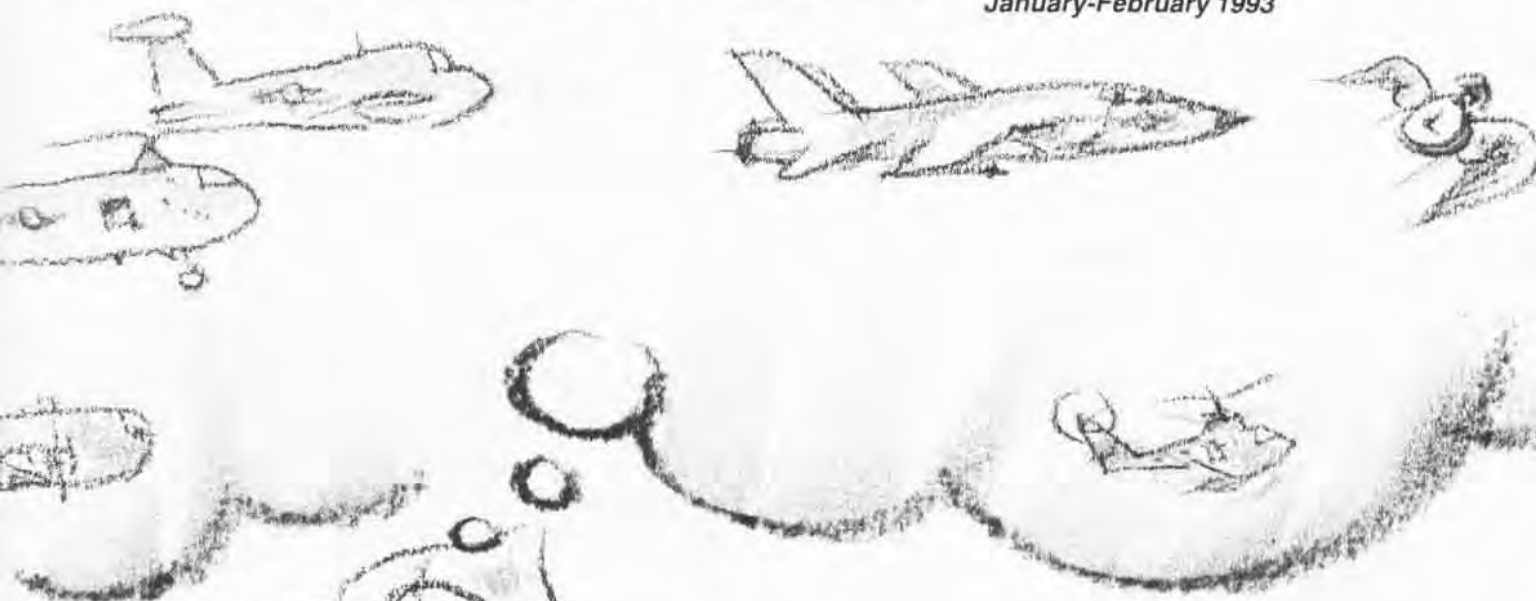


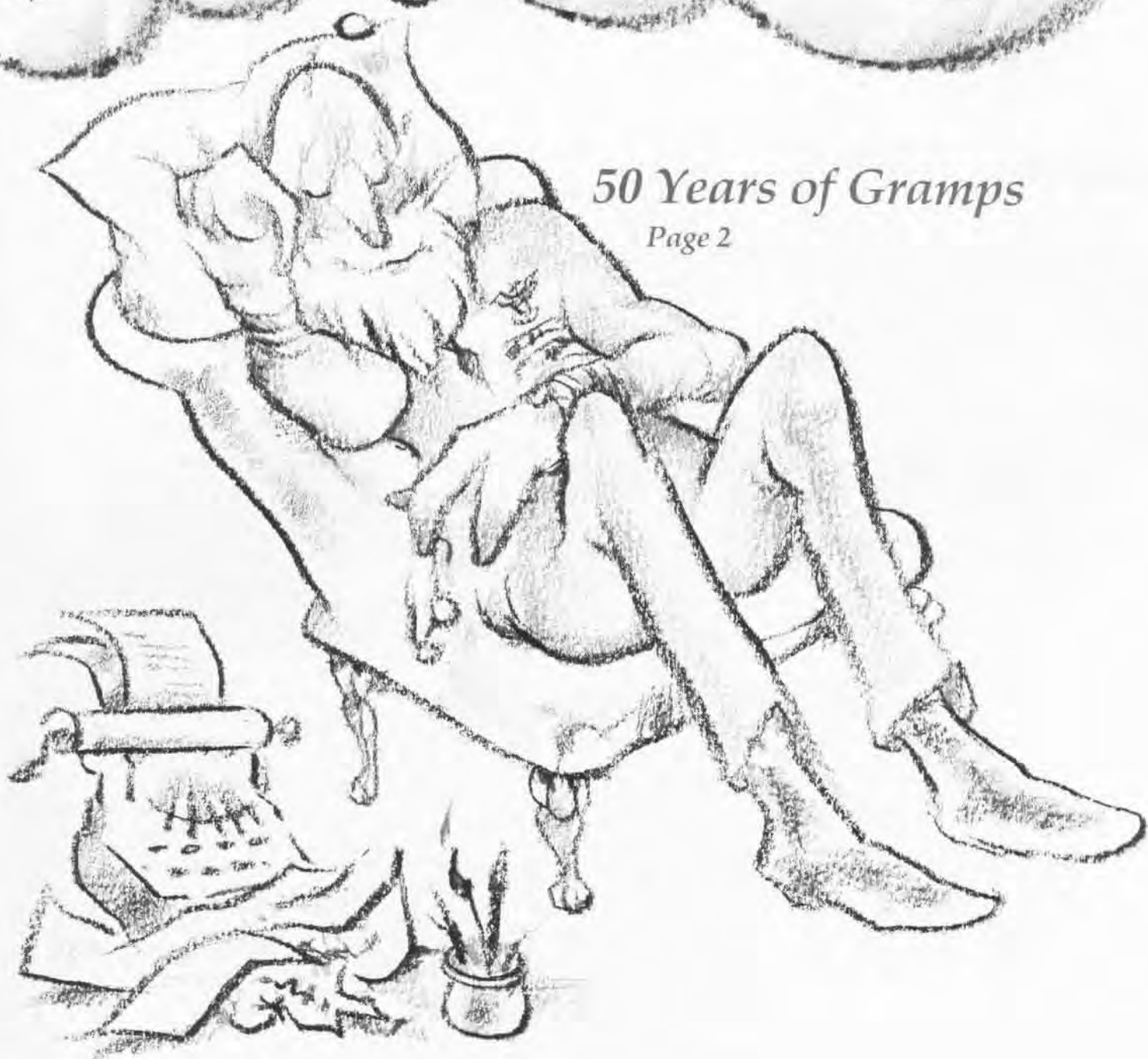
NAVAL AVIATION NEWS

January-February 1993



50 Years of Gramps

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NAVAL AVIATION NEWS

Flagship Publication of Naval Aviation

Oldest U.S. Navy Periodical, Volume 75, No. 2, January-February 1993



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COVER – "The Dream World of Gramps."
This wraparound cover by artist Robert C. Osborn salutes 50 years of his character, "Grampaw Pettibone," in *Naval Aviation News* (see article beginning on page 2).

RAdm. Riley D. Mixson
Director, Air Warfare

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By RAdm. Riley D. Mixson
Director, Air Warfare

Modern-day Safety and the Naval Aviator

This year marks the 50th anniversary of Grampaw Pettibone, the acerbic safety sage whose caustic comments on faulty flying have graced the pages of *Naval Aviation News* as one of its best read features for decades. All of us "Airdales" have turned to Gramps in an effort to learn from the mistakes of others. As a great attention grabber, old Gramps has made an enormous contribution to the low accident rate we take for granted today. But are we **there** yet? Can we now afford to shift our gaze from safety just a little, to focus on other galors in the swamp? Let's review the scope a bit...

Today's nugget would gulp pretty hard at "safety" statistics of days past. Forty years ago (and that's not so long ago, trust me), Naval Aviation was emerging from the introduction of a remarkable new power plant, the jet engine. The accident rate was an astronomical 53.71 mishaps per 100,000 flight hours! After the Korean War, the rate dropped to 38.18; in 1960, it was down to 19.34, and by 1965, the first year of our heavy operations in Vietnam, it lowered to a miraculous 12.51. However, new and very positive improvements in our way of business began to shape the coming years. In 1956, the Naval Aviation Safety Center was established. It, along with the Naval Aviation Training and Operating Procedures Standardization (NATOPS) program (1961), introduced our serious quest for improved aviation safety. Honest goals and dedicated programs — such as foreign object damage prevention, air combat training, use of simulators, substance abuse prevention, and perhaps most important of all, aviator self-discipline and good headwork — combined with modern technology to give our chain of command realistic methods to save aircraft and crews.

Our Naval Aviation Maintenance Program (NAMP) played a significant part as well. Introduced in 1959, the NAMP provided specific maintenance procedures and improved maintenance training that brought dramatic changes to our way of doing business.

As a result, we have steadily improved our safety record to unprecedented levels; as I write this today, our rate is relatively stable at just under 3.0.

As the *Desert Shield/Desert Storm* Red Sea Task Force Commander, I had the privilege to see firsthand the reward of these significant changes to Naval Aviation. Your performance was simply awesome; your professional concern for safety during a time when intense at-sea operations demanded perfection in every aspect of our dangerous profession was inspirational. You delivered.

Now I need your undivided attention again. Our goal of a **ZERO** mishap rate remains elusive, but I think we can get there if we take it a bite at a time. I'm certain a rate of 2.0 is achievable today, with no changes to our present system. The biggest barrier is (guess who?), the Mark 1 Mod 0 Naval Aviator and his maintenance team. Pilot/human error remains the primary cause of aviation accidents. If that portion of the accident rate was removed in 1991, our rate would have been 1.7 instead of 2.86! 1992 stats are still in work, but it appears the same sort of reduction is possible. Like the ad says, "You've come a long way, baby," but there is still room for improvement.

New technology introduced to the fleet continues to push us into new frontiers of operational capability. Our new, high tech-assisted abilities and senses are simply marvelous. For example, night vision goggles and heads-up displays greatly improve and expand tactical awareness. But they simultaneously impose tough challenges in cockpit and situational awareness. Integrating the new systems and procedures requires careful planning and cautious appreciation of new and perhaps unperceived limitations. We must push aviation safety even farther forward, just as technological improvements in our operational envelope have moved forward.

There are some new systems on the horizon that will assist us in our improvement of the safety environment in flight operations. I am committed to procurement of a collision avoidance



JOY (SW) Eric Sestit

RAdm. R. D. Mixson

warning system for our T-34s which will make the crowded training ranges a little less dangerous. We are also looking at the Integrated Health and Usage Monitoring System, now in use on helicopters in Europe to monitor vibration levels on transmissions and drive systems to allow identification and replacement of parts before failure. Another promising system is the Ground Proximity Warning System for strike aircraft.

Safety is basic to maintaining combat readiness. Every asset is precious to mission success; its value increases dramatically as manning and inventory shrink with the decreasing defense budget. The direct link between combat readiness and safety becomes vastly more important in a dollar constrained environment. Every flight must be professionally scheduled, briefed, flown, and debriefed to get the most from each flight hour. We cannot afford to lose a single aircraft or crew from preventable oversights of common sense, basic airwork, and good judgment. I challenge each of you to prove your loyalty again — this time in aviation safety.

Much as we enjoy reading Grampaw Pettibone, I look forward to the day when Gramps has nothing but "the good old days" to write about. Happy Birthday, Gramps!



This month, artist Robert C. Osborn celebrates the 50th anniversary of his cartoon character, "Grampaw Pettibone," in the pages of *Naval Aviation News*. Retired Captain "Zip" Rausa, former *NANews* editor, tells the story in the following edited version of his article from the September 1991 *Proceedings*, reprinted with permission; © 1991 U.S. Naval Institute.

It was March 1942 and we were at war. The freshly minted Navy lieutenant surveyed his new office space in the Main Navy Building on Constitution Avenue, Washington, D.C. People moved about with purpose; some pecked at typewriters. An air of vibrancy prevailed. The lower drawers on two of the desks were pulled out and boards were set upon them for chairs. Lack of furniture wasn't about to inhibit production at the Bureau of Aeronautics Training Division – and Robert Osborn was eager to pull his share of the load.

Thus began the enduring association between one of our country's most gifted artist/satirists and the Navy. The relationship flourishes to this day; Bob Osborn is the creative force behind the grand old sage of aviation safety, Grampaw Pettibone. Although he is a fictional character, appearing regularly in *Naval Aviation News*, "Gramps" has become quite real to every generation of Naval Aviator, from WW II to *Desert Storm*.

Osborn was born in Oshkosh, Wisc., in 1904. He credits his mother for his creative instincts. He hunted and fished with his father, and cars and airplanes fascinated him.

He attended the University of Wisconsin and later was accepted at Yale, where he honed his artistic skills. After graduation in 1928, he studied art in Rome and Paris.

When war broke out in Europe, Osborn tried to get involved. "In 1940, the Royal Canadian Air Force turned me down... too old, they told me. And I was rejected when I tried to enlist as a

Jumpin' Jehoshaphat!

50 Years of Gramps

By Capt. Rosario Rausa, USNR (Ret.)

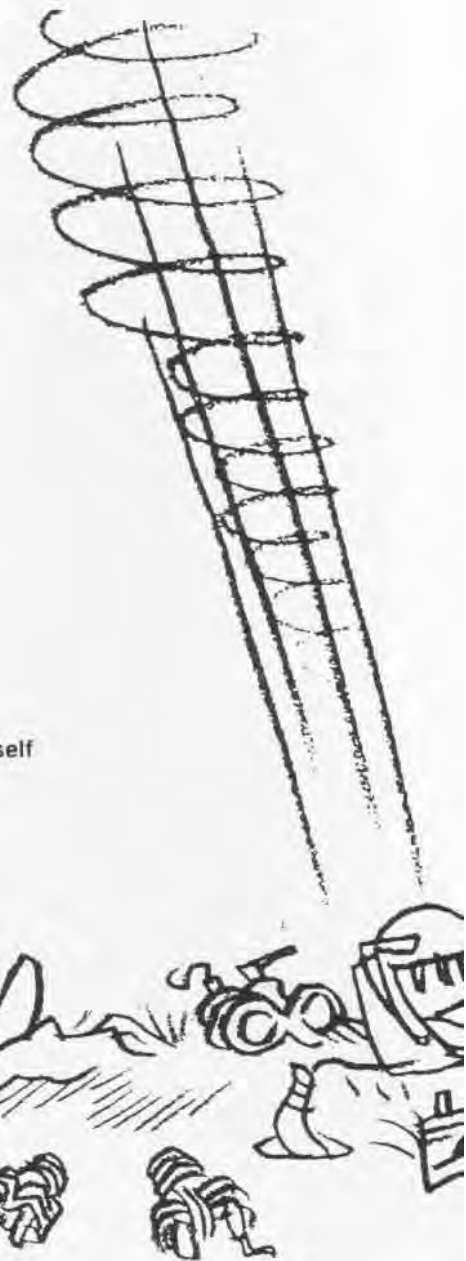
seaman in the U.S. Navy after Pearl Harbor. But I pressed on and discovered that with my background, I might be useful working in the camouflage area and brought [artwork] samples along to show the Navy in Washington."

Osborn recalls, "A bright officer sent me to Commander [later rear admiral] Luis de Florez, who headed the Training Devices Office, and also to Commander Arthur Doyle [later rear admiral]. In short order, Doyle had me commissioned as a lieutenant with a wonderful left-handed salute that would flummox any regular Navy man I encountered."

His drawing hand was anything but

Dilbert finally cured himself of flat-hatting.

General Court Martial



clumsy, though. On the day he checked in, Osborn's boss, Cdr. Doyle, got a call from Admiral Ernest King, who asked Doyle if he had an artist on staff who could color a map. Minutes later, with a kid's box of Crayolas, Osborn was coloring a 10-by-15-foot map. "When he looked at you with those cold and piercing eyes," says Osborn of King, "he froze your giblets."

Among his fellow workers was the renowned photographer Edward Steichen; he introduced Osborn to a young lady named Elodie Courter, who had come down from the Museum of Modern Art in New York to organize a show of Navy photographs. A year later, they were married.

While Osborn labored in the training office, terrible statistics were amassing at training air stations all over the country. More Navy flyers were being killed in pilot-induced accidents than were being lost in combat. Could the headquarters people come up with some ideas to help reverse the trend?

"Artie Doyle had seen cartoons used in the Royal Air Force to teach pilots," says Osborn. "He sent me to NAS Atlanta, where I gained hands-on experience flying in a Stearman."

In the process, Osborn absorbed, in infinite detail, the state of mind and the inclinations of students and instructors as they went through their demanding paces. He also eyed the airplanes themselves, weary from day-in, day-out duty. (No one is better than Bob Osborn at depicting a weather-beaten aircraft with hound-dog eyes trained on a ham-fisted pilot, uttering, "Take it easy on me and I'll last a little longer.")

Riding in the rear cockpit of a "Yellow Peril" at Atlanta, Osborn's aircraft met another plane and an unannounced dogfight ensued. Just as the

aircraft nearly smacked into each other, Osborn's pilot nosed over into a frightening, negative-G maneuver.

"Unfortunately, I had unfastened my seatbelt because it was too snug, and I was suddenly projected upward out of the cockpit," he recalls. "Somehow, my legs caught in the plane's longerons, but I was out there in the breeze until my instructor leveled off. Some lesson for stupid me."

Back in Washington, Doyle and Osborn, sitting atop a desk, conceived and named a cartoon character who embodied aviator incompetence and displayed blatant disregard for proper procedures. Perhaps this fictional ne'er-do-well might grab the attention of pilots in the real world, they thought. Osborn worked his magic with pencil on paper, and thus was born the notorious Dilbert Groundloop—later, just plain Dilbert.

Dilbert always flew the wrong way,



Cdr. Howard A. Wheeler, then NANEWS editor, took this photo of Bob Osborn in 1985 at his home in Salisbury, Conn.



ignored checklists, and personified the "fat, dumb, and happy" attitude that was a prelude to disaster. Spoiler the Mechanic, Dilbert's enlisted counterpart from the maintenance force, followed. Osborn drew more than 2,000 Dilbert and Spoiler posters, which hung in ready rooms and hangars throughout the Navy.

Less than half of the originals survive in the archives today, treated as classic works of aviation art. They depict almost every aerial foible that could be humanly perpetrated, from leaving the wheels up on landing to "flat hatting," aviation's unforgivable sin.

People laughed at the carefully crafted drawings, and they also got the message that flying was not inherently dangerous but it was mercilessly unforgiving of human error.

Commander Spencer (Seth) Hubert Warner manned the flight statistics desk in the training division and was working on ways to stop mishaps. He and Osborn formed a partnership and together created Gramps. "Grampaw Pettibone was conceived in desperation," Warner once said, "the offspring of frustration and despair."

Seth Warner died in 1967. He is commemorated by a bronze trophy—recently transferred from the Pentagon to the National Museum of Naval Aviation, Pensacola, Fla., for permanent display—that depicts an angry Gramps stomping on a typewriter, arms waving. Established in 1984, the Grampaw Pettibone Award is presented annually to the person or persons who best promote Naval Aviation safety through the written word.

Originally called P.S. (Post Script) Pettibone, Gramps was named by Warner and drawn by Osborn (who used some of Warner's personal attributes). The character had a long gray beard, favored a corncob pipe, and—like Warner—was wiry, had a sparse dome, and wore Wellington boots to keep his ankles warm.

Gramps was an old-timer who had started out in airplanes built of cigar boxes and baling wire at a time when an aircraft was considered a success if the pilot could coax it 50 feet into the air. If you walked away from a landing, it was a good one. He had flown just about every aircraft in the inventory and been in every type of accident. Now, back on active duty of his own volition, he was hell-bent on saving lives and planes. Warner wanted

Gramps to "speak his wisdom about flying."

Gramps was recognized as a cantankerous old codger with a low boiling point, uninhibited by official language. He was turned loose, says Warner, "hoping that his pithy remarks and sardonic humor would hold your attention long enough to stab you with a vital safety factor – make you safety conscious."

Pettibone entered the lore in the January 15, 1943, issue of the *BUAER News Letter* (later *Naval Aviation News*). Warner wrote the detailed narrative of accidents that had really occurred, and a whiskered Gramps grimaced nearby on the page.

Osborn has always credited Seth Warner with the creation of Pettibone. Osborn's own imagination and drawing skill, though have been responsible for the cartoon character's long life. There has never been a study to determine Pettibone's effect on the accident rate, but there are countless aviators who recall

precarious moments when the image of that whiskered old timer – or of Dilbert – flashed before their minds, warning them: "No! Don't do that! Think!"

Osborn has also witnessed heroic death, notably when he went to the Pacific for a firsthand look at combat during WW II; he was on *Essex* (CVS-9). "The pilot who had taught me to fly at Atlanta was assigned to a fighter squadron," he relates. "During the battle for Saipan, his plane was hit and he was seriously wounded. He managed to fly 80 miles to the carrier, blood streaming down his face, his sight failing, two wingmen telling him what to do, trying to get him aboard safely. From below it became increasingly apparent that he was not going to make it down, and that if he did come in wildly and out of control he would certainly crash into needed planes. As we all watched, he simply flew away, leaving the task force and his friends, continuing on into the dusk of that alien sea. I cannot resolve this image in my mind

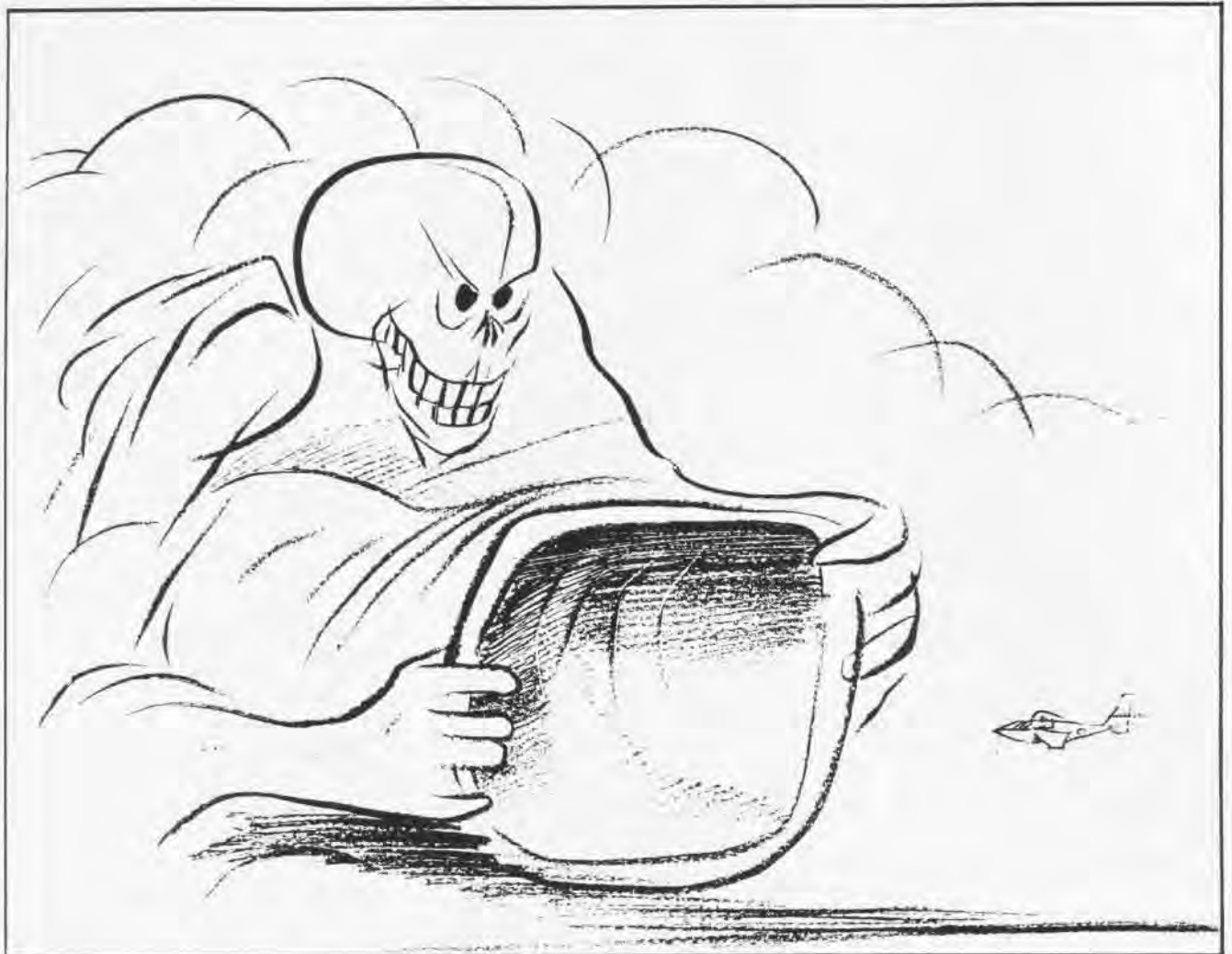
even today...a young man departing to death."

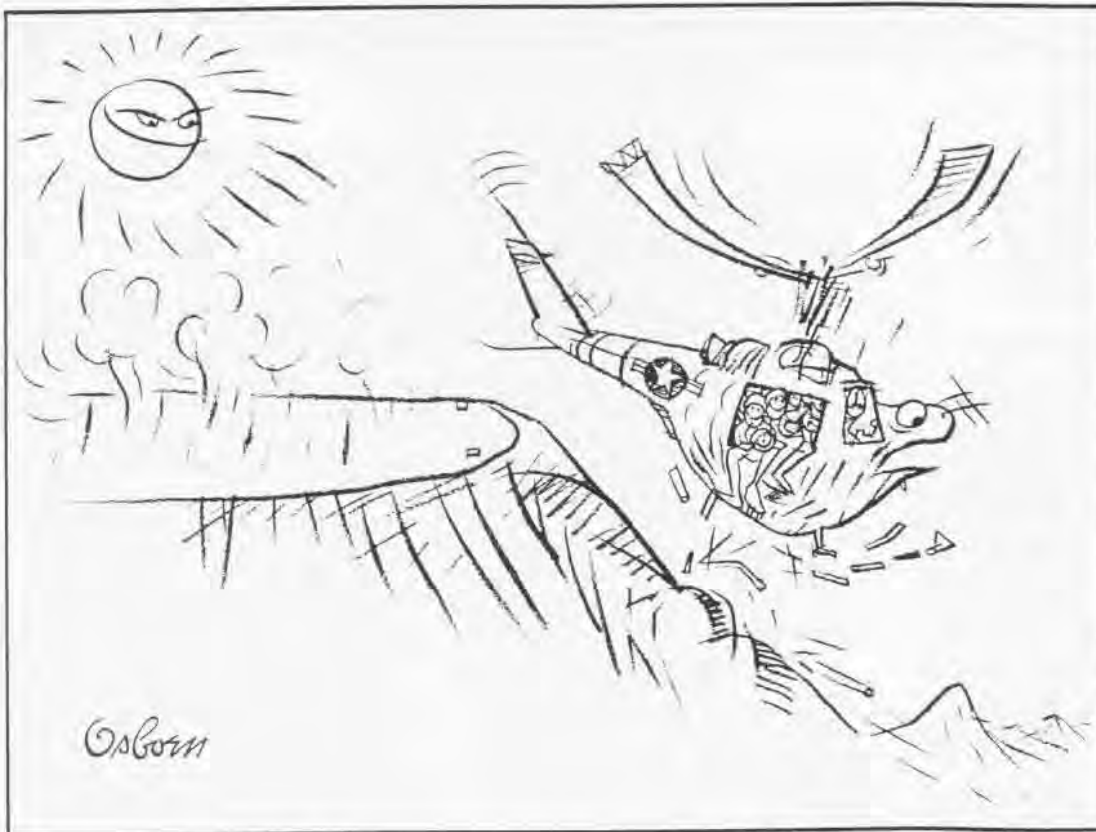
Since Warner, there have been only a dozen writers of the Pettibone feature – all Naval Aviators. They base their stories on actual accidents and compose a narrative that is forwarded to Osborn. He studies the stories and then goes to work, usually spending three or more hours to produce one drawing.

Osborn is quick to praise magazine staff members for the abiding success of *Naval Aviation News* and Pettibone. He cites in particular two outstanding WAVE (Women Accepted for Voluntary Emergency Service) officers: Joy B. Hancock (who later became an admiral) and Izetta W. Robb (who left active duty after WW II and became the managing editor of the magazine).

He returned to civilian life after the war, but Osborn continued drawing

Get suckered into bad weather and you may not come out of the other end.





Heat, height, and heavy loads in a helicopter will hurry you downward every time!

Gramps for a modest sum. He also illustrated the "Sense" pamphlets, which he'd begun during the war. The word *sense* followed each subject title (for example, "Vertigo Sense"). Topics

included cold-weather flying, night flying, helicopter rescue, swept and delta wing, and compressibility. By nature complex, these aviation subjects were simplified by expert writers and illustrated by Osborn's cartoons. They remain readable instructional documents today.

Osborn also illustrated books, and his drawings appeared in leading publications such as *Life*, *Look*, *Fortune*, *The New Republic*, *Harper's Horizon*, *Esquire*, and more recently the *Smithsonian's Air and Space*. His autobiography, *Osborn on Osborn*, published in 1982, is a treasure chest of cut-to-the-quick satire.

In 1958, Osborn received the Navy Distinguished Public Service Award, and in 1977 he was designated an Honorary Naval Aviator, one of a prestigious few so acclaimed. He is part of the Naval Aviation lexicon.

The admiration was mutual at a Navy ceremony in 1977. Osborn surprised a gathering of Naval Aviators when he proclaimed, "You are far superior in your ingenuity and imagination than those in private business. You show a truly creative,

free-wheeling, and lively attitude toward work. I suspect that the difference between you and the businessmen is that you are not working to make money for yourselves, but for a common and worthy goal which is beyond you as individuals. You seem much more like my ideal of what American enterprise is."

Osborn says of his Navy work, "Never have I been told how to do the job. Never has an admiral, or anyone else, told me it should be done this way or that. I've always had free rein...this is rare indeed! With commercial publications, I'm often told it isn't quite right, or make an adjustment here or there, or make the aggressive bee sort of smile."

These days, Bob Osborn lives with his wife, Elodie, in the Connecticut countryside. He's still turning out his work in a studio adjacent to the house. Now 88, Osborn says, "If anything I can do saves a life or an aircraft, then I certainly am going to do it." ■

Capt. Rausa retired from active duty in 1988 and since then has been the editor of *Wings of Gold*, the voice of the Association of Naval Aviation. A former attack pilot and editor of *Naval Aviation News*, he has written several nonfiction books on aviation. In 1985, he became Gramps writer number 13.

Those early pioneer pilots didn't have fancy equipment but they did have pizzazz and, in their own way, a brand of professionalism that made Naval Aviation work!



This issue marks the Golden Anniversary of "Grampaw Pettibone" in *Naval Aviation News*. The following pages are filled with stories published throughout the 50 years.

No Farmer's Daughter?

Both engines on an SNB-5 quit at 7,000 feet over Long Island Sound. The two pilots and an ensign, riding as a passenger, buckled on chest chutes. The ensign was ordered to bail out, which he did. The pilots decided to stay with the aircraft and landed gear up in a field. The aircraft was damaged but they were uninjured.

The ensign descended into a wooded area and got hung up on a 70-foot-high hemlock tree. About 100 yards away, he spotted a farmhouse. After climbing out of the tree, he started toward the house but was attacked by the farmer's dog, who bit him on both shins! The farmer and his wife finally called off the dog and offered first aid and transportation to the scene of the crash-landing.



Grampaw Pettibone says:

Things are getting tough. In the old days, there was always a good-looking farmer's daughter in tales like this. In any event, the bites weren't too deep, because the accident board said the ensign sustained class D for "dog" injuries. (September 1950)

Storm Warning

A formation of six fighters took off on a navigational flight. They encountered a local storm front just short of their destination. The flight leader (1,300 hours) and his two wingmen went into the storm at 1,500 feet; the second section veered off. The leader and one of his wingmen crashed, out of control, shortly after entering the front. The third plane was thrown violently on its back, but the pilot was able to regain control and get through on instruments.



Grampaw Pettibone says:

Certainly, every Naval Aviator has been adequately warned in *Naval Aviation News*, as well as through lectures, technical notes,



I've been saying it for 50 years: Safety violations cost lives and aircraft. Don't make 'em!

and aerological pamphlets, to stay out of storm fronts unless absolutely necessary.

Too often aviators are like small boys; it is hard for them to take warnings seriously. They are skeptical and have to try it out for themselves. Aviators really have got to learn from the sad experiences of others. (August 1, 1944)

Necktie Trouble

A primary flight training student was completing his approach to landing and just about ready to break his glide when suddenly his necktie came out of his flight suit and started flapping around his face.

In trying to hold down the tie and control the aircraft during the landing rollout, he caused it to swerve slightly to the left by applying left brake. He tried right rudder and brake but maintained pressure on the left brake. The aircraft swerved and nosed over, damaging the engine and prop, which dug into the ground.



Grampaw Pettibone says:

Take it off – take it off – take it off! I'd a lot rather see you violate local uniform regulations than see a nice, new trainer on its nose because of a fluttering necktie. This

isn't the first time this has happened, by the way. (March 1948)

Close Shave

An A3D returning from a night training hop crossed the ramp of a big attack carrier with the meatball right on the money. The hook picked up number two wire after the touchdown and the arrestment seemed normal. Suddenly the wire broke, and the big plane lurched forward with full power on – but slow! As the A3D cleared the flight deck, the pilot cleaned up his landing gear and concentrated on holding his attitude and airspeed. All three men aboard held their breath as they watched the altimeter unwind.

The A3D shuddered as it spanked the water. The pilot gently eased the yoke toward him as the fuselage lightly slid through the dark water. After a few seconds, the A3D broke free of the water and climbed swiftly.

Vectored by the carrier, they flew to a nearby island airfield and made a safe landing. Inspection of the A3D revealed that the underside of the fuselage aft of the bomb bay door and the port engine nacelle had been dragged through the water. The landing signal officer logged the narrow squeak as an arrested landing, a bolter, and a water touch and go.



Grampaw Pettibone says:

Fetch me another aspirin tablet! How close can you get to wet feet? This pilot is a cool one, but if he has many more like this, I'll have to check for the competition before I unlimber one of my tall tales at a "Happy Hour" where HATWing One is represented.

Just goes to prove you ain't got an accident till she smashes to a stop, so keep flyin' it. You may luck out. This one did. (February 1961)

No Sweat

During the takeoff roll, at 120 knots, the neophyte pilot, on his initial *Phantom* familiarization flight, smartly pulled the stick aft. The F-4 overrotated and stalled at an airspeed of 135 knots, with at least 20 degrees nose up, and commenced several wing rock cycles.

There was no response to the instructor pilot's frantic calls for "attitude." Being *in extremis* at about 10 feet above the ground, the instructor elected to abandon the rear cockpit. The seat and chute performed flawlessly and deposited the disgruntled instructor on the runway intersection.

The fledging pilot, not too disturbed over the turn of events, found himself in the enviable position of stable flight again, continued on and landed uneventfully – and nonchalantly – just one hour later.

Editor's note: Grampaw Pettibone simply refused to make a comment. (September 1967)

All but One

An SH-3A *Sea King* crew, consisting of pilot, copilot, and two crewmen, was assigned a plane guard flight for the 2200 fixed-wing launch and recovery. The entire crew arrived on the flight deck at 2130 and proceeded to the assigned aircraft. Upon completion of the preflight inspection, all hands climbed aboard and commenced preparations for the flight.

At about 2140, on signal from Pri-Fly, the number one engine was started, blades were spread and systems checked. After number two en-

gine was started and upon signal from Pri-Fly, the helo's rotor was engaged and all final preparations for flight were meticulously performed in the cockpit. Flat pitch power was checked satisfactorily and the takeoff checklist was double-checked.

The plane director gave the prelaunch signal to hold brakes, remove chocks and tie-downs, and stand clear of the helo at 2156.

As the copilot watched from the left seat, the plane captain released the port tie-down, pulled his chock clear of the wheel, and ran in front of the aircraft to a position aft of the island structure. At this time, the pilot watched the chock and tie-down on the starboard landing gear being removed by a Blue Shirt. Each pilot then verified to the other that his tie-down and chock had been removed. But one tie-down on the port mount, tending inboard, was overlooked.

As they received the launch signal from the plane director, the pilot commenced adding power to accomplish a vertical takeoff. The *Sea King* no more than became airborne when the nose pitched down uncontrollably and simultaneously developed a rapid roll to the left. The helo skidded to the left in a left bank, the port wheel struck the deck and continued over the deck edge.

Water entry was surprisingly gentle

and barely discernible to the pilots and crewmen. The two crewmen egressed through the starboard emergency exit window without incident. The pilot elected to leave by way of his already fully open sliding window on the starboard side. The copilot, however, had trouble getting out of the aircraft. He actuated the emergency release handle and, with considerable difficulty, finally succeeded in opening the jet-lisonable window assembly and escaped.

Fortunately, all required survival equipment was worn by the crew and it functioned flawlessly. The plane guard destroyer's whale boat recovered all hands at 2217.

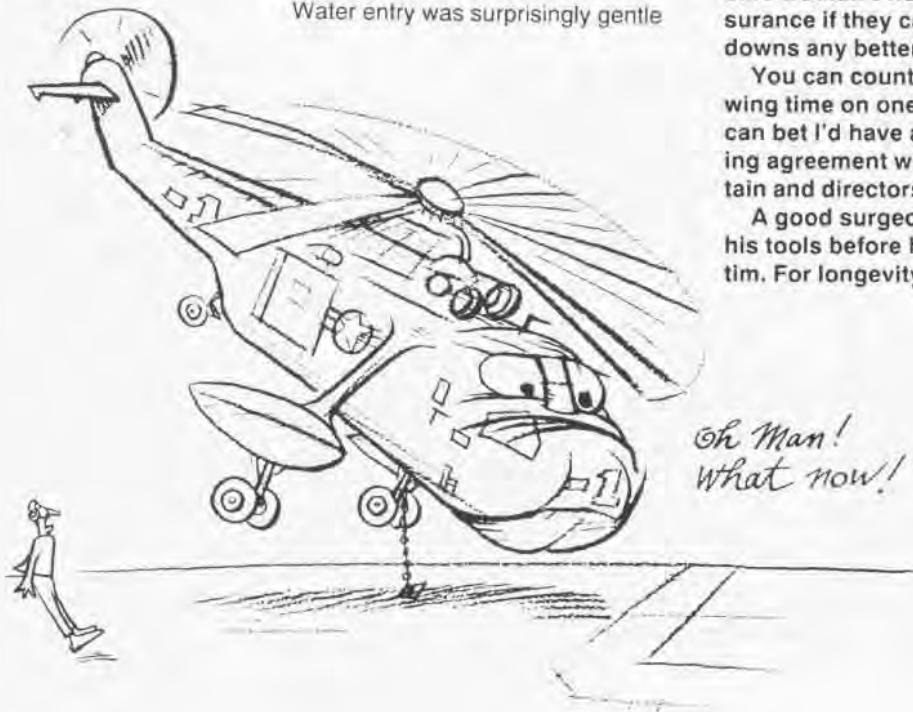


Grampaw Pettibone says:

Sufferin' succotash! Ole Gramps was mighty happy to see these lads come through this fiasco with no more than minor injuries, but I darn sure wouldn't want to write their insurance if they can't count their tie-downs any better than this.

You can count Gramp's rotary-wing time on one finger, but you can bet I'd have a much better working agreement with the plane captain and directors.

A good surgeon always counts his tools before he sews up his victim. For longevity's sake and better



morale for the next of kin, all helo drivers would do better to count and double-check, then check again, the chains. (April 1968)

Feline Airline

"Perform condition four checks," the pilot in command of the P-3A instructed his crew following an uneventful preflight and takeoff on a routine training mission. While the crew was checking to ensure there were no fumes in the aircraft, a large domestic cat emerged from the galley and dashed forward toward the cockpit. An alert crewman, seated aft of the copilot, spotted the cat and made two valiant attempts to block the cat from entering the cockpit.

The frenzied feline, undaunted by the two frantic forearm swats, made a third, and this time successful, attempt to claw its way into the cockpit. On this pass, the cat pounced upon the crewman's Nomex-covered right forearm and immediately commenced to rearrange the order of his epidermis.

The pilot became aware of the ensuing struggle when the observer emitted a bloody scream as he pried the clawing cat loose and flung it to the deck. Landing feet first, as always, the tenacious kitty quickly side-

stepped the crewman, ducked under the copilot's seat, and then disappeared under the decking forward of the copilot's rudder pedals. The pilot, taking stock of the situation, aborted the mission, returned to home base, and obtained medical attention for his clawed crewman.

After exhaustive internal post-flight search, the aircraft was sealed and bait set out to entice the cat out of hiding. Shortly, the ground crew dismantled several sections of the aircraft flooring. The cat, along with two kittens 7 to 10 days old – discovered nesting beneath the cockpit deck – were corralled and placed in precautionary rabies quarantine.



Grampaw Pettibone says:

Holy flying feline ferocities! This aerial Clyde Beatty act sounds more like a "9-Lives EverReady Battery" commercial than a normal aircrew training mission.

Old Sagebrushface, here, was intrigued and amused with this event, but had some difficulty sorting out all the lessons learned. One of the apparent ones seems to be: a

thorough preflight doesn't guarantee that all is bliss. One should be prepared for the unexpected, even a meow or a hiss. (November 1982)

The AWOL Bomb

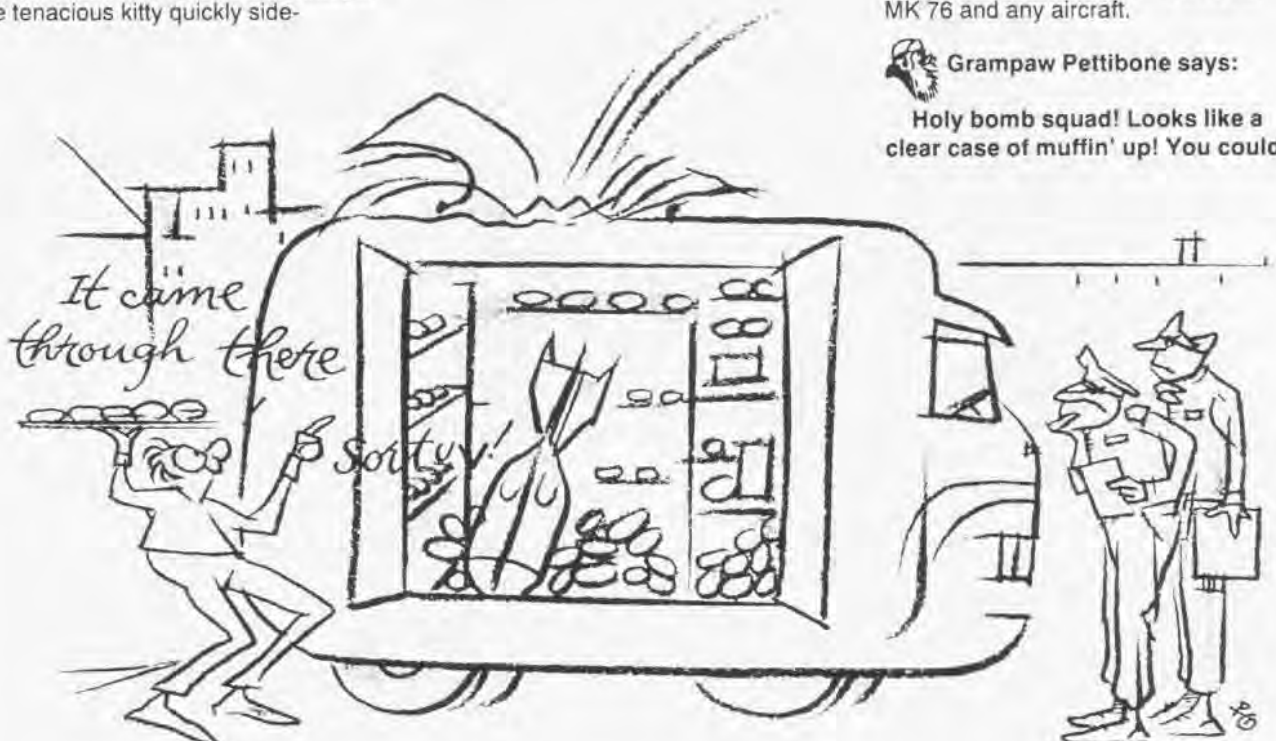
About 0830 one morning a practice bomb (MK 76) was found downtown, USA, inside an English muffin delivery truck belonging to a local bakery. Military ordnance personnel were quickly dispatched to investigate. They determined that the bomb was inert. The truck's roof was extensively torn where the bomb was reported to have entered. (A damage assessment to English muffins was not readily available.)

The muffin man refused to release the bomb to naval personnel because he needed it for insurance purposes. The identification numbers of the bomb were noted but could not be matched with any "lot" numbers assigned to nearby military bases. Local military and FAA authorities investigated all possible aircraft which could have dropped the bomb – without success. Further investigation traced the bomb to its home base, which was over 500 miles away. No connection could be made between the subject MK 76 and any aircraft.



Grampaw Pettibone says:

Holy bomb squad! Looks like a clear case of muffin' up! You could



easily leap to the wrong conclusion on this one. Downtown yet! Well, some good investigating shed light on the mystery of whodunnit – and it wasn't an airplane. Allegedly, a young lad who was AWOL from the service and driving the muffin truck had misappropriated a practice MK 76. He had accidentally torn the truck's roof when he drove under an overhanging tree branch. He returned the vehicle without reporting the damage. Next time the truck was used, a different driver discovered the hole and found the MK 76 in the back. Understandably, the owner concluded that the bomb was dropped by an airplane.

Sometimes, what seems obvious at the outset disintegrates in the face of evidence. In this case, an airplane didn't assault English muffins. Nuff sed! (February 1979)

Pickle, Pause and Pull

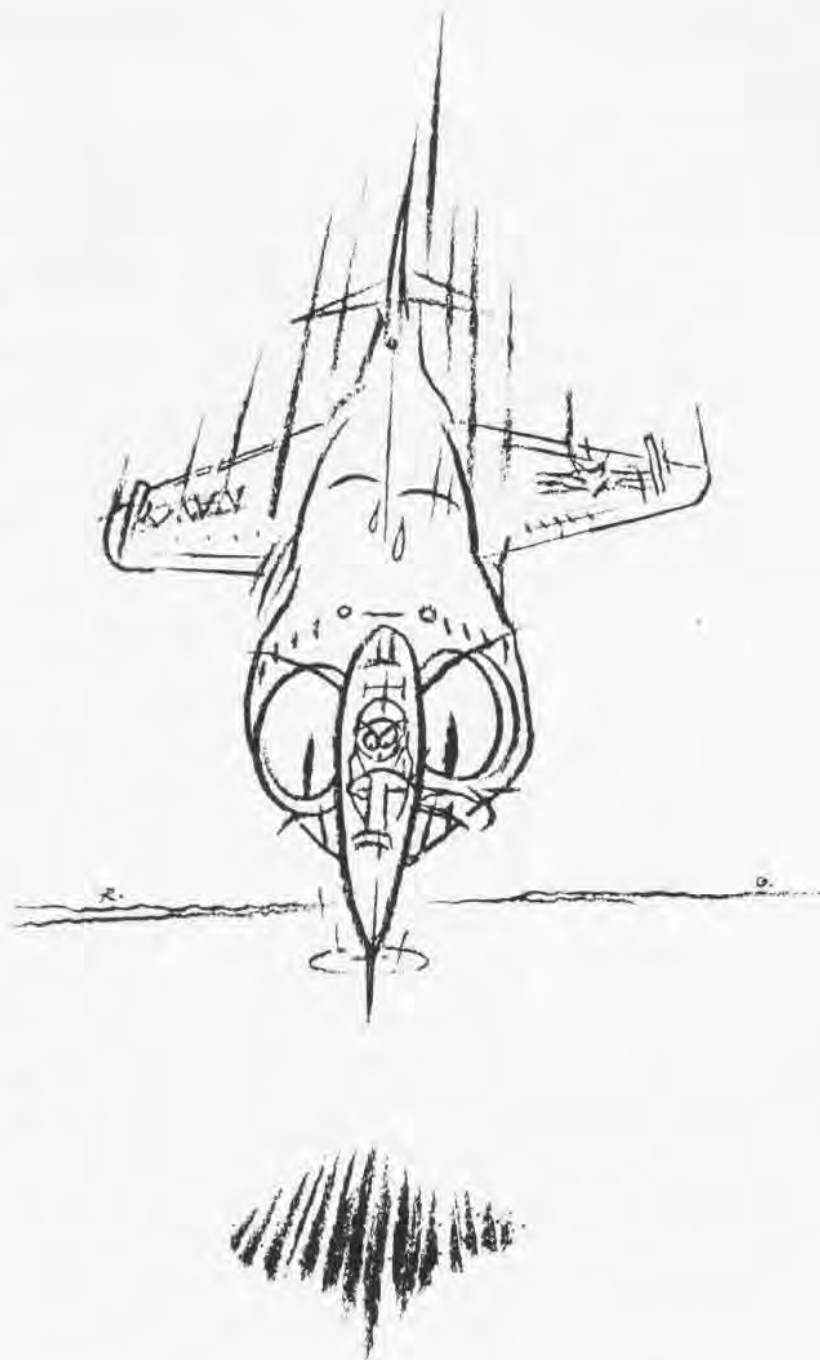
A Harrier pilot with 500 total hours and 200 in type was on a solo, practice bombing hop calling for varying dive angle deliveries. The target was remotely monitored by the weapons impact scoring system (WISS). In accordance with his preflight plan, the young flyer made three dummy runs before commencing 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.



Grampaw 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 in-



tended 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. (March-April 1984)



Photo courtesy of VF-1



Ranger Supports Southern Watch & Restore Hope

The *Ranger* battle group spent the autumn of 1992 in the Persian Gulf, with CVW-2 providing combat air patrols in support of Operation *Southern Watch*, the enforcement of United Nations (UN) Resolution 688, which prohibits flights of Iraqi aircraft south of the 32nd parallel.

In December, however, shortly before it was scheduled to head eastward toward home, *Ranger* (CV-61) and her escorts turned south toward the coast of Somalia in support of Operation *Restore Hope*, the UN-authorized effort to relieve mass starvation amid factional fighting in Somalia. Aircraft from CVW-2 began flying reconnaissance missions over Somalia.

The amphibious ready group (ARG) off Somalia in early December centered around *Tripoli* (LPH-10), with HMM-164 (Reinforced) on-board. The ARG landed Navy SEALs and Marines at Mogadishu, Somalia, during the early hours of December 9 to secure the city's airport and seaport.

A VF-1 Wolfpack F-14A Tomcat deployed aboard *Ranger* (CV-61) escorts a United Nations transport near the Persian Gulf in support of Operation *Southern Watch*.

Maritime Monitor Continues

Naval Aviation maintained its watch in the Adriatic Sea throughout the last months of 1992 in support of Operation *Provide Promise*, the United Nations relief effort in strife-torn Bosnia-Herzegovina, and its sanctions enforcement component, Operation *Maritime Monitor*.

John F. Kennedy (CV-67), with CVW-3 aboard, relieved *Saratoga* (CV-60) and CVW-17 in the Mediterranean in late October; and an amphibious ready group (ARG) centered on *Guam* (LPH-9), with HMM-261 (Reinforced) embarked, relieved the *Iwo Jima* ARG, with HMM-365 (Reinforced) aboard, in the Adriatic in November.

U.S. Navy, Dutch, and Portuguese P-3 patrol planes – as well as British *Nimrod* and Italian *Atlantique* aircraft – patrolled the Adriatic, identifying and querying thousands of ships. VP-26, deployed to NAS Sigonella, Sicily, flew 140 *Maritime Monitor* missions until its November return to NAS Brunswick, Maine, as

well as 168 patrols in the Red Sea from Jeddah, Saudi Arabia, enforcing UN sanctions against Iraq as part of Operation *Desert Calm*. VP-26 was relieved by VP-24 from NAS Jacksonville, Fla.

Panel Recommends Against Women on Combat Aircraft

Voting November 3, 1992, on 20 issues after nine months of hearings and visits to military commands, the Presidential Commission on the Assignment of Women in the Armed Forces recommended against allowing military women to fly in combat, but for allowing women to serve in some combatant ships.

In an 8-6 vote with one abstention, the commission recommended that Congress "repeal existing laws and modify service policies for servicewomen to serve on combatant vessels except submarines and amphibious vessels." In another close vote, 8-7, the commission recommended that current Department of Defense and service policies barring assignment of women to aircraft on combat missions should be retained and reenacted into law. The Congress amended the combat exclusion law in 1991 to remove the ban on women flying combat missions, but the Department of Defense retained its policy pending recommendations of the commission.

According to the Associated Press, some of the commissioners that voted against women flying in combat were influenced by concerns about women aviators becoming prisoners of war.

The commission sent its report to President Bush, who was required to forward the commission's conclusions,

together with his own, to Congress by December 15, 1992. The commission's recommendations are nonbinding and several, including repeal of current law banning permanent assignment of Navy women to combatant ships, would require Congressional action as well as consideration by the President and the Secretary of Defense.

Med Air Logistics Restructured

Force-level reductions are driving a massive restructuring of naval air logistics supporting the U.S. Sixth Fleet in the Mediterranean. Two of the three logistics squadrons under Commander Fleet Air, Mediterranean, are being disestablished, with the gap being filled by detachments from stateside active and reserve squadrons.

VR-24, which supports carriers with C-2A *Greyhound* carrier-onboard-delivery aircraft, is being disestablished at NAS Sigonella, Sicily, on January 31, 1993. Its C-2As have been turned over to VRC-40, NAS Norfolk, Va., which began deploying two-plane detachments in October 1992 with each carrier bound for the Mediterranean. VR-24 made its last carrier logistics flight on October 27, during a final mission to *Saratoga* (CV-60). VR-24's CT-39 *Sabreliner* rapid-response airlift jets are being turned over to NAS Sigonella for operation.

VR-22, with C-130F and KC-130F *Hercules* aircraft based at NS Rota, Spain, is slated for disestablishment in April 1993. Its missions will be assumed by detachments of Naval Air Reserve VR squadrons flying C-130T, C-9B, and DC-9 aircraft.

HC-4, which operates the CH-53E *Super Stallion* from NAS Sigonella, will continue to fly vertical-onboard-delivery missions in the Mediterranean and Red seas and the Persian Gulf.

Reserve to Get EW Aggressor Role

The Navy plans to transfer the airborne electronic warfare training mission to the Naval Air Reserve by FY 94, incorporating the role within its existing Reserve Force squadrons, and disestablishing the three active tactical electronic warfare squadrons (VAQs) currently dedicated to the mission.

The plan involves the disestablishment, by October 1993, of VAQs 33, 34, and 35, all of which are under the operational control of the Fleet Tactical Readiness Group, Norfolk, Va. VAQ-33, NAS Key West, Fla., flies the EA-6A *Intruder* and EP-3J *Orion*; VAQ-34, NAS

Lemoore, Calif., operates the FA-18A/B *Hornet*; and VAQ-35, NAS Whidbey Island, Wash., uses the EA-6B *Prowler*.

EA-6As will be retired, and discussion is under way as to whether to continue use of EP-3Js and, if so, which units will operate them. Much of the electronic aggressor role will be assumed by the A-6, EA-6B, and FA-18 in the two reserve carrier air wings, RCVWs 20 and 30.

Transfer of the electronic warfare training role to the Naval Air Reserve is due largely to budgetary pressures to operate more efficiently and consolidate missions where possible.

P-3C Update IV Canceled

The Navy issued a stop-work order on the P-3C Update IV System to the Boeing Defense and Space Group on October 14, 1992, effectively canceling further development of the advanced antisubmarine and antisurface warfare aircraft system, with an estimated cost avoidance of \$1.5 billion over the next five years.

Citing the demise of the Soviet submarine threat and concern over the cost of procuring the Update IV system, the Navy is now considering upgrading the 109

P-3Cs scheduled for Update IV with an enhanced Update III configuration instead, which eventually would result in a standard configuration throughout the fleet. Production and retrofitted versions of the Update III are already in extensive squadron service.

The Update IV prototype aircraft, P-3C BuNo 160292, is being deconfigured of Update IV systems and returned to service.

V-22 Development Contract Issued

The Naval Air Systems Command awarded a \$550-million contract to the Bell Boeing Tiltrotor Team on October 22, 1992, for the Engineering and Manufacturing Development phase of the V-22 *Osprey* program. The total value of the program may exceed \$2 billion.

The contract calls for the design, fabrication, assembly, and test of four new production-representative V-22 aircraft and the modification of two existing V-22s for design support flight testing.

The new contract was issued in response to a proposal from Bell Boeing to meet the Marine Corps' Medium Lift Replacement (MLR) need to replace the aging CH-46E helicopter fleet. The V-22 will compete with alternate designs to fill the MLR requirement.

Final Phoenix Delivered

Hughes Missile Systems Company delivered the final AIM-54 Phoenix air-to-air missile to the Navy on September 30, 1992, ending a 20-year production run.

Hughes assembled, tested, armed, and delivered 4,579 Phoenix missiles to the Navy over the past two decades from its plant in Tucson, Ariz. The missile is the primary armament of the Navy's



Hughes Missile Systems Group

Hughes Aircraft Company's Missile Systems Group material handler Brim Silfies checks out the last AIM-54 Phoenix air-to-air missile built for the Navy by the company at its Tucson, Ariz., plant.

A T-45A Goshawk, the Navy's newest training aircraft, fires a volley of 2.75-inch rockets during a contractor demonstration over the Hooper Target area in the Chesapeake Bay. The inert rockets were fired from one of two T-45As assigned to the Flight Test and Engineering Group (FTEG), Strike Aircraft Test Directorate, Naval Air Warfare Center Aircraft Division, Patuxent River, Md. The demonstration included a volley at both 30 and 45-degree dive angles. Such demonstrations are conducted by the FTEG to ensure proper weapon separation from the aircraft.



Vernon Pugh

front-line interceptor, the F-14 *Tomcat*, and is capable of hitting targets at ranges of greater than 100 miles, at high or low altitudes, and against sophisticated counter-measures.

Hughes began development of the Phoenix 30 years ago, choosing that name to reflect the program's rebirth from the "ashes" of the earlier Eagle missile project. Production deliveries of the AIM-54A began in February 1972, with 2,505 AIM-54As delivered over the next eight years. Production deliveries of the improved AIM-54C began in October 1981, followed by the AIM-54C+ in February 1986. Deliveries of the AIM-54C/C+ totaled 2,074 missiles.

Belleau Wood Moves to Japan

The flexibility and effectiveness of the U.S. Seventh Fleet received a boost on September 30, 1992, with the arrival of *Belleau Wood* (LHA-3) at its new home port of Sasebo, Japan.

As flagship of Amphibious Squadron 11, *Belleau Wood* joins *Dubuque* (LPD-8), *Germentown* (LSD-42), and *San Bernardino* (LST-1189) at Sasebo. The amphibious as-

sault ship will operate with Marine Corps AV-8B *Harrier* attack aircraft deployed to MCAS Iwakuni, Japan, and helicopters from MCAS Futenma, Okinawa, Japan.

During its transit from San Diego, Calif., *Belleau Wood* transported HMM-262 from MCAS Kaneohe Bay, Hawaii. The squadron arrived on September 27 at its new home base at Futenma, where it is now permanently assigned, relieving the strain on other deploying CH-46E squadrons.

F-14 Digital Flight Controls

The Flight Test and Engineering Group's Strike Warfare Test Directorate, Naval Air Warfare Center Aircraft Division, Patuxent River, Md., is spearheading the development of a digital flight control system for potential application to the F-14 *Tomcat* fighter.

The project to provide the F-14 with a state-of-the-art digital flight control computer is a foreign cooperative effort with the European Fighter Aircraft Program. Also participating in the program, in addition to other directorates, are Naval Air Warfare Center Aircraft Division, Warminster,

Pa.; National Aeronautics and Space Administration, Langley, Va.; Grumman Aircraft Corporation; and General Electric Corporation (UK).

Control law validation of the digital flight control system has begun in the Manned Flight System Simulator at Patuxent River. Laboratory and ground testing will follow, with flight testing a possibility in 1994. The system is expected to improve reliability, departure resistance, and power approach handling qualities.

Aviation Ordnance Course Formed

The Naval Aviation Schools Command, NAS Pensacola, Fla., has formed the Aviation Ordnance Officer Career Progression Course, developed for Navy and Marine Corps aviation ordnance officers and senior enlisted personnel to build on previously acquired skills and to enhance career professionalism.

The course is offered on three levels. Level I is a six-week course for newly commissioned Limited Duty Officers and Chief Warrant Officers and for senior enlisted personnel, focusing on administrative, technical, logistical, and safety aspects of ordnance management. Levels II and III are two-week courses for officers and senior enlisted personnel at mid and upper-career point; these courses focus on job-related functions associated with assignment to ordnance management billets in such units as wings, ammunition storage activities, type commanders, headquarters, and aircraft intermediate maintenance departments.

More Helping Hands

Other Naval Aviation units that participated in recent disaster relief operations came to the attention of *NANews* after press time for the news items on pages 4-5 of the Nov-Dec 92 issue. For the record, they are: Hurricane Andrew: HS-1, MAG-41, and VMGR-234; Hurricane Iniki: VP-1 and HSL-37; and Typhoon Omar: VR-59.

HSL-35 Magicians Disestablished

A November 19 ceremony at NAS North Island, Calif., marked the disestablishment (officially December 4) of Helicopter Antisubmarine Squadron Light (HSL) 35 after over 18 years of service. Cdr. Joseph W. Willis was the last CO of the *Magicians*.

HSL-35 was established at North Island on January 15, 1974, as the Pacific Fleet's third Light Airborne Multi-Purpose System squadron, providing detachments of SH-2F *Seasprite* helicopters aboard destroyers and frigates. Its missions included antisubmarine warfare, antiship missile defense, search and rescue, gunfire spotting, medical evacuation, and logistics.

HSL-35 deployed its first detachment to the western Pacific and Indian oceans in April 1974, followed over the next 18 years by many detachments to those oceans, as well as to the Persian Gulf, North Pacific, and on several round-the-world cruises. The *Magicians* sent seven detachments to the Persian Gulf in support of Operations *Desert Shield* and *Desert Storm*.

The first radar-equipped AV-8B, known as the Harrier II Plus, made its inaugural flight on September 22, 1992, over southern Missouri. The aircraft, BuNo 164129, is the first Harrier II to feature the Hughes APG-65 radar, which works together with the aircraft's night-attack systems to improve pilot situational awareness, navigation in adverse weather and at night, air-to-air combat, and air-to-ground bombing capabilities. Like the night-attack AV-8B, the Harrier II Plus is powered by the Rolls Royce F402-RR-408 Pegasus II engine. Deliveries of 27 Harrier II Pluses to the Marine Corps are scheduled to begin in July 1993. Italy has ordered 13 and Spain may purchase 8 of the new variant.



McDonnell Douglas Corp.



HSL-35 SH-2F over San Diego, Calif.

For the Record...

→ **NAS Cubi Point, R.P.**, was disestablished on October 30, 1992, ending almost a century of American military presence in the Philippines. (See story page 16.)

→ **Kitty Hawk** departed NAS North Island, Calif., November 3, 1992, with CVW-15, on her first deployment in more than five years. The "Hawk" rejoined the Pacific Fleet in December 1991 following a four-year Service Life Extension Program overhaul at Philadelphia Naval Shipyard,

during which her combat systems, engineering plant, and aircraft launch and recovery systems were upgraded and modernized.

→ Two P-3Cs from NAS Jacksonville, Fla.-based **VP-49** deployed to **NS Guantanamo Bay, Cuba**, in October 1992 for a month of

drug interdiction operations in support of Joint Task Force 4. The detachment was the first of a permanent rotating maritime patrol aircraft presence at the base.

→ **VFA-137** shifted home port in October from NAS Cecil Field, Fla., to **NAS Lemoore, Calif.** Slated with **VFA-151** to join CVW-2 upon its return from *Ranger's* last deployment, both squadrons are transitioning from the FA-18A to the **FA-18C** version of the *Hornet*.

→ The **VF-114 Aardvarks** are scheduled for **disestablishment** at NAS Miramar, Calif., by April 30, 1993, having been replaced in CVW-11 by VMFA-314, a Marine Corps FA-18 squadron, leaving VF-213 as the only F-14A squadron assigned to the wing.

→ When *Saratoga* (CV-60) and CVW-17 returned from a Mediterranean deployment on November 6, 1992, it marked

The first delivery of an **ES-3A Viking** carrier-based electronic reconnaissance aircraft to an operational squadron took place on May 9, 1992, when **ES-3A BuNo 159420** arrived at NAS Agana, Guam, to join the **VQ-5 Sea Shadows**.



PH3 Bruce Moore

A VX-1 detachment took two **ES-3A Viking** electronic reconnaissance aircraft (BuNos 159401 and 159404) on their first trip to the Mediterranean, departing NAS Patuxent River, Md., on September 17, 1991, and refueling from an Air Force KC-10A

tanker en route. Operating from the deck of *Saratoga* (CV-60), OinC LCdr. Ezell Westbrook led the det in completing operational tests and evaluations on the new Viking configuration during Exercise Display Determination '92.



PH2(SW) John Gay

the last deployment for **HS-9**. The SH-3H squadron based at NAS Jacksonville, Fla., is slated for **disestablishment** on April 30, 1993.

→ Following a tri-site deployment to NAS Adak, Alaska; Howard AFB, Panama; and NAS Moffett Field, Calif., **VP-9** shifted home port in November from Moffett Field to **NAS Barbers Point**, Hawaii, becoming the first squadron to move from Moffett Field because of its impending closure.

→ **VMFA(AW)-533**, the Marine Corps' first East Coast FA-18D squadron, moved in October from MCAS Cherry Point, N.C., to **MCAS Beaufort**, S.C., home of the Corps' single-seat *Hornet* squadrons on the East Coast, as it transitions from the A-6E to the FA-18D. The remaining two A-6E squadrons at Cherry Point, VMA(AW)s 224 and 332, will also move to Beaufort in early 1993 as the Marine Corps accelerates its transition to the FA-18D.

→ Administrative command of **VFC-12**, NAS Oceana, Va., and **VFC-13**, NAS Miramar, Calif., shifted on October 1, 1992, from Commander Fleet Logistics Support Wing, NAS Dallas, Texas, to Reserve Carrier Air Wings 20 and 30, respectively.

→ **Enterprise** (CVN-65) officially shifted from the

Pacific Fleet to the **Atlantic Fleet** on November 20, 1992, and will be home-ported at Norfolk, Va., upon completion of its overhaul and nuclear refueling at Newport News Shipbuilding Co. in 1994.

→ **VA-42**, the East Coast A-6 fleet readiness squadron at NAS Oceana, Va., has adopted the traditions, insignia, and nickname formerly belonging to **VA-176**, which was disestablished on October 1 (correcting *NANews*, Nov-Dec 92, p. 8). The former *Green Pawns* are now known as the *Thunderbolts*.

→ Upon commissioning in approximately May 1993, the third *Wasp*-class LHD, **Kearsarge** (LHD-3), will be home-ported in Norfolk, Va. Of note, Congress authorized construction of a sixth *Wasp*-class LHD and appropriated partial funding for it in the FY-93 budget.

→ **VR-48**, NAF Washington, D.C., has received new **C-130T** transports, to begin training Naval Air Reserve crews in the aircraft. The cadre crews will eventually form a new squadron, **VR-53**, which is planned for basing at Martinsburg, W.V.

→ **Constellation** (CV-64) returned to sea on November 6, 1992, for 10 days of sea trials following its 29-month Service Life Extension Program (SLEP) overhaul at Philadelphia Naval Shipyard. The last carrier to undergo SLEP, *Constellation* will return to its home port at NAS North Island, Calif., in early 1993, with the change official on January 8, 1993.

→ Dates have been set for the two-year complex overhaul of **John F. Kennedy** (CV-67) at the Philadelphia Naval Shipyard following return from her current Mediterranean deployment: September 13, 1993, to September 15, 1995.

→ In the FY-93 defense bill, Congress transferred \$32 mil-

lion from the **EP-3E electronic reconnaissance aircraft program** to a common Office of the Secretary of Defense-managed tactical SIGINT/ELINT fund pending selection of either the Navy's EP-3E or the Air Force RC-135.

→ **General Offshore Corporation**, which flew **P-3A** and **UP-3A** aircraft under contract for the Navy, retired its *Oriens* on October 7. The aircraft, based at NAS Brunswick, Maine, were used for quality assurance testing of sonobuoys, principally at the St. Croix range in the Virgin Islands.

→ The Naval Air Systems Command awarded **Boeing Helicopters** of Philadelphia, Pa., a \$41.6-million contract to design, test, and provide kits for **upgraded dynamic components** for the **H-46 Sea Knight** helicopter fleet. The improvements, which affect primarily the rotor head, are expected to reduce maintenance requirements and extend the life of the H-46 fleet. **Naval Aviation Depot, Cherry Point**, N.C., will install the kits on the aircraft.

→ The **Naval Training Systems Center** (NTSC), Orlando, Fla., has become a command under the **Naval Air Warfare Center**. NTSC is the Navy's principle center for the development and acquisition of training and simulation systems for the Navy and Marine Corps.

→ **Ex-Lexington** (AVT-16) was officially turned over to the city of **Corpus Christi**, Texas, during a November 14, 1992, ceremony. Alex Vraciu, WW II Navy ace who flew F6F *Hellcats* to many victories from her deck, was the guest speaker at the event.

→ The **Emil Buehler Naval Aviation Library** was dedicated on November 6, 1992, at the **National Museum of Naval Aviation**, NAS Pensacola, Fla.

Aggressor Hornet – VFA-127, the adversary squadron based at NAS Fallon, Nev., operates several FA-18As to train carrier air wings during their work-ups for deployment. The Hornets are painted to resemble MiG-29 fighters.



Michael Grove

Essex Joins Fleet



The second ship of the Wasp class, Essex (LHD-2), was commissioned October 17, 1992, at NAS North Island, Calif.

Essex (LHD-2), Captain Ronald V. Berg commanding, was commissioned at NAS North Island, San Diego, Calif., on October 17, 1992. It is the second of the *Wasp* (LHD-1)-class multipurpose amphibious assault ships to enter the service and the first in the Pacific Fleet.

In his address at the commissioning ceremony, Secretary of Defense (Sec-Def) Dick Cheney said that the ship's flexibility and firepower "highlight the relationship between our Navy and Marine Corps, and will help us advance the strategy of joint operations from the sea."

The ship's sponsor, Lynne Cheney, SecDef's wife, was in attendance to watch the commissioning of the ship she christened in honor of four previous ships named *Essex*.

The *Wasp* class is the first specifically designed to accommodate the LCAC (air cushion landing craft) and AV-8B *Harrier* vertical short take off/landing jets, which will provide close air support for assault forces. LHDs also handle the full range of Navy and Marine Corps helicopters, conventional landing craft and amphibious vehicles, along with all the tanks, trucks, jeeps, artillery, ammunition, and other supplies necessary to fully support an assault.

Essex, constructed by Ingalls Shipbuilding Division of Litton in Pascagoula, Miss., is 844 feet long, with a beam of 106 feet, and displaces 40,500 tons. She has more than 22,000 square feet of vehicle space, 100,000 cubic feet of cargo space, a 13,000-square foot welldeck, and the ship's living areas house approximately 3,000 crew members and embarked troops. Two steam propulsion plants, developing a combined 70,000 horsepower, drive the ship to speeds in excess of 20 knots.

Essex has medical and dental facilities capable of providing routine medical/dental care to all embarked ship and troop personnel. Major medical facilities include four main and two emergency medical operating rooms, x-ray rooms, a blood bank, laboratories, and patient wards.

Outfitted for her primary amphibious mission, *Essex* carries a mix of assault helicopters, plus six to eight *Harriers* for close air support. Air traffic control capability has been specifically designed to support simultaneous *Harrier* and helicopter operations on the 819 by 106-foot flight deck.

The self-defense armament includes the NATO Seasparrow Surface Missile System for anti-air warfare protection, three Phalanx Close-In

Weapon System mounts to counter low-flying aircraft and antiship missile threats, and eight 50-caliber machine guns for defense against close-in small craft attack.

Previous U.S. Navy ships named *Essex* include a frigate launched in 1799, which saw action against the French in 1800 and served gallantly during the War of 1812. The second was an ironclad gunboat that participated in the Civil War.

The third *Essex* was a wooden-screw steamer commissioned in 1876 that served with the North Atlantic Squadron, on the Pacific Station and the Asiatic Station.

Most recently, an aircraft carrier (CV/CVA/CVS-9) bore the name as lead ship in the WW II class. Commissioned in 1942, she earned 13 battle stars in actions throughout the Pacific. Decommissioned in 1947, she was modernized and brought back for Korea and subsequent antisubmarine warfare support missions, then decommissioned again in 1969.

Although the new *Essex* is classed as an amphibious assault ship, she is as large as her aircraft carrier namesake. ■

Reprinted with permission from *Surface Warfare*, Nov/Dec 1992.



PH2 V. C. Naegele



Cubi Point Closes Its Gates

By JO1(SW) Eric S. Sesit

Another era of Naval Aviation has flown off into the Pacific sunset. Naval Air Station, Cubi Point, R.P., a long-time familiar port for western Pacific ships and squadrons, has closed its gates.

For more than 36 years, Cubi Point has provided Navy and Marine aviators outstanding facilities and support for their squadrons while deployed to the western Pacific and Indian oceans.

The development of Cubi Point began in 1950 as a dream of Admiral Arthur W. Radford, then Commander in Chief, Pacific Fleet. Radford wanted to enhance Seventh Fleet capabilities. Although the Navy already had limited facilities at Sangley Point near Manila, expansion of the airstrip there was not considered practical because of the large number of people who would have to be relocated. The Army Corps of Engineers proposed Subic Bay. Radford agreed. His proposal was met with skepticism and considered impossible to carry out by civilian contractors. They even went as far as calling the proposal "Radford's Folly" and did not bother to bid for the contract to build the base.

Enter the Navy Seabees. On the verge of being demobilized, they were given the task of building an air station out of a jungle. The name Cubi Point is considered by some to come from the name Construction Unit Battalion 1, the "1" in Cubi representing the "1."

Construction began in 1951. It was a job that would take five years to com-

plete. And it was no easy task. The land needed to be cleared and once the surface vegetation was removed, there was nothing to hold back the mud that the rainy season caused. Temperatures soared during the dry season and choked the workers and equipment with dust.

Eventually, at a cost of \$85 million, the 8,000-foot runway (in 1968 it was increased to 9,000 feet), living quarters, administration building, ammunition depot, and pier began to rise out of what was once dense tropical jungle. On July 25, 1956, Cubi Point was officially established as a naval air station. The principal speaker was Adm. Radford, then Chairman of the Joint Chiefs of Staff.

"Radford's Folly" soon proved its value. As the Vietnam war escalated in the 1960s, Cubi Point, as part of the Subic Bay naval complex, became the major hub for American carriers in the Tonkin Gulf launching strikes over Vietnam. Logistically, the base was ideal, a "one-stop shop" providing vast facilities for maintenance and repair of aircraft and ships and ammunition storage and loading. Cubi was also a major operations center for P-3 patrol planes active in Operation *Market Time*, the maritime interdiction effort to stop North Vietnamese gun and supply running around the coastal waters of Vietnam.

Cubi Point was also home base for several squadrons and detachments directly supporting the war effort. Helicopter Combat Support Squadron (HC) 7, deployed HH-3A "Big Mother" and H-2 "Clementine" armed rescue helicopters to ships in the Tonkin Gulf,

pulling many downed aircrews from harm's way in Vietnam or offshore. Also in support of the war effort, a Fleet Air Reconnaissance Squadron 1 detachment flew EC-121, EP-3, and EA-3 electronic reconnaissance aircraft from Cubi, and a Heavy Photographic Squadron 61 detachment supported its RA-3 reconnaissance aircraft from there. Alameda, Calif.-based Airborne Early Warning Squadron 13 maintained a permanent detachment at Cubi, which supplied carriers off Vietnam with EA-1F *Skyraider* electronic warfare aircraft.

Other notable squadrons located at Cubi were Fleet Logistics Support Squadron (VRC) 50 and Fleet Composite Squadron (VC) 5. VRC-50 supplied thousands of sailors with their most precious commodity, mail, as well as transporting personnel, parts, and equipment to deployed carriers. VC-5 provided targets as well as "enemy" aircraft in combat exercises with shipboard air wings. VC-5 stopped flying in March 1992 after its last exercise with Carrier Air Wing 5 from *Independence* (CV-62).

After Vietnam and through the remainder of the seventies and well into the eighties, Cubi Point, as well as Subic Bay, served as a central processing point for the flood of Vietnamese refugees pouring out of Vietnam in search of freedom. Cubi was also a center for reconnaissance and antisubmarine surveillance missions in the South China Sea, monitoring the Soviet naval build-up in the South China Sea and Indian Ocean throughout the 1980s.



PH1 Allen Choy



PH2 Essex D. Moore III

As Operations *Desert Shield/Desert Storm* unfolded, Cubi once again became a hub for ships deploying to war, acting as a "last-stop shopping center" for ships in need of supplies and ammunition.

Perhaps Cubi Point's most memorable event occurred on the morning of June 12, 1991, when Mount Pinatubo erupted. Subic Bay and Cubi Point, only 20 miles south of the volcano, were spared the initial fall-out of ash and debris from the blast. But on June 13, 14, and 15, the volcano erupted once again, this time

blanketing Cubi Point with 8 to 10 inches of ash. Two hundred and forty buildings were severely damaged throughout the Subic/Cubi naval complex.

The beginning of the end was in sight for Cubi Point and Subic Bay even as the ashes were being removed. Base negotiations between the governments of the Republic of the Philippines and the United States reached an agreement to continue the base, but the Philippine senate rejected the plan, and the withdrawal of American forces from the Philip-

Above, L-R: The administration building (foreground) and other facilities can be seen in this 1982 photo of Cubi Point; an aerial view of the airfield; and a C-141 lands at Cubi shortly after the eruption of Mount Pinatubo.

ippines was announced. Subic Bay was turned over to the Philippine government on September 30, 1992, followed by Cubi Point on October 30. The last Americans were withdrawn on November 24, ending almost a century of American military presence in the Philippines.

To the average sailor or airman, Cubi Point meant much more than just a place to fix an aircraft or fuel a ship. The "P.I." meant some of the best liberty to be found anywhere in the world. From a visit to the Cubi Point Officers' Club (whose famous plaque bar is being relocated to the National Museum of Naval Aviation in Pensacola, Fla.), to drinking a cold San Miguel beer on the beaches of Grande Island, everyone who has ever visited the Philippines has their own fond memories. When a battle group pulled in, the streets of Olongopo, just outside the base gate, were alive with the sounds of music, people, and jeeps (converted jeeps used as taxis and buses). Tennis shoes could be cleaned for a few pesos. Snakeskin boots could be bought for \$50. And one of the best deals anywhere, barbecue on a stick for one peso each, was a great way to top off an evening.

But perhaps what American sailors will miss most about the Philippines is the Filipino people. Warm and friendly, they are what made Subic Bay and Cubi Point a great place to do business. And it is to these people and Cubi Point that we say, "Paalam." ■



Two A-4s from VC-5 fly over Cubi Point, with Independence (CV-62) in the background.

Hornet E

Can the FA-18E/F program, embroiled in controversy, survive the current intense political battles? This relatively low-risk upgrade program has polarized Naval Aviation and was the object of intense scrutiny in the President's FY-93 Navy budget.

The controversy stems from well-intentioned program opponents. Congressional F-14 proponents object strongly to the Navy decision to procure the FA-18E/F as competition for scarce resources.

The scrutiny comes not only from program opponents but also those whose charter is the public trust of protecting precious resources. Professional staff and members of Congress who have no particular favorite program must be assured that the FA-18E/F is the most valuable product for the dollars expended.

The combination of program opposition and the intense scrutiny that all major procurement programs receive in today's austere financial environment has created an illusion that the FA-18E/F program is ill defined, unsupported by analysis, too expensive, and eventually will succumb to relentless withering attacks. The facts reveal just the opposite.

The FA-18E/F program is an upgrade to the existing FA-18C/D, the combat-proven, low-end aircraft in the Navy's high-end/low-end mix of carrier tactical aircraft. A peek into the year 2000 revealed five principle deficiencies in the versatile strike fighter: range, payload, bring-back (ability to land aboard the carrier with unused weapons), survivability, and growth potential. The options for Navy planners were three: accept the FA-18C/D deficiencies, modify the platform or buy a new aircraft. The Navy chose to modify the platform, as the most cost-effective approach in the projected threat environment.

Having made that decision, the Navy had to prioritize the upgrade to the FA-18C/D against upgrades or replacement for the A-6E and the F-14. The A-12, the choice to replace the A-6E, and the Naval Advanced Tactical

Fighter, the choice to replace the F-14, were subsequently deemed unaffordable. The Navy was left with its upgrade for the FA-18C/D but still no replacement for either the A-6E or the F-14. Dollars were becoming ever more scarce. It was obvious that some sort of "neckdown" from three tactical aircraft to two would have to take place. The AX was designated to replace the aging A-6E. The FA-18E/F was further analyzed against upgrades to the F-14 to choose the best strike fighter. The FA-18E/F emerged as the Navy's choice to serve as the low end mix to the AX on the carrier decks of the future. Another key factor in the FA-18E/F's favor was that it would replace the FA-18C/D in the Marine Corps. Finally, it was the program's exceptional definition of cost, schedule risk, and war-fighting capability that ensured its selection.

The cost of the FA-18E/F upgrade versus the improvements it provides to the war-fighting capability of the Navy is a genuine bargain:

- 50% increase in fighter escort range (or any mission using only internal fuel)
- 50% increase in interdiction range (or any mission using external drop tanks)
- 80% increase in endurance
- 22% increase in payload
- 300% increase in bring-back
- One order of magnitude increase in survivability
- 20 years potential for continued growth.

The trade studies (analysis) supporting the above statistics are voluminous. These war-fighting capabilities cost \$4.88 billion (FY 90) in Research, Development, Test and Evaluation funds and \$15 million more per FA-18 than we are currently paying. No hidden costs. And the changes?

Airframe: Modified to accommodate larger engines. Fuselage: length increased by 34 inches to allow for 3,600 more pounds of internal fuel (for a total of 14,460 pounds). The wing area will be increased from 400 square feet to 500 square feet, and

the engine intakes will be modified to allow for the increased airflow requirements of the new engines.

Engine: Two F414-GE-400 (22,000-pound-thrust class) with afterburners.

Armament: Stores stations increased to 11 through the addition of a new station under each wing. Inboard wing station and the centerline capable of carrying 330-gallon or 480-gallon drop tanks. Centerline capable of carrying an air refueling store.

Avionics: Fully transitioned from the FA-18C/D. AN/APG-73 radar. AN/ALR-67G Advanced Signal Receiver (ASR). AN/ARC-210 Havequick/Sincgars. Global Positioning System (GPS). XN-8 mission computers, reconnaissance capability, and night-attack system.

The support structure in place for the FA-18C/D (simulators, IMRL, yellow gear) will not be replaced, only modified. Spare parts will be unique for the airframe but common for the avionics. In short, the integration of the FA-18E/F upgrade into Navy tactical aviation will be much less expensive than a new aircraft.

The debate over the efficacy of the FA-18E/F will continue to rage. This is to be expected with so few major procurement programs being pursued in Naval Aviation. Opponents call the upgrade a new start, label the analysis as biased and superficial, and define the increased war-fighting capabilities as unnecessary. They are clever in their rhetoric and precise in their timing so as to create the impression that normal acquisition and Congressional reviews of the program imply lack of Office of the Secretary of Defense (OSD) or congressional support.

The FA-18E/F upgrade continues to speak eloquently for itself. The simplicity of the design and minimal risk of the procurement program make it survivable in the acquisition minefield. The myriad reviews and required analysis have tempered and sharpened the war-fighting capabilities of the aircraft. As each of the technical parameters are challenged, a stronger program emerges. A most recent example was the OSD challenge to the range claims of the aircraft. An inde-

and F

By Cdr. Brian Calhoun



pendent analysis by experts from the National Aeronautics and Space Administration, OSD, and Air Force determined that the range was indeed not what the Navy advertised – it was greater!

For us war fighters, the FA-18E/F offers the best balance of capability versus affordability. It improves upon the agile and rugged airframe of the FA-18C/D by providing the survivability, growth potential, bring-back, and range it has lost over the last 10 years of remarkable growth. The avionics remain the reliable, maintainable, and easily programmable nerve center that has made the aircraft

the most flexible and capable in aviation history. It enjoys a strong pedigree. It will survive. ■

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J4F Widgeon

By Hal Andrews

J4F-1

When referring to airplanes, "fighter" comes after Grumman – though "carrier-based Navy aircraft" might be more appropriate. But from Grumman's beginning, while fighters and other combat models predominated, amphibians were always at the forefront of Leroy Grumman's thoughts. They were also a major factor in the origin of Grumman – and a part of its production line output over the first half of its corporate life to date.

Most of Grumman's founders had worked together on the well-known Loening amphibians of the 1920s. The new company's first production business was amphibian floats for the Navy's biplane Vought *Corsairs*. Following the first Grumman fighter prototype – and the first company-designed airplane to be built – came Grumman's first experimental military utility amphibian. Both models went into production, the FF being the first of Grumman's long line of Navy fighters.

The Navy, and also the Coast Guard, purchased utility amphibians as JFs and J2Fs beginning in the mid-1930s (see *NA News*, Nov-Dec 91). With this well-established business base, Grumman initiated its first project for the commercial market, selecting a twin-engine amphibian. The G-21, the company's first monoplane, was successful with both civilian and military sales. One was purchased by the Navy as the XJ3F-1; subsequent Navy and Coast Guard G-21s were designated as JRFs.

In 1939, success of the G-21 prompted Grumman's interest in providing a smaller – and lower cost – amphibian for the commercial market, resulting in a new design, the G-44. A five-place monoplane, it was powered by two Ranger 6-440 air-cooled, six-cylinder, in-line engines and featured the square cut surface tips that were becoming a typical Grumman feature, along with the standard Grumman retractable main wheels. The G-44 prototype first flew in June 1940 with production models following.

Successful from the start, the *Widgeon* soon found its first service buyer. Ordered by the Coast Guard for utility and ambulance duty, delivery of 8 J4F-1s started in July 1941. A hatch in the upper hull behind the wing al-



lowed loading or unloading a stretcher. Orders for 17 additional J4F-1s followed, with Portugal also purchasing 12 *Widgeons* for similar service use.

The year 1942 and wartime brought changes to the *Widgeon's* mission, as well as to production arrangements. Coast Guard J4F-1s were modified to carry one 325-pound depth bomb under the starboard wing and, manned by a pilot and crewman, undertook offshore antisubmarine warfare (ASW) patrols. In August, the German submarine U-166 was sunk in the Gulf of Mexico by a J4F-1, which dropped its depth bomb as the sub dove to escape. By this time, *Widgeon* production had been taken over by the Navy, with the J4F-2 designation applied. A lend-lease contract covered 14 for Brazil, plus 7 for other users, including Cuba. Six of the latter were assigned to the Navy for offshore ASW patrol; deliveries to Eastern Sea Frontier VS squadrons began in September. The one remaining was also taken over by the Navy, and an additional *Widgeon* was purchased from a civilian owner.

In August, a Navy contract had been placed for 50, some programmed for lend-lease to Britain. In view of other Grumman production commitments, the delivery rate was fixed at the handful-a-month then being built, and the aircraft were increasingly assigned to a purely utility role as they were delivered during 1943. Most of the British lend-lease deliveries were shifted to a second Navy contract calling for 60 J4F-2s to continue production into early 1945.

Navy and British *Widgeons* were assigned for utility, liaison, and communications duties across the U.S., in the Caribbean and Central and South America, in Hawaii and at Pacific bases, and at embassies, including Cairo, Egypt. The assembly and repair department at NAS Seattle, Wash., provided reconditioning services. By late 1944, the need for further J4F-2s was limited and, along with other actions looking toward end-of-the-war conversion, Grumman was authorized to get the *Widgeon* ready for civilian production.

In early 1945, the last J4F-2 off the

J4F-2



line was followed by the prototype "postwar" model, the G-44A. Production followed the prototype during the last months of the war for designated purchasers and continued into the postwar years. A French company built additional *Widgeons* under license using a V-8 engine. With various mods and mostly reengined, some *Widgeons* are still flying today.

The J4F-2's military service continued much as it had. By the summer of 1945, J4F-2s began to be pooled mostly at Norfolk, Va., and in Hawaii. With the end of the war, pooling accelerated. The last reconditioned J4F-2s left Seattle by early 1946, and release for surplus sale began. The majority were stricken from Navy and Coast Guard inventories by the end of 1946, with only a few operating into 1947.

One of these went on to unique research use. Modified by Edo, it could be fitted with different hulls for hydrodynamic research, and had an externally mounted retractable wheel landing gear. Over the next several years, this last J4F-2 in Navy service tested various hull forms. Tests in-

cluded hull designs for the P5Y and P5M, along with other advanced shapes. The J4F-2 designation was finally changed to E-175 as a research aircraft.

When its research role was completed, the E-175 was passed on to the National Air Museum (now National Air and Space Museum). However, with the demise of flying boats in the Navy and Coast Guard, the significance of its major contributions to the last new seaplane designs built for the Navy was insufficient to keep it from being traded. Its deaccession was part of the arrangements to obtain another Grumman airplane – the very greatly modified *Bearcat* flown by Daryl Greenamyre for the first propeller-driven airplane speed record exceeding 500 mph. The E-175 can now be seen at the Pima Air Museum in Arizona.

It's perhaps fitting that as the Navy's and the Coast Guard's use of seaplanes and amphibians came to an end – in 1976 and 1983, respectively – another Grumman amphibian design served to make the last flights: the HU-16 *Albatross*.

J4F

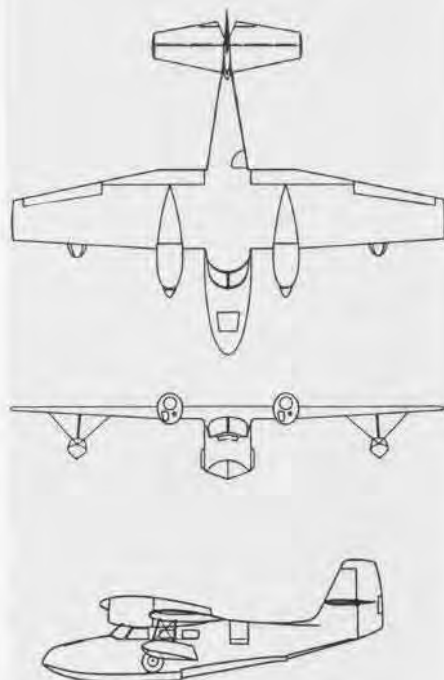


Span	40'
Length	31'1"
Height	9'
Engines	Two L-440-2 200 hp
Maximum Speed	150 mph
Service Ceiling	14,600'
Maximum Range	830 miles
Armament	One 100-lb. bomb or one 325-lb. depth bomb
Crew	2 or 1 pilot 3 or 4 passengers Total of 5

J4F-1



J4F-2



Aviation Boatswain's Mate



By JO1(SW) Eric S. Sesit

Ask any Aviation Boatswain's Mate (AB) who has the hardest job in the Navy and he or she will tell you: it's no contest, the ABs do. Long hours, high stress, freezing cold or tropical heat in one of the world's most dangerous environments, indeed, makes a job difficult. But ask an AB who has the best job in the Navy and the person will proudly tell you: the ABs do. Freedom of movement around the flight deck, plenty of

fresh air, and a sense of teamwork all add up to an exciting career challenge and job satisfaction.

The AB rating is broken down into three separate ratings up to the master chief level. The advancement tests reflect the difference in specialties.

ABs are responsible for operating, maintaining, and repairing aircraft catapults, arresting gear, and barricades (ABEs); operating and

maintaining fuel and lube oil transfer systems (ABFs); and directing aircraft on the flight deck and in hangar bays before launching and after recovery (ABHs). They are distinguished from one another on the flight deck by the different color jerseys they wear. ABEs wear green; ABHs wear yellow (plane directors), red (crash and salvage), or blue (chocks and chains); and the ABFs, or "grapes," wear purple. All move around the flight deck and han-



ABEs service a catapult track aboard Dwight D. Eisenhower (CVN-69).



An ABH directs a recovered FA-18 Hornet on the flight deck of Independence (CV-62) after a mission in support of Operation Southern Watch.



An ABF prepares to fuel one of the 80 aircraft attached to Kennedy (CV-67) during Operation Desert Shield.

gar bay in a closely choreographed game plan.

"Probably 60 percent of ABs entering the rating choose the field after serving onboard a carrier as a non-designated airman," said ABCM(AW) Rick Tick, the E-9 AB detailer. "They'll move aircraft, help on fueling teams, etc., and then decide which area they want to progress into. They'll strike for that rating and take the third class test."

An A school is available at NAS Memphis, Tenn., and is an option for the sailor's command. The command can send a seaman to the school, and it is also available for new recruits just out of boot camp who have enlisted with a career already chosen. But most ABs get their training on the job.

"There are several C schools available for ABs," said Tick. "I try to

schedule sailors to attend school after their shore duty is complete and they are on their way back to the fleet."

The C schools are where the sailors learn the finer details of their rating. An ABH can earn the 7011 Navy Enlisted Classification (NEC) code after completing the five-week Aircraft Firefighter Crash and Salvage Crewmen course at NAS Memphis. The ABFs have one NEC, 7022, for Aviation Fuels Handler. The ABEs can earn five different NECs after attending schools that cover arresting gear, the three different types of catapults on Navy carriers, or maintenance technician school. ABes attend C school at Naval Air Technical Training Center, Lakehurst, N.J.

The sea-shore rotation for ABs is sea intensive. E-4 personnel and below can expect to spend their entire first enlistment at sea followed by 24 months shore duty if they decide to stay in the Navy. E-5 and E-6 personnel will spend 42 months at sea and 30-36 months ashore. Chiefs will spend 48 months on sea duty and 36 months on land.

For a young airman about to step foot on the flight deck for the first time, the sheer power and excitement of air ops can be intimidating. "Before a sailor goes to work on the flight deck, he'll go through a week of training and observing where he'll learn safety procedures, what to do, where he can and can't go, and situations to be on the lookout for," Tick explained. "When he finally gets on the deck, he'll be assigned a more experienced person as part of the buddy system to keep him safe."

An ABH will spend much of the

early years hauling chocks and chains while he or she strives to become an aircraft director at the E-4 or E-5 level. An ABE might set a goal of becoming a topside petty officer or arresting gear petty officer as a third class – supervising a half-dozen people – with a longer term goal of becoming a catapult captain. ABFs begin their careers "humping" hoses while they work on becoming a below-deck supervisor or a fueling crew supervisor.

One goal for any career-minded enlisted sailor is advancement to chief or a commission as a Limited Duty Officer or Warrant Officer. The same is true for the ABs. As an officer, an AB could become a division boatswain, a shooter, or flight deck officer.

In the AB rating there are approximately 9,000 men and women serving. Women are excluded from the sea-intensive ABE rating, and comprise only one to two percent of the rest of the community. Nevertheless, it is a field in which women can excel.

Just ask ABHC Kathy I. McClintock, the E-6 AB detailer. "I became an AB because I liked the job and the teamwork that went with it," she said. And although she has never been to sea (the only ship available to women is *Forrestal* (AVT-59)), McClintock is adamant about her abilities and qualifications to be a chief. "I'm qualified for the job. I just have not had the opportunity to go to sea, so I took advantage of the other challenging billets that were offered me," McClintock stated.

The opportunities are there for all ABs, men and women. Advancement is good until the E-6 level where it tightens up as petty officers try for chief. ABes who are looking to reenlist for the first time are offered reenlistment bonuses. However, ABes with between 10 and 17 years of service are being offered exit bonuses. There are very few takers, according to Master Chief Tick.

"One of the biggest problems we have in our rating is the low retention rate among first-term sailors," added Tick. "For the junior enlisted, there is a lot of grunt work and long hours. You have to get them to the E-5 level so they can begin to see the opportunities for leadership."

Tick concluded, "For a young man or woman who is looking for the ultimate challenge and wants a chance to practice leadership at a young age, this is the community to do it in. Where else can an 18 year old get the experience and thrill of working as part of a team, moving and directing multimillion-dollar aircraft?" ■

Tomcats to Bombeats

By LCdr. Bob Frantz, USNR

For many purists in the business, the unthinkable is happening! Two-thousand-plus-hour F-14 crews – guys who have spent careers fighting for angles and driving to the bogey's six – are standing around VX-4's coffee mess talking about "low pops, computer pilot and computer target modes, and acquiring and solving the bombing triangle." *Tomcats* are dropping bombs!

Commander (Select) James Weaver, Air Test and Evaluation Squadron (VX) 4's Chief Operational Test Director, explained, "The F-14 *Tomcat* has always had a bombing capability. It was built into the original design of the aircraft, but until recently has remained essentially dormant during the *Tomcat*'s initial 15 years of operational life.

"Lessons learned as a result of the Vietnam war proved that air-to-air combat required a great deal of dedication in terms of training and assets," Weaver said. "Air-to-air combat skills are very perishable and the community was not anxious to risk losing that focus. It is too early to say what, if any, effect addition of the air-to-ground mission will have on air-to-air readiness and effectiveness.

"However, with a shrinking defense budget, there really is no choice: we can no longer afford the luxury of a single-mission platform," he emphasized. "In an area where there is a benign air threat, such as what the Iraqi theater evolved to, a battle group commander cannot afford to have 20 or so multimillion-dollar tactical aircraft sitting on the carrier because they are incapable of delivering strike ordnance. The carrier battle group is looking for force multipliers.

"Much of the initiative for pushing the F-14 air-to-ground role came from VX-4, with funding coming out of our operating budget and FOT&E [follow on test and evaluation] money," Weaver went on. "OP-05 [Assistant Chief of Naval Operations (Air Warfare), now Director, Air Warfare (N88)] supported the F-14 Strike Warfare Team's initiatives to incorporate the capability. We have also received money for air-to-ground tactics development from what we call 'TAC D&E' [tactics development and evaluation]. This is a pot of money distributed throughout the Navy by OP-07 for sur-

face, subsurface, and aviation tactics development. This contrasts to a typical CNO directed project, that is one with a specific [test and evaluation number], where additional money is appropriated for things like [instrumentation] ranges and contractor analytical support.

"In August 1991, we published the Operational Test and Evaluation Force F-14 Strike Warfare Tactics Guide," Weaver said. "This allows the Naval Air Systems Command to provide clearance to fleet squadrons for safely employing air-to-ground weapons."

VX-4, whose forte has always been support of the fighter mission, is drawing heavily on its *Hornet* strike fighter pilots for air-to-ground expertise. The squadron also interfaces regularly with Fighter Squadron (VF) 101 and 124 instructors who have attended their respective coast's attack functional wing weapons school and are establishing F-14 strike training programs for their replacement students as well as fleet squadrons.

"The attack guys have been great. There's been no parochialism," stated Weaver. "Oceana has a really good setup because F-14s are collocated with A-6s. What was once the A-6 Weapons School is now SWATSLANT – Strike Weapons and Tactics School, Atlantic. The Grumman folks have also helped with technical advice. Fleet squadrons were granted initial operational capability in July 1992 for visual delivery of Mark 80-series general purpose bombs (Phase I of the project)."

Phase II addresses cluster bombs, such as Rockeye, Anti-Personnel Attack Munition, and GATOR (aerial-delivered land mines); laser-guided bombs; and tactical air launched decoys. This phase is currently undergoing technical evaluation at the Naval Air Warfare Center, Patuxent River. Phase III addresses the capability for 'smart' weapons when funding becomes available.

"The F-14 retains all its air-to-air capability; therefore, self-protection is excellent," Weaver said. "Also very good is the *Tomcat*'s ingress, delivery, and egress capability offered by its positive interrelationship between speed, payload, and range. The aircraft's size and weight, although an obvious disadvantage in the target area, contributes to making it a very

stable bombing platform. You can pickle a Mark 84 – 2,000 pounds – without noticing any aircraft shudder. Aircraft shudder could have a significant effect on those bombs that leave the rack milliseconds later," he concluded.

Lieutenant Commander Douglas Whitener, VX-4's Operational Test Director (OTD) with responsibility for F-14 air-to-ground integration since early 1991, feels that the addition of the strike mission will not degrade air-to-air effectiveness. "I think it will have a synergistic effect. The better you become in the air-to-ground mission, the better you're likely to be air to air. Flying is flying! In most squadrons, you'll notice that guys who are good around the boat are usually the same people that are good tactically.

"The biggest part of the carrier's mission is power projection and we have to participate as strikers to better learn the business and get more intimately involved in strike planning," he went on. "And as a visual, general purpose bomber, the *Tomcat* has a lot to offer. It has long range – 600 miles in a high-high profile [i.e., high-altitude ingress, delivery, and egress]; high speed; and in its CCIP [continuously computed impact point] delivery mode, it's as accurate with general purpose weapons as any other day visual attack platform.

"The multi-crew attribute – four eyes to look for air-to-air and surface-to-air threats – is also an advantage," Whitener went on. "Its fighter-to-fighter data link [ASW-27C in the A and B] is also very valuable in allowing fighters to know where the other friendlies are, as well as linking air-to-air threat information.

"The *Tomcat*'s ability to truck four Mark 84s in a load-out that includes two Sparrows and two Sidewinders allows the F-14 to deliver 8,000 pounds of punch while providing good self-protection with infrared and radar-guided missiles," he explained. "The F-14 offers four air-to-ground weapon system modes used to determine the bombing solution [i.e., when or where to release the bomb]. Most frequently used is CCIP, referred to in the F-14 as 'Computer Pilot.' In this mode, the system uses inertial velocity and radar ranging to compute the weapons impact point. Information is



A VF-211 F-14 pickles a bomb over a West Coast target range.

displayed on the HUD [heads-up display] and the pilot must keep his eyes on it until weapons release.

"We also have 'Auto Bombing' called 'Computer Target' in the community," explained Whitener. "Here, the pilot rolls in, designates the target to the weapon system, and the system computes the release point and actuates weapons release. The pilot is free to look out beyond the HUD for threats.

"CCIP is more demanding, but more accurate and therefore more frequently used," he said. "Many times they are used in combination – auto to get to the target and CCIP to release the weapon. The guys in the attack business have a saying that once you reach the roll-in point, 'you're on government time.' From that point, unless there is an immediate threat, you must concentrate on the target.

"Two other far less often used modes are Offset Bombing, known as 'Computer Initial,' and Manual which is like the old iron gun sight in the F-4," he said.

Whitener, who is leaving VX-4 to return to flying F-14s with VF-111 at NAS Miramar, Calif., added, "Although the pilot actually 'pickles' the bomb, the RIO [radar intercept officer] selects the delivery mode, selects the correct weapon and station, and is responsible for appropriate fuse selection."

A June 1991 graduate of the U.S. Air Force Test Pilot School, and a fleet experienced *Tomcat* RIO, Lieutenant Steve Gebert is excited about relieving LCDr. Whitener as F-14 Air-to-Ground OTD. From the RIO's perspective, Gebert stresses, "There will be a lot of new things to learn. Strike planning is very important and not something you do an hour before you fly. Most fighter crews will become more expert in things like low-level navigation, sur-

face-to-air threats, and air-to-surface weaponeering, including fusing, flight geometry, and target area tactics. As always crew coordination, in terms of the RIO calling for an abort if prebriefed parameters are exceeded, is critical."

Squadron Executive Officer, Commander Tom Hejl, a *Desert Storm*-proven strike fighter pilot, summed up VX-4's role in supporting the *Tomcat* to "Bombcat" transition: "The objective today is to figure out how best to get the F-14 into the target area, see it, and solve the whole bombing triangle in order to hit it with ballistic, unguided bombs. We, as well as the rest of the community, will have to ensure that *Tomcat* crews who are new to the air-ground game are cognizant of how demanding and dynamic this arena – being down low and putting bombs on the target while avoiding the threat – can be.

"We will evaluate in an operational environment – as close to combat as we can simulate – every strike weapon we plan to hang on a *Tomcat* and all associated hardware and software required to support the mission," Cdr. Hejl continued. "We will work up tactical manuals that involve carriage limitations – airspeed, Gs, and configuration – and develop techniques for best employing these weapons.

"VX-4 will also look at strike profiles for the F-14 to determine how to best employ it in the overall strike mission. When you consider that the A-6, FA-18, and F-14 all have unique optimum speed, altitude, range and pop [target maneuvering] characteristics, adding the *Tomcat* to the package as a striker adds one more set of factors to the already complex planning equation," he said.

The XO stressed, "Funding for new F-14s may be going away, but the ex-

isting platform isn't. And to best incorporate what we have into strikes, we need a few things that will take money, including an improved, more capable radar warning receiver in the F-14A and mission computers dedicated to the air-ground mission."

The Commanding Officer of VX-4 brought a unique perspective to the discussion of incorporating the strike mission into the heretofore dedicated air-to-air F-14 fighter community. One of only a handful of aviators to achieve more than 1,000 hours in two current tactical aircraft, Captain Thomas A. Perkins has logged in excess of 2,000 hours in the F-14 *Tomcat* and 1,000-plus hours in the FA-18 *Hornet*.

Capt. Perkins stated that it wasn't until he reached his command tour with Strike Fighter Squadron (VFA) 151 aboard *Midway* (CV-41) that he developed an appreciation of the need for fighters being multimission capable. Perkins was selected to command an FA-18 squadron because the Navy wanted to bring fighter experience to *Hornet* squadrons. "It wasn't until I became more involved with strike planning while in VFA-151, and even more so in my next job as Air and Strike Operations Officer for Cruiser Destroyer Group 12 deployed aboard *Eisenhower* during *Desert Shield*, that I realized how limited the battle group commander's assets are; therefore, if we can develop an alternate capability within an existing asset, we have created a multiplier effect.

"That is why 'Strike Fighter F-14' is so vital," Perkins said. "You cannot tie up the flight deck with a fighter when on that particular day, you need an attack aircraft. Another benefit of the dual mission is the improvement in strike planning as a result of better knowing each other's job."

Looking to the future, Capt. Perkins would like to see "smart weapons – not just iron bombs – for the F-14. Laser-guided bombs with an onboard laser designator would be a real plus.

"We're not asking crews to be both 'Ace of the Base' fighter guys and all-weather, night-attack pilots," Perkins concluded. "We just want them to add a good day visual bombing capability to their mission. And as long as the F-14 remains a fighter community player, VX-4 will continue to provide operational evaluation and tactics development support for that platform in whatever utilization is anticipated." ■

Editor's note: By October 1992, F-14 squadrons on all deployed carriers were strike capable.

No More Races for the Hot

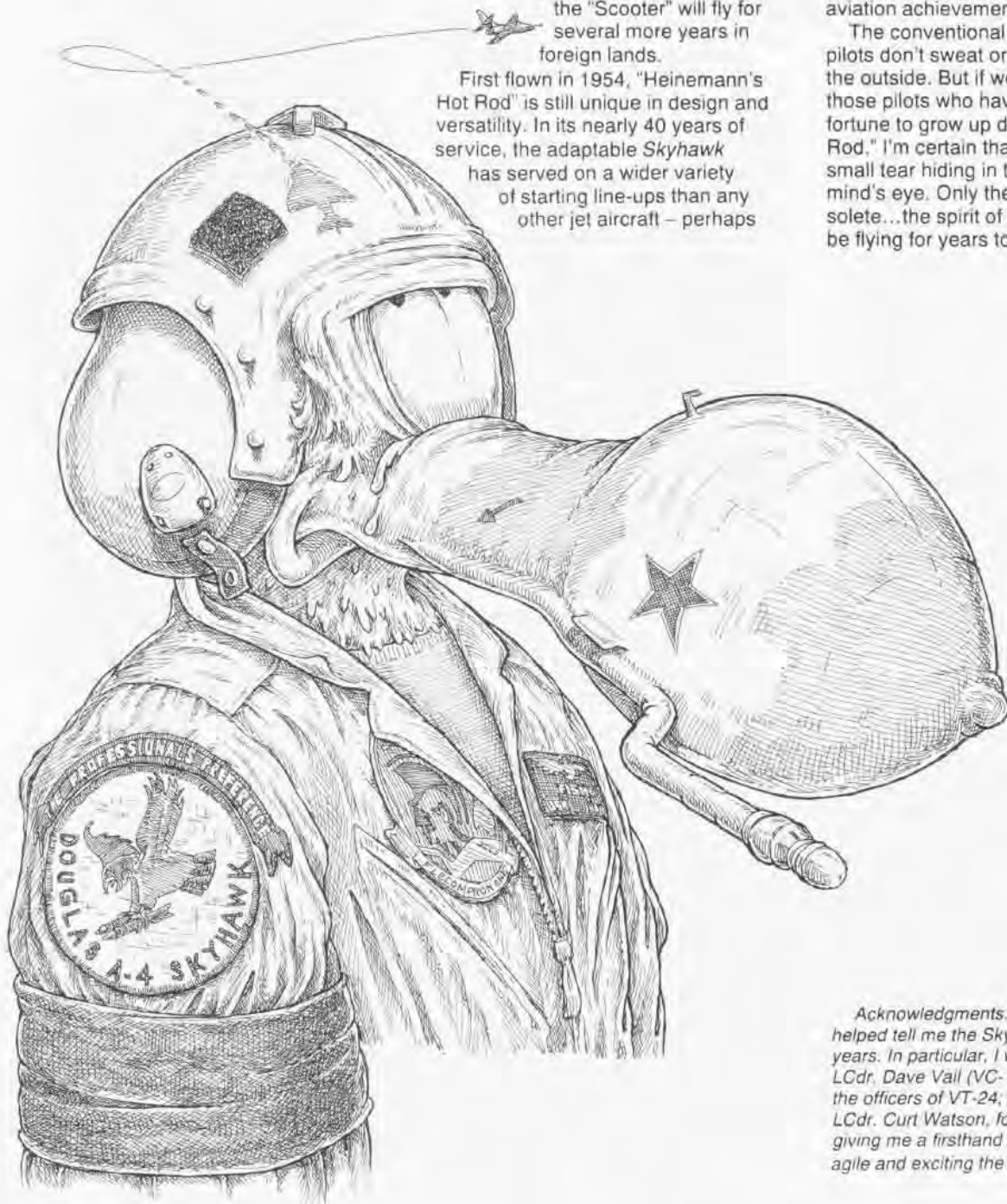
Squadron by squadron, the "Scooters" are disappearing. Aircraft that could fly tomorrow's mission just as well as they flew today's are being shut down for the last time. Instead of raging through the skies yet another

day, they will be cannibalized for parts and then moth-balled or sold for scrap. VC-1 is the latest A-4 squadron to disestablish (30 Sep 92), following close behind VMA-133 and VTs 24 and 25. In a few years, there will be no A-4s left in service with the U.S. Navy or Marine Corps, although the "Scooter" will fly for several more years in foreign lands.

First flown in 1954, "Heinemann's Hot Rod" is still unique in design and versatility. In its nearly 40 years of service, the adaptable *Skyhawk* has served on a wider variety of starting line-ups than any other jet aircraft – perhaps

any other aircraft. In addition to its primary attack mission with the Navy and Marines, it has served as a "bad guy" air combat aggressor, *Blue Angels* show bird, advanced trainer, electronic warfare aggressor, tactical air coordinator, air refueling platform, and target tug. It is truly a remarkable aviation achievement!

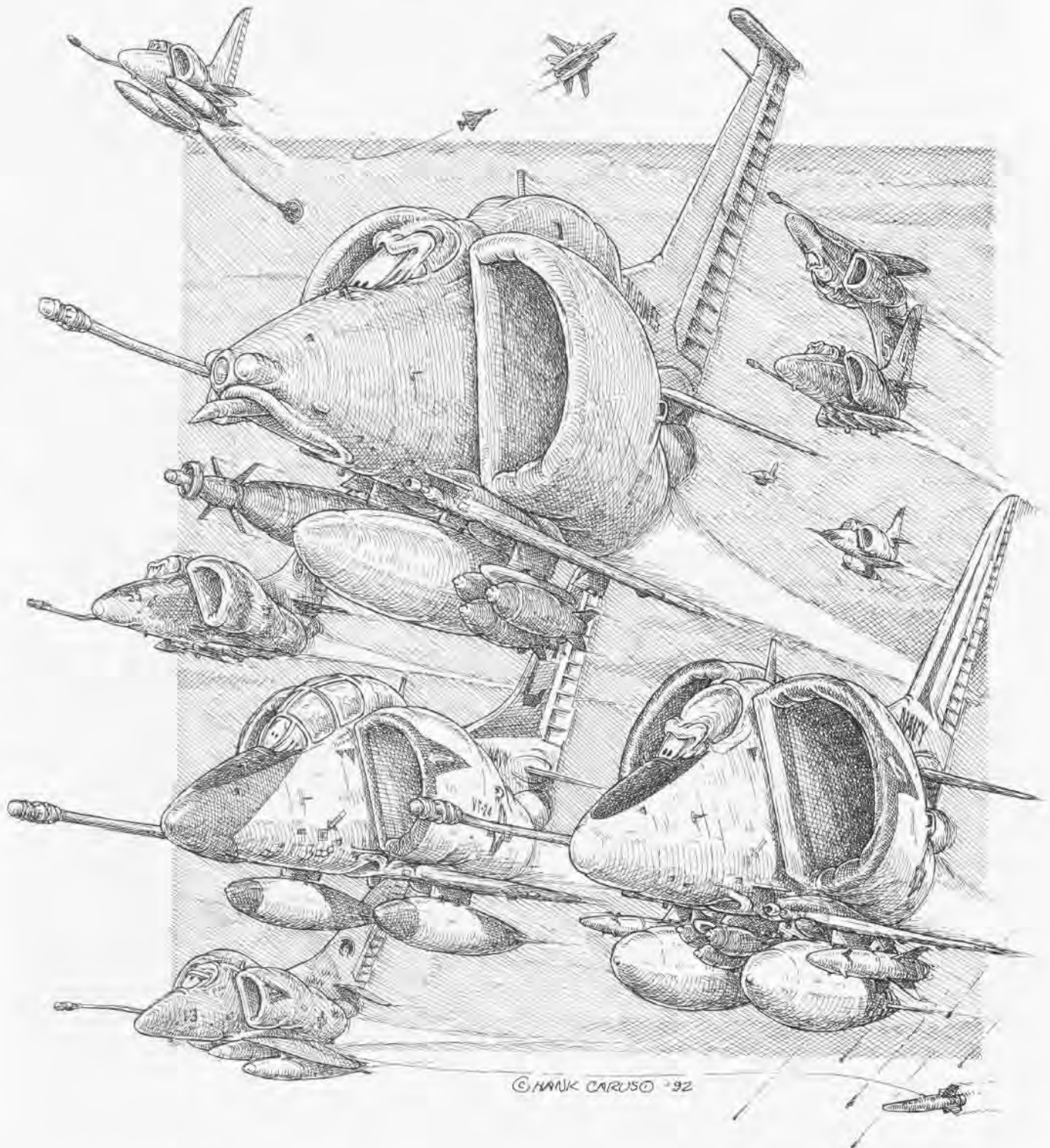
The conventional wisdom is that pilots don't sweat or cry – at least on the outside. But if we could look inside those pilots who have had the good fortune to grow up driving the "Hot Rod," I'm certain that there'd be a small tear hiding in the corner of their mind's eye. Only the machine is obsolete...the spirit of the "Hot Rod" will be flying for years to come. ■



Acknowledgments: Many people have helped tell me the Skyhawk story over the years. In particular, I would like to thank LCdr. Dave Vail (VC-1) and his wife, Mary; the officers of VT-24; and especially then-LCdr. Curt Watson, former Blue Angel, for giving me a firsthand appreciation of how agile and exciting the "Hot Rod" really is.

Rod: A Tribute to the A-4 Skyhawk

Illustrations and Text © Hank Caruso



Flight of the Endeavour

By LCdr. Scott W. Wilson, USNR

What a blast! On the evening of May 7, 1992, America's newest space shuttle, *Endeavour*, rose off the launch pad on a pillar of flame with the roar of thunder. The twilight launch was spectacular. I was standing three miles away, but the sound shook the ground. I felt three thousand years of scientific progress compressed into three brilliant minutes as the shuttle faded into the eastern sky.

Aboard that magnificent machine was my astronaut buddy, Commander Pierre Thuot, USN. I met Pierre when we were both in Navy flight training in VT-86 and VF-101. He was always #1 in the class, while my class ranking drifted toward double digits. After I got off active duty, we kept in touch. I appreciated his invitation to view the maiden voyage of *Endeavour*.

As a Navy astronaut, Cdr. Thuot continues the Navy's prominent role in space exploration. In fact, the Navy has produced more astronauts than any other branch of service. The Navy maintains a low profile on this subject, but the achievements of Navy astronauts are extraordinary. Four of the original seven astronauts were Naval Aviators. The first American in space was Commander Alan Shepard, USN. The first American to orbit the earth was Lieutenant Colonel John Glenn, USMC. The first person on the moon was a former Naval Aviator, Neil Armstrong. The last "moonwalker" was Commander Gene Cernan, USN. The first space shuttle had an all-Navy crew of Captain Robert Crippen and retired Captain John Young.

Endeavour (STS-49) was commanded by a Naval Aviator, Captain Dan Brandenstein. In addition to Cdr. Thuot, the crew included Lieutenant Colonel Kevin Chilton, USAF; and Mission Specialists Commander Bruce Melnick, USCG; Lieutenant Colonel Tom Akers, USAF; Kathy Thornton; and Richard Hieb.

Endeavour is named after the sailing ship that British Captain James Cook commanded on his first scientific expedition to the South Pacific. Just as Capt. Cook engaged in unprecedented feats of exploration during his voyage,

Endeavour's crew expanded the horizons of space operations with an extraordinary satellite rendezvous/repair and series of spacewalks.

The primary mission was to rescue a 12-x-17-foot communications satellite, Intelsat VI, which was stuck in a low, useless orbit. The 122-nation Intelsat consortium paid the National Aeronautics and Space Administration (NASA) \$93 million for the rescue, and stood to lose it all – plus \$1 billion in potential revenue from the satellite – if the rescue failed. For two consecutive days, Cdr. Thuot unsuccessfully attempted to attach a 15-foot capture bar to the massive satellite. In the weightless environment of space, the satellite did not offer enough resistance for the bar clamps to function properly. A "tiger team" of analysts at the Houston Control Center consulted with *Endeavour's* crew. They improvised a final attempt. Success hinged on an untested, unprecedented three-man spacewalk. NASA's reputation as a "can-do" agency hung in the balance.

The emergency plan, executed by Cdr. Thuot, Lt. Col. Akers, and Richard Hieb worked beautifully. After squeezing through an air lock designed for only two persons, the astronauts hand-pulled themselves



NASA's newest space shuttle, *Endeavour*, began its maiden voyage with a 7:40 p.m. EDT liftoff from Pad 39B at John F. Kennedy Space Center, Fla., on May 7, 1992.

into position. Cdr. Thuot was on a platform held by the shuttle crane, while Hieb was on a sill at the edge of the cargo bay, and Akers stood on a beam straddling the bay. All three men were anchored to their positions by foot restraints. The three astronauts surrounded the satellite like three legs of a tripod. The operation required extraordinary delicacy, because any jarring motion would have caused the satellite to start rocking.

While traveling inverted at 17,500 mph and 225 miles above the earth, the astronauts reached with their gloved hands and caught the slowly spinning satellite. The spacewalkers

Photos courtesy of NASA



Crew members of Mission STS-49 pose near *Endeavour* for a post-flight shot after getting their feet on terra firma following nine days in orbit. L-R, astronauts Richard J. Hieb, pilot Kevin P. Chilton, mission commander Daniel C. Brandenstein, Thomas D. Akers, Pierre J. Thuot, Kathryn C. Thornton, and Bruce E. Melnick.

held onto the Intelsat VI for one and one-half hours – a complete orbit of earth – to steady it while they attached a bar that could be used as a handle for the shuttle crane.

Richard Hieb locked the capture bar onto one side of the satellite, and Cdr. Thuot clamped the other end. From inside the cabin, Cdr. Melnick delicately attached the cargo boom to the satellite and lowered it onto a rocket motor in the cargo bay. The satellite was then attached to a rocket booster motor. Several hours later, the satellite/booster unit was released from the cargo bay. When the unit had drifted safely away, the satellite booster was fired and the satellite was propelled into its high proper orbit.

The mission was originally scheduled to last seven days, but instead lasted nine days due to the improvised satellite rescue. Following the rescue, the spacewalkers conducted their secondary mission, which tested construction techniques for the future space station. Lt. Col. Akers and Kathryn Thornton built a pyramid from aluminum poles to measure the time required for such tasks. The astronauts said afterward that the work was slow and that foot restraints would have helped. The space station

is scheduled for actual assembly in 1995.

The record-breaking flight of *Endeavour* concluded with a flawless landing at Edwards AFB, Calif. Moments after *Endeavour* touched down, Capt. Brandenstein released a drag chute, which popped red, white, and blue behind the orbiter. In case of a blown tire or steering problem, the chute is designed to slow and stabilize the orbiter.

What a homecoming! *Endeavour* had circled earth 141 times and logged 3,696,019 miles during its maiden voyage. *Endeavour's* crew set a number of records during the nine-day voyage, which included the most rendezvous in a mission, the most spacewalks, the longest spacewalks, and the world's first three-person spacewalking team.

Endeavour cost \$2 billion, and replaced the shuttle *Challenger* which was destroyed in 1986. With minor modifications, *Endeavour* has the same basic components as the original shuttle had a decade ago. The primary components of the shuttle are the winged orbiter with payload and three main engines, an external tank, and two solid rocket boosters.

The orbiter is designed to last for a minimum of 100 flights. The solid rocket booster casings, engine nozzles, and parachutes are designed to last for 20 launches. A shuttle can be launched into equatorial orbit from the Kennedy Space Center, Fla., and into polar orbit from facilities at Vandenberg AFB, Calif. The rotation of the earth has a significant bearing on the payload capabilities of the space shuttle.

The orbiter's main engines ignite first and build to full power before the huge solid rockets ignite and liftoff occurs. The solid rockets burn out after about two minutes, are separated from the tank, and parachute into the ocean about 160 miles from land. Two special recovery ships pull the parachutes

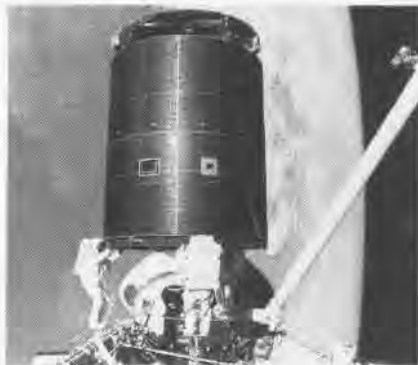
out of the water and tow the rocket casings to land, where they are refurbished and sent back to the manufacturer to be refilled with propellant. The orbiter continues on to the edge of space – a total of about eight minutes of burn time on the three main engines – then the empty external tank is discarded. The two orbital maneuvering system (OMS) engines then propel the orbiter into low earth orbit. Later OMS firings raise or adjust the orbit as necessary. Once in orbit, a typical mission lasts from 2 to 10 days, with a future growth potential of up to 30 days.

When the mission is completed, the orbiter reenters the atmosphere and lands at either the Kennedy Space Center or Edwards AFB. Unlike prior manned spacecraft, which followed a ballistic trajectory, the orbiter has a cross-range capability (can move to the right or left off the straight line of its entry path) of about 1,270 miles. The orbiter touches down at about 220 mph and rolls approximately 10,000 feet before stopping. The orbiter is immediately "safed" by a ground crew with special equipment. This is the first step in the process which will result in another launch of the orbiter.

In addition to classified military missions, the shuttle provides an amazing variety of civilian uses, especially with the planned space station. *Endeavour* tested some space station assembly concepts. Future shuttles are scheduled to carry the component parts of the space station into orbit in 1995 and to provide a base for larger assembly operations. Astronauts operating inside the microgravity of a space station will create products difficult or impossible to make on earth. In addition, such orbiting stations will provide astronomers and other scientists an instrument platform from which they can study the universe in ways not possible on earth.

The shuttle/space station concept will also enable the zero-gravity manufacturing of drugs, alloys, composites, lenses, and electronic crystals of unrivaled purity. As we enter the 21st century, *Endeavour* and the other shuttles will continue to deliver myriad benefits of space utilization to ourselves and future generations. ■

LCdr. Wilson is the Gaining Command Liaison Officer for the Shore Intermediate Maintenance Activity, Pearl Harbor Det. 222, and also serves as the Public Affairs Officer for the Naval Marine Corps Reserve in Billings, Mont. He is an airline transport pilot, an attorney, and Vice President and General Counsel for Corporate Air. LCdr. Wilson also teaches Aviation Law at Rocky Mountain College in Billings.



May 13, 1992 – L-R, astronauts Richard Hieb, Thomas Akers, and Pierre Thuot captured the Intelsat VI satellite during *Endeavour's* first mission, STS-49.



May 16, 1992 – Space shuttle *Endeavour* touches down at Edwards AFB, Calif., following a successful first mission. The drogue chute precedes the main chute in NASA's first exercise of its detailed test objective on the drag chute system.

Guadalcanal: Trial by Fire

Part 1

By Edward J. Marolda



Guadalcanal, an isolated and unremarkable island of the Solomons group in the South Pacific, witnessed the Allies' first extended offensive operation of WW II against the Empire of Japan. The fight for Guadalcanal put the U.S. Armed Forces' operational doctrine, battle tactics, ships, aircraft, and weapons under a microscope. More importantly, this campaign thoroughly tested the professional skill, perseverance in great adversity, and bravery of American fighting men. The U.S.

Pacific Fleet's aircraft carrier and surface ship forces and its Marine ground and air units were often bloodied and sometimes beaten by their able, determined, and courageous foe. Indeed, during the first three months of the struggle for Guadalcanal, the issue was clearly in doubt. The Allies' coordination of ground, sea, and air operations, tactics, and use of intelligence, however, ultimately proved superior to that of the Japanese. By the end of January 1943, the American flag and those of its allies flew permanently

over the battered island of Guadalcanal.

Few American leaders were confident of this outcome in mid-1942 when Admiral Ernest J. King, Commander in Chief, U.S. Fleet and Chief of Naval Operations, advocated offensive action to oust Japanese forces from the southern Solomon Islands. Allied code breakers and other intelligence analysts knew that the enemy was constructing an airfield on Guadalcanal and seaplane facilities on nearby Tulagi Island to support

F4F Wildcats line up at Henderson Field, Guadalcanal.

Photo courtesy of John M. Elliott

80-G-41099



Japan's ongoing attempt to seize New Guinea and then Australia. In a larger sense, though, King saw an Allied attack on these positions as the first phase of a larger campaign to liberate Asia and the Pacific from the Japanese and to destroy their war machine.

The Joint Chiefs of Staff issued a July directive authorizing the offensive operation, named *Watchtower*. Soon afterward, Vice Admiral Robert L. Ghormley, Commander South Pacific Area, established his headquarters at

Espiritu Santo in the New Hebrides, developed supporting plans, and concentrated forces to carry it out. There was little time for preparation, however, because Washington wanted Guadalcanal and Tulagi captured in early August, before the enemy was expected to deploy air units there.

On August 7, Allied forces converged on the two Solomon islands. Rear Admiral Frank Jack Fletcher, a veteran of the Coral Sea and Midway battles, was responsible for tactical control of Operation *Watchtower* as

commander of the Expeditionary Force. Rear Admiral Leigh Noyes directed the Air Support Force, consisting of aircraft carriers *Enterprise* (CV-6), *Saratoga* (CV-3), and *Wasp* (CV-7), battleship *North Carolina* (BB-65), 6 U.S. and Australian cruisers, 16 destroyers, and 3 oilers. South Pacific Area land-based aircraft dedicated to the operation came under Rear Admiral John S. McCain. Rear Admiral Richmond Kelly Turner, a brusque, rough-edged but tactically gifted naval officer, led the Amphibious Force, com-

posed of 8 U.S. and Australian cruisers, 9 destroyers, and 23 transports; the latter were crewed by Navy and Coast Guard seamen. Also under Turner's control, while at sea, was the untested, 19,000-man 1st Marine Division commanded by Major General Alexander A. Vandegrift.

Before dawn that day, Turner's transports rounded Cape Esperance at the western end of Guadalcanal, moved silently past gloomy Savo Island, and disembarked Marines into landing craft for the movement ashore. The Marines who landed on Guadalcanal expected a fierce Japanese reaction to the American intrusion. Instead, Vandegrift's men discovered that the enemy had vanished into the ominously quiet jungle. The Marines quickly secured the airstrip and established a perimeter around it.

This experience was not repeated on Tulagi and two nearby islets. It took the Marines two days of fierce fighting, with the close air support of *Enterprise* and *Wasp* planes and the gunfire of light cruiser *San Juan* (CL-54), to destroy the dogged Japanese garrisons. The struggle in the air was just as furious. Fletcher lost 20 percent of his fighters as they fended off enemy air attacks on August 7 and 8. While the Japanese sank only one of Turner's ships, their aerial assaults delayed the unloading of supplies and equipment from the transports, which would soon have serious consequences.

Japanese Vice Admiral Gunichi Mikawa, Commander of the Eighth Fleet, after he was informed of the American landing, led a force of 5 heavy cruisers, 2 light cruisers, and a destroyer south from Rabaul through what came to be called the "Slot," the seaway between the many islands of the Solomon chain. Although an Australian pilot spotted the group, the Allied naval commanders at Guadalcanal did not take appropriate defensive measures.

Thus, when Mikawa's force approached Savo Island in the early hours of August 9, they found the cruisers and destroyers of Turner's force separated in the waters off Guadalcanal, soon to be aptly named "Ironbottom Sound." Moreover, by the time U.S. destroyer *Patterson* (DD-392) sounded the alarm at 0143, it was too late. The Japanese warships had already loosed a spread of their lethal Long Lance torpedoes and



Henderson Field, Guadalcanal, 1942. Note the many bomb and shell craters.

USMC 50516

opened fire on the first of two Allied cruiser groups. Almost simultaneously, enemy torpedoes and 24 shells hit Australian cruiser *Canberra*, mortally wounding her, while another torpedo slammed into *Chicago* (CA-29). Shortly afterward, Mikawa's ships closed on the rear of the second group of cruisers, consisting of *Astoria* (CA-34), *Quincy* (CA-39), and *Vincennes* (CA-44), as they proceeded in column to the northwest. Illuminated by enemy searchlights and flares, the American ships took hit after hit. *Astoria* and *Canberra* survived until the following day, but *Quincy* and *Vincennes* sank that night. The Battle of Savo Island, in which 1,077 American and Australian sailors were killed and 700 wounded, ranked as one of the worst defeats in the history of the U.S. Navy.

Had Adm. Mikawa pressed his advantage, destroying or chasing off Turner's transports and stranding the Marines ashore, the Allies might have declined another offensive campaign for some time. That Japanese officer, however, fearing a daylight attack by Fletcher's carrier aircraft, ordered his victorious ships back to Rabaul. Unbeknownst to Mikawa, on the 8th, Fletcher had ordered his ships to the south out of range of Japanese aircraft. The American admiral rightly felt that after the sinking of *Lexington* (CV-2) at Coral Sea and *Yorktown* (CV-5) at Midway, he could not risk losing any of the remaining operational carriers, the Pacific Fleet's primary strategic weapon.

Bereft of air cover and minus four major combatants, Turner had to



Photo courtesy of John M. Elliott

Set afire by a Japanese bomb hit on Guadalcanal in 1942, this F4F Wildcat was saved by a Leatherneck who used dirt and chemicals to extinguish the flames.

withdraw his gunfire support ships and transports, many still unloaded, from the waters off Guadalcanal. As a result, the 1st Marine Division would come dangerously close to running out of ammunition, aviation fuel, and food in the months ahead. Meanwhile, Marines on the island set up a defensive perimeter and worked feverishly to make the unfinished Japanese airstrip, soon named Henderson Field after a Marine officer killed in action at Midway, ready to receive shore-based aircraft. On August 12, a PBV-5A flying boat carrying Adm. McCain landed at the new field, and he promptly ruled it operational. Three days later, the first Marine planes touched down on Guadalcanal. On the 20th, Marine squadrons flying Grumman F4F-4 *Wildcat* fighters and Douglas SBD-3 *Dauntless* dive-bombers launched from aircraft escort vessel

Long Island (AVG-1) and within hours landed at Henderson. During the next several months, Army Air Forces Boeing B-17 *Flying Fortress* bombers and Bell P-400 *Airacobra* fighters (export versions of the P-39) and a host of Navy aircraft operated from Guadalcanal. Adopting the code name for Guadalcanal, the aviators based at Henderson Field soon called themselves the "Cactus Air Force."

Overconfident and misled by faulty intelligence, the Japanese frittered away the advantage they had gained so convincingly after the Savo Island battle. On the night of August 18-19, Rear Admiral Raizo Tanaka's destroyer squadron delivered to the island a small, 1,000-man infantry unit, whose purpose was to throw the Marines into the sea. Instead, several nights later, Vandegrift's infantrymen utterly destroyed the Japanese army unit, whose tactics displayed none of the skill shown by the enemy naval forces at Savo Island.

Following this setback on land, Fleet Admiral Isoroku Yamamoto, Commander in Chief of the Combined Fleet, decided that the Imperial Japanese Navy would once and for all establish control of the lower Solomon Islands. During the third week of August, he sent south a formidable force of 3 carriers, 3 battleships, 9 cruisers, 13 destroyers, and 9 submarines under Vice Admiral Nobutake Kondo. The objectives of this force were to divert attention from the landing of reinforcements on Guadalcanal



Ordnancemen of Scouting Squadron 6 load a 500-pound demolition bomb on an SBD dive-bomber aboard *Enterprise* (CV-6) during the first day of attacks on Guadalcanal and Tulagi, August 7, 1942.

by a destroyer-transport group and, more importantly, to sink Fletcher's carriers.

American cryptanalysts in Hawaii and Australia, whose work was a key to Allied successes throughout the Pacific war, were unable in this instance to provide timely intelligence of this movement of the Japanese fleet. Adm. Fletcher was told that Yamamoto's carriers steamed north of the island bastion of Truk, far from Rabaul. Australian coast watchers and U.S. reconnaissance planes, however, did report the convoy bringing enemy troop reinforcements to Guadalcanal. To intercept this force, Fletcher sortied

with *Enterprise*, *Saratoga*, and *Wasp* on August 23 to waters some 150 miles to the east of Henderson Field. Believing that battle would not be joined for a few days, the admiral instructed *Wasp* to move off line for refueling.

In mid-morning of August 24, a Navy PBY discovered Japanese light carrier *Ryujo*, sent ahead of the larger carriers *Shokaku* and *Zuikaku* to serve as bait for the Americans. Fletcher took the bait, dispatching *Enterprise* and *Saratoga* air groups against the foe. The 38 Navy SBD dive-bombers and TBF torpedo planes sent the hapless *Ryujo* to the bottom in the



Marine and Navy air headquarters at Henderson Field. After surviving numerous Japanese bombings, this structure had to be torn down when a near miss rendered it useless.

opening act of the Battle of the Eastern Solomons.

Meanwhile, Kondo tried to spring the trap, launching an aerial assault force against the Americans. Vigilant U.S. search planes, however, had already spotted *Shokaku* and *Zuikaku* to the north of *Ryujo* and raised the alarm. Fletcher's combat air patrol of Grumman F4F-4 *Wildcats* met the Japanese attackers 10 miles from his position and shot down many of them. The antiaircraft weapons of battleship *North Carolina* and *Enterprise* splashed or drove off 14 "bogies." Nonetheless, two dozen enemy dive-bombers made it through the defensive screen. The bombs dropped by several of these planes holed *Enterprise's* flight deck, jammed her rudder, and killed 74 sailors. Their shipmates turned to, and by the end of the day damage control efforts had paid off. *Enterprise* remained operational. With Kondo's force closing on him, Fletcher retired to the south, but Kondo soon broke off his pursuit.

The following day, August 25, Marine planes from the newly operational Henderson Field heavily damaged a transport and the flagship of Adm. Tanaka, whose destroyers landed 1,500 reinforcements on Guadalcanal. That same day, B-17 bombers of General Douglas MacArthur's Army Air Forces, which were based in New Caledonia, Fiji, and the Santa Cruz Islands, sank a Japanese destroyer. *Fortune* still smiled on the Japanese in the Solomons, for on the last day of that momentous month, submarine I-26 torpedoed and damaged *Saratoga*, one of the pioneers of U.S. Naval Aviation. The temporary loss of *Saratoga*, Fletcher's flagship, marked the end of the admiral's command of the Expeditionary Force. Adm. King had been dissatisfied for some time with Fletcher's performance. Admiral Chester W. Nimitz, Commander in Chief, U.S. Pacific Fleet, previously supportive, now agreed that Fletcher, who had been involved in Pacific combat operations since the beginning of the war, lacked the energy to continue leading the carrier force in battle. Nimitz transferred Fletcher to a less stressful command after well-deserved leave.

In September, both sides used fast dashes by destroyers and other vessels, protected by warships and aircraft, to reinforce and resupply their troops on Guadalcanal. The Americans operated by day, while the



Grumman TBF-1 Avenger.

Photo courtesy of John M. Elliott

Japanese stalked at night in Ironbottom Sound. The American and Japanese infantrymen ashore needed all the help they could get, for combat in the sodden, sweltering, and leech-infested island jungle demanded the utmost in courage and perseverance. Quarter was neither asked nor given in this no-holds-barred struggle.

Between September 12 and 14, Major General Kiyotake Kawaguchi, commander of the Japanese garrison, launched a series of attacks against the thin Marine line on "Bloody Ridge," where 1,000 Japanese soldiers and 59 American Marines were killed.

The war at sea was not as one sided. On September 5 alone, the Japanese sank *Little* (APD-3) and *Gregory* (APD-4), high-speed transports bringing supplies to the beleaguered defenders of Guadalcanal. This was a minor setback, however, compared to the U.S. Navy's losses in mid-month. On the 14th, Adm. Ghormley directed carriers *Wasp* and *Hornet* (CV-8) to provide cover for a force of six transports under Adm. Turner that was to beef up Vandegrift's division with the 4,000-man 7th Marine Regiment. Next day, en route Guadalcanal from Espiritu Santo, *Wasp* was torpedoed by a Japanese submarine, I-19, that infiltrated the carrier's destroyer screen. The ship was so badly damaged that she had to be sunk by U.S. forces. Another enemy sub, I-15, put torpedoes into battleship *North Carolina* and destroyer *O'Brien* (DD-415). The latter warship never made it back to the U.S. West Coast for repairs. She broke in two and sank off Samoa. Undeterred by these losses, Turner ordered his transports to stay the course to Guadalcanal. On the 18th, the ships offloaded the welcome Marine reinforcements and the first am-

munition and aviation gas to reach the island since August 7.

Once again, on October 9, Turner led a convoy of two transports and eight destroyers that carried the 164th Regiment of the Army's Americal Division to "the Canal."

Protecting this vulnerable group of ships was a force of cruisers under Rear Admiral Norman Scott. Patrolling off Cape Esperance west of Savo Island on the night of October 11, Scott was warned by an Army Air Forces B-17 pilot that two Japanese task forces were headed for Guadalcanal. The first group consisted of two seaplane carriers and six destroyers, under Rear Admiral Takaji Joshima, that were ferrying troops, artillery, ammunition, and supplies. Rear Admiral Aritomo Goto led the other formation of three cruisers and two destroyers.

Stealthy float planes from the U.S. cruisers tracked Goto's force as it approached Ironbottom Sound, so when Scott's four cruisers and five destroyers opened fire about 15 minutes before midnight, only the enemy was surprised. Scott temporarily ordered cease-fire, thinking one of his ships might have been mistakenly targeted. But he had trained his ship commanders so well in night operations that, sure of the targets, they kept their guns pumping out shells. This fire mortally wounded Adm. Goto and set fire to his flagship, cruiser *Aoba*. The Americans then concentrated on the other enemy warships and sank, by gunfire and torpedo, cruiser *Furutaka* and destroyer *Fubuki*. Despite these victories, three of Scott's ships were badly damaged and destroyer *Duncan* (DD-485) was lost.

This surface action enabled Turner's transports to reach the island with the Army reinforcements. At the

same time, Joshima's force delivered its precious cargoes to the Japanese garrison.

Undeterred by their losses in the Battle of Cape Esperance, the Japanese stepped up the activity of what the Americans called the "Tokyo Express," the almost nightly sortie of warships into Ironbottom Sound to deliver troops and supplies to the island and to bombard the American Marines. On the night of October 13-14, the enemy force included Vice Admiral Takeo Kurita's battleships *Kongo* and *Haruna*, which spent one and a half hours lobbing huge 14-inch shells into the American enclave at Lunga Point. This gunfire heavily cratered Henderson Field, wrecked 48 "Cactus Air Force" aircraft, and wiped out the field's aviation fuel supply. Moreover, the shellfire killed many Marines and soldiers. The big ships withdrew only when U.S. torpedo boats, newly based at Tulagi, unnerved Kurita with their wild torpedo and gun fire. The next night was much the same. While destroyers landed troops on the island, cruisers *Chokai* – with Adm. Mikawa, the victor of Savo Island, embarked – and *Kinugasa* poured another 752 rounds into Henderson.

Confident that his Eighth Fleet ruled the waters around Guadalcanal at night, Adm. Mikawa now mounted a daylight challenge to the American defenders. When sunlight first filtered through the Nipa palm on the morning of October 15, the Marines spied enemy transports, protected by destroyers and aircraft, disembarking troops and supplies at Tassafaronga Point, only 10 miles to the west. Siphoning aviation gas from disabled airplanes and retrieving drums of fuel from hiding places in the swamp, the Marine aviators at Henderson cobbled together an aerial response to the Japanese seaborne incursion. They were joined by *Wildcats* from *Hornet*, now the only operational U.S. carrier

in the South Pacific, and Army Air Forces B-17 bombers from *Espiritu Santo* in a day-long assault on the enemy force. At a cost to themselves of three dive-bombers and four fighters, the Americans shot down 17 Japanese aircraft. In addition to shooting up the escort ships and the troop units coming ashore, the Americans forced the enemy to abandon three of their disabled ships on the shoreline.

Still, the enemy had been able to provide badly needed reinforcements and material to the island garrison while that same day the Allies failed in a similar effort. The enemy spotted a convoy of six American vessels, each towing aviation fuel and ammunition barges, 75 miles from Guadalcanal. Four of the ships immediately reversed course. Destroyer *Meredith* (DD-434) and tug *Vireo* did the same a short time later. But *Vireo* was too slow and had to be abandoned once her crew was transferred to *Meredith*. Soon after this, 27 planes from Japanese carrier *Zuikaku* arrived overhead and within minutes sent the destroyer to the bottom.

Capping the day's events, the Tokyo Express ran on schedule that night, with Japanese cruisers *Myoko* and *Maya* and destroyers raining over 1,000 8-inch and 5-inch shells on Vandegrift's Marines.

By mid-October, Adm. Nimitz was concerned about the trend of events in what had become a fight to the death with the Japanese for Guadalcanal. He observed, "It now appears that we are unable to control the sea in the Guadalcanal area. Thus our supply of the positions will only be done at great expense to us." He concluded that "the situation is not hopeless, but it is certainly critical." In the words of Samuel Eliot Morison, the distinguished naval historian, this period "marked the nadir of misery for the Americans at Guadalcanal."

Nimitz was unhappy with Adm. Ghormley's conduct of operations. He

felt that while competent, Ghormley lacked the skill and dynamism needed to reinvigorate the struggling South Pacific Command. The Commander in Chief of the Pacific Fleet concluded that more aggressive leadership might be the key to turning the tide in the Solomons. Accordingly, on October 15, he named to succeed Ghormley a strong-willed, inspiring naval officer with a promise of greatness – Vice Admiral William F. Halsey. ■

Dr. Marolda is head of the Contemporary History Branch of the Naval Historical Center. He has authored several books on naval history.

50 Years Ago – WW II

Jan 1: Air Force, Atlantic Fleet, was established, RAdm. A. D. Bernhard commanding, to provide administrative, material, and logistic services for Atlantic Fleet aviation in place of the former separate commands Fleet Air Wings, Atlantic, and Carriers, Atlantic, which were abolished.

Jan 14: *Independence* (CV-22), Capt. G. R. Fairlamb, Jr., commanding, was placed in commission – the first of nine light carriers of her class constructed on *Cleveland*-class cruiser hulls.

Jan 17: Following tests conducted at NAS San Diego, Calif., by six experienced pilots flying F4U-1s, the commanding officer of VF-12, Cdr. J. C. Clifton, reported that anti-blackout suits raised their tolerance to accelerations encountered in gunnery runs and other maneuvers by three to four Gs.

Feb 1: A new specification prescribing color and marking of naval aircraft became effective. A basic camouflage color scheme was provided for use on fleet aircraft which consisted of semi-gloss sea blue on surfaces viewed from above and nonspecular insignia white on surfaces viewed from below.

Feb 1: Regulations governing display of national insignia on aircraft were again revised by the order to remove those on the upper right and lower left wing surfaces.

Feb 11: The Vought F4U *Corsair* was flown on a combat mission for the first time when 12 planes of VMF-124 based on Guadalcanal escorted a PB2Y "Dumbo" to Vella Lavella, in the western Pacific New Georgia Islands, to pick up a downed pilot.

Photo courtesy of John M. Elliott



The "Cactus Air Force" flew a host of aircraft out of Henderson Field, such as this Douglas SBD Dauntless, 1943.

USMC 52182A

Awards

A CGAS Elizabeth City, N.C., HH-60J aircrew was awarded the 1991 **Association of Naval Aviation Outstanding Achievement Award for Helicopter Aviation**. The aircrew, Lt. Paul Lange, Ltjg. David R. Morgan, AD1 John A. Julian, and ASM3 Duane R. Jones, was cited for their October 1991 rescue of nine survivors from the schooner *Anne Kristine*, 300 miles east of Cape Henry, Va.

The 1991 **Captain Arnold Jay Isbell Award** for overall excellence and superior performance in air antisubmarine warfare was awarded to: HS-15, HSLs 32 and 46, VP-5, and VS-28 in the Atlantic Fleet; and HSs 6 and 12, HSLs 33 and 43, VP-40, and VS-21 in the Pacific Fleet.

Sponsored by the Lockheed Aeronautical Systems Company, the award honors the ASW commander under whose leadership planes and escort carriers operating in the Atlantic during WW II developed into a powerful combat force. Capt. Isbell was killed in action in 1945 while serving aboard the aircraft carrier *Franklin*.

The Marine Corps Aviation Association presented the following awards for 1992:

Alfred A. Cunningham Aviator: Lt. Col. D. A. Driscoll, 3d MAW.

Robert G. Robinson Naval Flight Officer: Maj. H. J. Krauss, 2d MAW.

Aviation Ground Officer: Capt. K. T. McCutcheon, 1st MAW.

Air Command and Control Officer: Capt. P. D. McGraw, 2d MAW.

Air Command and Control Marine: GySgt. T. P. Bougher, 1st MAW.

Aviation Electronic Technician: GySgt. R. G. Hayward, 2d MAW.

Bud Baker V/STOL Enhancement: Capt. S. D. Hawkins, MAWTS-1.

Exceptional Achievement (Individual): Capt. G. B. Brown, MAD, Point Mugu.

Fixed Wing Aircrewman: MSgt. C. M. Depew, 4th MAW.

Helicopter Aircrewman: Sgt. L. R. Domitrovits, 1st MEB.

Plane Captain: Sgt. R. W. Troop, 2d MAW.

James Maguire Enlisted Aviation Safety: SSgt. J. C. Demary, 2d MAW.

James E. Nicholson Enlisted Leadership: SSgt. R. G. Meserve, 2d MAW.

Commandant's Aviation Efficiency Trophy: VMGR-152, 1st MAW.

Edward S. Fris Air Command and Control Unit: MASS-1, 2d MAW.

Robert M. Hanson Fighter Squadron: VMFA(AW)-242, 3d MAW.

Lawson H. M. Sanderson: VMA-231, 2d MAW.

Keith B. McCutcheon Helicopter Squadron: HMM-265, 1st MAW.

Aviation Logistics Squadron of the Year: MALS-36, 1st MAW.

Wing Support Squadron of the Year: MWSS-271, 2d MAW.

VA-304, NAS Alameda, Calif., received the 1992 **F. Trubee Davison Award**. The McDonnell-Douglas Corporation sponsors the award which is presented annually to the best tailhook squadron in the Naval Reserve. The award was named in honor of Lt. F. Trubee Davison, USNR, who formed the First Yale Unit, the first component of what was to become the Naval Air Reserve.

Carl Vinson (CVN-70) received the FY-91 **Secretary of the Navy Environmental Quality Award, Large Ship Category**.

Records

LCdr. Martin E. Church of VAW-123 passed his 3,000th flight hour, in an E-2C *Hawkeye*.

LCdr. Alfred H. Eckles, VT-6 safety officer, logged his 4,000th career flight hour.

Ltjg. Martha Whiteaker of VR-24 logged the 325,000th arrested landing aboard *Saratoga* (CV-60). She caught the three wire and became part of Naval Aviation history.

Scan Pattern



Delaware Valley Historical Aircraft Association

One of the world's most unusual airplanes, the Navy's Convair YF2Y-1 Sea Dart, will soon be returned to public display after a two-year restoration project. One of only five water-based, ski-equipped supersonic interceptors built for the Navy during the mid-1950s, the Sea Dart has been part of an unusual outdoor display of historic U.S. and foreign fighter planes at NAS Willow Grove, Pa. (see NANews, Jan-Feb 92, p. 18 and Sept-Oct 92, p. 26).

Several units marked **safe flying time**.

Unit	Hours	Years	Unit	Hours	Years
HC-2		5	VAW-122	2,100	1
HC-3	120,000	18	VAW-124	43,600	21
HC-11	8,863	1	VC-5	13,700	3
HC-16		8	VF-11		5
HS-4	4,400	1	VF-51	11,500	3
HS-5		12	VF-102	30,200	8
HS-9	50,000	14	VF-142		9
HSL-15	2,907	1	VF-211	22,600	6
HSL-35	24,819	4	VFA-27	3,000	6
HSL-30		8	VFA-146	27,500	7
HSL-40		7	VFA-147	4,400	1
HSL-44	38,000	4	VFC-12	10,000	2
NADep Alameda		6	VFC-13	34,000	7
NAS Agana	2,700	13	VMFA-451	60,000	14
NAS Oceana		19	VMFA(AW)-242		5
NAS Whidbey Island		12	VMFAT-101	30,000	
NAWC AD Warminster		18	VMO-4	60,000	19
VA-115	33,500	8	VP-6	73,680	12
VA-165	53,000	12	VP-16	185,600	27
VA-176	3,200	1	VP-17	147,366	22
VA-196	6,800	2	VP-26	233,800	30
VAQ-34	3,000	2	VP-30	270,000	
VAQ-129	23,528	3	VR-22	31,000	8
VAQ-130	19,015	11	VS-31	90,000	22
VAQ-141	8,758	5	VS-32		9
VAW-110	80,369	17	VS-33	145,000	32
VAW-115	16,900	7	VT-4		1
VAW-117	34,489	15	VT-23		3
			VT-28		10
			VXE-6	27,433	5

Grampaw Pettibone Trophy Moves to Pensacola

In October 1992, the Grampaw Pettibone Trophy was transferred from the Pentagon to the National Museum of Naval Aviation, NAS Pensacola, Fla., for permanent display. Established in 1984, the annual award is presented to the individual or unit contributing the most toward aviation safety awareness through publications. The winner's name is inscribed on the trophy and the winner receives a citation from the Chief of Naval Operations.

Mr. Paul Warner, son of Gramps' creator – Cdr. Spencer (Seth) Hubert Warner – is working with the sculptor of the original bronze trophy to develop replica busts for presentation to all winners of the award. (For Gramps' history, see "Jumpin' Jehoshaphat! 50 years of Gramps," page 2.)



JO1(SW) Eric S. Sesil

Left to right: LCdr. John F. Newcomb, Deputy Assistant for Flying Hours; Mrs. Angie May, Secretary to Capt. R. L. Payne, Assistant for Flying Hours/Aviation Safety Coordinator under Director, Air Warfare Division; and Capt. Zip Rausa, USNR (Ret.), Gramps writer number 13, who has been the voice of Grampaw Pettibone in Naval Aviation News since 1985. LCdr. Newcomb coordinated the trophy's move to Pensacola; Mrs. May has worked in the safety office since 1983, watching over the trophy while on display in the Pentagon. Since his retirement from the Navy in 1988, Capt. Rausa has been the editor of the Association of Naval Aviation's magazine, Wings of Gold.



JOSN Donnie Ryan

AMSAN Audra A. Arviso tapes over the markings on the Hellcat before painting.

The WW II Grumman F6F *Hellcat* on display near the operations building at NAF Washington, D.C., serves as a constant reminder of Naval Aviation 50 years ago. However, the Aircraft Intermediate Maintenance Department's 500 Division knows that keeping a historic aircraft in top condition is not an easy task; it's more like preserving American history. Members of the "Hellcat Corrosion Control Team" donated 75 off-duty man-hours to remove corrosion, prep, and completely repaint the WW II aircraft which has withstood time and inclement weather as the symbol of NAF.

Lt. Lori Tanner, a test pilot for the Flight Test and Engineering Group's Strike Aircraft Test Directorate, NAWC AD Patuxent River, Md., prepares to board an A-7 Corsair for a film crew from the MacNeil-Lehrer Newshour. Tanner, a recent graduate of the Naval Test Pilot School is now assigned to the T-45 Goshawk program and will soon return to the test pilot school as a fixed-wing flight instructor.



PH2 Markus White



Three Emperor penguins kibitz the comings and goings of the air operations with the beginnings of another austral season in the Antarctic. The U.S. Naval Support Force, Antarctica (NSFA) began its season of scientific support on the world's coldest continent with its deployment from October through February to McMurdo Station. VXE-6, NAWS Point Mugu, Calif., is NSFA's aviation branch, which flies LC-130s and UH-1Ns in support of the force's mission.



Walter Fields

Eeeee gads! A floating traffic jam! Forrestal (AVT-59) transports some of the crew members and families' cars as it heads up the Delaware River on its way to the Philadelphia Naval Shipyard, September 14, 1992, for her conversion to a training carrier.

On January 12, 1943, a young aviation trainee flew a 25-foot biplane out of NAS Minneapolis, Minn., on a one-hour training flight which launched his naval career. That pilot was **George Bush** and the plane was a Stearman N2S-3, one of the most produced biplanes in history. The Stearman was a primary training aircraft used by the Army Air Corps and the Navy during the thirties and forties.

The very aircraft George Bush flew as an aviation trainee now resides in the National Museum of Naval Aviation.



Bill Dunbar

Change of Command

HC-4: Cdr. Mark Dye relieved Cdr. Richard Tenga, 19 Jun 92.

HC-11: Cdr. Peter A. Cornell relieved Cdr. Charles C. Deitchman, 9 Oct 92.

HC-16: Cdr. Charles H. Huffine relieved Cdr. Dennis D. Dolfie, 11 Sep 92.

HSL-37: Cdr. Robert J. Scherer relieved Cdr. David C. Taylor, 4 Sep 92.

HSL-46: Cdr. George F. Barton relieved Cdr. Gregory W. Hoffman, 11 Sep 92.

HSL-47: Cdr. Michael N. Wellman relieved Cdr. Robert J. Vernon, 6 Nov 92.

HSL-74: Cdr. David A. Brower relieved Cdr. Peter J. Murphy, 17 Oct 92.

NAF Washington, D.C.: Capt. Ronnie B. Baker relieved Capt. Thomas L. Sanderson, 26 Sep 92.

NAS Dallas: Capt. D. F. Miller relieved Capt. George W. Kraus, 15 Aug 92.

NAS Guantanamo Bay: Capt. William M. DeSpain relieved Capt. William C. McCamy, 21 Aug 92.

NAS Norfolk: Capt. Eddie Lee Duckworth relieved Capt. Dannie H. Allen, 18 Sep 92.

NAS Sigonella: Capt. Steve Arends relieved Capt. Mike Bruner, 27 Jul 92.

NavAirRes Whidbey: Capt. Thomas L. Bush relieved Capt. Paul L. Ziemer, 9 Oct 92.

Theodore Roosevelt: Capt. Stanley W. Bryant relieved Capt. Charles S. Abbot, 27 Aug 92.

USCGAS Port Angeles: Capt. Charles R. Brown relieved Capt. Michael B. Stenger, 28 Aug 92.

VA-34: Cdr. Carlton B. Jewett relieved Cdr. Richard D. Jaskot, 28 Aug 92.

VA-36: Cdr. Mark T. McNally relieved Cdr. Thomas M. Deyke, 3 Sep 92.

VA-65: Cdr. James K. Stark, Jr., relieved Cdr. Thomas J. Ross, 4 Sep 92.

VA-85: Cdr. Bruce A. Weber relieved Cdr. Ralph Miko, 22 Sep 92.

VA-196: Cdr. Kris T. Ackerbauer relieved Cdr. Harvey B. McDonald, 2 Oct 92.

VA-205: Cdr. Thomas R. McInvale relieved Cdr. Kent Horne, 15 Aug 92.

VAQ-129: Cdr. Richard C. Perkins relieved Capt. Richard H. Porritt, 7 Aug 92.

VAQ-139: Cdr. Gregory E. Tritt relieved Cdr. Thomas R. Miller, 31 Aug 92.

VF-43: Cdr. James K. Nance relieved Cdr. Thomas B. Russell III, 28 Sep 92.

VF-101: Cdr. Chris A. Wuethrich relieved Cdr. Mark P. Grissom, 1 Oct 92.

VF-103: Cdr. William C. Zobel relieved Cdr. Brian D. Fitzpatrick, 1 Sep 92.

VF-202: Cdr. Thomas F. Nagelin, Jr., relieved Cdr. James L. Jones III, 22 Aug 92.

VF-301: Cdr. David L. Olney relieved Cdr. Randal L. Surratt, 22 Aug 92.

VFA-27: Cdr. Tom N. Vaughn relieved Cdr. Don P. Davis, 28 Sep 92.

VFA-137: Cdr. Michael Groothusen relieved Cdr. Charles Nash, 18 Sep 92.

VFA-204: Cdr. Donald E. Schrade relieved Capt. (Sel.) Daniel L. Kloeppel, 18 Jul 92.

VMFA-115: Lt. Col. Madison C. Chisum, Jr., relieved Lt. Col. Timothy L. Holt, 13 Aug 92.

VP-10: Cdr. Duane J. Phillips relieved Cdr. Carl P. Norton, 4 Sep 92.

VP-17: Cdr. James J. O'Rourke relieved Cdr. Gerald K. Stair, Jr., 29 Jul 92.

VP-47: Cdr. Richard S. Hammond relieved Cdr. Robert R. Schutzenhofer, 11 Sep 92.

VP-67: Cdr. Richard W. Munsell relieved Cdr. E. A. Perry, 19 Sep 92.

VQ-6: Cdr. Gary Quick relieved Cdr. James York, 6 Aug 92.

VR-22: Cdr. Walter F. Leoffler, Jr., relieved Cdr. Richard C. Lewis, 5 Oct 92.

VR-55: Cdr. Ralph M. Rhondenbaugh relieved Cdr. William E. Lee, 19 Sep 92.

VT-4: Cdr. Patrick J. Twomey relieved Cdr. Patrick J. Tilley, 25 Sep 92.

VT-6: Cdr. James A. Mallory relieved Cdr. James Destafney, 4 Sep 92.

VT-86: Lt. Col. Robert E. Braithwaite relieved Cdr. David C. Ploeger, 31 Aug 92.

VTC-21: Cdr. Carl R. Pierson relieved Cdr. Robert B. Stack, 23 Oct 92.

Flag Moves

RAdm. Thomas F. Hall from Commander, Iceland Defense Force, to Commander, Naval Reserve Force, Sep 92.

RAdm. Michael D. Haskins to Commander, Iceland Defense Force, Aug 92.

RAdm. Frederick L. Lewis from Commander, Carrier Group Four, to Commander, Naval Doctrine Command, Mar 93.

By Cdr. Peter Mersky, USNR

- Rossano, Geoffrey L., ed. *The Price of Honor: The World War One Letters of Naval Aviator Kenneth MacLeish*. U.S. Naval Institute (USNI), 118 Maryland Ave., Annapolis, MD 21402. 1991. 320 pp. Ill. \$29.95.
- Trimble, William F. *Wings for the Navy: A History of the Naval Aircraft Factory, 1917-1956*. USNI. 1990. 413 pp. Ill. \$35.95.
- Taylor, Theodore. *The Magnificent Mitscher*. USNI. 1991. 364 pp. Ill. \$26.95.
- Reynolds, Clark G. *Admiral John H. Towers: The Struggle for Naval Air Supremacy*. USNI. 1991. 676 pp. Ill. \$37.95.
- Books on early U.S. Naval Aviation are rare. Full-length treatments on WW I Navy aircrew experiences are even more unusual. Thus, the U.S. Naval Institute fills a large gap with four books that describe the institution and the growth of American naval air power from 1916 to the late 1950s.
- The Price of Honor* is a wartime biography of an early Naval Aviator drawn from his letters to his parents and his fiancée. *Admiral John H. Towers* is an imposing history of one of Navy air's lesser known giants. An unexpected subject is the focus of *Wings for the Navy*, which profiles the Naval Aircraft Factory (NAF). The fourth book, *The Magnificent Mitscher*, is a reprint of another biography of one of the most enduring personalities of WW II, Adm. Marc A. "Pete" Mitscher.

While the books on Towers and the Naval Aircraft Factory are sometimes almost too detailed and perhaps might scare off many less dedicated readers, there is no doubt that they are first-rate descriptions of their subjects.

The easiest to read, and arguably the book that offers the freshest information, is *The Price of Honor*. Ken MacLeish was one of the first Naval Aviators and a stalwart of the colorful First Yale Unit, which also formed the basis for the Naval Air Reserve. Ken's brother was Archibald MacLeish, who served as an artillery lieutenant in France and eventually received the Pulitzer Prize for his poetry.

Ken lived to fly and he wrote often, describing his experiences, telling his stories in the bright, youthful manner one would expect from a young man. In Ken's letters we meet personalities such as the irrepressible David Ingalls, Di Gates, and his brother, Archie. We also feel Ken's anger and frustration as he deals with military bureaucrats or when he fusses when he is not flying.

The book describes Ken's death in combat only a few weeks before the war ended. The gruesome details of his death (his body was not found until two months after he was apparently shot down) are in sharp contrast to the happy, intense life he led.

Price of Honor offers an in-depth look at early military aviation. We see pilots in their wood-and-canvas airplanes struggling to altitude as they deal with the then-unknown malady of hypoxia. Routinely cruising above 10,000 feet, the aircrews encountered fatigue, cold, and lightheadedness, but carried out their missions. Perhaps they developed some tolerance of higher altitudes, but if they flew much beyond 13,000 feet, they were well aware of the physiological problems we understand now, some 75 years later.

Wings for the Navy is slow reading, but this book is an important reference on early Naval Aviation. Early personalities, including RAdm. David Taylor, LCdr. Fred Coburn, Adm. John Towers, and David Ingalls, move

through the pages as the Navy develops its air arm in the 1917-1930 period. The author discusses various aircraft, important at the time from a development standpoint, and occasionally shows these in National Archives photos.

WW II programs are covered, including production of the OS2N (the NAF-manufactured version of Vought's famous OS2U *Kingfisher* floatplane), and the PBN version of the PBY *Catalina*. The book details the development of aircraft carrier catapults by the NAF, as well as radio-controlled drones. The TDN assault drone was also an NAF program.

Theodore Taylor's book on Pete Mitscher is a fine old-style hero biography that includes childhood details lovingly dispensed in short chapters after an introductory essay encapsulating Mitscher's life and career. There are anecdotal tidbits about a young man who looked twice his age at any time, and who regularly drove himself to exhaustion. He nearly drowned during an ill-considered plane-launching experiment in 1917.

Mitscher's early command experiences at Miami paved the way for his participation in the NC transatlantic flight of May 1919, as well as other pioneering achievements in Naval Aviation's early years – both ashore and on aircraft carriers. So great was his reputation that the CO of *Langley* (CV-1) recommended him to command the Navy's first carrier, even though Mitscher was then only a lieutenant commander.

There are fascinating glimpses into Mitscher's personal and professional life, as well as his puckish humor, which he always held in check and meted out in small, unexpected doses.

I was continually amazed at Mitscher's central location in early aviation. By 1930, he had more than 3,000 flight hours in more than 50 types of aircraft, an enviable record even today. He was probably one of only a handful of flag officers of his time who truly understood his aircrews' tribulations. This deep understanding became crucial in WW II, and no doubt prompted Mitscher to turn on the lights of his fleet during the Marianas Turkey Shoot of June 1944.

Although this dramatic decision was a momentous one, it has become shrouded in the legends of the war and of Mitscher. In reality, the size and weight of the huge searchlights precluded a split-second decision and simultaneous illumination. Actually, Mitscher had decided to turn the lights on well before the late afternoon sorties against the Japanese fleet and had the lights positioned in advance. What was important and dramatic was the admiral's decision to actually *turn* the lights on.

Mitscher's WW II service takes on epic proportions as Taylor spins a poetic tale of one of this country's greatest warriors, who always seemed to be in the middle of momentous events, including Doolittle's 1942 raid on Tokyo and the Battle of Midway. The brief description of VT-8's sacrifice at Midway is all the stronger for its brevity.

Mitscher's relationship with his chief of staff, Arleigh Burke, is described and is occasionally funny. Mitscher was never an easy man to get to know, even under the best circumstances. He fought against having a shipdriver for an assistant, even one with such a distinguished combat record as "31-knot" Burke. However, the two men slowly began taking each other's measure and their bond forged a team that took the Navy's carrier fleet to Japan's doorstep.

The Magnificent Mitscher constantly describes his almost obsessive aversion to shore command and its related

paperwork. The author's sympathetic, but realistic assessment shows that Mitscher always felt "shelved" whenever he was forced to relinquish command of his precious carriers.

After victory in the Pacific, Mitscher again cooled his heels in Washington, fighting service unification – a hotly contested debate of the late 1940s – and promoting a new class of supercarrier that eventually evolved into the four-ship *Forrestal* class.

Promoted to admiral in March 1946, Mitscher was one of only two of the early Pensacola aviators to make top rank, the other being John Towers. However, Mitscher was literally worn out by his wartime service and died in February 1948, as much a war casualty as if he had been felled by an enemy bullet.

Distinguished historian Clark Reynold's biography of John Towers is a vast treatise on one man's career and influence on the growth and direction of Naval Aviation. The reader who has patience to finish this large book will be rewarded with intimate glimpses into various aspects of early aviation, including the aviation camps at Annapolis and Hammondsport. The author has also included some of the most detailed analysis of U.S.-UK relations during WW I that I have ever read.

John Towers actually flew only one combat mission, and then clandestinely, during his stay in Britain before America's entry into the war. But this mission came in 1916, long before most of his countrymen had similar experiences. His sympathy for the Royal Navy squadrons and their problems in combat would become important for the first U.S. squadrons and crews to reach Europe in 1917 and 1918.

Towers also commanded the NC-3. He and his crew were forced down because of storms and low fuel, 200 miles from the Azores. They "sailed" their flying boat toward the islands and were eventually rescued.

His biographer plainly admires Towers, and details the aviator's battles in Washington during the 1920s at the

height of the Billy Mitchell controversy. He also covers Towers' tenure as XO and CO of *Langley* in 1927. This time was the beginning of carrier operations and Towers was in the thick of the process; he even qualified as a carrier pilot at the "advanced" age of 41.

Always looking to move toward top positions, Towers gained many supporters as well as detractors as he struggled to make flag rank. His normally reserved personality – photos rarely show him smiling – made him seem more aloof to juniors and more political to other observers. Fortunately for him, Towers had the support of President Franklin Roosevelt, who was directly responsible for Towers finally making rear admiral and being assigned to the top aviator slot at the time, Chief of the Bureau of Aeronautics, in 1939.

When war came in 1941, Towers campaigned for a major combat command but was destined to serve out the war in Hawaii in support of the overall effort. He occasionally clashed with several highly placed officials, both in uniform and civilian, but always seemed to land on his feet.

Towers also enjoyed long-term friendships with such diverse personalities as Army Air Force General Hap Arnold and Navy Secretary Jim Forrestal. Forrestal was an ardent supporter of Towers and occasionally kept his friend out of hot water. It was a bitter shock for Towers when Forrestal committed suicide in 1949, discouraged at the outlook for the postwar Navy.

The book also contains several interesting photos, many not seen before, showing Towers and other people of his time. Clark Reynolds has made a major contribution in chronicling the life of John Towers.

The Naval Institute and these authors have also done a major service to researchers and enthusiasts in publishing these four books on early Naval Aviators and organizations. Each book has much to recommend it; as a group, they represent a considerable collection of facts for everyone interested in the formative years of Naval Aviation.

ANA Bimonthly Photo Competition

Cdr. John Leenhouts, XO of VFA-136, NAS Cecil Field, Fla., won the bimonthly ANA Photo Contest with this striking shot of FA-18 Hornets among the clouds.



The Association of Naval Aviation Photo Contest

The Association of Naval Aviation and its magazine, *Wings of Gold*, is continuing its annual photo contest which began in 1989. Everyone is eligible except the staffs of *Wings of Gold* and *Naval Aviation News*. The ONLY requirement is that the subject matter pertain to Naval Aviation. Submissions can be in black and white or color, slides or prints of any dimension. Please include the photographer's complete name and address, and **PHOTO CAPTION**.

Cash Awards: Bimonthly – \$100; Annual – First, \$500; Second, \$350; Third, \$250.

For deadline and submission details, call (703) 998-7733. Mail photographs to: Association of Naval Aviation Photo Contest, 5205 Leesburg Pike, Suite 200, Falls Church, VA 22041.

"Skyhawk Skip"

The Grampaw Pettibone section of your July-August 1992 issue discussed a "Skyhawk Skip" where an A-4 ran off the runway on a maintenance flight control disconnected landing. Three years ago, the Naval Air Reserve approved a waiver from the post-maintenance check flight requirement to perform intentional maintenance disconnects; research indicated that significantly more aircraft had been lost due to intentional maintenance disconnects than actual dual hydraulic failures. The safer course of action was to perform ground disconnect procedures in accordance with maintenance instruction manuals and accept an unknown flight control response in flight, since it's the last resort in controlling the aircraft prior to ejection. While the Navy's A-4 pipeline is winding down in the training command, the adversary community, such as Top Gun, is just beginning to accept delivery of A-4Ms. The A-4 will be around for sometime and the regular Navy should consider eliminating this dangerous requirement for intentional disconnects.

Cdr. Mark Danielson
Aviation Safety Officer
NAS Dallas, TX 75211

The Falling Leaf

In the September-October 1992 Grampaw Pettibone column, the reference to Al Williams and his "Falling Leaf" maneuver jogged a recollection of my growing up near Roosevelt Field, Long Island, N.Y. Al Williams would, when flying his Grumman *Gulthawk*, make a habit of being the first person to see the Easter sunrise on the East Coast. After taking the plane to the maximum altitude, he would return to the ground in the shortest possible time. There is nothing that can raise the hair on your neck like the sound of a radial engine in a terminal velocity dive.

Donald Bond
27 Debussy Lane
Ventura, CA 93003

Corrections

NANews, Nov-Dec 92:

p. 13 - In "Happy 75th Anniversary, Naval Aviation News," the Grampaw Pettibone character was created by Commander Spencer (Seth) Hubert Warner.

p. 35 - Title should read "NANews 1992 Index" vice 1991.

Last Flying Warrant Officer

In reference to the March 20, 1992, retirement of the last USMC flying warrant officer (NANews, Jul-Aug 92, p. 42), in July, we promoted ours - CWO4 C. E. Garrison - to second lieutenant. HML-767 is a UH-1N reserve squadron in New Orleans, La., and we had the last flying WO.

Lt. Col. James C. Waites, Jr.
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Daphne, AL 36526

The Year in Review 1991

In your Jul-Aug 92 issue, on page 20, you listed Lt. Robert Dwyer, who never returned from a combat mission on 5 Feb 91, as being attached to VFA-87. Although he was flying a VFA-87 jet at the time of his death, he was attached to CVW-8 as one of the staff landing signal officers (LSOs) and was the air wing safety officer. Lt. Dwyer was one of the finest LSOs ever to wave aboard a *Nimitz*-class carrier. His dedication to training air wing pilots and junior LSOs influenced a group of Naval Aviators who will carry on his legacy of excellence into the next decade of Naval Aviation. He was an outstanding aviator, naval officer, and friend.

LCdr. M. D. Guadagnini
VA-65
NAS Oceana, VA 23460

Notice to All Aviation Commands!

Command History Reports for CY 92 are due for submission by 1 March 1993. Guidelines for the submission of the report is OPNAVINST 5750.12E. Thousands of reports are submitted by commands each year, but the Command History Report is one of the few reports that is a permanently retained document. It probably will be the only report available in the future that documents the achievements of your command. If there are any questions, please contact the Naval Aviation History Office, 202-433-4355; DSN 288-4355.

Reunions, Conferences, etc.

VJ-62 proposed reunion. Any squadron personnel interested in attending a 40th reunion, contact Joe Franks, 8931 85 St., Woodhaven, NY 11421.

Iwo Jima Survivors Assoc. reunion, FEB 21-23, Wichita Falls, TX. Send name, address, phone number, branch of service, and time at Iwo to: Iwo Jima Survivors Association of Texas, POB 1657, Bowie, TX 76230.

Women in Aviation Conference, MAR 4-6, St. Louis, MO. POC: Dr. Peggy Baty, Dean, Parks College of St. Louis University, Cahokia, IL 62206, 618-337-7575, ext. 203.

Naval Helicopter Assoc. Symposium, MAR 9-12, Jacksonville, FL. POC: Ltjg. Raul Rosales, 904-772-4664.

Tarawa (CV/CVA/CVS-40) reunion, APR 1-4, Charleston, SC. POC: Larry Eckard, POB 5310, Hickory, NC 28603.

Golden Eagles reunion, APR 22-25, NAS Pensacola, FL. POC: VAdm. P. N. Charbonnet, Jr., USN(Ret.), 401 Bunker Hill Dr., Pensacola, FL 32506.

Ticonderoga (CV/CVA/CVS-14) reunion, APR 29-MAY 2, Fort Lauderdale, FL. POC: Richard Scholl, 8105 NW 93rd Ave., Tamarac, FL 33321, 305-721-6590.

Whiting (AV-14) reunion, APR 30-MAY 2, Tupelo, MS. POC: Ralph Pound, POB 1531, Tupelo, MS 38802, 601-842-0572/8247.

Lexington (CV-2) Club reunion, MAY 5-8, Jackson, MS. POC: Walt Kastner, 466 Ivy Glen Dr., Mira Loma, CA 91752, 714-681-1101.

Franklin D. Roosevelt (CV-42) reunion, MAY 12-16, Corpus Christi, TX. POC: John Lyons, 4213 Harry St., Corpus Christi, TX 78412, 1-800-437-0869.

Marine Night Fighters & Air Warning Squadrons reunion, MAY 13-16, Philadelphia, PA. POC: Tony Cangello, 26 Merry Rd., Newark, DE 19713.

Princeton (CV-37/LPH-5) reunion, MAY 14-16. POC: Bob Neumeyer, 7159 Navajo Rd., San Diego, CA 92119, 619-287-7887.

American Helicopter Society Forum & Technology Display, MAY 19-21, St. Louis, MO. POC: AHS, 217 N. Washington St., Alexandria, VA 22314, 703-684-6777.

Gilbert Island (CVE-107) reunion, MAY 20-22, Norfolk, VA. POC: Richard Hood, RD 4, Box 112, Towanda, PA 18848, 717-265-8790.

Carrier Air Group 11 reunion, MAY 26-30, New Orleans, LA. POC: K. H. Enander, 419 Maple St., Port Townsend, WA 98368, 206-385-7786.

VP/VPB-204 reunion, MAY 26-30, New Orleans, LA. POC: George Thaler, 310 S. Main St., Chippewa Falls, WI 54729, 715-723-2822.

Fanshaw Bay (CVE-70) reunion, MAY 27-30, New Orleans, LA. POC: Duane Iossi, 310 Edwards St., Fort Collins, CO 80524, 303-482-6237.

NAVAL AVIATION NEWS

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