

NAVAL AVIATION

NEWS



50th Year of Publication

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NAVAL AVIATION NEWS

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FEATURES

The 1968 Naval Aviation Review 6

The events in Naval Aviation are presented against the darkened backdrop of world conflicts in 1968. One of the bright moments of the year came at its close when Apollo 8 astronauts, returning from their trip to the moon, were picked up by helicopters and crews operating from USS Yorktown.

One Thousand Aviators Come of Age 14

A progress report on the "Pensacola Thousand Aviators Study" is made by Cdr. J. A. Pursch, MC. The knowledge gained over the years of the aging process of men who successfully completed their flight course in the 1940's should be an invaluable guide to rules for longevity.

Down and Out 17

The account of one Naval Aviator's ordeal and rescue after he crashed in Vietnam suggests certain rules for survival.

Air Group 17 Shakedown 22

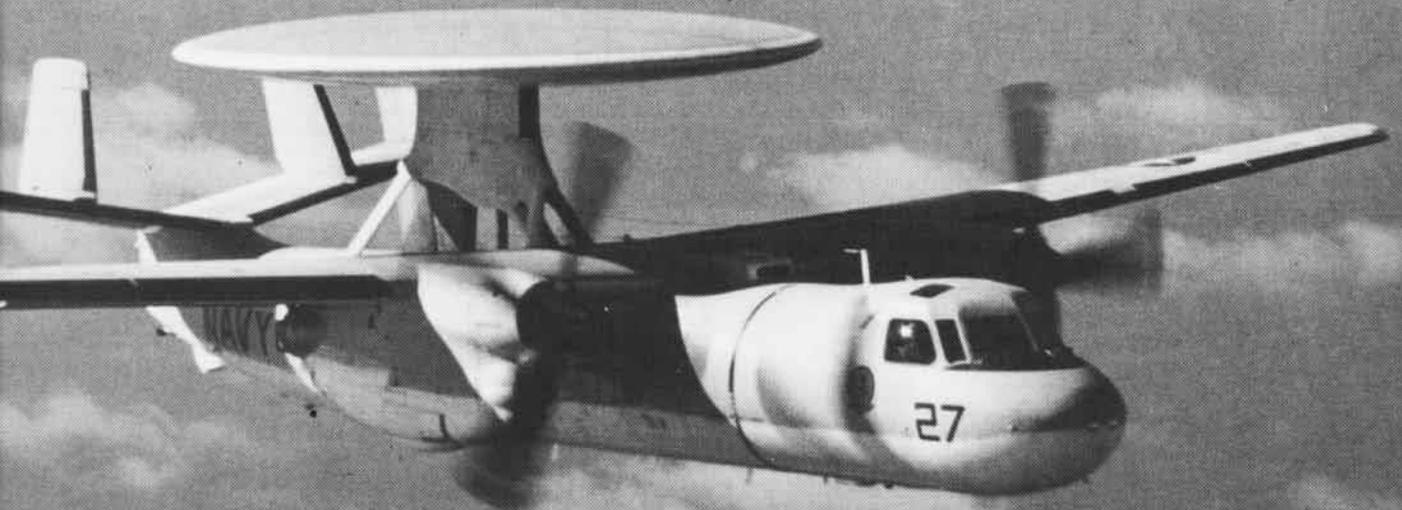
This is another article in the continuing series of "Naval Aviation News Looks Back," the preparation of a WW II air group for action in the Pacific Theater.

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LCdr. James C. Cabral (cover), naval flight surgeon, recently had his first flight in one of VF-151's Phantoms. The photo (above) of one of RVAW-110's E-2A Hawkeyes was taken by J.L. Edge. The striking silhouette of tie-down chains on the flight deck of the USS Constellation (back cover) is the work of Jack Reeves.



PINPOINT THE LEADERS

'To take the responsibility offered you is only the beginning. A person must be accountable for his actions, his judgment and the execution of his authority. The realization of that accountability should be an important factor in his decisions through life. In the Navy, every man has the opportunity to be a leader. It is this opportunity that breathes life into Americans. Find a man who accepts responsibility, give him the authority to use it, and he will be accountable to himself, to God and his country.' — Rear Admiral Herman J. Trum, USN, Commander Fleet Air, Whidbey, Oak Harbor, Wash.



NAVAL AVIATION NEWS

New A-7E Makes its First Flight LTV's Test Pilot Rostine at Controls

A few weeks ago at Dallas, the first flight of the new A-7E, the latest version of the *Corsair II* light attack aircraft now flying in Vietnam, was made at the LTV Aerospace Corporation plant.

At the controls for the first flight, which lasted 33 minutes, was R. E. Rostine, the company's chief experimental test pilot. The flight was conducted without incident.

According to the company, the newest version contains numerous improved systems which reduce the workload for the pilot and provide increased accuracy of navigation and weapon delivery. Major change in the A-7E is an improved avionics system. Numerous avionics units feed data into a central digital computer to help the pilot put his wide variety of rockets, missiles or bombs on target.

Data are presented at the forward vision level to the pilot in a head-up display while flying, reducing the necessity of his looking at the instrument panel during an attack or navigation flight. A new projected map display on the panel greatly simplifies keeping his plane on course. A doppler radar feeds ground speed and drift angle information into the computer.

Other features include a new weapon release system, improved forward-looking radar, an air data computer and inertial measurement set for weapon delivery and navigation information. The plane is equipped with the M-61 Gatling gun — the first installed in Navy



MRS. WALTER M. SCHIRRA, JR., holds the Distinguished Service Medal just presented to her husband, Captain Schirra, by Admiral Thomas H. Moorer, Chief of Naval Operations. The Navy pilot-turned-astronaut was commended for his "control and coordination of all assigned evolutions" during the Apollo Program's first manned orbital flight, October 11-22, 1968, which "greatly enhanced the United States potential for further explorations in space."

aircraft — anti-skid brakes and improved cockpit instrument arrangement.

The A-7E initially will be equipped with the TF-30-P8 Pratt & Whitney turbofan engine but will receive the Allison TF-41-A2 turbofan engine later.

More Bell Helicopters Ordered To be Used for Sea/Air Rescue Work

The U.S. Navy has ordered 27 HH-1K aircraft, a version of the *Huey* helicopter, for sea-air rescue missions.

The HH-1K is a new designation in the Bell UH-1 *Huey* inventory. The aircraft will have the U.S. Marines' UH-1E airframe with an upgraded Lycoming T53-L-13 engine and avionics changes.

New NATO Command Established First Commander is RAdm E. C. Outlaw

A new NATO naval command, Maritime Air Forces Mediterranean, was established in Naples at the Capodichino air facility late in 1968. Installed as the first commander was Rear Admiral Edward C. Outlaw.

As MarAirMed, RAdm. Outlaw will report to Admiral Horacio Rivero, Commander Allied Forces Southern Europe.

For NATO, the opening of the new command means improved air surveillance of the Mediterranean. The command will coordinate and improve efforts to keep track of shipping, especially ships of the Soviet Navy.

New Arresting Gear at Oceana Provides for Heavier, Faster Arrests

At NAS Oceana, Virginia Beach, Va., a new, faster working, safer aircraft arresting gear has been installed. The new E-28 bi-directional gear is an energy-absorbing mechanism that slows the aircraft by rotary friction of vanes or paddles which are located in a drum of water.

The E-28 has many advantages over the previous anchor chain used. It can be engaged from either direction, and it allows for a heavier and faster arrestment. It can be ready for another engagement in five minutes or less and can be used time after time without a shut-down period.

The two E-28 devices have replaced four E-5 Mod-1 anchor chain types, according to Commander C. H. Barfield, air operations officer.

Florida Air Races are Scheduled Naval Aviation History Highlighted

Atlantic Coast Air Racing, Inc., in conjunction with the city of Fort Lauderdale, is staging the 1969 Florida National Air Races at the city's Executive Airport February 14-16. The program is dedicated in its entirety to the history of Naval Aviation.

A principal event is to be a fly-by history of Naval Aviation which will include the following aircraft: the F4B-1, FF-1, F3F, N3N, SNJ, F4F, PBV, F6F, TBM, F4U, F7F, F8F, F9F, T-28, A-4, A-6, A-7 and F-4. Other events include Capt. Dick Schram, "the Flying Professor," doing aerobatics in his J3 Cub; Bill Fornof, executing high speed precision aerobatics in his F8F; the Goodyear blimp in flight; and jet aerobatic teams in action.

High Academic Score at Pensacola Best Ever Made in Flight Officer Class

A new record of academic achievement was established late in 1968 when 2nd Lt. Carl W. Monk, USMC, graduated from VT-10 while training to become a Naval Flight Officer at NAS Pensacola.

Lt. Monk achieved a 97% grade aver-



C.O. GIVES MONK LETTER, TROPHY

age in the portion of his training which prepares Marine and Navy officers for advanced training as bombardier-navigators, radar intercept officers and tactical coordinators.

In recognition of his achievement in attaining the highest grade average ever recorded during the 16-week syllabus, Lt. Monk received a Letter of Commendation and a trophy, presented by Commander William B. Hoskovec, commanding officer of VT-10.

Suggestion Nets Navy Pilot \$500 Recommended Modification for F-8

At NAS Barber's Point, Hawaii, a former Fleet Composite Squadron One pilot has collected a prize for his beneficial suggestion. Former Ltjg. (now a civilian) Curtis L. Bryan was awarded \$500 for making a recommendation concerning the landing gear of the F-8.

While a *Crusader* pilot with the Barber's Point squadron, Bryan studied the problem of what to do in the event electrical power was lost while airborne, since under these circumstances the landing gear could not be retracted.

He suggested a manual release for the landing gear down-lock solenoid, so that the pilot could raise the gear in flight.

"By retracting the gear when the plane is without electrical power," a squadron spokesman explained, "the drag is reduced and the pilot can get more distance. In one instance, before Bryan's suggestion, if the gear had been retracted, a pilot would have been able to reach land safely instead of having to ditch in the ocean."



IGNORING THE ILLS commonly associated with the day, the Naval Air Test Center, Patuxent River, Md., put its SATS (Short Airfield for Tactical Support) into operation on Friday, December 13. An A-4, piloted by LCDR. Don Gerrish, was the first to be launched by the ground catapult which is part of the portable launch and recovery setup. SATS is a complete airfield that can be transported by airplane, ship or truck and set up in 72 hours.



GRAMPAW PETTIBONE

Short Flight

At 0700 one bright frosty winter morning in the Midwest, a Naval aviator/recruiting officer, arrived at the local airport and met his passenger for a flight in a T-34B *Mentor*. The flight was to be a short orientation/indoctrination hop around the city.

Since the assigned plane captain had not yet arrived, the pilot untied the aircraft and performed his own pre-flight inspection. As he helped strap his passenger into the rear seat, he briefed him thoroughly on bailout and general emergency procedures. The pilot then completed the prestart checks but could not start the engine.

The two men then exited the cockpit, and the pilot proceeded to another T-34. Having no difficulty in starting up, he shut down and conducted a pre-flight inspection and again helped strap the passenger in. Climbing into the front cockpit, the pilot started the engine and, as they waited for it to warm up, read the checklist over the interphone to the passenger. When the oil temperature reached 40 degrees, they taxied out. The pilot, on noting the windsock dangling, decided to use the 2,400-foot sod runway with the fewest obstructions beyond the far

end. Actually the wind was four knots downwind.

Run-up and engine checks were normal, the takeoff checklist was completed and off they went. At 60 knots, the nose was raised and the *Mentor* lifted off but then settled back. After further acceleration, it became airborne again at 65 to 70 knots. At 10 to 15 feet altitude, the landing gear was retracted; at 20 to 30 feet, the left wing dropped to about 30 degrees of bank. The pilot immediately leveled the wings, thinking his passenger had inadvertently hit the stick. The wing dropped again and remained there momentarily. As the airspeed decreased and the nose

came up, the little plane started to settle and mush toward the ground.

Realizing that he was going down and suspecting a loss of power, the pilot concentrated on keeping the wings as level as possible. The right wing hit first, then the aft fuselage. The craft bounced once, then skidded to a halt on its belly on the frozen sod, 950 feet beyond the end of the runway.

Pilot and passenger quickly left the aircraft after securing the switches to prevent possible fire. The pilot's only comment, heard by witnesses as he walked away, was, "I don't know what happened."



Grampaw Pettibone says:

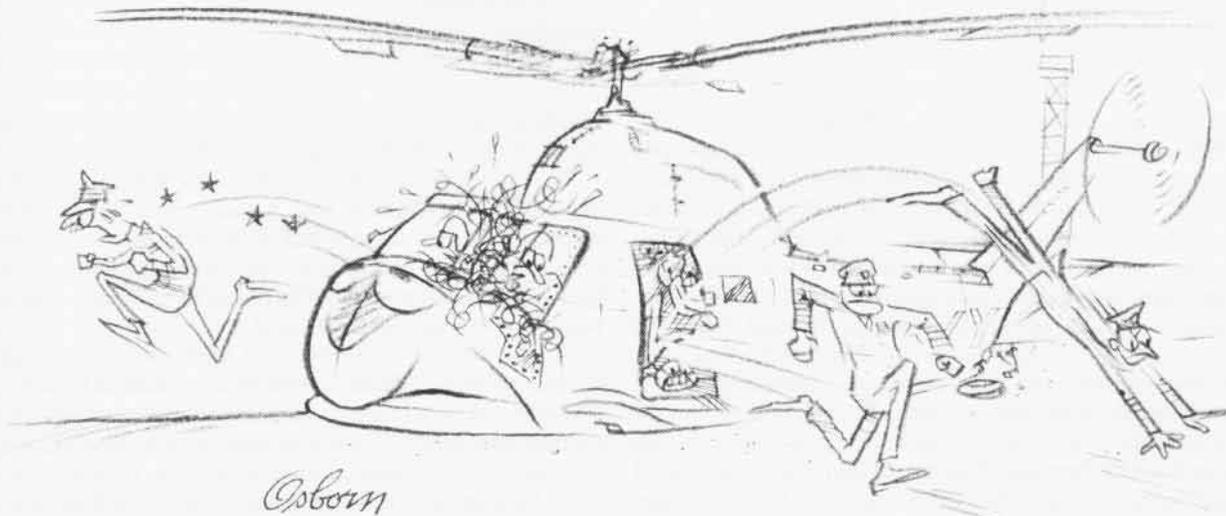
It happens *every* winter. Whether it be a T-34, S-2, T-33 or an F-9, the reason is always the same. Why? Don't they teach aerodynamics in preflight anymore? Even ol' Gramps is familiar with laminar and turbulent boundary layer air flow and lift versus drag. It would have taken only a few minutes to have swept the 1/8 to 3/16 inches of frost off the wing and tail surfaces before they climbed in, and, oh, how much better the plane would have flown. Less embarrassing, too, than an ignominious slide into the fence, or worse yet, a stall - spin.

Embarrassed Squat

The lieutenant and the J.G. conscientiously prepared their UH-2A for a scheduled 0700 VIP passenger flight returning the Flag and his staff to the flagship berthed at a nearby seaport. The pilot had carefully calculated the weight of fuel and passengers to be within the operational envelope of the aircraft for takeoff, flight, and landing.

After an uneventful takeoff and short flight, the pilot contacted the ship five miles from touchdown and received word that winds were variable at three to five knots. The J.G. began the landing checklist and, when the pilot asked for landing gear at one mile, reported the checklist complete.





Owing to multiple obstacles around the landing area, the lieutenant elected to execute a precision approach into the wind across the fantail of the ship to the helo pad on the pier alongside which the ship was berthed.

As the flight reached 150 feet altitude and 25 to 30 knots airspeed, the pilot noted that there were many people on the pier and that a truck was parked up the pier from the landing pad. At 60 feet altitude, roughly over the ship, the pilot added power to slow his rate of descent. The copilot reported an rpm drop, but the pilot elected to continue the approach as the rate of descent had slowed. Rpm stabilized at 96% and, at 30 feet over the helo pad, the pilot added power for a transition to a landing.

Suddenly there was an abrupt unexplained power loss. The lieutenant immediately lowered the nose to gain airspeed in order to shallow his approach angle for a minimum power, maximum gross weight type landing. He regarded a waveoff impossible at this point owing to the power loss, the obstructions present, and the fact that the truck had driven into the intended waveoff route.

The copilot, interpreting the dropping of the nose as the commencement of a waveoff, raised the landing gear because he felt they would have diffi-

culty clearing a 15-inch curb in their waveoff path. This was done without the pilot's knowledge or permission, nor did the copilot inform the pilot.

At an altitude of 10-15 feet, the pilot flared the aircraft to stop forward speed and, assuming the landing gear was extended, touched down on the tail wheel first to cushion the main landing gear. By the time the copilot realized that they were about to land, there was insufficient time to re-extend the gear.

As the aircraft fell through and settled onto the cargo hook, the pilot became aware that the landing gear was retracted. With extreme difficulty, he managed to maintain the *Seasprite* in an upright level attitude. Smelling fuel fumes from what he believed was a ruptured fuel tank, he became concerned about possible fire and asked the passengers to get out.

As soon as they were safely clear of the area and sufficient rpm had built up, he raised the aircraft and lowered the landing gear. A normal landing followed after the gear pins were in place.

Upon the pilot's being informed that there was no fuel leakage evident, the aircraft was shut down. As the rotor came to a stop, the helicopter swerved 40-50 degrees owing to a broken tail wheel locking pin.



Grampaw Pettibone says:

Jumpin' Jehosaphat! If you can't trust your copilot, who can you trust? Of course, the aircraft commander sets the standards, and if he trained his copilot to raise the gear without signal, he just reaped his own harvest.

In spite of those passengers being VIP's, they should'a been wearin' proper flight gear. If that bird had turned over, there would'a been some badly injured people. The very minimum gear to be worn by *all* helicopter passengers should be life jackets for over-water flights and protective helmets.

Considering the many obstructions in his path and the personnel and equipment on the pier, the pilot's margin of safety was very thin when he started. Couple that with the partial power loss and poor crew coordination and there you are.

The aircraft accident board made some pertinent comments on the situation: "The vertical maneuvering capability of the helicopter can lull even experienced personnel into a false sense of security concerning the capabilities of the aircraft. This can lead to commitment of men and machines to situations of marginal safety. In the past, pilots have been encouraged to commit themselves and their aircraft to missions where their margin of safety was nil. Operational commanders would do well to acquaint themselves with the limitations of the aircraft and crews under their jurisdiction and ensure that they are not over-extended."

'This accident could have been avoided if someone had reminded me to put the wheels down.'

THE 1968 NAVAL AVIATION REVIEW

Adrian O. Van Wyen, Historian, DCNO(Air)

The operational employment of Naval Aviation in the fifty-seventh year of its existence followed the pattern established in previous years. Major effort was again concentrated on support of the national policy in Southeast Asia. Cessation of bombing north of the 20th parallel after March and the halt of all bombing in North Vietnam beginning in November shifted the objective area of the air offensive southward but did not reduce either the need for or the tempo of air operations. Eleven attack carriers, four anti-submarine carriers and five amphibious assault ships saw action with Seventh Fleet in that area at different periods.

Two attack carriers were maintained on duty in the Mediterranean where unrest in the Middle East, which flared up intermittently and remained a constant threat to peace, and international crises in Europe kept Sixth Fleet alert.

Continued support of the nation's space program was marked by the recovery of the first manned flight of the

Apollo program and the readiness of recovery forces standing by for the follow-up flight at the close of the year.

The strength of Naval Aviation at mid-year showed a slight rise in personnel and a slight drop in the aircraft inventory. A new attack carrier became operational and a new amphibious assault ship was commissioned. The keel for a new nuclear-powered attack carrier was laid. One anti-submarine carrier was inactivated.

A new aircraft developed and built for limited warfare operations was assigned to service and taken into action in Vietnam. A new training helicopter was delivered to the training command. Improved models of an operational attack plane were ordered, contracts were let for a new carrier antisubmarine aircraft and the search for a new fighter plane reached the contractor proposal stage. The last of the reciprocating-engine aircraft used by attack squadrons was retired after 23 years of active service with the Fleet.

NEWEST ADDITION TO THE FLEET, USS JOHN F. KENNEDY, LEAVING NEWPORT NEWS IN OCTOBER FOR OPERATIONS AT SEA



As the year began, North Vietnam made peace overtures that were variously understood but, at the end of the quarter, the President halted all bombing north of the 20th parallel as proof of our readiness to talk peace. North Korean forces captured a U.S. ship on the high seas and almost precipitated war. Elements of the Air National Guard and the Air Reserve were called to active duty. Successful heart transplants captured the imagination. Teachers were on strike, uncollected garbage littered the streets of New York, a march in Memphis ended in violence.

JANUARY

2—The Ryan *Firebee II* jet aerial target, XBQM-34E, made its first flight at Point Mugu, achieving all test objectives.

9—Patrol Squadron 22 was awarded the Navy Unit Commendation for service from 22 January to 22 March 1967 during antisubmarine warfare operations in the North Pacific.

19—A C-130 *Hercules* of VR-24 and helicopters from NAF Sigonella delivered food, clothing and medicine to the west coast of Sicily to aid victims of an earthquake in the region of Montevago. It left some 40,000 persons homeless.

27—At the call of the President in the emergency created by seizure of the USS *Pueblo*, six carrier squadrons of the Naval Air Reserve reported for active duty.

31—USS *Oriskany* (CVA-34) with CVW-16 on board, returned to Alameda from a combat tour in WestPac.

In January, NAAS Ream Field became NAS Imperial Beach; VAH-8 and VFP-62 were decommissioned.

FEBRUARY

1—VAdm. Alexander S. Heyward, Jr., Naval Aviator No. 3867, assumed the mantle of the Gray Eagle upon the retirement of Admiral Charles D. Griffin, No. 3647.

2—The Meritorious Unit Commendation was awarded to the USS *Hancock* and CVW-5 for achievement while participating in combat operations in Southeast Asia, 20 January-17 July 1967.

17—A CH-53 helicopter, piloted by Marine LCol. Robert Guay and Sikorsky test pilot Byron Graham, carried 14¼ tons of payload and fuel into the air — a load exceeding the established world record.

During February RVAH-14 and VA-87 were commissioned; VAW-33 was redesignated VAQ-33.

MARCH

15—The Navy Unit Commendation was presented to VMFA-531 at MCAS Cherry Point for meritorious service in Vietnam in the period 10 April-15 June 1965.

16—The USS *Oriskany* and CVW-16 were awarded the Navy Unit Commendation for operations in Vietnam in the period 14 July 1967-12 January 1968.

21—The USS *Intrepid* (CVS-11) and CVW-10 were awarded the Navy Unit Commendation for combat operations in Vietnam from 12 June to 8 December 1967.

22—Ens. Gene L. Porter and 2nd Lt. Larry D. Mullins received their wings as Naval Aviators, the last students to be graduated under the Naval and Marine Aviation Cadet programs.

28—The name *Inchon* was assigned to LPH-12 under construction at Pascagoula, Miss.

28—To provide career opportunities for officers in aviation maintenance, the Secretary of the Navy approved establishment of a new restricted line officer category (152x) called the Aeronautical Maintenance Duty Officer (AMDO).

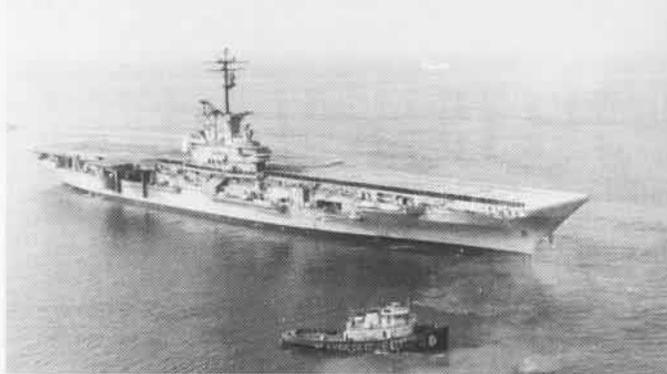
31—President Johnson announced a halt to all air attacks north of the 20th parallel, to begin the following day as a gesture of American willingness to make concessions and begin peace talks with the North Vietnamese.

During March VA-215 was commissioned; VMCJ-1 was



RADM. Byrd is now in Aviation Hall of Fame. At right, Schirra, Eisele and Cunningham of Apollo 7 as they arrived on board USS *Essex*.





THE OV-10A Bronco went into service with Marine air units in Vietnam. **USS Randolph (CVS-15)** on her last voyage before retirement in October.

awarded the Navy Unit Commendation for operations in Vietnam, 1 November 1965-20 September 1966.

In the second quarter, Hanoi made a direct offer for talks leading toward peace that was speedily accepted. Representatives of the respective nations began meetings in May. The assassination of Martin Luther King was followed by riots, burning and looting in cities across the nation. Poverty marchers arrived in Washington and set up camp in Resurrection City but rain and cold made its residents miserable and, after special demonstrations fizzled, the march ended with many objectives unrealized. Senator Robert F. Kennedy was assassinated.

APRIL

6—The USS *Coral Sea* and Carrier Air Wing 15 returned to NAS Alameda after a tour in WestPac.

7—The USS *Kearsarge* (CVS-33) with CVSG-53 on board returned to Long Beach from a tour in WestPac.

9—Ltjg. Wayne R. Sand was presented the Outstanding Naval Aviation Student of the Year Award for 1967 at the convention of the Daughters of the American Colonists in Washington, D.C.

10—Retirement ceremonies at NAS Lemoore, Calif., marked the end of 23 years of Navy service for the attack versions of the AD/A-1 *Skyraider*.

In April VMF(AW)-451 became VMFA-451.

MAY

1—Arrival of 18 RA-5C's of Recon AtkWing -1 at NAS Albany marked the transfer of the wing and its ten squadrons from NAS Sanford in anticipation of its closing on 1 July.

3—The Aviation and Submarine Safety Centers were combined to form the Naval Safety Center. At the same time, establishment of the Office of the Assistant Chief of Naval Operations (Safety) became effective.

10—In ceremonies at NAS North Island, the *Okinawa* (LPH-3) received the Meritorious Unit Commendation for service in sustained combat operations in Vietnam, 28 April-31 October 1967.

10—LCdr. William A. Rockwell received the William J.

Kossler Award of the American Helicopter Society.

19—The USS *F.D. Roosevelt* with CVW-1 on board returned to Mayport, Fla., after a tour with the Sixth Fleet in the Mediterranean.

25—The USS *Ranger* and CVW-2 returned to Alameda after a tour with the Seventh Fleet in WestPac.

JUNE

3—LCdr. Kenneth A. MacGillivray received the David S. Ingalls Award as the top flight instructor of the year in the Naval Air Training Command; Ltjg. Harry L. Piper received the Admiral Thurston H. James Memorial Award, made annually to the outstanding graduate of the Naval Flight Officer program.

10—The *Firebee II* jet aerial target, XBQM-34E, made its first supersonic flight reaching speeds in excess of 800 mph.

13—The USS *Essex* and CVSG-60 returned to Quonset Point from a four-month training and goodwill tour to the Mediterranean and northern Europe.

19—In ceremonies at NAS Whidbey Island, VP-1 received the Meritorious Unit Commendation for *Market Time* operations, 15 May-15 November 1967, along the coast of Vietnam.

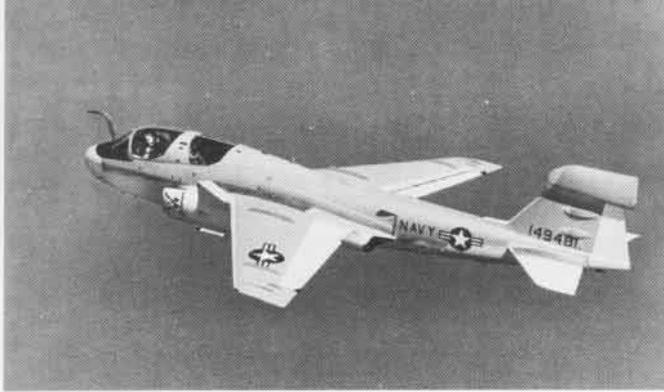
22—The keel for the USS *Nimitz* (CVAN-68) was laid at Newport News, Va.

26—Commander L.R. Myers, piloting an F-8 *Crusader* of VF-51 from USS *Bon Homme Richard*, hit and downed a MiG-21 with a *Sidewinder* missile while returning from an escort mission near Vinh Son, North Vietnam.

28—The USS *Kitty Hawk* with CVW-11 on board returned to North Island after a tour off Vietnam.

28—The USS *Iwo Jima* (LPH-2) returned from a tour in the western Pacific.

In the third quarter, peace talks in Paris began to move from idle-rhetoric toward the business at hand. Sixty nations signed a nuclear non-proliferation treaty. The Middle East smoldered. The political convention in Chicago was marred by demonstrations and violence. Soviet troops poured across the border of Czechoslovakia, dashing Czech hopes for independence and threatening the peace of Europe. An earthquake in Iran wiped out whole towns and left thou-



NEWEST Intruder, the four place EA-6B, made its first flight on 25 May. USS *Ticonderoga* earned a third NUC for operations in Vietnam.



sands homeless. Famine and hunger stalked Biafra. Our ambassador to Guatemala was shot down in the street.

JULY

5—The USS *Yorktown* with CVSG-55 on board returned to Long Beach after a tour in WestPac.

6—The first squadron of Marine Corps OV-10A *Broncos* arrived at Da Nang, South Vietnam.

9—LCdr. John B. Nichols, piloting an F-8E *Crusader* on a photo escort mission, destroyed a MiG-17.

11—The Meritorious Unit Commendation was presented to VW-1 for weather reconnaissance, typhoon warning flights and airborne early warning support of Seventh Fleet operations in the period 15 July-1 December 1967.

12—SP-5B *Marlin*, BuNo. 135533, piloted by LCdr. Donald R. McGarrigle with Capt. Hugh J. Tate as copilot, settled down on the waters of the Patuxent River after a flight from North Island via Corpus Christi and Jacksonville, for ceremonies transferring it, the last of its breed, to the Smithsonian Institution.

18—The USS *Enterprise* and CVW-9 returned from a combat tour in the western Pacific.

18—The *Saratoga* (CVA-60), *Bennington* (CVS-20) and *Iwo Jima* (LPH-2) were selected as winners of the Admiral Flatley Memorial Award for superior performance in aviation safety during fiscal year 1968.

20—The Meritorious Unit Commendation was awarded to the USS *Princeton* (LPH-5) for service in Vietnam during the periods 23 March-2 August 1966 and 6 March-27 May 1967.

23—The Navy Unit Commendation was awarded to VQ-1 for carrying out a broad program of electronic warfare and intelligence collection of national importance in the period 1 December 1965 to 30 November 1967.

29—In a fight between four F-8 *Crusaders* and four MiG's, LCdr. Guy Cane of VF-53 and the *Bon Homme Richard* downed a MiG-17 with a *Sidewinder* missile.

31—Vice Admiral Bernard M. Streat relieved Vice Admiral A.S. Heyward, Jr., as Chief of Naval Air Training.

31—Upon the retirement of VAdm. A.S. Heyward, RAdm. Robert J. Stroh, Naval Aviator No. 3888, became the Gray Eagle.

In July, VQ-3 and VQ-4 were commissioned; VO-67,

VAH-4 and VAH-10 were decommissioned; NAS Sanford was disestablished; Naval Auxiliary Air Stations Chase Field, Kingsville, Meridian, Whiting Field, Ellyson Field and Saufley Field were redesignated Naval Air Stations.

AUGUST

1—Lt. Norman K. McCoy and Lt. George E. Hise of VF-53 and USS *Bon Homme Richard* shot down a MiG-21.

1—Admiral John S. McCain relieved Admiral U.S.G. Sharp, Jr., as Commander in Chief, Pacific.

3—The USS *Valley Forge* (LPH-8) returned to Long Beach from a tour in the western Pacific.

4—The USS *Shangri-La* with CVW-3 on board returned to Mayport after a tour with the Sixth Fleet in the Med.

7—The Navy Unit Commendation was awarded to VP-11 for antisubmarine operations in the North Atlantic, 12 October 1967-15 February 1968.

10—The Navy Unit Commendation was awarded to VAP-61 for its outstanding performance on round-the-clock operations in Southeast Asia, 1 June 1964-1 June 1968.

14—Vice Admiral David C. Richardson relieved VAdm. William I. Martin as Commander Sixth Fleet.

17—The USS *Ticonderoga* with CVW-19 on board returned to North Island from deployment in WestPac.

24—A change in Uniform Regulations provided for a new breast insignia for Navy and Marine Corps personnel qualified as Naval Flight Officers. The new wings replace the old Naval Aviation Observer wings which became obsolete on 31 December.

26—The Navy Unit Commendation was awarded to the USS *Enterprise* and CVW-9 for combat operations in Vietnam, 22 February-26 June 1968.

In August, VA-67 was commissioned; VMF-212 became VMFA-212. The USS *Kearsarge* (CVS-33) received the Meritorious Unit Commendation for service in the Western Pacific during the periods 11 July-11 December 1966 and 12 October 1967-28 March 1968.

SEPTEMBER

7—The USS *John F. Kennedy* (CVA-67) was placed in commission at Newport News, Virginia, with Captain Earl Preston Yates as commanding officer.

9—The Chief of Naval Operations selected VP-5 of the Atlantic Fleet and VP-19 of the Pacific as winners of the Aircraft Maintenance Awards for Patrol Squadrons, indicative of their outstanding achievement and excellence in aircraft maintenance.

9—The Chief of Naval Air Reserve Training announced NAS Seattle as winner of the Edwin Francis Conway and Sheldon Clarke Trophies; NAS New Orleans as winner of the Chief of Naval Air Training Trophy; and 12 units and divisions as winners of the Noel Davis Trophy.

10—The *Bon Homme Richard* and CVW-5 returned from a combat tour with the Seventh Fleet.

16—The Department of Defense announced that the six squadrons of the Naval Air Reserve called up in January would be released to inactive duty by 1 November.

19—Lt. Anthony J. Nargi of VF-111 and USS *Intrepid* destroyed a MiG-21 while flying an F-8 *Crusader* on patrol over the panhandle of North Vietnam.

24—The Chief of Naval Operations approved award of the Captain Arnold Jay Isbell Trophy for excellence in ASW readiness to VP-5, VS-24 and HS-3 of the Atlantic Fleet.

In September VAH-21 and VAQW-13 were commissioned; CVSG-55 and VS-25 were decommissioned.

In the last quarter, students in Mexico called off their demonstrations in deference to the Olympic Games. New York schools were immobilized by teacher strikes. The President ordered a halt to all bombing of targets in North Vietnam. Broadened representation at the peace table was stalled by questions of seating arrangement, but the prospects of peaceful settlement appeared brighter.

OCTOBER

1—The USS *Ticonderoga* and CVW-19 were awarded the Navy Unit Commendation for combat operations in Vietnam in the period 26 January-23 July 1968.

7—A Naval Reconnaissance Center, Op-03R, was established within OpNav to coordinate all naval reconnaissance and surveillance matters previously handled by several OpNav components.

8—An LC-130 ski-equipped *Hercules* landed at Williams Field near McMurdo, Antarctica, completing the first flight of the new summer season and marking the start of the 14th year of VX-6 participation in Operation *Deep Freeze*.

9—Helicopter Attack (Light) Squadron Three was awarded the Navy Unit Commendation for combat operations while based in the Republic of Vietnam, 1 July 1967-1 January 1968.

11—Five *JetRanger* TH-57A helicopters, piloted by HT-8 instructors, were delivered to NAS Ellyson Field from the Bell plant in Fort Worth.

15—The USS *Randolph* (CVS-15) began inactivation at the Boston Naval Shipyard.

15—The Commandant of the Marine Corps announced VMA(AW)-533 as the winner of the Commandant's Aviation Efficiency Trophy for fiscal year 1968.

22—Helicopters of HS-5 from USS *Essex* (CVS-9) located and recovered astronauts Schirra, Eisele and Cunningham about 285 miles south of Bermuda and delivered them safely to the ship. It was the end of an 11-day mission in space and the first manned flight of the *Apollo* program.

22—The first arrested landing was made on the USS *John F. Kennedy* (CVA-67) by Commander Hal L. Marr in an A-4C *Skyhawk*.

25—Major David L. Althoff was named the 1968 recipient of the Alfred A. Cunningham Award, signifying his selection as Marine Aviator of the Year.

In October, VAW-125 was commissioned; CVSG-60, VP-18, VA-38, VS-34, VS-39 and HS-9 were decommissioned; VAW-13 became VAQ-130 and VMF(AW)-235 became VMFA-235.

NOVEMBER

1—In response to orders from the President, all bombing of North Vietnam was halted at 9:00 P.M. Saigon time. The last Navy mission over the restricted area was flown by Commander Kenneth E. Enney in an A-7 *Corsair II* from USS *Constellation*.

4—The USS *Ticonderoga* and CVW-19 were presented the Navy Unit Commendation for combat action in Southeast Asia, 26 January-23 July 1968.

9—The USS *Bennington* with CVSG-59 on board returned from a tour of duty in WestPac.

15—In ceremonies at NAS Cubi Point, the station was presented the Meritorious Unit Commendation for superior performance over the last several years in supporting aviation units of Seventh Fleet and Navy and Marine air units operating in Vietnam.

16—The USS *New Orleans* (LPH-11) was placed in commission at Philadelphia, Captain Glen Even commanding.

22—The Navy Meritorious Unit Commendation was presented to HT-8 at NAS Ellyson Field for an unprecedented production of helicopter pilots and accident-free flight hours during fiscal year 1968.

30—The USS *Bon Homme Richard* and CVW-5 were awarded the Navy Unit Commendation for meritorious service in combat operations in Southeast Asia, 21 February-13 September 1968.

During November, VAH-2 became VAQ-132 and VAH-4 became VAQ-131.

DECEMBER

17—Rear Admiral Richard E. Byrd was enshrined in the Aviation Hall of Fame at Dayton, Ohio.

27—Helicopters of HS-4 hovered over *Apollo 8* after it ended its historic flight around the moon with a pre-dawn splashdown in the Pacific within three miles of the USS *Yorktown* and at first light picked up astronauts Frank Borman, James Lovell and William Anders and delivered them safely to the aircraft carrier.



A Way to Beat the Cold

With winter upon them, carrier sailors look for ways to stay warm while waiting for the next launch. Although it appears that this airman has found the solution, the situation developed when the A-4E Skyhawk made a turn unexpectedly.



Seeing Eye

AT3 Douglas Owens repairs miniature module components at Moffett Field.

Twin Engine Twins

At NAS Corpus Christi, Ltjgs. John R. and Norbert R. Ryan receive their Wings of Gold from Rear Admiral Frederick C. Turner, CNAVanTra. The twins entered the Navy in 1963 on congressional appointments to the Naval Academy and entered flight training together. Their multi-engine training was received in separate units.



Poster Boy and Admirer

Admiral Thomas H. Moorer, CNO, autographs a book for 5-year old Tracy Greenwood, the nation's 1969 March of Dimes Poster Child. Tracy holds a model A-5 CNO gave him.



In the Early Days

Shades of the air hostesses of today! This picture of the first mail carried by a Navy seaplane was shot at St. Louis, Mo. Lt. Stanley flew the bag to Chicago.



... And Now, These Twins

Ensigns Dianne M. and Michelle A. Rizzo are following in family footsteps at the Naval Hospital, Pensacola, where their mother served as a Navy nurse 25 years ago. It was also in this hospital that the twins' father, Dr. Vincent J. Rizzo, a Navy doctor, met their mother.

Man's dream of eternal youth is probably as old as his desire to fly. While the march of science has enabled us to defy gravity successfully, no man has yet attained eternal youth. That elusive goal seems about as remote today as are your chances for taking off your hardhat while strolling on the moon. A more rational approach to the problem now seems to be a scientific study of the process of aging, since aging appears inevitable. It is perhaps a curious fact that today, only a few miles from where Ponce de Leon was seeking the Fountain of Youth, a scientific study of aging is actually being done. It has become known as "The Pensacola Thousand Aviators Study."

The study began in 1940 at NAS Pensacola under the direction of Captain Ashton Graybiel, MC, USN. Initially it comprised 1,056 subjects (964 student Naval Aviators and 92 Flight Instructors). The mean age of the group was 23.6 years. The original intent was to determine what types of men are most likely to complete successfully the flight training course.

The subjects were studied extensively through clinical-physiological and psychological-psychomotor tests, some of which might nowadays appear antiquated. Some of the electrocardiograms, for example, were taken with the subject lying on an examining table. When he was perfectly relaxed, and without his foreknowledge, a .45 caliber pistol was fired off under the examining table. Amazingly, this produced a "startle reaction" (duly recorded on the EKG) and a facial expression which I have seen on some squadron duty officers when the new air group flight surgeon, on his way to a change-of-



command ceremony, stops by the ready room to borrow the duty sword. Another goody, the Cold Pressor Test (reminiscent of dormitory pranks), called for the subject's right hand to be immersed in ice water while his blood pressure was being taken.

By late 1941 the first results of the study were put to use in the form of the FAR (Flight Aptitude Rating). It became a part of the pilot selection procedure and has since then saved countless dollars and spared many an otherwise capable young man the personal tragedy of having embarked on a career for which he had interest but not aptitude.

During WW II, about 90% of the members of the study group saw combat; 21 became aces, and 62 were known to have been killed in combat missions. In 1946, Dr. Graybiel foresaw the potential value of accumulating continuous physiologic data on a group of healthy males from youth to senescence. Thus, the concept of longevity, or the study of aging, came into being, and re-examinations of the subjects were initiated for 1951, 1957 and 1963.

Two basic questions were delineated for further study: (1) What happens to a group of healthy young men as a result of the process of aging? and (2) What specifically is the effect of flying on man? Does the hostile environment of flight have any long-term deleterious effects?

In 1952 the first re-examination of the group was performed by a team of physicians from the Naval School of Aviation Medicine who traveled about the country in a mobile laboratory unit. The principal investigators were Lt. John M. Packard, MC, USN, and Lt. John S. Graettinger, MC, USN. It was learned that of the original 853 designated Naval Aviators (those who had failed to complete flight training were studied as a control group), 216 were no longer alive, 188 of them having died aviation deaths (combat and aircraft accidents) and the rest of other causes.

Re-examinations were done in 1957 by Lt. William R. Harlan, Jr., MC, USN, and Lt. Robert K. Osborne, MC, USN. In 1963, the examinations were co-sponsored by the U.S. Public Health Service and performed by Captain Robert S. Mitchell, MC, USN, Commander Hugh Pratt, MC, USN, and LCdr. Albert Oberman, USPHS.

In the course of subsequent re-examinations, many tests have been added which were unknown in the 1940's. Every conceivable blood constituent is now being measured with special emphasis on cardiovascular disease, for as some wag once observed: "It is not a divinity, but the mystery of arteriosclerosis that shapes our earthly endings." There are now 790 survivors of the original 1,056 who

1000 AVIATORS

By Cdr. J. A. Pursch, MC, USN

travel to Pensacola for their examinations and look upon it as the most thorough evaluation money can buy. Today, all of the data is computerized so that extensive corollation analysis can be made. The next evaluation is scheduled for 1969. It will be performed by Doctors Mitchell, Harlan and Oberman.

Although the final answers of this study cannot be formulated as long as there are survivors, some of the findings have gradually been incorporated in Aviation Medicine. For example, of the original group, 100 subjects had "borderline EKG's" in 1941. (A borderline EKG is as hard to define as is the texture of the iron curtain.) By 1951 these 100 EKG's had reverted to "normal." While this doesn't mean that men become healthier as they age, it does point up the fact that the old standards might have been too rigid, and the newer philosophy is now being taught to young Flight Surgeons. Also, blood pressure limits have been raised to a reasonable 140/90.

One item on the annual "fright" physical, the Schneider Index, has not

stood the test of time and has been dropped. Originally, it was looked upon as a good indicator of Neurocirculatory Fitness. Many an aviator unconsciously realized that it should perhaps have been called the Smashing Index, since the best results often followed a night on the town because getting bombed the night before lowered the subject's anxiety the next morning.

Aviators apparently are a pretty healthy group. The men who remained on active duty are healthier for the most part than those who left the service after WW II. The professional need of the aviator for keeping fit, spurred by the implied coercion of the annual flight physical, and the early correction of surgical and medical defects are probably some of the factors operative here. A decrease in high-frequency hearing acuity seems to be the only price paid by those who remained on flight status. Chronic disease, including cardiovascular disease, does not seem to be a problem for the aviator during his productive years. Aircraft accidents, possibly related to vertigo and disorientation, constitute

the biggest source of difficulty. Thus, another shift in emphasis has been added to the study, namely research in microanatomy on various elements of the balancing systems of the brain and vestibular apparatus. What is the "force environment" that causes the distorted clues which the patient receives?



It's a long way from Ponce de Leon to Pensacola; startle reactions, cold pressor tests, cholesterol levels and vestibular microanatomy are some of the milestones. Programmed cellular obsolescence, which seems to be our lot on this planet, has not been slowed by monkey gland injection, pollen ingestions or yogurt on rye, but The Pensacola One Thousand Aviators Study seems to stand a chance.

The mean age of the group has gone from 23.6 to 48, from adolescence to middle-escence. And so, you balding eagles, if your feathers are thinning and your pilot light dimming, keep on flying, for you have nothing to lose but your highest frequencies. And if you have a certain kind of wife who whines in your wine, then being slightly deaf might equip you ideally for a happy retirement — unless you want to retire and become a piano tuner.



COME OF AGE

Drawings by LCdr. N. F. O'Connor



BOMARC MAKES A FINE TARGET

The high-performance CQM-10A *Bomarc* target missile is now being used in Fleet exercises on the Pacific Missile Range as a realistic simulated enemy threat, according to Captain Colin J. Ricketts, Commander, Naval Missile Center (NMC).

Bomarc, the largest aerial target in the Navy's inventory, was declared operational last September after two years of extensive test and evaluation to resolve weapon-system-target conversion differences.

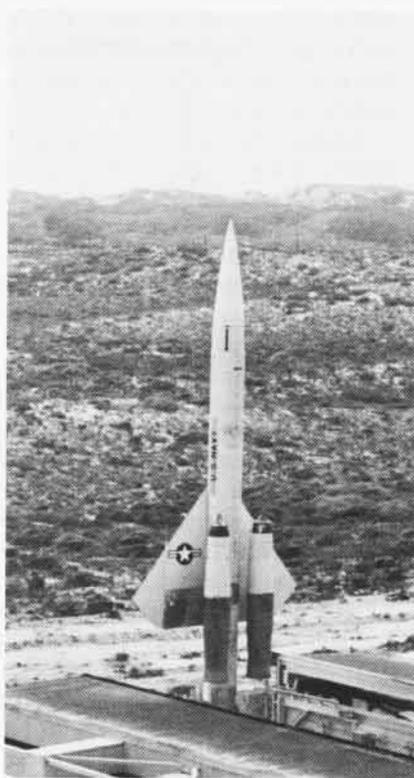
The Navy's *Bomarc* target is derived from an obsolete Air Force weapon system, the IM-99A *Interceptor*. The missiles were located throughout the eastern United States as a defense against enemy bombers at altitudes from 40,000 to 60,000 feet. When the system was upgraded in 1966, 125 *Interceptors* were transferred to the Navy for conversion into targets.

A liquid rocket engine with 35,900 pounds of thrust propels the target from its vertical ground launcher at Vandenberg AFB for the first 40 seconds of flight. Ramjet engines then take over and power the 47-foot target into the Pacific Missile Range test zone 110 miles away.

Using radar to pinpoint its position, a Navy test conductor at Vandenberg controls the direction and altitude of the target. The pilotless target responds to the directional and altitude commands through a highly sophisticated electronic flight control system.

The test conductor encodes a heading message and sends it by transmitter to the target. The CQM-10A's electronic system computes the difference between the actual position and the commanded heading, then moves its control surfaces to maneuver the target onto the desired flight path.

A typical flight plan calls for launch from Vandenberg in a westerly direction into the Air Force Western Test Range. After reaching an altitude of 55,000 feet, some 95 seconds after lift-off, the target controller com-



A BOMARC TARGET READY TO GO

mands a left turn toward the Pacific Missile Range.

Target speed at this point is 1,520 knots or approximately two and one-half times the speed of sound. Ships and aircraft positioned near San Nicolas Island fire in a safe northerly direction at the oncoming *Bomarc* target.

Forty civil service technical personnel from NMC's target department are permanently assigned as the Special Target Division at Vandenberg. They are responsible for target processing and checkout and for conducting all operations of the *Bomarc*.

The installation at Vandenberg consists of two launch shelters, ground-to-air transmitter site, assembly and maintenance hangar, supply warehouses and administration building. Preparation and checkout of each missile takes three weeks and requires many functional evaluations by auto-

matic checkout equipment. Then before each flight, an integrated systems readiness test is conducted which simulates an actual launch.

The Naval Air Development Center at Johnsville accomplished the development work required to convert the IM-99A missile to the CQM-10A target.

"The NMC engineers have made relatively minor modifications to the Air Force defense missile to convert it to a Navy target," Captain Ricketts said. "Principal changes were deactivation of the enemy seeker in the nose cone and removal of the warhead."

To make it more successful as a target, the engineers installed electronic scoring devices to evaluate the effectiveness of modern weapons that would be used against the target.

"Another major installation was a target destruct system which range safety personnel can activate should the target veer off course. Since the target is non-recoverable, this destruct system is activated at the end of each flight," Captain Ricketts said.

During the test and evaluation phase of the *Bomarc*, early flights fell short of the desired "presentation" corridor near San Nicolas Island, owing to the design characteristics of the missile. When commanded to make a sweeping left turn, the target version would climb steeply and lose ramjet thrust. In contrast, the missile version was designed to intercept enemy aircraft by making very minor turns to correct its course. When the single sweeping command to the target was replaced by a series of smaller heading changes, the target flew steadily through the "firing corridor." Also, special processing, checking out and operating techniques were developed by Johnsville engineers.

"Now that the CQM-10A's operational capability has been established," Captain Ricketts stated, "regular flights are being scheduled to utilize this high performance target for missile tests and for Fleet training exercises."

DOWN

One young Naval Aviator will never find it hard to determine the most exciting, exhausting and, most of the time, terrifying days of his life. Downed by enemy fire in Vietnam, he passed his finals in Escape and Evasion with flying colors. He came out alive. Lt. Kenny W. Fields, flying an A-7A, scored a direct hit on a river barge and, just as he pulled out on his second run, the *Corsair II* was hit by enemy fire and went into a spin. Fields ejected at 500 feet, landing in bushes about six to seven feet high to find himself uninjured with all his survival gear intact. It was 1745 and he was still in the vicinity of the target. At that moment, hearing someone move in the bamboo about 100 feet away, he reached for his pistol and found it entangled in the shroud lines of his parachute. With his survival knife, he cut it loose, removed the chute and, with his gun in one hand and his radio in the other, left the area. While the evergreen forest was dense with scattered jungle vegetation on the ground, it was not impenetrable. He turned on his radio beeper for ten seconds and moved on. A few minutes later, he stopped, sat down and cut his torso harness and G-suit off and hid them. He blackened his face with dirt and then again was startled into absolute quiet as he heard someone near him. At 1815, he made radio voice contact to give his position, using his compass to give range and bearing from AAA gun sites firing at Rescap. As an A-1 flew overhead, Fields fired a pencil flare. But one was enough, he decided, for it made too big a noise. The A-1 was shot down on the second pass as Rescap procedures continued. He listened in on communications between a forward air controller (FAC) and another A-1 pilot but was unable to make contact with the latter. Because of darkness, hostile environment and deteriorating weather, the rescue effort had to be terminated, but Rescap assured Fields they would be back at first light. Fields radioed he would sit it out one night. After Rescap departed, three groups of searchers entered the area, periodically firing rifles to locate each other's position or yelling and screaming directions. One group came too close for comfort, within some 150-200 feet of Fields. By 2200, all noise had subsided and Fields decided to look for an area suitable for recovery. He made his move with extreme caution, taking one step, listening and then another step. In three hours, he managed a distance of 100 yards where he found a small open area.

AND

He hid in the nearby jungle undergrowth to wait for light. The only noises he heard were a motorboat on the river, animals and someone chopping wood. At about 0530, a bell rang, and he heard a group chanting. Fields decided it was not directed at him and was probably a daily occurrence.

At 0600 FAC appeared, made radio contact and notified Fields that Rescap aircraft would soon be there, so "find a hole and stay low." Bombing started about 45 minutes later a quarter of a mile south. Soon, two gun positions opened up on both sides of him. Thinking he must be in the middle of an enemy base camp, Fields decided to move.

He crossed a trench about two feet wide, four feet deep, with two covered 10x10-foot bomb shelters on either side. After moving toward the bombing, he found a field of dense reeds and bamboo and concealed himself there. At 0930, the weather turned bad, and the bombing stopped. It started raining at noon.

At 1500, bombing started again, and an hour later, FAC attempted to pinpoint Fields' position, asking him for a signal. Fields, declaring it too risky, said he would only signal if a helo flew into his vicinity. FAC eventually was able to locate his general position by getting range and bearing from a smoke charge. One smoke charge landed in a small field 100 yards away, and Fields told FAC he would head for that area.

Arriving there, he sat down to one side. Since FAC was giving the area a going-over, he moved from the clearing. An A-1 made a pass, and Fields heard machine gun fire directly in front of him. Looking up, Fields saw a camouflaged individual in the top of a 50-foot tree firing his automatic weapon. One of the *Skyriders* made contact and told Fields they were coming in on a smoke run and a helo was one mile east. A little later, the *Skyraider* informed Fields that the area was too hot and they would try again early the next morning.

Fields secured his radio. It was about five minutes from darkness, so under that cover, since his position was compromised, he moved 50 yards away from the field and sat down. At the edge of the woods, he saw a man making wild, sporadic movements with arms and legs in all directions as if trying to give the impression he was moving toward Fields. For nearly half an hour, Fields watched him, keeping his gun pointed at the man.

Suddenly, Fields heard something behind him, turned around and saw ten luminescent, hunched forms moving

eerily back of him, their glow similar to that on a watch treated with radium. Fields realized they were completely coated with some luminous substance. As Fields moved out, the ghost-like creatures followed him at a distance of about 100 feet. Then the rains came, and he thought he had lost them, but later they picked him up. Once the leader made the same movements as the man at the edge of the woods. Again rifles were fired, and other groups answered.

Suddenly Fields, looking down, saw the same glow on his boots. Realizing that the dirt was the camouflage saving him, he daubed more on his face. Thus, in the dark, he seemed to be one with the enemy. Descending from a ridge, he went into a thicket and laid down. Through the night he heard people moving, and sleep was evasive.

At 0530, he moved a half mile west of the AAA sites and entered an area thick with six-foot jungle vegetation through which he travelled for about half an hour. He decided to wait under a tree for a pick-up. At first light, he made contact with Rescap whose pilots were softening up the area. Most of the guns had been knocked out, and Field estimated that only two AW (automatic weapons) sites remained in his vicinity.

Rescap told him to dig a hole because they were coming in with covering fire. That time Rescap hit too close, and Fields' lower body was hit with small fragments; blood was splattered on both legs. Thinking himself seriously injured, he radioed that he had been wounded and would be unable to last another night. FAC announced a helo was coming in. A-1's rolled in, firing 20mm and rockets, and shortly all hostile fire stopped.

The chopper came in for a hover about 30 yards away. Fields fired flare cartridges from his .38, but still the crew did not see him. Finally, he made it directly under the helo and radioed them to drop the forest penetrator. Promptly it was lowered, Fields took off the canvas cover, removed two safety straps, put a leg in one, an arm in the other and was hoisted aboard.

He had escaped with a few wounds, but the mosquitoes had left their mark. On returning to America, Lt. Fields found he had malaria. It was a small price to pay for life itself and for the knowledge he would always have: Faced with danger in the jungle, he had made his way out.

His message to aviators: "When evading, be patient, cautious and, above all, suppress your curiosity by remaining concealed and absolutely still."

OUT

NATTC Memphis a Busy Place

Training Center Facts and Figures

The Naval Air Technical Training Center in Memphis, Tenn., is the largest enlisted aviation training command in the Navy. Since its establishment in 1942, NATTC Memphis has graduated more than 400,000 students. In addition:

More than 9,000 students are currently undergoing training. By 1971, NATTC schools will have more than 30,000 students enrolled. The average student is 18.6 years old; 95% have graduated from high school; 21% have completed one year or more of college.

NATTC Memphis has 1,500 instructors and 1,100 support personnel operating the 432 classrooms and 237 laboratories of the 50-academic-building complex.

More than 85% of the students graduating from fundamental schools at NATTC continue their training in one of the center's advanced aviation courses.

NAS Memphis operates a large city airport, seven days a week, 24 hours a day, in all kinds of weather. It handles more than 10,000 transient and training aircraft monthly. The station pumped 693,295 gallons of aircraft fuel during September 1968.

The dining halls daily serve 6,000 pounds of potatoes, 4,800 pounds of meat, 28,000 glasses of milk and 47,000 slices of bread.

NATTC schools use 159 non-flyable aircraft as training platforms and more than 16,000 other training aids.

The Memphis Naval Hospital pharmacy weekly distributes approximately 500,000 pills. During fiscal year 1968, some 729 mid-south servicemen were treated at the hospital for wounds received in Vietnam.

One-third of the NATTC students are Marines; about one-fourth of the instructors are Marines.

During fiscal year 1968, seven countries were represented by 31 students at NATTC.

The Navy Exchange laundry annually washes, dries, starches and irons more than 224,000 shirts, and fluff-dries more than 150,000 bundles of laundry.

Fifty Years Ago

From the weekly reports of the Director of Naval Aviation for February 1919:

Key West reported that the C-1 dirigible made flights to Dry Tortugas to participate in the torpedo practice of submarines. All submarine maneuvers were reported by radio telephone to the submarine tender and to seaplanes (in the air or on the water) as well as by radio telegraph to the air station 68 miles away. Throughout the practice, the progress and results of torpedo firing were reported to the submarine tender. Spotting bombs were used to mark the location of the torpedoes after they had run their course to allow for their recovery.

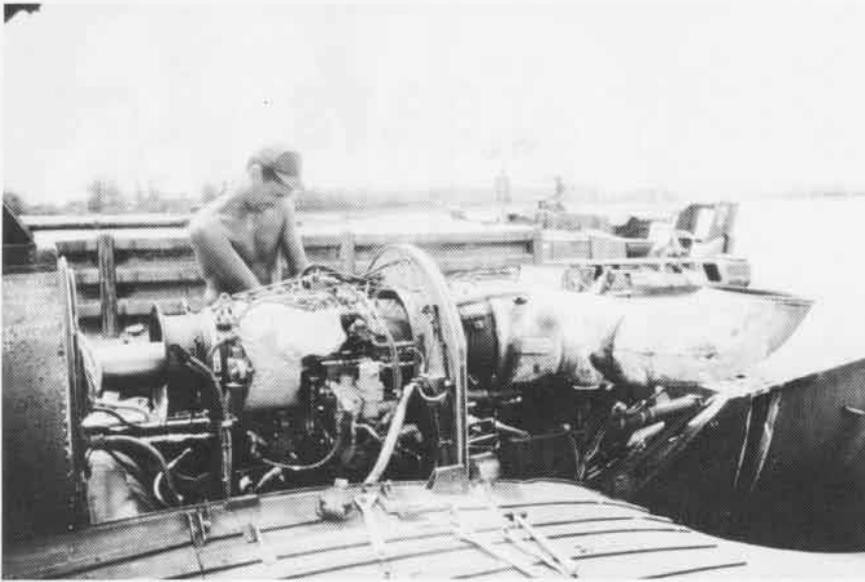
At Hampton Roads, 800 pigeons arrived from France. The report, in part, follows: "These birds were flown at U.S. Naval Air Stations in France - St. Trohan, Fromentine, Paimboeuf, LeCroisic, Pauillac, Moutchic and Arcachon - and in one year, they delivered 10,995 messages, of which 219 were from planes that had landed. . . . Quite a number of these birds have been shipped to the various naval air stations on this side of the Atlantic for breeding purposes. They are the best of French, English and Belgian blood and will produce wonderful youngsters for the future need of the Navy."

Hampton Roads also described the most exciting episode of the month in Naval Aviation: "Ens. A. W. Gorton, a Patrol Squadron Two pilot, succeeded in getting his plane and mail to Washington, D.C., on February 5th under rather extraordinary circumstances. After arriving at the mouth of the Potomac River, the throttle rod running to the grav-

ity tank broke. After attempting several remedies and failing to find any adequate means of keeping his gasoline flow to the carburetor, the pilot ascended to the upper wing of the seaplane and lay on the top, manipulating the throttle control with one hand. At one time, his foot became fouled with the radio generator propeller, injuring his foot quite severely, and another time, he was forced to clutch at the radiator cap, which gave way, spraying his face with hot water. The second pilot flew all the way to Washington with Ens. Gorton on the top of the plane although forced to land several times because of his releasing his hold on the throttle to save himself." (For a photo of another early mail flight, the reader should turn to *News and Views*, page 13.)

The Gunnery School at NAS Pensacola described towed target practice: "Squadrons I and II have each one plane equipped with a device for towing the target - a sleeve 12 feet in length and 18 inches in diameter, trailed 600 feet behind the towing plane. Very good results are being obtained. . . . Saturday, February 8, E. H. Riemer, MM2c, was credited with 21 hits in 190 rounds - approximately 11% hits. No serious difficulties have been encountered in the operation of this practice."

Representatives of the Pathé Weekly News were engaged in taking pictures of the air station at Hampton Roads. A demonstration of the dispatch of an actual wartime emergency patrol was successfully filmed. An accompanying plane photographed five twin-motored seaplanes operating over the Fleet.



PACV engines are similar to those in Huey gunships which give them their fire support.



AD3 W. B. Snipes puts an engine in a PACV at Tam My, Vietnam (top). With a method similar to directing a plane to a taxiway, a Navy man (above) guides a PACV off ramp. Air cushion vehicles (right) can transit from water to land at top speed. On patrol in Cau Hai Bay (center), PACV crewmen take suspected Viet Cong into custody while a Huey gunship circles overhead.



WHERE BOATS CAN'T GO MONSTERS PROWL

Photographs by
Russ Egnor



Navy Patrol Air Cushion Vehicles (PACV's), the same "monsters" that terrorized Viet Cong on the Plain of Reeds and in the swamps of the Mekong Delta, are working out of Tam My near Da Nang.

Initially deployed to Vietnam in 1966, the craft with eyes and teeth painted on their bows proved effective in the marshes where the VC frequently hide under water, using a reed to breathe through.

The U.S. Army still maintains a PACV unit in the Delta. But the Navy's Coastal Division 17 was moved north to stop enemy infiltration on Cau Hai Bay and the inland waterways.

The 39-foot boats, capable of travelling about four feet above water or land at speeds in excess of 60 knots, are powered by General Electric LM-

100 turbo-shaft engines, similar to those on helicopters. Their propulsion units are a horizontal lift fan below and an aircraft-type propeller aft. Aircraft controls (elevator, pitch and rudder) guide them.

Personnel assigned to Coastal Division 17 are both aviation and surface rates. Jet mechanics, aviation electricians and structural mechanics work along with enginemen, boatswain's mates, gunner's mates and radarmen. An ADJ is assigned as a patrol gunner and mechanic on each mission.

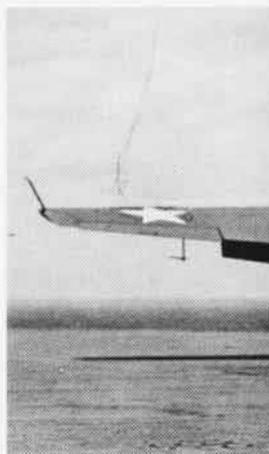
The PACV's are given 60 and 120-hour checks as well as postflight and preventive maintenance checks.

One crewman described the four PACV's of Coastal Division 17 as "one-third airplane, one-third helicopter and one-third boat."



By Harold Andrews

AIR GROUP 17 SHAKEDOWN





Training pays off: VB-17 Helldivers on their way to attack Japanese bases in January 1944.



The year 1943 was an eventful one for Naval Aviation and *NA News*. Expansion continued in all phases of aviation activities. Freshly trained squadrons were formed regularly from the burgeoning output of the Training Command; new functions and organizations were established on the basis of the experience of more than a year at war; advanced equipment was put into service to improve combat effectiveness and safety; and revitalized personnel policies took into account the major

flight duties carried out by combat aircrewmembers and non-pilot navigators.

Along with the rest of Naval Aviation, *Naval Aviation News* with its new format – its days of being mimeographed were over as it became a letterpress periodical – had a big year. Its role “for the duration” was firmly crystallized as a major link in keeping Naval Aviation personnel everywhere advised of current information in all the many areas where such information would help them to get their job done.



An action-packed Caribbean shakedown aboard the Bunker Hill led to victory in the Pacific.

AIR GROUP 17

In April, the *BuAer News Letter* — as it was known then — got a new look, and the cover design is still with *NA News* today. With its emphasis on passing the word, its pages were filled with short, readable and well illustrated items in every area of interest to aviation personnel. And, of course, Grampaw Pettibone was there, too, with his wisdom which was just as sharp and to the point as it is today.

With the then-new awareness of the significance of good illustrations in getting the word across, Navy photographers were assigned to record on film

what was happening, and the *News* used as much of this as the censor and space would permit to further the goal of improved combat effectiveness throughout Naval Aviation.

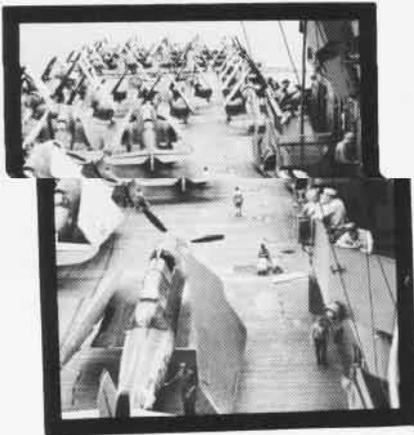
Of greatest significance to the Navy's primary mission of defeating the Japanese was the introduction into the Fleet of the first of the new *Essex* class carriers and their air groups equipped with new and more effective combat aircraft. On these pages, we take a look back to aircraft operations on the *Bunker Hill* (CV-17) during the summer of 1943 as its Air Group prepared for combat operations in the Pacific. These scenes were repeated day in and out on the carriers of that day just as



NEW MEN, new airplanes, unfamiliar machinery and procedures — all were welded into a combat unit. These pictures show some of the action on the USS Bunker Hill. Mishaps were not uncommon though the severed Helldiver might be classified as an out-of-the-ordinary mishap! However, the aircrewmembers were not injured and went back to training until air group and ship headed for WestPac.

jet operations are on our attack carriers today.

The *Bunker Hill* was built in Bethlehem's Quincy, Mass., yard, launched on the first anniversary of Pearl Harbor and commissioned on May 25, 1943, Captain John J. Ballentine commanding. She was the fourth of the new *Essex* class carriers to be commissioned, and her addition to the Pacific Fleet was eagerly awaited. No time was wasted in going through the steps necessary to convert a brand new ship and crew into a fighting machine. Her air group, Carrier Air Group Seventeen (CAG-17 in the nomenclature of the day) had been commissioned on the first of January 1943 at NAS Norfolk with Commander M. P. Bagdanovich as air group commander. Its four squadrons — VB-17, VF-17, VS-17 and VT-17 — trained through the spring





to be prepared when the ship was ready. VT-17's Grumman TBF *Avengers* were typical of all torpedo squadrons being formed. However, the Curtiss SB2C-1 *Helldivers* of VB-17 and VS-17 (redesignated VB-7 on March 1) and the Vought F4U-1 *Corsairs* of VF-17 were new to the Fleet. VF-17 and VB-17 were to be the first Navy squadrons to take these types into combat.

The *BuAer News Letter* in May devoted several pages to the *Corsairs* coming into service and to instructions for better starting procedures. For CAG-17, *Corsair* and *Avenger* training went forward on schedule; however, *Helldiver* operations suffered from many problems which plagued the SB2C-1's during this period.

Following commissioning, the *Bunker Hill* underwent initial sea trials;

and, on June 21, the first aircraft, a hook-equipped SNJ-4, operated aboard while the carrier was cruising in Massachusetts Bay. On June 28, after CV-17 had reported to the Atlantic Fleet at Norfolk, the big day finally arrived as LCdr. F. M. Whitaker led VT-17's *Avengers* and LCdr. J. T. Blackburn, VF-17's *Corsairs* aboard for flight operations in the Chesapeake Bay operating area.

On July 1, VB-7 was merged into VB-17 to form a 36-plane dive-bomber squadron under VB-17's skipper, LCdr. J. E. Vose, and just over a week later, the squadron began operations from the ship in time to be ready for the shake-down cruise.

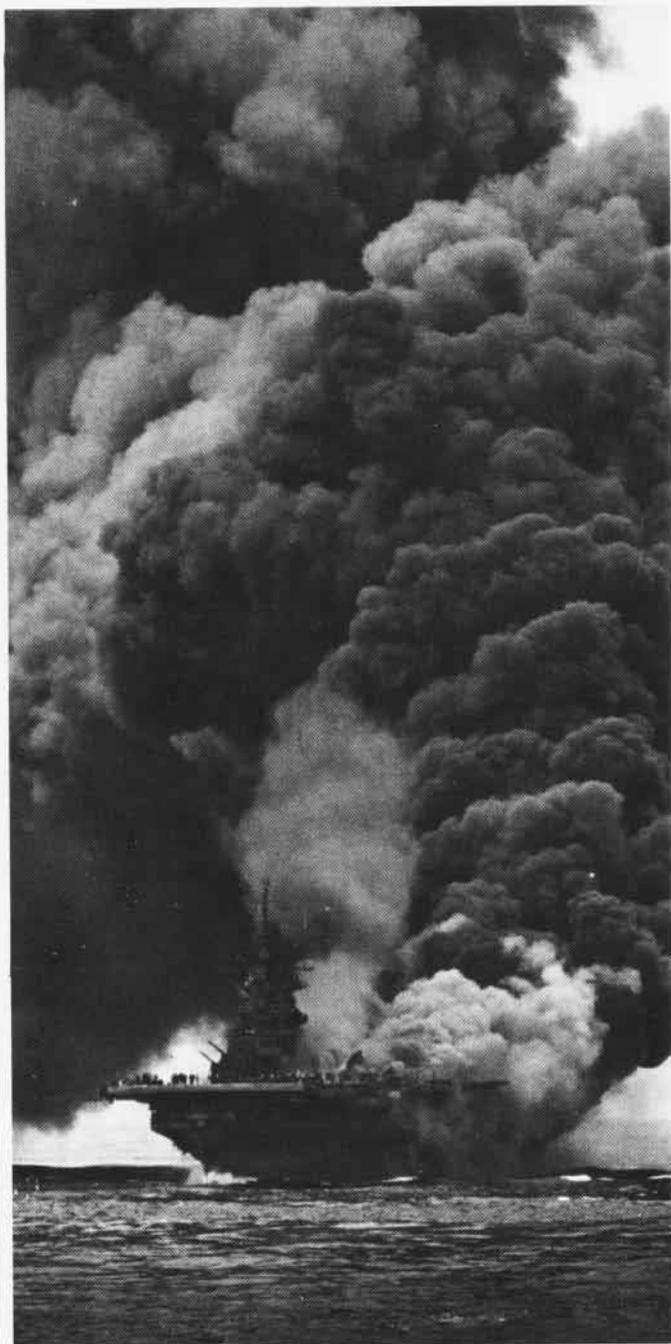
On July 13, the *Bunker Hill* and CAG-17 departed the huge Naval Operating Base at Norfolk for their shake-down cruise to Trinidad. While in

Trinidad, operations were conducted in the landlocked Gulf of Paria where German submarines were not a constant menace. Here ship and air group were extensively exercised to be ready for combat. On August 6, the *Bunker Hill* was underway for Norfolk, arriving on the 10th, and CAG-17 returned to shorebased status while the ship and squadrons made their final preparations to go to war.

In September, ship, aircraft and men were ready to depart for the Pacific and the war. In Hawaii, VF-17 was replaced by F6F-equipped VF-18; and on November 11, all the hard work and training made its first pay-off with CAG-17's initial strike against the Japanese base on Rabaul. VF-17, meanwhile, went its separate way to combat success as a landbased *Corsair* fighter squadron.



COMBAT AIRCREWMEN, the rear seat gunners in the dive and torpedo bombers, played a major role in CAG-17 as they did in all carrier aircraft combat in WW II. *NA*News devoted major space to pointing out their importance. Above, a gunner carries his twin thirties; below, an Avenger gunner fires the .50 in the turret. The USS Bunker Hill, with CAG 17 and, successively, three other air



groups, fought through most of the major Pacific action from the fall of 1943 until the ship was temporarily put out of action by two successive kamikaze hits in 30 seconds May 11, 1945. VF-17 became renowned as the shore-based "Blackburn's Raiders." Ira Kepford, one of 12 squadron pilots who became aces in less than three months, is flying the Vought Corsair in the foreground at right.





SELECTED

Foursome

Working together as a team is daily routine for four Grosse Ile Naval Air Reservists. The foursome, members of NARMU Y1, not only drill together one weekend each month but also work as employees of Cutler-Hammer, Inc., Southfield, Mich. And if that isn't enough, they all work in the same department.

On their drill weekend, the group is headed by Commander R. W. McCort who is C.O. of the NARMU. The other three are AW1 R. G. Haase, AW2 M. F. Nimmoman and AW3 M. H. Sternett.

Project Handclasp

Seven hundred pairs of shoes were recently delivered to the orphans of the Mustard Seed mission in Taipei, Taiwan, thanks to the members of Transport Squadron 62Z1, NAS South Weymouth.

The shoes, donated by the Randolph

Manufacturing Co., Randolph, Mass., were delivered to Captain Mac A. Graham, C.O. of South Weymouth. He assigned them to 62Z1 which was headed for NAS Alameda and two weeks of active duty. From Alameda, the shipment was taken to Hawaii on regular airlifts assigned the squadron. From Hawaii, the cargo was shipped to its destination, on a space available basis, by Navy ship and aircraft.

Dallas Class

Instead of sending a few men at a time to Pensacola for Aviation Officer training as in the past, the NAS Dallas recruiters recently sent an entire class—48 new recruits who wanted to "Be Something Special."

The students left Dallas for Pensacola aboard a Navy C-118, designated as the "Navy Dallas Special." They were recruited from Oklahoma, Texas and New Mexico.

LCdr. Levi Monteau, NAS Dallas recruiting officer, said, "As members

of the same class, acquainted from the start and sharing common interests by being from the same area, they should gain an extra advantage in working together for a common goal."

New Reserve Film 'Shot'

For two weeks late last year, NAS Barber's Point had an aura of "show biz" as Hollywood film makers and members of Tactical Support Squadron 21D4, NAS Dallas, teamed together to make a Naval Air Reserve movie.

The 14-minute finished product depicts a Naval Air Reserve unit making the Barber's Point to Vietnam run during its two-weeks of active duty.

Action in the script took the cast and cameramen to various spots around the station and to a luau. They staged a nighttime sequence of an off-loading explosion at Da Nang. Marines in the cast were members of Barber's Point Marine Barracks.

"It's been the best Reserve duty I've ever had," said Commander Ed Cherry, who had the movie's main role, "but that Da Nang sequence lasted a bit too late." The crew finished up that night at 0230.

Olympic Contestants

The Naval Air Reserve is proud to count among its members two men who competed in the 1968 Winter Olympics: Bob Huscher, NAS Twin Cities, and Gary Visconti, NAS Grosse Ile.

AD2 Huscher, the brakeman on a two-man Navy bobsled team, raced for the United States in the bobsled competition, coming in sixth in a field of 22.

Visconti is a skating star, who placed fifth in the men's figure skating competition in the same Olympics.



OLYMPIC skating star Gary Visconti (right) discusses his skating career and his training as an Olympic athlete with Bob Hynes, host of the Detroit Channel 7 "Morning Show."

AIR RESERVE

'We are a Navy Family'

When Ltjg. Robert G. Hughes completed his flight training at Pensacola, he was assigned to the recruiting department at NARTU Washington, D.C., for temporary additional duty in Navy's "feedback" program. He is the fourth of five brothers to serve in the Navy.

Two older brothers, Lt. William, Jr., and Ltjg. Frank, are both Naval Academy graduates. William is now serving aboard the USS *Hamilton* (SSBN-617) and Frank is attending a weapons school at Norfolk. A younger brother, Paul, was recently discharged after serving two years as an enlisted quartermaster. The youngest brother, Michael, is only 14 but, judging by family history, he will probably one day choose the Navy way.

The fact that Rear Admiral William C. Hughes, USN (Ret.), is their father may have had something to do with their choice of service.

Prelude

Nearly three years before the recent *Apollo* missions, LCdr. N. O. Erman, a Naval Air Reserve air intelligence officer who trains weekends at Los Alamitos, "flew" an equally successful mission for 14 days.

LCdr. Erman, an engineer and psychologist at North American-Rockwell, and two of his colleagues were assigned the task of testing the environmental control system of the *Apollo* craft. "The 14,000-mile journey to nowhere" was made at the company's Downey, Calif., plant. While only six feet off the ground, the three men were at a simulated altitude of 45 miles in their mock-up chamber.

"These were not angels being transported into space," said a company spokesman. "They were men with mundane hygienic needs. Could a

wholesome, pleasantly humid atmosphere be maintained in the air tight compartment?" The answer was "yes."

The men underwent preparation almost identical with that accorded the NASA flight crews. One hour before entering the 6 X 9-foot command ship, they started breathing pure oxygen. On the "flight," the men ate freeze-

dried food, took turns sleeping on astronaut couches, survived two deliberate cabin decompressions and performed a variety of tests.

"None of us felt any physical or psychological tension," said Erman. "We listened to records and the radio. I am happy to report that it was not really as bad as I thought it would be."

BOB HUSCHER rubs down his team's winning bobsled. He is keeping it in shape for the world championship bobsledding competition which is being held at Lake Placid this month.





ON PATROL

with the Fleet Air Wings

All P-2 Training at North Island

With the gradual phasing out of the P-2 in favor of the more advanced P-3 *Orion*, the P-2 training detachments at NAS Jacksonville, Fla., and NAS North Island, Calif., have been consolidated into one activity. The total number of P-2 instructors and support personnel was reduced from more than 400 officers and men to about 300, all at the VP-31 detachment, North Island.

Some personnel of the VP-30 detachment at Jacksonville, disestablished last December, were transferred to VP-31. Others were reassigned in the Jacksonville area or transferred to Navy activities elsewhere.

Since the detachments were established in 1960, the Jacksonville unit has trained approximately 5,500 officers and men while the North Island unit graduated more than 10,000.

VP-10 Rescues Bermuda Fishermen

Burnell Pitcher and Quentin Butterfield can thank VP-10 for saving their lives when the engine of Mr. Pitcher's boat failed seven miles off St. George's, Bermuda.

The two men had been fishing for several hours in an 18-foot converted lifeboat when water flooded the exhaust pipe and choked the engine. They ran out an anchor in an attempt to hold the bow into the waves, but at one point it gave way and another one had to be thrown over. According to Mr. Pitcher, "The seas grew rougher and a waterspout whirled past. We had good equipment on board, but we were worried by the time the aircraft appeared."

A VP-10 *Orion* on patrol, commanded by LCdr. Thomas C. Adams, spotted their flares, dropped markers, radioed for help and then circled the area until a pilot boat arrived.

Mr. Pitcher said, "The Navy did a great job. We were in trouble, and the crew went out of their way to make sure we got back safely." Later he visited VP-10 at Kindley AFB to personally thank LCdr. Adams.

This is the second time in recent months that a VP-10 crew has come to the rescue of a stranded boat. In September, Lt. Paul Temple, also an *Orion* commander, aided a small boat in distress under similar circumstances.

Enlisted Men of VP-56 Honored

Two enlisted men of VP-56, NAS Patuxent River, AMH1 Paul S. Andrus and ADJ3 Bobby L. Boone, have been awarded the Distinguished Flying Cross, Vietnamese Cross of Gallantry and Air Medal.

While serving with Helicopter Attack (Light) Squadron Three on Operation *Game Warden*, each man flew more than 100 reconnaissance and combat missions in the UH-1B *Iroquois* as a door gunner. Andrus was also a crew chief.

Medal Awarded VP-19 Officer

The Secretary of the Navy has awarded the Navy Commendation Medal to LCdr. William L. Rice of VP-19, Moffett Field, "for meritorious service while attached to and serving in USS *Ticonderoga* as the carrier control approach officer and ship's training officer from September 1, 1967, to May 1, 1968, during combat operations against the enemy. LCdr. Rice demonstrated . . . professional knowledge and leadership in effecting the safe recovery of over 2,500 aircraft in marginal weather conditions. Additionally, he was responsible for the successful retrieval of several aircraft handicapped by dangerously low fuel states and battle damage.

"In his capacity as ship's training officer, he developed and executed a training program which resulted in the highest grades ever achieved by *Ticonderoga* during a training cycle."

Commander Frank H. Barker, C.O., presented the medal and accompanying citation for Vice Admiral W. F. Bringle, Commander Seventh Fleet.

VP-46 Home after Alaska Deployment

On December 1, VP-46 returned to Moffett Field from a six-month deployment at NS Adak, Alaska.

On the deployment, the *Gray Knights* flew over 6,700 hours, performing a variety of missions. Ocean surveillance patrols, with emphasis on ASW, were the squadron's primary task. The men readily adapted to the rigorous Bering Sea weather with its snowstorms, fog and gale force winds.

Lt. David A. Willard, returning from a patrol in a P-3, logged a milestone for NS Adak when he made the 50,000th ground controlled approach at the airfield.

At Moffett, the *Gray Knights* have assumed a role in the operations of Fleet Air Wing Eight. Commander James Mullin is the squadron C.O.

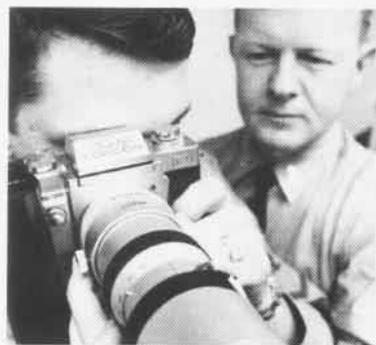
Coastal Command Trophy for VP-9

VP-9, NAS Moffett Field, has been awarded the new Coastal Command Trophy (*NANews*, November 1968, p. 30) for its outstanding achievements in ASW during deployment to Adak, Alaska, from December 1, 1967, to June 1, 1968.

In December 1968, VP-9, as well as another Moffett squadron, VP-19, were joined by Flight Crews 4, 5 and 6 of the Royal Canadian Forces 407 Maritime Patrol Squadron in support of the First Fleet ASW Exercise *Beef Trust*.



CHIEF DAVIDSON (above) demonstrates the loading of the EK-28-A camera. At right, he explains depth of field, a stumbling block to beginning photographers. Below left, he helps a student to adjust a zoom lens. Students at lower right are working on an inflight photo assignment, applying methods learned in classroom.



Ordnancemen Become Shutterbugs

Cameras are as important as weapons on the missions of P-3 *Orions*, and one of the collateral duties of Aviation Ordnancemen is manning them, for there are no full-time photographers in P-3 crews.

A little over two years ago at NAS Moffett Field, VP-31 opened the Air Crew Photo School as a part of its training program for replacement personnel manning Pacific P-3 *Orions*.

Under the instruction of Chief Photographer Robert H. Davidson, ordnancemen with little or no previous photographic skills learn how to carry out their important pictorial missions.

By JO2 Phil Mumma

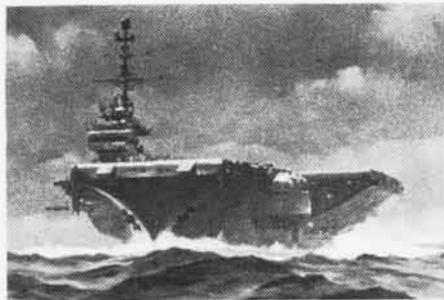
Five days is a short time in which to pack the information, but Chief Davidson has done it. Students learn basic camera techniques, including exposure control, lighting, film sensitivity and filter use. Two days of instruction are conducted on ASW training flights out of Moffett during which the students get a chance to "learn by doing" while under Davidson's watchful eye.

In the short space of two years, this shutterbug school has provided the Fleet with nearly 200 graduates. Former student AO3 G. B. Howle says

that the school is a *must* for ordnancemen: "For the first time, I now feel I can effectively handle the photographic requirements of my job."

Other beneficiaries are the various photo labs. They say that *Orion* surveillance photos are twice as good since the photo school began. No longer are they plagued with blurred, underexposed and unidentifiable pictures.

The class has spurred the ordnancemen's interest in photography. No longer is it an onerous task not quite conquered but something that comes easily. The mystery of the little black boxes no longer frustrates them.



at Sea with the Carriers

PACIFIC FLEET

Enterprise (CVAN-65)

Enterprise and *Kitty Hawk* (CVA-63) recently participated in Exercise *Beef Trust* off the coast of California. For eight days, 28 ships and 31 air squadrons (including four Canadian units) tested their readiness for naval warfare. For the carrier-based aircraft squadrons, the eight days were filled with missile-firing exercises, bombing practice in the Chocolate Mountain and San Clemente Island impact ranges, and close air support missions.

Vice Admiral Bernard F. Roeder, Com1stFlt, directed the exercise from his flagship, *USS St. Paul* (CA-73). Rear Admiral M. W. Cagle, ComCarDivOne, and Rear Admiral F. A. Bardshar, ComCarDivSeven, put the Naval Aviation units through their paces.

Ranger (CVA-61)

On her way to her fourth combat tour, *Ranger* held an ORI off the coast of Hawaii, then steamed to Yokosuka for supplies and crew's liberty. When she left Yokosuka, she joined naval aircraft of the Republic of China and took part in a two-day exercise, *Blue Sky*.

Constellation (CVA-64)

Lieutenant Colonel Martha Raye, Army nurse, Green Beret and entertainer, staged a rollicking show on the hangar deck while the carrier was on station in the Gulf of Tonkin. After the show, Miss Raye toured the ship, visited the men in sickbay and participated in a re-enlistment ceremony.

A few days later the whine of jet engines was replaced by the sound of

pop music when the *Cascades*, a five-man group from San Diego, treated crew members to two hours of rock-n-roll, comedy, impersonations and oldies-but-goodies.

Another recent visitor aboard CVA-64 was General George S. Brown, Commander of the Seventh Air Force, who met with Vice Admiral Ralph W. Cousins, Commander of the Seventh Fleet's Attack Carrier Striking Force. The two tactical air commanders met to coordinate air support for our ground forces in Vietnam.

Kitty Hawk (CVA-63)

"It pays to bolter," said Ltjg. Paul M. Fischer, Jr., when he walked into VA-105's ready room aboard CVA-63. He had just made arrested landing number 86,000. A few minutes earlier, he had missed the arresting cable and sent his A-7A skyward again. In so doing,

he was in position to land as number 86,000, "stealing" the honor from LCdr. G. L. Scott, VA-37, who landed as number 85,999.

Three hundred members of the Radio and Television News Directors Association were the guests of *Kitty Hawk* and her skipper, Captain J. F. Davis. Under the auspices of the Chief of Information, they came aboard to see how today's modern Navy is prepared to defend the freedom of the seas.

Before the guests toured the ship, they visited special exhibits and displays on the hangar deck. After lunch, CVW-11 put on an aerial demonstration, and *USS Preble* (DLG-15) simulated an underway replenishment.

Valley Forge (LPH-8)

Before he was relieved by Captain David W. Henderson, Captain Paul E. Payne, C.O., received the South Vietnamese Navy Distinguished Service Order, Second Class. The medal, presented by Captain Lawrence Savadkin, Commander Amphibious Squadron 11, cited Captain Payne for services rendered by *Valley Forge* during the ship's recent deployment to S. E. Asia.

Tripoli (LPH-10)

They call LCdr. Vern Frank the Triple-Landing *Tripoli* Aviator since he managed to record three consecutive thousandth landings on the LPH. It began as LCdr. Frank brought the *Tripoli's* helicopter, *Greenbug*, in for landing number 11,000. One week later, when landing number 12,000 rolled around, LCdr. Jim Alkire from *USS Ogden* (LPD-5) was at the controls of *Greenbug* and LCdr. Frank was copilot. Then, when LCdr. Steve Myers logged landing number 13,000,



CWO Walter Montgomery models the new uniform of *Hornet's* engine room personnel.

in the *Greenbug*, guess who was the copilot. That's right, LCdr. Vern Frank.

But he was not alone. AD3 Phil Watson was also aboard *Greenbug* as a crewman for all three landings.

Kearsarge (CVS-33)

Fresh out of the Long Beach Naval Shipyard where she had spent a six-month yard period, Captain Creighton W. Cook's ASW carrier resumed her role as an ASW flagship when Rear Admiral Jerome H. King, Commander ASWGr-One, brought his staff aboard.

Hornet (CVS-12)

Railroad engineer hats and red bandannas are the uniform of the day – at least for the engineering department on board CVS-12.

"Members of the air group wear all kinds of colored hats, so we decided we would have our own trademark," said Commander John Teuscher, *Hornet's* engineering officer. "Since the engineers on trains wear the hats and carry the red bandannas to wipe sweat, the 'black gang' felt that would be the most appropriate uniform for us."

The problem, however, was where to get hats for the 17 officers and 518 enlisted men in the department. They bought out two local stores in Long Beach, but still didn't have enough. They planned to pick up some more when they stopped in Japan on their way to join the Seventh Fleet in the Western Pacific.

Ticonderoga (CVA-14)

Tico returned to San Diego after a 2½-month period in the Long Beach Naval Shipyard. Most of the yard work was done so that CVA-14 could take the A-7A aboard. To provide for the larger crews needed for the *Corsair II*, berthing facilities, ship's mess, laundry and fresh water distilling equipment were enlarged. Ammunition handling spaces were also enlarged to allow for faster handling of the larger amounts of ordnance carried by the aircraft. Routine repairs accounted for most of the remainder of the job: steam catapults were overhauled, the flight deck was resurfaced and boilers were relined.



IT'S HARD WORK to arm an A-6 Intruder with a 500-pound bomb and this fact is reflected in the faces of these ordnancemen, members of Attack Squadron 165 aboard the *Ranger*.

ATLANTIC FLEET

Independence (CVA-62)

Senator Jacob K. Javits (N.Y.) was a recent guest of CVA-62's C.O., Captain Herbert S. Matthews, Jr. The Senator came aboard to observe two days of operations and was briefed by Rear Admiral W. E. Lemos, ComCar-DivFour.

Other recent visitors included the Honorable Gardner Ackley, U. S. Ambassador to Italy; the Honorable Charles A. Bowsher, Assistant Secretary of the Navy (Financial Affairs); Vice Admiral Charles T. Booth II, Commander Naval Air Force Atlantic; Admiral Waldemar F. A. Wendt, Commander in Chief, United States Naval Forces, Europe; and Vice Admiral David C. Richardson, Sixth Fleet Commander.

America (CVA-66)

When *America* returned to her home port at Norfolk, Va., she had completed five months on station in the Tonkin Gulf and a trip around the world. Leaving Norfolk in April, the first stop on the trip was Rio de Janeiro. From there she proceeded non-stop through the

South Atlantic, Indian Ocean and South China Sea to Subic Bay. Then she joined other 7th Fleet units on Yankee Station. Following her last line period, *America* returned to Subic Bay and began preparations for the return trip which took her to Sydney, Australia; Wellington, New Zealand; and back to Rio and Norfolk.

Essex (CVS-9)

Captain Horace N. Moore is the new commanding officer of CVS-9. He relieved Captain John A. Harkins who reported for duty with the Operational Test and Evaluation Force, Norfolk.

Lexington (CVT-16)

The Vietnam war is not the only area from which Navy heroes emerge. *Lexington*, the Naval Air Training carrier, has a couple of her own. They are ABF2 Henry E. Epperhart and ABFC Donald P. Topp who were recently presented Navy Commendation Medals by CVT-16's C.O., Captain E. W. Gendron.

On April 25, 1968, Epperhart was manning his station in the fifth deck aviation fuel pump room when a massive rupture of a pressurized gasoline line began filling the compartment with



VICE ADMIRAL Booth, ComNavAirLant (C), pauses on the bridge of *Independence* to discuss operations with RAdm. W. E. Lemos, ComCarDivFour, and Capt. Herbert S. Matthews, Jr., C.O. At right, the men of America greet their Australian allies as they sail into Sydney Harbor, a stop on the return trip to Norfolk from S.E. Asia.



lethal gas. Epperhart ordered his sound-powered phone talker out, while he, with complete disregard for his personal safety, attempted to secure the cut-off valve leading into the ruptured line. The fumes became so powerful, Epperhart weakened and was forced to leave the compartment.

Shortly after he gained the second deck and fresh air, Chief Topp came by. His first question was, "Have you secured the tank-top cut-off valve?" Epperhart replied that the gas fumes had forced him to leave but he knew that the valve had to be turned off.

In the meantime, the electrical circuits powering the pumps down below were being secured, but the tank-top valve had to be closed before the flooding could be stopped.

Epperhart, followed by Topp, went back into the pump room. The fumes were overpowering. Topp stayed at the entrance as safety backup while Epperhart made his way to the cut-off valve. (Flooding at this stage had reached the

three-foot level.) Grasping the valve, he closed it and, with his strength fading, he leaped for the ladder – his only avenue of escape. He says he remembers his outstretched hand touching the top rung before he lost consciousness.

Chief Topp reached through the opening into the compartment just in time to grasp Epperhart's wrist and pull him through the hatch. Then he literally sat the unconscious Epperhart on his shoulder and pushed him up two more decks to safety. As he neared the last hatch, Chief Topp himself lost consciousness.

Epperhart spent two days in sickbay; Topp stayed on the scene directing pumping operations.

Wasp (CVS-18)

In jest, they call themselves *Lawson's Losers*, the detachment of four *Skyhawks* led by LCdr. Ramsey Lawson, but they are not losers. They came aboard from *Independence* to

provide air cover against any hostile or unknown aircraft that demonstrate an intent to overfly or penetrate the immediate vicinity of *Wasp* while she is on maneuvers with the Sixth Fleet in the Mediterranean. This is the first time the ASW carrier has had A-4's.

Saratoga (CVA-60)

After an 11-month overhaul at the Philadelphia Naval Shipyard, *Saratoga* is back on duty. Her first major overhaul since she was commissioned in 1956 makes her one of the most modern aircraft carriers in the Fleet.

Captain John H. Dick, C.O., points out that the crew played a vital part in completing overhaul projects. Working under a pilot program called Ship's Force Overhaul Management System, the crew accomplished nearly one-third of the repair work. Originally programmed to complete 55,000 man-days of work, they performed over 135,000 man-days.



CARRIER QUALIFICATION: ESTABLISHING A STANDARD

By JOC Al Shackelford

One of the most eagerly awaited and emotionally testing times in a young Naval Aviator's life is that time when he makes his first qualification landing aboard an attack carrier.

Nothing in the civilian community comes close to the demanding physical and nerve-edged life of a carrier pilot. Few non-military tasks require the quickness of mind and steadiness of hand necessary to bring an aircraft aboard a pitching four-acre plot.

His never-ending education begins at NAS Pensacola where he learns to fly Navy aircraft. In advanced training, he perfects his new skills and is commissioned a Naval Aviator. His next assignment is a RAG.

He is ready to do the job. He takes off from the beach, anxiously checks his instruments and looks for the "meatball" on the flight deck.

Finally he sees it while a mile from the roundup. He follows the light down to the deck. From that day forward, he knows only one standard — that is all a pitching deck allows.





Threading a Needle's Eye

By JO2 Ted Mason

Before one makes his first flight to the Antarctic, he has a preconceived idea of what to expect from pictures and stories of those who have made the 2,400-mile journey south from Christchurch, New Zealand, to McMurdo Station, the center of the U.S. Navy's Operation *Deep Freeze*. But still, the first trip to the ice-covered land surrounding the South Geographic Pole remains the event of a lifetime.

The only aerial route to the Antarctic is kept open by the Navy's Antarctic Development Squadron Six (VXE-6, formerly VX-6) led by Commander Eugene W. Van Reeth. Flying the ten-hour route to McMurdo without an alternate landing area is like threading the eye of a needle into a dimension where past, present and future are

frozen into one resplendent reality.

From the beginning, one feels the uniqueness of the experience. Sitting backward in the C-121J *Super Constellation*, the luxury airliner of an earlier aviation era, the passenger anticipates a flight into the past where the evidence of the world's origin lies preserved under an average of 7,000 feet of ice.

Once the magnificent Alps of New Zealand's green South Island are left behind, there is nothing to see out of the portholes but hours of clouds and the dark South Pacific Ocean below.

Then, approximately halfway — at 60° south — floating icebergs signal land ahead. At the antarctic convergence, a dramatic physical border which

separates the Antarctic from the Temperate Zone, is the Point of Safe Return. Here, the aircraft commander must decide whether to continue to McMurdo or return to Christchurch. The Christchurch-to-McMurdo pipeline has no alternate runways, only the Point of Safe Return.

The decision to continue is determined by the condition of the aircraft, fuel supply and the fickle weather at McMurdo. Located four miles from McMurdo Station, the ice runway at Williams Field offers more hazards than most aviators care to contend with.

In addition, solar disturbances can completely cut off the white continent from all communications with the outside world for days. Cloud cover over the sun and stars can force the crew to



VOLCANIC Mount Erebus and the Ross Ice Shelf (L) signal the end of the trip. In Christchurch (above left) Navy men and U.S. scientists await the flight. In the Antarctic, a VXE-6 ground crewman refuels the plane for the return flight. Above, author disembarks after his first flight to Antarctica.

fly without any way of checking course or position.

Two hours out of McMurdo, the passenger gets his first view of the continent: the rugged Admiralty Mountains, swirled in glimmering enameled ice, which seem to overflow with glaciers pouring into the blanket of ice that covers the sea for miles (the extent of which depends on the time of year).

The *Connie* flies along the Scott Coast of Victoria Land until volcanic Mt. Erebus, with a puff of smoke hovering above its cone, signals that McMurdo is around the corner of this rock and ash island on the edge of the Ross Ice Shelf. The Shelf, a 60-foot barrier of permanent ice the size of California, stretches like a high plateau between the continental mountain

coasts and the annual sea of ice which breaks up and floats out to sea each January.

Air operations are limited to the summer period when the weather is less extreme. Before the height of summer, planes land on the man-made ice runway on the annual ice at the edge of Williams Field. By January holes pockmark this ice, and seals are sticking their noses up through breathing holes.

This is the sign that the ice runway is about to move out to sea as a floating ice island, and the *Connies* must land 12 miles away at Outer Williams on the permanent ice of the Shelf.

After one to two hours for unloading and refueling, the *Connie* makes the ten-hour return trip to Christchurch which, to the passengers returning from

the antarctic winter-over, seems like another world. To the *Connie* crew, it is a routine turn-around.

Last year the *Super Constellations* lifted more than 106,000 tons of cargo to and from Antarctica. They flew 1,802 hours or some 50 successful flights. (These figures do not include the work of the VXE-6 LC-130 *Hercules* and H-34D *Seahorse* helicopters.)

In addition to the 3,340 passengers, the most valued cargo carried were the tons of mail. During the Christmas period, the mail gave the feeling that Santa Claus had been relocated at the South Pole. Colorfully wrapped packages poked out of the mail sacks and there were a few hand-printed letters addressed to: "Santa Claus, c/o Antarctic Annex, The South Pole."

U.S. CLIMATOLOGY



CLIMATOLOGY IS THE SUMMATION OF WEATHER CONDITIONS THAT HAVE BEEN OBSERVED OVER A LENGTHY PERIOD OF TIME, USUALLY SEVERAL DECADES. FROM THE STATISTICAL DATA IT IS POSSIBLE TO TRACE TRENDS AND DETECT CHANGES IN VARIOUS WEATHER PATTERNS.

IT PROVIDES THE RESEARCH METEOROLOGIST WITH THE BASIC INPUT TO EVALUATE AND OFTEN ADD TO THE THEORIES PUT FORTH IN THE DISTANT PAST AND FREQUENTLY HELPS TO IMPROVE THE FORECASTS OF TODAY.



THE COLLECTION OF CLIMATOLOGICAL DATA IN THE UNITED STATES BEGAN IN 1814 WITH A TERSE EIGHT WORD ORDER BY THE SURGEON GENERAL OF THE ARMY TO HIS SUBORDINATES INSTRUCTING THEM TO MAINTAIN A DIARY OF THE WEATHER.

INSTRUMENTS HAD TO BE PROCURED AND ISSUED, AND SOP'S WRITTEN, BEFORE THE RECORDS BEGAN TO TRICKLE IN. THE FIRST REPORTS CAME FROM AN ARMY SURGEON IN CAMBRIDGE, MASS. IN MARCH 1816.



CASUAL, INFREQUENT OBSERVATIONS ON WEATHER IN THE NEW WORLD HAD BEEN TAKEN SINCE ITS SETTLEMENT, BUT THE SURGEON GENERAL'S COLLECTION PROGRAM WAS THE FIRST SYSTEMATIC SURVEY CONDUCTED IN THE U.S.



THE RESPONSIBILITY FOR THE COLLECTION OF WEATHER INFORMATION HAS SINCE PASSED TO OTHER GOVERNMENTAL AGENCIES, BUT THE FIRST CLIMATOLOGICAL STUDY OF THE U.S. PUBLISHED IN 1842 WAS BASED ON THE SURGEON GENERAL'S DATA



Airframe Icing Terms are Defined Will Standardize Reports Pilots Make

A table for reporting airframe icing has been developed by the Subcommittee on Aviation Meteorological Services of the Interdepartmental Committee for Meteorological Services. The Department of Defense was represented by members from the Army, Navy, Air Force and the Office of the Special Assistant for Environmental Services to the Joint Chiefs of Staff.

To indicate the intensity of ice

accumulation, the pilot has these definitions to guide him in reporting:

Trace — Ice becomes perceptible. Rate of accumulation slightly greater than rate of sublimation. It is not hazardous even though de-icing/anti-icing equipment is not utilized, unless encountered for an extended period of time — over one hour.

Light — The rate of accumulation may create a problem if flight is prolonged in this environment (over one hour). Occasional use of de-icing/anti-icing equipment removes/prevents accumulation. It does not present a

problem if the de-icing/anti-icing equipment is used.

Moderate — The rate of accumulation is such that even short encounters become potentially hazardous and use of de-icing/anti-icing equipment or diversion is necessary.

Severe — Rate of accumulation is such that de-icing/anti-icing equipment fails to reduce or control the hazard. Immediate diversion is necessary.

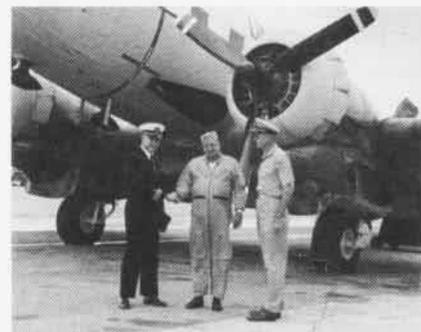
In reporting, the pilot gives aircraft identification, location, time (GMT), intensity of type, altitude/flight level, aircraft type, indicated air speed.

Types of icing are defined as follows:
Rime ice — rough, milky, opaque ice formed by the instantaneous freezing of small supercooled water droplets;
clear ice — a glossy, clear or translucent ice formed by the relatively slow freezing of large supercooled water droplets.

An example of the new method of reporting would read: Holding at Westminster, VOR, 1232Z, light rime icing, altitude 6,000, *Jetstar*, IAS 200 knots.

A New Designation for Lexington Begins New Year as Navy's First CVT

On January 1, USS *Lexington* (CVS-16) set another milestone when her designation was changed to CVT-16, the first and only official training carrier in naval history. She serves CNA-BaTra, CNAVanTra and Atlantic and Pacific Fleet pilots.



NAS CORPUS CHRISTI completed nine accident-free years December 9. LCdr. Walt Lester (L), aviation safety officer, congratulates ACCS Cecil W. Thompson upon making the milestone flight as Captain R. F. Reagan, C.O., looks on. One of the last enlisted Aviation Pilots still flying in the Navy, Chief Thompson has more than 11,000 hours flying time logged during his career.

PERSONAL GLIMPSES

Editor's Corner



THE YELLOW SUBMARINE. Aboard every carrier, low-built, bright yellow tractors are used to pull aircraft around the deck.

According to MUSN C. O. Johnson, USS Independence (CVA-62) has such a tractor with a well-rounded background — on the deck, in the air and “under the sea.”

While the Independence was anchored at Pollensa Bay, Mallorca, Spain, this tractor accidentally took its maiden flight off the fantail and crash-landed into the depths of the bay. Divers located the tractor and it was hoisted from the bottom of the bay by the ship's crane. Maintenance crews dismantled it and washed all parts in solvents to prevent corrosion from the salt water bath.

Fifteen days later, the rebuilt tractor appeared on the flight deck with black competition racing stripe and the name “The Yellow Submarine” on its hood.



Top Gun. Lacking only a cloud of dust, the Lone Ranger “galloped” across the flight deck of the USS Ranger (CVA-61). Riding high in the

saddle and wearing his hat slung low, he shouted a hearty “Hi-yo Silver, away!” to the crowd on the pier below.

To the tune of the *William Tell Overture* and to the crack of the masked man's six-shooter, the *Ranger* slipped away from the pier at NAS Alameda.

To the crowd which had come to bid the aircraft carrier farewell, the appearance of the Lone Ranger was a surprise. They laughed and cheered.

Several weeks earlier, the idea was suggested as an addition to the *William Tell Overture*, the Lone Ranger's theme song, which is played each time the ship enters or leaves port.

Recreation funds supplied the money for a complete western outfit. Commander Robert J. Brunskill, aircraft intermediate maintenance department head, made arrangements to have Silver, a nearly life-size fiberglass horse, shipped from Lander, Wyoming.

The weapons department supplied the six-shooter and a box of blanks. The gallop was provided by six husky sailors pulling the trailer which supported Silver and the Lone Ranger.

Thus the Lone Ranger has joined the Navy and is serving the carrier which has earned the nickname, “Top Gun” of the Fleet.

SILENT SOLO. An antarctic pilot with Operation Deep Freeze mastered another challenge of aviation when he soloed a sailplane which belongs to the Wigram Gliding Club, Christchurch, New Zealand.

LCdr. Joe Duffy, a Super Constellation pilot with VX-6, was certified for solo by Mr. Ian Coult of the New Zealand Gliding Association.

The VX-6 pilot won his certificate after four instructional flights, totalling 63 minutes.

Convert. The following ad appeared on a bulletin board at the headquarters

of ComNavAirLant, a staff dominated by Naval Aviators of the most distinguished variety:

WANTED:

Aviation Greens, size 39-40,

I've learned to think like you; now I want to look like you, too.

Cdr. K. K. Kirkwood, CEC

Non-aviator Cdr. Kirkwood heads the facilities planning desk on the staff.



EARLY BIRD. The roar of NAS Miramar jets was silenced recently to allow a native of San Diego, Waldo Waterman, 74, to land his “Chevy Bird” at Mitscher Field for a special visit to VF-111 which made him an honorary Sundowner.

Waterman's aircraft immediately became the center of attention. It is a homemade affair described as a pusher model, powered by a Chevy Corvair engine. According to the owner-designer, the craft was mainly built from parts of other aircraft, except the main framing which supports the pilot and motor. It took about a year to build.

Waterman is a veteran aviator who began his flying career in San Diego by flying a Chanute type glider from a canyon rim in 1919. He now holds the distinction of being the world's senior commercial pilot.

LETTERS

'Youthful Outlook'

Congratulations on the November issue. The second half of the first 100 years is getting off to a bright start with a psychedelic cover on conservative, middle-aged *NA News!* This only proves that its editors have to keep a youthful outlook for young readers. You also scored quite a coup with the full-color October covers.

Matthew H. Portz
Former *NA News* Editor

We Stand Corrected

On page 2 of the September 1968 issue of *Naval Aviation News*, there appeared an article concerning the invention of a new torpedo transfer sling by HS-8 aboard USS *Bemington* (CVS-20). Your article stated that, prior to HS-8's innovation, the transfer of torpedoes could only be effected by side-by-side underway replenishment.

These statements are in error. Prior to our recent WestPac deployment aboard USS *Yorktown* (CVS-10), HS-4 devised a four-point suspension sling for transferring torpedoes. We successfully transferred 75 torpedoes to escorting destroyers between December 1967 and July 1968.

Yorktown and HS-4 were relieved in late June by the USS *Bemington* and HS-8. During our turn-over period in Japan, HS-4 passed these torpedo sling specifications to HS-8. It was based on these specifications that HS-8 employed our sling, or a modification thereto, in their transfers.

Prior to our use of this sling, torpedoes could be transferred only by side-by-side underway replenishment or by a one-point suspension on a helicopter rescue hoist. The latter method was for the most part unsatisfactory.

Naval Aviation News has the reputation for outstanding attention to detail and devotion to veracity. I am therefore attempting to correct the record.

H. W. Ewy
Commanding HS-4

PROBLEM

Getting to see each issue of *Naval Aviation News* on time? Have a subscription sent home. Response indicates it goes over big with the wife, kids, and even the neighbors.

Thanks

I want to express my personal appreciation as well as that of the entire squadron for the excellent cover on your October 1968 issue.

All of us are particularly pleased that the Navy's Fighter Squadron 11 was selected to be depicted in your first color cover. The explanatory remarks concerning PH3 William R. Curtsinger's tour with the *Red Rippers* were particularly apt and well put.

D. D. Davison, Cdr.

Congratulations

On behalf of the publishers of *Jane's All the World's Aircraft*, I congratulate *Naval Aviation News* in its 50th birthday year. Your article tracing its history through its first half-century is full of interest and, as a historian, I have also greatly enjoyed the series on Naval Aviation in World War I. However, it is quite wrong to single out any particular articles for praise as there is always so much of interest in *Naval Aviation News* every month, and I look forward tremendously to receiving my copies.

We can sing "Happy Birthday to You" in unison in 1969, as it marks *Jane's* 60th anniversary.

John W. R. Taylor
Editor

Early Planes Data Sought

I cannot express my feelings enough as to the October and November issues of *Naval Aviation News*. The printing, format, material, etc., and the cover have given the magazine a tremendous boost, all for the better. I am sure that with the color cover your civilian membership will increase, especially with the modelers.

I would appreciate any personal information and personal experiences sent to me from any Naval Aviators who flew the following aircraft: F4F *Wildcat*, SBD *Dauntless*, F6F *Hellcat* and the TBF/M *Avenger*. The material is to be used for a future series of publications dealing with Navy aircraft.

B. R. Jackson
Northridge, Calif.

¶ Since *NA News* is also interested in this type of material, submissions may be sent directly to this magazine and we will forward them to Mr. Jackson.

Ship Engineers' Symposium

The Association of Senior Engineers of the Naval Ship Systems Command will hold its sixth annual technical symposium on March 28 at the Statler-Hilton Hotel, Washington, D.C. Theme of the session will be *Variety in Ship Engineering*.

Technical-sessions are scheduled to begin

at 4:30. A banquet follows at 8:00 P.M. at which there will be a guest speaker.

Reservations may be made through Mr. Jon R. Buck, Association of Senior Engineers, Naval Ship Engineering Center, Room 4646, Main Navy, Washington, D.C. 20360; telephone: Oxford 6-5550.

A. F. Johnson
Symposium Chairman

MobileColor Film Labs Developed Deliveries Scheduled Later this Year

A mobile, aerial reconnaissance color film laboratory has been developed by the Naval Air Systems Command. When it becomes operational this summer, it will provide the Navy and Marine Corps with a field processing capability for such film.

The new air mobile photo labs are fitted in two 20-foot vans, eight feet wide and seven feet high, and equipped with removable running gear to provide stability once the units are in place.

The two-unit complex, weighing nearly four tons, can be airlifted to remote locations.

Five photo labs, designed as the EX-81A are being assembled.

According to NavAirSysCom, delivery will be made to Marine Composite Reconnaissance Squadrons One, Da Nang, RV; Two, MCAS Cherry Point; and Three, MCAS El Toro. Navy Heavy Photographic Squadron 61 (at Guam) and 62 (at Jacksonville, Fla.) will also operate the units.

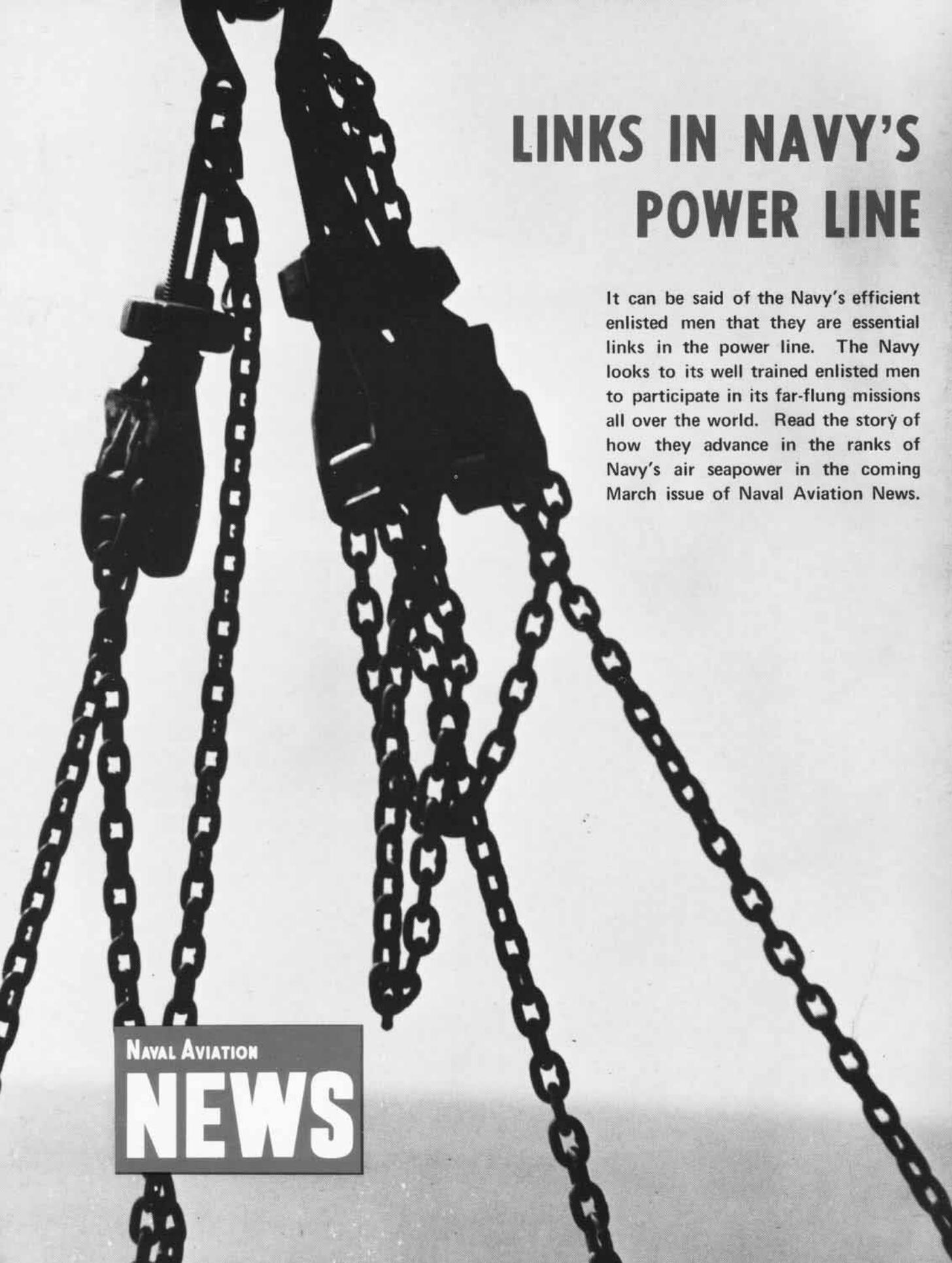


A DELUXE BROCHURE, entitled "Wings of the Fleet," is now made available by the Recruiting Aids Division, Bldg. 157-4, Washington Navy Yard, Washington, D.C., 20390. As was indicated in the *Naval Aviation News* October 1968 issue, the brochure describes in words, charts and full-color pictures current training programs for Naval Aviators and Naval Flight Officers for the Fleet.



HC-5 is the West Coast training squadron for Pacific Fleet helicopter combat search and rescue pilots, aircrewmembers and support personnel. Commanded by Commander Ronald L. Helms, the Arch Angels are home-ported at the Naval Air Station at Imperial Beach, California.





LINKS IN NAVY'S POWER LINE

It can be said of the Navy's efficient enlisted men that they are essential links in the power line. The Navy looks to its well trained enlisted men to participate in its far-flung missions all over the world. Read the story of how they advance in the ranks of Navy's air seapower in the coming March issue of Naval Aviation News.

NAVAL AVIATION

NEWS