NAVAL AVIATION NEWS

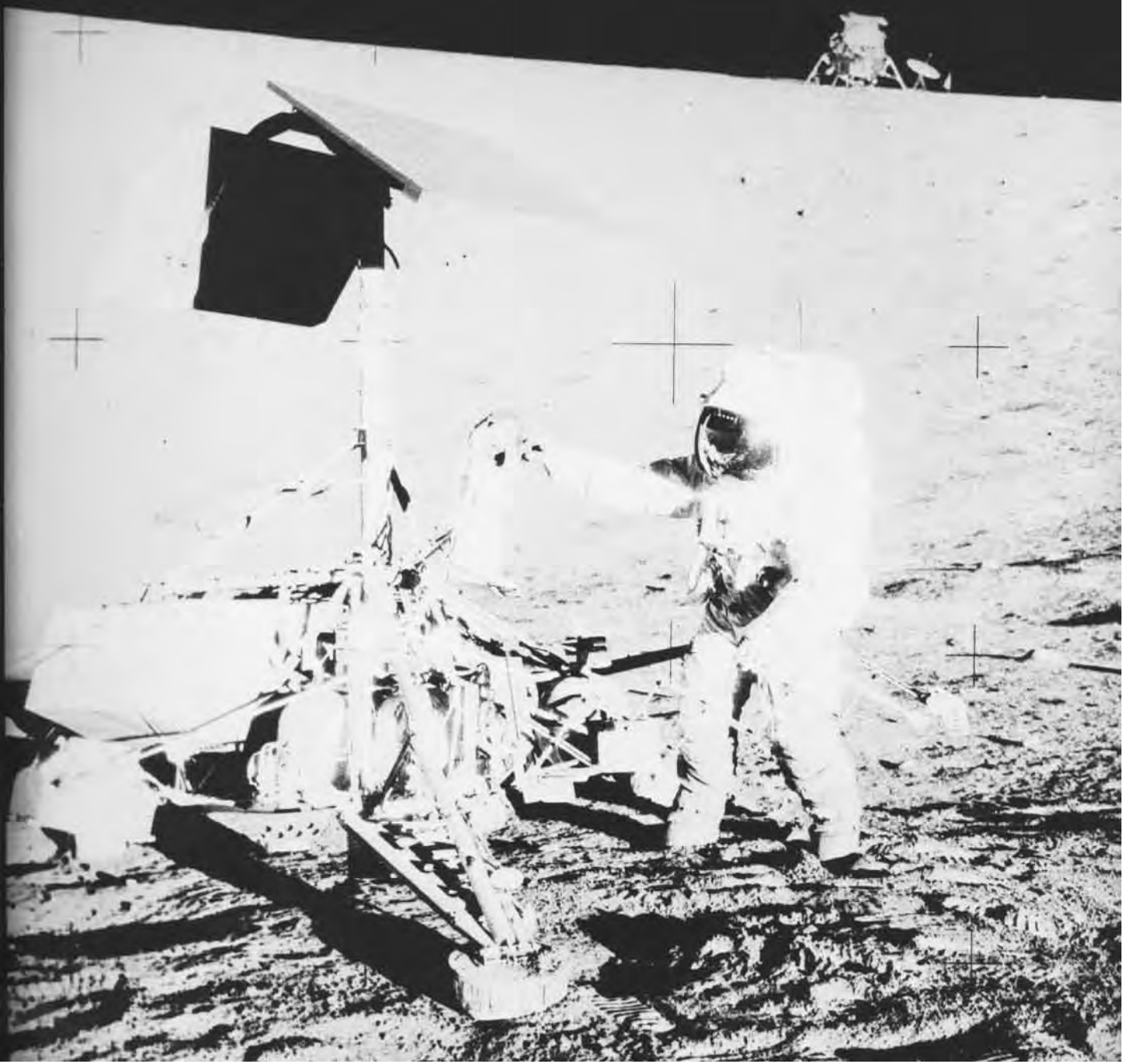
GORDON

BEAN

CONRAD

JANUARY 1970

NavAir No. 00-75R-3



CDR. BEAN MAKES CAPTAIN

The timing of *Apollo 12* couldn't have been worse. On November 14, the Saturn V with its all-Navy crew thundered into space. On the next day, the December issue of *Naval Aviation News* went to press. At that point, all we could do was acknowledge the mission, on the back cover. On November 24, final O.K. was given to the printer, and we sat back to enjoy the triumphant return of the three Commanders from space.

Commanders? Within a couple of hours after a splashdown, Conrad, Gordon and Bean had been promoted to Captain by the President.

Fortunately, a well coordinated attack on the Baltimore printing plant resulted in a timely correction. But our initial consternation over this sudden turn of events was probably only matched by the televised amazement of Alan Bean, the "rookie" astronaut who had become a *commander* just a few months before.

In an effort to treat the highly successful *Apollo 12* with "something special," it was decided to go for another full color cover – this time with portraits. Faced with the eternal deadline, a yard of canvas was quickly coated with several coats of midnight oil and the whole sticky mass was rushed to the Smithsonian Institution for photographing – only to discover later that the stars and stripes on the little clipper ship in the emblem on the cover painting had been forgotten by the artist.

Luckily, we managed to make our alternate on that one, too.

NAVAL AVIATION NEWS

Vice Admiral Thomas F. Connolly
Deputy Chief of Naval Operations (Air)

Rear Admiral G. E. Miller
Assistant Deputy Chief of Naval Operations (Air)

FEATURES

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A sketch of the Apollo 12 mission to the moon and the Naval Aviators, turned astronauts, who accomplished the task in a light – although thoroughly professional – and extremely competent manner.

Taking the Guesswork out of ASW 14

The Pacific Missile Range Hawaii site at Barking Sands uses electronics and computers to aid fleet commanders with ASW exercises and readiness inspections.

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The center spread is a progress report on the F-14 now under development at Grumman and scheduled for a first flight in January 1971.

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The Selected Air Reserves score again with a highly successful open house and art exhibit at NAS New York.

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Published monthly by the Chief of Naval Operations and Naval Air Systems Command to provide information and data on aircraft training and operations, space technology, missiles, rockets and other ordnance, safety, aircraft design, power plants, technical maintenance and overhaul procedures. Issuance of this periodical is approved in accordance with Department of the Navy Publications and Printing Regulations, NAVEXOS P-35. Send mail to Naval Aviation News, OP-05D, Navy Department, Washington, D.C. 20360, located at 3828 Munitions Building; telephone, Oxford 62252 or 61755. Annual subscription rate is $7.00 check or money order ($1.75 additional for foreign mailing) made payable and sent to the Supt. of Documents, Government Printing Office, Washington, D.C. 20402. A single copy costs $.60.

NAVAL AVIATION NEWS

Navy, Marines Purchase UH-1N

First Deliveries Scheduled for 1971

The Navy Department recently awarded a contract to Bell Helicopter for 62 twin-engine UH-1N *Huey* helicopters. The Marine Corps will get 22, with initial delivery expected in January 1971.

The Air Force had previously ordered 79, with deliveries scheduled to begin last month.

The UH-1N has basically the same configuration as earlier models, but it has a different mission kit and avionics. It is powered by a United Aircraft of Canada T-400 (PT6T) turbo Twin-Pac. The T-400 has two turboshaft engines coupled to a combining gear box with a single output shaft, producing 1,800 shaft horsepower.

SECRETARY OF THE NAVY, *the Honorable John H. Chaffee, emerges from a C-1A on the flight deck of USS Saratoga to face the open ranks of "rainbow" sideboys assembled in his honor. The Secretary came aboard Sara while he was on a tour of U.S. units in Europe.*

TACRon-22 Gets Unusual Award

Concerned With Air Traffic Control

Tactical Air Control Squadron 22 received an amphibious assault award in a ceremony at the Little Creek Amphibious Base, Norfolk, Va. TACRon-21 had held the award for two years.

Tactical air control squadrons cannot compete for the usual command Navy awards. They are not eligible for the Battle Efficiency E nor can they compete with other aviation units because they do not get flying time. Their sole mission is air traffic control during amphibious landing maneuvers.

The amphibious assault award was originated by ComPhibLant to promote competition and create incentive in the tactical squadrons.

VA-52 Boasts an all-NESEP Crew

Former ET1 and AC2 Fly Intruder

VA-52, NAS Whidbey Island, Wash., claims a Naval Aviation first with its all-NESEP aircrew. Lt. David R. Debenport, pilot, and Ltjg. George T. Wyckoff, B/N, form a permanent aircrew in the *Intruder* squadron.

ET1 Debenport was selected for NESEP in February 1960. In June 1964, he received a bachelor of science degree in physics from the University of Missouri. After graduating from OCS he completed flight training at Pensacola, Fla., and reported to VC-5 where he flew S-2's. Later, he transitioned to jets and, in May 1969, he reported to VA-52.

AC2 Wyckoff enlisted in the Navy in 1959. He accumulated 2,000 hours as an enlisted aircrewman in VW-13's *Constellations*. He was selected for NESEP in February 1963 and entered the University of Kansas. In 1967 he received a bachelor of science degree in aerospace engineering and was commissioned an ensign after graduation from OCS. He received his wings at NATTC Glynco, after completion of basic jet navigation training, and reported to VA-52 in July 1969.

Baccalaureate Degree Program

New Educational Program Announced

The Chief of Naval Personnel has announced a program whereby Naval Aviators and Naval Flight Officers can earn a baccalaureate degree while attached to the Naval Air Training Command as flight/academic instructors.

Unrestricted line officers, lieutenant junior grade through lieutenant commander, who have sufficient college credits to enable them to obtain a baccalaureate degree or to qualify for another undergraduate program in a period not to exceed 24 consecutive months are eligible for this program.

All candidates for this program will be selected by the Chief of Naval Personnel. Selectees will be assigned to a unit within the Naval Air Training Command and will serve as flight instructors or academic instructors on a half-day basis while enrolled and will continue in this status during the normal tour of duty.

Further information may be obtained from BuPers Notice 1520 of August 11, 1969.

Four Crusader Pilots Honored

Receive 2,000-Hour Awards from LTV

Four Naval Aviators were inducted into the LTV Aerospace Corporation's "2,000-hour Crusader Club" recently. The four were recognized for accumulating more than 2,000 flight hours in the F-8.

Receiving the 2,000-hour pins were Commander Sam Hubbard, C.O. of VF-62, NAS Cecil Field, Fla.; Commander Robair Mohrhardt, X.O. of USS *Bon Homme Richard;* LCdr. Jimmie Taylor, operations officer, VF-51; and LCdr. Foster Teague, VX-4, NAS Pt. Mugu, Calif.

The awards were announced during the annual Tailhook Reunion in Las Vegas.

Since 1966 when the club began, only 16 other Naval Aviators have been admitted to the club.

The *Crusader*, since its introduction to the fleet in 1957, has logged flight time equivalent to more than 200 years.

THE FIRST WOMEN *to work in Antarctica, this month completed a three-month field research project in the rocky, ice-free valleys 70 miles west of McMurdo Station. The Ohio State University team arrived at McMurdo November 1 aboard a Navy ski-equipped Hercules. They are, left to right: Mrs. Kay Lindsey, OSU Institute of Polar Studies; Dr. Lois Jones, head of the team (also from the Institute); Mrs. Eileen McSaveney, Geology Department; and Miss Terry Lee Tickhill. While conducting their research, the ladies lived in tents and shuttled to McMurdo by Navy helicopter every 12 days to use those facilities for analysis.*

Brazilian Navy to Receive SH-3D

Scheduled for Use in ASW Missions

The director of Brazil's naval air arm, Vice Admiral Aurio Dantas Torres, inspected the first of four SH-3D helicopters scheduled for delivery to Rio de Janeiro. The SH-3D's will be used by the Brazilian Navy for both carrier-based and shore-based antisubmarine warfare missions. They will be flown by Brazil's Helicopter Squadron One and will be stationed aboard the carrier *Minas Gerais* when at sea.

Similar to the SH-3D's used by the U.S. Navy, the Brazilian aircraft will be the first twin-turbine helicopters delivered to a South American nation.

RAdm. Koch Named Gray Eagle

18th Naval Aviator to Hold Title

Rear Admiral George P. Koch, Commandant, Naval District Washington, D.C., was named the "Gray Eagle" November 30 when Rear Admiral Robert J. Stroh, Commander Fleet Air Jacksonville, retired.

Adm. Koch thus becomes the 18th titleholder since the trophy was established in 1960. The Gray Eagle is the active duty Naval Aviator with the earliest date of designation. Adm. Koch, Naval Aviator #4085, was designated in January 1935.

Ling-Temco-Vought sponsors the award which bears the inscription: "The Venerable Order of the Gray Eagle, The Most Ancient Naval Aviator on Active Duty," and the names of the others who preceded him. Each Gray Eagle is presented with a miniature of the trophy. The original is rotated among the recipients.

THIS VC-11A *is the Coast Guard's newest executive aircraft. The Grumman Gulfstream II turbofan has a speed of 590 mph.*

GRAMPAW PETTIBONE

Fly Off

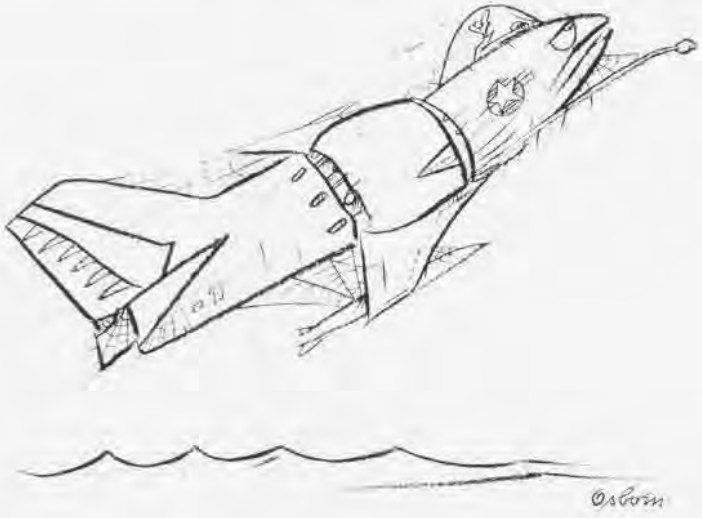
It is always a good day when a carrier arrives at its home port after a long deployment, but it almost turned out badly for one intrepid aviator. He was a lucky one, having been sent back early to set up the squadron spaces for the move ashore from the ship. On "H" day he COD'ed (carrier onboard delivery) out to the ship early in the morning and was assigned to one of the squadron A-4F *Skyhawks* for the flyoff to the beach. A thorough brief was given by the commanding officer but no mention was made that this particular plane hadn't been flown since acceptance by the squadron and only four hours since calendar inspection, 60 days previously – by another activity.

Preflight and start and post-start checks were normal, as was the catapult shot. Immediately thereafter, however, things turned to worms. The nose came up too high, and the pilot pushed forward on the stick encountering a great resistance. The nose came down slightly but immediately started to rise again. It required both hands pushing on the stick to prevent the aircraft from stalling. Nose down trim was no apparent help and, after several oscillations, the pilot raised the gear and flaps and called control on the radio to advise of the problem. Emergency trim was no help.

For several minutes the pilot fought with the aircraft, the nose bobbing up when he took his left hand off the stick and down when he pushed with both hands. The plane was buffeting and narrowly averted a stall several times. A slow climb was accomplished up to about 5,000 feet with the airspeed varying as low as 160 knots. The emergency generator was deployed, and emergency trim was tried again.

An attempt was made to get the nose down by putting the aircraft into a shallow turn. This was partially effective, but the plane continued buffeting and losing altitude slowly. After making a complete 360, the *Skyhawk* neared a completely stalled condition. The pilot announced his intentions, rolled the wings level and pulled the face curtain.

During his nylon descent, he removed his oxygen mask, raised his visor and opened the seat pan. The raft deployed below him and, upon entering the water, he inflated his MK-3C life vest. As he released the parachute fittings, he became entangled in shroud lines which he cut free with his shroud-cutter knife blade. The plane guard helicopter from the carrier picked him out of the water and returned him to the flight deck uninjured.



Grampaw Pettibone says:

Gol dingit! I'm a suspicious cuss. I'd a wanted to know a bit more about that airplane before flitting off into the blue. That bird was just covered with hair. It should'a been lifted off the ship by crane.

From what I've heard, it really didn't get much of an acceptance inspection by the squadron and wasn't scheduled for a test hop at all. That was its first cat shot in nine months. Most probable cause of the control problem was a partially disconnected elevator package or a loose object jamming the stick. Which brings us to the pilot. Port cruise torpor? Why in tarnation didn't he try lowering the flaps again, or jettisoning his external stores or, above all, disconnecting the elevator package and going to manual? A little dense perhaps after his first few days at home?

Illustrated by Osborn

VFR + IFR = Ricochet

The seasoned lieutenant, who had accumulated over 2,400 flight hours and 400 carrier landings, was on a typical, black-night, no-horizon approach to the large attack carrier in his A-7 *Corsair II*. Though it had been a rather exciting flight, the crisis was over and it was just a matter of getting back aboard in one piece.

Descending from marshal, the lieutenant was advised to take a speed of 275 knots which he held all the way down from altitude, flying in and out of clouds to 1,500 feet. As he leveled off at 1,200 feet and 14 miles from the ship, he noticed what appeared to be the light of another aircraft ahead and closing. He kept his eye on the light and, when the controller told him to dirty up (go to the landing configuration) at 11 miles, he reduced the power to 70 percent, actuated his speed brakes, slowed and dropped the gear and flaps.

The lieutenant continued to watch the aircraft ahead, occasionally glancing at the instruments. He noted 1,500 feet on the altimeter at one time but, two seconds later, the *Corsair* hit the water. By the time he realized what had happened, he hit a second time and, by the time he could pull the alternate ejection handle, the plane hit a third time. As the seat left the cockpit, the pilot estimated he was in a 45 to 70 degree right bank, 20 degrees nose down. The parachute streamed but did not fully open.

The badly shaken aviator came to, floating head down in the water. He struggled to get his head up and get some air, succeeded and eventually inflated his MK-3C life jacket. After about 30 minutes in the water, during which he had considerable difficulty releasing his oxygen mask and getting free of numerous shroud lines from the parachute, he was picked up and returned to the carrier by the plane guard helicopter.

Grampaw Pettibone says:

Shades of Walter Mitty! This fella could'a got killed, what with ricocheting off the water a couple a times and all.

Uh huh, it's that big black hole five to ten miles aft of the ship at night. There's just no lift in the air back there at times. Gotta be extra careful and on yur toes comin' down the pipe.

Seriously, this lad, in spite of experience and training, let his scan break down at a critical moment. He states, "I don't remember adding power after dirty up, nor do I remember ever checking airspeed." He probably misread 500 feet of his altimeter as 1,500 feet to boot, and there you go.

Purty durned lucky to be alive, with only a sprained shoulder and a cracked vertebra for a souvenir. There's no substitute for that safety device between your ears.

Some Never Learn

A *Phantom* F-4J pilot, a real pro, became involved in a mid-air collision with another *Phantom*. He lost control of the craft and was forced to eject, while the other guy managed to fly his plane home. Landing in 50° water, he suddenly found himself in extremis.

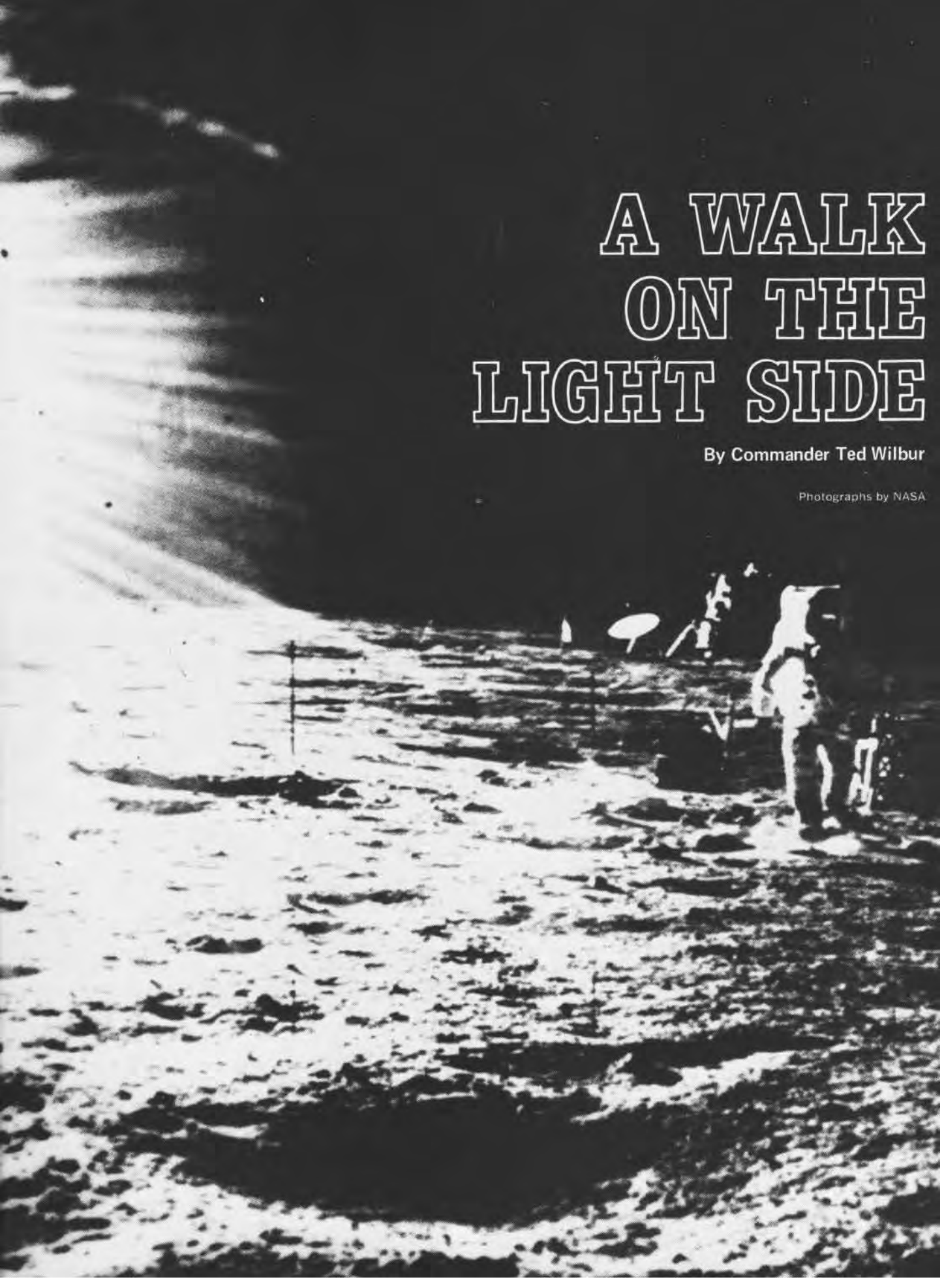
Because he was not wearing a life preserver and without even a G suit which could have been inflated and with no other survival gear, he faced a wet doom in very short order. Luckily, a Coast Guard HH-52A *Sea Guard* helicopter just happened to be cruising through the area and was advised by a civil airliner that an aircraft had crashed. Taking a vector from the airliner, the helo crew spotted the crash site by the slick on the water and some smoke. Setting up a search pattern, the survivor was soon spotted swimming in the five to six-foot waves. Since there had not been time to rig the rescue equipment, the helo pilot landed his bird in the water and positioned himself alongside the survivor. The crewman reached out and pulled the exhausted pilot aboard. He was unable to offer any assistance in getting himself aboard and would surely have succumbed in short order. Elapsed time from crash to rescue was about ten minutes.

Grampaw Pettibone says

Jumpin' Jehosophat! What in tamation was he doin' up there without all his NATOPS flight gear? This lack of survival equipment, perhaps warranted from certain points of view, can hardly be justified if it increases the risk of injury or loss of life. A life jacket can be a man's best friend. This guy even discarded his seat pan containing the only flotation gear around, his raft.

From the reports I read, there are a lot of pilots and crewmen who take this flight and survival gear thing purty lightly. They "forget," or "it's too hot," "too heavy," they "can't see well through the visor," or the "gloves get slick when they're wet." A CAG once told me the nomex suit didn't have any style. Agreed, but neither does a scarred body.

They don't dress you in flight gear in your coffin. Like seat belts in your car, a minor nuisance 'til they're needed, but don't get caught dead sittin' on 'em. Supervisors and C.O.'s *can* enforce these NATOPS rules, you know.



A WALK ON THE LIGHT SIDE

By Commander Ted Wilbur

Photographs by NASA

Dick Gordon reminds you of someone you used to fly wing on — the fellow who, no matter how bad things got, always managed to make it sound like Saturday night. Pete Conrad and Alan Bean are of the same breed.

At 11:22 EST on the dismal morning of November 14, *Apollo 12* departed for the moon under the worst launch conditions ever experienced in the manned space program. Through a slashing rain, the 36-story-tall assembly thundered upwards off Cape Kennedy's Pad 39A into a turbulent black storm.

The three Navy astronauts perched in the bow had been apprised of the situation. Only 20 minutes before, the trio's leader, Commander Conrad, had said, "Sounds good to me. Let's go." And then, 36 seconds after the rocket cleared the launch tower, the lightning struck.

Pulse rates of the crew rose to 140 as, back in the firing room, the cry of "LOS! LOS!" announced that the spacecraft's telemetry system had failed. Primary navigation and communications were knocked out. Onboard batteries began supplying alternate power as the astronauts quickly reset the electrically jolted systems. Radio contact was restored and Conrad calmly said, "Okay, we lost the platform, gang. I don't know what happened here, but we had everything in the world drop out. Fuel cells, lights, fuel cell disconnects — everything . . . we started glowing all over. . . I'm almost positive we got hit by lightning. We should do a little more all-weather testing."

The ice-covered moonship continued on its way as Conrad radioed, "Everything is tickety-boo." Presently, three Naval Aviators were cruising at 4,000 mph, munching chicken and rice, with butterscotch pudding for dessert. They were 50,000 miles out into space.

CONTINUED

A WALK ON THE LIGHT SIDE

Some time after the harrowing departure of *Apollo 12*, chief astronaut Tom Stafford said, "This is an example of why we have experienced test pilots flying these vehicles."

CONRAD

Captain Charles Conrad, Jr., had a late start in aviation; he didn't make his first flight until he was nine years old. As the smallest of the spacemen (five feet, six inches/138 pounds), his blue eyes, blond hair and Roman nose probably do little to meet the specifications of a Hollywood casting director when it comes to Navy test pilots. And, on the academic side, his early years were something less than promising. When he'd get home from school outside of Philadelphia, "the books would go one way, and he'd go the other." Pete Conrad learned to fly when he was 15. He flunked out of Haverford when he was 16.

Recognizing that this approach was not exactly the recipe for success, Conrad's parents took a few positive steps which resulted in his emergence as an honor student. Recalling those days he said, "The more you work, the easier it gets."

Armed then with a good transcript, he applied for the Naval Reserve Officer Program and was accepted for aeronautical engineering training at Princeton. Flight training at Pensacola followed and, after duty as a fighter pilot, he entered the Test Pilot School at Patuxent River, Md. One more jump and he was an astronaut – and very probably the most exuberant of the entire group.

GORDON

Captain Richard F. Gordon, Jr., formerly a member of the world famous *Red Rippers* of VF-11, was a project officer on the F-4 at Patuxent River.

Charles Conrad is shown, above, on his way to a Patrick AFB T-38 and, at right, with crew's mascot, "Irving," a stuffed gorilla.

Alan Bean, above, concentrates during flight suit checkout. At left, members of Apollo 12 crew assume the spaceman's posture.

President Nixon, above, stands by for rainy launch. Below, Conrad leads the way to the transfer van three hours before lift-off from Complex 39 at Cape Kennedy.

In 1961 he captured the Bendix Trophy by driving a *Phantom II* across the country in two hours and 47 minutes (setting a speed record of 870 mph). In 1966 he teamed up with Conrad for the *Gemini 11* flight which achieved a then-record altitude of 850 miles.

Dick Gordon is from Seattle, a hardy area, which may account for his disinterest in the outdoor life as such. Unlike Conrad, Gordon was an academically inclined youngster – a prolific reader. While a mathematics major at the University of Washington, he joined the Naval Reserve to help make ends meet and went to Pensacola after graduation. He had never flown before.

Gordon became an accomplished fighter pilot. With the realization that Naval Aviation offered a sense of accomplishment he could not anticipate elsewhere, he became a test pilot and then later, an astronaut.

BEAN

Captain Alan L. Bean comes from Fort Worth and talks with a Texas twang. With an early desire to fly, he joined the Naval Reserve while a senior in high school and went on to graduate as an aeronautical engineer from the University of Texas. Five years after he entered flight training, he became a student test pilot. A member of the third group of astronauts to be selected, Bean considered his position one of the most enviable in the world although his relatively late arrival in the space program probably accounts for *Apollo 12* being his first mission.

Well known for a down-to-earth sense of humor, Alan Bean also exhibits a serious side. Speaking of his convictions he was quoted as saying, "Two things are major factors in a man's life: One is his technical knowledge and ability; the other is his ethics. . ."

Ignition of Apollo 12 is viewed through a rain-spattered lens of remote camera.

'...Canadian bacon and applesauce...'

Personnel of Firing Room 2 follow early progress of nation's second lunar landing mission. Below, all-Navy crew gets Man's first view of the earth eclipsing the sun.

Apollo 12 replowed the wake of the monumental First Man on the Moon voyage by Neil Armstrong and his crew. After an act like that, what do you do for an encore?

The primary mission assigned to Pete Conrad was to achieve a pinpoint landing, thereby demonstrating that it *can* be done. This was accomplished – and more. For the first time, the completely *human* elements of the manned space program came across – loud and clear.

Until *Apollo 12*, there was a mystique surrounding the activities of man in space. Undoubtedly a certain aura will continue to be evident in episodes to come. But on their flight, Commanders Conrad, Gordon and Bean gave us something we could recognize and "identify with." They broke the barrier; no longer will we have the vague, uneasy feeling that possibly a mark had been made beyond our destined reach.

The interior of a spaceship presents an alien appearance to the uninformed – much the same as the effect of a normal aircraft cockpit on a non-aviator. But the televised sight of three Navy pilots in an environment to which they had become readily accustomed, promoted welcome assurance in a world of viewers. As the average citizen can "relate" to the airlines pilot, now he can also consider adventures in space from a more comfortable viewpoint; fear of the unknown has been dissipated.

The activities on the moon itself, though not telecast, were described by Conrad and Bean in such a way as to further stimulate the listener's imagination. Eagerness and the fascination of new discoveries were the keynotes of their commentaries while, up above, Dick Gordon orbited, interjecting an occasional remark, but generally enjoying his solitude.

The sudden apprehensions of the lightning strike on the *Saturn V's* blastoff had been quickly diminished by Conrad's humor about the power failure: "Okay, we're all chuckling up here about all the [warning] lights. There were so many on we couldn't read them all." Laughter could be heard in the background and, later, the three astronauts poked fun at each other over how they looked trying to "remember all the things." A light-hearted mood had been established for the 350-million-dollar excursion.

Subsequently, they played music, sang songs and appeared weightlessly wearing caps with little propellers on top. "That's how I get around the spacecraft," explained Gordon. "I turn on my propeller."

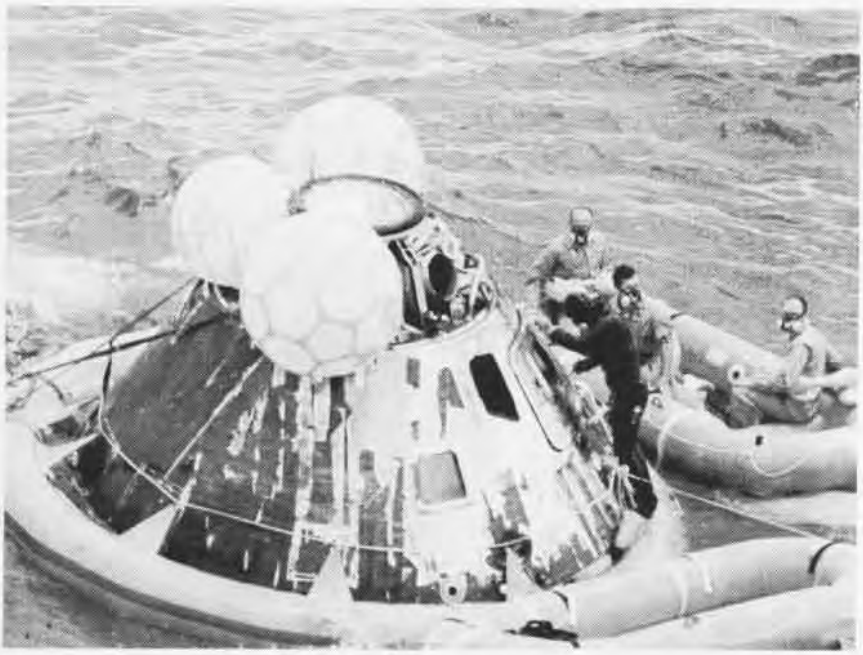
At the prospect of having to tidy up the ship he said, "It says in the flight plan to perform housecleaning. We're having a devil of a time finding a housekeeper up here." Gazing hawk-like at the junior man, Alan Bean, who was performing exercises, Gordon continued, "He thinks he's made captain already, but he's got a surprise coming."

Awakened by a bugle call, the astronauts could dine on such delicacies as Canadian bacon and applesauce (made tastier within its long-necked plastic container by several minutes of squeezing), wash it down with hot Cafe de la Luna (moon coffee), perform their various ablutions, shave and comb their hair. They were all dressed up with somewhere to go.

In lunar orbit, Dick Gordon, center, remained in the command module, Yankee Clipper, while Alan Bean, left, and Pete Conrad, right, transferred into the lunar module, Intrepid, for their descent to the surface of the moon, where they remained for 31½ hours.

The LM Intrepid, above left, during descent. Above, Astronaut Bean deploys scientific experiment paraphernalia in the Ocean of Storms. At left, the Yankee Clipper in lunar orbit (as seen from LM.)

'...We have energy for only one pass.'



Another bull's-eye as Apollo 12 splashes down less than three miles from the USS Hornet, the closest recovery to date.

The destination was a precise point on the lunar surface which would place Conrad and Bean within walking distance of Surveyor 3, nestled in a crater, unseen by man for two and one-half years.

Dropping away from Dick Gordon's command ship, *Yankee Clipper*, the lunar module's crew soon found themselves smack on target. "Son of a gun!" exclaimed Conrad. "Right down the middle of the road. I think I can see my crater. Hey, there it is! There it is!" Alan Bean's nonstop readoff made the landing sound easy as the *Intrepid* made contact 20 feet from the crater's edge. But later Conrad said, "It took every bit of knowledge I had getting that baby down there. That was no easy task. It took everything I had to get that LEM down in one piece."

Peering through the gently settling dust, Conrad beheld the features of the site. "Holy cow, it's beautiful out there! I can't wait to get outside. Those rocks have been waiting four and one-half billion years for us to come and grab them!"

From then on a constant dialogue brought listeners on Earth right down to the surface of the moon in a curiously personal way. Failure of the television camera precluded the anticipated visual presentation, but the audio was something else. Across 240,000 miles of space came the sounds of singing, humming, tongue-clucking, chuckling, gleeful laughter and colorful expletives. During two sojourns in the area, the pair gamboled about, kicking up sticky dust and setting down scientific experiments. The moon's first nuclear generator was placed in operation (after its plutonium core had been removed from the transport casing by banging on it with a hammer) and Charles Conrad became the First Man to Fall Down on the Moon. From up above in *Yankee Clipper*, Dick Gordon lent encouragement: "Get to work!"

After 31½ hours on the surface, *Intrepid* returned to *Yankee Clipper* (with the announcement, "Stand by to receive the Skipper's gig."). During the trip back to Earth the first press conference from space was conducted. Gordon casually chomped on a piece of gum as Conrad swatted floating objects away from the camera lens and Bean earnestly answered reporters' questions. (Sample: "Do spacemen dream when they sleep?")

A message was sent from *Yankee Clipper* to the recovery ship, USS *Hornet*: "*Apollo 12* with three tail-hookers expect recovery ship to make its PIM (point of intended movement) as we have energy for only one pass." At 3:58 p.m. EST on November 24, they splashed down less than three miles from the ship. One hour later, to the strains of "Anchors Aweigh" and "Yankee Doodle," they were welcomed aboard, mission accomplished.

Not only did *Apollo 12* demonstrate pinpoint landing accuracy; its crew showed the feasibility of working and living on the moon – and liking it.

Command module pilot Gordon, top, gives traditional straight shooter sign to friends aboard the Hornet. Below, Conrad, Gordon and Bean display their satisfaction through window of the quarantine facility.

Taking the Guesswork out of ASW

By Ernest J. Sutton

The PMRF surface and air tracking system consists of several 30-foot parabolic telemetry antennas like the GKR-8, right, at Barking Sands. Other antennas at Makaha Ridge enable the facility to track over a wide ocean area. A meteorological rocket probe is tracked, below, in Control Room Alpha.

Photos by PH1 J. J. Hollis

Barking Sands, a little-known Navy facility on Kauai Island in the Hawaiian Chain, is taking the guesswork out of fleet antisubmarine warfare exercises.

The Pacific Missile Range Facility (PMRF), Hawaii, operates the Navy's only tactical underwater range, sometimes referred to as a three dimensional range because it can simultaneously track and record the positions of a number of ships, submarines, underwater weapons and aircraft.

The three dimensional capability enables the Navy's ASW forces to develop and improve submarine detection and destruction methods and tactics, to check the performance of ASW weapons and to determine the readiness of fleet units.

Before PMRF became fully operational in 1968, fleet commanders had to rely on incomplete reports based on shipboard and aircraft radar observations, and other means, to plot the outcome of an ASW exercise. The plotting of yesterday's exercises often took weeks or months. Today, PMRF is able to provide instantaneous and accurate plots of exercises, showing the tracks of submarines, surface ships, aircraft and weapons used in the air and under the surface.

Range programs supported by Barking Sands include fleet exercises involving air-to-air, surface-to-air, air-to-underwater and mine-warfare weapons. Other types of programs supported are tracking of ICBM's, AEC probes, and oceanographic and meteorological data collection.

To provide this support to range users, the sophisticated, coordinated instrumentation complex includes precision tracking radar, telemetry receiving and recording equipment; timing, frequency interference control; communications; and computerized display of ship, aircraft and weapon performance.

When development of the underwater range began in 1964, the site between Kauai and Niihau Islands was chosen to avoid duplication of the above-water tracking facilities. Extensive above-water instrumentation, telemetry and tracking systems were already in existence on Kauai. These systems are now being used in conjunction with the underwater range.

The operational range covers a large ocean area and includes the sky above and the water below. On the bottom of the ocean, hydrophones are mounted in a pattern and tied to computer and display equipment at Barking Sands by over 500 miles of underwater cable.

A lack of underwater communications between submarines, ships and aircraft had hampered and slowed past ASW exercises, but now, on the tactical range, communications are no longer a problem. Three strategically positioned UQC projectors provide underwater communications with submarines, ships and AQS-12-equipped helicopters. Fixed wing aircraft and unequipped helicopters can quickly relay messages to submerged vessels through the Barking Sands' operations control center.

PMRF collects and delivers all data requested by fleet units, displays track in real-time, provides range safety and communications during operations, permits relatively free-play fleet maneuvers, and provides rapid and accurate results for post-operational review and analysis.

Typical fleet operations on the ASW range include submarines, ships and ASW aircraft attacking submersibles with the latest Navy weaponry. A significant portion of attack and ASW carrier operational readiness exercises is being conducted in the vicinity of Barking Sands in order to take advantage of the highly instrumented environment.

Signaling devices (pingers) attached to weapons being tested, cause the hydrophones to pick up acoustic signals and then feed them to PMRF's Operations Control Center on the beach at Barking Sands. The signals are processed by computer for display in real-time and for replay by the center.

As submersibles are accounted for by the hydrophones, surface and air vehicles are tracked by radar at Barking Sands, Makaha Ridge and Kokee Park on Kauai. The major radar sites and some telemetry antennas are at the Makaha Ridge Site, seven nautical miles from the main facility at Barking Sands. The radar units include two AN/FPQ-10 precision trackers and an AN/FPQ-12 track-while-scan which has the ability to track multiple surface and air contacts while scanning for others.

The range also provides services to Department of Defense and other government agencies engaged in guided missile, satellite and space vehicle research, development, evaluation and training programs.

Typical of national range programs supported by PMRF's radar and 30-foot dish telemetry antenna are orbit tracking of satellites launched from Cape Kennedy and mid-course tracking of ICBM's launched from Vandenberg AFB.

The Barking Sands facility also provides scoring for aerial mining exercises; out-of-sight tracking and control of air targets launched by Fleet Composite Squadron One; and vectoring services for fleet fighter aircraft conducting air-to-air weapon systems evaluation exercises.

PMRF's air operations department provides flight scheduling, operational flying and training services in support of range programs. Range aircraft provide users with clearance, surveillance, recovery of torpedoes and targets, airborne telemetry, frequency monitoring, and air logistics services.

Two H-34 helicopters and two S-2D *Trackers* operate from Barking Sands while PMRF's EC-121K and C-54 aircraft operate from MCAS Kaneohe, Oahu. The EC-121K and the C-54 are scheduled to move to Barking Sands this year.

Plans are underway to improve base facilities, provide additional housing for Navy families stationed there and add recreational and shopping facilities.

Range planners envision more services for fleet units, including ground-launched BQM-34A *Firebee* missile targets; the addition of several AVR remote-controlled target boats; and improved pier facilities at Port Allen so that small destroyers and submarines can tie up there.

While taking the guesswork out of ASW operations, the Navy has brought the space age to the island of Kauai.

In the not too distant future, Navy pilots who are shot down over enemy territory may be rescued in a matter of minutes – without having touched foreign soil.

"Rescatch," as the proposed system is called, would employ an attachment on attack and fighter aircraft with which pilots in the area could hook a parachute and tow a downed pilot to a safer area to continue his descent.

None of the research and testing of the new system has begun yet, but NADC Johnsville, Pa., has the idea and reportedly likes it.

Rescatch was proposed by Lt. Harvey G. Gregoire (MSC), USNR, of the Aero Medical Branch, Service Test Division, NATC Patuxent River, Md.

Gregoire, an inter-service transferee, was an Air Force officer at Edwards AFB in 1965 when the Fulton Skyhook was tested. He made some of the human engineering evaluations of that system – now operational in the Air Force. Skyhook employs a line suspended between a balloon and the ground. A catch aircraft engages the line between the balloon and the downed airman, and hoists him up and into the aircraft.

The Rescatch system would center around a compact pod attached to a wing or centerline station on every fighter and attack aircraft used on combat strikes. The pod would dispense a weighted hook assembly on a length of stretch line, and the airplane effecting the rescue would deploy this Rescatch line and snag a parachute canopy directly or engage a horizontal line suspended above the parachute between small balloons.

Initial G loadings would be absorbed by an extendible line or a simple energy-absorbing device in the pod similar to the star-drag on a fishing reel. Stretch lines maintain system simplicity and reliability.

After the aerial hookup, the rescued pilot would be air-towed to a safer environment where he would be released, allowing the parachute to redeploy and make a conventional descent. The rescuee would have the option of self release from the air-tow at any time. An air-to-air transfer, to an HC-130H, for example, could also be accomplished.

The technical problems in Rescatch development are less than those to be overcome in other combat SAR proposals. The major problem areas which must be resolved to make the system operational include:

- Development of an extendible line which will have greater energy-absorbing qualities and stretch characteristics than are presently available.
- A feasibility study of inflight snagging of parachutes. Fabric weave strength and canopy tear properties must be determined. Hook release and redeployment parameters must be investigated.
- Tow tests to establish human physiologic tolerance for dynamic pressure, spin, flail and rate of chill. These tolerances will establish the Rescatch system envelope.

The Rescatch system would provide the following advantages:

- Potentially, it offers the shortest eject-to-rescue time possible. The closest rescue vehicles would be other strike aircraft on the same mission.
- Rescue crews and aircraft would not be exposed to hostile fire.
- The cost of developing Rescatch would be a fraction of that necessary to develop a new combat SAR airplane.
- No exotic technological breakthroughs are required.
- Development of the Rescatch system should require less time than other proposed systems – it could be operational in months, as compared to the years it might take for other SAR proposals.

Simplicity of concept and hardware, together with low cost per unit, makes the Rescatch system potentially a near-time solution to the combat SAR problem as it exists today or may exist in future hostile environments.

the navy game

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Watch Your Six, 'Snoopy'

By Major W. J. Scheuren, USMC

As more V/STOL aircraft reach the flying state of development, the question of how their unique capabilities may best be exploited becomes more than an academic exercise.

It takes little imagination to envision how the takeoff and landing capabilities of V/STOL aircraft might be used; the carry-over of helicopter tactics is almost complete. Some of the present V/STOL designs are high performance aircraft, however, and the same mechanisms which allow vertical flight for takeoff and landing might be used to great advantage in air-to-ground or air-to-air tactics. To be more specific, consider the Hawker Siddeley *Harrier* recently put into operational service with the Royal Air Force *(NANews*, July 1969, pp. 26-27).

The *Harrier* is a transonic, single-engine, vectored thrust, jet V/STOL attack aircraft designed to operate from small minimally prepared sites. It is powered by a Rolls-Royce *Pegasus 101* axial flow turbofan engine with counter-rotating twin spools. V/STOL capability is achieved through vectoring of the jet exhaust and jet reaction controls. Thrust can be vectored from the conventional direction through a 100-degree arc to approximately ten degrees forward of vertical through use of a single throttle-like cockpit control. The high thrust to weight ratio necessary for vertical flight makes the aircraft a real "goer" in conventional flight. Even without thrust vectoring, the aircraft appears to be a formidable medium and low-altitude opponent for aircraft such as the F-8.

Imagine yourself in perfect high-perch position at about 20,000 feet with a *Harrier* sitting below, unwarily cruising along. As you start your reversal, it becomes obvious that he has finally spotted you because he starts a gentle turn into you. No problem. You have the closing speed under control and with that tiny wing he can't possibly make you overshoot until it is too late – at least it ought to work that way! But at the most inopportune moment, he takes his approximately 15,000 pounds of thrust and points it slightly forward of vertical. Guess who's looking over his shoulder now!

This is an example of a completely new regime of maneuverability awaiting pilots and writers of tactical manuals as vectored thrust aircraft become operational. Potential tactical use of vectored thrust includes the extremely rapid deceleration capability noted above plus capabilities such as rapid re-acceleration following a thrust braking maneuver – because the engine is already producing maximum thrust, the pilot need only point the thrust vector in the approximate direction. Another use might be constant-speed, vertical dive-bombing with thrust vectoring used to control speed and as an aid in pullouts. There are many more but, of course, any of the ideas need to be tested in flight to determine if they really are useful. (Although structural and aerodynamic limitations presently restrict full use of vectored thrust throughout the flight envelope, the author found in testing the *Harrier* that he could perform aerobatic maneuvers, impossible with conventional aircraft, while he remained within the aircraft's rather restricted test envelope.)

So, watch your six, *Snoopy*. The next fellow you jump might be capable of a few maneuvers that will make you want to trade in that *Camel*.

Aircrew Wings Won by Work

By JO3 Terry Ryan

To some it's the status, others like the extra pay, and then there are those who enjoy the responsibility of the job – most enjoy all three.

All aircrewmen have one thing in common – they all like to Fly Navy or they wouldn't have volunteered and earned the aircrewmen's gold wings.

Helicopter Training Squadron Eight has 114 of these elite billets, and the men holding them earn an extra $55 to $105 per month, depending upon their rate and time in service. Achieving the right to wear the gold wings is not "a piece of cake." The aircrewman must be highly skilled in his job with an average of seven to eight months of training.

The first requirement for a potential aircrewman is *desire*. He must then submit a request to his division officer to attend three-day-a-week classes and training. Further considerations are that each candidate has 18 months left in the squadron, can pass the physical and has no serious disciplinary record. Presuming the individual meets the requirements, he then faces four phases of training.

The first is a review of all of the duties of a plane captain.

Phase two includes such subjects as survival and first aid training, an ejection seat lecture, communications procedures, helicopter loading, sea-and-air rescue training and safety procedures.

The third phase covers advanced survival swimming and Dilbert dunker training.

Phase four emphasizes flight techniques. Since all aircrewmen trained by HT-8 are search-and-rescue specialists, sea-and-air rescue is stressed. Hoist and cargo operation and a familiarization flight with a NATOPS evaluator are other highlights of this phase.

After completion of the four-phase program the potential aircrewman takes an open-book examination. This is a guide to what he is expected to know and is followed by the real thing.

A NATOPS re-familiarization flight is the last step, with the evaluator acting as a passenger as he checks the performance of the student to insure that he is a qualified aircrewman.

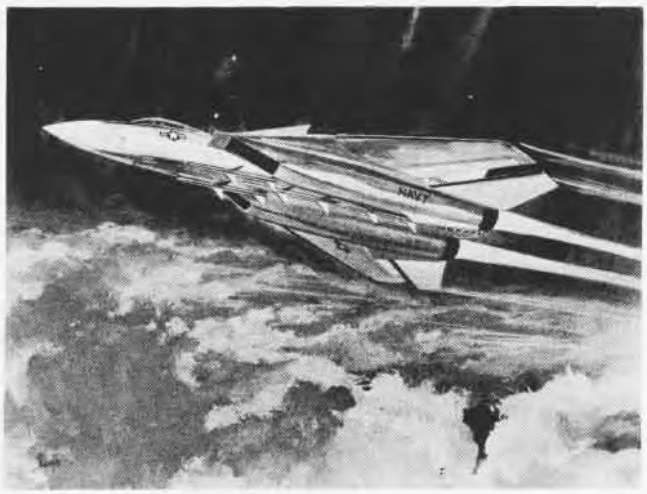
He has earned his shiny, gold wings.

Photos by AA Joe Marino

AIRCREWMEN *earn their wings through training. Cargo handling, above, is taught in phase four of the program. At right, a "rescue" is conducted using the helicopter's hoist and sling. Aircrewmen are often called upon to act as corpsmen when a rescue victim is injured, far right.*

LOOKING AT THE 70's

The F-14A mockup appearing on these pages gives a good idea of what the Navy fighter pilot of the 1970's may look forward to. Variable geometry wings with a 20° to 68° sweep will allow low landing speed and greater loiter time or high speed intercept capability in excess of Mach 2. Radar with 100-mile target acquisition range and infrared sensors on nose and tail will provide the pilot with a wide range of valuable tactical information Palletized weapons stores will provide mission flexibility while reducing aircraft weight and loading time. The first flight of this fighter of the Seventies is planned for January 1971.



Sparrow missile configuration is shown in artist's rendition at top left. A rear view of the two Pratt & Whitney TF-30-P-412 engines is shown above. An infrared sensor is mounted atop the left rudder. At right, two Grumman employees fit Phoenix missile system pallet to mockup. F-14A is shown with wings in the full swept back position below. A pair of overeager aviators try it on for size, lower left.

Photograph by Art Schoeni

AN A-7E CORSAIR II *is directed to the catapult aboard USS Independence during heavy weight carrier suitability trials. NATC Patuxent River, Md. test pilots conducted the tests.*

New Launch Record Established

Corsair Carries 19,000 Pounds

The A-7E *Corsair II* was recently catapulted from the deck of the carrier *Independence* off the East Coast with 19,000 pounds of ordnance and launchers on its wings, the heaviest payload launched from a ship on a single-engine aircraft.

Pilots from NATC Patuxent River established minimum heavy-load launch speeds for the latest version of the attack bomber. One A-7E, powered by a Pratt & Whitney TF-30-P8 turbofan engine, was catapulted six times at 38,000 pounds gross weight. A second A-7E, with the Allison/Rolls-Royce TF-41-A2 engine, made a similar number of catapult launches at 42,000 pounds gross weight, a record for catapult launches from an aircraft carrier for single engine aircraft.

On each flight 20 Mk 82 *Snakeyes*, two 2,000-pound Aero 1D wing tanks and two *Sidewinder* AIM-9D's on fuselage pylons were carried for a total of 15,000 pounds. Added to this was additional weight of multiple launchers and pylons—bringing the total weight carried externally by the *Corsair II* to more than 19,000 pounds.

Pilots of the two airplanes during their Board of Inspection and Survey carrier suitability trials were Lt. W. C. Bowes and Maj. Jack Dye, USMC, of the Flight Test Division at Patuxent River.

Golden Mule is Maintenance Jeep

A Quarterly Award at North Island

The Golden Mule, a gold-painted jeep, is an NAS Lemoore award that is presented to the squadron that demonstrates to the aircraft maintenance department that they have kept their yellow gear equipment in better condition than any other squadron during the previous three months. This includes the least number of accidents and abuses to the equipment.

The grading is done on a percentage basis — the number of misuses of equipment as compared to the number of squadron aircraft.

In October, Commander R. M. Blythe, X.O. of VA-122, accepted the keys to the Mule from Captain D. C. Stanley, C.O. of Lemoore. The squadron recorded only two misuses for 73 aircraft in the previous quarter.

Schoolmaster of the Year Named

PHC Jenkins Chosen From 3,800

PHC "J" "L" Jenkins has been named the Naval Air Technical Training Command's "Schoolmaster of the Year." A member of NATTU Pensacola, Chief Jenkins was selected from a group of three finalists, representing the best of more than 3,800 instructors in the command, which is headquartered at NAS Memphis.

The Schoolmaster competition, established in 1959, is designed to improve morale, develop teaching techniques, and to give special recognition to the top instructors of the command. The finals were co-sponsored by the Memphis Council of the Navy League and the Chief of Naval Air Technical Training.

Other finalists were AGCS John Frazar, NATTC Lakehurst, N.J.; and AD1 William Beane, assigned to the Naval Air Maintenance Training Detachment 1098 (E-8), NAS Miramar.

Each finalist made a 15-minute presentation and a five-minute impromptu speech on the Navy League. A seven-man panel of judges,including military officers, civilian educators and guests, selected the Schoolmaster.

Vice Admiral Bernard M. Strean, Chief of Naval Air Training, presented the trophies.

San Diego Air Group Reorganizes

VS-35 and HS-2 Join Air Group 53

Informal ceremonies were held at NAS North Island as Commander Richard A. Miller, Commander Carrier Antisubmarine Air Group 53, welcomed VS-35 and HS-2 into Air Group 53.

The two squadrons were assigned directly to the Commander Fleet Air San Diego as a result of reorganization.

The squadrons of Air Group 53 fly S-2E's and SH-3A's.

a new class 'C' parachute school where ....

ARCH IS KING!

by PHC B. M. Andersen

PHC *Andersen, AFCCG, makes his first jump in improper form, head down and negative body arch.*

"Arch is king!" is the thought constantly with the instructors and students of the recently established Naval Parachute Course I, Class C school at NATTC Lakehurst, N.J. The course was created to teach professional parachuting methods to naval personnel attached to commands requiring a parachute capability to perform their mission (i.e. UDT, SEALS, para-rescue teams).

Who is "Arch"? Instructor PR1 William R. Thompson explains in the first class that "arch"ing the body is the most important factor in making a stable free-fall descent. By maintaining stability while falling, a chutist diminishes the possibility of a malfunction in opening.

Classroom work takes up the first two days of the two-week course. History of the parachute, stable exit and free-fall positions are shown and practiced on wooden mock-up trainers. Principles of controlling the 35-foot, steerable canopy and successfully executing a parachute-landing fall are explained and demonstrated.

A vigorous physical exercise period, including a two-mile run, is held daily before early morning classes. Physical fitness plays a major role in reducing injuries and increasing alertness, thereby adding to the safety of parachuting, says PRC Charles S. Seymour, senior instructor and a member of the Navy Parachute Team.

Saturation and repetition of safe parachuting principles during the first two days result in automatic reaction by students in case of a malfunction. "Look, reach, pull, punch!" becomes the reaction to releasing the reserve parachute in case the main canopy fails to open.

PR1 Walker McCraw, instructor, asked a student what he was thinking after two days: "Arch is king!" was his answer.

On the third day, weather and aircraft availability permitting, the students (averaging ten per class) make their first jumps. They learn to fight their natural instincts as they jump from high places, reverse their body arch—as they are hit by 100-knot winds—and pull up their feet when nearing the ground. For most, this is the first jump. Others might have previous military or sport parachuting experience, but all will make static line jumps until they have mastered the stable exit and dummy rip cord pulls.

To aid the students in canopy control and safety, one-way radio receivers are carried on the reserve parachutes. The student receives instructions during his descent and landing.

In good weather, classes may make as many as six jumps daily into the 4,000-foot diameter drop zone at NAS Lakehurst.

Parachuting comes naturally to some men. For others, not so endowed, it requires hard work and many jumps to qualify as a naval parachutist. There is a common bond among all men, even experienced jumpers with hundreds of jumps — butterflies, just before the jumpmaster says GO!

Volunteers for the school must be able to do 25 push-ups, 35 sit-ups, and run a mile and one-half in 12 minutes to meet the minimum physical qualifications.

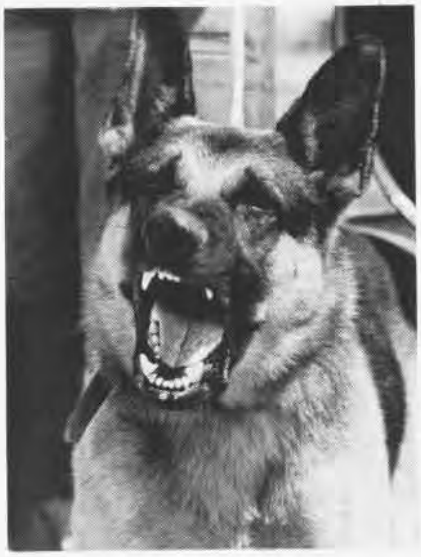
After two weeks and between 15 and 30 jumps, 60 percent of the class is qualified. Each will have made five stable, five-second delay free-fall jumps. The remaining 40 percent will have dropped out, realizing that Arch is not their king.

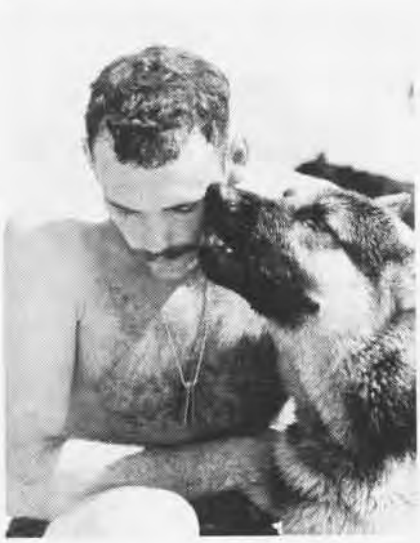
INSTRUCTORS *make first of two inspections before a student makes his jump.*

PR1 *Walker McGraw, jumpmaster, gives students last minute instructions before jump, above. HM3 David McCurdle, below, concentrates on his form in the aircraft while flying to jump area. At right, an instructor demonstrates proper form over NAS Lakehurst, N.J.*

HM2 *Max Greene, a student, arches his back in good form as he jumps from C-117.*

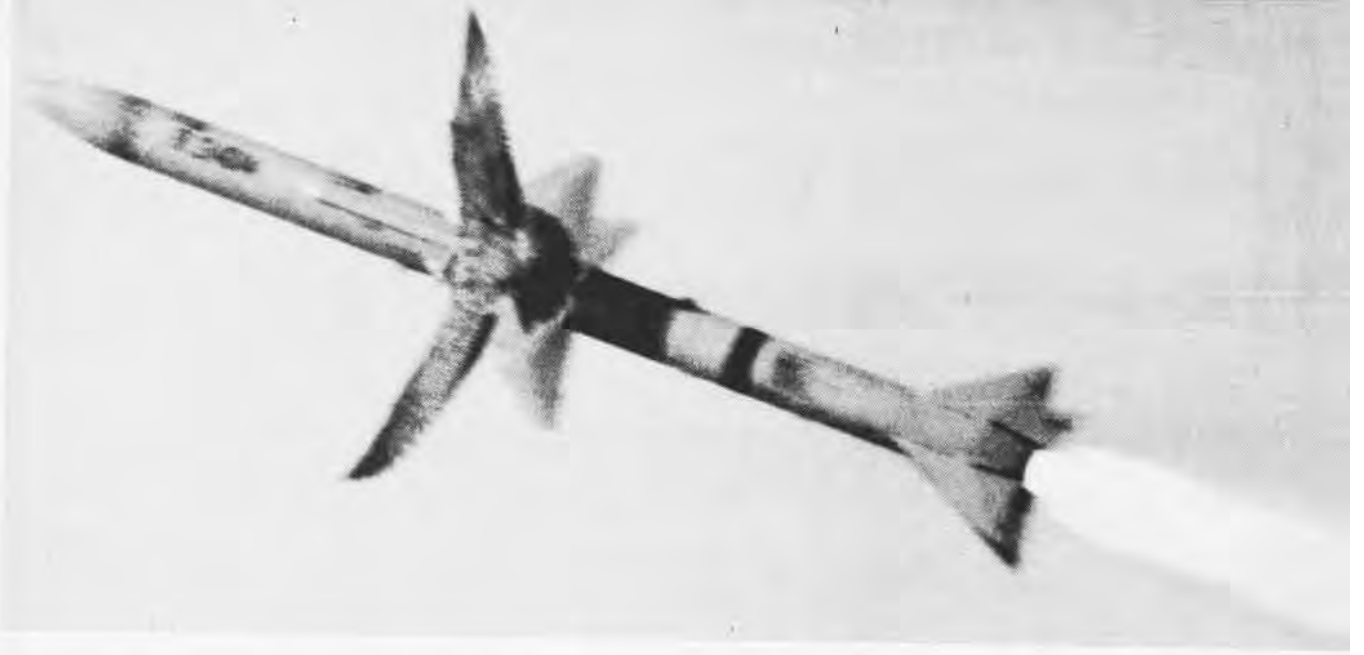
A STUDENT *field-packs his parachute, above left, for later repacking in loft, right. Sprained ankles curtail progress.*





On Guard

A guard dog and his handler patrol the perimeter at Marble Mountain near Da Nang, Vietnam. Hurk, a 75-pound German Shepherd, displays one side of his personality to enemy infiltrators and another to his handler.



Hawk or Sparrow?

Actually it's a little of both. The meeting of hawk and Sea Sparrow missile occurred at the Pacific Missile Range near Point Mugu, Calif. The Sparrow claimed the right-of-way and both birds continued on their way.

Anytime-Anyplace

Men of the Atlantic Fleet Combat Camera Group display some of the various types of uniforms and camera equipment they use to perform their mission. The NAS Norfolk-based photographers travel all over the Atlantic area to complete their assignments. A sister unit at NAS North Island covers the Pacific area. Combat cameramen's assignments range from training exercises to actual combat.

at Sea with the Carriers

PACIFIC FLEET

Enterprise (CVAN-65)

Many people harbor special memories of Neil Armstrong's moon walk. For Captain Forrest S. Petersen, commanding officer of *Enterprise*, the memories go back further. After a tour as student and instructor at the Naval Test Pilot School in 1958, Captain Petersen was assigned as a research pilot in the X-15 program. While with this exploratory program, the captain worked next to Neil Armstrong for more than three years. Besides their working relationship, Captain Petersen recalls that "Neil, the late Joe Walker and I used to like to get away and go up to Mt. Whitney, Calif., and backpack in where there were no roads. We would fish for golden trout for three days at a time."

Enterprise is presently undergoing a three-phase overhaul at the Norfolk Naval Shipyard.

New Orleans (LPH-11)

Fifty-nine U.S. Navy and Marine Corps personnel were decorated by the Republic of Vietnam at a Vietnamese awards ceremony aboard *New Orleans*.

Representing the Republic of Vietnam at the ceremony were Prime Minister Tran Thien Khiem and numerous other high ranking government officials.

In the official U.S. Navy party were Admiral John J. Hyland, Commander in Chief, U.S. Pacific Fleet, and Vice Admiral William F. Bringle, Commander, U.S. Seventh Fleet.

Prime Minister Khiem, Minister of State Dr. Nguyen Tien Hy, and Vietnamese Navy Chief of Naval Operations, Commodore Tran Von Chon, presented medals to the 46 officers and 13 enlisted men.

Heading the list of award recipients was Rear Admiral Edwin M. Rosenberg, Commander Amphibious Force, U.S. Seventh Fleet. He received the National Order of Vietnam Fifth Class, the highest medal presented.

An additional 591 awards were presented in absentia to Navy men and Marines who were unable to attend the ceremony.

After the awards had been presented, a special amphibious demonstration was held for the guests. CH-46's loaded with combat Marines were launched on a simulated vertical assault, a group of landing craft passed in review, and UDT swimmers were dropped from helicopter and then recovered by high-speed pickup.

Constellation (CVA-64)

Constellation added another historic event to her log last week as she became the first of the "big deck"

CONSTELLATION *and CVW-14 form a pattern in Hawaiian waters, left. Maintenance man checks the TWA C-1A, above left. Above right, is Capt. Sizemore shortly after he made his 1,000th arrested landing aboard John F. Kennedy. At right, an F-4 prepares to make one of 85 landings which helped CVA-66 set an air traffic control record during post-repair trials.*

(*Forrestal*-class) aircraft carriers to moor beside the pier at the port of Sasebo, Japan. The San Diego-based carrier arrived at the Japanese port following a 30-day at-sea period off the coast of Vietnam.

The ship was officially welcomed by Rear Admiral Horosato Asonuma, representing the Commandant, Sasebo Regional Headquarters, Japanese Maritime Self Defense Force, and Ichizo Tsuji, mayor of the city of Sasebo.

In the past, the larger carriers arriving at the port had to anchor several thousand yards out in Sasebo Bay.

Constellation, under the command of Captain J. S. Christiansen, is currently embarked on its fifth Vietnam combat cruise. She is serving as flagship for Vice Admiral M. F. Weisner, commander of Attack Carrier Striking Force Seventh Fleet.

ATLANTIC FLEET

Yorktown (CVS-10)

A Royal Canadian Navy pilot, Lt. Michael Pinfold, recently made the 131,000th arrested landing on board CVS-10. Lt. Pinfold, presently flying with VS-27 while participating in the exchange program, made the record landing in an S-2E.

Lt. Pinfold is a favorite among the crew because of the official "Yorktown beard" that he wears. The Canadian pilot started growing the beard with the permission of Yorktown's skipper, Captain W. F. Chaires, shortly after the ship's departure on a North Atlantic cruise in September. Canadian regulations require Lt. Pinfold's commanding officer to inspect the beard before he can depart the ship on liberty.

John F. Kennedy (CVA-67)

Captain William G. Sizemore, Commander Attack Carrier Air Wing One, became the sixth member of Naval Aviation's most exclusive group when he landed an A-4C aboard CVA-67 for his 1,000th carrier arrested landing. Records indicate that only five other Naval Aviators in the history of Naval Aviation have preceded Captain Sizemore in this accomplishment (*NANews*, July 1969, p. 3).

A few days before, Lt. Frank A. Schumacher, NFO of VF-32, became the first man to make 200 arrested landings aboard *JFK*. He achieved double-centurian status in an F-4B *Phantom II*.

Wasp (CVS-18)

The aviation intermediate maintenance department (AIMD) aboard *Wasp* performs a wide variety of tasks. One of the most important is keeping the ship's C-1A, affectionately known as Trans Wasp Airlines, in a flying status.

The craft, manned by an AIMD flight crew, brings the crew several hundred pounds of welcome mail, flies mail out and is utilized as a transport with scheduled shuttle flights for personnel and high priority cargo. One of its more important missions is providing medevac.

With the work load involved, it takes a well-coordinated, organized effort to keep the C-1A ready. The maintenance team is led by LCdr. F. M. Floyd, AIMD's officer, and Lt. D. W. Fugere, IM-2 division officer.

Their efforts often go unnoticed unless the C-1A can't go after the mail. That, however, is a rarity because these are the men who keep "TWA" flying.

America (CVA-66)

Late last year, *America* steamed down the Elizabeth River and out to sea for the first time since January 1969. She had been undergoing her first scheduled major overhaul in the Norfolk Naval Shipyard following a Vietnam deployment.

CVA-66's post-repair sea trials demonstrated the effectiveness of the work accomplished by the ship's personnel and the shipyard workers by testing all machinery and equipment which had been repaired, overhauled or newly installed. It had been nearly ten months since *America's* equipment had been used at sea and a large amount of new equipment was operated for the first time.

The work is long, hot, but invaluable. The ship goes nowhere and cannot function without the efforts of the men down below. The men of the Engineering Department aboard *Wasp* literally make the ship go and are kept on the go in the performance of their duties.

The largest of the ship's departments is divided into several divisions. At sea, the watch standers in the four fire rooms, manned by B Division, and the two engine rooms, manned by M Division, provide the 24 to 30 knots needed to supply enough lift to launch jet aircraft.

Photos by AN James Phillips

Even in port, the boilermen and firemen are kept busy: each 27,000-pound propeller must make a complete revolution every nine minutes to prevent the shafts from "freezing" in one position.

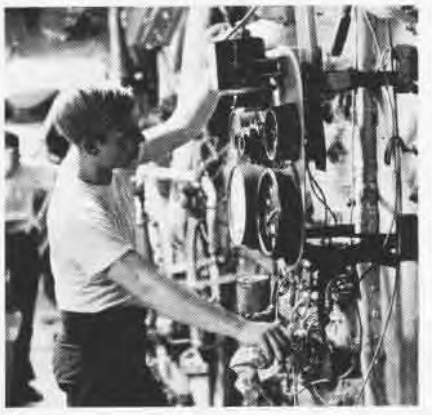
Division A is responsible for the ship's air-conditioning, air supply vents, hydraulic equipment, auxiliary diesels and other auxiliary equipment.

The generation, distribution and use of electrical power are the functions of the E Division.

The smallest division, the R Division (the damage control gang), provides the nucleus of all fire-fighting parties. During flight operations, personnel man the high capacity, fog-foam generators.

Whether it is propelling the carrier at speeds in excess of 24 knots or on duty with the port party, *Wasp's* largest, yet rarely seen department, literally makes the lady go.

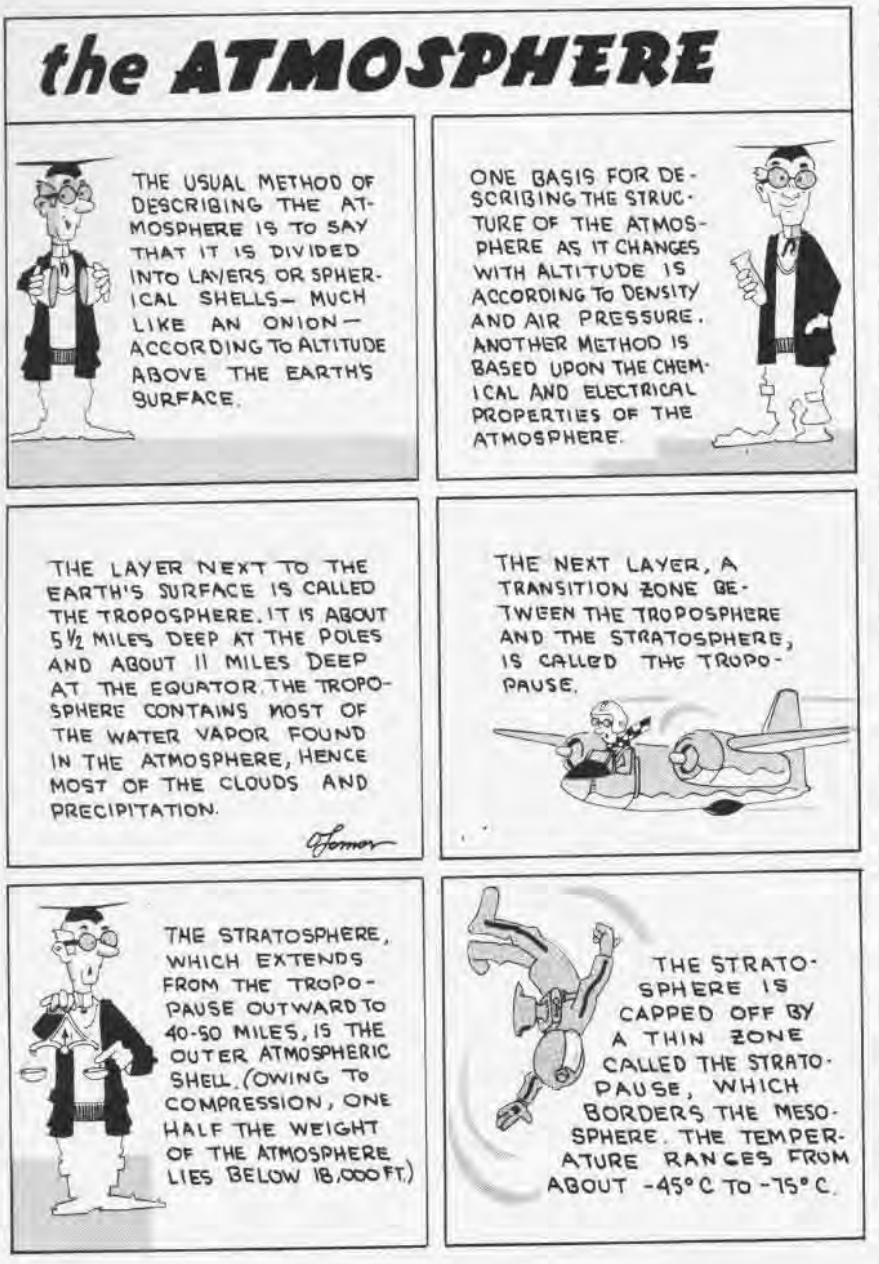
Inside Wasp's Boilers



MM3 DAVID *Barker controls the speed of the shafts in main control, left. Top, lost in the gloom, FN Myron Sanders mans his station in elevator pump room. BT3 Jack Bruner adds boiler pressure, above.*

FORTY THOUSAND *gallons of water can be produced daily in the ship's evaporator manned by B Division, left. BT3 Al Kluck, B Division, checks water level in the number four boiler, below.*

ELECTRICAL *load throughout the ship is watched by EM3 Danny Delaney of E Division, left. The men of the damage control gang form the nucleus fire party. Above, on roving patrol, they check a void to ensure the ship's stability.*



PMR Takes on a Weather Mission

EC-121 is Assigned to Track Cyclones

The Pacific Missile Range (PMR), Point Mugu, Calif., investigated tropical disturbances in the eastern Pacific Ocean during the 1969 hurricane season — June to October — as part of a West Coast weather network.

The San Francisco Weather Bureau, the controlling activity for eastern Pacific tropical disturbances, consults daily photographs from weather satellites and contacts the Naval Fleet Weather Central at Alameda when a tropical cyclone is observed in the mid-eastern Pacific. They, in turn, alert PMR which searches for the cyclone and investigates it to obtain scientific meteorological data. That data is analyzed by the Navy and Weather Bureau in an effort to predict its future movement and activity. Material gathered on these flights is included in warnings issued to all ships at sea, all Navy forces and any commercial fishermen and/or seamen in the area.

The first flight from NAS Point Mugu was made in August, the day that the Naval Weather Reconnaissance Project became effective. PMR and fleet weather squadron personnel, in an EC-121K, located, plotted and measured a tropical cyclone in an area 1,200 miles south of Point Mugu. Labeled *Doreen*, it was called one of the best defined Pacific storms in recent years. Weather specialists temporarily assigned to PMR are from Naval Weather Reconnaissance Squadron Four, Jacksonville, Fla., and Airborne Early Warning Squadron One, Guam.

A few years ago the number of tropical cyclones in the southeastern North Pacific Ocean was believed to be 7.5 per year; however, studies indicate that the number is more like 40 with 30 of them reaching hurricane force.

Hurricane Hunters Use Laser

Project Aims to Measure Wave Height

Using a laser beam may sound like something out of a Buck Rogers comic strip, but for the *Hurricane Hunters* of Weather Reconnaissance Squadron Four, NAS Jacksonville, Fla., it's a reality.

A laser beam generator, the Geodolite 3A, has been installed in one of VW-4's WC-121N *Super Constellation's*. It will be used in Project *Hurricane Waves* to more accurately measure and forecast wave heights within hurricanes. Wave height has been measured before by lasers, but they have never been measured within a hurricane.

The Geodolite 3A beam, produced from electronically charged helium and neon gas, is "bounced" off the surface of the water ten million times a second. The return signal is recorded on tape which indicates the exact wave form.

A similar laser is operational on VXN-8 aircraft where it is being used to determine the thickness of the ice in the arctic regions. VXN-8 flew ice reconnaissance for the tanker *Manhattan* on its successful trip through the northwest passage.

ON PATROL

with the Fleet Air Wings

Cruise From Down Under

A detachment of five P-3B *Orions* and two C-130 *Hercules* of the Royal Australian Air Force and Royal New Zealand Air Force arrived at NAS Barbers Point recently for two weeks of ASW training exercises with Barbers Point-based patrol squadrons.

While operating from the air station, the Australians and New Zealanders received training in submarine detection methods, and evaluated their antisubmarine weapons system capabilities.

This year's training is a continuation of a program which began in 1966.

The Australian detachment was under the command of Wing Commander Russell N. Law; Group Captain Mal S. Gunton headed the New Zealand group. Both groups were the guests of VP-22.

Transition and Awards for VP-1

A VP-1 airman, C. E. Taylor, was presented the Bronze Star and eleven Air Medals during a personnel inspection at NAS Whidbey Island. Taylor previously had been awarded his first Air Medal. In addition, ComFAirWing Four, Captain E. J. Winter, presented 82 Air Medals to squadron personnel: 55 first strike/flight; 26 second strike/flight; and one third strike/flight.

VP-1 completed transition from P-2's to P-3B *Orions* last fall, and, since recent budgetary cutbacks, remains the only patrol squadron based at Whidbey Island. The squadron's transition to the P-3B was completed in October, when the final class of pilots, NFO's and aircrewmen graduated from VP-31 at NAS Moffett Field, Calif.

P-3B's at Iceland Air Show

While deployed to Keflavik, Iceland, VP-24 participated in that nation's celebration of the 50th anniversary of aviation in Iceland. The *Batmen's* Crew Six demonstrated the flight capabilities for the squadron's P-3B *Orions* and acted as escorts for a static display of the aircraft. The daylong air show was held at the Reykjavik Airport in the nation's capital city.

Some 8,000 spectators (the nation's population is only 200,000) watched as Plane Commander, Canadian Forces exchange officer, Maj. R. S. Nakonechny, demonstrated short field takeoffs and landings, high performance takeoffs, and engine-out flight. The P-3's portion of the two-hour flight show lasted 20 minutes.

In the two hours that the aircraft was open for inspection, some 1,000 Icelandic citizens were escorted through it.

VP-46 Claims A First

VP-46, under the leadership of Commander William D. Cloughley, has claimed a "first" in patrol aviation readiness. Lt. Mel Meador, PPC, and Lt. Bob Stanfield, TACCO, with the rest of their Crew 9 teammates flew a P-3 weapon systems trainer mission that rated the crew an overall grade of 100 percent on all phases of their simulated ASW mission.

Captain Patterson, Commander Fleet Air Wing Ten, was first to congratulate Crew 9 on their accomplishment.

PATROL AVIATION *is represented from almost the top to the bottom of the world in these photos. At left, Commander James W. Cornwell, then C.O. of VP-22, welcomes Wing Commander Russell N. Law, RAAF, to Barbers Point, Hawaii. Above, Icelanders watch as a VP-24 Orion taxies out to begin its part in the air show which was held at the Reykjavik Airport.*

THE SELECTED AIR RESERVE

Them Amazin' Sailors from Flatbush

(or, how to succeed in community relations by really trying)

By JOC James Johnston

It began simply enough.

Just about one year ago, NAS New York was planning for the annual military personnel inspection – nothing unusual, just an annual inspection. But it was to take place just about the time when the 50th Anniversary of the NC-4's Trans-Atlantic Flight was being celebrated Navywide.

Now as it happens, in Flatbush, where NAS New York is located, a traveler who asks the whereabouts of *NAS New York*, will most likely get a shrug in return.

But, if he asks where to find Floyd Bennett Field (where NAS New York is) he's just as apt to get enthusiastic directions – if he's not actually led to the field. Yes indeed, the people of Flatbush are proud of Floyd Bennett Field and the Navy stationed there. This is the result of several factors, not the least of which is the strong influence of an early aviators' club in the area.

The warm feeling for the Navy in Brooklyn goes back more than half a century. The three NC flying boats left NAS Rockaway on the first leg of their Trans-Atlantic flight. Rockaway, on Queens peninsula, was across the bay from Barren Island, a horse graveyard and the borough's dumping grounds. The island was to carve its way into Naval Aviation history.

In 1928, New York City commissioned Clarence Chamberlain, a noted aeronaut, to study major airports abroad. Upon his return, Chamberlain studied New York and found the island in Jamaica Bay to be the best suited for flying. The city raised it 16 feet above sea level, connected it to Flatbush Avenue (a direct route into New York City) and on May 23, 1931, it was named Floyd Bennett Municipal Airport.

Rear Admiral Richard E. Byrd dedicated it in memory of Warrant Officer Floyd Bennett, copilot on the Polar flights. Byrd and Bennett made history in 1926 by flying over the North Pole and were awarded Medals of Honor.

The Naval Reserve Aviation Unit which had operated at Rockaway moved to hangar No. 5 at the field and began an era of history-making events in Naval Aviation, planting the Navy's roots in Flatbush.

With all this in mind, the NARTU people at NAS New York, invited several dignitaries to the annual personnel inspection in conjunction with the observance of the 50th Anniversary flight. Proclamations were exchanged and mutual feelings of pride in accom-

SEA CADETS, *from a local company, got a surprise when they reported for their first weekend drill at NAS New York. They spent the weekend polishing airplanes and helping with open-house preparations. At right, a public works employee hangs art for an exhibit.*

TERRI ANN LEMOINE, *a model since she was four, and a nationally known entertainer, was named Queen of the Navy Day open house. A second year psychology major at Louisiana State University, Miss Lemoine is a member of the Loyola Ballet, the New Orleans Saints' dance and drill team and the Crescent City entertainers.*

plishment and cooperation were expressed.

It was so successful, in fact, that the Navy began almost immediately planning an open house for the people of Brooklyn, so that they could get re-acquainted with their Navy neighbors. Navy Day seemed like a good time. It would be the first open house in more than five years.

Since July 1946, NAS New York has been a Naval Air Reserve Training Station (the Navy purchased Floyd Bennett Field in 1941 for $9.5 million) and, therefore, it is at its operational peak on weekends. Open-house planning had to be done carefully. It could not interfere with the regular training schedule but, at the same time, there had to be some drawing cards to get people out.

A large area of the 321-acre air station was marked for the open house. It was far enough away from the training units so it would not interfere with operations, yet close enough to add an operational flavor.

The festivities centered around an art exhibit which included Navy combat art and entries by local amateur, student and professional artists. Provisions were made for ribbons and trophies and sales after the exhibit, if the artists wished to sell their work. A judging panel of three leading figures in the art world — Mell Lazarus, creator of the "Miss Peach" syndicated comic strip; Casey Jones, TV art director for a major advertising firm; and Wes McKeown, president of the Society of Illustrators — was invited to select the winners.

In addition to the major attraction, NAS New York planned and executed an outdoor stage show, static displays from the various departments, food

ADJ1 D. A. *Burnett, a crewman on an NAS New York helo, goes on a hop in connection with the open-house activities.*

RESERVE TRAINING *went on as usual. Hangars were swept classes convened, and airplanes were repaired by weekenders.*

THE CROWD *pressed toward the stage to enjoy the magic show. Cdr. W. D. Martin, amateur magician and station PAO, attempts airborne escape, above. Claire Manley, above right, known as "Candy the Magic Clown," did sleight-of-hand tricks while a Coast Guard H-3 made a routine flight. Terri Ann Lemoine (the same) is lifted on stage for her dancing doll act.*

stands, an antique and modern aircraft display, a scale model of the LEM which carried *Apollo 11* astronauts to the moon and an official Marine Corps retirement ceremony.

The Navy was prepared for the Sunday open house. All plans had been made: the Reserve units flew in Friday night and began their regular drills; a final planning meeting was held to iron out the finer details and everything was in order.

Brooklyn Borough President, Abe Stark, signed a proclamation announcing the following Monday as Navy Day in Flatbush. News media had been broadcasting invitations to the public to visit the station, and the response had been enthusiastic.

Saturday broke cold and ominous. Overcast skies, threatening rain (or snow) generally dampened spirits. The weather was the last holdout. It was a dark day in Flatbush.

Captain Coleman W. Sims, commanding officer of NAS New York, sat in his office glumly observing the rapidly closing weather. He stalked down the hall to weather central.

"Is it going to be like this tomorrow?" he asked. (The contingency plan he had issued earlier had provisions for foul weather conditions. It would really have to be bad to cancel the open house.)

"I want sun and warmth tomorrow," he told the weatherman. Somewhat hesitantly, the weather watcher assured him it would be warm and sunny for the open house.

Sunday broke warm, clear and sunny. A Marine drum and bugle corps from Fort Meade, Md., assembled in front of the administration building to play the National Anthem for morning colors. Capt. Sims was obviously pleased with the weather and the way things were moving (although he did not relate the story about the weatherman until late Sunday afternoon).

Now everything was fine.

At 1100 security personnel opened the gates to the public and by show time, at 1400, some 10 to 12,000 citizens of New York were wandering over the area, apparently pleased with their Navy neighbors.

No one had to tell them about the

station's history. They knew this was Floyd Bennett Field (regardless of what the Navy might call it) and this is where a good measure of aviation history was made. Wiley Post flew around the world from here on a record solo flight; Amelia Earhart compiled several records at Floyd Bennett Field; "Wrong Way" Corrigan left from here on his 1938 history-making flight; and there were several others, not the least of whom was Elinor Smith Sullivan, a noted pioneer aviatrix who began flying from the field as a teen-ager. (As vice president of the Long Island Early Flyers' Club, Mrs. Sullivan conducted a meeting of the club in the station theater during the open house.)

The entire day went smoothly. At 1600, the pre-determined time for closing the gates, the station was practically bare – the guests left, orderly and pleased, with the idea that things were as they should be at Floyd Bennett Field. Shortly afterward, the Reserve units boarded planes to return to civilian life until their next drill.

The whole thing was awesome in its precision, a good example of what can be done with pre-planning, a little entertainment, a little food, and "them amazin' people from Flatbush."

OLD AIRPLANES *were a big attraction. SP's watch Viking Kitty Hawk taxi in, upper left; another SP takes youngsters on guided tour. A young, would-be aviator gets T-34 checkout; an admirer studies modified WW II Stearman N2S, center left. At left is an SNJ Texan. Above, Mrs. Elinor Smith Sullivan conducts early aviators' meeting in station theater.*

Letters

Information Please

I am researching the history of the Northrop P-61 *Black Widow*, both as the P-61 specialist for the American Aviation Historical Society and for a book which I am co-authoring.

I would like to hear from anyone with any information on the use and disposition of the USMC P-61/F2T-1 aircraft that were operated in California during 1946 and 1947.

Garry R. Pape
2613 N. Danton Place
Simi, Calif. 93065

As a member of the American Aviation Historical Society and ex-Navy man, I have recently started a research project on the Douglas F4D-1/F-6A *Skyray*. I would like to contact any pilots who flew the *Ford* or anyone who was connected with them in any way to obtain personal recollections for a series of articles in the *A.A.H.S. Journal*.

The *Skyray* was a unique carrier fighter in its day, setting several world's records and deserves more mention than it has been given in the past.

I would also appreciate any information or negatives/photos that I may copy. All material will be carefully copied and returned as soon as possible.

N. M. Williams
813 Bungalow Street
El Segundo, Calif. 90243

'Blue Ears'

As a mustang and a former plane captain, this *Pacemaker* Head Wrench wants to express his thanks to LCdr. V. C. Sledge for his kudos on VF-121's "Blue Ears" program, appearing in your October 1969 "Letters." We are indeed proud of our plane captains and are very receptive to LCdr. Sledge attending our plane captain training program, provided, of course, that AirLant funds the TAD. In the event that funding does not permit this trip, we are sending him one set of Honorary *Pacemaker* Blue Ears.

J.J. Errickson, LCdr.
VF-121 Maintenance Officer

A 'Glaring Error'

Your article on Page 3, *NANews*, November 1969, "CNATra Awards Are Presented," contains a glaring error. Paragraph 4 should read: "The Admiral John H. Towers Flight Safety Award was presented to *Training Squadron 22* for achieving the best record in the flight safety program for all CNATra squadrons."

R. C. Johnson, Cdr.
VT-22 Commanding Officer

¶*NANews* reported VT-21 as the Flight Safety Award Winner. We regret the error.

Grumman Awarded New Contract

Will Develop the E Model of the A-6

The Naval Air Systems Command has awarded a contract to Grumman Aerospace Corporation for the development of five new radar systems for the *Intruder*.

The new radar will replace the present search and track radars of the A-6 and provide increased reliability without eliminating the track-while-scan capability of the present system. Track-while-scan is the ability to place cursors on a target and obtain range and angular measurements to the target without loss of the radar picture.

A-6's using the new systems will be designated A-6E's.

Several other versions are now under development. They are: the KA-6D tanker; the A-6C which features advanced infrared sensors and low-light-level television to supplement the aircraft's all-weather capability; and the EA-6B, a four-place electronic warfare version.

The Marines fly the EA-6A, the electronic countermeasure *Intruder*.

First CG Winch-Down Landing

Heavy Seas Now No Obstacle to Helos

The first winch-down landings involving a U.S Coast Guard helicopter and vessel took place recently in Delaware Bay.

An HH-52A helicopter hovering over the flight deck of the Coast Guard cutter *Alert* was winched down to the deck, and caught and anchored there by a "bear-trap" device. More than 30 landings were accomplished despite winds that exceeded 40 miles an hour.

The bear-trap is a square frame with two movable beams that spring together to capture a probe extending from the underside of the helicopter. In practice, the pilot maneuvers his aircraft to a point above the flight deck, a messenger cable within the probe is lowered and attached to the ship's haul-down cable, then retracted to lock the haul-down cable in the probe. A winch below the bear-trap pulls the aircraft to the deck where it is secured.

The winch-down, bear-trap method of landing and holding helicopters on small vessels in rough seas was developed by the Canadian Navy.

Naval Aviation Films

The following motion picture films are among the latest released by the Film Distribution Division, U.S. Naval Photographic Center. They deal with specifics in Naval Aviation.

MN-10478A (confidential) *ASW Communications – Command and Control Communications* (U). Essentials for operational control of ComASWForLant Forces (20 minutes).

MN-10478B (confidential) *ASW Communications – ASW Carrier Group Tactical Communications* (U). How communications serve command functions within and between operational groups (29 minutes).

MN-10478C (confidential) *ASW Communications – Convoy and Support Communications* (U). An explanation of the convoy and escort communications systems and how they serve command functions (19 minutes).

MN-10605B (unclassified) *Van Zelm Bridle Arrestor – Operation.* Operation of the aircraft hookup and launch. Location and function on the console. Deck-edge track and drum (17 minutes).

MN-10605B (unclassified) *Van Zelm Bridle Arrestor – Maintenance Procedures* for installing the strap and drum, brake pucks and setting cams, and deceleration valves (17 minutes).

MN-10607B (confidential) *Carrier Air Traffic Control Center – SPN-10/42* (U). How the NTDS with SPN-10/42 control console is employed aboard CVA-type carriers (13 minutes).

MN-10704 (unclassified) *Ejection Vectors.* Familiarizes crew members with capabilities of their escape system under certain conditions of flight (23 minutes).

In addition to these aviation films, MN-10390 – *The Rise of the Soviet Navy* – has been released. It is an unclassified documentary which traces the rise of Soviet seapower from the Imperial Navy of the Czar to today's well-coordinated ocean force. Richard Basehart narrates (28 minutes).

Instructions for obtaining prints of newly released films are contained in OPNav Instruction 1551.1E.

EDITOR'S CORNER

Flying Alligators? That's right! The Flying Alligator Club International, one of the more well known of pre-WW II flying clubs, has returned to the Florida aviation scene.

Dick Merrill, chairman of its board of governors, describes the purpose of the group as "having fun with airplanes," and elaborates by including fly-in golf tournaments, hunting and fishing, and plain old sightseeing.

Initiations were held at the St. Augustine Alligator Farm in the old days; however, we haven't been informed if that practice is still required.

The *Flying Alligators* make their headquarters in Building 1362, Palm Beach International Airport, West Palm Beach, Fla., 33406.

WAKE OF THE TIGER is not the title of a late night movie. It describes a recent naval event.

The "O" Club at NAS Jacksonville was the scene of an unhappy occasion for the officers of VAP-62. They had gathered to mourn the passing of their mascot, *Tiger*. *Tiger's* demise also marked the scheduled decommissioning of the heavy photographic squadron which, since its beginning in 1952, has recorded a large part of the earth's surface.

Over the years VAP-62 has provided photo coverage of portions of North and South America, Europe, Africa, Australia and most areas of the Far East.

Following appropriate ceremonies, including launching *Tiger* on his burning funeral barge into the St. Johns River, the saddened participants retired to the club to less somber occupations.

The Battle of the Coral Sea is approaching its 30th anniversary. To commemorate that date, an organization has been formed to plan and arrange appropriate activities in 1972 to mark that significant event in Naval Aviation history. Organizational meetings have established committees to prepare a suitable schedule and make necessary arrangements. As yet no site for the anniversary celebration has been selected, but several locations are under consideration. The group is interested in contacting as many persons as possible who participated in the Battle of the Coral Sea to inform them of the proposed reunion.

COMMANDER *W. C. Larry, VC-2 C.O., center, has the distinction of starting two other NAS Oceana-based C.O.'s on their Naval Aviation careers. Cdr. O. G. Elliot, VF-33, right, and Cdr. G. W. Lenox, VF-84, left, both began their primary training in 1953 under Cdr. Larry's instruction.*

Anyone desiring further information may contact William F. Surgi, Jr., P.O. Box 1172, Rockville, Md. 20850.

PUFFS OF SMOKE seen when an airplane's wheels contact the runway on landing have caused most of us to wonder if there wasn't a way to prevent what seems to be significant tire wear. However, John H. Ries of Goodyear's aviation products division says that tire deterioration under landing impact is very slight and that the real enemy of aircraft tires is long landing rollouts and taxi rolls. He says this is because the full weight of the plane puts the tires under tremendous pressure. Wider, flatter treads have aided in reducing this problem.

The answer to the puffs of smoke is pre-rotation. Since tire rotation speed must be almost exactly the same as touchdown speed to achieve any significant reduction in tread wear, the solution becomes quite complex. At this time, even if such a system were to be developed, the cost in weight for a drive motor and necessary instrumentation would impose a cost of operation greater than the cost in tire wear.

WITH CEREMONY *and somber dignity, Commander Jim Service, right, commanding officer of VAP-62, and LCdr. Bill Frith bear their long-time mascot to his farewell appearance.*

VS-32 made its first log entry in April 1950. Since then, the squadron has served aboard eight aircraft carriers while performing its mission of antisubmarine warfare. Manned by 33 officers and 170 enlisted men, VS-32 flies S-2E Trackers.

During an east Atlantic cruise aboard USS Wasp (CVS-18), the squadron logged its 30,000th accident-free hour. This safety record won it a CNO Safety Award.

The Quonset Point squadron is under Commander H. Smevog.

AT
NAVY

Naval Aviation NEWS