Logistics Support Squadron 24, based at Sigonella, is moving passengers and equipment around the Mediterranean in everything from C-2 *Greyhounds* to RH-53D *Sea Stallion* helicopters. And the flight schedules shift daily, almost hourly, to meet the

needs of U.S. Sixth Fleet forces. From the air station's operations department, nearly 60 aircrewmembers, operating VP-3A, C-131 and C-12 aircraft, flew more than 5,000 hours, covering over one million miles in the past 18 months.

A C-9B from VR-58, out of NAS Jacksonville, Fla., manned by reservists on two weeks active duty, is helping take up the logistics slack. One day in the Mediterranean and they have already begun. Tomorrow they will be in Larnaca, Cyprus, where a 0100 takeoff will be changed to 0900, with an entirely different destination than that of the night before.

The newly established HC-4, with five big, new CH-53E *Super Stallion*



A new CH-53E Super Stallion from recently established HC-4 approaches a New York Air National Guard C-130 during aerial refueling training off the coast of Sicily. The new Super Stallion is capable of carrying as much as 18,000 pounds of cargo internally, or 55 troops.

heavy hauler helos, will go operational in a week. On December 16, they will send a two-aircraft detachment to the eastern Mediterranean as part of the logistics support for Marines in Beirut. They will be capable of flying non-stop, from departure points as far away as Larnaca, to Beirut and ships off the Lebanon coast.

Late winter at Sigonella is commonly referred to by some stationed there as *the pits*. Rain gear becomes a normal part of the uniform and visual flight rules seem to disappear. On this day, two P-3C *Orions* from Patrol Squadron 8 are punching holes in the low overcast, doing touch and goes, bouncing back into the sky and leaving gray streaks through the moist air.

It is VP-8's first det to Sigonella and their executive officer, Commander Andy Gabriel, is enthusiastic. It is partly a result of coordinated antisubmarine warfare operations between the squadron's land-based *Orions* and S-3 *Vikings*, SH-3 *Sea Kings* off the carriers, and surface warfare vessels like the fast frigates *Garcia*, *Paul* and *Moinester* in the waters near Lebanon.

"In less than half of a deployment, we broke the old record number of contacts established for a *full* deployment," says Gabriel. "Our mission is to support, and the cooperation we've gotten has only enhanced everyone's individual [ASW] capabilities."

NAS Sigonella is the stepping-off

point for support of the U.S. Marine contingent of the peacekeeping force. "This air station is not *becoming* the hub of U.S. naval air operations in the Mediterranean," says a spokesman for station commanding officer Captain Lynn H. Grafel, "It already *is* the hub!"

Backing up his contention are figures that show an increase in air traffic through Sigonella of 76 percent over 1982 figures. They are averaging 970 logistics flights a month out of the station, and the terminal which just opened in May has already had more than 96,000 passengers go through. "If you can't get there from here," says Capt. Grafel, "you can't get there at all."



Above, an F-14 Tomcat and a flight deck crewman are partially enshrouded in steam during an aircraft launch aboard the carrier *Independence*.

On the Flight Deck
Aboard USS *Independence*
Dec. 7, 1983

Launching the Photo Bird

From the glass cage perch overlooking his kingdom, the voice of the air boss rolls across the deck.

"Good morning on the flight deck. Let's get ready to launch aircraft, gentlemen. Sleeves down, goggles down, check for any loose gear." And the deck heels slightly to starboard as the big carrier comes left

and gathers speed into the wind.

It is three days since the U.S. carriers *Independence* and *Kennedy* launched the strike against positions in Lebanon, in response to attacks on U.S. aerial reconnaissance flights. The reconnaissance flights go on. This launch will include an F-14 *Tomcat* equipped with the tactical air reconnaissance pod system known as TARPS, capable of photographing terrain during high-speed flight.

At number two catapult, a "yellow shirt" beckons an F-14 up to the shuttle, where the aircraft's weight is confirmed, pins on weapons are pulled, and last-minute systems checks show the swing-wing fighter ready for flight.

The blast shield rises from the deck behind the F-14, and the catapult officer looks up at the pilot. Elbows flapping birdlike, the cat officer asks for a check of the aircraft control surfaces. In response, the spoilers, twin rudders and horizontal stabiliz-

ers move in answer to the pilot's movement of control stick and rudder pedals.

The roar of the twin engines rises to an incredible level. With a fine sense of theatrics, the cat officer leans back and kicks one foot high in the air. In reply, the pilot "kicks in" the afterburners. The exhaust glows red, then hot blue, with 20,500 pounds of thrust. A blanket of heat is thrown upward from the blast shield.

The cat officer listens for a moment, glancing one last time to see that all is clear. It is a point of no return. In one sweeping gesture, he motions forward with one arm, ducking low, stretched out, legs spread, pointing toward the bow of the ship.

For the briefest of seconds there is nothing. Then the catapult slings the 30-ton *Tomcat* forward, from zero to an airborne 160 knots in less than two seconds.

In seven minutes, he will be over Lebanon.



Fox Company, 23d MAU
Beirut International Airport
Dec. 9, 1983

A Few Good Men in a Tough Job

It is 431 days since U.S. Marines landed in Beirut as part of the multinational peacekeeping force in Lebanon. With the end of 1983 approaching, the 1,400-man force is dug in at positions around the international airport.

Most of them are dispersed around the rubble which is all that remains of the quarters where 243 of their comrades died in a terrorist truck bombing a month and a half earlier. Others are in similar sandbagged, reinforced bunkers on the outer perimeter of the airport, outfits like Golf and Fox companies.

They expect to be fired upon almost daily, and they are rarely dis-

appointed. Earlier in the week they had taken fire from the roof of a deserted building. The Marines ducked behind cover while spotters worked to pinpoint the sources of the incoming rounds. Their response came from an M-60A1, the Marines' main battle tank. The 105mm cannon swung around, belched once and the entire roof collapsed into a heap of dust and debris. There was silence, then cheers.

Sixteen days before Christmas, the Marines ashore in Beirut are quick to seize any opportunity to cheer.

If idle hands are the devil's workshop, as the adage has it, the Marines in this place already have a foot in heaven. When they are not standing duty, they are reinforcing bunkers, clearing fields of fire and seeing to their weapons. At best, they are cheerful. At worst, intent on doing the job at hand. If nothing else, it keeps boredom at bay and loneliness at arms' length between letters from home.

Above, a Marine CH-53D Sea Stallion leaves the landing zone at Beirut International Airport. Remains of the gate seen in the bottom right corner of the photo are part of the entrance broken through during the truck bombing of the Marine quarters last year. Below, a Marine at Fox Company keeps a sharp eye on the area surrounding Beirut airport.

JOC Kirby Harrison



Ready Room
Marine Medium Helicopter Squadron 261
Aboard the Amphibious Assault Ship Guam
Dec. 10, 1983

The Pipeline from Ship to Shore

Below, PFC Raul Hevas, injured by mortar fire directed at Marines in Beirut, is taken aboard a CH-46 helicopter for medical evacuation off the amphibious assault ship Guam.



JOC Kirby Harrison

Helicopters are the pipeline for the Marines in Beirut. The almost exclusive source of everything at hand, from spare parts to Christmas fruitcake.

In the squadron ready room aboard *Guam*, the faces are young. Behind youthful image is experience gained in Grenada, where HMM-261 pilots saw action. In Lebanon they fly daily, keeping the logistics pipeline open.

It is uncommon to find the *Guam* flight deck closed. Often, aircraft are being launched from forward and recovered aft simultaneously. On a ship where the flight deck is in use as much as 22 hours a day, the pilots say it is well that the ship's crew and squadron people work as a team.

On flights to the Beirut airport landing zone, pilots say it is not unusual to find themselves locked on by targeting radar.

"It sure gets your attention," says Marine pilot Captain John Quick, who saw action during Grenada and is already doing a second tour in support of the peacekeeping force. "If nothing else, it is a reminder that there is a threat. It's real easy to be lulled into a false sense of security."

Some of the pilots seem to recall Grenada with greater clarity than their more recent activity in Lebanon. Captain Bert Tussing, a CH-53 pilot, seldom fails to get at least a chuckle with the sea story of one landing he made. Tussing says it occurred on a soccer field at Grenville, as *Cobra* gunships circled overhead to give protection.

"We landed and were surrounded by a crowd of people almost before we touched the ground. At that point, we weren't sure what to expect, whether they would be friendly or start shooting. I looked over at a high rock wall at the edge of the field and saw a hand holding a sword come over the wall. Then one of the biggest guys I ever saw came crawling over that wall and started toward us with that sword in his hand. I thought, 'Damn! This guy is going to attack my helicopter with a sword.' He walked up to the helicopter, stopped and laid the sword on the ground. He was surrendering. It was strange. Really strange."

Tussing and his fellow pilots agree that one thing is the same, in Grenada or Beirut. "You've got to fly every mission like it's the real thing," says Tussing.



JOC Kirby Harrison



Below, a CH-53D from HMM-261 leaves the flight deck of Guam. Bottom, two flight deck crewmen communicate over the noise of helicopters turning aboard the big amphibious assault ship.



JOC Kirby Harrison



Next to getting home, mail call is perhaps the most eagerly awaited event on board this ship, or any one of the 18 U.S. ships steaming off Beirut. The carrier *Independence* has not seen a liberty port since leaving Norfolk more than three months ago.

Given a choice between mail from home and the Bob Hope Show, scheduled for the holidays, the impression is that even Hope would come in second.

A wall in the crew's mess aboard *Guam* is covered with letters and Christmas cards from the States, 6 feet high and 20 feet long. According to Command Master Chief Clayton Smith, the cards and letters began arriving in November, in response to newspaper stories encouraging school children to send best wishes to a Marine or sailor who might not be home for the holidays.

Bobby Maddox of Weatherford, Okla., along with hundreds of children from Clinton and other nearby towns, invited everyone to attend their patriots' parade to honor Vietnam veterans in Clinton in May. Maddox' letter began, to the amusement of readers, "Dear Pen Pal, Is it fun when nobody is shooting at you?"

Mark Schnapp, an eighth grader from Glendora, N.J., described his family pets in a chatty letter. "The dogs," he noted, "are Huskies, and the cat is regular." To the delight of sports fans aboard the ship, he included the National Football League standings. And he bravely added his own prediction, calling for a rematch of the Redskins and Dolphins.

One letter in particular received extra attention. An articulate, 22-year-old woman included a photograph of herself and one of the farm where she lives. Those few who got to see the photographs agree she was especially attractive. "The letter and photographs disappeared the same day we put them on the wall," says Master Chief Smith. "And, no, it wasn't me," he adds with a grin.

"When the cards and letters started coming," says Smith, "some of us in the chief's mess started writing back to thank the people who sent them. We were really touched — everyone of us. When the mail started coming in sacks-full, we had to give it up. I hope they understand. It was a wonderful thing they did for us."

The Mess Deck
Aboard USS Guam
Dec. 10, 1983

Letters from Home

Below, PN2 Mike Powell reads through some of thousands of letters and Christmas cards received aboard *Guam* during the holiday season. Bottom, guided by a flight deck crewman, Marines head for helicopters to be ferried in to positions at Beirut airport.



JOC Kirby Harrison



JOC Kirby Harrison



RAdm. Jerry O. Tuttle

The Admiral's Cabin
Aboard Independence
Dec. 11, 1983

The Man in Charge

Rear Admiral Jerry O. Tuttle is the man in charge. From aboard the carrier *Independence*, where he and his small 60-man staff are quartered, he is the task force commander of the Battle Force Sixth Fleet ships, aircraft and men supporting the peacekeeping force. That is 18 ships, 200 aircraft and 15,000 men.

A crewcut hides the salt-and-pepper of the years. Background music in his cabin features rock 'n roll and the rumbling voice of Wolfman Jack. The impression is one of a great deal of energy on a tight chain. There are those on his staff who swear he never sleeps. Others say he does, it's just that no one has ever caught him at it.

He sees the air strike of December 4, when 26 U.S. aircraft from the two carriers struck targets near Beirut, as having a dual objective.

"From one point of view, it was a success," he says. "It showed the resolve of the nations involved, and our refusal to be intimidated in our mission here."

Tuttle bristles at suggestions that the loss of two aircraft, capture of one man and the death of another were a result of poor planning or inexperience.

Planning for the strike had been completed at 0400 on December 4. At 0530 a message ordered the strike over the target at 0730. In just two hours, aircraft were loaded, manned and launched.

He responds to the critics with a one-word expletive. And he adds, "The Syrians sent up more than 40 SAMs, and that was during the initial stage of the strike alone. Lord knows how many more there were, and that's not counting the [antiaircraft artillery] flak."

He points out that a large number of the pilots in the raid were veterans of air strikes in Vietnam. "And even if they had had no combat experience," says RAdm. Tuttle, "where do they [the critics] expect combat experience to come from? You don't get combat experience unless you fly in combat."

Commander Edward Andrews
Commander Carrier Air Wing Six (CAG)
Aboard Independence
Dec. 11, 1983

Shot Down and Rescued

Commander Edward Andrews is not unfamiliar with ejecting from a damaged aircraft. Leaving his A-7E *Corsair II*, during the December 4 strike against Syrian positions, was his third ejection. But he points out ruefully that, at age 41, it takes a little longer for the body to recover. He shifts his weight somewhat gingerly to favor lingering aches. Some of the bruises are still blue, and cuts on his knuckles are still healing.

At that he considers himself lucky. Pilot Lieutenant Mark Lange and Bombardier/Navigator Lieutenant Robert O. Goodman were not so fortunate. Flying for Attack Squadron 85 off the carrier *Kennedy*, Lange and Goodman ejected over land when their A-6E *Intruder* was hit. Goodman, held prisoner by the Syrians until January 4, reported feeling the aircraft hit, then losing consciousness. He does not recall initiating the ejection sequence. Lange died of injuries incurred during ejection from the aircraft.

With Andrews in the air wing office are the commanding and executive officers of Attack Squadron 15, both of whom flew with the CAG on the strike.

Andrews recalls that the time over target was less than seven seconds, and the total time from entrance to exit was just seven minutes. But it was enough. "We rolled in over the target at about 480 knots," says Andrews. "You could see SA-7s and SA-9s [surface-to-air-missiles] coming up all over the place."

Later estimates put the number of SAM launches at more than 40, and the number of antiaircraft guns firing at about 150.

VA-15 skipper Commander Byron Duff got a good look. "There were SA-7s and 9s, and out the side of the



JOC Kirby Harrison

Left, an A-7 Corsair passes over the carrier *Independence* during operations off the Lebanon coast.

cockpit I could see the triple-A [anti-aircraft artillery] exploding. It was like a carpet, it was so thick."

Duff believes the CAG saved his life when Andrews "called the break" upon seeing a SAM closing on Duff's A-7E.

"I saw him break and saw the missile go right by him," says Andrews.

Andrews' own aircraft was hit as he headed out to return to the carrier.

"When it happens, you start to set up a series of objectives," says the wing commander. His first objective, he says, was to check that the aircraft was still flyable. It was, but only barely. His second was to try to get over water where he figured chances of survival and rescue were better. By the time he had achieved the second objective, the first had turned sour. He had just crossed the shoreline of a small bay, headed out to sea, when the entire tail section of his A-7E came off. As the aircraft rolled about 90 degrees and went totally out of control, Andrews pulled the ejection handle.

"I got a good chute and started going through the routine [inflating the life preserver, etc.]. I was over land. I decided that wasn't the best way to go and about the same time I looked up and saw the four-line release for steering the chute hanging over my head. I grabbed them, pulled

on one handle and started going inland. I pulled the other handle and started sliding out to sea."

Andrews hit the water yards from a small fishing boat carrying an old man and a very young and obviously frightened boy. Says Andrews, "I really didn't want to get into a boat with anybody but the old man kept insisting and I decided this was better than swimming around."

The fisherman started for shore. About that time, Andrews says he noticed a very fast speedboat starting out from shore in their direction. The CAG picked up his pistol, thinking the occupants might be hostile. Instead, they turned out to be four or five Frenchmen who gestured to Andrews to come aboard.

He went aboard the speedboat and was transferred to an outboard rubber raft manned by two men in what Andrews thought were French uniforms. He was quickly run ashore where a waiting Lebanese army helo took him to a Lebanese army headquarters for medical attention. From there he was picked up by a Marine CH-46 helicopter and taken to the amphibious assault ship *Guam* for additional medical examination.

In the meantime, VA-15's executive officer, Commander Les Kappel, was having problems. Apparently, an SA-7 had exploded directly behind his air-

craft, shredding the rudder and parts of the horizontal stabilizer surfaces, and damaging the engine. Despite the harm done, Kappel nursed the ailing A-7E back to the carrier. A visual check of the tailhook by an escorting aircraft showed the hook properly aligned and evidently solid. Kappel landed safely.

Mechanics who repaired the damage said the tail cone, normally removed as a single unit, came off in three pieces. And they added that, considering the hits to the engine, he was lucky it all stayed together.

All three pilots feel the mission was a success. "One [target] site was a management radar control post," says Andrews. "It went down and it hasn't been back up since."

Andrews, who flew combat in Vietnam, reminisced on the past, comparing it to the present, noting what he sees as changes in the attitudes of the people at home.

"I remember once when I went home to Corpus Christi [Texas] during Vietnam. You know, when everyone was protesting. I went out for a drink and was wearing the uniform. A kid walked up and spit in my face. I wanted to hit him," says Andrews. "And I thought how ironic it is that we're the ones making it possible for people like him to do something like that. I walked away."

PHC Don Sallee



Left, Commander Edward Andrews enjoys a visit from country and western singer Loretta Lynn just hours after being shot down and rescued during a raid against Syrian positions in Lebanon. The popular singer had been performing aboard ships steaming off the Lebanon coast. She heard portions of the radio conversation as Andrews tried to guide his aircraft back to the carrier, and on learning he had been rescued, Lynn insisted on meeting him in person.



JOC Gary Miller (SW)

JOC Gary Miller (SW)



Above, accompanied by wife Terry Lynn and daughters Tina Marie (left) and Morgan, Lt. Goodman answers questions from news media representatives at NAS Oceana, Norfolk.



Lieutenant Robert O. Goodman is surrounded by news media and well-wishers at a welcome-home ceremony at NAS Oceana.

Naval Air Station
Oceana, Virginia
Jan. 6, 1984

A Homecoming for Goodman

It is homecoming at NAS Oceana. Lieutenant Robert O. Goodman, Jr., shot down one month earlier during the air strike against targets in Lebanon, is back. With him are his wife Terry Lynn and two daughters Tina Marie, 7, and Morgan, 2½. Also with him are scores of friends from the air station and his unit Attack Squadron 85. There are hundreds of well-wishers and what seems an equal number of media representatives.

Goodman was held captive for 30 days, following the December 4 downing of his A-6E by missile fire. He was released by the Syrians January 2, in response to the personal intercession of Rev. Jesse Jackson.

As he descended the ladder of the aircraft bringing him from the nation's capital, Goodman broke into a wide smile. Within a few minutes he had accepted the traditional beer that is offered to each *Buckeye* squadron member returning home from sea. He also received a green VA-85 baseball cap and, amid laughter, accepted a white patch of paint under his right eye. The "buckeye" patch is normally applied with charcoal. Goodman, who is black, allowed with a laugh as how it was a reasonable alternative.

Switching to a sadder note, Goodman took the opportunity to remember his pilot, Lieutenant Mark Lange, 26, who died in the incident, noting the loss of "... a good friend."

The 27-year-old Naval Flight Officer said his return to Oceana was the best homecoming celebration since his release from captivity three days before.

"This is home territory for me, a lot more familiar faces. . . the planes behind me. . . My hands are shaking, you know," Goodman told the crowd. His first stop in the U.S. had been Washington, D.C., where he and Jackson met with President Reagan.

Back in the U.S., at home among friends, Lt. Goodman seemed anxious to lose the limelight into which he was involuntarily thrust.

"I just want to be the same person that I was before I left," he said. ■

JOC Kirby Harrison



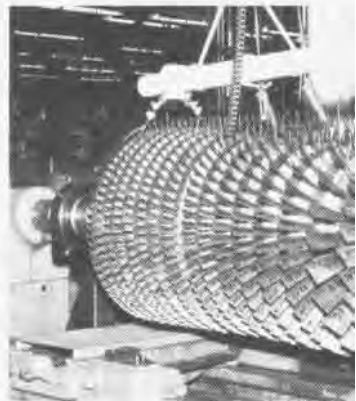
Above, Kennedy is underway during Caribbean operations last year. Aircraft from Kennedy and Independence were involved in the December 4 strike against Syrian positions in Lebanon.

JOC Kirby Harrison



Left, an A-6 Intruder from Goodman's squadron, VA-85, is launched off the deck of the carrier Kennedy during operations in the Caribbean, prior to the Mediterranean deployment.

A Bargain for the



PHCS R.L. Lawson

What goes on at a naval air rework facility? Most people in the Naval Aviation community are familiar with the term, but how many really know about the nuts and bolts of a NARF operation?

It's complex and it's big. NARF North Island, a tenant aboard the air station in San Diego, is one of the top three employers in the area with almost 6,000 employees on its payroll — dedicated and highly motivated, with the professional and technical knowledge needed to carry out the NARF mission. There are 27 military and the rest are civilians representing 57 distinct trade skills and an average of over 17 years' experience.

The facility dates back to the early days of Naval Aviation. It began operations on an informal basis in 1918, when the air station was established, and was designated the Assembly and Repair Department a year later. The repair shops were operated in big canvas tents and, since the planes were constructed mostly of wood and fabric, they had to be stripped of the fabric and actually rebuilt. There were no overhaul manuals and the craftsmen had nothing but the old part for a pattern. The activity was redesignated the Overhaul and Repair Department in 1948, and became a Naval Air Rework Facility in 1967.

Today, NARF North Island overhauls and upgrades an average of 120 aircraft annually, as well as 600 engines and an endless variety of components and ground support equip-

ment. And, for good measure, it provides calibration standards for all naval activities and ships in the western United States and the Pacific.

To learn how NARF North Island ticks, let's follow an F-4J *Phantom* jet through the rework facility as it is overhauled and modified from stem to stern. This includes the service life extension program which updates the plane with state-of-the-art improvements for use into the 1990s at a fraction of the cost of new aircraft.

The first stop for our *Phantom* after it arrives from its fleet squadron is the test line, where its engines and all systems are checked out. The log books and records are examined to see if any field modifications or repairs have been made. Then the plane is defueled and all systems are drained before it is towed to the F-4 disassembly building where the work begins in earnest.

Skilled artisans take it completely apart until nothing is left but an empty fuselage shell, wings and tail. Every one of the thousands of parts is carefully labeled and inspected to determine whether it will require overhaul, modification or retirement. The log books are again consulted. Tail hooks, for instance, must be overhauled after 100 traps and scrapped after 1,000.

The only bit of dignity left for the torn-down F-4J is her paint job but this too she soon loses in the stripping and painting building. Here, the aircraft is brought down to bare metal,

using lots of elbow grease and a variety of solvents. One of the hardest jobs is removing the rubber coating from the interior of the seven fuel tanks to allow ultrasonic testing for cracks and corrosion. Next, a coat of yellow epoxy primer is applied to our now naked *Phantom*, affording good visibility for the many repairs to come on the long road back.

Meanwhile, the thousands of parts have been routed to their respective repair areas to be made as good as, or better than, new. Keeping track of the F-4's multitudinous parts (in addition to those belonging to all the other aircraft types being overhauled) would be almost impossible without the computerized storage and retrieval system that keeps count of each item and routes it around on conveyor belts. New parts are ordered as needed from the supply system and, if unavailable, can be made from scratch by sophisticated computer-controlled machines. Everything is carefully checked to make sure it works before it goes out the door.

Engines are the heart of an aircraft and our *Phantom's* two J-79s are sent to the power plant division where they too are disassembled and every part is evaluated. If you want to see something with an astronomical number of parts, take a look at a modern jet engine. The fuel control alone is many times more complicated than the most exotic automobile carburetor since it must deliver the proper flow under widely varying conditions of

Dollar

By Commander J. W. Swanberg



Far left, F-4J Phantom II launches from Constellation. Center, overhaul of a turbine type engine with every blade tip precision ground following computer instructions. Left, F-4J is now an F-4S and is ready for fleet service into the 1990s.

temperature, pressure, attitude and G forces. The parts are removed, taken apart and cleaned, or overhauled and then extensively tested to check performance.

Then, nondestructive testing begins to ferret out cracks or flaws. Anything found is corrected if possible by machining, replating or regrinding, or the part may be scrapped and replaced by a new one. The thousands of turbine blades get special cleaning, and are also heat treated and coated with additional metal for extended life — well worth it since one blade can cost \$1,000.

The jigsaw puzzle of engine re-assembly now begins, aided by computers which are fed the exact interior dimensions of the overhauled engine case and then spew out just how much each of the thousands of turbine blades on the rotor must be ground for a perfect fit. When everything is back together, the like-new engine goes to one of eight test cells where it is put through its paces to monitor everything from thrust to vibration.

In the meantime, the F-4 fuselage in its yellow primer paint is in the metal shop where expert metalsmiths and machinists are checking every rib and surface for cracks or corrosion. Because of the tremendous stress on the airframe in flight operations, every repair must be planned meticulously so that structural integrity is maintained. Here, the *Phantom* is actually improved over her original condition with major airframe changes that

require about 51 days in this phase alone. The upshot of all the metal modifications and repairs ensure a new life for the F-4.

The complicated wiring which connects the many electronic systems and other systems with controls and gauges in the dual cockpit is just as critical as the exacting metal work. Over the years, modifications in the field have resulted in many wires in a group or bundle being disconnected with new ones run alongside the same bundle for the new function. Thus, the *Phantom* has been carrying around some dead weight in unused wiring and, in addition, the original Teflon insulation is heavier and takes up more space than the kind now in use. Therefore, all wiring is replaced and complex new cable harnesses are made in the wire bundle area. Again, computers are an essential part of the operation, since they have been programmed for any type of cable desired. After skilled artisans cut the wires to length, label them, attach them to connectors, and lay out the hundreds of wires to assemble one harness, the harness is covered with Dacron and then goes to final assembly and computer testing, with every circuit checked. Only then is each of the many harnesses released for installation.

By now, our *Phantom* has had all her components overhauled to a like-new condition or better. Her engines are also in new condition. Her fuselage and airframe are repaired and

ready to go with all the latest improvements added, and a complete set of brand-new wiring awaits. But it all has to come together again. The rendezvous point is the final assembly area.

Here, the computerized storage and retrieval system produces the right part at the right time for this complex assembly job to make sure everything will fit together as intended. Every fuel tank has had its inside coated with rubber, electricians are routing and splicing the wiring harness, and mechanics are at work on hydraulics and fuel systems installation, and building up canopies and cockpit areas. Now the engines are remounted, as well as the landing gear and flight control rigging. All of this exacting assembly work is constantly checked, both by the craftsmen themselves and by quality assurance experts. The plane emerges as perfect as man and machine can make it.

Finally, our *Phantom*, still wearing her coat of yellow primer, goes back to the test line where she first arrived. After a ground check and a flight test, she enters the paint shop where a primer and tactical gray finish are applied, with low visibility numbers and insignia — the finishing touches.

With all of her modifications and improvements, the *Phantom* is now an F-4S instead of the original F-4J model and is ready for many more years of service to the fleet at a substantial cost saving.

NARF North Island's commanding officer, Captain P. A. Monroe, is justly proud of the work done by his team, not only on the F-4 but also on the C-2, E-2, the H-46, H-3 and on the H-53 tail blades. His facility has been selected by the Navy as its designated overhaul point for the F/A-18 *Hornet*.

A naval air rework facility is a good bargain for the American taxpayer's dollar. ■

Ensign Jesse L. Brown

From Dream



to Reality

By JO2 Timothy J. Christmann

Fifteen years before Dr. Martin Luther King began his crusade for black equal rights, Jesse L. Brown attained a lifetime dream — he became the first black Naval Aviator. It wasn't easy.

Born into a poor family in Hattiesburg, Miss., on October 13, 1926, Brown grew up telling people he was going to fly airplanes. Outwardly some applauded his ambitious goal, but secretly they were skeptical. After all, Jesse Brown worked beside them in the cotton fields. He was poor, black and knew the bitter taste and frustrations of racial discrimination, with the odds apparently against him. Why were his goals different from the rest of his peers? It's easy to squint into the sunshine at a passing plane and say, "Yep, I'm going to fly one of those someday." Doing it, however, was a completely different matter.

But if there was one ingredient Jesse Brown possessed that some of his friends might have lacked it was determina-

tion. He had the will to achieve the unachievable.

Jesse Brown had another quality as well — a thirst for knowledge. He was salutatorian at all-black Eureka High School, and his superior marks helped him to be accepted at Ohio State University.

He studied hard at Ohio during the day and worked at night to help pay for tuition, room and board.

Brown's interest still lay in Naval Aviation, and he was intrigued with the idea of flying off aircraft carriers. So, in July 1946, he enlisted in the U.S. Naval Air Reserve. He reported for active duty March 15, 1947, and later attended Navy preflight school in Ottumwa, Iowa. On April 15, 1947, he knew he was on his way to achieving his goal when he reported to NAS Pensacola, Fla., for flight training.

As the sole black flight student at Pensacola, Brown was to Naval Aviation what Jackie Robinson was to baseball.

His wife Daisy, now remarried, remembers, "He wanted to be a Naval Aviator and nothing was going to stop him." Nothing did.

Eight days after his twenty-second birthday Brown was designated a Naval Aviator — the first black to earn that distinction.

On January 4, 1949, Ensign Brown reported to VF-32, based at NAS Quonset Point, R.I. At the outbreak of the Korean War, he deployed with the squadron aboard the aircraft carrier *Leyte*. The ship was en route to the Sea of Japan where it participated in strikes against North Korean targets in Wonsan Harbor, Pukchong, Chongjin, and the Chosin Reservoir.

When *Leyte* reached Asian waters, Jesse Brown, like everyone else in the squadron, suited up and took his F4U-4 *Corsair* into combat.

Between October 12 and December 4, 1950, he flew 20 sorties against the enemy, especially over the Chosin Reservoir where Chinese-reinforced North Korean troops were forcing United Nations troops to retreat back across the 38th parallel.

For his efforts, Brown was awarded the Air Medal. His citation read: "For meritorious achievement in aerial flight in action against enemy aggressor forces in Korea. . . during this period, Ensign Brown participated in close air support flights and carried out daring bombing and strafing attacks against enemy lines of communication, transportation facilities, military installations and troop concentrations. Leading his section in the face of hostile anti-aircraft fire, he vigorously pressed home his attacks, thereby contributing materially to the success of his division in inflicting serious losses upon the enemy and in providing effective support for friendly ground forces. His courage, skilled airmanship and unswerving devotion to duty were in keeping with the highest traditions of the U.S. Navy."

Lieutenant Junior Grade Thomas Hudner, fellow VF-32 pilot and friend, described Brown as "a very quiet and reserved person. He didn't go out and make friends quickly with people. . . instead people had to go to him. But once you were his friend, you were a good one."

Hudner, a resident of Concord, Mass., and now a retired captain, added that Brown was as much a part of VF-32 as anyone, and was not treated differently because of his color.

"Everyone was more concerned with each other's flying

ability," he said. "Race wasn't a problem."

On December 4, 1950, Ensign Jesse Brown and three fellow pilots, Lieutenant Commander Richard L. Cevoli and Lieutenants Junior Grade Bill Koenig and Tom Hudner, launched from *Leyte* en route to the Chosin Reservoir to strafe enemy positions.

"We were supposed to fly cover over the elements of the First Marine Detachment, who were making a withdrawal far up in North Korea," said Hudner.

Added Koenig, "It was a cold, clear day. Good weather. Good visibility."

They were over the target area 15 minutes flying 150 knots, 100 to 500 feet off the ground, when Brown's plane was hit, presumably by antiaircraft fire, and crashed on very rough, snowy terrain five to ten miles behind enemy lines on the northern tip of the Chosin Reservoir, according to Hudner. The impact broke the *Corsair's* fuselage at the cockpit at a 45-degree angle. The engine tore off and was tossed 100 yards away.

Hudner, Cevoli and Koenig circled the wreckage to see if Brown had survived the crash. Other planes from various formations in the area joined them once they heard what happened, said Hudner. "An aviator was down, and everyone was concerned," he remarked.

On the ground, Brown was sitting in his cockpit, and seemed to be dazed.

"Because of how badly the plane was damaged we thought he had died," said Hudner. But after a few minutes, Brown waved to the circling *Corsairs*. The pilots were concerned, however, because smoke was billowing out from underneath the plane's cowling, and Brown made no effort to get out of his cockpit.

"We thought he was wedged in and feared he might get burned," said Hudner.

Added Koenig, who retired as a commander in 1969, "It was apparent that if Jesse was going to survive he needed help from one of us."

Lt.Cdr. Cevoli climbed to a higher altitude and radioed for a nearby Marine Corps helicopter to fly in and rescue Brown. But because the Marines were engaged in fighting advancing Communist troops, Hudner thought the helicopter would take too long getting to the scene. So, he fired his eight 5-inch rockets and .50-caliber ammunition into the side of a hill to lighten his *Corsair*, and then confidently performed a wheels-up landing in the same rugged terrain. His plane hit the ground, remained intact and slid up a snowy slope 100 yards away from Brown's disabled aircraft.

Unhurt, except for a minor back injury, Hudner climbed out of his plane and lumbered through the knee-high snow toward Brown.

Jesse looked shaken and drifted in and out of consciousness, according to Hudner, with his legs pinned inside the cockpit. Hudner immediately packed snow around the cowling to prevent the spread of fire. He tried to free Brown but was unsuccessful.

Soon the helo arrived. The pilot, Marine First Lieutenant Charles Ward, worked with Hudner for almost an hour trying to dislodge Brown's legs. But, in addition to the fact that his limbs were pinned tightly in the wreckage neither Hudner nor Ward could get traction on the frigid, ice-covered aircraft. "We kept slipping," Hudner recalled.

Brown, perhaps realizing his fate, looked at Hudner and whispered, "If anything happens to me, tell Daisy I love her." Minutes later he died.

"Seeing him die there in that frigid terrain after we tried so hard to save him was one of the most terrible frustrations I've ever experienced," said Hudner, who received the Congressional Medal of Honor from President Harry Truman for his actions. "It made me angry."

With dusk fast approaching, Ward told Hudner they had to leave the area because helicopters at that time weren't equipped to fly in the dark. In addition, the temperature was nearing zero and they didn't know how many enemy soldiers were lurking nearby.

Days later, the C.O. of *Leyte* suggested flying a medical team to the area to try to remove Brown's body, but the plan was too risky. Instead, several pilots flew over the



Fast Frigate Jesse L. Brown (FF-1089)

wreckage and dropped napalm to cremate his body rather than leave it to the elements.

Said Hudner later, "If I hadn't gone down to check on Jesse, someone else would have because we were all Naval Aviators. . .we all shared a common bond, a brotherhood. It didn't matter what color you were, you were part of a family. . .a good family."

Jesse Brown was posthumously awarded the Purple Heart and Distinguished Flying Cross for "heroism and extraordinary achievement in aerial action against enemy aggressor forces in Korea. . .and for exceptional courage, airmanship and devotion to duty in the face of great danger."

Twenty-three years after his death, the *Knox*-class fast frigate *Jesse L. Brown* was launched in honor of the first black Naval Aviator — a modest man from the cotton fields of Mississippi who had a dream and the courage to make it a reality. ■

Now 34 years after his death, a book and screenplay are being written about Ensign Jesse Brown's life, including the valiant rescue attempt by then Lieutenant Junior Grade Thomas Hudner.

70 Years of Royal Naval Aviation

1984 is a banner year for Naval Aviation in the United Kingdom.

Lest we become too parochial and think that U.S. Naval Aviation is an unparalleled tradition, let 1984 remind us that Great Britain also has a long and proud history of Naval Aviation.

According to the Fleet Air Arm Museum at Royal Naval Air Station, Yeovilton, England, in July 1914 the Naval Wing of the Royal Flying Corps (now known as the RAF) became the Royal Naval Air Service. This is officially recognized as the beginning of independent Naval Aviation in the United Kingdom. The first major change in British Naval Aviation came in April 1924 when the Fleet Air Arm was established under the RAF. It came under the control of the Admiralty in 1939.



The following is a list, although incomplete, of some of the highlights of the evolution of the Fleet Air Arm:



Top right, Britain's first four Naval Aviators in May 1911, (l-r) Lts. Samson, Longmore, Gregory and Gerrard. Top left, a Short biplane like the one that made the first takeoff from an RN ship in 1911 flown by Lt. C. R. Samson. Above, Squadron Commander E. Dunning makes Great Britain's first ship landing on HMS Furious, August 1917.

May 1911

Lieutenants C. R. Samson, RN; A. N. Longmore, RN; R. Gregory, RN; and E. L. Gerrard, RMLI became England's first qualified Naval Aviators.

November 1911

Commander Oliver Schwann became the first British pilot to take off from water. He did it in a biplane he purchased at his own expense to prove the concept.

January 1912

Lieutenant C. R. Samson flew a Short biplane off a platform erected on the bow of the Royal Navy battleship *Africa*.

May 1912

The Royal Flying Corps (later the RAF) was formed with naval and military wings.

December 1912

The first coastal air station was commissioned on the Isle of Grain, followed by others at Calshot, Felixstowe, Yarmouth and Cromarty.

July 1914

The Royal Naval Air Service was established. Its strength was 52 seaplanes and shipborne aircraft; 39 airplanes; 6 airships; and 128 officers and 700 men.



The legacy of Royal Naval Aviation is displayed most impressively at the Fleet Air Arm (FAA) Museum at RNAS Yeovilton, located some 100 miles west of Portsmouth and 30 miles south of Bristol.

Along the lines of our Naval Aviation Museum in Pensacola, the FAA Museum houses a wide variety of historically significant aircraft and artifacts in a hangar-size building. The showcase includes antique biplanes with wooden ribs and fabric skin, jets, experimental aircraft and helicopters. They even have a shot-up Argentine FMA

Pucara on display, left over from the Falkland Islands war. However, one of the most unique exhibits is a full-size mockup of the Concorde SST that visitors can explore both inside and out.

The entire museum, including its artwork, display areas and restoration facilities, is impressive and inspiring, and well worth the visit.

NA News wishes to thank Commander Dennis White, RN(Ret.), Director of the FAA Museum, for his support and cooperation in preparing this story.

The FAA Museum is open to the public every day, except Christmas Eve and Day, from 1000 on weekdays and from 1230 on Sunday until 1730, or dusk when earlier. ■

August 1917

Commander E. H. Dunning became the first Royal Navy officer to land an aircraft on a ship underway. Flying a Sopwith *Pup* alongside *Furious*, he passed her bridge and then sideslipped the aircraft onto the deck.

April 1924

The Fleet Air Arm of the RAF was formed.

May 1939

The Admiralty assumed complete control of the Fleet Air Arm.

September 1939

Lieutenant B. S. McEwen, flying a Blackburn *Skua* from *Ark Royal*, destroyed the first German aircraft of WW II.

August 1941

The first successful Royal Navy use of a catapult fighter flown from the deck of a ship. The pilot was Lieutenant Everett and the ship was HMS *Maplin*.

December 1941

First destruction of a U-boat by a radar-equipped *Swordfish* of 812 Squadron.

December 1945

Lieutenant Commander Eric Brown became the first RN pilot to land a purely jet-powered aircraft – a modified *Vampire* – on the deck of the aircraft carrier *Ocean*.

September 1946

Lieutenant A. Bristow, RN, made the first landing by a helicopter on a Royal Navy ship, a naval escort vessel.

1950-53

During the Korean war, aircraft from HMS *Triumph*, *Theseus*, *Glory* and *Ocean* flew many thousands of operational sorties.

1954

The first antisubmarine helicopter squadron was formed.

1977

HMS *Invincible*, first of that class carrier, launched.

1982

Falklands Crisis.

Two Sea Harriers are down and rolling as a third makes an approach to HMS *Hermes* during operations off the South Carolina coast.



JOC Kirby Harrison

Records

HS-6: C.O. Cdr. Lewis Madden completed 2,000 flight hours in the SH-3 *Sea King*, while X.O. Cdr. Miles Staley totaled 3,000.

VA-176: Four *Thunderbolts* received plaques for A-6 *Intruder* flight-hour milestones: Skipper Cdr. Mike Currie, 3,000 hours; and Lt.Cdrs. Bob Slowik and Bill Miller, and Lt. Tim Masem, 1,000.

HSL-36: The 1,000-hour mark in the SH-2F *Seasprite* was passed by Cdrs. F. Vazquez and R. Lentner; Lt.Cdrs. W. Gibney, W. Sanderson and J. Thogerson; Lts. J. Greer, J. Guzy and G. Voorhies; and AW2s D. Didomizio and D. Riddell.

VF-151: Recent *Vigilante* milestones include 2,000 F-4 *Phantom* hours for Cdr. Dean Steele and Lt.Cdr. Christopher Benjes; and 1,000 hours for Lt.Cdrs. Richard Franklin and Owen Corpin, and Lt. Thomas Bauer. Recent *Midway* double centurions were Lts. Thomas Bauer, Thomas Miller, James Jones, Jr., John Von Gohren, Douglas Walter, William Ittner and David Vivian.

VF-142: The following *Ghost-riders* marked personal flight-hour milestones in the F-14 *Tomcat* aboard *Eisenhower* in the Med recently: C.O. Cdr. Mick Sumnick and Lt.Cdrs. Tommy Foster and Harry Stanbridge, 1,500; Lt.Cdr. Gus Grissom and Lts. John Tartaglione and Ed Peebles, 1,000.

A new milestone in Marine Corps Aviation was recorded last fall when MSgt. Charles E. Michael became the first Marine to attain more than 1,000 hours of flight time as a flight engineer in the P-3 *Orion*. Michael, who is the senior flight engineer in VP-30's Marine Aviation Support Detachment at NAS Jacksonville, has accumulated over 9,000 career flight hours in such aircraft as the C-54, US-2B, U-11, T-28, C-118 and C-130.

Last November, VAQ-136 *Gauntlets* Lt.Cdr. Jim Hollenbach, pilot, and ECMOs Lts. Pat Pasqua and Doug Terry and Ltjg. David Lane recorded the first operational hands-off approach and arrested landing in recent history aboard *Midway* when their EA-6B trapped aboard. The ship had not been certified for the automatic carrier landing system Mode I since the Vietnam era.

Honing the Edge

Many VT-27 students at NAS Corpus Christi took advantage of CNATra's quarterly helicopter orientation program last fall, which is designed to give primary flight training students the opportunity to fly a helicopter before choosing a training pipeline. The 30-minute flights were flown in an SH-3H from HS-10 and two TH-57Cs from HT-18.

The *Lobos* of VA-305, Point Mugu, participated in Exercise *Quick Force* last fall, designed to realistically simulate the rapid deployment of air and ground units in a combat scenario. Navy, Marine Corps, Army and Air Force units with more than 20 different aircraft models were involved in air-to-ground weapons delivery, air-to-air combat, electronic jamming, early warning detection, air refueling and other specialized warfare areas.

Last November, Norwegian Air Force officer 2Lt Sira Skare became the first woman to receive flight training at NAS Whiting Field as part of the foreign student training program. Skare obtained her private pilot's license in the U.S. a few years ago and was the first woman to enter the Norwegian Air Force flight program.

After returning from a seven-month Med deployment aboard *Eisenhower* last fall, the VAW-121 *Blue-tails* participated in NATO Exercise *Distant Drum '83*. Led by Cdr. Terry J. Wendt, the squadron joined British, French, Italian, Turkish and other U.S. naval units in all phases of naval combat and fleet defense.

VS-29's *Dragonflies* returned last fall from an eight-month, around-the-world cruise aboard *Vinson*, starting from Norfolk in March and arriving at NAS Alameda in October. Squadron aircrews participated in 11 major exercises that covered four of the seven seas, including *National Week*, *Readex 1-83*, *Bright Star 83* and *Adex 84-1*.

It's rare that a reserve squadron takes the limelight before the Joint Chiefs of Staff, but recent current events brought VF-202's scheduled Key West deployment last December to the attention of that distinguished group and a course change was ordered. The squadron flew to Guantanamo Bay, Cuba, instead, for air combat maneuvering training, with VCs 10, 12 and 13 performing adversary services. During the one-week deployment, VF-202 flew 230 sorties and 279.1 hours, compiling an outstanding record in the ACM training syllabus.

Awards

The *Aardvarks* of VF-114 retained the title of "the Best Guns in the West" for the second consecutive year by winning the 1983 ComFit-AEWingPac High Noon Gun Derby. Amassing 532 hits, the squadron scored the highest percentage and the overall high total. Lt.Cdr. Scott Vance and Ltjg. Dan Herold made 133 of the 234 hits in the year's single banner high, claiming the title to an all-time F-14 record of 59.7 percent.

Et cetera

For over 20 years, PB4Y-2 BuNo 66304 served as a source of parts for other *Privateers* operating as aerial tankers, dropping fire retardant on forest fires in Greybull, Wyo. In 1981, with the help of retired Capt. Grover Walker, Director of the Naval Aviation Museum, restoration began on the old patrol plane. In January 1983, the aircraft was test flown by Lt. Duane Powers of VP-31 and his father, Gene Powers, co-owner of Hawkins and Powers Aviation, Inc., in Greybull, the restorers of the aircraft. Lt. Powers flew "Old Blue" — as she is affectionately called because of her original sea blue color — to her final resting place in Pensacola, where she is on permanent display at the Naval Aviation Museum.



Past and present aircraft come together as Lt. Powers flies Old Blue to final approach at NAS Pensacola.

JO1 Jim Bryant

AN Darryl E. Roche of Virginia Beach, Va., is the first Sea and Air Mariner (SAM) recruit in the Tidewater area. The former NJROTC member and Sea Cadet was sworn in last November by Capt. William M. Shewchuk, C.O., Naval Air Reserve Norfolk, and reported to NTC Great Lakes, Ill., in January to begin boot camp. The SAM program is geared towards high school, vocational and technical school, and college students wishing to serve in the Navy (see "The Reserves: A Choice for Readiness," *NANews*, January-February 1984).

Ens. Don Slone is the first former enlisted member to earn his wings as a Naval Flight Officer after completing the Enlisted Commissioning Program and 15 weeks of Aviation Officer Candidate School. During his last enlisted duty assignment at VF-101, AO1 Slone specialized in the F-14 tactical fighter armament system. He will return to the *Tomcat* at Oceana's VF-101 but this time as a radar intercept officer in the cockpit rather than as a member of the ground crew.

Change of Command

ComFitWing-1: Capt. Roy Cash, Jr., relieved Capt. Frederick L. Lewis.

HSL-31: Cdr. Dennis H. Christian relieved Capt. Richard L. Johnson.

NAS Guantanamo Bay: Capt. Robert A. Allen relieved Capt. Maurice D. Fitzgerald.

NAS Whidbey Island: Capt. Richard A. Powell relieved Capt. Stewart D. Langdon.

NR CV-62 166: Capt. Donald C. Morency relieved Cdr. Robert F. Norrell.

USS *Okinawa* (LPH-3): Capt. Roger L. Newman relieved Capt. David N. Rogers.

VA-35: Cdr. Steven A. Richmond relieved Cdr. A. Hardin White.

VA-75: Cdr. James R. Glover, Jr., relieved Cdr. Earl D. Wolfgang.

VA-105: Cdr. Donald A. Weiss relieved Cdr. Robert G. Brodsky.

VAW-124: Cdr. R. A. Engle relieved Cdr. T. F. Horner.

VF-24: Cdr. Daniel J. Shewell relieved Cdr. William P. Bertsch, Jr.

VF-32: Cdr. James C. Sherlock relieved Cdr. John F. Manning, Jr.

VF-103: Cdr. Samuel A. Montgomery III relieved Cdr. Lawrence W. Urbik.

VF-151: Cdr. Charles L. Robinson relieved Cdr. Charles C. Buchanan, Jr.

VMFA-122: Lt. Col. Richard Ewers relieved Lt. Col. John Fogg.

VP-23: Cdr. Gregory R. Moore relieved Cdr. Harold J. Tickle.

VR-52: Capt. Thomas V. Brennan, Jr., relieved Capt. James R. Kenney.

VR-59: Cdr. Jack O'Dell relieved Capt. Terry Warner.

VRC-50: Capt. David P. Gauthier relieved Capt. Richard S. Parker.

VS-21: Cdr. John S. Boyd relieved Cdr. William M. Rule.

VS-41: Cdr. Richard M. Sanford relieved Cdr. Francis J. Herron.

VT-4: Cdr. David L. Newton relieved Cdr. John Allman.

VT-27: Cdr. William Diman relieved Cdr. Thomas Lagomarsino.

VT-86: Cdr. Roy A. Morris, Jr., relieved Lt. Col. Bob B. Rodgers.

STATE OF THE ART

Marine Corps Reserve Gets First KC-130Ts

Marine reserve squadron VMGR-234, Glenview, Ill., has received the first two advanced-version Lockheed KC-130T aerial refueler transports, with two more to be delivered later. The four new tankers will give VMGR-234 a total of 11 *Hercules*, seven of them KC-130Fs.

The new tankers provide the added capability of refueling low-speed helicopters as well as high-speed fighters. They also feature more than 12 new avionics systems, including the inertial, Omega and TACAN navigation systems, a new autopilot and flight director, and a new solid state search radar. The KC-130T can refuel two fighter or attack planes or two helicopters simultaneously by drogues. It can easily be converted into a transport, carrying 92 combat troops or cargo/vehicle loads of over 37,000 pounds.

Anechoic Test Facility

The Naval Air Test Center at Patuxent River, Md., now has an aircraft anechoic test facility — a large RF (radio frequency) aircraft-sized anechoic chamber which will enhance many kinds of electronic testing. The chamber will enable the Navy to more accurately evaluate actual mission capability in the expected combat environment. An aircraft suspended in the chamber in an in-flight configuration can be electronically "flown" and subjected to realistic dense threat and friendly environments. The performance of a new or modified subsystem as an integrated component of the aircraft's total weapon system can be evaluated under simulated battle conditions. The upcoming addition of a manned flight simulator will provide a full front-to-back mission assessment. Problem areas can be isolated and corrected on the spot, which will improve the concept-to-fleet-deployment procurement time.

TH-57 Simulators

The U.S. Navy has contracted with Bell Helicopter Textron for three TH-57C advanced instrument trainer simulators having full six degrees of motion, and with deliveries scheduled between December 1985 and September 1986. Under the agreement, the Navy has an option for three additional simulators, one of which would be equipped with a color/day visual system. The Navy took delivery of the first TH-57C advanced instrument trainer in 1982, enabling it to use one type of helicopter for both primary and advanced training at significant savings.

H-3 SLEP

The H-3 helicopter has been with the fleet in one form or another since the early 1960s. Plans are under way for an H-3 service life extension program which will restore the material condition of the airframe structure and selected flight components, and extend the life of the H-3 into the 21st century. Fatigue and corrosion-damaged components and structure will be replaced with similar or improved items using state-of-the-art techniques, and corrosion-prone areas will receive special corrosion preventive treatment. A major improvement will be the addition of a bifilar vibration absorber to the main rotor head to reduce vibrations which damage airframe structure and degrade the reliability of avionics systems. The first SLEP improvement to enter the fleet will be strengthened main rotor head spindles to improve safety and eliminate frequent recurring inspections. Delivery of the strengthened main rotor heads begins early this year and delivery of automatic stabilization equipment design improvements will begin in 1985.

Coast Guard Long-Range Surveillance HC-130Hs

The U.S. Coast Guard, continuing to modernize and upgrade its long-range surveillance planes, has contracted for another advanced model Lockheed HC-130H. Early in 1983, the USCG took delivery of five of the new HC-130s, which incorporated many improvements, including an increased fuel capacity of about 30 percent and an increase in maximum gross weight to 155,000 pounds, enhancing aircraft endurance. They are also equipped with state-of-the-art cockpit instrumentation and worldwide navigation equipment. The newest planes will have special scanner windows on each side of the fuselage, a ten-tube aft cargo door flare launch system, and a new radio operator's station in the cockpit. The HC-130Hs are used for long-range search and rescue, law enforcement and marine environmental protection missions.

AV-8B Harrier II

The first of 12 pilot-production AV-8B *Harrier IIs*, to be delivered to the Marine Corps by McDonnell Douglas, flew for the first time early last fall, taking off from Lambert-St. Louis International Airport. Four others have been built for full-scale development and are currently being used for flight testing. The first Marine Corps *Harrier* squadron is scheduled to become fully operational in 1985. The AV-8B, which offers twice the payload-radius of the AV-8A, will replace five squadrons of A-4 *Skyhawks* and three squadrons of AV-8A *Harriers*.

Ski Jump Testing

The F/A-18 *Hornet* was flown for the first time last September from a ski jump takeoff platform at NAS Patuxent River, Md. The ski jump testing is being done to prove the feasibility of using elevated ramps to shorten takeoff distances for conventional jets. The ramp, 60 feet wide and 122 feet long, was built by NAEC Lakehurst, N.J. The first launch was made with a takeoff distance of 1,600 feet. The distance was gradually shortened as testing continued and the ramp was scheduled to be raised to a nine-degree angle from the initial angle of six degrees.

New E-2C Facility

The Grumman Aerospace Corporation has announced the start of construction of a new E-2C *Hawkeye* systems engineering and software facility at Bethpage, N.Y., which will be ready in June and will centralize all design and development work on the early warning aircraft's electronic systems.

The third-generation *Hawkeye* has been in the fleet since 1973. From its operating altitude of 30,000 feet, it can monitor three million cubic miles of airspace and the surface beneath. It automatically detects, identifies and tracks aircraft over land and sea, as well as surface ships, at ranges in excess of 200 miles.

P-3 Prop Noise

While noise and vibration in a propeller-driven aircraft cannot be eliminated, they can be significantly reduced, according to Lockheed engineers. A quieter aircraft cabin could enhance performance by P-3C aircrews since it would reduce the fatigue and stress that accompany noise and vibration, especially on missions that may last up to 16 hours.

The answer, engineers say, lies in proper speed synchronization and phasing of the blade pattern of the four propellers. The Navy is currently considering a Lockheed recommendation that the propellers on its P-3Cs be resynchronized. Besides lowering cabin noise, it would help reduce the vibration within the airframe and increase the life expectancy of various vibration-sensitive components.

Because the propellers spin independently, the blade positions will only randomly match each other and, even if all four had the same setting, noise and vibration would not necessarily be reduced. There is one best setting, however, for each propeller in relation to the other three, and Lockheed engineer Bob Donham indicated that all future P-3Cs will have their propellers set manually to the optimum positions. Optimum settings can also be implemented on all *Oriens* as they come up for normal propeller maintenance. Periodic resetting will be a standard operating procedure and Lockheed is studying development of a calculator that can be carried within a P-3C to automatically reset propellers.

awards

The F. Trubee Davison Award for the period August 1, 1982, through July 31, 1983, has been won by NAS Dallas-based VF-201. The award is given to the Naval Air Reserve tailhook squadron which excels in combat readiness and carrier proficiency. Sponsored by the McDonnell Douglas Aircraft Corporation, the award honors Lt. Davison who helped organize the First Yale Unit in WW I.

The Marine Corps Aviation Association Awards for 1983 were presented to the following recipients at the association's convention in San Diego, Calif., in October:

Lt.Col. W. G. Barnes, Jr., HMM-263 — Alfred A. Cunningham Award, Aviator of the Year.

Maj. W. A. Stanley, VMFA-115 — Robert G. Robinson Award, Marine NFO of the Year.

CWO-2 L. E. Sanderson, MCAS Beaufort — Aviation Ground Officer of the Year.

Capt. R. J. Martin, Jr., MACS-2 — Air Controller of the Year.

Maj. R. H. Priest, Patuxent River — Bud Baker Trophy,

V/STOL Enhancement.

Sgt. J. A. Lopresti, MACS-4 — James E. Nicholson Award, Enlisted Leadership.

Capt. M. C. Hunt, H&MS-41 — Special Category Award.

GySgt. C. M. Depew, VMGR-352 — Fixed Wing Aircrewman of the Year.

Cpl. G. S. Floyd, HMM-165 — Helicopter Aircrewman of the Year.

Sgt. D. L. Washa, VMA(AW)-121 — Plane Captain of the Year.

Sgt. J. C. Addington, VMAT-102 — Electronic Technician of the Year.

MSgt. W. E. Dorsey, VMA(AW)-332 — James Maguire Award, Enlisted Aviation Safety.

VMFAT-101 — Robert H. Hanson Award, Fighter Squadron of the Year.

HMM-263 — Helicopter Squadron of the Year.

VMA(AW)-121 — Lawson H. M. Sanderson Award, Attack Squadron of the Year.

VMA-542 — V/STOL Squadron of the Year.

VMFP-3 — Commandant's Efficiency Trophy.

FLIGHT BAG

Correction: The listing of recently selected LDOs which appeared on page 30 of *NA News*, January-February 1984, specified only Aviation LDOs.

Ryan Twins

I enjoyed your article on my brother and me in the November-December issue. You certainly put your subjects in better light than they merit and you also gave VP a good plug. One note of interest. As you know, I'm C.O. of VP-5 in Wing 11 and John is C.O. of VP-11 in Wing 5. He assumed command on a Friday, the 13th, and I will be relieved on Friday, April 13. Thanks again for your thoughtfulness.

Cdr. Norbert Ryan, Jr.
VP-5
FPO New York 09501

Human-powered Helicopter Competitor

Competition for a human-powered helicopter is being sponsored by the American Helicopter Society, with the grand prize currently at \$15,000. Applicants must build a heavier-than-air machine that is powered only by human power. It must remain airborne and hover within an area 10 meters square, and at some point in the flight the machine must reach a height of three meters above the ground. For additional information and a copy of the rules, write or call Steve Wartenberg or Mike Debraggio at the American Helicopter Society, 217 N. Washington St., Alexandria, VA 22314, (703) 684-6777.

Isbell Trophy to VS-32

On reading the November-December 1983 issue, I found a "slight" inaccuracy. The 1982 Atlantic Fleet Isbell Trophy for air antisubmarine excellence was awarded to VS-32, not VS-33 as reported. VS-32 also received the Battle E for 1982 and the Admiral Jimmy Thach Award. You are forgiven! Keep up the good work.

Lt. B. Scott
VS-32
FPO New York 09501

Ed's Note: The printer's galleys showed VS-32, but somewhere between them and the finished product the error crept in and we did not catch it.

Seeking Unit Patches

I was a crew member aboard USS *Saratoga* (CV-60) and would like to secure patches of VFs 31 and 103, VAs

Below are the insignia that were approved in December 1983 and January 1984.



37 and 105, VAW-123, HS-7, VS-22 and any A-6 and RA-5 squadrons. I would appreciate hearing from anyone who can help out.

Johnny Signor
3418 Carolyn Lane
Cocoa, FL 32926

Information Wanted

Recent graduates of the Defense Systems Management College at Fort Belvoir, Va., have formed the Association of Project Manager's Course Graduates, and are trying to contact other PMC graduates. The goal is to provide a forum for continuing professional growth through a quarterly newsletter and annual symposium. For further information, contact, Lt. Cdr. W. M. Montgomery, Naval Air Systems Command, AIR-41321E, (202)692-0947.

I would very much like to contact former shipmates who served aboard *Atascosa* (AO-66) and *F. D. Roosevelt* (CVB-42), 1942-1946.

Sebastian J. Cassarino
64 Whitehill Drive
West Hartford, CT 06117

Would like to get in touch with survivors and families of the following ships lost in the Battle of Savo Island, August 1943: *Quincy*, *Astoria*, *Vincennes* and *Canberra* (Australian).

M. K. Gale
43025 Armadilla
Newberry, CA 92365

Researcher seeks information regarding 1937 around-the-world flight of Amelia Earhart. Any contributors will be acknowledged in forthcoming book.

H. Wade
P.O. Box 1111
Marietta, GA 30060
(404) 422-7369

Anyone who served in carrier escorts (CVEs) and is interested in the formation of a Carrier Escort Sailors Association, please write W. W. Irwin, Jr., 2134 Hoyt Drive, Baton Rouge, LA 70816.

Reunions, Conferences, etc.

SB2C pilots, aircrewmen and squadron personnel reunion in conjunction with the ANA meeting, May 10, 1984, San Diego, Calif. Contact Cdr. J. Alton Chinn, 2558 Blaze Trail, Diamond Bar, CA 91765, (714) 861-8792.

VF-82, WW II, Bennington reunion in Pensacola, April 13-14, 1984. Contact R. A. MacDonell, 1108 22nd St., Vero Beach, FL 32960, (305) 567-7701.

Naval Test Pilot School reunion and symposium at Cedar Point Officers Club, Patuxent River, Md., on May 5, 1984. Contact Lt. G. L. Hentz, U.S. Naval Test Pilot School, NATC Patuxent River, MD 20670, (301) 863-4107.

The Professional Aviation Maintenance Association convention in St. Louis, Mo., August 2-4, 1984, at the Breckenridge Concourse Hotel. Contact James R. Saffley or Linda L. Plummer, PAMA Convention, P.O. Box 10056, St. Louis, MO 63145, (314) 426-7060.

CAG-4 reunion in San Diego, May 9-13, 1984, in conjunction with Association of Naval Aviation convention and Fly Navy West. Contact VAdm. Robert Baldwin, 920 Kline St., Apt. 304, La Jolla, CA 92037, (619) 459-0871.

BuNo 50835

I read with interest Major Elliott's article on the R4D/C-117 service in the *Marine Corps* (see *NA News*, Nov.-Dec. 1983, p. 15). As the copilot on the last mission, however, I would like to make a correction in the route of the flight. BuNo 50835 departed MCAS Iwakuni on June 28, 1982, and proceeded direct to NAS Cubi Point.

Capt. Lawrence L. Larson, USMC
HMM-161
MCAS(H) Tustin, CA 92710

Ed's note: Capt. Larson did not mention that his name was also misspelled in the article. Our apologies.



Helicopters are the logistics pipeline for the Marines in Beirut. The almost exclusive means of transport of everything at hand, from spare parts to Christmas fruitcake. The aircraft types include everything from CH-46 Sea Knights of HC-6's Det 3 (below and right) to the newest CH-53E Super Stallion heavy lifters assigned to HC-4. Helicopters daily deliver tons of supplies, equipment and personnel to the Marines ashore. Among the busiest helicopter crews are those assigned to Independence and Kennedy, HS-15 and HS-7, respectively, out of NAS Jacksonville. Above, a crewman keeps watch from the cargo door of an HS-15 Sea King during an approach to the new cruiser Ticonderoga.

Photos by JOC Kirby Harrison

