NAVAL AVIATION NEWS

In this Issue:

SIX PLANES AND 27 MEN DISAPPEARED ON THE FAMOUS

LOST PATROL

WHAT REALLY HAPPENED?

JUNE 1973

NAVAL AVIATION NEWS

FIFTY-FIFTH YEAR OF PUBLICATION

THE STAFF

COVERS — In December 1945, U.S. Navy and RAF units searched over 200,000 square miles of the Atlantic and Gulf of Mexico for five TBMs and a PBM that disappeared, front cover. Here, one of VP-5's Orions flies past Mt. Etna. PH2 K. A. Freedman caught the flight deck crewmen on the back cover as they checked their records during a break in flight operations.

EDITOR'S CORNER

What's going on here, you may ask. What has this to do with Naval Aviation? Well, we thought the above photo might be a good way to attract your attention and, at the same time, illustrate that there are many areas of marginal interest to Naval Aviation which people ask about. We get a steady stream of letters from our readers and from the general public inquiring about a wide variety of subjects or events in which the Navy has been involved or in which some think there is Navy involvement.

Undoubtedly the most prevalent of these items is the 1945 disappearance of five TBMs and a PBM sent to search for them. This "mystery" of the Bermuda Triangle has long attracted the attention of popular writers in much the way the disappearance of Amelia Earhart has. And in much the same way, many writers have treated the subject in such a manner as to obscure or misinterpret the facts. We hope that henceforth they check our treatment of the "Lost Patrol."

In this issue, we touch on several of the subjects which we continue to receive questions about. Though there are many other areas that bring inquiries, we cannot treat them all this time. However, if there is sufficient interest on the part of the readers we will attempt to explore more of these in the future.

Unusual naval aircraft also are a source of reader interest and account for a sizable part of the mail that asks for information or photographs. In response, we this month feature the Flying Flapjack, *a novel concept for a Navy fighter. While on the subject of photos, we must point out that we are unable to provide photographs since we only maintain one copy of each in our files.*

However, to assist those interested in obtaining photos of naval aircraft, we suggest writing to the following sources. For a typical picture of most current Navy planes try the Chief of Naval Information, Navy Department, Washington, D. C. 20350. For more specialized requests that involve photographs made since 1958 contact the Navy Photographic Center, U.S. Naval Station, Washington, D. C. 20390. For photographs made prior to 1958 write to the Audio-Visual Division, National Archives, Washington, D. C. 20408. The latter two charge $2.25 for each 8x10 glossy.

By the way, in case you are still wondering about the photo above, it is a balloon being moved to position to be sent aloft at Panmunjon, Korea. The caption printed on the back doesn't explain what type balloon, what it is being sent up for or why its handlers are attired for a moon walk. Perhaps one of our readers can supply the answer to this one.

NAVAL AVIATION NEWS

1911 1973

SecDef Announces Naval Aviation Reductions

WASHINGTON, D.C. — In mid-April, the Secretary of Defense announced the details of the consolidation, reduction, realignment and closing of military installations in the United States and Puerto Rico.

The Secretary said these actions will result in a saving of approximately $3.5 billion over the next ten years. The actions, which affect 32 states, the District of Columbia and Puerto Rico, will eliminate 42,800 military and civilian positions.

Following is a list of Naval Aviation activities and stations affected by the Secretary's action.

California

NAS Alameda: curtailed by June 1974. Commander Fleet Air, Alameda will be disestablished. VR-30 and VR-21 Det will move to NAS Moffett Field. VAQ-130 will go to NAS Lemoore. Naval Air Reserve activities are not affected.

NAS Imperial Beach: closed by January 1975 but will be retained for Naval Aviation training purposes. Helicopter squadrons, regular and reserve, with associated support elements will be relocated to NAS North Island. Other station support personnel will be transferred to NAS Miramar.

Pacific Missile Range, Point Mugu: converted to a contractor operation by December 1974.

NAS North Island: Carrier Airborne Early Warning Squadrons 111, 112, 113, 114, 115, 116 and RVAW-110 will move to Miramar.

Florida

NAS Key West: Naval Air Test and Evaluation Squadron One will be relocated at NAS Patuxent River, Md.

Georgia

NAS Albany: closed and placed in caretaker status by June 1974. Aviation activities and selected support elements will relocate at NAS Key West.

NAS Glynco: closed by December 1974. Military and civilian positions will go to Pensacola, Fla., Memphis, Tenn., and Dam Neck, Va.

New Jersey

NAS Lakehurst: activities will be reduced by June 1974. Military and civilian positions are being transferred to Naval Air Test Facility, Lakehurst and naval air stations at Norfolk, Va., Jacksonville, Fla., and Cecil Field, Fla. HS-15 and HSLs 30 and 32 will move to Norfolk; HC-2 to Jacksonville. Flying operations will continue and Army activities will remain. Reserve components will continue to use the station's facilities.

Pennsylvania

Naval Air Engineering Center, Philadelphia: closed by December 1974. Certain functions in aircraft launch, recovery and landing aids will be relocated at the Naval Air Test Facility, Lakehurst.

Rhode Island

NAS Quonset Point: closed by June 1974. Scheduled for disestablishment are Carrier Antisubmarine Warfare Air Group, Quonset Point; Commander Fleet Air, Quonset Point; Commander Antisubmarine Warfare Group Four; Composite Squadron Two Det; Air Engineering Support Unit; Naval Air Reserve Training Detachment; and the Naval Air Rework Facility. NARF personnel and certain functions will be relocated to NARFs at Norfolk, Cherry Point, N.C., Jacksonville, Pensacola, Alameda and San Diego. VSs 22, 24, 30 and 31 will move to Cecil Field; HSs 1, 3, 7 and 11 to Jacksonville; HS-74 to South Weymouth; VXE-6 to Point Mugu; and various Fleet Air staff and detachments to Norfolk.

The explosion shown here occurred on March 9 during mine-clearing operations in Haiphong Harbor. It was set off by an Mk 105 magnetic hydrofoil minesweeping device (center) towed by a Navy CH-53 Sea Stallion. Photo was taken by a 70mm camera mounted in the helicopter.

Helo Men Honored

IMPERIAL BEACH, Calif. — The Navy Helicopter Association recently selected the helicopter pilot of the year and the maintenance man of the year (1972). Both are from Helicopter Antisubmarine Squadron Light 31.

Lt. Dennis Christian, recent officer in charge of HSL-31 LAMPS Det 2, was named Helicopter Pilot of the Year. Lt. Christian helped evaluate and develop the LAMPS concept. He worked out a refresher training program and schedule, and was responsible for preparing the Air Department Organization Manual for Pacific Fleet LAMPS-configured ships, as well as design change recommendations which have been incorporated into all LAMPS-configured 1052-class destroyer escorts. During a deployment to WestPac, he was instrumental in expanding LAMPS operations in the Gulf of Tonkin.

ADJ1 Wayne J. Patrick was chosen Maintenance Man of the Year. He is supervisor of the power plants branch of HSL-31 and also wears the aircrew wings of a helicopter rescue aircrewman. He has been responsible for many changes in the H-2 *Seasprite* which have improved its maintainability; one of the modifications corrected a problem that had previously made several emergency landings necessary. His contributions have saved many man-hours and increased aircraft safety.

All in the Family

PENSACOLA, Fla. — The 30-year-old naval flight surgeon wings of Captain Vance E. Senter began a second career when Capt. Senter pinned the wings he had received in March 1943 on the uniform of his son, Lt. Thomas P. Senter. Capt. Senter will retire on July 1 and his son, qualified in aerospace medicine, will continue in the same mission of maintaining the health of Navy and Marine flight crews.

Air Wings Established

NAS QUONSET POINT, R.I. — Two new air wings were commissioned on April 2 as the final phase of the reorganization of the AirLant community to complete the functional wing concept. Air Antisubmarine Warfare Wing One, commanded by Captain Bert Shrine, will include VSs 22, 24, 27, 30, 31 and 32. Helicopter Antisubmarine Warfare Wing One, commanded by Captain William O. Wirt, will include HSs 1, 3, 5, 7 and 11.

More UH-1Ns Ordered

FORT WORTH, Tex. — The Navy has ordered an additional 24 twin-engine UH-1N utility helicopters from Bell Helicopter Company. Delivery of the new order will take place in 1974. The UH-1N is also used by the Marines and Air Force and the Canadian Armed Forces.

Seaborne Drone Control

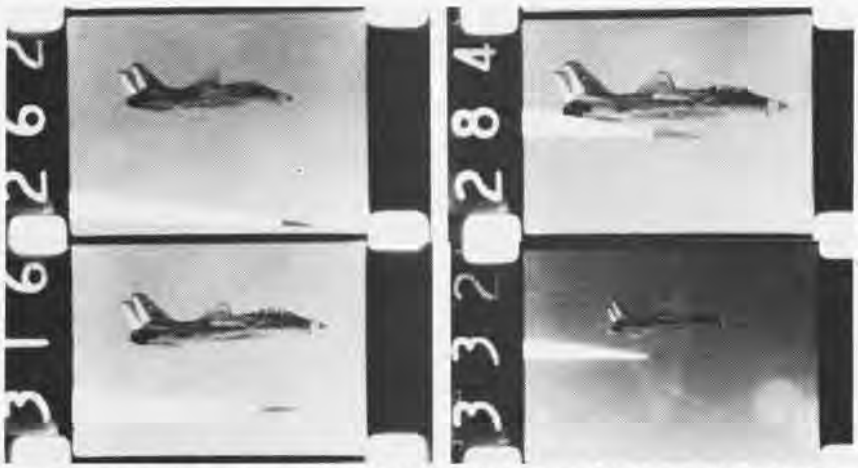
POINT MUGU, Calif. — Fleet units are being "attacked" with new realism at the Pacific Missile Range. Recent fleet missile firing exercises prove that the use of the range instrumentation ship USNS *Wheeling* in a drone control and recovery role is bringing realism and versatility to fleet operational and evaluation exercises.

In the latest exercise, *Wheeling* took station in a formation of missile ships some 200 miles offshore. BQM 34 target drones, launched from Point Mugu pads and aircraft, were directed by Mugu controllers toward the formation. After acquisition of the target by *Wheeling* radar, ship-based controllers took over control of the drone in low altitude, high speed attacks against the defending ships. *Wheeling's* telemetry stations then monitored missile performance as the other ships fired against the drones. After the firing runs, the controllers put the targets "in the chute" close to *Wheeling* for recovery by her helo.

The concept of *Wheeling* as a mobile range evolved in the search for a means to present low altitude subsonic and supersonic targets to fleet units far offshore, beyond line-of-sight of land-based radars and telemetry, where there would be space for maneuvering and more realistic formations using range instrumentation resources.

PMR engineers and technicians installed drone control equipment on the ship, using the existing command control system for transmitting control functions to the drones and the ship's x-y plotters to present the drone track in real time to the controllers. A data relay system relays radar data in real time from ship to shore and shore to ship. This system not only allows Mugu's test coordinators to monitor *Wheeling's* target tracks, but also points the ship's narrow beam FPS-16 radar for acquisition of drones flying from the beach. Existing telemetry stations on board permit missile data collection for both real time and post-operational performance analysis. *Wheeling's* flight deck was refurbished and certified for helo operations to permit recovery of the drones since their endurance would not permit flight back to normal recovery areas near Point Mugu.

Although *Wheeling* controlled one



Four Phoenix missiles are launched within 44 seconds from an F-14 Tomcat during December 20, 1972, Navy test held at the Pacific Missile Range, Point Mugu, Calif. In the first four-missile firing ever attempted, the missiles scored four hits against four widely separated jet drone targets, each more than 30 miles away. Numbers indicate film footage, not elapsed time.

drone at a time during the exercise, the ship's dual tracking radar and telemetry stations offer dual drone control capability and may enable future multi-target, mixed high and low altitude drone presentations to fleet missileers.

Helicopter Support Test and Evaluation Center

NATF LAKEHURST, N.J. — Construction is under way on a Helicopter Support Test and Evaluation Center which is designed specifically for full-scale testing of shipboard helicopter landing facilities. When operational, the center will permit complete testing of lighting, marking, deck features and recovery assist devices, using fleet-type helos.

Limited in the past largely to an ASW role and support services to the fleet, the helicopter is now involved in other areas, including LAMPS. The latter role will require operating under conditions not previously experienced. A new type of handling and securing equipment will have to be developed, as well as all-weather landing aids and revised reservicing methods. The new center will test helicopter support equipment ashore under conditions simulating the operational environment.

The 114-acre center will include an elevated fixed landing platform, a universal lighting pad, a vertical/short takeoff and landing (V/STOL) forward operating facility, ship motion simulator and a control center.

Tests are already in progress on the platform to evaluate the *Beartrap* landing aid, which provides positive securing of the helo to the deck upon touchdown, necessary when operating from small ships in heavy seas.

The V/STOL forward operating facility represents an intermediate stage in developing expeditionary airfields for the Marine Corps. It will be used to test and develop equipment used to operate the AV-8A and helicopters in tactical environments.

When the motion simulator becomes operational in 1975, it will enable a more thorough study of the critical interface between ship's deck and helicopter dynamics throughout the launch and landing phases

It is anticipated that the new center will make possible the testing of new helicopter and V/STOL support equipment before Navy acceptance and operational use in the fleet.

VXN-8 Deployment

PATUXENT RIVER, Md. — On March 21, VXN-8 returned to the naval air station from a record-setting Project *Magnet* deployment to the Southern Hemisphere, under the direction of the U.S. Naval Oceanographic Office.

Paisano Tres, commanded by LCdr. J. H. Capley, on this deployment flew around the world in the Southern Hemisphere twice and over the South Pole. The flight over the Pole set another world's record of sorts for the RP-3D, the first P-3 *Orion*-type aircraft to fly over the geographic South Pole — at 0525 GMT, March 4. Buno 158227 set another record in November 1972 when it flew a closed course listance record (*NANews*, January 1973, page 4).

The RP-3D is unique, having been designed especially for collecting and analyzing magnetic data from all over the globe. It boasts a magnetically clean tail section and one of the most advanced airborne scientific and navigational systems in the Navy.

In April the RP-3D left Patuxent for the Northern Hemisphere. Based in Norway, it will operate in the Arctic regions for about six weeks.

Tanks Become Targets

POINT MUGU, Calif. — The Naval Air Systems Command has acquired 39 surplus M-41 *Walker Bulldog* light battle tanks from the Army for use as mobile land targets. The Naval Missile Center (NMC) is overhauling and converting these tanks into suitable remotely controlled targets for air-to-surface and surface-to-surface missiles.

The Instrumentation and Flight Support Division of NMC's Test Operations Department is preparing the first prototype of the QM-41 target and providing the conversion kits for others.

The conversion includes removal of turret, cannon, ammunition racks, seats and other non-essential equipment. Then the engine and transmission are reworked and put into operating condition.

All of the equipment and wiring necessary for the conversion is being constructed and assembled by the division's personnel. This includes the building of harnesses to hold the wiring, the installation of over 80,000 feet of wiring, the assembly of junction boxes, relays, antennas and beacon lights.

These M-41 tanks will become Navy QM-41s.

When completed, the QM-41 targets will be used on Navy and Marine Corps bombing and gunnery ranges as designated by NavAirSysCom.

Price Increase

The subscription price for *Naval Aviation News*, when ordered from the Superintendent of Documents, has been increased to $9.00 annually with an additional charge of $2.25 for foreign mailing. The per copy price has been raised to $.75. Though we regret this sharp increase in cost to our subscribers, the price schedule is under the complete control of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. We understand that this price rise is subject to future review and hope that some relief may be forthcoming.

We have been receiving an increasing number of letters from subscribers who have been having various difficulties with subscriptions placed with the Superintendent of Documents. While we are fully concerned with prompt and complete service to these subscribers, we have no control over that service. Though we will continue to offer our assistance, complaints should properly be sent to:

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GRAMPAW PETTIBONE

Crash and Go

Student, 1st Lt. Luckystud, reported to the squadron at 0600 and was briefed at 0630 by his instructor for a carrier qualification syllabus flight. Due to delays at the ship, takeoff time was moved back from 0800 to 1045. The student performed a normal preflight on his TA-4J *Skyhawk*. The start and post-start checks were normal, followed by takeoff at 1045, number four in a flight of four.

The flight climbed to 13,000 feet and, upon arrival over the ship, was instructed to hold. After 20 minutes in that pattern, the flight was cleared to descend and enter the ship's traffic pattern. 1st Lt. Luckystud's first pass resulted in a waveoff for overshooting, not enough power in the middle and settling at the ramp. His second pass was graded as "fair, long in the groove, not enough power all the way, come down low-flat at the ramp, touch-and-go."

On his third pass, his *Skyhawk* hit the ramp. The pass, which was supposed to be a touch-and-go, was graded as "not enough power in close, settle at the ramp, no response to three power calls, waveoff lights, and waveoff initiated just prior to impact with the rounddown."

The aircraft hit the aft edge of the flight deck, ten feet right of centerline, shearing the two main landing gear struts at the point where they join the upper strut assemblies and breaking off the aft section of both drop tanks. The aircraft continued up the flight deck and *became airborne abeam the island*.

The LSO then told 1st Lt. Luckystud that he had sheared his main landing gear and the tower advised him to return to home base. The safety pilot who was orbiting overhead was called down to return to home base with the damaged *Skyhawk*. He noticed that the aircraft was leaking fuel from the port wing and had damage to the port flap. After another minute, the fuel leak stopped and the flight continued.

As the flight leveled off at 10,000 feet, the safety pilot witnessed half of the aircraft's port flap fall away. About 75 miles out of home base, the safety pilot switched to local approach control and requested that the runway be set up for an emergency landing.

The student was advised to land hook-up, on the foamed runway (on which the arresting gear had been removed). The landing was executed with only limited damage to drop tanks, nose cone and main landing gear doors. As the aircraft came to a stop, Luckystud egressed with no injuries. The crash crew was on the scene within seconds to assist him.

Grampaw Pettibone says:

Hairy hairies! Ain't many aviators that conducted a "crash-and-go" on a ship and were then able to return to base?!? There's more to this story than meets the eye. This gent had expressed his dissatisfaction with his own performance to another squadron LSO just prior to this fiasco. However, the LSO chose to take the remark no further and didn't even notify the controlling LSO! Then, to top it all off, they sent this lad back out to the ship the next day; fortunately, the LSO refused to work him — Bravo! A good decision for a change. Seems to me someone is in an all fired hurry to get students qualified!

For Lack of a Nail

Two lieutenants were scheduled for a two-plane daylight training flight in their A-4E *Skyhawks*. Pre-mission activities were normal in all respects with the weather scheduled to be VFR in the training area. Takeoff and climb to altitude were uneventful.

Approximately ten minutes after takeoff, the wingman transmitted that his low oil light was on and that he was turning toward home base. The leader passed the lead to his wingman. The leader, now the wingman, did not observe smoke or oil coming from the

ILLUSTRATED BY Osborn

aircraft. The troubled A-4E commenced a gentle climb and our new wingman called the flight to switch to tower frequency. The new leader acknowledged and also transmitted the fact that his oil pressure was now zero. The wingman switched frequencies but could not contact the other *Skyhawk*. At this time, he observed the lead aircraft slow down. The wingman, assuming he had flamed out, transmitted a Mayday call on tower frequency, which was acknowledged, and then switched back to the assigned working frequency.

Shortly after oil pressure dropped to zero, our pilot felt his engine chug and heard two or three loud bangs. His RPM started to decay and he assumed a flameout and deployed his emergency generator. The RPM dropped to about 60 percent, then rose again to 80 percent. Shortly thereafter, the engine started to chug and bang again, and then unwind. The pilot attempted a quick re-light but was not successful. He then read over his ejection checklist and initiated a successful ejection. The aircraft subsequently crashed at sea.

The uninjured pilot was rescued 30 minutes later by a ship in the vicinity. The accident board concluded the most probable cause to be oil starvation caused by the lack of a safety wire on an oil drain plug.

Grampaw Pettibone says:

Egads, lads! Somebody coulda got kilt! This all got started when the line supervisor assigned two airmen to take an oil sample — a simple enough task. After they got the oil sample, the airmen informed the line supervisor that they needed somebody to replace the safety wire on the oil drain plug. The line supervisor eventually called this discrepancy to the attention of a maintenance control POI who, thinking the aircraft was airborne, assured the line supervisor it would not affect the flight of the aircraft!? Scratch one A-4E!

How Dry I Am

Four F-4J *Phantoms*, one A-7 *Corsair II*, and one KA-3 *Skywarrior* were to depart a California air station for NAS Island. The accompanying KA-3 was to act as "pathfinder," giving navigational assistance, and was capable of

"giving away" approximately 8,000 pounds of fuel, if necessary.

Preflight planning allowed for a minus 50-knot wind component, although the forecast wind was for a minus 30 knots. Flight planning indicated that, at arrival, the F-4s would have 1,800 pounds of fuel remaining. Following a thorough briefing which included route and profile, divert fields, tanking procedures, abort criteria, emergency, weather and divert procedures, the flight was airborne with no unusual occurrences.

The winds during the initial portion of the flight were as briefed. The KA-3 aircraft began venting fuel; the pilot attempted to rectify the venting and loss of fuel; however, his efforts were to no avail and 6,000 pounds of fuel were lost over the side. Since the winds were as forecast, the flight continued toward destination.

Shortly after the aircraft passed the equal time point, the head winds increased to a minus 70 knots. As the flight proceeded, it was determined that two of the F-4s would require additional airborne refueling in order to make their planned destination. However, the flight leader stated that all aircraft could reach the primary divert field with adequate fuel reserve — without additional airborne refueling.

The KA-3 pilot requested that an emergency tanker be launched from NAS Island to provide airborne refueling support. A KA-3, which had arrived at the NAS a day earlier, responded and was launched with 4,000 pounds of "give away" fuel for a rendezvous with the F-4s approximately 165 miles east of the divert field. In order to reduce drag, three F-4s dropped their external tanks prior to the rendezvous with the emergency tanker. One F-4 received 1,800 pounds of fuel and another, 1,000 pounds. The remaining two F-4s did not tank nor did they request fuel. The KA-3, located approximately 80 miles behind the rest of the flight, advised the emergency pathfinder that he would not require airborne refueling. All aircraft landed at their original planned destination with the exception of one.

The amount of fuel remaining at landing was as follows: KA-3, 3,900 pounds; A-7, 3,000 pounds; and the F-4s, 1,200 pounds, 1,800 pounds, 1,500 pounds and 1,000 pounds.

Grampaw Pettibone says:

Gulp! There were so many *ifs* in this one, it's unbelievable. But this was an easy lesson. Fortunately, steps have been taken to preclude a recurrence; namely, making an airborne tanker standing by at destination mandatory!

LOST PATROL

By MICHAEL McDONELL

At 1410 on December 5, 1945, five TBM Avengers *comprising Flight 19 rose into the sunny sky above NAS Fort Lauderdale, Fla. Turning east the formation headed out over the Atlantic on the first leg of a routine exercise from which neither the 14 men of Flight 19 nor the 13-man crew of a PBM* Mariner *sent out to search for them were ever to return.*

The disappearance of the five Avengers *and the PBM sparked one of the largest air and sea searches in history as hundreds of ships and aircraft combed over 200,000 square miles of the Atlantic Ocean and Gulf of Mexico, while, on land, search parties scoured the interior of Florida on the outside chance that the aircraft might have gone down there undetected.*

But nothing was ever found. No wreckage, no bodies, nothing. All that remained were the elements of mystery and a mystery it quickly and easily became. Flight 19 — "The Lost Patrol" — is now the central element of the legend of the infamous "Bermuda Triangle."

Much has been written and speculated about the Triangle, a stretch of ocean credited by some as being "the graveyard of the Atlantic," home of the forbidding Saragasso Sea. In actuality, the Triangle is no such geometric entity; it is an area whose northern boundaries stretch roughly from the southern Virginia coast to the Bermuda Islands, southward to the Bahamas and west to the Florida Keys. And within this area, it has been reported since 1840 that men, ships and even aircraft have disappeared with frequent regularity. Why?

It depends on whom you talk to. Some claim that this Hoodoo Sea is a maritime Molech, that supernatural forces are at work there. Others assert that strange magnetic and natural forces unique to the area and unknown to modern science are responsible for the disappearances. Still more believe that with the heavy sea and air traffic moving through the area it is inevitable that some unexplained "incidents" are bound to happen. But no matter what the argument and rationale, there is something oddly provoking about these occurrences, particularly the "normal" circumstances which existed prior to each disaster. It is this writer's view that many a good tale would lie a-dying if all the facts were included.


T-43

Take the Lost Patrol, for example. The popular version inevitably goes something like this:

Five Avengers are airborne at 2:00 p.m. on a bright sunny day. The mission is a routine two-hour patrol from Fort Lauderdale, Fla. — due east for 150 miles, north for 40 miles and then return to base. All five pilots are highly experienced aviators and all of the aircraft have been carefully checked prior to takeoff. The weather over the route is reported to be excellent, a typical sunny Florida day. The flight proceeds. At 3:45 Fort Lauderdale tower receives a call from the flight but, instead of requesting landing instructions, the flight leader sounds confused and worried. "Cannot see land," he blurts. "We seem to be off course."

"What is your position?" the tower asks.

There are a few moments of silence. The tower personnel squint into the sunlight of the clear Florida afternoon. No sign of the flight.

"We cannot be sure where we are," the flight leader announces. "Repeat: Cannot see land."

Contact is lost with the flight for about ten minutes and then it is resumed. But it is not the voice of the flight leader. Instead, voices of the crews are heard, sounding confused and disoriented, "more like a bunch of boy scouts lost in the woods than experienced airmen flying in clear weather." "We can't find west. Everything is wrong. We can't be sure of any direction. Everything looks strange, even the ocean." Another delay and then the tower operator learns to his surprise that the leader has handed over his command to another pilot, for no apparent reason.

Twenty minutes later, the new leader calls the tower, his voice trembling and bordering on hysteria. "We can't tell where we are . . . everything is . . . can't make out anything. We think we may be about 225 miles northeast of base. . . ." For a few moments the pilot rambles incoherently before uttering the last words ever heard from Flight 19: "It looks like we are entering white water. . . . We're completely lost."

Within minutes a Mariner flying boat, carrying rescue equipment, is on its way to Flight 19's last estimated position. Ten minutes after takeoff, the PBM checks in with the tower . . . and is never heard from again. Coast Guard and Navy ships and aircraft comb the area for the six aircraft. They find a calm sea, clear skies, middling winds of up to 40 miles per hour — and nothing else. For five days almost 250,000 square miles of the Atlantic and Gulf are searched. Yet, not a flare is seen, not an oil slick, life raft or telltale piece of wreckage is ever found.

Finally, after an extensive Navy Board of Inquiry investigation is completed, the riddle remains intact. The Board's report is summed up in one terse statement: "We are not able to even make a good guess as to what happened."

Maybe not, but let's try. Popular versions of the story of the Lost Patrol such as the preceding tale bear striking resemblances to one another, so much so that, because of re-occurring passages in all of them, one is led to believe that a certain amount of borrowing and embellishing from a single source has been performed over the 28 years since the incident occurred. And let us say now that this article is not a debunking piece, but simply a perusal of an incident that has grown to the stature of a myth — a legend that begs to be more expertly examined.

The following account is based on the official Board of Inquiry report concerning the disappearance of Flight 19 and PBM-5, Buno 59225. The record consists of testimony of individuals, expert opinions and logs of the numerous radio transmissions.

To begin with, the Lost Patrol was not a patrol at all. It was an overwater navigation training hop composed of an instructor, 4 Naval Aviators undergoing VTB-type advanced training and nine enlisted aircrewmen who, with the exception of one, were all undergoing advanced combat aircrew training in VTB-type aircraft. The instructor was a combat veteran with 2509.3 hours of flying time, most of it in type, while his students had approximately 300 hours each, about 60 in the TBM/TBF. With the exception of the instructor, hardly a "highly experienced" lot.

The flight was entitled Navigation Problem No. 1 which ran as follows: (1) depart NAS Fort Lauderdale 26 degrees 03 minutes north and 80 degrees 07 minutes west and fly 091 degrees distance 56 miles to Hens and Chickens Shoals to conduct low level bombing and, after bombing, continue on course 091 for 67 miles, (2) fly course 346 degrees for 73 miles and (3) fly course 241 degrees for a distance of 120 miles, returning to NAS Fort Lauderdale. In short, a triangular route with a brief stop for some glide bombing practice on the first leg out.

Prior to the hop, the five *Avengers* were thoroughly preflighted. All survival gear was intact, fuel tanks were full, instruments were checked — but one mechanic commented that none of the aircraft had a clock. Of the 24-hour variety, clocks normally installed aboard aircraft were highly prized by souvenir hunters. Besides, everyone had his own personal wristwatch — or did he?

Inside the training office, the students of Flight 19 waited for their briefing; they were going to be late — takeoff time was set for 1345 and the instructor hadn't shown up. At 1315 he arrived and asked the aviation training duty officer to find another instructor to take his place. Giving no reason, he stated simply that he did not want to take this one out. His request was denied; he was told that no relief was available.

It was the instructor's first time on this particular syllabus hop. He had only recently arrived from NAS Miami (where he had also been a VTB-type instructor). But to the anxiously waiting students, it was the third and final navigational problem. The previous two had been in the same general area and now they were anxious to complete the phase.

At last the briefing began. The weather for the area of the problem was described as "favorable." In the words of the training duty officer who attended the briefing, "The aerologist sends us a report in the morning. If weather conditions are unfavorable, he will inform us . . . and tell us about the condition. In the absence of any further information, I considered the weather favorable." This estimate was later confirmed by another TBM training flight performing the same problem an hour earlier than Flight 19: weather favorable, sea state moderate to rough.

At 1410 the flight was in the air, led by one of the students. The instructor, whose call sign was Fox Tare Two Eight (FT-28), flew the rear, in a tracking position. ETA was 1723 and the TBMs had enough fuel to remain aloft for five to five-and-a-half hours. Hens and Chickens Shoals, commonly called Chicken Rocks, the point at which they would conduct low level bombing, was only 56 miles away. If they cruised at 150 mph, they would arrive at the Rocks in about 20 minutes or so. Thirty minutes for bombing and then continue on the final 67 miles of the first leg.

At Fort Lauderdale, the tower picked up conversation from Flight 19: "I've got one more bomb." "Go ahead and drop it" was the response. A fishing boat captain working near the target area remembers seeing three or four airplanes flying east at approximately 1500.

LOST PATROL

'I don't know how to get to Fort Lauderdale.'

Assuming that the flight flew the rest of the first leg and then changed to course 346, they would have been near Great Sale Cay by 1540. But at about that time, FT-74, the senior flight instructor at Fort Lauderdale, was joining up his squadron around the field when he heard what he assumed were either some boats or aircraft in distress. "One man was transmitting on 4805 to 'Powers' [the name of one of the students]." The voice asked Powers what his compass read a number of times and finally Powers said, "I don't know where we are. We must have got lost after that last turn."

Upon hearing this, the senior flight instructor informed Fort Lauderdale that either a boat or some planes were lost. He then called, "This is FT-74, plane or boat calling 'Powers' please identify yourself so someone can help you." No response but, a few moments later, the voice came on again asking the others if there were any "suggestions." FT-74 tried again and the voice was identified as FT-28. "FT-28, this is FT-74, what is your trouble?" "Both my compasses are out and I am trying to find Fort Lauderdale, Fla. I am over land but it's broken. I am sure I'm in the Keys but I don't know how far down and I don't know how to get to Fort Lauderdale."

The Keys? Both compasses out? FT-74 paused and then told FT-28 to ". . . put the sun on your port wing if you are in the Keys and fly up the coast until you get to Miami. Fort Lauderdale is 20 miles further, your first port after Miami. The air station is directly on your left from the port." But FT-28 should have known if he was actually over the Keys; he had flown in that area for six months while stationed at Miami. He sounded rattled, confused.

"What is your present altitude? I will fly south and meet you." FT-28 replied, "I know where I am now. I'm at 2300 feet. Don't come after me."

But FT-74 was not convinced. "Roger, you're at 2300. I'm coming to meet you anyhow." Minutes later, FT-28 called again: "We have just passed over a small island. We have no other land in sight." How could he have run out of islands? How could he have missed the Florida peninsula if he was in the Keys? FT-74 was beginning to have serious doubts.

FT-28 came back on the air. "Can you have Miami or someone turn on their radar gear and pick us up? We don't seem to be getting far. We were out on a navigation hop and on the second leg I thought they were going wrong, so I took over and was flying them back to the right position. But I'm sure, now, that neither one of my compasses is working." FT-74 replied: "You can't expect to get here in ten minutes. You have a 30 to 35-knot head or crosswind. Turn on your emergency IFF gear, or do you have it on?" FT-28 replied that he did not.

At 1626 Air-Sea Rescue Task Unit Four at Fort Everglades heard FT-28: "I am at angels 3.5. Have on emergency IFF. Does anyone in the area have a radar

screen that could pick us up?" ASRTU-4 Rogered and, not having direction-finding gear, contacted Fort Lauderdale, who replied that they would notify NAS Miami and ask the other stations to attempt to pick up the lost flight on radar or with direction finders. In all, more than 20 land facilities were contacted to assist in the location of Flight 19. Merchant ships in the area were asked to be on the alert and several Coast Guard vessels were told to prepare to put to sea. But there were delays. Teletype communication with several locations was out and radio fixes were hampered by static and interference from Cuban broadcast stations.

At 1628, ASRTU-4 called FT-28 and suggested that another plane in the flight with a good compass take over the lead. FT-28 Rogered but, from fragmentary messages between the flight leader and the students concerning their estimated position and headings, it appears that no other plane took the lead at this time.

Meanwhile, FT-74 was having his own problems maintaining contact with the lost flight. "Your transmissions are fading. Something is wrong. What is your altitude?" From far away, FT-28 called, "I'm at 4500 feet." At this point FT-74's transmitter went out and he had no power to continue on the common frequency with the lost *Avengers*.

According to the senior instructor's later testimony, ". . . as his transmissions were fading, he must have been going away north as I headed south. . . . I believe at the time of his first transmission, he was either over the Biminies or Bahamas. I was about 40 miles south of Fort Lauderdale and couldn't hear him any longer."

Did he remember any more? Yes, he recalled that at 1600, FT-28 had reported that he had a visibility of 10 to 12 miles. FT-74 further stated that while flying offshore at the time, he had observed a very rough sea covered with white caps and streamers. (The surface winds were westerly, about 22 knots, and visibility was very good in all directions except directly west.)

Upon returning to Fort Lauderdale, FT-74 went to operations and related as much as he could remember of the conversations with FT-28 to the duty officer and requested permission to take the duty aircraft out to search for the flight. Receiving no answer, the pilot then made the same request to the flight officer who replied, "Very definitely, no."

The flight officer had been notified of Flight 19's difficulty at 1630 by the duty officer. "I immediately went into operations and learned that the flight leader thought he was along the Florida Keys. I then learned that his first transmission revealing that he was lost had occurred around 1600. I knew by this that the leader could not possibly have gone on more than one leg of his navigation problem and still gotten back to the Keys by 1600. . . . I notified ASRTU-4 to instruct FT-28 to fly 270 degrees and also to fly towards the sun." (This was standard procedure for lost planes in the area and was drummed into all students.)

'He must have been heading north as I headed south.'

PBM MARINER

LOST PATROL

'Dammit, if we

At 1631, ASRTU-4 picked up FT-28. "One of the planes in the flight thinks if we went 270 degrees we could hit land."

At 1639, the Fort Lauderdale operations officer contacted ASRTU-4 by telephone. He concurred with FT-74 and felt that the flight must be lost over the Bahama Bank. His plan was to dispatch the Lauderdale ready plane, guarding 4805 kc, on a course 075 degrees to try to contact FT-28. If communications improved during the flight, the theory would be proved and relay could be established.

Operations requested that ASRTU-4 ask FT-28 if he had a standard YG (homing transmitter card) to home in on the tower's direction finder. The message was sent but was not Rogered by FT-28. Instead, at 1645, FT-28 announced: "We are heading 030 degrees for 45 minutes, then we will fly north to make sure we are not over the Gulf of Mexico."

Meanwhile no bearings had been made on the flight. IFF could not be picked up. The lost flight was asked to broadcast continuously on 4805 kc. The message was not Rogered. Later, when asked to switch to 3000 kc, the search and rescue frequency, FT-28 called: "I cannot switch frequencies. I must keep my planes intact."

At 1656, FT-28 did not acknowledge a request to turn on his ZBX (the receiver for the YG) but, seven minutes later, he called to his flight, "Change course to 090 degrees for ten minutes." At approximately the same time, two different students were heard: "Dammit, if we would just fly west we would get home; head west, dammit."

By 1700, the operations officer was about to send the duty plane out to the east when he was informed that a radio fix was forthcoming — the aircraft was held on the ground pending the fix. At 1716, FT-28 called out that they would fly 270 degrees "until we hit the beach or run out of gas."

In the meantime, Palm Beach was reporting foul weather and, at Fort Lauderdale, they waited for it to move in. At 1724, FT-28 called for the weather at Fort Lauderdale: clear at Lauderdale; over the Bahamas, cloudy, rather low ceiling and poor visibility.

By 1736, it was decided that the ready plane at Fort Lauderdale would not go out. According to the operations officer, the prospect of bad weather and the encouraging information that FT-28 was going to "fly

would just fly west, we would get home!'

west until they hit the beach" prompted his decision. It was for this reason that the senior instructor's request was turned down.

The decision was logically correct; but, with hindsight, it was ironic and lamentable. To this day, FT-74 is convinced he *knew* where the lost flight *had to be*. He was denied the opportunity to prove his point. For reasons of safety and, perhaps, hopeful confidence, it was determined that the single-engine, single-piloted ready plane would not be risked on an arbitrary flight into the gathering darkness over winter seas.

At 1804, FT-28 called to his flight, "Holding course 270 degrees — we didn't go far enough east . . . turn around again . . . we may just as well turn around and go east again." The flight leader was apparently still vacillating between his idea that they were over the Gulf and the students' belief that they were over the Atlantic.

The Gulf and Eastern Sea Frontier HF/DF nets had now completed triangulation of bearings on FT-28 from six different radio stations, which produced a reliable fix: he was within an electronic 100-mile radius of 29 degrees north, 79 degrees west; Flight 19 was north of the Bahamas, east of the Florida coast. All stations were alerted and instructed to turn on field lights, beacons and searchlights. Unfortunately, *no one* thought to advise the activities assisting in the attempted recovery of Flight 19 to make open, or "blind," transmissions of the 1750 evaluated fix to any aircraft of the distressed flight!

At 1820 a PBY was airborne out of CGAS Dinner Key to try to contact the flight. No luck. Transmitter antenna trouble. But garbled messages were still coming in from FT-28. "All planes close up tight . . . will have to ditch unless landfall . . . when the first plane drops to ten gallons, we all go down together."

At about the same time, the master of the British tanker *Viscount Empire*, passing through the area northeast of the Bahamas en route to Fort Lauderdale, reported to ASRTU-4 that she encountered tremendous seas and winds of high velocity in that area.

More multi-engine search aircraft were dispatched by air stations up and down the Florida coast.

At NAS Banana River, two PBM-5s were being prepared to join the search, after being diverted from a regularly scheduled night navigation training flight. A flight mech checked out one of the planes, PBM-5 Buno 59225, filled it with enough fuel for a 12-hour flight and, as he later testified before the Board, "I found it to be A-1. I spent about an hour in the aircraft . . . and there was no indication of any gas fumes. There was no discrepancy in any of the equipment and, when we started up the engines, they operated normally."

According to the pilot of the other PBM, "About 1830, operations called the operations duty officer in regard to the five TBMs whose last position was reported as approximately 130 miles east of New Smyrna with about 20 minutes of fuel remaining. We received this position and were told to conduct a square search. We were instructed to conduct radar and visual search and to stand by on 4805 kc, the reported frequency on which the TBMs were operating. At the time we were briefed, Ltjg. Jeffrey, in Training 49, was to make the second plane in the search. No other planes were included."

Were any plans made for a joint conduct of the search mission? "Yes, I was to proceed to the last reported position of the TBMs and conduct a square search. Lt. Jeffrey was to proceed to New Smyrna and track eastward to intercept the presumed track of the TBMs and then was to conduct an expanding square search at the last reported position of the TBMs."

What were the weather and sea conditions when you arrived in the vicinity of 29 degrees north, 79 degrees west? ". . . the ceiling was approximately eight to twelve hundred feet overcast, occasional showers, estimated wind, west southwest about 25-30 knots. The air was very turbulent. The sea was very rough."

LOST PATROL

At 1927, PBM-5, Buno 59225, was airborne from Banana River with three aviators aboard and a crew of ten. At 1930, the aircraft radioed an "out" report to its home base and was not heard from again.

Cruising off the coast of Florida, the tanker S.S. *Gaines Mills* was sailing through the dark night when it sent the following message, "At 1950, observed a burst of flames, apparently an explosion, leaping flames 100 feet high and burning for ten minutes. Position 28 degrees 59 minutes north, 80 degrees 25 minutes west. At present, passing through a big pool of oil. Stopped, circled area using searchlights, looking for survivors. None found." Her captain later confirmed that he saw a plane catch fire and immediately crash, exploding upon the sea.

A message from USS *Solomons* (CVE-67), which was participating in the search, later confirmed both the merchantman's report and the fears of many at Banana River. "Our air search radar showed a plane after take-off from Banana River last night joining with another plane,* then separating and proceeding on course 045 degrees at exact time S.S. *Gaines Mills*, sighted flames and in exact spot the above plane disappeared from the radar screen and never reappeared." No wreckage was sighted and according to witnesses there was little likelihood that any could have been recovered due to a very rough sea. The next day, water samples, taken in the area, developed an oily film. The area was not buoyed due to the heavy seas nor were diving or salvage operations ever conducted. The depth of the water was 78 feet and the site was close to the Gulf Stream.

During the Board's examination of the disappearance of the PBM, several witnesses were questioned concerning gas fumes and smoking regulations, which were reportedly well posted and rigidly enforced aboard all PBMs. Although the Board's report is not a verbatim record and no accusations were made, there seems to be enough inference present to cause one to suspect that the Board was aware of the PBM's nickname, "the flying gas tank."

What followed is essentially what has been reported by so many others: five days of fruitless searching which revealed numerous older wrecks but not so much as a scrap of wreckage from either the TBMs or the PBM. The fate of the latter seems confirmed — an inflight fire of unknown origin and subsequent crash/explosion. The former's disappearance still has the aura of mystery, however.

Why did FT-28 not want to go on the flight; what was his state of mind? How could *both* his compasses have gone out? Did he have a watch? One suspects he did not, as he repeatedly asked the other flight members *how long* certain headings had been flown. These are only some of the questions which can never be fully answered.

But some have been.

We now know that FT-28 took the lead sometime after the turn north on the second leg, thinking that his students were on a wrong heading. We know that FT-28 would not switch to the emergency radio frequency for fear of losing contact with his flight. We also know that there were strong differences of opinion between the instructor and the students about where they were. The instructor, familiar with the Florida Keys, with both compasses out and with evidently no concept of time, could very well have mistaken the cays of the northern Bahamas for the Keys and the water beyond for the Gulf of Mexico.

But the students, having flown the area before, appeared to know exactly where they were — and it was *not* the Keys or the Gulf. The lead passed back and forth between FT-28 and a student, and land was never reached as the flight zigzagged through the area north of the Bahamas.

Toward the end, the low ceiling and daytime ten-mile visibility were replaced by rain squalls, turbulence and the darkness of winter night. Terrific winds were encountered and the once tranquil sea ran rough. They would "fly towards shore," the better to be rescued. Whether it was the Atlantic or Gulf Coast that they thought they were flying toward can never be known.

Valiantly trying to keep his flight together in the face of most difficult flying conditions, the leader made his plan: When any aircraft got down to ten gallons of fuel, they would all ditch together. When that fateful point was reached, we can only imagine the feelings of the 14 men of Flight 19 as they descended through the dark toward a foaming, raging sea and oblivion.

Former TBM pilots that we questioned express the opinion that an *Avenger* attempting to ditch at night in a heavy sea would almost certainly not survive the crash. And this, we feel, was the case with Flight 19, the Lost Patrol. The aircraft most probably broke up on impact and those crewmen who might have survived the crash would not have lasted long in cool water where the comfort index was lowered by the strong winds. This last element, while only an educated guess, seems to satisfy this strange and famous "disappearance."

On other matters, there have been equally strange *appearances* — or sightings — by experienced Naval Aviators. And the reasons for *them* have not yet been adequately explained. For the curious, examples are provided on the following pages.

* the second PBM


T-43

UNIDENTIFIED FLYING OBJECT

A PROVOCATIVE TALE

Crew members and passengers on an R5D (C-54) experienced a dramatic UFO sighting in the pre-dawn hours of a North Atlantic flight in the early 1950s. Details of the interesting occurrence, as told some years later by the pilot, Lt. "B," are excerpted here through the cooperation of the National Investigations Committee on Aerial Phenomena (NICAP).

At the time of the event, Lt. B. was 30 years old, experienced in both North and South Atlantic flight, with qualifications in 38 types of aircraft.

The weather was excellent. The moon had set but visibility was good. Lt. B. and the plane commander, LCdr. K., who was in the copilot's seat, could make out the horizon clearly.

Asleep in the aircraft were two extra crews, one a relief for B.'s men, the other on board as passengers. The R5D was at 10,000 feet on a southwesterly course for Newfoundland, ground speed 200 knots. Three and a half hours out of Iceland, midpoint in the flight, they passed over a weather ship on station off the coast of Greenland. The ship reported normal conditions.

The aircraft was on autopilot. LCdr. K. and myself were on constant watch for other aircraft. I observed a yellow glow in the distance about 30 to 35 miles away, at about the one o'clock position and below the horizon. My impression was that there was a small city ahead, because it was the same glow you get from a group of lights on the surface before you get close enough to pick them out individually.

"Knowing that our course took us past the tip of Greenland, my first thought was that we hadn't yet reached it, that we were behind schedule and had drifted north, but remembering that we had passed over the weather ship, I realized this was not the case. I called K.'s attention to the glow and asked him what he thought it was. He said that it looked like we were approaching land. I asked our navigator to check our position. He did and replied that

we were on flight plan and on course.

"The lights were farther away than we thought because it took us eight to ten minutes to get close enough to where the lights had a pattern (our ground speed was over three miles per minute), about 15 or 18 miles away. At that time, due to the circular pattern of lights, I got the impression that possibly two ships were tied up together and that lights were strung between them for either transferring cargo from one to the other or that one was in some kind of trouble.

"I asked the navigator to check his ship plot. He replied that there were no ships plotted in this area and that we were not close to the shipping lanes anyway. The radioman also went on the air to the weather ship, which verified that there were no ships in the area.

"Since it was time for Lt. J.'s crew to relieve us, I had the plane captain awaken them. When Lt. J. and Lt. M. came up forward, I pointed the lights out to them. Their only comment was that it had to be a ship because it was on the water and we were overtaking it fast. By this time, we were five to seven miles away; it was about 30 degrees to our right; and we had to look down at about a 45-degree angle. The lights had a definite circular pattern and were bright white.

"Suddenly, the lights went out. There appeared a yellow halo on the water. It turned to orange, to a fiery red, and then started moving toward as at a fantastic speed, turning to a bluish red around the perimeter. Due to its high speed, its direction of travel and its size, it looked as though we were going to be engulfed. I quickly disengaged the autopilot and stood by to push the nose of the plane over in hopes that we could pass under it because of the angle at which it was ascending. The relief crew was standing behind us; everyone began ducking and a few heads were hit on objects.

"It stopped its movement toward us and began moving along with us about 45 degrees off the bow to the right, about 100 feet or so below us and about 200 to 300 feet in front of us. It was not in a level position; it was tilted about 25 degrees.

"It stayed in this position for a minute or so. It appeared to be from 200 to 300 feet in diameter, translucent or metallic, shaped like a saucer. A purple-red glow around the perimeter was the same type of glow you get around the commutator of an auto generator when you observe it at night.

"When the object moved away from us, it made no turns, as though it was backing up about 170 degrees from the direction from which it approached us, and was still tilted. It was only a few seconds before it was out of sight. (Speed estimated in excess of 1,500 mph.)

"All of our cameras were within reach, but no one was calm enough to think about taking a picture. Most of us were wondering what it was. Our impression was that this was a controlled craft. It had been either hovering over the water or sitting on it; then it detected us and came up to investigate.

"After Lt. J.'s crew had taken over, I proceeded aft and learned that most of the passengers had observed the same thing. Since I was unable to identify the object, I asked Dr. M., a commander in the Medical Corps, if he had observed the object. He replied that he had and that he did not look further because it was a flying saucer and he did not believe in such things. I immediately returned to the cockpit and informed the crew to keep quiet about what we observed because it might have been our first sighting of a flying saucer (during those years when you mentioned you had such a sighting, you were believed to be crazy). Lt. J. informed me that it was too late because he had called Gander Airfield in Newfoundland to see if the object could be tracked by radar.

"When we landed we were met by intelligence officers. It was obvious that there had been many sightings in the same area. . . . Subsequently, when we arrived in the United States, we had to make a full report and I found out a few months later than Gander radar did track the object in excess of 1,800 mph."

20 YEARS AGO IN NANEWS

MCAS Cherry Point — A favorite ready room conversation for Second Marine Air Wing pilots has been the story of the "flying saucer" which recently outsped an F9F *Panther* jet flying more than 500 mph.

The jet pilot, 1st Lt. Ed Balocco, was on a local night flight from ALF Edenton when alerted by Navy Norfolk tower to watch for a silver object sighted from the ground near the North Carolina-Virginia line.

Over Washington, N.C., the VMF-224 pilot said, "I saw what looked like an airplane with red lights which appeared to be below me. . . . It moved from below me 10,000 feet vertically in a matter of seconds."

Balocco said he poured on the coal and could not close on the object at first, then closed rapidly. He considered it a "big" object, the color of white heat and throwing out a glow. It had what appeared to be two red lights on the lefthand side, flashing and bouncing off the end, inscribing an arc.

As the object began pulling away again, the pilot radioed other planes in the area to help track it. Diving toward the spot where the object disappeared, Balocco thought he saw a flash but was unable to see it again. By then he was joined by Captain Thomas W. Riggs of the same squadron, who sighted an object flying near the coastline but could not identify it.

Similar flashes were reported by a Navy pilot from Norfolk and Gerald Midget of Oriental, N.C. Midget told of the flash being followed by a ground fire but no explosion. Marine helicopters later searched the area and found a small forest fire but no traces of a crash.

The object was first reported by a helicopter at 1747. Ground control intercept radar failed to pick it up but Balocco sighted it about 1800.

Balocco, a veteran of 550 jet hours and 1,000 flying hours, said visibility was so good that from 20,000 feet at Washington he could see the lights at Norfolk and the Cherry Point beacon. He had the object in sight three or four minutes.

NAVAL AIRCRAFT

FLYING

The original concept for the Navy's own flying saucer came from Charles Zimmerman of NACA in the 1930s. In 1938, Vought Aircraft hired him to pursue the project and develop a prototype, designated the V-173.

The V-173, constructed largely of wood and fabric, was powered by two 80-hp Continental engines which gave it a speed of up to 120 miles an hour. In this prototype, the pilot lay in a prone position to avoid a raised cockpit but, due to marginal pilot comfort, this aspect was abandoned for a more conventional arrangement.

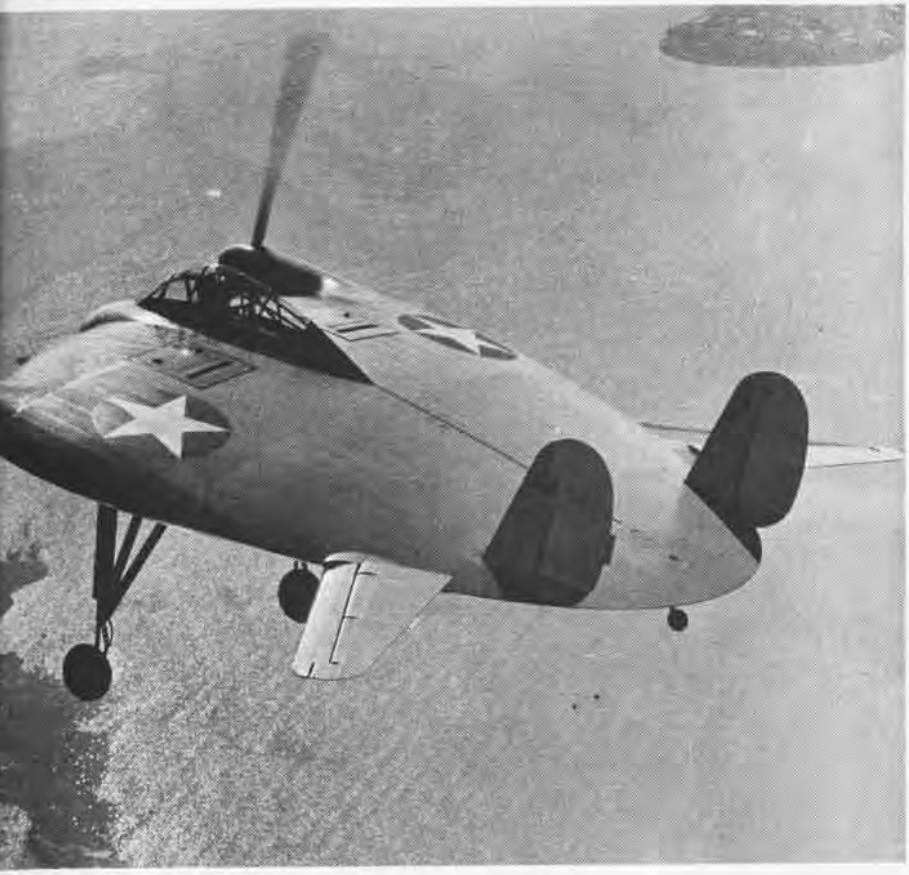
In November 1942, the V-173 made its maiden flight and thereafter logged 131 hours in the air, Navy and company pilots contributing to the total.

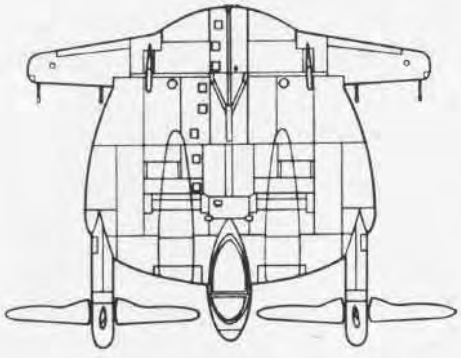
A new prototype based on this design, the XF5U-1, was built around two R-2000 radial engines driving counter-rotating propellers, at either corner of the saucer, through a complicated gearing arrangement which allowed either engine to drive both props.

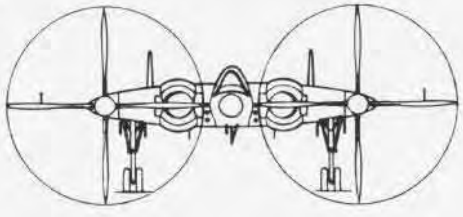
The XF5U-1 was to carry belly fuel tanks or bombs on pylons and six 20mm guns. It was expected to combine exceptionally low landing speed with a top speed of up to 500 mph. Like the V-173, it featured an all movable tail and ailevators for control. It was supposed to have a 1,000 mile range. The plane's engines were rated at 1,350 hp each.

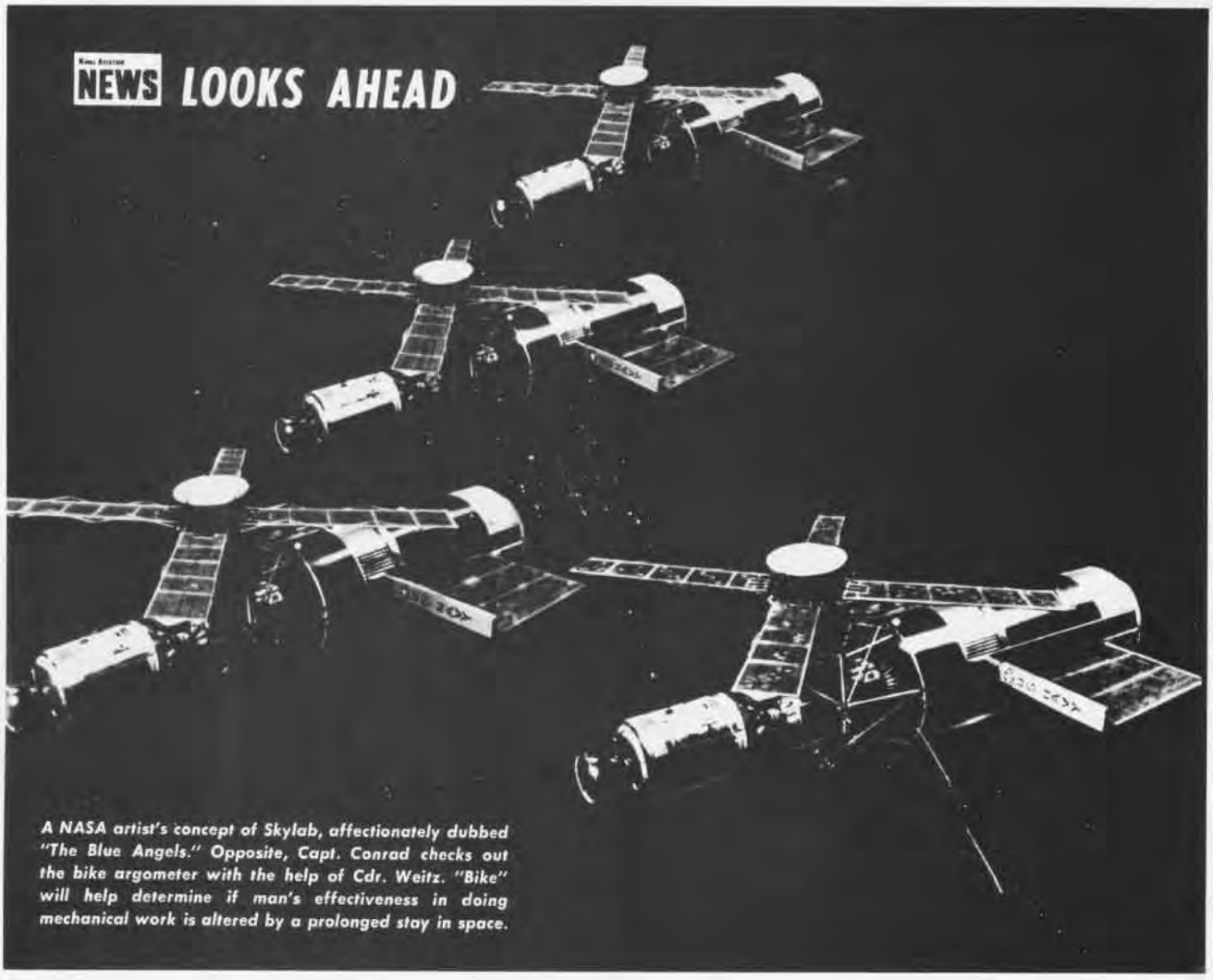
In March 1947, it began taxi tests but, with the arrival of the jet age, this prop fighter was obsolete before it was flown and the program was terminated. The V-173 is still preserved, and has been donated to Smithsonian's Air and Space Museum. The XF5U came to a different end. It was reduced to a mass of scrap by a steel wrecking ball.

FLAPJACK









A NASA artist's concept of Skylab, affectionately dubbed "The Blue Angels." Opposite, Capt. Conrad checks out the bike argometer with the help of Cdr. Weitz. "Bike" will help determine if man's effectiveness in doing mechanical work is altered by a prolonged stay in space.

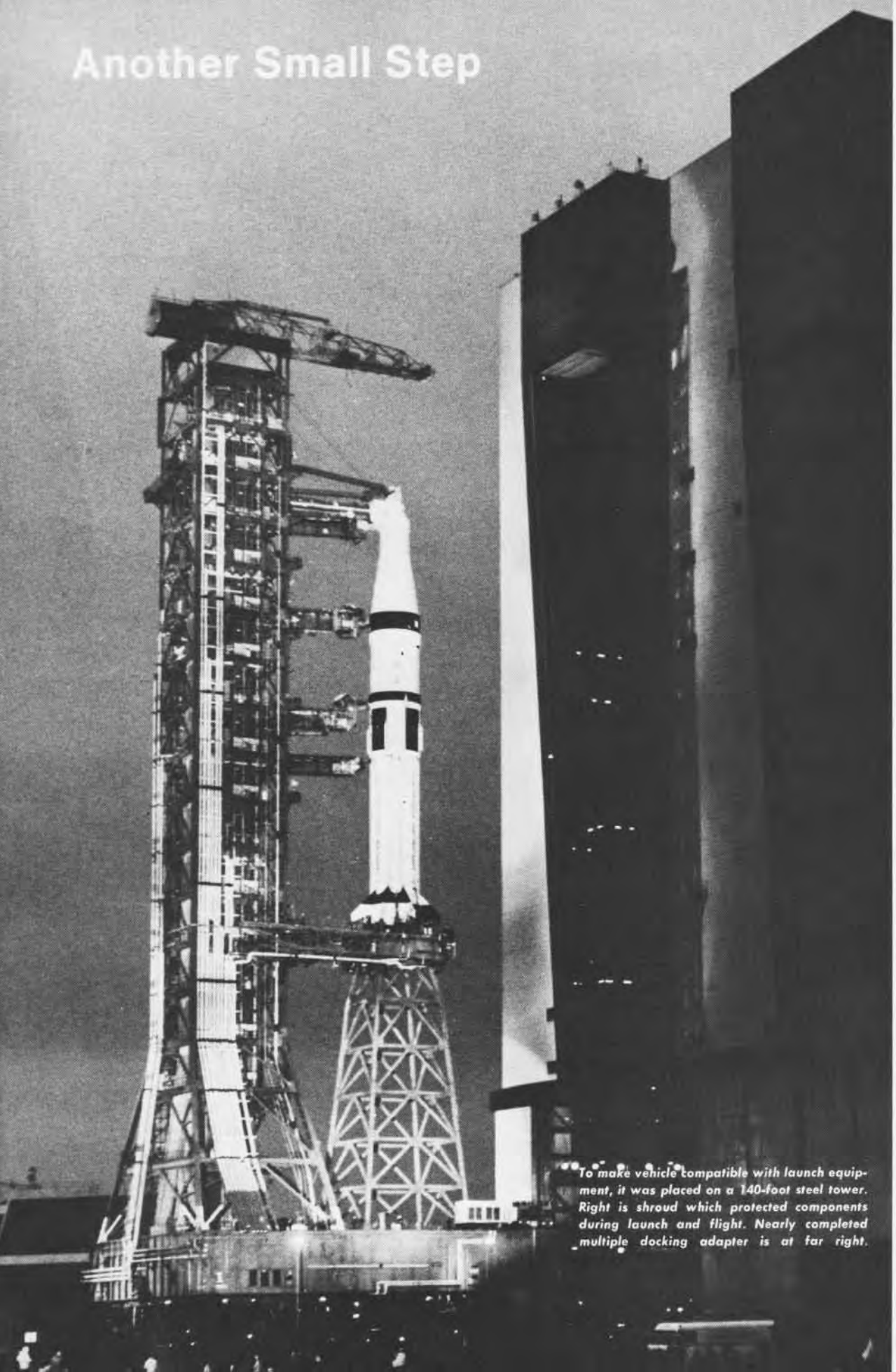
Skylab

Designers had the luxury of 90 years from the invention of the steam engine to the introduction of the Pullman car, some 70 years from the introduction of the automobile to the current models and about 50 years from *Kitty Hawk* to the advent of the jetliner.

"A man first entered space in 1961 and now, just 12 years later, we are called upon to provide him with the facilities to combat a variety of unusual circumstances, such as weightlessness and vacuum, while performing the most complex set of space investigations yet defined; to look up and study the sun, to look down and study Earth, to look out and measure the surrounding contamination, to look in and evaluate his ability to work in zero gravity and to truly delve deep into himself, to appraise his physiological fitness in this still relatively novel environment of space." . . . *From an article in* Astronautics and Aeronautics *written by Commander Joseph P. Kerwin, MC, USN (a member of the first Skylab crew), Mr. E. J. McLaughlin, NASA, and Colonel S. C. White, USAF.*

This feature is based on the original plans for the Skylab workshop, obviously subject to change.

Another Small Step



To make vehicle compatible with launch equipment, it was placed on a 140-foot steel tower. Right is shroud which protected components during launch and flight. Nearly completed multiple docking adapter is at far right.

Two S
Saturn
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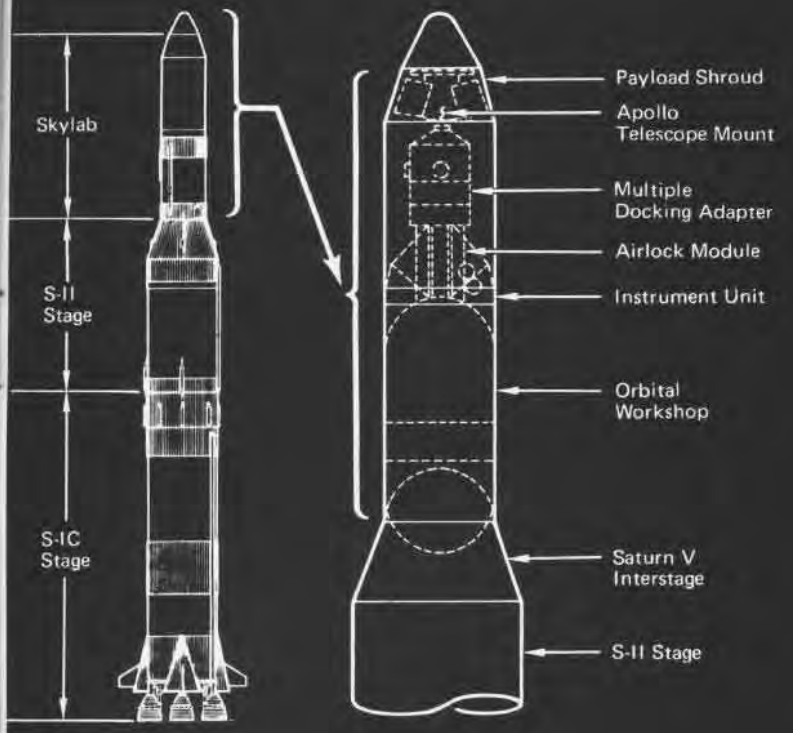
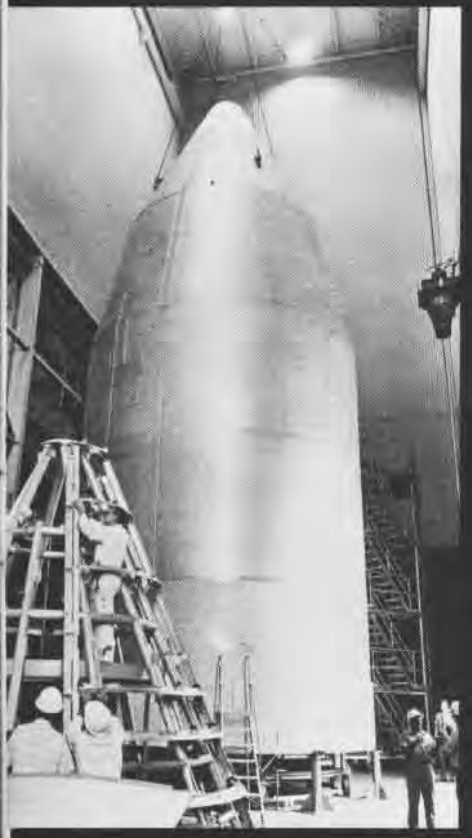


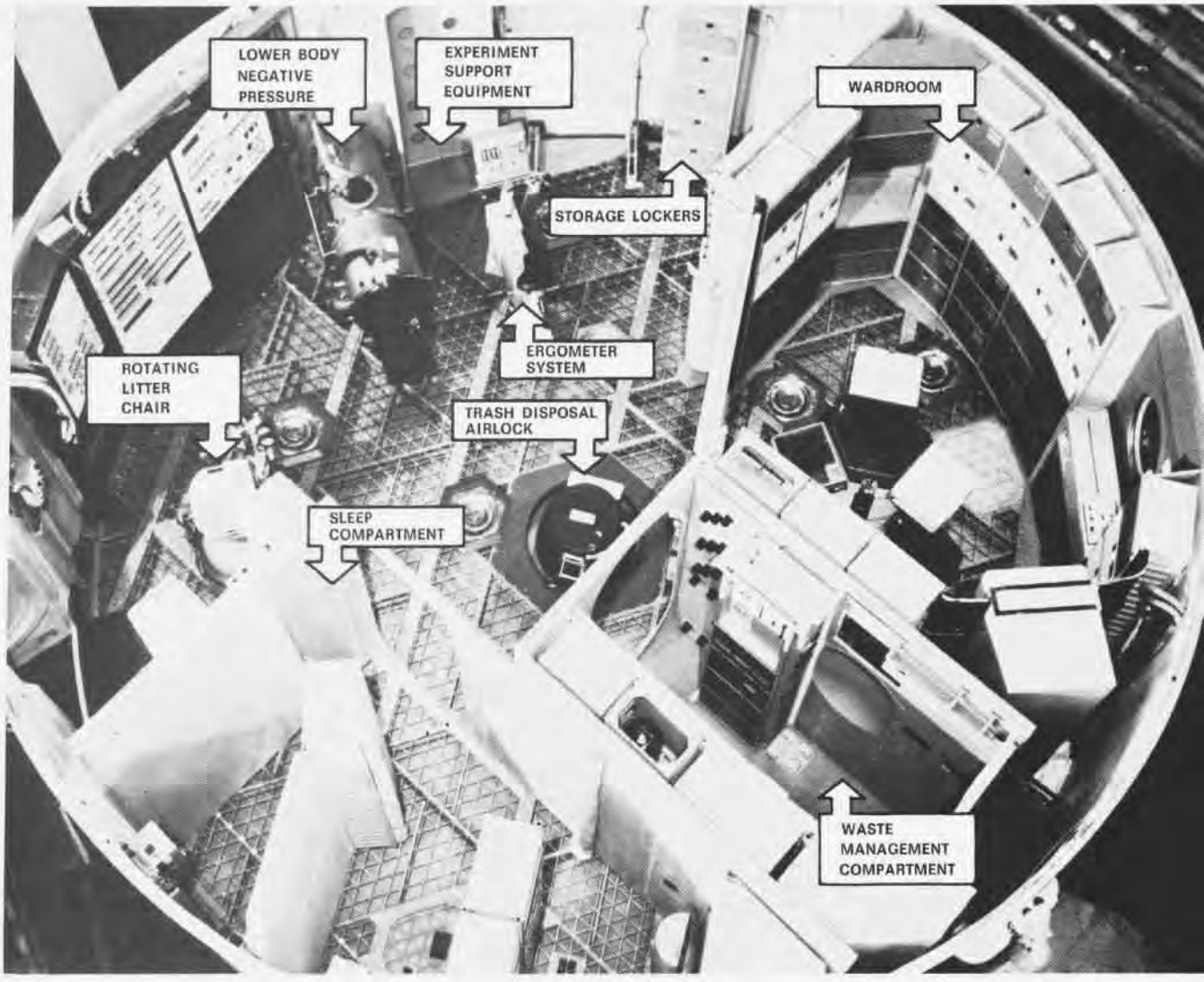
On May 14, *Skylab*, the nation's first space station, was launched from the Kennedy Space Center. Almost a day later, the first three-man crew left Earth for a rendezvous and 28-day sojourn in the orbiting laboratory which represents one more small step in the U.S. space program.

We have come a long way from the small *Mercury* capsule into which we tucked Astronaut Alan Shepard 12 short years ago. There are almost 13,000 cubic feet of space in the craft that is now circling the earth every 93 minutes in a circular orbit, 234 nautical miles above this planet's surface. An orbital inclination of 50 degrees enables it to pass over all areas of the globe within 3,450 miles north and south of the equator — an orbital path that includes all of the United States except Alaska.

The first crew is commanded by Captain Pete Conrad, Jr., USN. Other members are Commander Joseph P. Kerwin, MC, USN, and Commander Paul Weitz, USN, pilot.



A Space Platform



The workshop of our new platform in space is a converted S-IV B third stage of a *Saturn V*. The laboratory and crew quarters are installed on two aluminum-grid floors in the S-IV B's former liquid hydrogen tank. Below, the space previously occupied by the liquid oxygen tank is being used as a trash bin.

The lower floor is used as the crew's living quarters and for biomedical experiments. The upper floor is used for storage and scientific experiments. A "fireman's pole" provides an "up the down staircase."

Living in the orbital workshop should prove quite comfortable. Each crew member has a private bedroom with a storage cabinet for personal items. The bed is a lightweight, sleeping-bag-like restraint. Because of the zero G environment the men literally "sleep on air."

Each man has his own food preparation unit. Menus include steak and lobster prepared in chunks and bite-size bits. Other elements of civilization which have been added include knives, forks and spoons, and a bathroom with a covered washbowl, toilet, and specially designed shower which contains the water droplets.

The astronauts wear cotton overalls. Enough clothing for each mission is stored on board and soiled garments are discarded. Each astronaut has two pressure suits, one for work in the vacuum of space and one for use inside for certain experiments and as a back-up emergency suit.

The days are divided into eight-hour periods: eight hours of work, eight hours off duty, eight hours of sleep. Each crewman is in the same period at the same time. In addition, each man has one rest day a week. Each *Skylab* resident will take with him some books and tapes for use during the rest periods and on that day off.

All the comforts of home are included in the crews' quarters, left. At top above is shower and bike; above is food preparation tray; entertainment center is below. Sleep restraint is at far right.

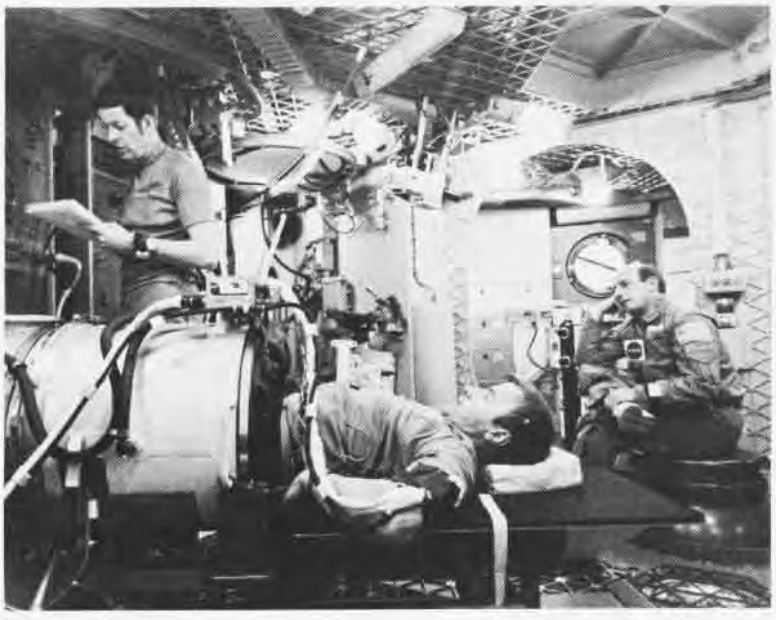
For the Future

The All Navy crew will remain in the workshop for four weeks — twice the duration of the longest previous manned flight. Although other experiments will be performed, their primary job is to acquire medical data on the effects of their prolonged stay in space.

Two more three-man crews will enter the workshop: the first, three months after the initial launch; the second, three months later. These crews will remain eight weeks. Their task will be to repeat the medical experiments over the longer period and perform more extensive scientific investigations.

The second team will be under the command of Captain Allan L. Bean, USN. With him will be Dr. Owen K. Garriott, civilian, and Maj. Jack R. Lousma, USMC. For the third mission, Lieutenant Colonel Gerald P. Carr, USMC, will be the team leader. Joining him will be Dr. Edward C. Gibson, civilian, and Lieutenant Colonel William R. Pogue, USAF.

Activation of the workshop was one critical element of the first mission. The laboratory was launched with enough food, water and other consumables for all three missions, contained in heavy lockers bolted to the floor during launch. The crew had to stow all equipment and supplies and bring the major experiments on station.



Conrad seems overwhelmed by telescope mount console, left. Above, Conrad watches Kerwin check Weitz in the lower body negative pressure machine. A slight suction applied to lower half of body places stress on heart and blood vessels.

The scientific investigations to be conducted aboard embrace almost every discipline that can take advantage of the unique properties of the orbital environment — the broad view of earth and the biosphere, celestial observation free from atmospheric interference, and the virtual elimination of gravity.

Skylab personnel will be able to make scientific investigations at a more comprehensive level than ever before. Over 3,500 astronaut hours have been allotted to these investigations.

Because some types of radiation are absorbed by the atmosphere, astronomers and physicists have long been frustrated in their efforts to observe various celestial and solar phenomena. *Skylab* has placed a fully equipped astronomical station where it has an unobstructed view of the sun, stars and upper atmosphere. *Skylab* experiments will increase our understanding of phenomena occurring in the solar system and the universe and their impact on man's environment.

Another objective of the program is to acquire earth resources data. The energy reflected and radiated from various plants, ground scenes and bodies of water has specific spectral distributions, not only in the visible but also in the infrared and microwave portions of the electromagnetic spectrum. The spectral signatures will be detected by instruments ranging from a multiband camera to infrared spectrometers and microwave radiometers. The data will be used to identify geological formations, forest and water resources, crop damage, water pollution, as well as seasonal variations in vegetation regions, and snow cover. The sensors will detect global patterns of ocean roughness, surface winds, currents and sea-surface

Above are the three men orbiting earth, from left to right, Conrad, Kerwin, Weitz. Below is the second crew, Garriott, Lousma and Bean. The third and the last crew, Gibson, Carr and Pogue, is at right.

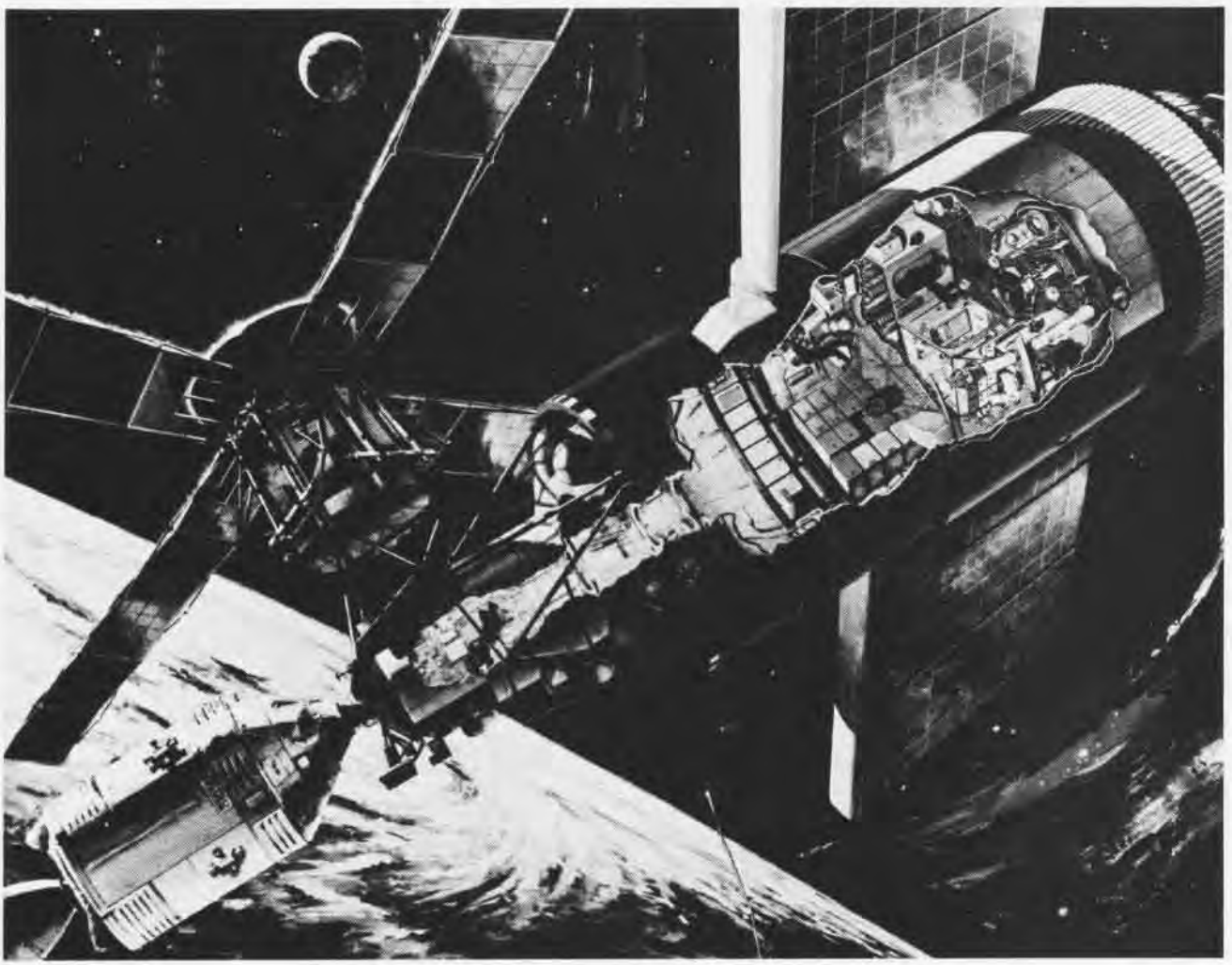
temperatures to be used for more accurate weather prediction.

Medical experiments will determine the effects of long duration space flight on the crew. Just as physicists and astronomers will be able to study phenomena previously hidden from them, bioscientists will finally have the opportunity to carry out unprecedented biological experiments on the effects of weightlessness. Complementing the medical investigations, several experiments will evaluate the equipment and techniques used to help the crew function in space. Updated criteria for the design of crew working and living quarters and maneuvering equipment will be obtained and applied to future missions.

The aim of another group of experiments, called technology experiments, is to assess the space environment's effects on materials, industrial processes and measurements.

In addition, there will be one EVA on this mission and two each on the second and third. As one man goes out, the remaining two, in pressure suits with life support systems, will stand by to help in an emergency. (On the 26th day of this mission, Kerwin will leave the workshop on a three-hour EVA to retrieve the film packs from the telescope mount.)

All of this will be accomplished by nine spacemen in a period of 20 weeks. Three at a time, they will be secure in their three-bedroom-sized home. When they have finished their work, they will turn off the lights, put out the mice (experimental), turn off the air conditioning and radio, lock the door and leave their spacecraft in earth orbit. We will have left another monument for future generations.



THE SELECTED AIR RESERVE

Trophies Awarded

A Naval Air Reserve Unit, Reserve Carrier Air Group and various squadrons and units were cited for outstanding mobilization readiness during an 18-month competitive cycle ending December 31. Rear Admiral James D. Ramage, then Commander, Naval Air Reserve Force, announced the award winners.

NARU Whidbey Island was the recipient of the Edwin Francis Conway Memorial Trophy as the most efficient NARU.

The Sheldon Clark Trophy was awarded to Commander Carrier Antisubmarine Air Group Reserve 80, NAS North Island, for achieving the highest combat readiness.

Awarded to the most efficient squadron of each type, the Noel Davis Memorial Trophy went to VR-53, Dallas-Memphis Det; VA-303 and VAQ-208, Alameda, Calif.; VF-301, Miramar, Calif.; VFP-306, Washington, D.C.; VP-65, Point Mugu, Calif.; VS-81 and VAW-88, North Island, Calif.; HS-74, Quonset Point, R.I.; TACRon-23, Norfolk, Va.; OpCon-12V2, Glenview, Ill.; NARS G-1 and NARDiv G-1 (type A), Alameda; NARDiv V-5 (type B), Minneapolis-St. Paul, Minn.; IMSU-17R2 and RSAND-R-2, Norfolk; NAIRU-D1, Dallas, Tex.; and NASRU-W1, Willow Grove, Pa.

Reservists Lie Down on the Job

Nine Naval Air Reservists, all attack jet pilots, never dreamed they might get paid for lying down on the job. The group recently participated in a NASA space-shuttle experiment to study the effects of bedrest and acceleration on pilot performance at the Ames Research Center, NAS Moffett Field. Eight pilots were from NARU Alameda, five SARs and three TARs, and another TAR came from NARU Point Mugu.

Under weightless conditions, certain physiological changes occur, such as a slight degradation in cardiovascular performance and a breakdown in the heart blood supply system. The experiment, to determine whether this would affect an astronaut's ability to fly the space shuttle back to earth, subjected the Reserve Aviators to the same acceleration forces that would be experienced in the actual vehicle. The effects of weightlessness were produced by having the pilots lie prone in bed for a period of ten days. The primary test then led each man into the Ames centrifuge and acceleration to two and three Gs, three times the normal one G on earth. NASA-Ames scientists are analyzing the data compiled to determine expected astronaut performance in the space shuttle.

All of the participating pilots fly the A-7 *Corsair II:* From Alameda's VA-303, Lieutenant Commanders Henry T. Stonelake and Stephen T. Werlock and Lieutenants Joseph H. Algermissen, William H. Winkler and Richard S. Wood; Lieutenants McLallen Alsop, Jessie A. Dawkins and Frederick C. Louderback of RTU-303, also Alameda; and Lt. William C. Hoyt, Point Mugu's RTU-305.

To determine expected space-shuttle astronaut performance, Reservist is mini-bathed lying down.

Scene Eight, Take One — NARMPU movie-makers film preflight briefing in Rota, left. PH Joe Bilboa, below, has the best seat in the house in nose of P-2 over Med. Bottom, PHC William Kinsley gets close-up of some of the P-2's many instruments.

Reserve Movie Makers

NARMPU is not an acronym familiar to most people. It is the Naval Air Reserve Mobile Photographic Unit, an operational component of the Naval Air Reserve reporting to Commander Naval Air Reserve for assignment and material support. It is a Reserve counterpart of the Atlantic Fleet Combat Camera Group with a mission to provide motion picture production services for Naval Air Reserve requirements and maintain a nucleus of trained photographic personnel. Commissioned by CNO in March 1972, it is authorized four officers and 25 enlisted men. Commander Carl V. Ragsdale is officer in charge of the Brooklyn, N.Y., unit.

This is a team of professionals. The director-producer is an Academy Award winner with more than 200 films to his credit; the assistant director is head of a sound recording studio and was responsible for the sound track of *Midnight Cowboy*. The cameramen have had years of experience in filming movies, news features, documentaries and specials, and there is even an animation cameraman in the group.

This nonprofit film production "company" is currently making a movie to document the present and future role of the Naval Air Reserve's augmentation with fleet units throughout the world. Other assignments have taken them to NAS Rota in the sunny southland of Spain, to Glenview, Ill., in subzero weather and blinding snow, and may take them this summer to Athens, Greece, to record Naval Air Reserve activities with Med fleet units.

Making films on a piecemeal basis, in time increments of one weekend a month or one or two weeks' active duty, presents a challenge to the Weekend Warrior photo crew. It has sidestepped insufficient funding by begging and borrowing equipment from commercial enterprises and from the Atlantic Fleet Combat Camera Group, but manpower consists primarily of skeleton crews.

NARMPU needs 15 more enlisted and officer personnel, especially film editors, cinematographers, writers, sound engineers and persons with experience in the movie industry. Anyone interested in joining may send a resume to Cdr. Ragsdale, 321 East 45th Street, New York, N.Y. He will be happy to point out the many travel, pay, adventure and retirement advantages of joining the Naval Air Reserve's motion picture company.

Patuxent River AIMS for Accuracy

By R. B. Siegel, Chief Engineer
Aims Program Office
Flight Test Division
NATC Patuxent River, Md.

The Naval Aviation community was introduced to AIMS by *NANews* in an article in the January 1972 issue in which Captain A. L. Stapp, Naval Material Command Deputy Project Manager for Air Control and Identification Systems, defined AIMS and the objectives of the project.

AIMS is an acronym for a complex system of systems which includes air traffic control radar beacon systems (ATCRBS); identification friend or foe (IFF); and Mark XII systems.

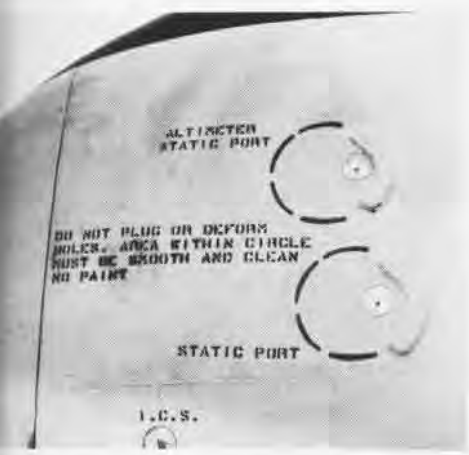
The basic objectives of AIMS are to provide an improved IFF system and to upgrade the operational use of airspace (ATCRBS) by providing for a minimum vertical separation of 1,000 feet and for automatic altitude reporting. To achieve these objectives, the altimetry system in all aircraft must provide the pilot with altitude information accurate to within plus or minus 250 feet and the altitude displayed to the air traffic controller must agree with that displayed to the pilot within plus or minus 125 feet.

The retrofit program to equip all Navy aircraft with AIMs installations is well under way. A concurrent program is being conducted at NATC Patuxent River, Md., to verify that the stringent AIMS requirements are met by all Navy aircraft and to modify or redesign the systems for aircraft which fail to meet these requirements.

The various aspects of the AIMS test program at NATC are centralized under the management and control of the AIMS program office in the flight test division. To emphasize the importance of the AIMS verification program, a special task force of highly skilled engineers and technicians is assigned to the program office.

Special test facilities used include: a sea level altimeter calibration facility consisting of a surveyed flight course and an instrumented tower from which the exact altitude of the test airplane is determined photographically; six specially instrumented pacer aircraft to provide altimeter calibrations at various altitudes (These aircraft also serve as test beds for the development and evaluation of new concepts in altimetry designs.); an AIMS ground station for evaluating the reporting accuracy and operating range of the AIMS transponders; and an AIMS laboratory for testing and evaluating the various components of the AIMS installation.

A minimum of two and as many as five of each model airplane in the Navy inventory are being evaluated to determine repeatability and consistency of data. Ground tests are conducted to determine the condition of the static



By using grid lines, the exact height of aircraft undergoing AIMS verification tests can be determined, left. Photo above is example of information which should be stenciled next to static pressure sources. At right is an instrumented A-4 with the special boom used for AIMS pacers at NATC.

pressure source and proper installation and operation of the various components, and to evaluate organizational level test and maintenance procedures for the AIMS installation. Operation of each component is also evaluated in the laboratory. Flight tests are conducted throughout each airplane's operating envelope to determine the measuring accuracy of the static pressure source, the total accuracy of the altimetry system, the reporting accuracy and range of the transponder and the proper operation of the various IFF modes.

The most critical component of the AIMS installation is the pressure altitude measuring system. Several characteristics are inherent in any pressure altitude measuring system which makes it very difficult to meet the stringent AIMS accuracy requirements throughout the airplane's flight envelope. First of all, it must be realized that the allowable pressure error at the static pressure source which corresponds to the allowable plus or minus 250-feet altimeter error is extremely small. At sea level, the plus or minus 250 feet corresponds to a pressure error of only plus or minus 0.13 psi. This allowable pressure error becomes even smaller as we go up in altitude. For example, at 35,000 feet, plus or minus 250 feet corresponds to only plus or minus 0.04 psi. Since the total allowable altimeter error must also include accuracy tolerance of the various components in the AIMS system, the actual allowable pressure error allotted to the static pressure source must be even smaller than those cited above. Pressure errors of these small magnitudes may easily be caused by chipped paint, minor dents, distortions, or dirt in the vicinity of the static pressure source. Therefore, it is extremely important to keep the area in the vicinity of the static pressure source smooth and clean. In addition, external stores or any changes to the external configuration of the airplane may affect the pressure field in the vicinity of the static pressure source, which may induce an additional adverse effect on altimeter accuracy. For high performance aircraft, shock effects at transonic Mach numbers cause large pressure divergence which results in extremely large altimeter errors. Therefore, it is impossible to maintain static pressures within the allowable tolerance at transonic Mach.

It appears as if we have a paradox here: Because of the extremely small tolerance, it is very difficult to stay within the allowable altimeter tolerance at high altitudes; and, because of shock effects, it is impossible to stay within tolerance at transonic Mach numbers. High altitude/transonic Mach is the flight regime in which jet pilots prefer to fly during cross-country hops. An air data computer may provide a solution to this paradox. NATC conducts extensive tests in order to define an altimeter error correction curve to be programmed into the computer for those aircraft requiring this type of compensation. By use of the air data computer, the altimeter error may be reduced; however, since the computer can be programmed for one optimum condition only, it cannot compensate for all errors inherent in the pressure altitude measuring system. Some limitations will have to be placed on some aircraft when operating in controlled airspace. Specifically, some high performance aircraft may not be allowed to operate at high transonic Mach numbers in controlled airspace in order to maintain the required AIMS accuracy.

Personnel at NATC are determined to provide the fleet with accurate altimetry systems which are calibrated as precise as humanly possible so that the Naval Aviator may have confidence in AIMS and, in particular, ATCRBS. It must be realized that there are certain limitations that cannot be exceeded; we must live within these limitations.

at Sea with the Carriers

Enterprise (CVAN-65)

Carrier personnel observed the POW Freedom Flights with keen interest as former shipmates Commander Gordon K. Nakagawa and Lt. Kenneth H. Higdon, VA-196, LCdr. Phillip A. Kientzler, VF-143, and LCdr. Alfred H. Agnew, RVAH-13, were released and reunited with squadron mates at Clark AFB. LCdr. Agnew, the last POW released by the North Vietnamese, was met by Commander Sylvester G. Chumley, his C.O.

Singapore's Minister of Communications Yon and Minister of Environment Lim, and American Ambassador E. M. Cronk were aboard *Enterprise* for an air power demonstration by CVW-14 the day before the carrier entered Singapore harbor for a seven-day port call.

The return to peacetime operations was evident as *Enterprise* and CVW-14 personnel held a steak barbecue on the flight deck during a ready alert stand-down in the Gulf of Tonkin. Combat sorties gave way to training flights as ready alert conditions were maintained to provide support services for minesweeping operations at Haiphong.

Cdr. Stanton W. Betts, RVAH-13, recorded the *Big E's* 138,000th landing in April.

Forrestal (CVA-59)

When *Forrestal* got underway from an anchorage in Barcelona, Spain, she did so in a manner believed never before done by an attack carrier: she slipped into the Med on her new autopilot.

Forrestal is the first CVA to test new equipment which includes the autopilot, an officer-of-the-deck tape recorder system and a bell-logger.

In Forrestal's new autopilot control area, QMSN Swantner sets the weather adjuster.

The autopilot will be tested during normal underway operations, general quarters, underway replenishments and other precision maneuvers. It is hoped that it will reduce the number of personnel needed on the bridge, in the engineering department, on the signal bridge and in other areas.

A helmsman can sit in the center of the control area on the bridge and dial the desired course on the autopilot's electronic course selector. The autopilot responds to the command and directs the ship to the desired course. It has complete control of the rudders when changing course and is restricted only by the rudder limit imposed on it by the helmsman.

The system can also be adjusted for varying weather conditions and can keep the ship on course, within a few degrees, even in rough seas. It can be disengaged at any time, allowing the helmsman to take control. The change-over is complete and instantaneous.

While the autopilot eliminates the need for a lee helmsman, the officer-of-the-deck tape recorder system will replace the quartermaster of the watch. The tape system will be used by the OOD to tape all events which occur on watch, replacing the log usually kept by the quartermaster.

The bell-logger records gyro and ordered course headings, time, date and other pertinent information. It is designed to replace the engineering bell book.

"The selection of *Forrestal* to test the new equipment is a show of confidence in our bridge and communications personnel's ability to prove the feasibility and desirability of this new technique for CVAs," says Captain James B. Linder, C.O. "The autopilot performed as advertised and was responsive to the requirements of the ship. Because of the number of close-in ships encountered immediately after getting underway, it was given a work-out and proved its worth under the most demanding conditions."

Forrestal's navigator, Commander Jack Colgan, says, "We believe it's the first time a carrier sortied from an anchorage on autopilot. I am pleased with the autopilot's performance during its initial trial."

QMSN Dennis Swatner, qualified master helmsman, was at the helm when *Forrestal* left the dock. He says "It was a real trip. It's like a space ship — just dial and it goes its way. It really takes a load off your mind."

The autopilot is also being tested on other types of Navy ships.

J. F. Kennedy (CVA-67)

What started as an idea almost two years ago has developed into a large department store aboard this CVA.

Commander Jack Young, supply officer, opened the new store March 27, three months after the project began. Part of a self-help effort, the renovation, including the installation of shelving and display cases and a complete rewiring, was done entirely by the ship's electrical and repair personnel.

The new store has stereo equipment, appliances, games and hobby equipment, greeting cards of all kinds, a limited amount of civilian and military clothing, and toiletries.

America (CVA-66)

Captain Thomas H. Replogle relieved Captain Burton H. Shepherd as commanding officer in April while *America* was alongside Pier 12 at the Norfolk Naval Station.

The new commanding officer reported to *America* from USS *Nashville* (LPD-13) where he was C.O. Capt. Shepherd has received orders to report to duty in Washington, D.C., as the Deputy Inspector General of the Navy.

Ticonderoga (CVS-14)

Tico recently completed her third carrier qualification period, filling in for *Lexington* (CVT-16) which was in the Boston Navy Shipyard. During the eight-day period, 1,302 arrested landings were logged while qualifying or requalifying 111 pilots. Fourteen squadrons flying seven different types of aircraft participated.

While standing-in for *Lex*, *Tico* has recorded 3,985 traps while qualifying 397 pilots.

Constellation (CVA-64)

Another April change of command occurred when Captain Paul H. Speer relieved Captain J. D. Ward as C.O. of *Connie*. The turnover took place while the carrier lay moored at the naval base at Subic Bay, R.P.

Capt. Ward's new assignment takes him to London as Deputy Chief of Staff to CinCUSNavEur. Capt. Speer has just completed a tour as C.O. of USS *Blue Ridge* (LCC-19).

JOC Byron Whitehead, Jr., took this series of photos of a 250-pound bomb which accidently broke loose from an A-4 as the jet was launched on a mission over North Vietnam. An explosive ordnance disposal team member disarms the weapon, above. Other team members help slide it over the forward cat bridle arrester, below. Mishap occurred aboard Bon Homme Richard.

Hawaii to Alameda

The last four and one-half days of Oriskany's recent ten-month deployment to SEAsia became sort of a kids' cruise as male relatives of crew members joined the carrier in Hawaii for the final transit to NAS Alameda. Sixty-two sons, ten brothers and three fathers, ranging from 8 to 67, were embarked.

Letters

Three?

Among the variety of naval aircraft shown on pages 20 and 21 of the December 1972 issue of *Naval Aviation News* is a Grumman fighter labeled F3F-1.

I'm quite sure that this is an F2F-1 and from what I can make out of the first number indicating the squadron, it appears to have been assigned to Fighting Squadron Three.

The F3F-1 had a much larger engine cowling than the airplane shown, as well as a three-bladed propeller.

Having flown both the F2F-1 and the F3F-1 while attached to Fighting Three (redesignated Fighting Five in 1937), I feel that I know whereof I speak.

Now, before you rebut my statement about flying the F3F-1 while attached to Fighting Five, we did fly those of Fighting Six, with whom we shared the small west field at NOB Norfolk in 1938-39.

Everybody makes mistakes which is why erasers are put on pencils, but your excellent magazine makes darn few.

H. W. Harrison, Jr.,
Capt., USN(Ret.)
Box 219
Stockbridge, Mass. 01262

The original photo shows the plane in question in better detail. Lettering on the tail identifies it as an F3F-1, BuNo 0262. The squadron insignia just aft of the national insignia is the VF-7 "Wasp" with boxing gloves. F3F-1s were first delivered to VF-7 in December 1939 and went aboard *Ranger*, which is just visible at left between the wings, the following month. The later F3F-2s and 3s did have the larger engine cowling and three-bladed propeller.

Whoops!

I would like to say how much I enjoyed the March issue. I especially appreciated the article relating to the Naval Air Training Command as this was my first contact with Naval Aviation. My first duty was with ATU-200 at Kingsville, Texas, in 1953-54 and I consider it one of my most rewarding experiences.

However, I must make one comment concerning the photo on page 14 depicting training in the manual of arms. During my four years as a company commander in Recruit Training, I cannot recall anytime such a movement might have occurred. Is it possible your photographer flopped the negative? Looks as if the men might be going to either right shoulder, left shoulder or port arms.

Thanks for an otherwise outstanding issue as per usual.

J. C. Arnold, Jr., AMSC
Quality Assurance, VP-65
NAS Point Mugu, Calif. 93042

Will the D.I. showing such a marked interest, p. 14 of the March issue, continue to guide his AOCs through some new evolution in the manual of arms and possible embarrassment at some future ceremony; or will the staff of *NANews* reverse the negative and save his career from certain ruin.

John E. Snow, MSgt., USAR
5073 Auburn Drive
San Diego, Calif. 92105

Kudos

Have read your March issue of *Naval Aviation News*. It is not only one of your better issues but I love the color.

Les Gaver
Chief, Audio-Visual Branch
NASA, Washington, D.C. 20546

Recently a copy of *Naval Aviation News* turned up in our operations room and prompted some good discussions on several topics. This was the first time we had read your excellent publication and we were most favorably impressed.

Louis A. Bowerman, Lt. Col.
Flying Safety Officer
150th Tactical Fighter Group
P.O. Box 551, Albuquerque, N.M. 87103

P2V

After reading the letter by Commander Richard A. Koch regarding the P2V, I dug out the December 1972 issue, which I had not seen, to confirm his recognition; he is right, it "appears" to be a P2V-2.

However, here is where fact and fiction part company. My log book which dates from P2V-2 "39318 and subsequent" does not agree with the numbers in Cdr. Koch's book. Additionally, Cdr. Koch fails to mention the three series of P2V-2 aircraft, depending on service changes 150, 300 or none which, among other things, determines the type of propeller on the beast. P2V-2s with change 300 were, in my log book, 1224-numbered aircraft and had three-bladed props with electrical de-ice and numerous other internal changes. All of the P2V-3s in my book are numbered 1229-. All of the 124-beasts in my book are P2V-4 aircraft.

In short, a P2V by any number might not be what it appears and CALAC is probably the only source of adequate records.

A. G. Alexander, Jr., Cdr.
NAS Brunswick, Maine 04011

REUNIONS

USS Bunker Hill CV-17 Association World War II will hold its annual reunion in Atlantic City, N.J., June 29 to July 1. For further information write to Dan LoRusso, 317 Main Street, Medford, Mass. 02155, or Al Perdeck, 241 Parker Road, Lakewood, N.J. 08701.

Members of the USS Yorktown Association will celebrate the 30th anniversary of the commissioning of USS *Yorktown* (CV-10) by holding their 26th reunion in the area where their ship was commissioned and "shakened down."

The reunion will be held June 7-10, 1973, at the Mariner Motel, Virginia Beach, Va. All Naval Aviator POWs and their wives residing in the Virginia Beach-Norfolk area are invited to be honored guests of the association and to participate in all the events that are planned.

For further information contact RAdm. R. R. Waller, USN(Ret.), 25 Spruce Court, Moorestown, N.J. 08057.

Bombing Squadron 106 which deployed to Southwest Pacific in 1943-44 with "Chick" Hayward commanding will hold its first reunion (30th anniversary) August 23-26 in San Diego. For further information contact Cdr. Gordon K. Ebbe, 211 Wynkoop Drive, Colorado Springs, Colo. 80909.

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HSL-30, Lakehurst, N.J., has as its motto "Service to the Fleet and LAMPS to light the way." The squadron has a three-fold mission of LAMPS, combat support and replacement air group training, deploying in HH-2D and SH-2D Seasprites, with detachments in WestPac and the Med. Typical is HSL-30's Support Det 31, tasked with support for Commander

Sixth Fleet. Its many missions include search and rescue, and ferrying people, mail and cargo. Aboard small non-aviation ships, each man has the opportunity to shoulder responsibility and operate independently. The squadron, now one of Navy's largest with some 110 officers and 400 enlisted men, is skippered by Commander Charles E. Myers.

NAVAL AVIATION
NEWS