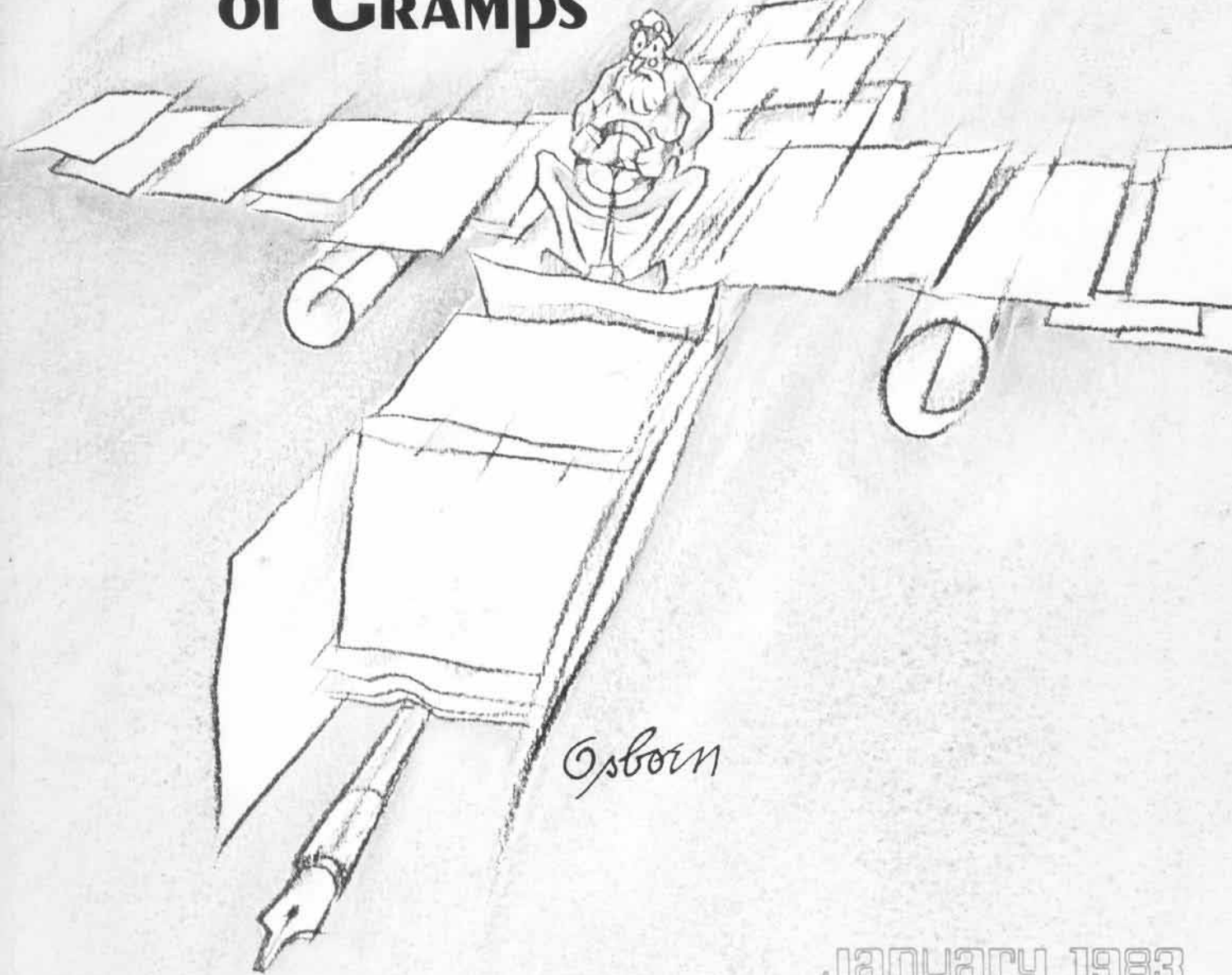


40 YEARS of GRAMPS



JANUARY 1983

In the early morning fog at NAS Miramar, a line crewman checks an A-4B from the Naval Fighter Weapons School.



naval aviation news

Sixty-Fifth Year of Publication

(ISSN 0028-1417)

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COVERS—This month Robert Osborn celebrates his *Fortieth Anniversary* of drawing the well-known Grampaw Pettibone. The front cover is a special color rendition of Gramps; with Dilbert, the first character Osborn did for the Navy back in the early 1940s, on the back cover.

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Naval Aviation News is published monthly by the Chief of Naval Operations and Naval Air Systems Command in accordance with Navy Publication and Printing Regulations P-35 (revised May 1979). Opinions expressed are not necessarily those of the Department of the Navy. Reference to regulations, orders and directives is for information only and does not by publication herein constitute authority for action. All material not copyrighted may be reprinted. Naval Aviation News offices are located in Bldg. 146, Washington Navy Yard, Washington, D.C. 20374. Phone: (202) 433-4407/8/9, autovon 288-4407/8/9. Annual subscription is available through Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; Phone: (202) 783-3238. Second-class postage paid at Washington, D.C., and additional mailing offices. POSTMASTER: Send address changes to GPO Order Desk, Superintendent of Documents, Washington, D.C. 20402.



STATE OF THE ART

Fiberoptics in Nondestructive Inspections

In the military environment, borescopes have been used for many years to visually inspect the internal areas of aircraft engines, but their use was limited because of the rigid construction of the device. With the advent of fiberoptics and the development of fiberoptic technology for industrial use, the capability to perform internal visual inspections dramatically improved. The introduction of the flexible fiberoptic borescope offered the potential of nondestructive inspections in previously inaccessible areas. Recognizing this, the Naval Air Systems Command tasked the Naval Air Test Center, Patuxent River, Md. to investigate the feasibility and suitability of using fiberoptic borescopes to perform internal inspections of the P-3 aircraft airframe and its related systems and components.

The fiberoptic borescope uses hairlike fiberoptic strands grouped in bundles, called working bundles, that serve as illuminating and viewing mediums. A working bundle transmits light from a remote light source. The light is reflected from the area being inspected and is transmitted as an image via the fibers in the optic bundle, back to the borescope viewing end. An eyepiece is provided at the viewing end that can be adjusted to suit the operator's vision. The working bundles are terminated in a distal tip that can be angularly positioned by manipulating a knob provided on the body of the borescope.

The flexible borescope proved to be a valuable tool when inspecting for corrosion. The flexibility and small diameters of some of the borescope working bundles enabled inspectors to easily gain access to out-of-the-way areas via rivet, bolt or water drain holes. The flexible fiberoptic scope is expected to significantly enhance corrosion control programs.

A final analysis of all data obtained during this program indicated that the borescope method of aircraft inspection is feasible and the state-of-the-art flexible fiberoptic borescope equipment currently available is suitable to perform internal inspections of the P-3 airframe and its systems and components.

Although the P-3 airframe borescope inspection evaluation program was a pioneer effort, it is envisioned that the use of the flexible fiberoptic borescope will be expanded to include inspections of all naval aircraft airframes. **C. Korchek**

SH-3H Sonar Data Computer

Following several years of development and testing, the sonar data computer (SDC) is now being delivered and installed in the SH-3H group E helicopter. The SDC is officially designated as the CP-1323 AQS-13E and processes signals from the following sonobuoys: LOFAR (low-frequency analysis and recording); DIFAR (directional frequency analysis and recording); VLAD (vertical line array DIFAR); RO (range only); CASS (command activated sonobuoy system); and DICASS (directional command activated sonobuoy system). The computer also processes shaped pulse returns from the dipping sonar.

The addition of the SDC as a weapons replaceable assembly of the AQS-13 will provide the SH-3H crew with the capability to process and display sonobuoy signals in real time, greatly enhancing the helicopter's ASW search capability. It is a significant step in ASW sensor upgrading in the helo community. **D. J. French**

Sikorsky Awarded LAMPS Contract

The Navy has awarded United Technologies' Sikorsky Aircraft a \$139.4 million contract for production of 18 SH-60B *Seahawk* helicopters, in addition to a previous award for advance procurement, bringing the total contract to \$202 million. Deliveries to the Navy will begin in April 1983.

The high-performance *Seahawk* is the Navy's derivative of the Army UH-60A *Black Hawk* utility transport and will serve as the air vehicle for the Navy's light

airborne multipurpose system (LAMPS MK III). LAMPS is a fully integrated ship/air weapons system for antisubmarine warfare, and antiship surveillance and targeting.

The *Seahawk's* five prototypes are nearing the successful completion of an intensive ground and flight test program conducted by Sikorsky and the Navy, including extensive shipboard trials. The five aircraft have logged over 2,800 flight hours.

Cooperative Tracking System

The Navy's newest range instrumentation system, the cooperative tracking system (CTS), successfully completed sea trials this spring off the Southern California coast. The system demonstrated its capability to locate and accurately track ships and aircraft taking part in a Mobile Sea Range exercise over distances of up to 400 miles. The position of each participant was displayed in the combat information center of USS *Belleau Wood* (LHA-3), which was carrying the CTS master station during the exercise.

The CTS uses range instrumentation to calculate the positions of participant ships, aircraft and drones. It is capable of tracking up to 60 participants and is the first range instrument system capable of operating without fixed land-based reference stations.

The computer-controlled master station schedules all of the ranging commands to the transponders located aboard the participants. The computer then collects range measurements from each participant and calculates each participant's position relative to the others in the exercise. The system is accurate within 200 feet.

Among many benefits, CTS provides commanders and exercise directors with a real-time view of the location of all of their players assisting in exercise control and range safety during live-fire exercises. An additional benefit comes from the computer-recording capability of the system which allows a replay and accurate post-exercise reconstruction for training purposes.

CF-18 Introduced

McDonnell Douglas Corporation "rolled out the red carpet," both literally and figuratively, at its St. Louis plant last July to introduce the first CF-18 *Hornet* for the Canadian Forces. A gigantic red carpet, cut in the shape of the Canadian maple leaf, was laid out on the flight line for the aircraft during the ceremony.

Representing the U.S. Navy was Vice Admiral Wesley L. McDonald, then DCNO(Air Warfare), who said, "For us in the Navy, [the *Hornet*] represents a quantum breakthrough and a multimission aircraft with great flexibility." VAdm. McDonald directed his closing remarks to the pilots in the first CF-18 squadron — 410 (Tactical Fighter Operational Training) Squadron, Canadian Forces Base, Cold Lake, Ontario. He said, "Check six, we'll be right there!"

There are two principal differences between the basic F/A-18 and the CF-18. The Canadian *Hornet* will use different avionics for its instrument landing system in place of the one used by the U.S. Navy for operations aboard aircraft carriers. Also, the CF-18 will have a spotlight mounted on the left side of the fuselage for night flight operations to identify other planes.

The original contract value of 138 Canadian *Hornets* was \$2.2 billion in U.S. dollars. Since then, additional contracts for about \$300 million have been placed for spares and support elements. Deliveries will extend into 1988.



More than 700 Canadian and American guests were on hand in St. Louis for the CF-18's first public appearance. McDonnell Douglas Corporation

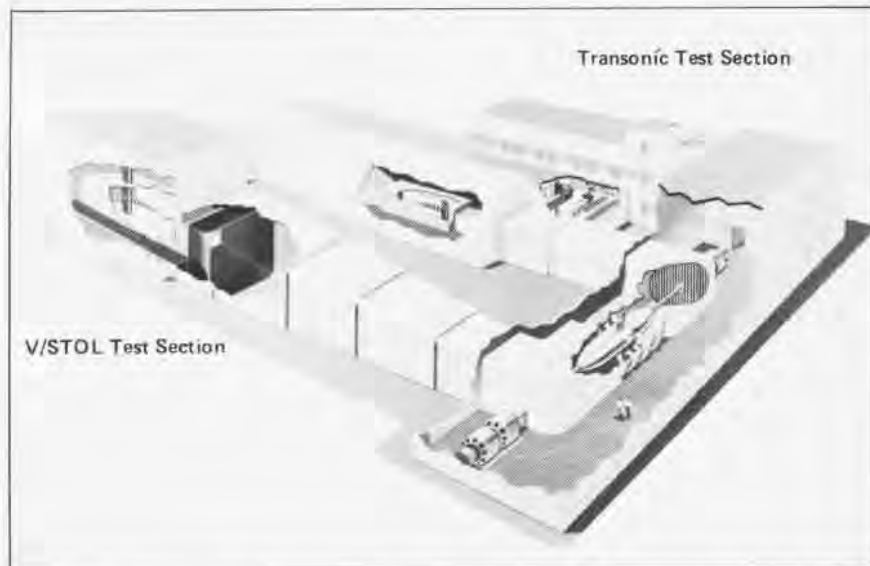
V/STOL Wind Tunnel

The David Taylor Naval Ship R&D Center, Bethesda, Md., began modification of its 7 by 10-foot transonic wind tunnel last summer, adding a large subsonic test section for research on rotary wing and vertical/short takeoff and landing (V/STOL) aircraft. Dual operation of the facility is scheduled for late 1983.

Modification of the tunnel will provide a 12 by 15-foot subsonic test section within the existing wind tunnel loop. The conversion, including a 12 by 12-foot model access door and a personnel air lock, is being accomplished at a fraction of the cost of a new subsonic facility.

ARO, Inc., a division of Sverdrup Technology, Inc., designed the V/STOL insert based on Navy specifications. The contract was awarded to Pittsburgh DesMoines, which built and preassembled the insert at its Pittsburgh assembly plant, then dismantled it and shipped it to David Taylor for installation. Pre-assembly precluded installation problems which may have increased tunnel downtime.

In addition to V/STOL and helicopter configurations, the new test section may be used for submarine wake studies, evaluation of surface effect ship concepts, and other fluid dynamic and aerodynamic research requiring low-speed investigation. C. Howard



Cutaway drawing of the new V/STOL insert in the transonic wind tunnel at the David Taylor Naval Ship R&D Center.

SMILS at Pax River

The sonobuoy missile impact location system (SMILS) is an ongoing project conducted at VX-1, NAS Patuxent River, Md., to provide missile targeting accuracy information on strategic missile systems through the determination of impact location.

Using SMILS, the P-3C aircraft flies to a predetermined location in an open ocean area using inertial and Omega positioning systems to deploy a sonobuoy field consisting of specially configured sonobuoys. Once deployed, the aircraft clears the missile impact hazard area and sets up for the missile launch. When the missile is launched, the downrange sonobuoy field enables the determination of the exact location of reentry body splash points by measuring the time delays between the receipt of impact-generated sound at each sonobuoy using specially installed equipment. Concurrently, photographic coverage of the incoming reentry bodies is obtained using equipment installed aboard the aircraft. The combination of these data elements allows a more exact examination of missile downrange performance.

SMILS is not directly related to VX-1's assigned mission of operational test and evaluation of air antisubmarine warfare systems, but it is vital in evaluating strategic weapons systems through collected flight test data.

Lt.Cdr. R. T. Schnoor and Lt. W. H. Mueller

awards

Orville Wright Achievement Award

Ensign Christopher S. Davids, a former student at VT-7, NAS Corpus Christi, Texas, was the recipient of the Orville Wright Achievement Award for the period January 1 through June 30, 1982. Presented biannually to the outstanding graduates of the U.S. military undergraduate pilot training programs, the award recognizes the student's flight proficiency, academic achievement and officer-like qualities.

The award is sponsored by the Daedalian Foundation, a nonprofit organization which is dedicated to ensuring that the U.S. will always be preeminent in air and space, encouraging flight safety, fostering esprit de corps in military aviation, and promoting the adoption of the military as a career.

Ens. Davids is currently flying the F-14 *Tomcat* with VF-101 at NAS Oceana, Va.

MCAA Awards

The Marine Corps Aviation Association presented the following awards for 1982 at its 11th annual convention in New Orleans last October:

Maj.Gen. Leo J. LeBlanc, Jr., Deputy Commander, FMFLant – Silver Hawk Award as the oldest active duty Marine Aviator.

Sgt. Bobby G. Clement, Jr., HML-367 – Helicopter Aircrewman of the Year.

Sgt. Bernard Leever, VMA-311 – Plane Captain of the Year.

Sgt. Dennis K. Ellis, H&MS-32 – Aviation Electronics Technician of the Year.

Sgt. Theodore R. Lewis, VMA(AW)-121 – Enlisted Safety Award.

VMFA-115 – Fighter Squadron of the Year.

HML-267 – Helicopter Squadron of the Year.

VMA-214 – Attack Squadron of the Year.

VMA-231 – V/STOL Squadron of the Year.

HMA-369 – Commandant's Efficiency Trophy.



Left to right, at the Silver Hawk Award ceremony:



GRAMPAW PETTIBONE

Helo Heroes

The four-man crew of two plus two made final checks as the EA-6B Prowler stole slowly forward in the dark winter night not fit for man nor beast. The pilot taxied into position on the #1 catapult, engaged the shuttle and hookup was completed.

The flight director signaled for full power. Tension was taken and the pilot acknowledged ready for launch. Bam! The stroke of the catapult – and the aircraft lunged forward into the dark night as its bonds to the deck were severed. Suddenly, a massive deceleration was felt as the catapult shuttle disengaged from the aircraft and raced forward to the bow. The pilot, realizing what had occurred, quickly pulled power to idle and applied hard braking. The crew, alert to the urgency of a possible ejection, waited a split second for the pilot's command to eject – all except one. In less than a second, the Number 3 ECMO seated in the right rear station pulled the handle and was ejected into the dark icy waters along the starboard side of the ship. The pilot, meanwhile, brought the aircraft to a safe stop after 125 feet of travel up the deck.

The duty plane guard helo was immediately dispatched to the vicinity of the downed aviator, established a hover, located the crewman and attempted a rescue. The pilot experienced severe difficulty trying to hover because of 35-40 knot winds, 15-20 foot sea swells and extremely low visibility. As the rescue swimmer was being lowered on the hoist, he was bashed by a large swell which ripped away his mask and fins. The rescue swimmer, now *in extremis*, was unable to reach the survivor. Repeated attempts to lower the "horse collar" to the survivor in the frigid water



I swear & promise that my 2 resolutions will be kept through out the year, with NO exceptions!

were unsuccessful.

Airborne at the same time was an HS-11 crew conducting antisubmarine warfare operations 10 miles west of the carrier. When informed of the ejection, the pilot, Cdr. Richard Catone, ordered his SH-3 crew to secure operations and rig for rescue as they proceeded to the SAR scene. Once at the scene, Cdr. Catone and his three crewmen assumed primary rescue responsibilities and began an exhaustive search for the crewman. With the use of a hand-held aldis spot lamp, Petty Officer Pearson spotted the survivor in the raging sea. Ltjg. Elder skillfully maneuvered the SH-3 helo into position to commence rescue as Petty Officer Pritchard quickly geared up for a swim.

Cdr. Catone then took control of

the aircraft as the intensity of high winds, extremely low visibility and total instrument conditions had rendered the automatic hovering capability virtually useless. Cdr. Catone established and manually maintained a hover over the bobbing victim with the skillful assistance of his copilot.

As Petty Officer Pritchard was lowered on the hoist, he timed the heaving sea swells, detached himself from the hoist and dropped into the icy water. He swam through the raging seas, fighting the elements, and located the survivor in the dark ocean waters. As Petty Officer Pritchard clutched the survivor, the intensity of the waves swept him 25 to 30 feet fore and aft as well as 15 to 20 feet up and down. From the helo hoist door, Petty Officer Pearson was able to direct vital control instructions to the pilot and maneuvered the hoist cable to place the rescue sling within reach of the rescue swimmer. After a fatiguing struggle, a successful hookup of both survivor and swimmer was effected. Petty Officer Pearson hoisted the pair aboard and detected that the victim was suffering from extreme hypothermia and shock. Cdr. Catone directed the crew to initiate first aid. He instructed both crewmen to open their wet suits and wrap their bodies around the survivor to provide life-saving warmth to the aviator who had been in the frigid sea for at least 45 minutes.

Grampaw Pettibone says:

Holy shivering survivor! This was a real chiller for a very lucky lad. Aside from being turned into a walking popsicle, after 45 minutes in icy water, he recovered with no ill effects.

Old Gramps has never been stranded in the open ocean, either day or night, but it's tough to imagine a more

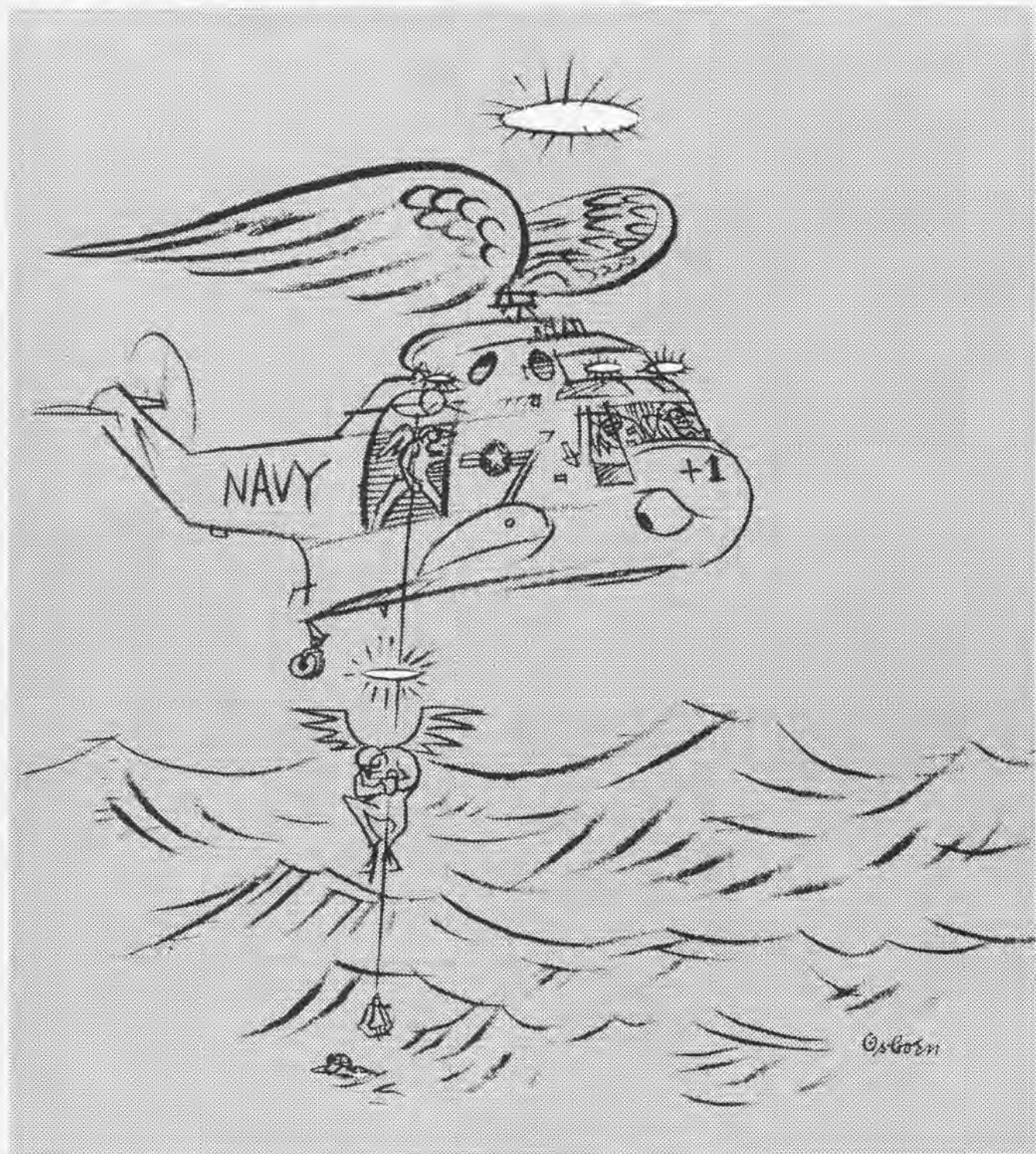
desperate, frightening and sinking feeling than that experienced by this crewman. Equally difficult to describe must be the joy felt when he saw Petty Officer Pritchard come down the helo hoist to rescue him. As a matter of fact, Petty Officer Pritchard reported the survivor's first words were, "I love you! I love you!"

To say that this gent was lucky is

an understatement. The performance of Cdr. Richard Catone, Ltjg. Robert Elder, AW2s Timothy Pearson and James Pritchard was not luck but a real demonstration of superior airmanship, professional skill, courage and devotion in extremely hazardous conditions. In recognition of their performance, the HS-11 crew was awarded the 1981 Association of Naval Avia-

tion Outstanding Achievement Award for Helicopter Operations.

Gramps, on behalf of all aviators everywhere who have been or are potential dunkees, also salutes this crew. I can recall no finer example that portrays the motto of search and rescue crews — "so that others may live" — as in the case of this young lad. Good on you, gang!





40 Years Osborn

By Commander Howard Wheeler

At 78 years of age, Robert Osborn is in the autumn of his years. Grampaw Pettibone, the well-known, feisty sage of safety whom Osborn helped create 40 years ago this month, has always been in the autumn of his years. After all, Gramps came into being at a very old age.

With age comes wisdom and the well-deserved license to give advice freely without reservation or compromise. This was the idea behind Gramps when he first appeared on the pages of what was then *The News Letter* on January 15, 1943. Time hasn't changed Gramps or his attitude toward safety. Neither has it subdued the creator of his image, Robert Osborn.

Listening to Osborn talk today, one gets the picture of a straight-faced, Wisconsin-bred character with

a will totally opposed to the "dumb things people do" that cause needless loss of life, injury and damage to priceless equipment. He obviously is a staunch believer in the notion of responsibility and accountability for actions — good and bad. Perhaps that is why Osborn latched onto the idea of Grampaw Pettibone from the start.

Gramps has always been the most

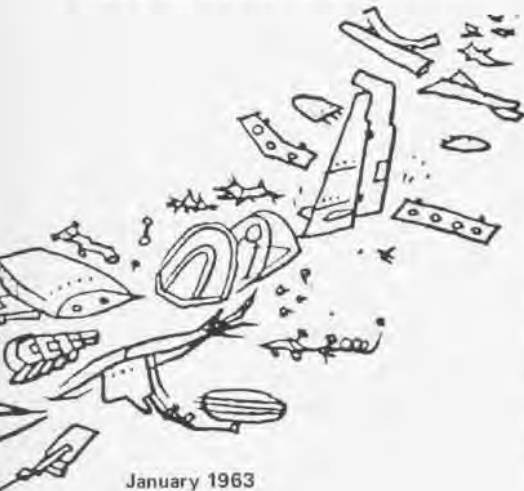
popular department in *Naval Aviation News (NA News)*, even among its non-aviation readers. In no small measure, Osborn's art has contributed to Gramp's success over the years. Grampaw Pettibone unabashedly airs dirty laundry with the hope that the same laundry won't have to be hung out again. The column has always been based on the idea that safety can be enhanced by sharing lessons learned. With his talented hands and remarkable insight into human behavior, Osborn through Gramps artfully puts out the laundry each month with both



skill and humor, which is perhaps the best way to get the point across. He does it in a way that makes the subtle impact reach home every time.

Osborn is an artist, really a painter who turned to the medium of paper and charcoal, with which he feels most comfortable. He prefers to refer to himself as "a drawer," awkward to say but more descriptive of his method. It obviously gives him great pleasure to create images on paper with a few cleverly placed lines and shadows that serve a noble purpose. His service to the Navy for so long, through the character of Gramps, has certainly contributed to his personal goal of promoting safety with imagination and wit. It is a serious business as far as he is concerned. There is little doubt that his drawings have saved many lives over the years by effectively personifying in Gramps the "safety conscience" of the Naval Aviation community.

But what about Osborn as a man? He certainly did not become a successful cartoonist, satirist and artist by doing drawings for *NANews*. The fact is that his artwork can be found in the pages of *Life*, *Look*, *Fortune*, *New Republic*, *Harpers*, *Horizon*, *The New*



January 1963



January 1963

York Times and *Esquire*. The August 1982 issue of *Smithsonian* magazine carries his superb drawings in an article on the war against the boll weevil.

Few artists have a following large enough in their own time to warrant writing an autobiography. Not so with Osborn, whose biography was released on his birthday last October 26 called simply *Osborn on Osborn*. His own words provide some interesting clues as to why he has steadfastly and

generously supported Gramps' mission for so long.

Leaving no doubt that *he* wrote the book, the first sentence says simply, "I was born." Indeed he was, at home in Oshkosh, Wisc., now famous for its annual air show.

Osborn says his mother "had gumption" and his father was an early-on Wisconsin lumberman who did well and lived to be 82 before being struck down by cancer in 1940. He credits

his mother with helping to develop his fruitful imagination. Osborn says he "was a very slow, very naive learner" and that it was his mother who helped form his creative instincts by providing him with a wide variety of books at a very early age. He feels sorry for children today because television does little to stimulate the mind as books do.

The fondness he developed for the outdoors lingers today. His early years as a growing lad were spent in the fresh air with his father who was quite adept at hunting partridge, prairie chicken and duck. They also did their share of trout fishing in the perfect streams north of Oshkosh.

In contrast to the serenity of the quiet and peaceful woods he enjoyed so much, he points out that planes and cars have always been particularly fascinating to him. Herein, perhaps, lies a clue to why Gramps continues to be in print today.

In his book, he says, "I'm still excited by almost any airplane or hydroplane, against almost any sky, but best of all were the early planes with wings you could see through and engines, spun or fixed, which you could barely hear."

To satisfy his curiosity, once as a youngster he rode his bicycle to see a one-man air show only to witness, to his horror, the pilot climb to about a

thousand feet when the wing departed from the airframe. He says, "I could see the terror-stricken pilot from the ground. . . . I didn't dare tell my family what I'd seen, and went to bed early.

Ironically, his curiosity about aircraft did not sour. He says, "My interest in them, even in their principles, seems endless beginning with those two very American geniuses, the Wright brothers. Blessed with uninhibited reasoning and imagining processes, they finally understood flight and solved problems that had previously prevented controllable flight."

Osborn's college education began at the University of Wisconsin as a freshman in 1923. But he was forced to drop out due to illness — a duodenal ulcer. After several months of convalescence at home, he applied and was admitted to Yale in the autumn of 1924, where he began to learn and truly develop his artistic talent.

His first freehand drawing class at Yale was a disaster. His teacher, whose teaching techniques were disciplinary and highly structured, did not appreciate Osborn's resistance to the drudgery of repetitious drawing exercises. He was asked to leave during the second class. But justice was served later in his life when Osborn earned the Yale Arts Association medal for "distinction in visual arts."

Life, however, wasn't filled with



March 1944

only good times for young Robert Osborn. The depression robbed him of a few of them, and he was forced to turn his talents into cold cash. When money from home stopped coming because his father simply had not enough to send, he "began to draw all sorts of ads at five dollars a drawing." He even tried to sell drawings to the *New Yorker* only to meet with rejection.

His interest in aviation was soon rekindled by the news of the day — Lindbergh's epic solo transatlantic flight. Osborn was intrigued by this, saying, "Anyone with any sense knew that he was hanging his life on the performance of one fairly reliable radial engine."

Perhaps borrowing the idea, with \$1,500 in his pocket he went off to Europe by himself, specifically to Rome and Paris via London. The journey by ship across the Atlantic was unlike Lindbergh's — a complete bore, especially after Osborn accidentally lost overboard the ship's only piece of recreational equipment, a large medicine ball. In Paris he learned to paint and studied art firsthand. On one occasion, he encountered Picasso in an artists' supply shop.

He lived in Europe for years off and on and finally came back to the United States for good in 1937. After settling into life on this continent, he tried to join the Canadian Air Force

January 1963



before the U.S. became involved in WW II but was rejected when they learned of his ulcer. In December 1941, he attempted to enlist in the Navy at a local post office in Connecticut. Eventually he became a reserve officer as a result of the combined wisdom of then Captain Arthur Radford and Commander A. K. Doyle, both of whom later attained flag rank.

Osborn told *NANews* a few years ago how it all began.

"I was sent to an office in the old Main Navy/Munitions Building complex which stood alongside the Reflecting Pool, adjacent to the Lincoln Memorial on the Mall in Washington, D.C. The place was in a state of disarray when I arrived, which was to be expected considering this was shortly after Pearl Harbor. I recall Cdr. Doyle, who played an important part in starting Dilbert, sitting on a board which he and Capt. Radford had



This caricature depicts the early days of Naval Aviation with typical Osborn style.

rigged across the extended lower drawers of their desks because there were no chairs.

"There was quite a collection of talented individuals working there. These included Edward Steichen who, of course, was one of the world's great photographers (he introduced me to Elodie, the young lady who later became my wife, by the way), and writers such as Robert Louis Taylor and Roark Bradford, who became prominent authors.

"Anyway, we were tasked with developing training aids which might help reduce the terrible accident rate the Navy was experiencing. The Cadet ranks were suffering considerable losses. They were forgetting to switch fuel tanks, were trying to turn back to the field with engine problems rather than land straight ahead – mistakes of that nature. Luis de Florez had also observed that maintenance personnel were making careless mistakes repeatedly.

"We came up with the idea of Dilbert the Pilot and, later, Spoiler the Mechanic. As I recall, I drew more than 2,000 Dilbert and Spoiler posters, many of them in color."

About the time Dilbert was being produced, the idea of Gramps came along. The Bureau of Aeronautics had created the Office of Aircraft Safety Counselor, which was headed by then Lieutenant Commander Seth Warner,

a "very experienced pilot in his own right," according to Osborn. "Seth was anxious to have some kind of character who could speak his wisdom about flying. He thought up the name Grampaw."

"The idea took off," Osborn said recently, "because things were so volatile in those days that you could put anything like this right into print and in two weeks get it going." Basically, the idea was good to "have this old aviator who has survived with his wisdom trying to speak, rather sharply, to these young pilots," says Osborn.

While the war continued in the Pacific, Osborn did not spend all his time at his drawing table. During a tour at sea aboard *Essex*, he saw the Saipan and Iwo Jima battles firsthand. There he witnessed death — and this time courage — with the same cold reality he had experienced when he was a young boy back in Wisconsin.

In his words, "The pilot who had taught me to fly at the Atlanta Naval Air Station appeared in a squadron of fighters on the *Essex*. [Osborn learned to fly in a Stearman biplane during his time in the Navy.] During the battle for Saipan, his plane was hit and he was seriously wounded. He managed to be guided back some 80 miles to the carrier, blood streaming down his face, his sight failing, two wingmen



October 1950

telling him what to do. 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: the view of a young man departing to death."

Osborn left the Navy because of his chronic ulcer, which once again became a debilitating and painful problem. He returned to his wife Elodie in New York City.

"What I discovered in the Navy," he says in his memoirs, "was that I had an ability to quickly comprehend a problem, organize its components and then produce the drawings that explained what needed to be known. The humor was added to assure attention."

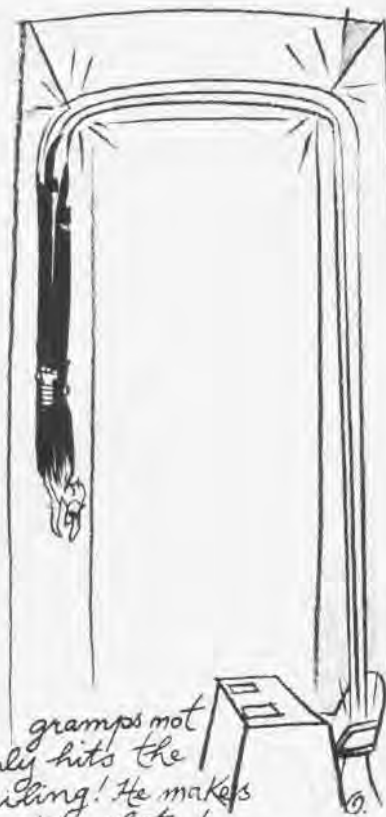
After returning to civilian life, he was asked by *Naval Aviation News* to continue drawing Gramps and he accepted the offer.

When asked how he would sum up his 40 years of drawing Gramps, he says, "It is a salute to the value of the creativity of Seth Warner," the man behind the original idea. "Gramps," he goes on, "has become a very real person for me. I'm amazed when I go to my studio that I now really see him as an old man, with whiskers, and

his whole inside character, which I suppose is getting quite a lot like mine. If somebody does something very dumb," he says, "I can really attack that. If I had to do drawings of all the wonderful things pilots did, pretty soon it would lose its edge."

Gramps does focus on good decisions and acts, and on heroic achievements, from time to time — perhaps not often enough for some, but it is not his lot in life. Neither is it Osborn's.

He admits, however, that he would be scared to death to fly in today's



February 1976

operational aircraft because of their complexity, and he holds "the greatest admiration for those young Naval Aviators. It's so complex today. It was so simple during the war."

When asked at his Salisbury, Conn., home recently if he had ever been bored drawing Gramps, he said with a warm, laughing outburst, "No. Never!" ■

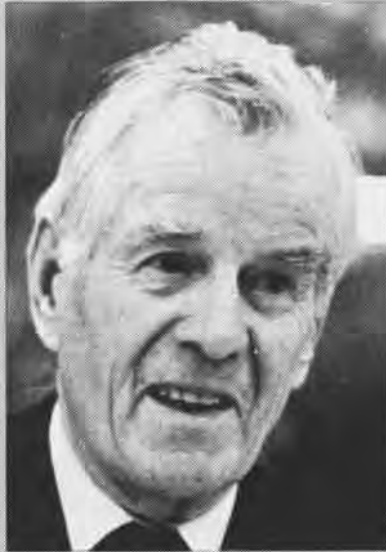
NAVAL AVIATION
NEWS



Petibone's 20th Anniversary

JANUARY 1963

News No. 118



The Warner-Osborn Team

On the occasion of Robert Osborn's 40th anniversary with Grampaw Pettibone, he asked that the spotlight be shared with the late Captain Spencer (Seth) Warner, the individual who created the old sage of safety. In the words of Capt. Warner in a letter to *NANews* in 1962, "Grampaw Pettibone was conceived in desperation, the offspring of frustration or despair.

"All accident reports were routed to my Flight Statistics desk [in 1942]. Daily review of accident reports soon produced a feeling of nausea and anger. Why were so many of the stupid accidents alike, and why were so many of them 100% pilot error?

"For years we squadron officers had to *read and initial* various safety instructions, and from personal experience I knew this was often done with only casual perusal. A great many of the accidents were caused by pilots and others who *initialed* but did not carefully read and take appropriate action. Hence the frustration!

"Something spectacular had to be done immediately to attract attention to make our safety warnings stick. We couldn't convert them into jingles and croon them to pilots over the radio, as the advertising agencies do.

"So, we invented a cantankerous old codger with a low boiling point and uninhibited with official language, and turned him loose hoping that his pithy remarks and sardonic humor would hold their attention long enough to stab with a vital safety factor — make them *safety conscious*. We named this choleric old curmudgeon Grampaw Pettibone."

Capt. Warner (Naval Aviator No. 2974) died on January 19, 1967, 24 years almost to the day after Gramps appeared in *NANews*. The Warner-Osborn team is a legacy of what imagination and creativity can do to save lives.

NANews gratefully acknowledges the permission granted to quote from *Osborn on Osborn* by the publisher, Ticknor & Fields, 383 Orange, St., New Haven, CT 06511.



Only the Spirit of Attack



An artist's models of an F-5 Tiger II and an A-4 Skyhawk are part of the classroom decor at Top Gun.

Story and Photos by JOC Kirby Harrison

At the west end of the Miramar Naval Air Station hangar row, just minutes north of San Diego, is the Navy Fighter Weapons School. Aside from the sleek F-5E *Tiger II* aircraft parked outside the hangar, it is an outwardly unimposing facility. The *Tigers*, not part of the Navy's standard inventory, are the first suggestion of what is taught here. Rather than the usual Navy grays with brightly painted squadron emblems, they and the A-4 *Skyhawks* flown by the school's instructors carry the somber camouflage tones of various Soviet bloc air forces. At this school, better known as "Top Gun," they teach the tactics of survival and winning in air-to-air combat, and they are very serious about it. *(Continued on page 16)*



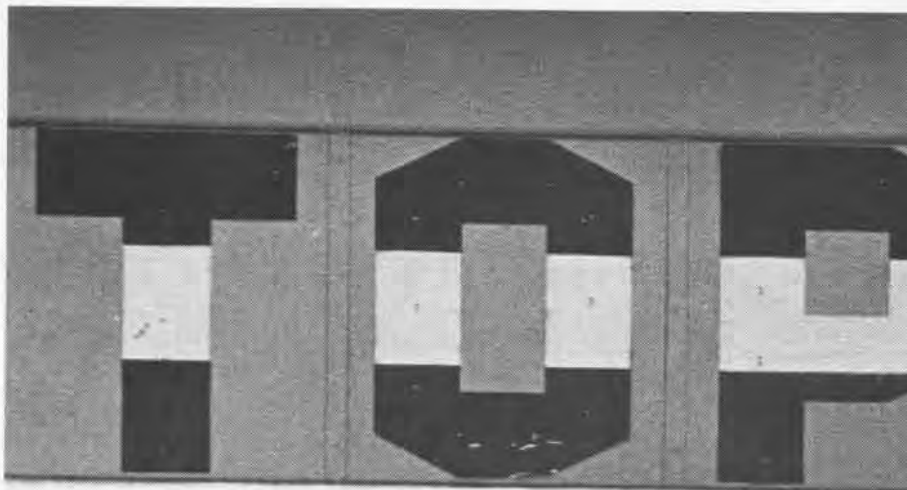
One of Top Gun's F-5E Tiger II aircraft, dressed in a Middle East paint scheme, lands at the school's NAS Miramar home field. Other F-5s and A-4 Skyhawks at Top Gun are painted in designs representative of Soviet and Middle East air force fighter planes. The intent, say officials at Top Gun, is to present the student a dissimilar color scheme and silhouette and, in doing so, enhance the realism of air combat maneuvering exercises.

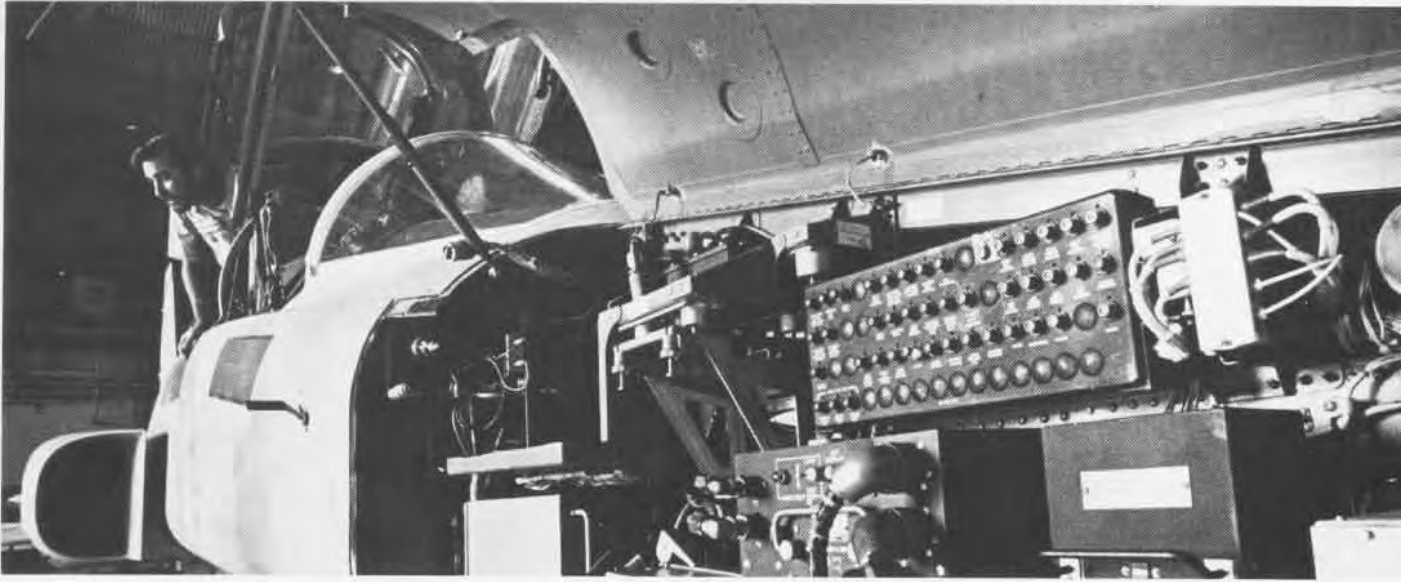
For students entering the five-week course, it is a sort of total immersion. Ascending the steps to the second deck, the student is immediately struck by the row upon row of MiG aircraft silhouettes painted in red on the walls. Each silhouette represents a MiG shot down by a Navy or a Marine Corps fighter crew during the war in Vietnam, and is accompanied by the date and the name or names of the pilot or fighter crew credited with the victory. It is a not-so-subtle reminder that the lessons learned in this school were a major factor in an air war that saw Navy and Marine fighter crews down 12.1 MiGs for every single U.S. Navy and Marine aircraft lost.

Everywhere there are photographs depicting the history of air-to-air combat. On the wall of the wardroom a Japanese *Zero* sits in a wooden frame, engine missing and permanently grounded. Another photo shows a German Focke Wulf in flight and, in yet another, a German ground crew gathers in a field of ME 109s. (Continued on page 18)



Above, ANs Trent Smith and Karla Lallo service one of three F-5Es assigned to the school for adversary air combat maneuvering exercises against Top Gun students. Top far right, a member of Northrop's 40-person maintenance team prepares a Tiger II for flight. Right, a reminder of the mission of the Navy Fighter Weapons School decorates the side of the line shack.







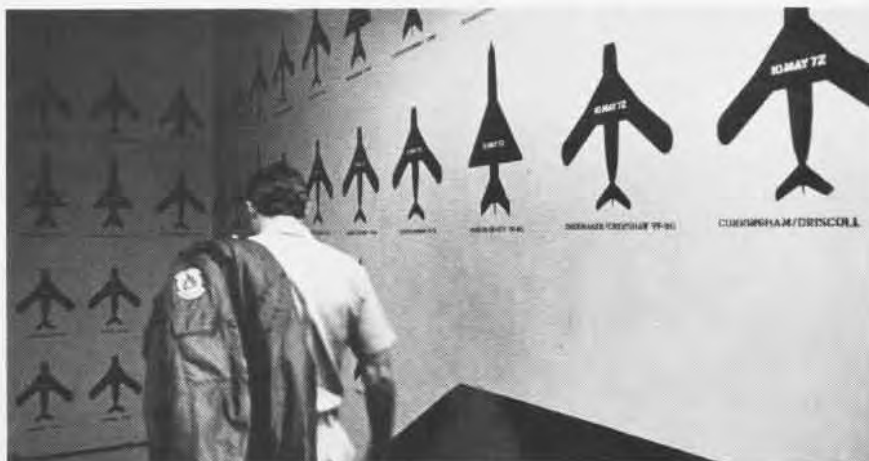
Photographs of those fighter pilots of days past bear a striking resemblance to the young men at the school, instructors and students alike. Everyone seems to have a moustache. The French say that the more things change, the more they remain the same. It would seem so here. Many years have passed since the old biplanes whirled and bit at one another in the skies over Europe, and technology has changed tactics and the shape of things dramatically. But those who fly against one another in the world of aerial combat seem to have changed but little.

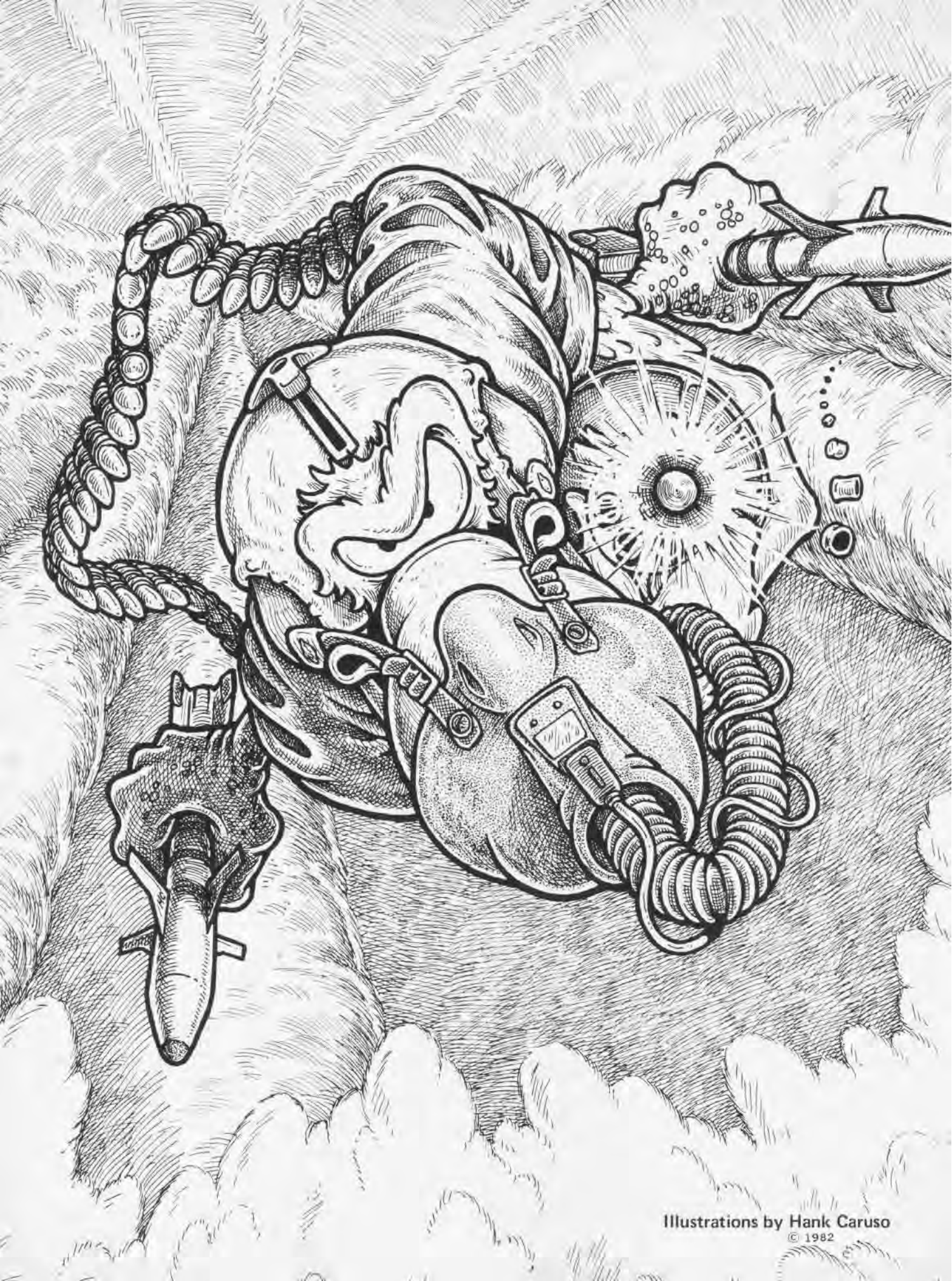
Prominently displayed on a wall is a poster carrying a quotation by Adolf Galland, German Luftwaffe fighter forces commander in WW II. It is his philosophy, and at the same time a message to those who wish to fly as a fighter crew. "Only the spirit of attack born in a brave heart will bring success to any fighter aircraft no matter how highly developed it may be," said Galland.

At Top Gun they teach the tactics that will allow the fighter crew to get the most from the weapons system and aircraft. But more than that, they teach the spirit of attack. ■



Left, shrouded in early morning fog, a Top Gun F-5F, two-seat version of the Tiger II, looks sleek and menacing in a Warsaw Pact camouflage paint scheme. Above, an A-4E Skyhawk adversary aircraft returns from a practice hop. Lower left, MiG silhouettes painted in red on the wall at Top Gun mark each victory by Navy and Marine fighter crews during the war in Southeast Asia.





Top Gun

By JOC Kirby Harrison



An F-4 Phantom is caught in an embarrassing position by the gun camera on one of Top Gun's adversary aircraft.

In the world of the fighter aircraft, the O.K. Corral is at 20,000 feet and the hero rides a mount of thunder and fire. The difference between the winner and loser is measured in fractions of a second. And, at speeds near that of sound, the combatants in an aerial conflict most frequently fall into two categories. The quick, and the dead. The Navy prefers that its fighter crews come under the former heading. To that end the Navy runs an intensive, five-week course in the aerial version of cutting the bad guys off at the pass and beating them to the draw. Officially, it is known as the Navy Fighter Weapons School. More often, it is referred to simply as "Top Gun." It is the premier training ground for Navy and Marine Corps fighter pilots and radar intercept officers.

The school was born of the deadly serious air war in Vietnam, and in the history of a war gone by. World War II ended with U.S. Navy and Marine planes holding an impressive edge over the enemy. For each Navy or Marine plane lost, the Japanese lost 10.3 aircraft. Twenty-three years later in Vietnam, that ratio was 1:2. Navy officials were concerned. In 1968, Captain Frank Ault of the Naval Air Systems Command was assigned to analyze aerial combat in Southeast Asia.

Along with a need to improve missile reliability, the resulting study also showed a need for fighter crews who were better trained to operate the sophisticated weapons systems in which the air-to-air missile played a major role. It recommended formation of a graduate-level school to train a core of fighter crews in the most effective use of weapons systems and the tactics needed to win. The course would tie a classroom series to a number of highly realistic air combat maneuvering (ACM) exercises, requiring practical application of the classroom study. (Continued on page 22)

The Pacific fleet replacement training squadron, Fighter Squadron 121 (VF-121), was directed to establish such a school. The original concept was that fighter crews from the fleet squadrons would go through the course, and upon return to their respective units would form a hard-core pool of ACM expertise. The first class was graduated in March 1969.



By the end of the war in Vietnam, the Navy's kill ratio had improved. For every Navy or Marine aircraft lost, the enemy had lost 12.1. Word of the success had already spread through the fighter community almost as rapidly as it had reached the decision makers in the Pentagon. Their response was to order establishment in 1972 of the ACM program as an independent command to be known as the Navy Fighter Weapons School.

According to Lieutenant Commander Mike McCabe, Top Gun's operations officer, part of the success of the program was, and still is, in the adaptability of the course to new technology. Technology that constantly expands the capabilities of both weapons systems and aircraft demands continuing rethinking of air-to-air tactics. "This course is in a constant state of change," says McCabe with satisfaction.

An addition to the school in 1976 was a Top Scope syllabus designed to meet a need for advanced training in fleet defense. By 1980, new weapons systems and information gleaned on fleet defense led to integration of Top Scope into the overall Top Gun program, and evolution of the fleet air superiority training (FAST) "road show," as a separate but related five-day course.

Unlike the Top Gun power projection philosophy for air-to-air com-

bat, FAST is concerned with maritime air superiority, according to Lieutenant Commander Mike Denkler, assistant FAST officer. "We're involved with training operational squadrons in fleet defense and the outer air battle."

The FAST course includes 12 lectures and simulator periods over the first four days and an eight-hour battle group defense simulator problem on the final day. The training course is taught by Top Gun instructors on the road at NAS Oceana and at home at NAS Miramar. As many as two fighter squadrons and one E-2 *Hawkeye* squadron may participate in the Oceana sessions.

Justification for the FAST program is apparent in the aerial phase of the Falklands conflict. Top Gun's quarterly *Journal* pointedly refers to the tactics of defending, and the squadron's skipper Commander Ernest Christensen emphasizes that the business of anti-air warfare in defending the fleet is every bit as difficult and challenging as pure air-to-air combat. In giving fighter crews food for thought, the *Journal* author observes that, during the Falklands fighting, "An airplane not particularly noted for its ground attack role (the *Mirage II*) tore the hell out of a pretty good British surface force," and that "a 35-year-old design (the A-4 *Skyhawk*) penetrated the anti-air warfare defense network every day of the war. Not without loss, but also not without success."

Adds Christensen, "This doesn't mean the basic concept of anti-air defense doesn't work. It merely means a rethinking of the tactics and re-emphasis of training in that arena."

In the formal Top Gun course, 90 hours of classroom lecture and discussion are balanced with approximately 25 flights against adversary aircraft flown by the school's instructors. There are also 10 hours in the simulator with a Top Gun instructor, perfecting interceptor technique in the presence of electronic jamming and a numerically superior attacking force. The overall course is aimed at ensuring a well-rounded understanding of all aspects of ACM, including radar systems, air-to-air missiles, guns, electronic warfare and advanced tactics.

Keeping the material current, Cdr. Christensen plans future lectures and discussion based on lessons learned

from the Israeli-Syrian air engagements during the 1982 Lebanon conflict. "From initial indications," he concludes, "I would say that what we've learned is that air discipline and training are the big factors in the Israeli success. The quality of training of the Israeli pilot was the difference."

The Top Gun schedule is set up to train at least one fighter crew annually from each of the fleet squadrons. Classes are usually limited to eight fighter crews from the fleet squadrons and from two to four crews from the fleet adversary units.

Training crews for the fleet adversary squadrons was not part of the original Top Gun charter. Formation of the adversary units, equipped with A-4 *Skyhawks*, was a move to provide Top Gun graduates and other fleet fighter crews with practical experience flying simulated air-to-air combat missions. Fighter Squadron 126 (VA-126) at NAS Miramar is the West Coast fleet adversary squadron and Attack Squadron 43 (VA-43) performs the same function out of NAS Oceana on the East Coast. Two other squadrons, VF-127 at NAS Lemoore and VA-45 at NAS Cecil Field, provide an adversary support function as a secondary mission. Expansion of this role by VF-127 and VA-45 to provide adversary support for the new F/A-18 *Hornet* squadrons has been discussed.



Radar Intercept Officer Lieutenant Jim Anderson feels the need for Top Gun graduates is as real today as when the unit was formed. Anderson was one of two VF-41 *Tomcat* air crews* who discovered themselves in the real world of air-to-air combat in August 1981. Flying a reconnaissance mission over international waters, they were fired upon by two Soviet-built, Libyan Su-22 *Sukhoi* jets. The Libyans fired first and missed. The *Tomcat* crews shot back and didn't. Both Su-22 aircraft were hit and went down.

"There was no hesitation," he says. "Our response was instinctive but calculated. We knew exactly what we were doing." All four men had previously trained against Top Gun-taught adversary pilots flying for VA-43.



At Top Gun they are aware more than most that fighter crews tend to fight the way they train. Even now, almost 10 years after Vietnam, instructors at the school are often veterans of the air war in Southeast Asia. They come to Top Gun on the recommendation of their respective commanding officers and only after a careful selection process. "We want the best," says Cdr. Christensen, whose own experience includes Vietnam and a tour with the Navy's *Blue Angels* aerobatic display squadron. He lists as desirable attributes for instructor candidates an above-average flying ability, a desire for a Naval Aviation career, and better-than-average presence as lecturer/briefer/teacher. "We're looking for a well-rounded Naval Aviator," he adds. "What we *don't* want is a guy who brings his ego into the cockpit."

The cockpit at Top Gun is normally an A-4E *Skyhawk* or F-5E *Tiger II*, all of which are painted in Soviet bloc colors. Explains Christensen, "We want the student to see a variety of shapes and colors during ACM, and enable him to eliminate that split second of hesitation that makes the difference."

There are eight *Tigers* available and five *Skyhawks*. The *Skyhawk* is flown to simulate the MiG-17 and the *Tiger's* performance, using Soviet tactics, is very close to the MiG-21.

"We tell the students that the F-5 simulates the MiG-21 and the F-5," says the school's commanding officer. He explains the F-5 simulation of the F-5 by pointing out, "The *Tiger* is flown by some 30 different countries,

and not all those countries are friendly to the U.S."

Christensen and his squadron of approximately 165 officers and enlisted personnel are looking forward to eventually replacing the aging *Skyhawks* in the Top Gun inventory. "I flew the A-4 in combat in 1966," he remembers. "It is still a good airplane, but it was old then and it isn't any newer now."

What he would like to have is something like the F-5G *Tigershark* or General Dynamic's F-16/79 model of the *Fighting Falcon*. The F-5G is a modified F-5F rated at better than twice the speed of sound. The *Tigershark* engine is the same basic power plant as that in the F/A-18 *Hornet*. The 17,000 pounds of thrust generated makes the F-5G "...damn near a rocket," according to Top Gun's Northrop representative A. D. Brown.

"The F-16/79 is an agile variant of the F-16," Christensen points out, "and we need a supersonic adversary aircraft like that. Supersonic aircraft represent 90 percent of the real-world threat. What we get must represent an accurate simulation of what we expect from the Soviets' RAM series (of aircraft) over the next decade, as well as the MiG-23."

Cdr. Christensen would also like to see a supersonic aircraft flying for all four of the adversary squadrons, whether their role is primary or secondary support of ACM training. At present, only VA-43 (in addition to Top Gun) is flying the Mach 1.2 *Tiger II*. "It is something we need now," he emphasizes.

Top Gun has recently been involved in providing adversary support for evaluation of the next generation Navy fighter/attack aircraft, the F/A-18 *Hornet*. "We're impressed with the air-to-air ability of the *Hornet* to sort and display information and acquire and track targets," says Top Gun's commanding officer. "And at six and one-half or seven Gs it doesn't bleed off much energy. It will also outturn and outaccelerate the F-5E." (See page 26 for story on F/A-18 evaluation.)

The schedule at Top Gun, from *Hornet* evaluation support to *Tomcat* training, is described euphemistically as "demanding." The pilots find themselves running to keep up with classroom preparation, and flying two and

three sorties a day. In addition to the Top Gun and adversary fighter crew training, the unit also provides general adversary support against West Coast fleet squadrons on an almost daily basis.

Both officer and enlisted personnel are involved in the trips to NAS Oceana for the FAST courses, and Navy maintenance personnel get more than enough work keeping the aging *Skyhawks* flying. Navy and Marine crews also handle all the ejection seat, survival equipment, preflight and related tasks for both the *Skyhawk* and *Tiger* aircraft. Maintenance on the *Tigers* is provided under contract by a highly skilled Northrop crew of approximately 42 persons.

"You gotta be quick," says one instructor when asked how they keep up with everything. "That's what makes us and the people we teach the best. In this business, second best just isn't good enough." ■

**Of the four pilots and radar intercept officers involved, Commander Hank Kleeman is now the assistant air boss aboard Kennedy; Lieutenant Larry Muczynski is now an advanced jet instructor at NAS Meridian; RIO Lieutenant Dave Venlet is going through flight training at NAS Pensacola; and Lieutenant Jim Anderson is still flying as an RIO at VF-41.*





naval aircraft

by Harold Andrews

F/A-18

The *Hornet* is a direct descendant of the *Cobra*. In nature's environment, this statement would not make any sense, but in aviation such relationships are not uncommon. Thus, the McDonnell Douglas F/A-18 *Hornet* traces its direct ancestry to the Northrop *Cobra*, a twin engine multimission fighter design developed for the export market in the late 1960s. The *Cobra* was never built in this form. In 1971, the Air Force requested proposals for a lightweight fighter prototype program; Northrop's entry was derived from the *Cobra* design. One of the two winners in the Air Force competition, Northrop was awarded a contract in 1972 for two YF-17 prototypes, each powered by two General Electric YJ101 engines. General Dynamics was the other winner, building two single-engine YF-16s.

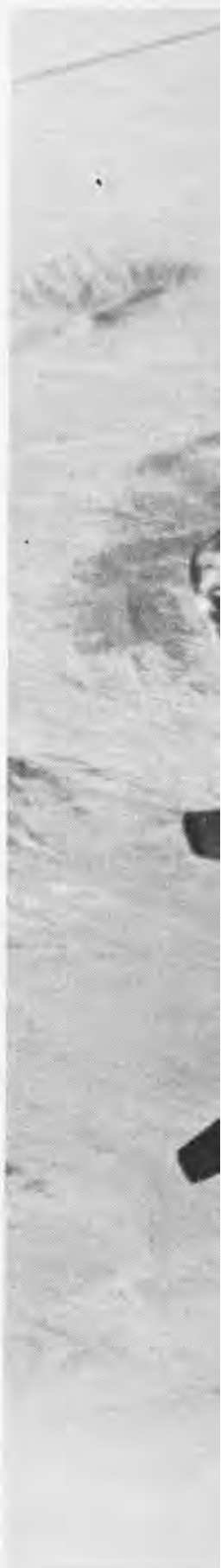
First flight of the YF-17 was in June 1974. By this time, the Air Force had decided to proceed with Air Combat Fighter (ACF) Program, based on flight testing of the YF-16 and YF-17 prototypes. The Navy was also initiating a program to develop a new VFAX in this time period — a strike fighter to replace both the F-4s and A-7s in its carrier air wings.

The following year, 1975, brought major program action: the Air Force

selected the F-16 to be produced for the Tactical Air Command, and the Navy was directed by Congress to base the VFAX on either the YF-16 or YF-17 designs. Two of the companies having a major interest in the VFAX, which was redesignated the Navy Air Combat Fighter, paired with the F-16/17 builders; neither of the latter had experience in producing Navy carrier fighters. Vought as a prime contractor teamed with General Dynamics on a single-engine F-16 derivative, while McDonnell Douglas became the prime, paired with Northrop, on an F-17 derivative. To meet Navy requirements, considerable improvements in areas such as combat radius and radar capability were incorporated, in addition to carrier suitability features. The resulting redesign was extensive and, when the McDonnell Douglas design was selected as winner in 1976, it was assigned the F-18A designation. The developed versions of the YF-17's YJ101 engines were redesignated F404s.



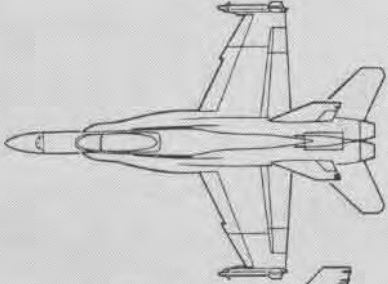
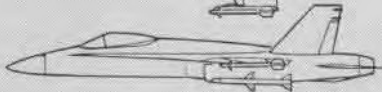
While the general configuration of the YF-17 was retained, the F-18 became a completely new airplane. To meet the single-place fighter and attack mission capability, full use was made of new technology in digital computers. Coupled with cathode ray tubes for cockpit displays and appropriate controls based on thorough pilot evaluations in simulators, a single airplane and subsystems configuration for both missions was evolved and the *Hornets* are now F/A-18s, a new type of designation recognizing their dual capability.

During development, two-place trainer versions were added, to be built in limited numbers as TF/A-18s, inter-



YF-17



Length	56 ft.
Height	15.3 ft.
Span	37.5 ft.
Speed	Mach 1.8+
Ceiling	50,000 ft.+
Armament	Sparrow, Sidewinders, 20mm Gun, Bombs
Power plant	Two General Electric F404-GE-400

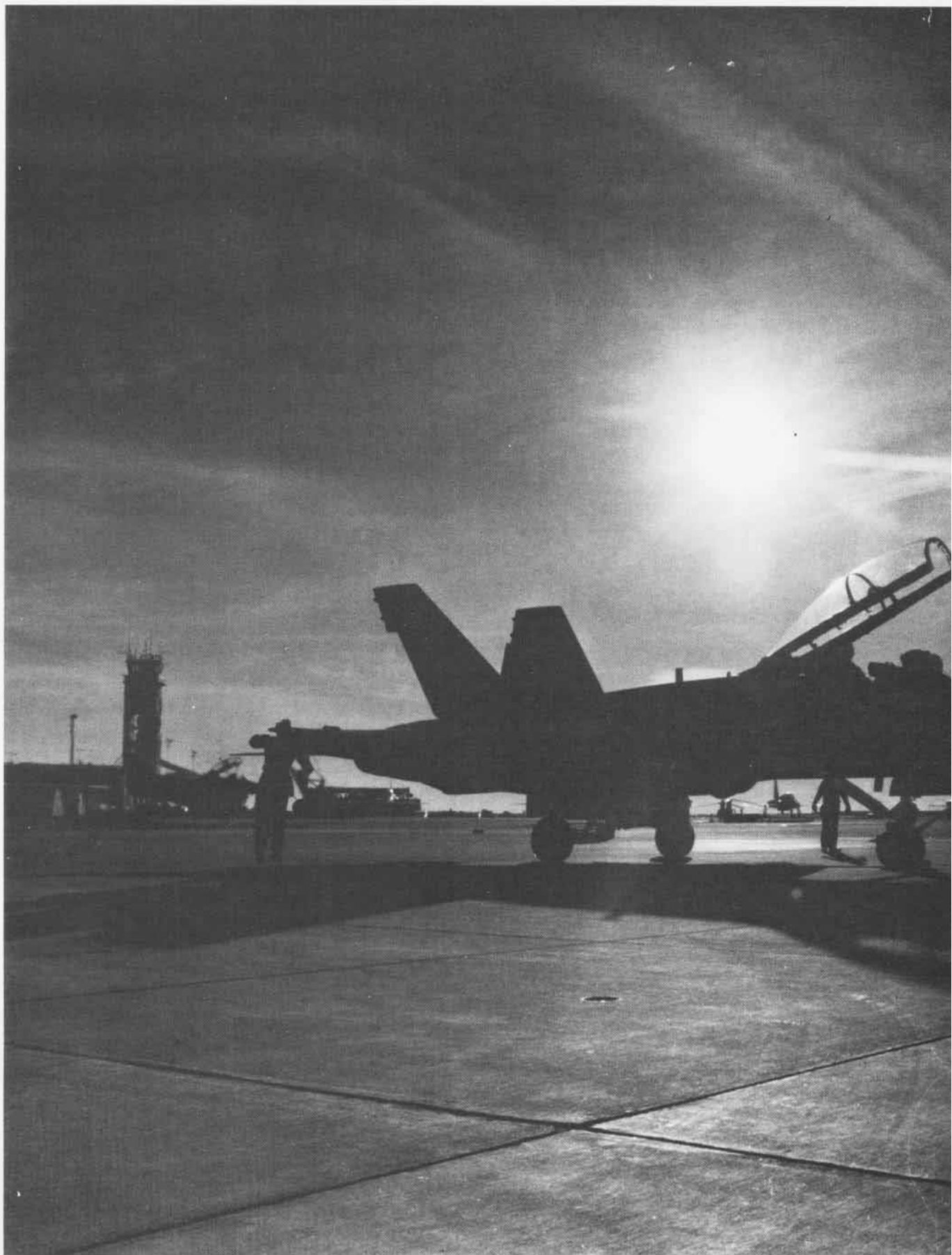
mingled with the basic F/As. Minimum changes were made to incorporate the second cockpit, with the two-seat airplanes retaining the ability to perform combat missions.

Making the first flight in November, 1978, the F/A-18 and its two-place derivative have undergone most of their development testing at the Naval Air Test Center, under the new single-site testing concept. While much attention, both internal and external, was focused on development problems, these have largely been typical of those in any new program with their resolution being part of the develop-

ment process. For the most part, these have occurred in the basic aircraft hardware rather than in the digital electronic systems.

The initial production airplanes, the first training F/A-18s have been in service with VFA-125 since November 1980. VMFA-314, 323 and 531 will be the first operational squadrons to receive the *Hornet*. The new capabilities introduced by the F/A-18 have met with an enthusiastic response among operating personnel and the *Hornet* promises to deliver its sting whenever and wherever threatened in future years. ■







HORNET

A New Name for Air Supremacy

By PH2 Phil Eggman

Through Telegraph Pass at 420 knots, two F/A-18 *Hornet* jet fighters enter the range, level at "Angels one five," and scan the early morning sky for the enemy.

Hornet One's radar locks onto a target. He transmits, "Contact. . . a single. . . on the nose at 15,000."

Hornet Two climbs to 25,000 feet to gain an offensive position. Suddenly the radar blip separates. "We've got two . . . the wingman is splitting left and high," replies *Hornet Two*. "I'm showing 1,000 knots overtake."

"Six miles. . . in the box. . . four miles, tally ho," replies *Hornet One*. "It's an A-4, shoot, shoot!"

"Fox One," calls *Hornet Two*, and the computer sends the simulated missile on its way to a lethal kill.

As *Hornet Two* pitches back to assist, he hears *Hornet One* call a shot on the remaining bogey. The computer scores the shot as a miss as the bogey pilot hauls his aircraft into a vision-dimming, six-G turn.

Hornet Two maneuvers into a cover position while *Hornet One* strives to regain the offensive advantage.

"Fox Two," calls *Hornet One*. "Good kill," is the call over the radio from the computer monitor station.

Both aircraft turn west and "bug out" in full afterburner, streaking toward "good guy" country at the pass. The entire fight is over less than 30 seconds after the pilots initially sighted each other.

What just transpired was a segment in a continual training scenario which gives fighter pilots from the U.S. Navy and Marine Corps an opportunity to master the art of air combat maneuvering (ACM) at NAS Lemoore, Calif.

During these training sessions, ACM instructors expose fighter and attack pilots to as much combat stress (multiple Gs plus dynamic geometry) as possible before they are involved in a real fight. Making positive ACM habits second nature in the pilot, in both the offensive and defensive environment, is a main goal in the training mission.

Now it was the turn of the new kid on the block — the *Hornet* strike fighter. The F/A-18 *Hornet*, a single-seat multimission strike fighter, is the Navy and Marine Corps answer to an airborne threat into the next two decades. It

replaces the A-7 *Corsair* light attack jet and the aging F-4 *Phantom* fighter.

The A-7 is an excellent light attack jet, except that its ability to defend itself is limited — it usually goes in over the beach with an F-4 or F-14 escort. It is also quite a bit slower compared with the speed of the *Hornet's* engines. The F/A-18 can project power with the same amount of ordnance, yet protect itself with *Sidewinders* and cannon, with power to spare. It provides its own escort by performing the attack and fighter missions simultaneously.

To introduce the new F/A-18 to the fleet and train pilots and support crews, Fighter Attack Squadron 125 (VFA-125) was established in November 1980 on board NAS Lemoore, Calif.

Since the arrival of the *Hornet* at NAS Lemoore, Navy and Marine Corps fighter pilots have been getting accustomed to the capability of their new strike fighter. Pitting the *Hornet* against other types of aircraft in a simulated air-to-air engagement gives pilots the most effective training possible.

The adversary pilot and aircraft are the key elements in a realistic mock aerial battle which must be as much like an actual enemy encounter as possible.

Squadrons conducting air combat training call on Attack

Squadron 127 (VA-127) to provide the realism by flying the A-4 *Skyhawk*, which is similar to the Soviet-made MiG-17.

Navy Lieutenant Phil Scher, an adversary pilot attached to VA-127, has flown against nearly every fighter in the U.S. Navy, Air Force and Marine Corps inventories, including the F-14 *Tomcat*, F-15 *Eagle* and the F-16 *Falcon*, during his two years in the squadron.

"Our mission is to fight against U.S. military aircrews using Soviet formations and tactics in the ACM arena," Scher said, "This allows pilots to encounter Soviet tactics and see how well they fly against them."

Adversary pilots are not rookies in the art of aerial combat. The critical nature of ACM training requires that they be highly trained specialists in enemy aerial tactics. After learning enemy combat techniques at the Air Force Soviet War Awareness Air School in Washington, D.C., a VA-127 adversary trainee will observe his instructor from the backseat of a TA-4 (two-seat A-4 trainer) for six months before taking the driver seat as a qualified bogey pilot in the actual training-situation dogfight.

"We know what the Soviets do and how they are going to operate in a defensive environment," Scher explained, "so when we come into a fight, we become the bogey by

A VFA-125 *Hornet* launches on a mission armed with *Sidewinders*.



thinking like an adversary and giving a pilot the chance to counter our tactics with maneuvers of his own."

Six months after the arrival of the F/A-18 at the 18,000-acre naval air station at Lemoore, VFA-125 strike fighter pilots were ready for an adversary encounter.

"We had reached a point in our training experience level on the F/A-18 where we needed to bring in some adversary aircraft to fly against for one-versus-one comparisons," said Navy Captain James W. Partington, then VFA-125's commanding officer. "These comparisons gave us an idea on how well the F/A-18 would perform in a real ACM environment."

In August 1981, adversary pilots and aircraft were provided by VA-127 from Lemoore and the Navy Fighter Weapons School (Top Gun) at NAS Miramar, San Diego, to assist in the F/A-18 ACM evaluations. Top Gun's primary function is to provide air-to-air instructor training for fleet fighter pilots.

Up until that time, adversary pilots had never gone up against the new strike fighter and details concerning the aircraft's capability were unclear. With great anticipation, Top Gun took on VFA-125, partly to clear some of the smoke concerning the F/A-18's ability as an air combat fighter.

"We were interested in seeing the performance of the F/A-18 for ourselves, mainly to find out how to use the new jet to its full potential," said Marine Major George Stuart, one of two Top Gun instructors who flew against the F/A-18 in that August encounter.

During the four-day ACM training, Major Stuart piloted the A-4 *Skyhawk*, along with the F-5 *Tiger* which simulates the Soviet MiG-21.

"In terms of ACM, the F/A-18 to me is as capable as any fighter in our modern military," Stuart said. "As an extra-high performer, the *Hornet's* capability and weapons system are well suited for fleet defense, more so than the F-4 that it is replacing." The *Hornet's* fighter escort radius is much greater than the F-4's.

Navy Lieutenant John C. Forrester was the second Top Gun pilot to pit his skills against the F/A-18. His experience consists of flying the F-4 *Phantom*, F-5 *Tiger*, as well as the F-14 *Tomcat*, in and out of the adversary role.

"I was interested in what the *Hornet* could really do, especially after the initial controversy about it," he said. "At the conclusion of the mission, I found that there was really no comparison between the F/A-18 and our adversary aircraft; in fact, I think the *Hornet* and Air Force F-16 would be a great match."

What impressed Forrester most during his sorties against the *Hornet* were VFA-125's pilots who, with very little time in the new airplane, were able to take anything that the adversaries threw at them. "Obviously," he said in summing up his feelings, "the *Hornet* is very easy to fly and an experienced pilot can reach a high level of competence in a very short time."

Designed with a twin-mission strike/fighter capability, the F/A-18 will soon be found aboard aircraft carriers at sea as well as in various squadrons ashore. Marine Fighter Attack Squadron 314 (VMFA-314), based at El Toro, Calif., will be the first operational squadron to transition from the F-14 to F/A-18, to be followed by VMFA-323 and VMFA-531 and two A-7 squadrons as NAS Lemoore.



Inside the Tactical Aircrew Combat Training System (TACTS) van at MCAS Yuma, an air-to-air dogfight is depicted on the monitor screen. The display is created from signals transmitted from electronic pods attached to the fighters, and recorded for replay later.

The F-14 *Tomcat* has a far-out capability that well suits it for long-range fleet protection. Its *Phoenix* missiles give it a superb long-range, shoot-down capability but there are not enough F-14s to close the 360-degree outer circle perimeter. The *Hornet* will fill the gaps close in if any enemy fighters penetrate that perimeter. Its primary missions then will be fighter escort and inner circle fleet air defense.

While serving as an attack aircraft, the F/A-18 can be loaded with up to 18,000 pounds of various air-to-ground weaponry to meet the enemy on the ground or at sea.

The multirole concept is possible at the squadron level where the aircraft can be reconfigured from the attack to fighter version, and vice versa, in less than one hour. This allows the battle group commander great flexibility in tailoring his forces to meet the ever-changing threat in combat.

Hornet has a multimode pulse doppler radar system that can detect, track and draw a bead on the adversary target, no matter what weather conditions exist. By utilizing the radar (the AN/APG-65, built by Hughes Aircraft) in combination with the *Sparrow* AIM-7 radar-guided missile, the F/A-18 becomes a formidable opponent in the beyond-visual-range weapons envelope.

Close-in visual combat is critical when strikes are coming out and going in, and the air is contested by the enemy.

There is a requirement to visually identify a foe to preclude shooting down a friend. Although a long-range *Sparrow* environment is ideal, close-in targets call for *Sidewinder* AIM-9 heat-seeking missiles and a six-barrel, 20mm Gatling-type gun. The *Hornet* has all three — more than enough sting to meet any enemy.

Complete control of radar and communications, as well as weapons selection, are put at the pilot's fingertips with the F/A-18's hands-on throttle and stick. This control, along with the heads-up display (HUD), is essential for the single-pilot cockpit since the built-in automation allows the pilot to control his radar while firing his weapons without taking his eyes off the adversary.

Aiding the pilot's visibility is the carefully designed canopy that allows him to see virtually everywhere. There is no blind cone behind him, as with some other aircraft.

The combination of weapons system built into an airframe with two powerful F404 General Electric jet engines (16,000-pound-thrust class each) places the F/A-18 in the top bracket of modern high-performance jet fighters.

Its ease of maintenance and built-in test system are simplicity derived from sophistication, a simplicity needed in a combat environment. The test system displays exactly what's wrong. A mechanic can easily reach common repair areas and just pull a box to fix what's wrong in a matter of minutes. The *Hornet* engine itself can be changed in about 80 minutes by fleet personnel, normally a 24-hour job on other aircraft.

In the past, sending fighter aircrews up in sophisticated aircraft to train for air-to-air combat proved to be dangerous as well as costly. At the same time it did not provide the aircrew with an adequate level of air combat training experience.

In answer to this dilemma, the Tactical Aircrew Combat Training System (TACTS) was conceived and introduced to U.S. military aircrews with the sole purpose of giving the pilot a fighting chance in the aerial dogfight arena. Developed and produced by Cubic Corporation's Defense Systems Division in San Diego, TACTS enables fighter pilots to engage in realistic air-to-air combat training, utilizing simulated weapons firing.

The Navy calls the system TACTS while the Air Force uses the term ACMI (Air Combat Maneuver Instrumentation). TACTS/ACMI became the proper expression for the electronically operated range.

The TACTS/ACMI range at Yuma is capable of tracking up to eight aircraft at a time, while simulating missile firings and recording the entire program on video tape. When replayed for the pilots after their return to base, the system provides precise reconstruction of the fight, enabling each aircrew to evaluate training accomplished during the aerial dogfight mission.

While aircraft maneuver in simulated battles, pilot progress is monitored from the ground on a large television screen in a display and debriefing van. It is there that the entire mission profile, including airspeed, altitudes, relative positions, weapons utilization and firing results are viewed by instructors and recorded for replay to the pilots engaged in the fight above.

The van receives its data from the range via signals sent from electronic pods attached to the supersonic fighters operating thousands of feet above the dry Arizona desert. Solar-powered antennae receive the signal on the ground and pass them on to the van through series of microwave relay stations.

"I had the opportunity to fly in the back of one of the TF/A-18s (twin-seat version of the *Hornet*)," said Lt. Phil

In the foreground, under the watchful eye of the VFA-125 instructor pilot in the two-seat training version of the F/A-18, the trainee practices close formation on the operational version of the *Hornet*.



McDonnell Douglas

Scher, who was VA-127's officer in charge at the Yuma detachment. "After I was able to observe the *Hornet's* performance from up close, I can honestly say that the F/A-18 is magic. I don't think that there are many airplanes, if any, that are capable of physically beating the *Hornet* in the air. It is the type of aircraft where you would have to outsmart the pilot to win the fight."

Although the F/A-18 is superior to the small hard-to-see A-4 *Skyhawk*, the unseen adversary tactic proved to be the greatest threat during the mock dogfights.

"If we had gone to Yuma and never lost a fight, there would have been no point in training, since the whole idea was to learn from our mistakes in order to be prepared for an actual engagement with the enemy," said Marine Major Donald Beaufait, then VFA-125's operations officer. "The *Hornet* is a tremendous airplane. The number of times that an F/A-18 was shot down was not due to the aircraft being inferior, but because the pilots had very little experience flying the new fighter — and VA-127's pilots are excellent and experienced adversaries."

According to Beaufait, one of the main objectives in the training, besides evaluating VFA-125's F/A-18 pilot training syllabus, was to teach the squadron's pilots how to operate the *Hornet's* weapons system while in an ACM environment.

At one point during the ACM training, Maj. Beaufait piloted an F/A-18 against two slatted F-4S *Phantom* fighters in succession. Starting from a position of complete disadvantage, his *Hornet* was able to gain the advantage and fire a missile for a kill within 46 seconds.

"The F/A-18 has an excellent radar, probably the best of any fighter," says Dr. David Fenton, an air-to-air combat specialist from the Center for Naval Analysis, Alexandria, Va. "The *Hornet* turns extremely well and has tremendous acceleration speed. It was far superior to any aircraft that it was pitted against in this ACM training period."

Fenton reviews and studies videotapes from ACM training and analyzes them to see how effective one aircraft is against another. Besides evaluating tactics and deciding which maneuvers are better than others, Dr. Fenton checks to see how many shots are fired and how effective the pilots and their aircraft are during the training.

Though still a neophyte in the tactical air arm of the Navy's defense forces, the *Hornet* is rapidly proving itself to the pilots who have flown it to be a welcome addition for future capabilities of fleet and fleet Marine squadrons.

Experience to date has revealed the aircraft to be a superior piece of aeronautical engineering. Its maneuverability and advanced weapon system combine to provide the hardware portion of the formula for a successful fighter aircraft.

A second portion of the formula is the training which extends beyond the pilots flying the aircraft in mock warfare against simulated enemy aircraft operating over highly sophisticated ranges. It involves the personnel who maintain the machine, keep it flying and ensure that its sophisticated electronic weapons system and flight controls operate flawlessly.

The third part of the formula for a successful fighter is an intangible item which cannot be built by a company or

learned through training. It was identified by Air Marshall Adolph Galland, commander of the German Luftwaffe, when he said, "Only the spirit of attack born in a brave heart will bring success to a fighter aircraft, no matter how sophisticated it might be."

VFA-125 has the aircraft and the spirit. Its job now is to provide the training to ensure that the F/A-18 *Hornet* is the most successful strike fighter possible.

It must be successful enough to back up the *Tomcat* in inner circle fleet air defense and put the right ordnance on the right target in the enemy's backyard — and then fight its way back through an enemy-cluttered sky.

"ACM training, and lots of it, is what we are going to get into so that we will be ready for the real thing," as one seasoned fighter pilot put it. "Even then, there will always be something new to learn." ■

First Hornet Pilots Complete Training

By PH2 Phil Eggman

When Marine Captain Clifford D. Wyllie first glanced over an F/A-18 NATOPS manual, it was like reading something in a different language. "At first it was totally unfathomable," said the VMFA-314 pilot. But he quickly added, "Once I got into the *Hornet's* systems, I found them to be logical and practical."

Wyllie and First Lieutenant Pat Haake, also of VMFA-314, were the first F/A-18 replacement pilots (RPs) to complete VFA-125's five-month pilot training syllabus. "It was a challenge to go through the training. The F/A-18's systems were totally new to me in more than one way," Wyllie said with a note of achievement. His experience in aviation was gained mostly while serving as an instructor pilot in the T-2 trainer jet with VT-23, NAS Kingsville, Texas.

Also a T-2 instructor, previously with NAS Beeville's VT-26, before reporting to VMFA-314 in January 1981, Haake was surprised to learn he would begin F/A-18 training sooner than the other pilots in VMFA-314, the first Marine squadron to transition to the *Hornet* in the fleet.

Both pilots stated that their purpose was to help the F/A-18 replacement air group (RAG), VFA-125, put the final touches in the training syllabus that would teach Navy and Marine Corps aviators to fly the new strike/fighter. "We were here to assist and go through the training ourselves so that the program's strengths and weaknesses could be evaluated before the first classes began," explained Haake. "The training was excellent, and it will continue to get better as the program evolves."

According to Ensign Evan S. Jones of VFA-125's in-

structional systems development department, the current pilot syllabus is divided into three phases: transition, air-to-air and air-to-ground. Phase one teaches the student the basics needed to fly the *Hornet*, while phases two and three provide air-to-air and air-to-ground information in aircraft systems, weaponry and fighter/attack philosophy.

Jones said that a fourth phase will be added in carrier qualification sometime this year before the first Navy squadrons, VAs 25 and 113, turn in their A-7 *Corsairs* for F/A-18s.

Training begins with academics taught through audio-visual and computer-assisted instruction at the Hornet Learning Center located at NAS Lemoore. Next, with information learned in the classroom, RPs fly two F/A-18 simulators: the part task trainer (PTT), device 15C13, and the operational flight trainer (OFT), device 2F132.

The PTT consists of simplified F/A-18 cockpits using actual aircraft hardware. The simulator will train the RPs in the operation and use of the F/A-18's advanced APG-65 radar in the air-to-air mode. Using three visual displays, the OFT simulates actual flight in the *Hornet* from takeoff to landing. A third simulator, the weapons tactic trainer, which will be ready for operation in late 1983, will provide advanced air-to-air radar training while simulating air combat maneuvering against various enemy aircraft.

Jones said that after the RP has gone through the academics at the Learning Center and has flown the simulators, he is taken up for an actual flight with one of 30 VFA-125 instructor pilots in a twin-seat TF/A-18A *Hornet*. "The simulators were great," said Haake. "The OFT trainer prepares you for your first hops because it is so realistic. I found the OFT to be harder to fly than the real thing."

The first full pilot class graduated from the F/A-18 training on December 15, 1982. ■

VFA-125 Finishes F/A-18 Carquals

By PH2 Phil Eggman

Fighter Attack Squadron 125 (VFA-125) reached another milestone toward F/A-18 fleet introduction with the successful completion of its first carrier qualification (CQ) operation last October. The exercise provided VFA-125 pilots and maintenance personnel with hands-on training in the *Hornet* strike/fighter for the first time in a carrier environment. "This phase of F/A-18 introduction was the most demanding in pilot aircraft training," said Commander Jerry D. Palmer, VFA-125's skipper.

During the eight-day exercise which began September 27, 1982, two single-seat F/A-18s were deployed from NAS Lemoore, with seven officers and 16 enlisted men, aboard *Constellation* (CV-64). Ten touch-and-go landings and 57 day and 24 night arrested landings were logged among the six pilots who participated in the evolution.

According to Lieutenant Commander D. W. Gabriel,

McDonnell Douglas





The tactical paint schemes make it difficult to accurately identify this flight of four Hornets — two F/A-18s and two TF/A-18s — as being from VFA-125.

An adversary TA-4 Skyhawk from VA-125 is near touchdown at the adversary squadron's NAS Miramar home base.



JOC Kirby Harrison

officer in charge during CQ, a major reason for the exercise was to validate the carrier landing phase of VFA-125's pilot training syllabus. "Basically, every stage of our training syllabus had been validated up to this point," he said. "We needed to make sure that the training would be compatible with current squadron needs in carrier operations involving the *Hornet*. We also wanted to see how the F/A-18 handled in the carrier environment."

Gabriel added that an additional training objective was reached with the designation of two landing signal officers (LSOs) for the F/A-18 — Lieutenants Dave Thompson and James M. Daigneau. "The LSO is responsible for the safe approach of an aircraft during the terminal phase, or when the aircraft is about a mile from the ship," said Daigneau. "He can see what the pilot can't and, if something goes wrong during the approach, he will warn the pilot to correct it before a dangerous situation arises."

Concerning the results of the LSO observations during the exercise, Lt. Thompson said, "The *Hornet* is an extremely flight-path-stable aircraft on the glideslope. It is comfortable and safe to wave with its excellent power response." He concluded, "I believe that the F/A-18 will be a welcome addition to any RAG or fleet LSO's program." ■

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1982 issue of Douglas Service magazine.

Skyknight

By R. E. Williams



A Douglas F3D Skyknight with
four Sperry Sparrow air-to-air
guided missiles on the racks.



The F3D *Skyknight*, one of Douglas' lesser-known designs, was the U.S. Navy's first jet-powered night fighter. It was the world's first jet fighter to destroy another jet in night combat, and it destroyed more enemy aircraft during the Korean War than any other Navy or Marine fighter. The F3D also made the first automatic carrier landing.

In 1945, the Navy was on the threshold of the jet age. It was sponsoring several jet engine development programs and was formulating specifications for new aircraft designs. Late in the year, specifications for a two-place night fighter and a single-seat day fighter were complete, and discussions were held with Curtiss, Douglas, Fleetwing and Grumman.

These discussions led to the placing of two orders. On April 3, 1946, the El Segundo division of Douglas was given a contract for three prototype two-place night fighters designated XF3D-1. This was followed by a contract to Grumman for the XF9F-1 single-seat day fighter.

Night-fighter specifications called for a twin-jet aircraft capable of operating from existing aircraft carriers. It was to be capable of detecting enemy aircraft 125 miles away, traveling 500 miles per hour at a maximum of 40,000 feet altitude.

Design of the XF3D-1 was fairly conventional, with a straight midwing and an empennage similar to that of the then new AD *Skyraider*. A tricycle landing gear arrangement was selected for greater stability in takeoff and landing, and an auxiliary tail wheel was installed to protect the aft structure in hard landings.

Speed brakes, like those on the *Skyraider*, were installed on the fuselage sides forward of the tail. Fuel was carried in the fuselage above the engine nacelles. Three tanks with a total capacity of 1,003.3 gallons gave the XF3D-1 a combat range of 1,126 nautical miles. Additional fuel for extended missions could be carried in

two 300-gallon under-wing drop tanks.

The two-man crew rode side by side in a pressurized air-conditioned cockpit which was located well forward of the wing to provide excellent vision. Controls and instruments were conventional, except for indirect red lighting for the instruments. Control handles were designed to resemble the component they operated. For example, the landing gear handle had a circular knob resembling a wheel.

The Westinghouse J34-WE-22 turbojet, rated at 3,000-pounds static thrust, was selected to power the three prototypes. The turbojets were set in tunnel-like installations in the lower fuselage below the wing roots permitting easy access for maintenance. A standard bomb hoist was used to lower an engine onto a dolly and to reinstall a new one. An engine change with this system could take just one hour.

A novel escape system was employed on the F3D. The system proved to be simple, safe and weight saving. (Ejection seats were unreliable in those days and impractical to install in the *Skyknight*.) For emergency evacuation, flight crew members slid down a chute which opened aft of the cockpit and angled aft about 40 degrees, ejecting from the lower fuselage. The door covering the lower exit was activated by an explosive charge. It opened forward to serve as a windbreak for the escaping airman. This system proved to be safe at flight speeds of up to 500 miles per hour, though it required much testing before the Navy was convinced of its practicality.

The *Skyknight's* armament consisted of a battery of four 20mm cannons located beneath its radar package and fixed to fire forward. In addition, two 1,000-pound bombs, a variety of other ordnance or auxiliary fuel tanks could be carried on underwing pylons located just inboard of the wing-fold joints.

The Westinghouse APQ-35 search and target-acquisition radar package



Equipped with the Bell Automatic Landing System, the F3D made the first automatic carrier landing on August 12, 1957, piloted by Cdr. Don Walker aboard USS *Antietam*. Here, the *Skyknight* makes a routine field landing.

was located in the fiberglass nose. Weighing nearly half a ton and containing nearly 300 vacuum tubes, it remained a maintenance man's nightmare throughout its life. The vacuum tubes were the main source of trouble. Being extremely sensitive to shock and environmental changes, they required almost daily replacement. When solid-state electronics replaced the vacuum tubes, no one mourned their passing.

On March 8, 1948, the first XF3D-1 (BuNo 121457) was loaded aboard a flatbed trailer at El Segundo. With its outer wings removed, it was trucked to Muroc Air Base where its maiden flight was made on March 23 with Russell Thaw as pilot. No major problems were found and, by October, the remaining prototypes were transferred to Muroc for further trials.

In June 1948, the first production order was placed for 28 F3D-1 *Skyknights* (BuNos 123741-123768). Though externally identical to the prototype, the F3D-1 carried additional electronic gear, with its gross weight increased by over 5,000 pounds. Initially powered by 3,000-pound static thrust Westinghouse J34-WE-32 turbojets, thrust was later increased to 3,250 pounds and the engines were redesignated J34-WE-34s.

First flight of a production model took place on February 13, 1950, with service trials starting in December at Moffett Field, Calif. The trials

were conducted by Composite Squadron Three (VC-3), after which the F3D-1s were assigned to Marine fighter squadron VMF(N)-542.

Though the Korean War was taxing the resources of both the Navy and Marines, F3D-1s were kept in the U.S. for testing and training flight crews of squadrons to be equipped with the F3D-2s then in production.

Ordered in August 1949, the F3D-2 was to have been powered by 4,600-pound static thrust Westinghouse J46-WE-3 turbojets requiring larger nacelles. However, teething problems with the new engine persisted and the first F3D-2 made its initial flight on February 14, 1951, with 3,400-pound static thrust J34-WE-36 engines. Continuing problems with the J46 engine caused the program to be cancelled, and all F3D-2 *Skyknights* were delivered with J34-WE-36 engines in the larger nacelles.

Improvements in the F3D-2 included better cockpit air conditioning, electronic equipment and windshield. New equipment included an automatic pilot and wing spoilers.

An F3D piloted by Commander Don Walker made the first automatic carrier landing on August 12, 1957, using the new Bell Automatic Landing System. In tests performed on USS *Antietam* from August 12 to 20, Walker made nine arrested landings and 45 touch-and-go landings with the system.

The F3D-3, a swept-wing version of the *Skyknight* to be powered by Westinghouse J46 engines, had been ordered. But when the J46 program was cancelled, F3D-3 projected performance with the J34-WE-36 engines showed insufficient performance improvement to warrant production of this model. Therefore, contracts for 287 F3D-3s were cancelled in February 1952 before any were completed.

The first *Skyknight*-equipped unit to see combat in Korea was Marine squadron VMF(N)-513. The *Skyknights* commenced operations from K-2 airfield in June 1952. One of their crews made history on the night of November 2, 1952, by shooting down a North Korean Yak-15. This action



This front view of the XF3D shows the extra wide cockpit in which the pilot and enlisted systems operator sit side by side.

marked the world's first jet-versus-jet-fighter recorded kill in night operations. Major William Shatton was the pilot, with MSgt. Hans Hoagland operating the radar.

As enemy night intruder operations increased, night fighter operations expanded. VMF(N)-542 joined the other Marine *Skyknight* squadron after trading in its F3D-1s for F3D-2s.

As combat experience increased, the number of destroyed enemy aircraft mounted. By the end of the Korean War, the *Skyknight* had downed more enemy aircraft than any other Navy or Marine fighter.

After the Korean War, *Skyknights* continued frontline duty with Marine Corps units well into the 1960s. However, *Skyknight* service life with the Navy was much shorter. After being replaced by faster, more maneuverable, single-seat all-weather fighters, the Navy's *Skyknights* were used for training and experimental purposes. F3Ds received various modifications to

adapt them to their new roles.

The first modification adapted the second prototype XF3D-1 (BuNo 121458) for missile launching. The aircraft was fitted with four racks on the outer wing panels and was used by Air Development Squadron Four (VX-4) to test the *Sparrow* air-to-air guided missile. It was operated out of Point Mugu, Calif., in support of the Navy's missile development program. Later, 12 F3D-1s and 16 F3D-2s were similarly modified for missile launching and redesignated F3D-1Ms and F3D-2Ms, respectively. Five F3D-2s became F3D-2T night fighter trainers.

The modification involving the greatest number of *Skyknights* was the radar-operator trainer version. Fifty-five were outfitted for this role and given the designator F3D-2T2.

Another 35 F3D-2s were modified for electronic countermeasures duty and had their designation changed to F3D-2Q. They were operated over Vietnam by Marine Composite Squadron One (VMCJ-1).

Affectionally called "Willie the Whale" by Marine pilots and generally considered an "old man's airplane" by the services, the *Skyknight* suffered from being underpowered. However, it was reasonably quiet, easy to fly, and smoothly responsive to the controls.

After amassing an impressive combat record in Korea and Vietnam, and serving many years in various ancillary roles, the *Skyknight* was retired in 1969.

A total of 268 *Skyknights* were produced between April 1946 and March 1962, including three XF3D-1 prototypes (BuNos 121457-459), 28 F3D-1s (BuNos 123741-768) and 237 F3D-2s (BuNos 124595-664, 125783-882, 127019-085). In September 1962, *Skyknights* were redesignated under the tri-service aircraft identification system: F3D-1 (F-10A), F3D-2 (F-10B), F3D-2Q (EF-10B), F3D-2M (MF-10B), and F3D-2T2 (TF-10B).

The *Skyknight* should have faded into aviation history after nearly two decades of service — and most examples did. However, three F-10s are still operational today. Working out of Holloman AFB, New Mexico, they are operated in support of Army air defense missile testing at nearby White Sands Missile Range. Most unusual — a retired Marine joining the Army! ■



This F3D-3 is on final approach to Intrepid (CVA-11) in 1954.

Command Histories

Another View



Roy A. Grossnick

Each year at this time the people responsible for preparing their unit's command history utter a few unprintable words about their task and wish they were off flying or doing something else. Naval Aviation News, a long-time supporter of the need for good historical records, decided to interview the historian in the Naval Aviation History Office (Op-05D2) who handles the command histories. While OpNav Instruction 5750.12C of January 29, 1980, contains detailed information on preparing a history, we thought this interview would help to clarify the purpose of this most important report.

Our interview is conducted with Mr. Roy A. Grossnick, Assistant Historian. He has a graduate degree in history and has been with the Naval Aviation History Office since 1980.

NA News: What is the purpose of the command history program?

Mr. Grossnick: In order to answer that question adequately, I must say that the Naval Aviation History Office has for more than 40 years been dedicated to collecting, documenting and preserving the heritage of Naval Aviation. Its staff has ranged from a high of 20 to 25 personnel down to the present three — the senior historian, Mr. Clarke Van Vleet, myself as assistant historian, and archives technician, Mrs. Gwen Rich.

The initial mission of the history office was to compile the day-to-day administrative history of Naval Aviation from December 7, 1941, until the end of WW II. Its mission was modified in 1944 to include documentation and preservation of aviation unit histories, and today the office conducts a permanent program to cover Naval Aviation activities during peacetime as well as wartime.



Why are command histories important?

They are permanent records of Naval Aviation history. The original documents are preserved in the Naval Aviation History archives and are used to prepare briefs, monographs and a chronology of significant Naval Aviation events which have played a role in fostering the preservation of America's strength. The book *United States Naval Aviation 1910-1980*, published by this office in conjunction with the Naval Air Systems Command, provides a chronological record of these events. We also use the reports to provide statistical data, facts about operational activities, and other specific information to satisfy official government and individual requests.

Who uses the command history reports?

Many aviation commands request information on the history of their units for change of command brochures, anniversaries, reunions, retirements or composite (overall) histories. The offices of CNO, DCNO (Air Warfare) and other offices of the Navy Department utilize a wide range of data from the history reports. They are used by active duty individuals and the Naval Military Personnel Command to provide sea duty time. We also receive congressional inquiries and requests for information from aircraft manufacturers.

The Naval Aviation History Office is open to the public,

and any command history which is not classified or which has been declassified is available for research purposes. Numerous requests for data come in from authors, students and aviation associations, which we are able to supply from the command histories. Our office deals with many writers and aviation buffs from foreign countries, and we handle a large volume of questions from the general public.

What units are responsible for submitting command history reports to the Naval Aviation History Office?

All Naval Aviation commands/units listed in OpNav Notice C5400, *Naval Aeronautical Organization*, and all CV, CVN, LPH and LHA-class ships are required to submit the ORIGINAL copy of their command history report to this office.

When are command histories due?

The reports are due by March 1 each year, and they should cover only the previous calendar year. A composite history may be included but it is not acceptable as the yearly report.

What are the major topics which should be covered in the reports?

To simplify matters, I will list the items that should be included in a *good* command history:

1. The focus of the report should be on *operations* or *activities* that deal with the command/unit's primary mission.
2. A statement of the command's mission should be included along with the name of the commanding officer.
3. The name of the immediate senior command (administrative and operational).
4. The type of planes assigned and their bureau numbers.
5. Dates and locations of at-sea periods, deployments, operations or major exercises; ships assigned to or deployed aboard; and rescues.
6. Information concerning any significant changes, accidents, unit awards, major construction projects, new weapons systems, home ports, significant statistical data, etc.
7. The names of any aviation, special or tenant units assigned to your command/unit.
8. Any items that provide a detailed account of specific activities the command/unit was involved in, such as change of command brochures, cruise/deployment reports, staff or intelligence reports, ship photos or photos of aircraft assigned, and organization charts of only major commands.

What items should not be included in a command history?

All material should be written so that a nonmilitary

person could easily understand it. If acronyms or technical jargon are used, they should be defined. The command histories come directly to our office, so it is not necessary to write the report from a public affairs angle. We are interested in *significant* facts only. Social events, such as golf tournaments, dinner parties, wives' club meetings, etc., should be excluded.

Are there any reports that a unit is required to submit to another command which may be substituted as part of the command history?

Definitely, and they are great timesavers for the person writing the history. If there are any monthly or annual reports which a unit has to submit and they fulfill part of command history requirements, they may be enclosed as part of the report. A good example is the Monthly Operating/Training Report which would serve as the required chronology.

Can classified command history reports be submitted?

Yes. It is acceptable to place classified material (confidential or secret) in command histories. Our only concern is that all classified reports have the proper downgrading and declassifying procedures stamped on them.

Is the Naval Aviation History Office responsible for any activities other than command histories?

We have several responsibilities besides the reports, but I think the one most of your readers would find of interest is the insignia program. The Naval Aviation History Office (Op-05D2) is the final approving authority for all Navy/Marine Corps Aviation command insignia. OpNav Instruction 5030.4C of November 6, 1974, is the applicable instruction. All Navy and Marine Corps Aviation commands/units, except ships, must get their insignias approved by this office before they can be used as official emblems. All insignias maintained by this office are for historical purposes only and cannot be removed. We do not maintain extra copies and do not have any available for public or command/unit personnel.

Do you have any other comments that you want to address to the command/unit historians or public affairs officers?

I have reviewed all of the command histories for 1981, and we had some excellent reports. We look forward to receiving the 1982 command histories and hope we have been able to make an important task easier to accomplish. If there are any questions concerning the reports or the aviation insignia program, please contact our office in the Washington Navy Yard, Washington, D.C. Phones: commercial (202) 433-4355 or autovon 288-4355.

Admiral Marc A. Mitscher

Above all else a Naval Aviator

By Jeanne Gray Hamlin

Admiral Marc A. Mitscher earned distinction as one of the U.S. Navy's great battle commanders because of his ability to make timely decisions and employ sound tactics in combat operations. The objectives of Mitscher's tactics were effective combat, aggressive action, precision, and the best use of the courage and skill of the men under him.

Adm. Mitscher was born in Hillsboro, Wisc., on January 26, 1887. He grew up in the Washington, D.C. area, attending intermediate and high school there. He graduated from the U.S. Naval Academy in 1910 and served at sea for two years, as required by law, before being commissioned on March 7, 1912.

In August 1913 he served aboard USS *California* on the West Coast during the Mexican Campaign. After subsequent duty on the destroyers *Whipple* and *Stewart*, he reported in October 1915 for aviation training at NAS Pensacola on board USS *North Carolina*, one of the first Navy ships to carry an airplane.

Mitscher was designated Naval Aviator #33 on June 2, 1916, and was assigned to the Naval Aeronautic Station, Pensacola, Fla., where he remained until the United States entered WW I. On April 6, 1917, he reported to USS *Huntington* for duty in connection with aircraft catapult experiments, which was followed by various assignments until February 1919 when he was transferred to the Aviation Section in the Office of the Chief of Naval Operations.

Later in 1919 Mitscher, then a

lieutenant commander, piloted one of the three NC seaplanes that attempted the first airborne transatlantic crossing. The NC-1, Mitscher's plane, and the NC-3 had to come down in heavy fog and were unable to complete their journey. The NC-4 went on and succeeded in making the historic crossing.

In September 1919, Mitscher joined USS *Aroostook*, flagship of Commander Air Detachment, Pacific Fleet, with additional duty later commanding the Detachment of Air Forces at Fleet Air Base, San Diego, Calif. After a short tour at NAS Anacostia, D.C. He was assigned to the Plans Division, Bureau of Aeronautics, in 1922.

In 1926 after a brief period on the West Coast aboard *Langley*, he was assigned duty in connection with fitting out USS *Saratoga*, the second U.S. aircraft carrier, which was commissioned on November 16, 1927. After commissioning, while serving aboard as air officer, Mitscher made the carrier's first takeoff and landing on January 11, 1928, in a UO-1. He left *Saratoga* in June 1929 to return to *Langley* as executive officer.

Mitscher had a series of staff and command assignments until July 1941 when he went to Norfolk, Va., for duty in fitting out USS *Hornet*. The carrier was commissioned on October 20, 1941, and Captain Marc A. Mitscher became her first commanding officer.

When the U.S. was plunged into WW II, Mitscher was aboard *Hornet*. Four months later the carrier became the "Shangri-la" from which American



Oil painting by Commander Albert K. Murray, USNR

planes under the command of Army Lieutenant Colonel James H. Doolittle took off on April 18, 1942, to bomb military targets on the Japanese homeland.

Aboard *Hornet*, the pilots of Torpedo Squadron 8 had been training for combat but had had no battle experience when the Japanese began their thrust to occupy Midway Island. The Japanese forces were unprepared for the U.S. carrier air attack against them which began on June 4, 1942, with the heroic but unsuccessful sortie by VT-8. En route to find the enemy carrier forces, the squadron C.O. Lieutenant Commander John C. Waldron felt that by separating from the rest of the squadrons VT-8 could more easily locate the Japanese carriers themselves. They found the enemy and attacked, but the slow torpedo planes were shot down with a total of 29 dead. Later that day, three of the Japanese carriers were hit and sank.

On June 4 Mitscher launched *Hornet's* scout bombers which, along with bombers from *Enterprise*, sank *Hiryu*, the fourth and last of the Japanese

carrier force.

Arleigh Burke (who subsequently became Chief of Naval Operations), while on Mitscher's staff in 1944, recalled, "Mitscher was a quiet, undemonstrative man and he said little, but all the rest of his life Mitscher thought of young Waldron and his squadron mates who sacrificed themselves with conspicuous courage against known odds. He sorrowed but thereafter he knew the valor of his pilots, and he measured all men against their standards."

Mitscher was relieved of command of *Hornet* in July 1942, three months before she was sunk in an air attack on October 26 at the Battle of Santa Cruz Islands.

He then commanded Patrol Wing Two until December 1942, when he became Commander Fleet Air, Noumea. In April 1943, now a rear admiral, Mitscher went to Guadalcanal as Commander Air, Solomon Islands, in charge of the Navy, Marine, Army and Royal New Zealand Air Force units. Guadalcanal had been secured but was still under constant enemy fire from the Japanese occupying the North Islands. Vice Admiral W. F. Halsey sent Mitscher, according to Arleigh Burke, because he "was a fighting fool and could handle the tough job."

Mitscher was awarded the Distinguished Service Medal, the citation reading in part: "...commanding units of the Army Air Force, Navy and

Marine Corps aviation groups and contingents of the Royal New Zealand Air Force, [he] achieved distinctive success in coordinating these various forces into a powerful offensive weapon against the enemy Japanese...inflicted tremendous losses upon the enemy, destroying more than 500 Japanese aircraft and sinking more than 20 vessels."

In August 1943 Mitscher assumed command of Fleet Air, West Coast, and in January 1944 moved on to command Task Force 58 which operated alternately with Task Force 38 in the Pacific.

This mighty naval force opened the campaign to capture the Marshall Islands. Under Mitscher's leadership and guided by his wisdom, Task Force 58 contributed directly to the capture and occupation of the Marshalls in February 1944. In the days that followed, the carrier task forces hit targets on Saipan, Truk, Tinian and Guam to reduce enemy air strength in the Marianas. Mitscher led his task forces in attacks against heavily fortified Japanese bases to support the amphibious landings at Hollandia in April 1944, and then led a second strike on Truk.

On June 11, Task Force 58 once again opened a campaign, only this time it went for the Marianas. As the fighting moved on into the Philippines, Mitscher's forces made strikes against airfields and installations in

the Luzon, Manila and Leyte areas. In October 1944, their operations were successful in damaging a major portion of the capital ships and carrier aircraft of the Japanese Navy.

In the closing months of the war, Mitscher led a series of attacks against the Japanese in support of amphibious landings on Iwo Jima and Okinawa. His forces penetrated Japanese home waters to strike airfields and installations in the Tokyo and Kyushu areas, defeating the last elements of the Japanese fleet in the Battle of the East China Sea in April 1945.

The method that Mitscher used in his campaigns was to have task group commanders carry on independently under broad limits, each to operate his task group strictly by doctrine, using good judgment in any necessary deviation, so that without radio or any other system for exchanging messages all the others would know what he would do. Mitscher also added many innovative tactics as he experimented with formations and maneuvers.

For his service and leadership in the Pacific campaigns, Mitscher was awarded gold stars in lieu of a second and third Distinguished Service Medal, the Legion of Merit with the "V" combat distinguished device, and gold stars in lieu of a second and third Navy Cross.

Mitscher returned to the United States as Deputy Chief of Naval Operations (Air) on July 10, 1945, and was appointed to the rank of admiral on December 28, 1945, effective March 1, 1946, on assuming command of the Eighth Fleet. In September 1946, Mitscher became Commander in Chief, U.S. Atlantic Fleet, and while serving in that capacity, he died on February 3, 1947, of a heart attack, after 41 years of continuous naval service.

Admiral Arleigh Burke paid Mitscher a fitting tribute: "... so great was his concern for his people — for their training and welfare in peacetime and their rescue in combat — that he was able to obtain their final ounce of effort and loyalty... A bulldog of a fighter, a strategist blessed with an uncanny ability to foresee his enemy's next move, and a lifelong searcher after truth and trout streams, he was above all else — and perhaps above all others — a Naval Aviator. ■



Lt.Cdr. Marc A. Mitscher (center) and Lt. Louis F. Barin dismount their NC-1 in May 1919 upon their arrival at Trepassey Bay, Newfoundland. UPI photo



TOUGH
200 60

Coming and Going With the Carriers

The carrier *Ranger* returned to her home port of North Island in October, following a six-and-one-half-month deployment to the Western Pacific and Indian Oceans. It was the 16th deployment for the 25-year-old, 80,000-



An F/A-18 Hornet catches the wire aboard *Constellation* during trials off the California coast.

Sharp Eyes in the Air Guide Marines on the Ground

The aerial observer watches closely as the battleground panorama unfolds beneath the OV-10 *Bronco*. The pilot edges the aircraft behind enemy lines as the observer notes positions of enemy camps and terrain. Completing the mission, the aircraft turns back and at a pre-designated rendezvous point drops a packet with the information to a waiting Marine unit.

It is a practice mission but one which, with repeated training, forges a vital link between Marine Corps air and ground elements to form an effective fighting team. It is training that combines practical experience with classroom learning.

As former platoon commanders and artillery officers, the aerial observers are familiar with the objectives and language of the ground unit commanders. And, to further hone their ability to operate as part of the air/ground team, they spend 11 weeks in intensive training at the Naval Aerial Observer School at MCAS(H) New River, N.C.

The course includes visual

reconnaissance and aerial photography, and the company grade officers attending from both the East and West Coasts are expected to develop basic skills in aerial navigation and map reading, aerial spotting for artillery and naval gunfire, and airborne forward air control for close air support. The course, consisting of approximately 250 hours of classroom instruction and 55 hours of flight time, is offered three times a year. Approximately 30 students are graduated annually, and half or more will fill an aerial observer billet at least once.

ton vessel, in which her crew recorded *Ranger's* 242,000th arrested landing. During the cruise, the ship and embarked Carrier Air Wing Two totaled an impressive 123 consecutive days free of foreign object damaged aircraft.

Aboard *Constellation* off the California coast, operational evaluation of the F/A-18 strike fighter took up much of the sea period from September 27 through October 3. In November, *Connie* took aboard fledging Naval Aviators. While the training carrier *Lexington* underwent a yard period in Mayport, *Constellation* took on the task of

carrier qualifications for student pilots from the Chase Field, Kingsville, Meridian and Pensacola naval air stations. The students flew out of NAS North Island during a five-day carrier qualification period, November 3-8. *Lexington* returned to duty in November after a 60-day yard period.

Also scheduled back on the line in the near future is *Saratoga* which was undergoing sea trials in late 1982 after a two-year Service Life Extension Program (SLEP) at Philadelphia Naval Shipyard. She is expected to return to the fleet in February 1983.

"The purpose of the school is to train ground combat arms officers to perform aircrew duties in the OV-10 *Bronco*," says Major Jack MacKenzie, director of the aerial observer school, adding that their students are taught as "...aircrew members who communicate with the ground and are familiar with the aircraft."

To be specific, the aerial observer is a man with "the eye of an eagle, the stealth and agility of a panther, and the cunning of a serpent."

Sgt. Dawn Eagen

Aerial observer 1st Lieutenant Mark Tifton (l.) connects his radio in preparation for a reconnaissance flight with pilot 1st Lieutenant Brian King.



Marine Reservists Stay Ready in the Midwest

Chicago and Midwest Marine reservists recently took to the field at Camp McCoy, Wisc., for strategic and tactical battle training. Marine Helicopter Squadron 776 out of NAS Glenview, Ill., along with the 2d Battalion, 24th Marines, participated in the series of realistic operations that included tear gas attacks, simu-

lated air and artillery strikes, and night maneuvers.

According to operational commander Lieutenant Colonel George Braun, "We've got the skills, we've got the equipment, and we've got the best fighting men in the world. Now we have to keep it that way."

Evaluating the results of the

battle training, Lt.Col. Braun noted an increase in both the quality and quantity of the training received over the past three years. "At this point," he said in expressing his satisfaction, "there is no doubt in anyone's mind that these Marines are fully trained and combat ready." JO2 Dennis Argyrakis



PHC Arthur Harrison



A Marine reserve helicopter flies ground support, while at left rifleman lets battalion headquarters know his people are ready to move out.

Helicopter Tactical Wing One Established

The rotary wing community recently marked a milestone with establishment of Helicopter Tactical Wing One on October 1 in ceremonies at NAS Norfolk. The new organization, a functional aircraft wing directly under command of Vice Admiral Thomas Kilcline, Commander Naval Air Force, U.S. Atlantic Fleet, is expected to facilitate the effective support of the five fleet squadrons now part of the wing. Formation of the unit was necessitated by a recent reorganization of Atlantic Fleet helicopter squadrons to coordinate with impending introduction of new helicopter weapons systems.

Helicopter Tactical Wing One staff will have both operational and administrative responsibilities in regard to material support, training and overall readiness of the airborne mine countermeasures and helicopter combat support communities. Included

are HM-12, HM-14, HM-16 and HC-6 at NAS Norfolk and HC-16 at NAS Pensacola, with a total of 52 rotary wing aircraft and approximately 1,600 persons assigned.

The new wing's commander is

Captain John W. Osberg, a veteran rotary wing aviator who has previously served as helicopter readiness officer on the ComNavAirLant staff and is a former skipper of Helicopter Combat Support Squadron Six.



An HM-16 Sea Stallion is readied for flight. HM-16 is one of three airborne mine countermeasures squadrons that will be part of the new helicopter wing.



PEOPLE · PLANES · PLACES

Awards

Winners of the 1982 Aviation Boatswain's Mate of the Year awards were ABH1 Brian Stump, NAS Bermuda, East Coast representative, and ABF1 Richard Borrego, *Kitty Hawk*, West Coast representative. The Aviation Boatswain's Mates Association symposium was held last summer at Norfolk, Va. RAdm. Jerry O. Tuttle, Commander Carrier Group Eight, was present to assist in the ceremony.

Cdr. Donald C. Hefkin, X.O. of VP-19 home-based at Moffett Field, recently received the Maritime Patrol Aviator of the Year Award from Admiral S. R. Foley, CinCPacFlt. This award is given annually by the Association of Naval Aviation to the individual or unit displaying outstanding operational or technical achievements related to flight operations in U.S. Navy or Coast Guard maritime patrol.

Records

VQ-2



Several activities marked milestones in years of accident-free flight time: VS-33, 22 years; VP-56, 18; VF-301, VS-31 and NAS Corpus Christi, 12; VS-29, 11; SOMS, MCAS Kaneohe Bay, 10; VC-13 and VAW-112, 9; VQ-2, 7; HS-10 and VA-25, 6; VAK-308,

VX-1 and VAW-117, 5; VF-161 and VF-1, 4; NavAirSysCom (flight test and evaluation, aircraft acceptance and rework), 1.

Other units marked their milestones in accident-free flight time in hours: VP-30, 180,000; NavAirResFor, 162,000; VT-21, 50,000; VA-113, 39,000; ComMAWing One, 37,000; First Marine Brigade, 34,000; VA-52, 28,000; VMO-2, 26,000; VQ-3, 18,200; VAW-88, 17,000; HMA-169, 15,000; VA-145, VMA-211 and VMFA-251, 10,000.

Brig.Gen. C. H. Pitman celebrated his 8,600th flight-hour mark, when he landed at Camp Pendleton, Calif., en route to Korea to assume the post of Assistant Chief of Staff, U.S. Combined Forces Command, Republic of Korea.

The following individuals recently achieved personal milestones during flight operations:

Lts. L. McKinnon and D. Meekins, USCG, flight instructors at HT-8, reached their 1,000th accident-free flight-hour mark in the H-57.

VA-145's C.O., Cdr. Mike Reilly, achieved his 4,000th flight hour in an A-6 *Intruder* on board *Ranger*.

VAW-116's Cdr. Robert H. Ekstrom and Lt.Cdr. D. Summerall completed 1,500 accident-free hours flying E-2Cs, while Lts. S. Roth, L. Etter and W. Hantjiss marked 500 accident-free flight hours in the E-2C.

Five pilots from VA-35 were presented plaques, for flying milestones in the A-6E *Intruder*, by Grumman's A-6 technical representative Rich Porter in ceremonies aboard *Nimitz*. Cdr. Randy Foltz received his 2,000-hour plaque and Lt.Cdr. Mark Banus and Lts. Skip Coppock, Kevin Lyles and Scott Walthall received their 1,000-hour plaques. The squadron is skippered by Cdr. A. H. White.

Cdr. Gerhard E. Skaar, X.O. of HS-11, completed his 5,000th flight hour while embarked aboard *America* during *Ocean Venture/Northern Wedding*, a NATO exercise.

Honing the Edge

Two *Swordsmen* of VA-145 flying an A-6 recently recorded another first with the successful launch of a live-warhead *Harpoon* missile. The missile was fired during a coordinated air wing war-at-sea strike in the Diego Garcia operating area. The *Harpoon*, released at 35 nautical miles from the target, a 157-foot WW II hulk, scored a direct hit. This event marked one of the first live-warhead *Harpoons* fired by a fleet A-6 squadron.



Lt.Cdr. Pat Twomey (l.) and Lt. Bob Ayers stand in front of their Intruder and Harpoon missile just prior to aircraft launch.

Blue Angels

The selection of new pilots and staff officers for the 1983 *Blue Angels* demonstration squadron was announced recently from their home base at NAS Pensacola, Fla. The tactical jet pilots for 1983 are: Capt. Mark Lauritzen and Lts. Curt Watson and Chris Ives. Capt. Ben Wyatt is their new C-130 transport pilot. Lt. John Virden was selected as the squadron's events coordinator. The staff officer selections for the team include: Lt. Doug Hill, maintenance officer; Lt. Jim Proctor, administrative officer; Lt. Dwight Fulton, flight surgeon; and Lt. Vance Moore, supply officer. During 1983 the *Blue Angels* will travel to over 45 cities around the U.S. and will perform over 75 air show demonstrations.

Et cetera

The *Red Lions* of HS-15, NAS Jacksonville, are the proud owners of what they believe is the second oldest H-3 in the U.S. Navy inventory, *Red Lion* 613 BuNo 148039. The aircraft's most recent achievement took place in the summer of 1982 when it flew its 8,000th flight hour. The *Red Lions* would be interested in hearing from any fleet squadron which may have a helicopter with as many flight hours as 613.

VP-4's *Skinny Dragons* proved that the Navy is not just an adventure but a family affair as well. VP-4, Barbers Point, not only has two brother teams but also one member whose family is definitely Navy-oriented, with five of its members in the service.



The first brothers to join the *Skinny Dragons* were AMS3 Todd Sommers and AEAN Rod Sommers. Todd was the first to sign up and was sent to VP-4 in May 1980. When his younger brother enlisted, he received orders to NAS Whidbey Island but traded them with another man in his company for orders to VP-4. (continued)



AEC Jeff Powers and younger brother AT2 Steve Powers are the second pair of brothers. Steve received orders to VP-4 in January 1979 and was joined by Jeff, a 10-year veteran, in September 1981.



AK2 Benjamin Requina has been with VP-4 now for two years. His three sisters are stationed at MCAS Futenma, NAS Miramar and NAS North Island. His brother is attached to NAS Moffett Field.

Recently, a formation of VQ-2 EA-3B *Skywarriors* was photographed over Rota, Spain. VQ-2's *Skywarriors*, also affectionately known as "Whales," provide the fleet with a carrier-based electronic reconnaissance capability. Although these aircraft are over 20 years old, they still perform a vital electronic warfare mission in support of the carrier battle group.



Change of Command

Admiral Wesley L. McDonald relieved Admiral Harry D. Train II on October 1, 1982 as Supreme Allied Commander, Atlantic; Commander in Chief Atlantic Command; and Commander in Chief U.S. Atlantic Fleet. With the simple words "I relieve you, sir," he assumed leadership responsibility for Allied and U.S. defense of the entire Atlantic Ocean area, for approximately 240,000 military personnel and 262 ships and 2,000 aircraft.



Adm. Harry D. Train II (l.) and Adm. Wesley L. McDonald (r.) exchange handshakes following change of command ceremonies on board John F. Kennedy (CV-67) at Naval Base Norfolk.

HMH-464: Lt.Col. Dale C. Ross relieved Lt.Col. Joseph G. Flynn.

NARU Memphis: Capt. Murl E. Husted, Jr., relieved Capt. Robert C. Evans.

NAS Atlanta: Capt. Ronald P. Hyde relieved Cdr. William A. Freise.

VA-97: Cdr. Thomas McClelland relieved Cdr. Michael Bowman.

VA-128: Capt. David D. Williams relieved Cdr. Rodney C. Franz.

VA-305: Cdr. J. Robert Degiorgio relieved Cdr. Douglas L. Bailey.

VAW-112: Cdr. W. F. Dufresne relieved Cdr. F. A. Miley.

VAW-121: Cdr. Terrill J. Wendt relieved Cdr. Donald E. Walker.

VF-43: Cdr. D. R. Woltz relieved Cdr. C. R. Brun.

VMFA-122: Maj. John R. Fogg relieved Lt.Col. William A. Forney.

VP-1: Cdr. Jon D. Holzapfel relieved Cdr. Charles G. Flint.

VP-31: Cdr. Clyde T. Moyer III relieved Cdr. Kenneth D. Sullivan.

VP-64: Cdr. Lou DiIullo relieved Cdr. J. J. Gareffa.

VP-94: Cdr. Herbert E. Hermann relieved Cdr. Frank J. Marlow.

VTC-11: Cdr. Larry L. Hofstetter relieved Cdr. Charles L. Tompkins.

PROFESSIONAL READING

By Lieutenant Commander Peter Mersky, USNR

Naval Aviation History Office, *United States Naval Aviation 1910-1980*. U.S. Government Printing Office, Washington, D.C. 20402. 1980. 547 pp. Illustrated and indexed. \$11.00.

A veritable treasure trove of concisely worded facts and interesting photographs, this large-format book belongs on every serious researcher's bookshelf, as well as that of even the casual reader. Besides the obvious chronological listing of important events in Naval Aviation which forms the basis for the book, there are various appendices listing among other topics locations of airfields named for Navy and Marine Aviation personalities; ships named for Naval Aviators; explanations of squadron designators; as well as commissioning and decommissioning dates of Naval Aviation commands. There is an appendix of enlisted aviation ratings, and one on the evolution of carrier air groups and wings.

There is also a well-laid out chart detailing every type of combat aircraft used by the Navy from 1920 on, their squadron service dates and the units to which they were assigned. For the serial numbers buffs there is a list of bureau numbers for their favorite aircraft.

In short, this book is a softbound encyclopedia of Naval Aviation. Its price makes it totally irresistible and, even at several times the price, compared with the cost of similar books today it would be worth the money.

Stern, Robert, *SB2C Helldiver in Action*. Squadron/Signal Publications, Inc., 1115 Crowley Dr., Carrollton, Texas 75006. 1982. 50 pp. Illustrated by Don Greer. \$4.95.

Number 54 in the publisher's "Aircraft in Action" series, now a well-established line, this paperback tells the story of the "Beast," the sometimes-hated, sometimes-misunderstood Curtiss *Helldiver*. The subject of extensive research and development immediately prior to America's entry into WW II, and the victim of unrealistic design requirements, questionable management and resulting production delays, the first *Helldivers* did not enter action until November 11, 1943, with VB-17. The aircraft replaced the Grumman *Avenger* on the larger carriers and soldiered on in postwar service. Its career ended with the French in Indochina in 1954.

The photos and the drawings in this book are first-rate. The *Helldiver's* development through profile line drawings has seldom been shown and, though not a particularly colorfully marked aircraft, the photos and two pages of beautiful color renderings should give any

modeler enough ideas. Even the XSB2C-2 floatplane is detailed.

Although not the recipient of much favorable press during its lifetime, the SB2C is well served by this new addition to the evergrowing "In Action" series.

Rausa, Rosario, *Skyraider: The Douglas A-1 Flying Dump Truck*. Nautical and Aviation Publishing Co. of America, 8 Randall St., Annapolis, Md. 21401. 1982. Illustrated and indexed. 239 pp. \$17.95.

Written by an ex-Spad pilot this book is a labor of love by a man who takes pride in his admiration for and experience in the Douglas A-1 *Skyraider*, which he flew in Vietnam. *Skyraider* is not a technical history. There are the obligatory developmental details, appendices on British and French use of the aircraft, as well as performance tables and bureau number schedules. But the meat of this volume is the career of the plane itself, and the experiences of the pilots and crewmen who flew her in peacetime and war from the Mediterranean to Korea and Southeast Asia.

Perhaps some of the stories are better known than others, but the episodes in 1965 and 1966 wherein the old *Skyraider* scored two kills against North Vietnamese MiG-17s have never been told in such detail.

A "first" is the recounting of the July 1954 dogfight near Hainan Island off North Vietnam, when AD-4s of VF-54 engaged Communist Chinese Lavochkin LA-7 prop fighters, destroying two of them. The event was, quite naturally, hushed up but served to establish a principle concerning military law on the high seas. Then too, there is the first-time account of pre-1964 American involvement in Vietnam with the *Skyraider* when American Navy personnel were training South Vietnamese airmen to fly and fight with the A-1 in 1960. Very interesting reading, to say the least.

Besides the well-written, entertaining narrative, there are dozens of photographs, many of which have never been published before. They depict many models and situations, and many of the pictures give a good idea of just how capable, durable and big a machine the *Skyraider* was. The pictures also show the men who flew the *Able Dog*. Where possible, their stories and subsequent careers are detailed, with respect, admiration and warmth that make this book a must for *Skyraider* buffs, Naval Aviation historians and others who like a well-done biography of a long-lived military flying machine.



LETTERS

Intrepid Museum

The Brooklyn Plastic Modellers Society has been asked by the Intrepid Museum to build a series of scale models showing all the squadrons and detachments that flew off the carrier in her 30 years of service. We need photos, cruise books, newspapers, etc., from former crew members. All material will be copied and returned, and all postage costs reimbursed.

Joseph Turner
1482 E. 46 Street
Brooklyn, NY 11234

Computer Issue

I enjoyed your November 1982 issue very much, especially my squadron mate's article on the SH-3. However, I believe Mr. Cooney has redesigned the carrier on his cover. Unless they have changed recently, the island should be on the right side of the ship during an approach. Even viewed in a mirror the angle of bank of the F/A-18 is wrong, so it doesn't appear to be a mistake on the printer's part. You'll probably tell me you did it on purpose to see if we are on our toes!

Lt.Cdr. Richard Ewell
HS-1
NAS Jacksonville, FL 32212

Ed's note: The November cover is an artist's rendition of two computer CRT displays of a carrier with an F/A-18 in the landing pattern. In this case, the viewer is forward of the carrier. On the right screen, the Hornet, in the landing configuration, is making its approach on the downwind leg. It is flying away from you while banking toward the carrier. The artist's stylized representation of the two-dimensional computer displays is not drawn to scale. The idea was to present a cover that expressed the theme of the issue — the vital role computers play in Naval Aviation.

HAL-4

I would like to make a correction to the first paragraph on page 43 of *NA News*, October 1982, which states, "The *Red*

Wolves of Helicopter Attack Squadron (Light) Four, better known for their exploits in Vietnam as HAL-4, were recently back in action as a reserve squadron on two weeks' active duty for training."

The HAL-3 *Sea Wolves* made up the active duty squadron known for its exploits in Vietnam, flying H-1 gunships. HAL-3 was later decommissioned.

I do not wish to take anything away from HAL-4 or HAL-5, but I know many of us ex-HAL-3 personnel on active duty who wish there was still an active duty HAL squadron.

ADC D. L. Arnes
NAS Whidbey Island SAR
Oak Harbor, WA 98278

Fighter Squadron Photos

I am 15 years old and in a program to develop a self-selected project. I would like to compile a pictorial history of all U.S. Navy fighter squadrons since WW II. There are some aircraft squadrons which do not supply photographs. Therefore, I am asking anyone who has photos, slides or negatives to send them to me, along with a brief history of the squadron they represent. All information will be credited appropriately.

Thank you for your help and consideration.

Vincent Kapral
160 State Street
Corning, NY 14830

Airborne ASW Book

I am writing a book on airborne antisubmarine warfare and would like to acquire photos of the following aircraft: P-2 (SP-2E/H) *Neptune*, P-3 (A/B/C) *Orion*, P-5 (SPB-5) *Marlin*, S-2 *Tracker* and S-3A *Viking*. I need in-flight and static photos that clearly reveal squadron markings, as well as brief squadron histories. All photos and data will be properly credited.

I also need names and addresses of men who flew the Trails and Roads Interdiction Multisensor (TRIM) missions in Vietnam. I'm interested in those who served in VAH squadrons aboard the OP-2E/H and DP-2E/H *Neptunes*.

Wally Potts
P.O. Box 198
Topsham, ME 04086

Harpoon

In your article, "Harpoon," by Harold Andrews in the August 1982 *Naval Aviation News* there were some minor discrepancies. First, it is also carried aboard the P-3B aircraft flown by the Rainbow Fleet squadrons of Barbers Point, Hawaii (VP-1, VP-4, VP-6, VP-17 and VP-22), and has been deployed with these squadrons since November 1980. Also, the date VP-23 began operating with the *Harpoon* was August 1979 not August 1970. This incorrect date was noted because the *Harpoon* did not begin launch trials until 1972.

Harold France
McDonnell Douglas Field Engineer
NAESU Office, Box 47 Cubi Point
FPO San Francisco, CA 96654

F3H Demon

I am researching the McDonnell F3H *Demon* for an article to be published in the *American Aviation Historical Society Journal*. I would like to hear from pilots and ground crew personnel who flew and maintained the aircraft. Any photographs or technical data loaned to me will be carefully handled and returned within 30 to 45 days. I will pay all postage costs.

Michael E. Rankin
Rt. 13, Box 257B
Fort Worth, TX 76119

Reunions, Conferences, etc.

VF-11 Red Rippers reunion, January 28-30, 1983, NAS Oceana, Virginia Beach, Va. For reservations, contact Lt. Paul Pompier, VF-11, FPO New York, NY 09501, commercial (804) 425-3349 or autovon 274-3349.

NROTCU Marquette University reunion for graduates from the classes of 1943, 1953, 1963 and 1973, April 30, 1983. For details, contact: Lt. Dennis L. Hopkins, NROTCU Marquette, 1532 W. Clybourn, Milwaukee, WI 53233, (414) 224-7076.

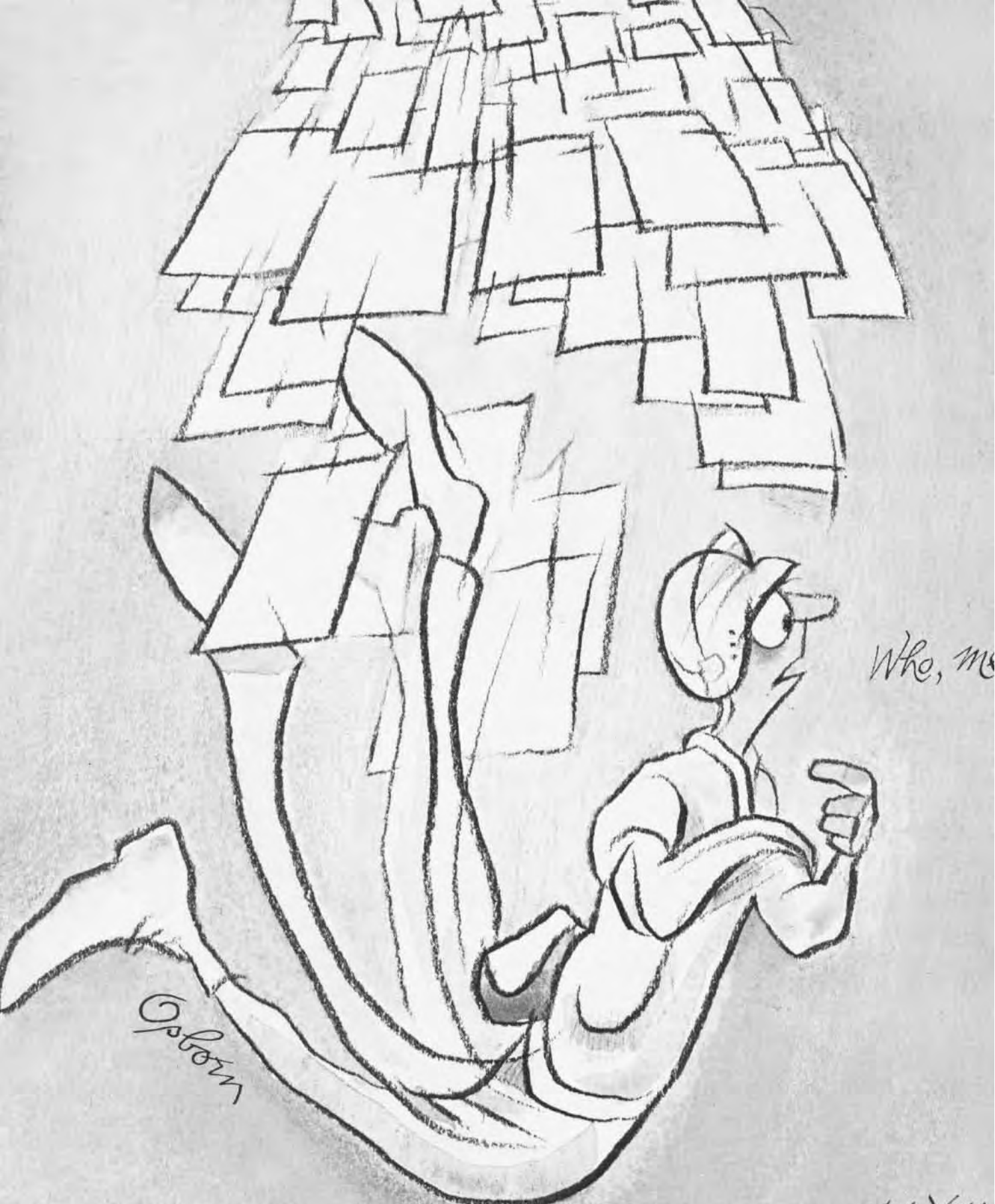
Selection boards: Commodore Line Active, January 10 for 12 days; Test Pilot School, January 24 for 3 days; and Captain Line Active, February 7 for 18 days.

SQUADRON INSIGNIA



Fighter Squadron 103 (VF-103), commissioned in 1952, is home-based at Cecil Field, Fla. The squadron has flown a variety of fighter aircraft from the gull-winged F4U *Corsair* to the highly sophisticated F-4 *Phantom II*. The *Sluggers* of VF-103 were one of the first fighter squadrons on the East Coast to receive the F-4S with its leading edge maneuvering slats and digital solid-state AWG-10A radar system. The F-4S, with its improved maneuverability, highly reliable radar and AIM-9L missile system, is a fighter to be reckoned with in any hostile situation.

The *Sluggers* are currently skippered by Commander Lawrence W. Urbik. They were recently deployed in the Mediterranean aboard USS *Forrestal*.



Who, me?

Optom

Yes, You.