NAVAL AVIATION NEWS

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APRIL 1971
NavAir No. 00-75R-3

NAVAL AVIATION NEWS

FIFTY-SECOND YEAR OF PUBLICATION

FEATURES

THE STAFF

Published monthly by the Chief of Naval Operations and the Naval Air Systems Command to provide information and data on aircraft training and operations, space technology, missiles, rockets and other ordnance, safety, aircraft design, power plants, technical maintenance and overhaul procedures. Issuance of this periodical is approved in accordance with Department of the Navy Publications and Printing Regulations, NAVEXOS P-35. Send mail to Naval Aviation News, Op-05D, Navy Department, Room 1132, 801 North Randolph Street, Arlington, Virginia 22203. Telephone 69-24819. Annual Subscription rate is $5.00 check or money order ($1.25 additional for foreign mailing) made payable and sent to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. A single copy costs $.45.

Cover shot of A-4's over USS Forrestal somewhere in the Atlantic was taken by PH2 William Curtsinger. Back cover is a NASA shot of Apollo 14 as it took off for Frau Mauro. Art Schoeni, LTV, took the mood photo, above, of an A-7 on board USS Independence.

EDITOR'S CORNER

It isn't often we reprint material from other publications. The following letter, from Mrs. Jean A. Ebbert, appeared in the December 1970 edition of the Naval Institute Proceedings. *Mrs. Ebbert was writing in response to previous pieces concerning Naval Aviators. We think her commentary is worth repeating. Our thanks to the* Proceedings *for permitting the replay.*

In recent months Captains W. D. Toole, Jr., and A. G. Nelson have treated us to some witty and profound insights concerning the Naval Aviator. First as a woman naval officer, then as a wife, I have been brown-shoe-watching for 18 years. May I add some of my own observations?

First, I must qualify the word "wife." No Naval Aviator, lest he commit bigamy, can take a mere woman to wife. I assure you that the father of my own three Navy juniors did in fact enter into a legal and binding ceremony of marriage with me; his children and I are his lawful dependents. At all times, and in all places, he loves and cares for us, and, from time to time, he even resides with us. Nevertheless, he is married to Naval Aviation. It is true that whenever he cannot fly, he thinks I am the greatest thing since peanut butter. But when he can go flying, then I become just another ray of sunshine for a man who owns the world.

Exaggeration? Let me tell you what happens at naval air stations when a hurricane is expected. As high winds and heavy rains approach the area the aviators dash frantically between aerology and the ready room. During this critical period, you can always recognize the aviator with a family. He is the one trying to call home. And what is he saying, this devoted family man? "Find my shaving kit! Get my golf clubs. I have got to fly to Memphis in two, maybe three hours!" His is the family which stays, barricaded, somewhere in the teeth of the storm, while he flies his treasure, his plane, inland to safety.

Aviators' wives do not seem to complain of this, or even to expect anything different. Perhaps that says something about us, too: that you do not have to be crazy to marry a Naval Aviator, but it helps.

Capt. Nelson speaks respectfully of the tempo of carrier operations and says that the aviator is flexible. Captain, you ain't just a-whistlin' "Wings of Gold!" The tempo of his home life and the flexibility of his wife are also eye-openers. I simply cannot tell you (because I choke into incoherence at the thought) of the Friday afternoons I have cancelled my hair appointment, run the dog to the kennel for the weekend, emptied the refrigerator, and not bothered to get my party dress out of the cleaners because my husband was a thousand miles away at sea for an operational readiness inspection (ORI), and I would have promised the youngsters a weekend expedition (Disneyland? Marineland? Santa's Village?), only to have you-know-who call at 1730 to say he had managed to get back to NAS Homefield for the weekend to get some spare parts, and was not that wonderful of him? Also I should get ready for a big evening because he wants to take me to the club for dinner. I will not describe how three young minds handle the problem of trying to be glad that Daddy is coming home, and that they will not be going to Disneyland after all.

That physical fitness fever does produce some strange behavior. Flying demands fitness; fitness demands moderation. A man simply cannot party all night and fly all day. But how can this be managed when a certain swagger, an attitude suggesting that prudence is for sissies, is as much a part of his uniform as the wings themselves? (This swagger is a vestige of aviation's infancy, when Errol Flynn was flying the Dawn Patrol and the proud boast was, "I can fly the crates they come in!") The aviator's solution is a careful coordination of the flight schedule and the party schedule. When flying, no drinking. When drinking, no flying. But, he will go to great lengths to have you believe he is supremely indifferent to any such careful consideration and that he is always equally prepared to party or to fly.

In recent years, a reaction to the swagger has developed. It might be described as sort of a non-swagger favored by Postgraduate School Aeronautical Engineers, and implies that ". . . that old fighter-pilot strut is obsolete, out-of-touch with today's cybernetic aviation."

Capt. Toole suggests that junior pilots eventually mature into senior pilots, thus coming to think differently. I believe that no maturation is involved. It is simply that one day, when he is just past 40, when his 1,100 contemporaries are flexing their command muscles for the third and fourth times, the Bureau of Naval Personnel breaks up the Naval Aviator's marriage. He cannot fly his heart's desire anymore. He may still fly something low and slow for four hours a month, but the real party is over. Somebody else is kissing her now.

At this time, mild aberrations appear. One domestic manifestation is that all those squadron mementoes — the mugs, the plaques, the pennants, the wings, and the certificates — all those dust catchers which, in former days, his wife could display or not as taste and space dictated — these same items now must be prominently displayed. He may be proficiency Group II or III now, but his mantelpiece is Group I all the way.

If you know an aviator going through this post-divorce period, take Capt. Nelson's suggestion and be tolerant. Let him talk it out. Refrain from suggesting that he will get over it and find something else to love. Avoid mention of the lowered aviation insurance premiums. (Ah, Capt. Toole, I cannot write about it rationally, either. Is it because to me it was never "flight pay," and I could think of it only as "extra-hazardous duty pay?") Try just listening to him, and you will be rewarded. For, beyond the waggling hands, beneath the jargon, past the nostalgia for a world that was too beautiful to be true, yet too true to be forgotten, is a genuine naval officer. And we need every one of them we can get.

NAVAL AVIATION NEWS

1911 1971

P-3C Claims World's Records

PATUXENT RIVER, Md. – The Navy P-3C which recently claimed a new world record for non-refueled long-distance flight (*NANews*, p. 4, March 1971) continues to chalk up claims for more world's records for this class aircraft.

In test flights over NATC Patuxent River, the aircraft, piloted by Commander Donald H. Lilienthal, has claimed seven more world's records. The *Orion* broke the Russian-held speed record; exceeded a Russian-held "altitude in horizontal flight" record; reached the greatest altitude for this type aircraft; and claimed four new rate-of-climb records in categories that had not previously been attempted in any heavyweight turboprop aircraft.

The P-3C attained a speed of 502 statute miles per hour over the prescribed 15-25 kilometer course, exceeding the Soviet IL-18 record of 452.25 statute miles per hour set in May 1968.

A new record of 44,900 feet was claimed for altitude in horizontal flight (the plane must sustain altitude for 90 seconds without deceleration). The previous world mark of 42,618 feet was set by the IL-18 in June 1969.

The aircraft also climbed to an altitude of 46,100 feet to claim a new maximum altitude record. The old mark was 44,343 feet set in October 1969 by the IL-18. This record is simply a maximum altitude reached and does not require holding for a specific time or distance.

In claiming the four time-to-climb records, Cdr. Lilienthal and his crew climbed from "brake release" on the ground to 3,000 meters (9,843 feet) in two minutes, 59 seconds; to 6,000 meters (19,685 feet) in five minutes, 48 seconds; to 9,000 meters (29,528 feet) in ten minutes, 31 seconds; and to 12,000 meters (39,370 feet) in 19 minutes, 53 seconds.

The record attempts were performed during test and evaluation of operational equipment. Flights for record purposes were conducted according to Federation Aeronautique Internationale (FAI) rules and in coordination with the National Aeronautic Association (NAA), the U.S. affiliate of the FAI.

The record-setting *Orion* is a production model with no engine or fuel system modifications, and its configuration is typical of those in use by Navy units at the present time.

BIS Trials at NATC for AV-8A Harrier

PATUXENT RIVER, Md. – Four AV-8A *Harriers* are scheduled to be delivered to the Marine Corps this month as BIS trials are completed on the V/STOL jet at the Naval Air Test Center.

The Marine pilots testing the *Harriers* flew the aircraft in Great Britain (*NANews*, p. 16, February 1971), prior to their arrival at Patuxent River for service acceptance trials.

BIS trials at the test center included establishing the engine inflight restart envelope; evaluating the aircraft's flight characteristics during severe weather operations and its shipboard and advanced airfield suitability; determining the U.S. weapon release envelope for those weapons not tested in England; and evaluating the aircraft's improved navigation and attack systems.

AV-8A Harrier at NATC Patuxent River, Md.

Barbers Point Gets Award

NAS BARBERS POINT, Hawaii – This station was recently awarded the Commander Naval Air Force Pacific Annual Aviation Safety Award for fiscal year 1970.

Flight records show that a total of 3,660 hours were flown during this period – with no aircraft accidents charged against the command's safety record.

In a letter accompanying the certificate, Vice Admiral William F. Bringle, ComNavAirPac, stated, "This achievement attests to the effectiveness of command leadership, supervisory effectiveness at all levels of command, responsible attention to detail, and the total effort of all hands whose contribution is essential for success. To all hands my sincere appreciation for a job well done."

VAQ-129 Gets Latest Intruder

NAS WHIDBEY ISLAND, Wash. — The Navy received the latest version of the *Intruder* at recent ceremonies for the fleet introduction of the EA-6B. At the same time, the end of an era was marked with the disestablishment of Heavy Attack Squadron 123, the last heavy attack squadron, and the retirement of that squadron's last *Skywarrior*.

Senator Henry M. Jackson (Wash.) was guest speaker at the ceremonies. Also attending were: Vice Admiral William F. Bringle, Commander Naval Air Force, U.S. Pacific Fleet; Rear Admiral Earl P. Yates, Commander Fleet Air, Whidbey; Captain A. W. Smith, commanding officer of NAS Whidbey Island; and Mr. William M. Zarkowsky, president of Grumman Aerospace Corporation; as well as other high ranking officials.

During the ceremonies honoring VAH-123, Commander James E. Service, the squadron's commanding officer, presented the squadron flag to Rear Admiral Earl P. Yates, bringing to a close 12 years of A-3 aviation activity at Whidbey Island.

With the *Skywarrior* retired and the last heavy attack squadron that operated the A-3 disestablished, the delivery of the new EA-6B, dubbed the "Supertruder," marks the beginning of a new era in Naval Aviation. NAS Whidbey Island is the only shore station supporting the EA-6B and will provide support to both the Pacific and Atlantic Fleets.

The first two EA-6B's have been assigned to Tactical Electronic Warfare Squadron 129, which was established September 1, 1970. The new squadron, under the command of Commander Jack Blackwood, has as its primary mission the training of flight crews and maintenance personnel for the EA-6B.

The EA-6B has a crew of four: pilot and three electronic warfare officers.

VT-6 Moves to Whiting

PENSACOLA, Fla. — Training Squadron Six recently moved from NAS Pensacola to NAS Whiting Field at Milton, and received a new mission as part of a long-range plan to simplify Naval Aviation training operations in the area.

Only about 20 officers and enlisted men made the move to NAS Whiting Field. Eighty percent of the squadron personnel were reassigned to other activities in the Pensacola area.

The squadron's new mission involves transitioning future helicopter students from the T-34 primary trainer to the T-28 propeller-driven basic trainer. The entire operation will include teaching precision, aerobatic, formation, instrument and night flying.

Previously, VT-6 provided instrument training for students entering helicopter training in HT-8 at Ellyson Field. Last September, however, this function was taken over by the helicopter training squadron. This eliminated the need for that instruction at NAS Pensacola.

VT-6 phased out the last of its students at Sherman Field in December.

Lieutenant Commander Named VF-33 C.O.

WASHINGTON, D. C. — One of CNO's celebrated Z-grams has directly affected the career of an officer at the Naval Air Systems Command.

LCdr. Gordon L. Murray, Jr., has received orders to take command of VF-33 as a result of a Z-gram issued last September giving highly qualified lieutenant commanders opportunity to attain aviation command.

The rank structure of four aircraft squadrons, including VF-33, has been reduced by one grade to give lieutenant commanders opportunity to serve as commanding officers.

Phantom-flying VF-33 is based at NAS Oceana, Virginia Beach, Va., when not deployed aboard USS *Independence*.

LCdr. Murray is very familiar with the F-4; he has flown it for most of his Navy career, accruing over 2,300 flight hours (out of 3,560 total flight hours).

Many of Murray's hours were accumulated during 130 combat missions over North Vietnam while he was serving with VF-102 aboard USS *America*.

At NavAirSysCom, LCdr. Murray was configuration control officer in the F-4 project office.

Flag Changes Announced

WASHINGTON, D.C. — Secretary of Defense Melvin R. Laird has announced several flag promotions and reassignments.

Vice Admiral Maurice F. Weisner is scheduled to assume duties later this year as Deputy Chief of Naval Operations (Air). He will be relieved as Commander Seventh Fleet by Vice Admiral William P. Mack, who is presently serving as Deputy Assistant Secretary of Defense (Manpower and Reserve Affairs).

Rear Admiral Thomas J. Walker III, Commander, Naval Air Systems Command, has been selected for promotion to vice admiral, with new duties as Commander, Naval Air Forces, Pacific Fleet. He will relieve Vice Admiral William F. Bringle, who has been selected for promotion to admiral and a new assignment as Commander in

Chief, U.S. Naval Forces, Europe.

Rear Admiral Malcolm W. Cagle will also receive an appointment to vice admiral, with assignment as Chief of Naval Air Training. He is presently serving as Assistant Deputy Chief of Naval Operations (Air).

Admiral Cagle will relieve Vice Admiral Bernard M. Strean, who has announced his plans to retire.

23rd Annual NTPS Reunion Announced

PATUXENT RIVER, Md. – The U.S. Naval Test Pilot School will hold its 23rd Annual Reunion and Symposium May 8, 1971, at Patuxent River.

The school annually invites its alumni to hear addresses on aeronautical subjects by various authorities. Although this year's entire program has not been finalized, several presentations are firm. These include the future concepts of the Test Pilot School to be given by school director Commander R. J. Sample; the F-14 program by Grumman test pilots Bill Miller and Bob Smyth; and the AV-8A test program by *Harrier* project officers, Marine Majors Bud Iles and Bill Scheuren.

VXE-8 and Sara Cited

NORFOLK, Va. – USS *Saratoga* and Oceanographic Development Squadron Eight have been named as the first year winners of ComNavAirLant's "Golden Mike Award" for outstanding internal relations programs.

The Golden Mike is a new award to be made annually at the end of the calendar year to the AirLant commands which have administered the most effective internal relations program during the preceding year. This year, awards were presented to commands in carrier and squadron division competitions. Next year, additional winners will be announced in naval air station and staff categories.

Runners-up in the carrier division competition were USS *America*, second place, and USS *Intrepid* and USS *Wasp*, honorable mentions. In the squadron division, second place went to VF-14, with VF-103, VX-1 and VXE-6 receiving honorable mentions.

The term Golden Mike represents the microphone that symbolizes "passing the word" in each command.

OpNav Offices Reorganized

WASHINGTON, D.C. – A reorganization is under way in the Office of the Chief of Naval Operations.

As part of a continuing program within both the Navy and the Department of Defense to streamline, consolidate and reduce staffs, the objects of this reorganization are greater efficiency and the optimal use of funds and personnel within what is expected to be a smaller, leaner but even more effective Navy.

The changes include:

Division of the Office of the Deputy Chief of Naval Operations (Fleet Requirements and Readiness) into two offices: that of Deputy Chief of Naval Operations (Surface) and Deputy Chief of Naval Operations (Submarines), in order to increase the emphasis and attention to surface ship and submarine matters.

Establishment of an Office of Command Support Programs, merging the offices of the present Assistant Chief of Naval Operations (Intelligence) and Assistant Chief of Naval Operations (Communications and Cryptology) with organizations concerned with reconnaissance and surveillance.

Establishment of an Office of Tactical Electromagnetic Programs, reflecting the belief of Admiral Elmo R. Zumwalt, Chief of Naval Operations, that "the key to naval warfare of the future lies in the utilization of electronics."

Changing the CNO Advisory Board to a CNO Executive Board which will be both an analytical and directive body, coordinating management action on approved programs.

Reassignment of the responsibility for aircraft carrier programs from the Deputy Chief of Naval Operations (Fleet Requirements and Readiness) to the Deputy Chief of Naval Operations (Air), in order to better integrate all air matters.

Establishment of additional Reserve staffs within OpNav, reflecting the increased emphasis on the Reserves.

Assignment of greater authority to the Director, Navy Program Planning, CNO's principal assistant for all matters connected with studies, analyses, programming and budgeting, and establishing under his direction a new Fiscal Control Office, combining the Budget Office with other financial offices.

Further reorganization is planned with OpNav as part of the Navy's constant re-evaluation of its programs and organizations to assure that they continue to reflect the best contemporary techniques, attitudes and capabilities.

The changes are considered an essential first step to a review of other commands in the Washington area and, eventually, fleets and shore command headquarters.

Any reduction of military personnel or changes in assignments which result from this reorganization will be accomplished wherever possible through normal attrition in an effort to minimize any disruptive effect on servicemen and their families.

MER on A-7 is Held at NAS Lemoore

LEMOORE, Calif. – A week-long Maintenance Engineering Review (MER) was held recently at NAS Lemoore. More than 300 representatives of the Pacific and Atlantic Fleet Naval Air Forces, the Naval Air Systems Command and aircraft contractors met to review current A-7E maintenance and inspection procedures.

Men and aircraft from Attack Squadrons 146 and 147 were used in this review of the Ling-Temco-Vought-produced aircraft.

The MER representatives were first shown a demonstration of maintenance procedures by squadron personnel. The representatives then wrote their suggestions and comments on how problem areas could best be resolved. The recommendations were referred to Action Committees which were set up for 11 basic areas and systems. These committees made the decisions on what action should be taken, and passed their recommendations to a Steering Committee made up of senior personnel of the Navy and civilian contractors. The steering committee made the final decisions on what should be done, and by whom.

Officials feel that such MER's will greatly assist civilian contractors in future aircraft designs by helping to avoid mistakes encountered in the past, and will allow the taxpayer to get the most for his defense dollar.

GRAMPAW PETTIBONE

Recall

The two flight students met in the hallway outside their briefing room. They briefly discussed their upcoming initial solo formation flight and then quizzed each other on emergency procedures while waiting for their instructor.

When another instructor arrived, with his own two students who were to fly the same type of three-plane formation hop, he conducted the brief for all four students. Later their own instructor arrived, and they completed the brief as it would be conducted in their own flight.

The weather, far from ideal, with thunderstorms in the area, would gradually deteriorate throughout the afternoon.

The three T-28 *Trojans* launched on schedule at 1347 and proceeded with basic turns, lead changes, breakups, rendezvous, etc. Halfway through the period, another flight's instructor asked on the radio if there had been a recall. The instructor said no, but one of the students advised him that he had just heard home tower issue a recall of all VT squadron aircraft to return to home plate as there were thunderstorms approaching the field.

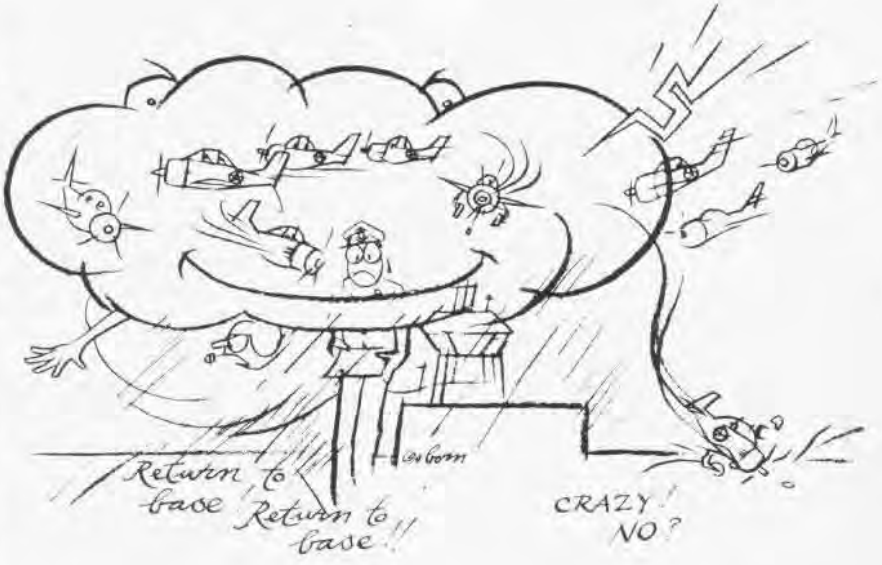
The instructor then requested his students to change the lead back to the original flight leader and head back for the field. They leveled off at 1,200 feet msl as they approached the initial point, soon spotted another three-plane formation ahead and took interval on them approaching Point Bravo.

Two miles from the downwind end of the duty runway, the lead student called the tower for permission to break and was cleared with the proviso that there was traffic upwind and that he would be number nine in the break. The leader kept the upwind traffic in sight and, as they came over the runway, he noticed a cloud bank and/or rain showers past the upwind end of the runway. Continuing on, he saw the first plane of the flight ahead

break. Shortly thereafter, the #2 man broke and disappeared momentarily in the clouds. Then the chase pilot broke and disappeared completely in the goo.

Just about that time, the student leader went IFR. As he went on the gauges, he reported the fact to his flight leader, who advised him to go ahead and break but cautioned both students to keep their eyes on their instruments. The student started a normal break, but then decided to follow standard procedure for unintentional IFR flight. He leveled his wings, flew for one minute straight ahead, and started a turn, climbing to 2,000 feet. He soon broke out VFR and headed back to find the rest of the flight.

The #2 student began to break and was soon observed by the chase instructor losing altitude rapidly in a steep turn to the right. The chase followed him to an altitude of about 400 feet, calling him to "Pull out! Pull out! You are in a descent! Get on your gauges!" The student momentarily leveled his wings while the instructor broke off to recover his own aircraft. The chase next observed the student in a 100-degree left bank and again called to him, "Get on your gauges! You're rolling inverted!" The student's reply was a plea: "I need help, sir." It was the last transmission heard from the student. An unknown voice called,



ILLUSTRATED BY Osborn

"Get on your instruments, we can't help you."

The rest of the flight regrouped VFR, away from the field. Repeated calls for the missing student received no reply.

The *Trojan* hit the roof of a building in a 70°, nose down attitude at a high rate of descent. The ensuing fire destroyed the wreckage and the building.

Grampaw Pettibone says:

Great gallopin' gremlins!! Who in tarnation is responsible for this tragedy?

The pilot, you say? He became disoriented in unexpected IFR conditions and lost control. After all, he completed basic and radio instrument phase! Was he really ready for something like this?

The instructor? He shouldn't have brought the flight into IFR conditions. Ah, yes, but who ordered the return to the field in the first place without advising on the changing weather conditions?

The tower, you say? They recalled all the aircraft back to the field which was expected to go IFR any minute, didn't keep the pilots advised of changing conditions, and let 11 planes into the pattern all at once.

How about the squadron duty officer who asked the tower to recall his aircraft when things started to close in?

Reminds me of an old story. "Message to diver. Surface immediately. The ship is sinking!" Diver to ship, "Never mind, I'll just wait'n let you join me here."

Probably the worst thing in the world to do when the duty thunderstorm hits the field is to recall all the birds. Better that they divert or try to wait it out. This poor student was led down the path by those whose job it was to keep him out of trouble. They failed.

The Hurrieder I Go . . .

The first lieutenant and major briefed for a local night bombing hop on which they were using 5-pound MK-76 practice bombs. It was the second hop for both and, because of various delays, things were running considerably behind schedule. During his preflight of the aircraft, the lieutenant was further delayed while ordnance personnel finished loading the A-4E *Skyhawk*. As he climbed into the cockpit, he noted that his leader was already turned up.

Abandoning his usual thorough procedures, he took various shortcuts to try to catch up. His post-start checks were also curtailed and hurried, as he noted the leader already taxiing to the marshaling area.

The junior aviator quickly called that he was ready to go and followed the leader to the end of the runway — for arming of their ordnance. The pretakeoff checks were performed from memory. Then the flight had to wait three minutes — short of the runway — for landing and departing traffic.

Turn-up checks on the runway also were completed off the top of his head, and he then followed the leader into the air. The lieutenant's *Skyhawk* seemed to leap, airborne sooner than usual, but he attributed that to the light weight of practice bombs and the coolness of the evening air.

As he began a 300-knot rendezvous at 11,000 feet, he noticed the amber fuel transfer light glowing dimly from the instrument panel. Suddenly realizing exactly what had happened, he stared unbelievingly at the zero reading on the fuel gauge. He rolled wings level and informed lead that he had no fuel. As he reached for the emergency generator, the engine flamed out.

Knowing that emergency start procedures would be futile, the pilot set up a glide and looked for the best place to make a safe ejection. Between three and four thousand feet, he ejected and was picked up by a Coast Guard helicopter to which he swam after it landed in the water nearby.

Grampaw Pettibone says:

Great shades of Walter Mitty! The only thing I c'n add is that he survived in spite of the efforts of all those around him to screw him up. I don't hold it against this lad any more than I do his flight leader, the maintenance officer and his C.O. for allowing such slipshod operating procedures in the first place. This accident would never have occurred in a well run, properly supervised, really-on-the-ball outfit. What kind of line procedures were in effect that a plane could be signed off for flight by the plane captain and accepted by the pilot without being refueled?

You can show a pilot the checklist, tell him why he should never fly without using it religiously, set a good example for him by using it yourself, take harsh action against anyone who violates NATOPS by not using it, *but*, in the final analysis, it is the pilot, alone, who will live or perish by what he does when alone in that bird in the blue. Perhaps the two-man crew will save a few. There is another story I could tell, which starts out exactly the same way, but that time, when the *Skyhawk* caught fire because of an unsecured fuel filler cap and the pilot ejected, he perished because he was in too big a hurry to strap himself into his parachute and ejection seat.

Apollo 14 leaves VAB for three-mile trip to the launch site. Mobile service structure can be seen in the distance.

The Stage of the World

For the men who man our spacecraft, it all began April 9, 1959, when the National Aeronautics and Space Administration introduced its Project *Mercury* Astronauts – the original seven. Of that group, one, Naval Aviator Lieutenant Commander Alan B. Shepard, Jr., became America's first man in space on May 5, 1961. In *Freedom 7*, he was launched by a *Redstone* on a ballistic trajectory suborbital flight which carried him to a height of 115 statute miles and a landing, 15 minutes later, 302 miles down the Atlantic Missile Range. We were on our way.

That same man, now a captain and the only one of the original seven remaining on active flight status with NASA, began another space flight at 4:03 p.m. on January 31 when, as *Apollo 14* commander, he joined another Naval Aviator, Commander Edgar D. Mitchell, lunar module pilot, and Air Force Major Stuart A. Roosa, command module pilot, in a beautiful liftoff from what, at that moment, was the stage of the world.

But, for this writer, it all began when the staff members of *Naval Aviation News* were scratching their heads, wondering what kind of coverage we could give *Apollo 14*. Because of our long lead time, we knew that the story would have been told many times, in many ways, before our April issue could be printed. March was out of the question. The printer would be working on that issue before splashdown (in February). So, what was needed was something offbeat. A few staff members had observed previous shots

By Dorothy L. Bennefeld

and were space-jaded in their outlook. What we were looking for was a fresh approach.

In a half-serious, wishful way I said, "I'd sure like to go." And, as an afterthought, "I've never been to Florida."

Bingo! Those innocent words provoked a major jawbone session. Someone said, "That's it. We send the managing editor on a blastoff. The tell-it-as-it-is approach. Someone who has never seen a launch, recording impressions for readers who probably never will – readers whose only contact with the space program has been through T.V. and newspapers. We can tell them about the sound, the air that crackles, the ground that shakes and the vast expanses of a primitive peninsula punctuated with miles of ghostly gantries." Wow! I could hardly wait.

All this happened just before Christmas, and I stayed on Cloud 99 for the next month. The story line was batted about, and everyone contributed bright ideas about what interested him. Our photojournalist tried to teach me the intracacies of the office camera – light readings, lens speed, filters. I know nothing about a camera. When I take a picture, I aim, click and hope. But he persisted, eventually submerging me in his ten years of photographic expertise. Clutching the camera, the bag, a myriad of lenses and gadgets, I promised not to forget a thing. Fortunately, he gave me an instruction book, too.

At 8:30 a.m. on a cold (12-degree) January morning, I left Washington National Airport and headed for a "working" assignment in Florida (nothing this exciting could be work). I was going to launch *Apollo 14*.

And in only two hours I was caught up in the excitement. It was a balmy 67° in Melbourne, Fla., and the local newspaper headlines greeted me with, "Glittering Audience Arrives for *Apollo 14*." Well!

I was 30 miles downrange and about five miles inland; I was very excited but I wasn't sure that I also glittered. (When the staff finally decided I was the one, Melbourne was as close to the action as I could get.)

Impressions

Flat, beautiful, warm, sunny, sandy – a boater's paradise, a serene scene.

I watch the sun rise over the Atlantic (early the next morning), and then start up the Cape to Cocoa Beach through Indialantic, Satellite Beach and Patrick Air Force Base. On my right, the Atlantic caresses the beach and, occasionally on my left, I catch a glimpse of the quiet Indian River.

And suddenly I am at the NASA press center. At 9:30 a.m. I board a bus, with 25 other members of the Fourth Estate, for a 30-minute ride – to the Cape.

Even without a blastoff scheduled, the John F. Kennedy Space Center would be overwhelming. Urban sprawl? There's room. Broad, sandy, wet, flat room. Acres of it – 88,000 to be exact, with "right to use" an additional 53,553 submerged acres. It is almost an island; the only accesses are

Four days before liftoff, the men of Apollo 14 (left to right: Mitchell, Shepard, Roosa) relaxed before a practice session in the spacecraft simulators.

by causeways across the peaceful Banana and Indian Rivers.

Launch Complex 5-6 (inactive) is my first stop. Now a part of the Space Museum, this little chunk of concrete held the dreams of many men ten short years ago. Here stands a replica of *Freedom 7* and its *Redstone*. Eighty-three feet tall, it looks like a toy compared to the *Saturn* vehicle that stands on Pad A at Launch Complex 39 – the 363-foot *Apollo 14* that will begin a round trip to Frau Mauro the next day.

But this spot will someday be a shrine. Even now, attempts are being made to refit the blockhouse with the equipment it held that May day in 1961.

The blockhouse seems almost puny; the rusted fire hydrants look usable; the Army tank, used so long ago to protect personnel standing by during launch, still wears its coat of green; and the railroad tracks that the *Redstone* rode to this site seem to shine.

My eyes leave the *Mercury* spacecraft; they are drawn to the north. And there they are. The gantries of our *Vanguards, Saturns, Deltas, Atlases, Titans* and *Jupiters* that launched our *Mercuries, Geminis, Explorers, Tiros, Syncoms, Telstars, Relays, Echoes, Essas, Pioneers, Rangers* and *Mariners*. We've come a long way. We've gone a long way. And all along our star trek, we have left these silent sentinels. And somewhere further up the desolate reaches of the Cape, stands *Apollo 14*.

There is much to see as I tour this vast area. The contrast between two worlds is evident all around and extends into the limitless sky where the gulls remind us that they were masters of their environment long before Icarus made his ill-fated flight.

Ninety-five percent of the Kennedy Space Center has been designated the Merritt Island National Wildlife Refuge – a birdman's paradise where he can observe 224 species of birds, including the bald eagle. Alligators, otters, egrets and pelicans inhabit the many canals of the area, undisturbed by their space age neighbors. And bridging the gap between the two are the agrarian members of the island's society: former owners, leasing back from NASA 185,000 citrus trees on 3,306 acres, care for the trees and harvest the fruit. And they have a back-up crew – 20 beekeepers who maintain the support forces which provide the essential pollination.

NASA has shared its small and giant steps with all the world and has taken time to protect this almost symbolic environment.

As we drive through this rural setting, we pass huge fuel storage areas; the building where our astronauts suited up for those first flights; the information center where over 1,300,000 visitors gather annually to join conducted tours that cover 55 miles of the area; and the industrial complex.

The industrial complex consists of 50 buildings housing the administrative center for spaceport operations; the manned spacecraft operations building which contains the astronaut quarters and NASA laboratories and offices; office space for contractor personnel; hangars where the unmanned vehicles (*Surveyor, Mariner, Delta, Bios*, etc.) are prepared for launch; the flight crew training building with its command

At launch time, huge flame deflectors move into position in this trench. Permanent pedestals on pad's surface cushion mobile service launcher during liftoff. Note man in left center.

and lunar module simulators; and the hub of instrumentation.

And, finally, five miles to the north is the dominating, almost intimidating, Vehicle Assembly Building (VAB). In this plain but stately building the dreams and labors of thousands of people from all over this land came together in a final configuration: launch escape system and lunar, command and service modules are given the promise of life as they join a *Saturn V*. Within the whole is a lifetime: the first step, takeoff; youth, the outward searching journey; middle age, achievement; the declining years, return; and old age, the last burn before re-entry. And man is there – master.

Equalling 4½ Empire State buildings in volume, the VAB covers eight acres and rises 525 feet. Standing on the flat expanse of sand and shells that is Cape Kennedy, it reminds me of the photographs of a lonely LM on the moon. The same feeling persists as I walk into its 129,428,000-cubic-foot interior. Far above on the ceiling, in letters seemingly about four inches high, is the barely visible word "crane." Our guide tells us the word is actually as big as a Greyhound bus!! And in one of the four high-bay areas stands *Apollo 15*.

To this place, *Saturn V's* come by one of our oldest methods of transportation: by barge up the Banana River. They leave the VAB balanced on the lap of the crawler-transporter, cradled in the arms of a mobile launcher which steadies them until each is ready for that first step.

Leaving the VAB, I glance up, shading my eyes from the brilliant sun. There are the ever present gulls performing an aerial ballet as they glide on the currents of air created by 125 air-conditioning ventilators – their elongated shadows are silent patterns on the insulated aluminum panels that form the walls of this unbelievable structure.

Three miles away stands *Apollo 14*, moved there by one of the transporters, the world's largest tracked vehicles.

Literally balancing *Apollo 14*, the six million-pound transporter had moved to Pad A at less than one mile an hour along the 130-foot wide crawlerway. Keeping the space vehicle vertical with a plus-or-minus 10 minutes of arc (about the diameter of a basketball) the two cab operators had maneuvered the crawler down the 40-foot wide lanes. Each of the vehicle's eight tracks is ten feet high and 41 feet long, and is made up of 57 shoes which weigh about a ton each. Responding to the operators' gentle touch were 16 traction motors powered by two 2,750-hp diesels.

But I have one more stop to make before I will stand in the wings of the stage of the world.

Less than a mile and a half up the Cape is Pad B. Virtually identical to Pad A, it was first used for the launch of *Apollo 10*. In the distance, it looks like an unfinished white pyramid. As we approach, I realize that we are going to drive up the side, to the flat top. As I step upon its surface, the gentle wind off the Atlantic brings voices from the stars to whisper in my ear – of dreams, of disappointments, of achievements.

The pads of Complex 39 are 68,000 yards of gleaming white concrete

Our silent sentinels march down the coast of Cape Kennedy. In foreground is Complex 34 (Saturn); then the Titan, Mercury, Atlas, Atlas Agena and Centaur pads. A little farther south is the original Mercury pad.

poured in a roughly octagonal shape, with a flame trench 42 feet deep, 58 feet wide and 450 feet long running through the middle. Mounted on a launch platform, the *Saturn V* straddles the trench until blastoff. Then the heat and force of ignition fill the trench, controlled by 700-ton flame deflectors which resemble inverted V's.

On the empty pad, my bus looks like a Volkswagen. Back at Complex 5-6 it had looked like a bus, but now it seems to have shrunk – and in ten years...?

Overwhelmed, I wonder what the thoughts of Stafford, Young and Cernan had been when they launched here.

And now I stand in the wings! *Apollo 14* is on stage. Today, the 410-foot mobile service structure is still sharing the spotlight as workmen take care of all the last minute details. There would be no dress rehearsal.

As we had slowed down, the bus driver and guide had cautioned each other that the shoulders here were soft – untouched sand. Here – where *Apollos 4, 6, 8, 9, 11, 12* and *13* had already played out their roles. Curiously, no scorched earth here – as I expected. Climbing from the bus, I noted the sand and shells, the sand burrs, the lagoon which was almost a moat around the pad. And down by the lagoon, almost at my feet, a family of wild pigs – mom, dad and five or six little ones. Undisturbed, they live in the shadow of the vehicle that tomorrow will add another small item to the history of man's exploration. Have we really come so far, or is it true that humanity only moves ahead an inch every 10,000 years? Here, two separate worlds truly merge.

And here this day would end for me. Anything else would be anticlimactic. A few hours later, a few miles south, I would take off my shoes on a deserted beach and wade in the cold Atlantic. As gulls wheeled overhead, I would try to reconcile the place where I stood with the place where I had been.

"Little that America has done recently has evoked as much admiration as its achievements in space," said Robert S. Elegant in the *Los Angeles Times*. And today I walk a little prouder. We have come a long way from the Nina, Pinta, and Santa Maria.

Apollo 14's command service module is mated to launch vehicle. Photo was taken from upper level of VAB.

The 13th anniversary of the launch of *Explorer I* was a sun-bathing day. On January 31, 1958, a *Jupiter C* stirred into motion at what was then Cape Canaveral. The 64,000-pound space vehicle placed in earth orbit the 30.5-pound satellite that discovered the Van Allen Radiation Belt. We had launched our first satellite to an apogee of 364 miles.

I was alone this Sunday morning as I drove up the Astronaut Trail. In Cocoa Beach, I again boarded a bus – this time for the press site. Everyone on board was excited – making more noise than a Ladies Aid meeting in a church parlor.

At 10 a.m. the press site was barely astir. Three miles away, *Apollo 14* waited. Today, she presented another profile. (Sometime in the early morning hours, the transporter-crawler had moved the 10½-million pound mobile service structure to a parking place about 7,000 feet from the pad.) But there was the ever present blue lagoon between the stage and me.

I wandered out to the edge of the lagoon, drawn to the still, vast arena of Complex 39. As I turned to go back to my seat in the press bleachers, I reached down to pick up a broken conch shell. Sand and broken shells are everywhere, almost as if someone had hard-surfaced the area. On the right, a small canal from the lagoon leads the blue water between the bleachers and a stand of trees. On the left stand the almost permanent broadcasting trailers of the networks – with the window that rattles at blastoff. Past these is a large parking lot which merges with another big lot ending at the "people entrance" to the VAB.

I spent the morning wandering around, listening and talking, feeling as though I was attending a reunion of the "Apollo Blastoff Viewers." Around me members of the news media pound typewriters, take notes on tape recorders and do live radio broadcasts. On January 31, 1971, 2,355 newsmen gathered to launch *Apollo 14;* 440 newsmen covered the May 5, 1961 suborbital flight of *Freedom 7.* In those few short years, the program has caught and held the attention of America.

Then I was offered another bus ride

With its mobile service launcher, Apollo 14 rides to launch site on transporter. Note man, lower left.

and, at T minus three hours and seven minutes, I stood behind a low white picket fence, camera ready, as Shepard, Mitchell and Roosa left the manned spacecraft operations building and entered the small *Apollo 14* transfer van which would take them to Pad A. I was so close. And so excited. Yes, I got some great pictures – of Kirk Douglas. I still don't know whose guest he was, but he was part of the family groups, the Shepards, Mitchells and Roosas, that preceded the astronauts out of the building.

Back at the press site, I forced myself to sit down, relax and have a cold drink. I had to slow my adrenalin down at least a little.

I was relatively calm when the clouds began to move, forming a very dark backdrop for the VAB. The cast was on stage, waiting for the curtain. Was I going to get a rain check?

On that beautiful, balmy Florida Sunday afternoon, one million on-scene spectators held their breath as a hold was called at eight minutes and two seconds.

Silence.

Then the loudspeakers attempted to relieve our anxieties, explaining. But I knew there would be no launch in a rain storm. (The two bolts of lightning that hit *Apollo 12* as she lifted off had decided that.) I also knew there was no other available window until March 1.

Thinking of the 11 p.m. launch deadline, someone said, "Hope for a night launch. That would really be A-okay!" My mind painted the picture.

Forty minutes later, the count resumed. The launch was flawless. "Perfect," the oldtimers said. I didn't speak, I didn't move, I didn't breathe.

Apollo 14 was out of sight in the cloud cover when the sound and shock reached me, three miles away. But the loud shouts and thundering applause of the people present seemed to dim the sound of the blastoff.

One hundred sixty seconds later, *Apollo 14* was space-borne, traveling at 6,100 miles per hour 55 miles downrange, as I silently picked up my gear and headed downrange – by land.

This time the bus ride was made in silence. We were a calm group, absorbed in our memory of this day. The stage was empty. There was no need to wait for the reviews.

Photographs courtesy of NASA

APOLLO 14:

Turning Point?

BY CDR. TED WILBUR

The Man in the Street sniffled in the cold, wiped off his nose and peered at the shiny microphone which loomed in front of his face. "I don't know," the Man said for posterity, "why we are spending all this money just to knock golf balls around the moon."

He had somehow acquired the belief that "a moon-junket" costs 400 *billion* dollars!

Voicing indignant comments, he stood in open shade beneath the United States Capitol. And you felt you recognized him: Wasn't he the same fellow who, given the chance, would have had President Jefferson recall Lewis and Clark about the time they were halfway up the Missouri River?

Eventually, the motion picture camera stopped whirring; the scene had been recorded for subsequent television viewing. The Man in the Street looked around, his breath damp white puffs in the crisp Washington air. Uncertainly, he wandered away as the reporter cheerfully called out his thanks. "That's OK," said the Man. "Any time. I'll be around."

Not many people saw the interview. Surveys later disclosed that interest in the flight of *Apollo 14* waned soon after liftoff. Over on the West Coast, a prominent writer said Americans were about as interested in the moon shot "as a border war in Bolivia."

There are parallels. One that comes to mind took place in December 1903: An airplane flew at Kitty Hawk, N.C. A single, lone newspaper treated the event with enthusiastic credence at a time when a more popular approach had been to ridicule "wasteful adventures" such as Professor Langley's, and to deride notions of future government support for "financial and scientific calamities." The idea of an aircraft ever becoming a useful commercial or military tool was deemed absurd.

Consider, now, how long it took the airplane to really get going. Then think of what has happened in just ten years in Space. But does the Man in the Street (or the Woman in the Home) really *know* what has happened?

Continued on next page

APOLLO 14:

Turning Point?

After listening to criticism of the program over the last couple of years, one begins to suspect there has been a lack of public identification. It reminds this writer of something heard during the recent argument over the future of aircraft carriers. An opponent remarked to an ignorant ear: "Whatever you do, don't ever go aboard one of those things and watch air operations at sea – you'll get so charged up by it, you'll vote for every nuclear carrier they want to build." Presumably, it is easier to say "no" if you don't know what you are talking about.

By and large, especially among the nation's youth, the moon is about as far away as the distance across the living room – to the TV set. That, and a big price tag, is about all the Man knows about it. But mounting criticisms have made their impression on him.

One view equates the effort to put man in space with an *ancient* endeavor, the construction of the Pyramids, wherein Egyptian Pharaohs erected their own launching pads – to send the spirits of dead men into the sky.

It is argued that such practices are the product of anti-human institutions fed fat on slavery, mass military and industrial conscription, and exploitation of the weak.

Some say that the current space effort is a "colossal perversion of energy . . . that any square mile of inhabited earth has more significance for man's future than all the planets in the solar system."

The program has been variously described as a "new Roman circus," and as "escapism, a new kind of tree in the Garden of Eden, behind which man hides as he seeks to escape his obligation to relate to his fellow man." Astronauts are latter-day prodigal sons, or "cowboys in a new uniform." And the traditional "frontier spirit" that put Americans on the moon has actually been "a rolling wave of the destruction of our resources and our environment."

Is it?

In a sense, the flight of *Apollo 14* had one real emergency. Trouble with docking and other "glitches" introduced the ominous possibility of an aborted mission. Failure of *Apollo 14* could well have meant foreclosure of the manned space program. Moon shots have become major surgery; if the operation fails, the patient dies.

One of the most remarkable occurrences on the flight of *Apollo 14* received less than its due attention. A faulty switch fed misinformation to the computer in the lunar module, setting it up to automatically abort the mission. Upon appeal for help from the astronauts, Mission Control at Houston contacted the local Massachusetts Institute of Technology team. A call was made to Cambridge and, there, a young scientist, Donald Eyles, came up with a solution. Eyles suggested 26 sets of five-digit figures which would cause the onboard computer, then in the vicinity of the moon, to overlook the wrong information which had been given to it. The theory was quickly checked out in New England, sent to Texas and relayed to the

THE END OF THE SPACE AGE?

By 1976, the two-pound jar of moondust returned by the second and final *Apollo* lunar expedition had been moved to a small glass case in the east wing of the Smithsonian, noticed only by those having a special interest in things astronomical.

The world had learned all it needed to know about all the natural bodies in outer space. After all, those other worlds were dead and useless; earth would be for centuries a more hospitable place for additional billions of people than those airless, waterless chunks of dust. Mankind had stopped looking upward and outward and resumed its preoccupation with the more "practical" matters of getting and begetting.

A sense of adventure and romance had touched mankind briefly and was gone. Make-believe space trips, performed by actors in earthly studios, could more cheaply satisfy the yearnings of the science buffs. The average citizen, having no abiding interest in exploration, resumed his social and biological role in his overgrown anthill.

The age of space had lasted but a brief 15 years. Its cost had proven too high and its returns too meagre for a civilization interested only in practical matters. Henceforth, man would be content to regard those bright objects in the sky from afar, serene in the knowledge that he knew everything about them that was worth knowing. After all, four men had been to the moon, and Mars was just like the moon, and all the other celestial bodies were either too hot or too cold. Good thing we put an end to this space nonsense. If someday someone could think of a good way to make it a paying proposition, okay, but until then, "forget it."

spacecraft along with a series of precise control manipulations for Captain Shepard. After landing on the moon, Commander Mitchell called back, "Tell those guys at MIT they saved the mission."

The Man in the Street was more concerned about his head cold.

Every so often, when we have the feeling something curious is going on, we make an effort to gather informed opinion. Sometimes the answers come in strange and diverse ways. In the matter of space, one constant factor always arose during our conversations with representative individuals: The Benefit to Mankind. It was so universal, and impressive, we could not but wonder why there was so little of it understood or perceived by the layman. While the *News* has yet to find the answer to that riddle, we believe it worthwhile to pass along some of the commentaries consequential to our recent oblique perusal: *Space and the United States Navy* (November 1970).

Apollo 14, with its strictly scientific mission, has been editorialized as a turning point. Well, not quite, except in the sense that failure might have turned the program off for some years to come. And what if that had happened? Retired Captain Robert C. Truax, the Navy rocket pioneer, considered the possibility for us and his answer arrived in this form:

Incredible? Time reversing itself? Water running uphill? Viewed from the last decade of this century, the thought that space exploration might be a finite thing, dabbled in and then abandoned for lack of a "practical" return, would seem to have an unreal cast, even more unreal perhaps than the fact that the space age has already started, and that we are actually experiencing these exciting things that so recently were only a wild dream. Yet, even as we made our second landing on another world, "sensible" people in many quarters were beginning to talk as though man's march to the stars could, yes, should, be arrested or postponed. Postponed, at least, until all of the ills of civilization are cured and all the bodily wants of the last human on earth are filled to overflowing. It is a matter of "priorities," they say.

If the space program were to be completely abandoned, and all the money distributed directly to the lower ten percent income group (without deductions for administrative expenses), the net effect would be to raise their annual per capita income by about $250. In a hundred years, how would this accomplishment be viewed in comparison to the conquest of space?

In terms of historic impact, the answer is obvious. The expansion of the human race from the planet of origin to other worlds is a turning point of human evolution at least comparable to the invention of agriculture, the economic basis for civilization. Yet, people say it is illogical to concern ourselves with such intellectual challenges when ills of the body remain.

Let's talk of priorities then. But let's include in our examination all the stupid, foolish things we do.

How about smoking? It produces a bad taste in the mouth, as well as cancer and assorted other diseases. It costs U.S. citizens twice as much as the space program. Somehow this peculiar habit got established as the hallmark of an adult. Its "practical" benefit: It does give one something to do with one's fingers.

The practice of drinking alcohol is another goody. It causes dizziness and impairs the judgment. It removes inhibitions, frequently those that are better retained. Except for persistent conditioning, most people would admit that basically it tastes awful. Real benefits are hard to find, yet we spend more than fourteen billion a year on this practice.

Gambling? Now, here is an activity that produces no wealth, that creates at least as much pain as pleasure and which corrupts our society by financing a large criminal element. Its cost? At least as much as the entire space program.

How about our ultimate preoccupation, war? War and the after-effects of war knick our bank accounts for between twenty and thirty times the expenditures for the exploration of space.

On first thought, it may seem an interchange of priorities to place scientific achievement above the eradication of poverty. Yet, had not a few been freed from the unrelenting demands of the stomach to inquire into the ways of nature, man probably still would be wearing animal skins and knocking beetles out of rotting logs to assuage his hunger. Poverty is a relative term and even the poor attest to the fact that man does not live by bread alone. How many a poor hovel sports a television antenna? We should continue feeding the hungry; we should continue direct attempts to raise our standard of living, but not at the expense of the noblest adventure of mankind, the advance into outer space.

Make no mistake about it, the true objective of the space program is not communication satellites, it is not weather reporting, it is not resources surveys. It is nothing less than the exploration and colonization of the entire universe! To say that any other planet is "uninhabitable" is to argue that scientific progress will stop with what we know now. Men will not set foot on other worlds as naked savages, but fortified with very sophisticated equipment for controlling their environment. Given a source of energy, raw materials and an initial supply of tools (probably tool-making tools) man will be able to survive and prosper in progressively more "hostile" environments as technology develops.

No, space exploration is not merely a technological tour de force, a finite thing terminating in some modest improvement in our knowledge of some nearby celestial bodies. With the landings on the moon, mankind has embarked on a march that will lead, eventually but inexorably, to the stars. The only question is, how much of this grand adventure will you and I live to see? This is the only question over which you and I have any control. If we choose to abandon or more drastically cut back the space program now, we will dismantle the marvelous and intricate capability we have built. Once dissipated it cannot be easily restored. Carefully preserved and built upon, it can provide an ever widening view of "out there" which, after all, is where nearly everything is.

-ROBERT C. TRUAX
1970

APOLLO 14:

Turning Point?

Captain Robert F. Freitag, former rocket and missile ramrod of the Navy and now director of Manned Space Flight Field Center Development for NASA, approached the blackboard in his office and drew a line upon its surface. "When we speak," he said, "of technology application – the so-called *spinoffs* – we are dealing with a spectrum. It ranges from the purely aesthetic, on one side, to the totally practical, on the other."

Tapping the left end of the line with his chalk, he continued, "Here we have the spirit of exploration, the drawing together of the people in the world into a common group whose aim is the achievement of the impossible. Highly spiritual. That's at *this* extreme end.

"And over here," he moved along the board, "we have people who don't really care whether this country gets into space, but they support the effort in order to get a salary. Very practical.

"And somewhere in between you have the shadings. These range from the real economic benefits such as those derived from communications satellites – ComSat made a $17 million profit last year, selling things via satellite – to philosophical observations. For instance, the lunar landing has been equated to the moral equivalent of war: Nations competing at the highest level for goals, prestige and economic benefit – all the traditional objectives of war – but doing it on a peaceful basis. You might say space has given nations another means of competing, without bloodshed."

From Captain Freitag's viewpoint, the space program can more easily be seen as the provider of something for just about everyone. Fifteen years ago, his concern was centered on the Race for Space; now, with the same vigor he once applied to *Polaris* and other programs, he drives home the Case for Space. Moving back and forth across the board, he triphammers in chalk, point after point.

The impact of the space program reaches into many avenues of man's way of life. While some of the knowledge has no apparent immediate applicability to practical use today, it may have in the future. A great deal of the knowledge, however, is immediately transferable. Some of the areas where technological transfer is producing tangible benefits today were outlined by Captain Freitag as:

- Communications
- Weather forecasting
- Business
- Management
- Medicine
- Education
- Benefits abroad
- Aeronautics
- Home and marketplace.

It is, perhaps, the first two, which stem from the use of satellites, that are of most interest to the Navy, whose astronautics program supports technical and study projects aimed at investigating new techniques for further application of space systems in support of naval operations.

Navy employment of satellite communications promises relief from some propagation problems, spectrum overcrowding and susceptibility to jamming and direction finding, all of which degrade the usefulness of the conventional media.

Another project area in exploratory development is Navigation. In the advanced development category, we are using the *Timation* technique which provides continuous and instantaneous fixes, as opposed to *Transit* which provides fixes only on an intermittent basis.

"Relative to this," continues Capt. Freitag, "we have ocean surveillance. We envision that in five or so years the ship commander will have ocean surveillance techniques available which will give him knowledge of what is going on in the complete ocean areas – not just in his own ocean locale.

"In terms of our scale here, the satellite provides direct communication on this end (the practical), and long-term strategic surveillance on the other (the aesthetic)."

Benefits from space research are perhaps best epitomized by the communications satellite. International television, relayed by a network of satellites orbiting thousands of miles above the earth, affords living-room views of world events ranging from sports news to science. When we watch astronauts work on the moon, we are getting the picture via satellite.

Corollary benefits include high-speed, landline data links and radio transmissions. The result has been increased business efficiency through the growing use of computer-connected systems. Airlines now have instantaneous coast-to-coast reservation systems. Management information, such as inventory and production-control data, is flashed from plant to headquarters, or between purchasing departments, warehouses and retail outlets, on a routine basis.

Satellites have not only contributed to improvements in communications, but also in weather forecasting, geography and agriculture. The application of satellites to these areas resulted from extensive scientific and engineering investigations conducted during preparation for the manned *Gemini* and *Apollo* programs.

The space system does not only provide educational television information to, for instance, peoples in remote areas, but can also give them 48-hour weather forecasts. Recent advances in the development of sensors – devices which, from orbit, can sense such atmospheric conditions as temperature, pressure, moisture and air movement – point to significant extensions of forecast time in the near future. Furthermore, sensors – plus cameras – will soon do the job of resources surveying.

Weather satellites, equipped with the new sensors, take pictures not only in the visible light spectrum, but also in the infrared, showing cloud patterns (and unusual phenomena) by night as well as day.

Because a spacecraft cabin is a closed ecological system, it is a requisite for manned spaceflight that a nontoxic environment be maintained within the cabin. A similar requirement existed during development of the *Polaris* submarine environmental system. Hence, a great deal of effort was expended by NASA, the Naval Research Laboratory and others in identifying, measuring and controlling the atmospheric components of the sealed spacecraft cabin atmosphere. Much of this effort has resulted in the design and production of monitoring equipment which has been found to be functionally suited to air pollution monitoring on a broader scale.

For example, the compact mass spectrometer used to monitor the res-

piration of a test pilot has specifications suitable for detection and analysis of the gaseous constituents of the atmosphere. A slightly modified, mobile version can be used by civilian monitoring agencies.

The measurement of air pollution from satellites is now feasible through the use of lasers, the infrared sensors and microwave equipment. The information derived from such instruments will contribute to the detection of contaminants which threaten our environment.

"Space technology," says Bob Freitag, "is capable of providing new understanding – and control – of our environment. This factor is certainly on the side of the practical.

"On the other hand, we can still remember that this country was born and raised to maturity on the strength of hopes and dreams. We became great out of an urge to explore and to solve problems. Space is yet another frontier, another challenge. Thus, on the aesthetic side, if we deny ourselves the opportunity to explore space, we deny our own heritage."

It may be that the program has been too successful and that the benefits have been too anonymous. The reason could be that space-age fallout seems generally uninteresting. Technology applications such as those stemming from precision satellite geodesy are pretty boring to the Man in the Street. But he certainly pricks up his ears at *Apollo's* $24 billion price tag.

The clamor rises: cries ranging from the demand for immediate termination of all space activity (to allow the money to be diverted elsewhere) to the vigorous urging that we "reorient the efforts of our space institution towards the problems of the cities." The voices are ill-informed.

Bob Truax was one of the first space proponents to put the cost-effectiveness of the "new technology" in proper perspective. (See "The Jewels of Isabella" in *Space and the United States Navy.*) Since Truax's speeches in the early Fifties, other voices have come to the fore. His friend (since pre-WW II Annapolis days), Arthur C. Clarke, is probably the most widely read space sage. Clarke first wrote of communications satellites in February 1946 and has since written some 40 books – five million copies in 30 languages. He co-authored the screenplay for "2001: A Space Odyssey," a motion picture which had the curious effect of making the people in the audience scratch their heads – in a similar fashion to that of the apes portrayed in the opening of the film.

Clarke compares Professor Buckminster Fuller's estimate of the cost of the conquest of air – $500 billion since 1903 – with the present cost of a round trip ticket to the moon – $40 million – as an underscoring of the "present primitive state of the art." But, he points out, as was the case with aviation, so too will the cost of space travel diminish. Reusable spacecraft, orbital refueling and, ultimately, nuclear propulsion will make this possible.

(It is interesting to note that the June 1949 edition of *Naval Aviation News* carried a feature article entitled "The Atomic Rocket" complete with earthshaking illustrations: the artist had a V2-like missile emerging from a mushroom cloud. But what now provokes mixed emotions is the curious introduction preceding the piece:

> One of the long-haired rocket experts in BuAer crawled out of his test pit the other day long enough to discuss the possibility of atomic-powered rockets. Apparently the potentialities of such a vehicle reach amazing proportions. The article, as written by the expert, LCdr. R. C. Truax, will be set down fairly faithfully, as the editors wish to have nothing, if that much, to do with it.

Times, and even editors, do change.)

Lest we smugly assume that Americans have the monopoly on "space-goatism," it should be noted that the Soviet Union has its share, too. The *Washington Post,* in a recent report concerning Russian difficulties with the winter store of their staple, potatoes, quoted an indignant Moscow grandmother. Said the *babushka:* "We have rockets, right? We have sputniks, right? They fly around beautifully in outer space. So, I say to you, dear friends," as she addressed other customers in the central food market, "why don't we just send these rotten potatoes into outer space, too?"

A round of applause greeted her rhetoric, which was somehow more eloquent than that of our Man in the Street.

It is frequently argued that many of today's ills can be attributed to our use of modern technology – the ability to "bang out beer cans that peek back at our headlights in the night like low moons." Says NASA's George Low, "The long-range cure – and, more important, the prevention of future ills – can only be based upon facts not now well established. That requires a search for knowledge. That is science, and the application of science, on earth and in space."

This was the actual mission of NASA long before the present ecological concerns – and it will be the mission long after the air is clean, the lakes and rivers pure, and the balance of man and nature restored, again.

On the matter of turning points," says Capt. Frietag, "let us see what has been happening. We are talking basically about earth departure. *Apollo 14* was scientific; extended *Apollo – 15, 16* and *17* – will be more so with the Rover. We are going to take what we learned with *Apollo* and then 'come back to Earth' for the decade and concentrate our efforts, looking towards home. Of course, we will still do much looking *out* from Earth with the *Apollo* telescope mount, and we will do astronomy and many other things. But the emphasis will be back on Earth orbit.

"The real turning point, therefore, will be two years from now, in March 1973, when we place into orbit our first space station – *Skylab.*"

In upcoming issues, Naval Aviation News will continue its examination of the benefits from space. Also in preparation: Skylab, with Captains Conrad and Bean.

OVERLEAF

Captain Alan B. Shepard, Jr., Commander of Apollo 14, in the command module, Kitty Hawk. Painting by Commander Ted Wilbur, courtesy National Air and Space Museum, Smithsonian Institution.


TED WILB

WAY

Long before the *Saturn* booster sped *Apollo 14* on its way to the moon, naval units of Manned Spacecraft Recovery Force Pacific (TF 130) and Atlantic (TF 140) were on station to make sure astronauts Shepard, Mitchell and Roosa didn't have a long wait in their bobbing capsule after splashdown.

When *Apollo 14* touched water in the prime recovery area 760 nautical miles south of American Samoa, USS *New Orleans* (LPH-11) was there waiting and, within minutes, SH-3A *Sea Kings* from HS-6 had recovery swimmers in the water.

Other TF 130 units on station in the Pacific included USS *Ponchatoula* (AO-148), USS *Carpenter* (DD-825) and Navy frogmen from Underwater Demolition Team 11. The Pacific Recovery Force is headed by Rear Admiral Thomas B. Hayward, who also serves as ComHawSeaFron/ComFourteen/ComNavBasePearl/ComFAirHawaii.

Standing by in the Atlantic in case a change in recovery areas became necessary was TF 140, headed by Rear Admiral Richard R. Pratt, who has other duties as ComServLant. Units under his direction were USS *Spiegel Grove* (LSD-32), USS *Hawkins* (DD-873), USS *Paiute* (ATF-159) and HS-7.

Other forces, primarily aircraft and personnel of the Air Force Aerospace Rescue and Recovery Service, were on alert around the world.

Recovery ships are required to be on station prior to each space mission and remain there until spacecraft splashdown. Their initial stations are located along the ground track which the spacecraft will follow between liftoff and orbital insertion. The stations are changed as necessary during subsequent orbits to keep the ships in the best position for astronaut and spacecraft recovery. (For more information concerning the Manned Spacecraft Recovery Forces see *Space and the United States Navy*, *NANews*, November 1970 special issue.)

An abort is possible during any phase of a space mission, and a list of contingency landing situations is maintained to effect a rapid and safe recovery. In the event of an abort, recovery forces would be notified so alternate recovery procedures could begin.

There are six different launch abort procedures.

• Mode I is designed for safe recovery of the command module (CM) following an abort initiated between the launch escape system arming and launch escape tower jettison. This procedure consists of the launch escape tower pulling the CM off the launch vehicle and propelling it a safe distance downrange. Landing point would be near the ground track between the launch site and 520 nautical miles downrange.

• Mode II abort could be performed from the time the launch escape tower is jettisoned until the full-lift CM landing point reaches 3,200 nautical miles downrange. The command service module (CSM) is separated from the launch vehicle and the CM from the service module (SM), and the CM free falls to entry. The entry would be a full-lift, or maximum range trajectory, with a landing on the ground track between 440 and 3,200 nautical miles downrange.

• Mode III could be performed from the time the full-lift CM landing range reaches 3,200 nautical miles downrange until orbital insertion is achieved. Here, the CSM is separated from the launch vehicle and, if necessary, there is a retrograde burn with the service propulsion system so the half-lift CM landing point is no farther than 3,350 nautical miles downrange. The CM would then be separated from the SM and a half-lift entry would be flown, with the landing point about 70 nautical miles south of the ground track between 3,000 and 3,500 nautical miles downrange. This procedure is designed to prevent a landing in Africa.

The next three launch-abort procedures are essentially alternate launch procedures during which the spacecraft is inserted into a safe earth orbit. They are preferred over Modes II and III, and would be used unless an immediate return to earth is necessary during the launch phase. They are discussed in the reverse order in which they would become possible in order to simplify the explanation of the procedures.

• Mode IV and Apogee Kick is an abort to earth parking orbit and could be performed any time after the service propulsion system has the capability to insert the CSM into orbit. The CSM is separated from the launch vehicle and, shortly afterward, there is a posigrade service propulsion system burn to insert the CSM into earth orbit. This means that any time during the third stage (S-IVB) burn portion of the launch, the CSM has the capability to insert itself into orbit if the S-IVB should fail. Apogee Kick is a variation of the Mode IV abort wherein the service propulsion system burn-to-orbit would be performed at, or near, the first apogee of the spacecraft. The main difference between the two is the time at which the burn is performed.

• S-IVB Early Staging — Under normal conditions, the S-IVB is inserted into orbit with enough fuel to perform the translunar injection maneuver. This fuel can be used during the launch phase, if necessary, to ensure that the spacecraft is inserted into a safe parking orbit.

• S-IVB Early Staging to Mode IV — Should it become necessary to separate from a malfunctioning S-II stage, the S-IVB could impart sufficient velocity and altitude to the CSM to allow the service propulsion system to be used to place the CSM into an acceptable earth orbit. It is a combination of S-IVB early staging and Mode IV procedures.

Once the CSM is safely inserted

OUT

into earth parking orbit, a return-to-earth abort would be performed by separating the CSM from the S-IVB and utilizing the service propulsion system for a retrograde burn to place the CM on an atmosphere-intersecting trajectory. After entry, the CM would be guided to a pre-selected target point.

If an abort is necessary after the translunar injection, a maneuver would be initiated with the service propulsion system 90 minutes after the translunar injection burn cutoff. This abort may be targeted to the Atlantic Ocean line. Any later abort would be initiated 8, 15, 25, 35, 45 or 60 hours after translunar injection, and would be targeted to the mid-Pacific recovery line. Dependent upon the type of contingency, however, the crew may do a time-critical abort, which would provide a minimum return time to an unspecified landing area or to the closest available recovery line. A fuel-critical abort could also be performed which would provide a slow return to a recovery line, based upon the propulsion system limitations causing the abort.

When the spacecraft begins the lunar orbit insertion, the burn transfers the CSM/Lunar Module (LM) from its translunar trajectory to the lunar parking orbit. Premature termination of the maneuver places the vehicle on an abnormal trajectory, from which an alternate mission or an abort may result.

If an inadvertent service propulsion system shutdown occurs early in the lunar orbit insertion burn, an immediate restart is initiated. If the restart is unsuccessful and an abort situation exists, the LM descent propulsion system engine is primary for the abort maneuver. If no lunar orbit insertion burn is performed, an abort would be initiated two hours after the predicted insertion time. The return time for this abort is approximately 57 hours if the CM is targeted to land on the mid-Pacific line, and 29 hours if the landing longitude is unspecified.

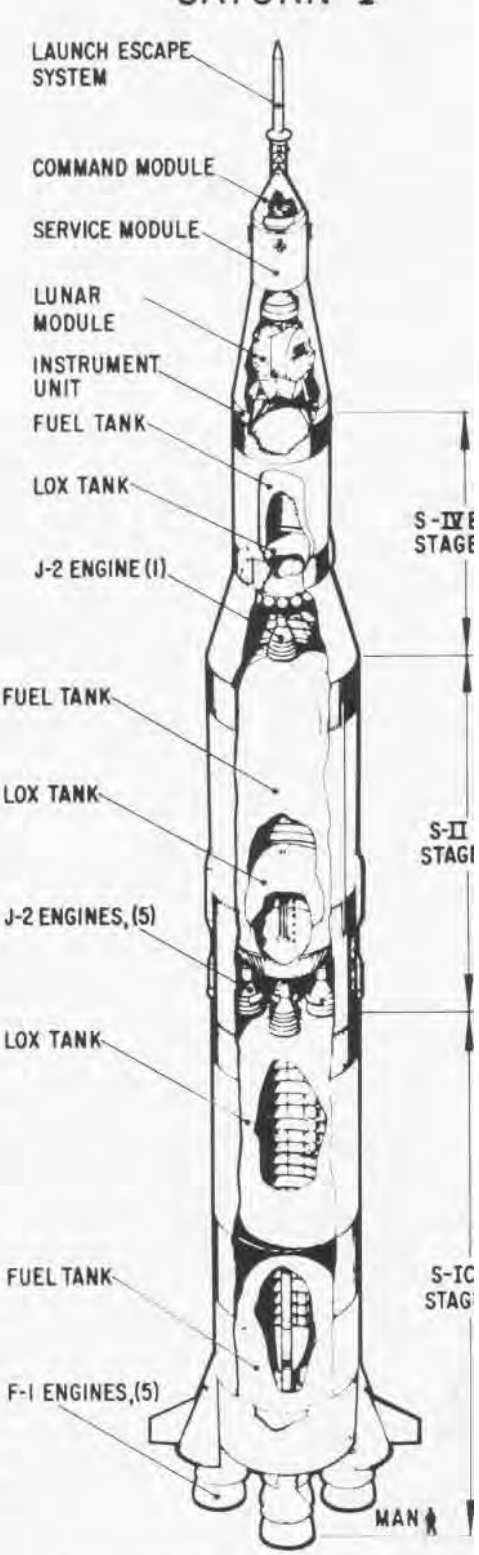
After the lunar orbit insertion has been successfully completed, an abort to return the spacecraft to earth is essentially an early trans-earth injection maneuver. During the lunar orbit phase of the mission, an abort is possible only at one specific time for each revolution.

On the return trip, if the trans-earth injection burn should terminate early, an immediate restart would be attempted. If an immediate restart is not possible, the attempt would be delayed, with the delay time depending upon how much of the trans-earth injection burn had been completed before engine shutdown.

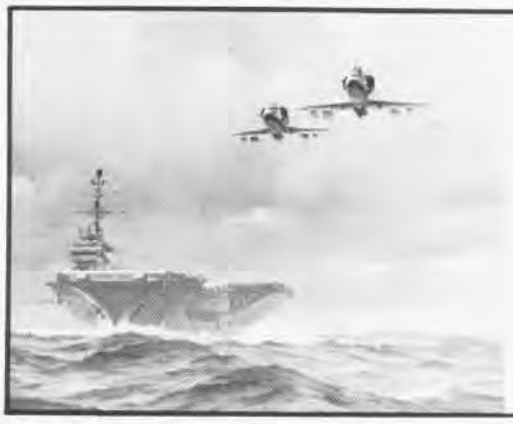
From trans-earth injection until entry minus 24 hours, only one abort procedure would be performed. This would be to use the service propulsion system/reaction control system for a posigrade burn that would decrease the trans-earth flight time and change the longitude of landing. If the trans-earth injection maneuver targeted the CM to the mid-Pacific line, the spacecraft would not be capable of changing the landing longitude sufficiently to retarget the CM to the Atlantic Ocean line.

After entry minus 24 hours, no further burns to change the landing point would be performed. This is to ensure that the CM maintains the desired entry velocity and flight path angle combination that would allow a safe entry.

If any abort maneuver were made, recovery forces would immediately respond to effect a safe recovery.



Cutaway model shows the various sections of the mammoth Apollo/Saturn V space vehicle. Note comparative size of a six-foot man, lower right, next to the 363-foot spacecraft.



at Sea with the Carriers

ATLANTIC FLEET

Forrestal (CVA-59)

Operational readiness is the name but inspection is – not a game. It is long hard work for all hands aboard any Navy ship. The Atlantic Fleet Weapons Range provided the facilities for *Forrestal's* ORI, which concentrated heavily on flight deck operations. The flight deck crew, in addition to its normal job of operating aircraft, went through fire-fighting drills with "crashed" aircraft. "Casualties" sustained in the simulated crash tested hospital corpsmen assigned to the flight deck. Another drill called for rigging the nylon net barricade – aboard *Forrestal* it takes about two minutes, 15 seconds to rig.

The men of CVW-17 must arm their own aircraft, in addition to servicing them. During ORI, ordnance crews used both practice and live ordnance.

The ORI team also checked *Forrestal's* survivability during attacks by jets and missiles. The jets were "shot down" by CVA-59's *Sea Sparrows*, saving the ship. Simulated missiles were also launched against the carrier during the operations. *Forrestal* avoided the missiles by firing her newly installed missile, *ChaffRoc*, which spread metallic chaff in the atmosphere, confusing the guidance systems of inbound missiles and keeping them from striking the ship. The weapon, installed aboard *Forrestal* just before she left Norfolk, Va., in January, makes *Forrestal* the only attack aircraft carrier with such an installation. The only other *ChaffRoc* installations are aboard cruisers and destroyers.

Simulated flight deck crash with casualties, aboard Forrestal during ORI in Caribbean, keeps flight deck crew and corpsmen busy.

Some EA-6A *Intruders* carry them.

Other exercises included feeding the crew under battle conditions, communications drills, emergency destruction of classified equipment, abandon-ship drills, and underway replenishment.

On completion of the ORI, the crew, unable to go ashore, observed liberty aboard. Some of the men broke out guitars, drums and trumpets for what turned out to be an all-night rock concert with nearly 300 men sitting in. The next morning, *Forrestal*, under the command of Captain L. A. Snead, weighed anchor and headed toward her ninth deployment in the Med.

America (CVA-66)

CVA-66, commanded by Captain Thomas B. Russell, Jr., is undergoing a major overhaul in the Norfolk Naval Shipyard in Portsmouth, Va. Her homecoming marked the end of a WestPac deployment with the U.S. Seventh Fleet and her second around-the-world cruise.

Before *America* left Sydney, Australia, homeward bound, an unknown crew member expressed the thanks of all those aboard *America* for the hospitality and friendship shown them during a three-day stay in Sydney. He sent his thank-you note in a bottle which he dropped in the ocean. The bottle was later found ashore and the thank-you note was published in the Sydney *Daily Telegraph*.

SN Buddy Rhodes puts down his camera to help load bombs aboard Kitty Hawk.

PACIFIC FLEET

Hancock (CVA-19)

ABCM Floyd S. Tucker, *Hancock's* chief master at arms and senior enlisted man on board, was the first chief to stand a quarterdeck watch. Under the provisions of Z-gram 44, chiefs are given the responsibility of officer of the deck (in port).

Hancock is currently the oldest attack aircraft carrier in the Navy, and will observe her 27th birthday this month while deployed to WestPac.

Enterprise (CVAN-65)

Vice Admiral Hyman G. Rickover, "the father of the nuclear Navy," visited the nuclear attack carrier *Enterprise* during her sea trials. CVAN-65 had just completed her third nuclear refueling. She now has new nuclear reactors — which means she will not need refueling for more than ten years. The nuclear fuel in the reactors is equal to the power of the amount of oil needed to fill a line of tank cars extending from Newport News to Boston.

Adm. Rickover told the crew and commanding officer, Captain Forrest S. Peterson, "You have proved, and I know you will continue to prove, that it is men, not systems, on whom our country and this ship must depend."

Constellation (CVA-64)

Puget Sound Naval Shipyard in Bremerton was the background for a change-of-command ceremony in which Captain Harry E. Gerhard relieved Captain John M. Tierney as commanding officer of *Constellation*. The latter is now on the staff of Commander, Naval Air Systems Command, Washington, D.C. Capt. Gerhard was previously commanding officer of the Atlantic Fleet ammunition ship, USS *Great Sitkin*.

Kitty Hawk (CVA-63)

WHAT, a television cameraman pushing bombs? WHAT is right. SN Buddy Rhodes, cameraman and floor director for CVA-63's closed circuit TV system, pushes bombs part time for *Kitty Hawk's* Weapons Handling Assistance Team (WHAT).

WHAT is composed of third class petty officers and non-rated men from departments other than the weapons department, who help deliver ordnance to the planes of Carrier Air Wing 11. The regular bomb handlers needed more men and help came quickly in the form of WHAT.

At the end of their four-hour watch each day, WHAT members go back to being yeomen, storekeepers and cameramen.

Kitty Hawk, under the command of Captain Earl F. Godfrey, recently won the ComNavAirPac Award for aircraft intermediate maintenance proficiency.

at Sea with the Carriers

RANGER:

Reflections at mid-cruise

The sixth combat cruise of USS *Ranger* (CVA-61), now almost half over, has been a minor epic of the sweat and strain of war aboard this 80,000-ton aircraft carrier, thousands of miles from the rust-red Golden Gate of home.

Ranger left San Francisco Bay on a clear morning in October. The people standing on the pier at Alameda – the wives and children, the friends, the well-wishers, the curious on-lookers – stood like melancholy statues, with fixed, forced smiles.

The men of *Ranger* would be gone for a long time and they didn't want these parting moments to become an unhappy melodrama. For this reason, they tossed their hats into the air and tapped their feet in time to the band's music – fixed, forced smiles on their faces.

Each Rangerman left something of himself on that pier, 8,000 miles away. Four thousand five hundred crewmen – 4,500 different impressions of this continuing saga of the sea. And the reason for the difference is simple: men do not think exactly alike; each one grasps something special that is his and holds it for remembrance.

But now, each man turns to the tasks at hand.

The work that is done aboard *Ranger* is often mentally frustrating and physically dangerous. Its successful completion rests not with the ship or the crew, but with the responsible individual. It is said that a man is the sum total of his experiences. *Ranger* is the sum total of her separate members and their experiences.

Somewhere behind the haze-gray facade of the ship's bulkheads there are unseen people. People too important to be likened to small cogs in a massive machine. Each man has a distinguishable face and personality, a specific job to perform – and his own memories of a world an ocean away.

He is a plane director on a hazardous 1,070 by 270-foot flight deck; he is the pilot of a supersonic aircraft who, with scant margin for error, must set his plane down on that rocking deck.

A Rangerman is an electrician who must repair and maintain equipment scattered along 290 miles of electrical cable; he is on the executive staff, filling out reams of forms in triplicate and keeping current the stacks of 4,500 service records.

He may work in the aviation technical library and be responsible for 250,000 pieces of literature; he may drive an aircraft tow tractor, operate a jet starter or man a crash and salvage crane. Perhaps he repairs aircraft or radar systems. He may sit for long hours in Stygian darkness, watching and evaluating blips on a scope. Or he may be the man who maintains and understands the intricate systems of track and search radar.

If he works in the supply department, he onloads, inventories and distributes thousands of items worth several million dollars. Food is a fact of life, and someone must prepare wholesome meals for the crew and have them available 24 hours a day. Payday is always good news, but someone must balance the monthly payroll.

Over one hundred pieces of visual and radio communications gear must be manned constantly. Photographs from reconnaissance aircraft must be developed and evaluated; a man-with-a-name flew over hostile territory to take them.

A Rangerman in the air department operates an elevator; rigs a barricade; launches and records aircraft; activates the catapults; or maintains miles of fuel pipes, valves and purifiers in a system whose tanks hold 1.6 million gallons of jet fuel.

Somewhere deep in the recesses of the ship, a man works feverishly in the dyspneal heat of the firerooms and boilers – assuring maximum steam for power and maximum fresh water for the crew. Elsewhere, a Rangerman works with bombs, missiles and high explosives which require careful handling.

Someone is the captain, the executive officer, or a department head. He is charged with overall efficiency and coordination of the carrier, planning for problems before they occur and working to see that they don't.

A *Ranger* crewman is a hospital corpsman who, in the bewildering insanity of war, might be another man's last hope for life.

The men of *Ranger* have diverse backgrounds, training and ideals. But they are men bound together for a common good and in a common purpose; bound by something more than each man's specific job; bound, first and foremost, because they *are* Rangermen, each man a part of the whole.

SELECTED

Reserve Policy Board

As a result of recommendations submitted by the 1969 and 1970 Naval Reserve Policy Boards and approved by the Secretary of the Navy, the Board has been transferred from the Office of the Chief of Naval Operations to the Office of the Assistant Secretary of the Navy (Manpower and Reserve Affairs).

Rear Admiral D. F. Jordan, USNR, is the first inactive duty flag officer to be appointed chairman of the board. Assistant Secretary James D. Hittle desires that the members of the board become active in the policy-making decisions of the Navy Department as they affect Reserve Affairs.

In an initial move, a special committee of three board members was called to the Pentagon to assist in the development of implementing procedures for the recent decision to require 90 percent drill attendance of all Selected Reservists and mandatory drilling of 2x6 personnel.

Members of the National Naval Reserve Policy Board are an excellent source of information for all Selected Reservists on how and why most changes in the Reserve program affect individual Reservists. Naval Reservists are encouraged to contact the Board member in his area should there be any questions on how Navy Department policy affects the Naval Reserve.

First AMPI

San Diego's Naval Air Reserve held their first Annual Military Personnel Inspection at the Naval Air Reserve Training Unit facility at NAS North Island in January.

More than 700 people, prominent San Diego citizens and guests of personnel viewed the inspection and took part in the receptions following.

On a clear but crisp day, inspecting officers, Rear Admiral Howard E. Greer, Commander Naval Air Reserve Force, and Rear Admiral John Butts, Jr., Commander Carrier Division One, indicated they were impressed and pleased at the results of the inspection of more than 900 Southern California Weekend Warriors.

The AMPI marked Admiral Greer's first visit to the San Diego area since the establishment of NARTU North Island and his first personnel inspection of this force since its transforma-

Three officers of the Naval Air Reserve have been selected for advancement to the rank of rear admiral. Two are Selected Air Reservists: Captain Edwin M. Wilson, C.O. of NARS G1, NARTU Alameda, and Captain Eddie Ball, former C.O. of NARS A1, NARTU Washington. The third is Captain Graham Tahler, a TAR, and Assistant Chief of Staff for Administration and Personnel on the staff of CNATra.

Captain Tahler

Captain Wilson

Captain Ball

AIR RESERVE

NARTU Norfolk now boasts a huge identifying sign near Cape Charles, Va. Lt. Jeff Walker of RTU-72 made the sign, right, with letters 72 feet high in his wheat field. Captain F. W. Lawrence, C.O. of NARTU Whidbey Island, Wash., with assist from JOC C. E. Krischano, displays his unit's new insignia.

tion into force structure paralleling the operating forces.

Admiral Greer, head of the nation's 29,000-man Naval Air Reserve Force, issued the sober warning that Soviet seapower is mushrooming at an unprecedented rate, while American influence on the high seas continues to decline.

Adding that Reserve forces will be asked to shoulder an ever-increasing share of the responsibility for this country's defense posture, Admiral Greer challenged his audience to do their utmost to provide a Naval Air Reserve Force that is truly ready for service with the fleet.

NAS Los Alamitos Becomes NARTD

NAS Los Alamitos, after many years as the focal point of Reserve Naval Aviation activities in Southern California, has seen the departure of its Reserve squadrons to other facilities. Squadrons formerly based at NAS Los Alamitos are now operating from Naval Air Reserve training units at NAS Point Mugu and NAS North Island.

Los Alamitos is now a Naval Air Reserve Training Detachment under the command of NARTU Point Mugu. Units retained at Los Al have been assigned new designations. They are: NARS U2, NAIRU's U1 and U2, NASRU U1 and U2, NARMPU (Naval Air Reserve Photo Unit) U1, and NARDiv's U2, U3, U4 and U5.

New Deputy

Captain Richard C. Altmann relieved Captain Louis J. Muery, Jr., as the Deputy Commander, Naval Air Reserve Force/Chief of Naval Air Reserve Training, at NAS Glenview, Ill., on January 11, 1971.

Capt. Altmann was commissioned an ensign and designated a Naval Aviator in July 1943. During WW II, he was awarded the Navy Cross for service in the Pacific Theater with carrier squadrons as a torpedo bomber pilot.

In 1968, he left NARTU Norfolk, where he was commanding officer, and attended the Naval War College before reporting to Washington for duty in the Office of the Director, General Planning and Programming. From that assignment he assumed his present position.

In addition to the Navy Cross, Capt. Altmann wears the Distinguished Flying Cross and five Air Medals — earned in the Pacific during WW II.

CVWR-30: another first

With rockets screaming, bombs bursting and flares beaming, Naval Air Reserve Forces scored another first.

For the first time in the 55-year history of the Naval Air Reserve an attack carrier air wing cruised as a complete entity. Eight squadrons with 75 aircraft and more than 1,000 men from Reserve squadrons at Alameda, Miramar, Point Mugu, and North Island, Calif., Dallas, Texas, and Washington, D.C., converged on NAAS Fallon in the Nevada desert. Shortly after arrival at Fallon, the squadrons started working as a coordinated carrier air wing.

In February 1970, when the Naval Air Reserve was reorganized along its present lines, few people expected that its air wings would be able to cruise as a single unit in less than one year. But, by the time the Commander, Naval Air Force, Pacific, and Commander, Fleet Air Wing, Alameda, had completed their Operational Readiness Inspection (ORI) of CVWR-30, there was no doubt that the Naval Air Reserve Force squadrons, though widely dispersed, could effectively cruise together as an attack carrier air wing. The flight hours and sorties flown, as well as the ordnance expended, give testimony to the ability and dedication of the squadron personnel and to the high tempo of operations.

The first week of flying was used to sharpen individual pilot skills in the areas of bombing, photo reconnaissance and controlled fighter attacks. During the second week, an ORI was scheduled in which the coordinated efforts of the squadrons as a wing were graded and compared to Regular Navy counterparts flying the same missions.

The mission of CVWR-30 was to deliver live ordnance on designated targets, to complete simulated search and rescue missions and to fly close air support exercises. It was accomplished by flying more than 2,750 accident-free hours (nearly 1,300 sorties) and expending many types of ordnance, including flares, missiles, bombs and rockets.

In a message to Commander Alastair S. Falconer, Commander CVWR-30, Rear Admiral Howard E. Greer, Commander Naval Air Reserve Force/Chief of Naval Air Reserve Training, stated, "Your recent air wing weapons training deployment to NAAS Fallon was an outstanding example of how the new Naval Air Reserve concept has given us a stronger and more combat-ready stature. This weapons training deployment demonstrates the vast improvement realized in CVWR-30 in its pursuit of a true combat readiness. With the arrival of a few more pieces of equipment, this wing can complete its syllabus training and thereafter answer the call to fleet duty and immediate deployment without reservation."

The squadrons which comprise CVWR-30 are: VF-201 from Dallas, flying F-8's, commanded by Commander William M. Lamers, Jr.; VF-202 from Dallas, flying F-8's, commanded by Commander Samuel R. Jones; VF-301 from Miramar, Calif., flying F-8's, commanded by Commander Walter S. Smith; VA-304 from Alameda, Calif., flying A-4's, commanded by Commander John H. Thompson; VA-305 from Point Mugu, Calif., flying A-4's, commanded by Commander Steven B. Daggett; VFP-306, flying RF-8's, from Washington, D.C., commanded by Commander Robert R. Smiley; VAW-307, flying E-1B's, from North Island, Calif., commanded by Commander Glenn A. English; and VAQ-308, flying KA-3B tankers, from Alameda, commanded by Commander Gregory B. Bambo, Jr.

Two fighter squadrons, VF's 201 and 202, recently were involved in another Naval Air Reserve "first." In mid-November, pilots from those squadrons landed aboard the aircraft carrier, USS *Ticonderoga*, off the coast of Southern California. Flying F-8K *Crusaders*, the Dallas-based squadrons of CVWR-30 became the "first" fighter squadrons of the Naval Air Reserve Force to carrier qualify during a two-week active duty cruise.

Aviation electricians of VF-301 troubleshoot a Crusader during CVWR-30 ORI at NAAS Fallon. Below, Lt. W. A. Counts, VA-304, checks practice bombs prior to an attack mission. SM2 F. M. Johnson, bottom, plots accuracy of hits by wing aircraft on target range.

If trained individuals are Naval Aviation's most valuable asset, then retention of these men and women is one of the Navy's biggest problems.

If pride and morale can be instilled in the first term airman, the problem is partly solved. But it is not easy to perpetuate pride and high morale in a sailor whose barracks are as bleak as his attitude. The airman, who must take a financial loss at a motel while trying to find permanent quarters — that don't seem to exist — for his family, is not going to be impressed by the "bennies" mentioned in a shipping-over lecture. Personnel who face hours of off-duty boredom because of a lack of adequate clubs and other recreational facilities will eventually find release from that boredom in a fantasy that soon becomes reality. Many a Navy man, discharge in hand, walks through the gate, a "free" man with a very bad attitude toward the Navy.

By Z-gram 22, the Chief of Naval Operations is attempting to remedy these situations. When he saw the Seabees' building program in the Republic of Vietnam, he was very impressed by their ability to guide unskilled, indigenous personnel in the skills of civil engineering and construction. The results of these programs were often nearly miraculous — given the conditions of war and poverty in which the men of both nations had to work. If such miracles could be worked in that kind of environment, what would the results be if the same type of program were applied, at home, to Navy bases and stations sorely in need of improved facilities?

The task of organizing and executing a program which combined trained Seabees and untrained station personnel was given to Rear Admiral W. M. Enger, Commander, Naval Facilities, and "King Bee." Dubbed the Seabees Ashore Self Help Program, the all hands project combines the talents of station personnel (Self Helpers) and trained Seabees from many types of active and reserve units. Included are the relatively new platoon-sized construction battalion units (ashore). The 45-man CBU's based at 13 CONUS and Hawaiian locations, including several naval air stations, were created to improve peacetime training and readiness. One way in which they can accomplish their missions is through the Self Help program.

The effort of the Seabees and their aviation-rated co-workers has been impressive and is evident on board many naval air stations.

"We literally started from scratch," remarked SWC Ray Harknett of NAS Saufley Field's Public Works Department. He, a nine-man self-help crew and seven members of Pensacola's CBU-402 had just converted an old officers mess into an enlisted club.

"It was teamwork right from the start. All the men from the station and the Seabees worked together to get their project completed — and completed correctly."

Chief Harknett estimates that the conversion saved the Navy $15,000. Throughout the rest of the Naval Air Basic Training Command, CBU-402 and Self Help sailors have left their mark.

At NAS Pensacola's Sherman Cove, the special services fishing facility has a new boat cover and hoist; Kane Field received new bleachers; and two new parking lots and the Acey Deucey Club were enlarged. More plans are being made for the air station, among them, a new 35-unit trailer court, the renovation of the Sea Air EM Club and several barracks, and the construction of a skeet and trap range.

The project has given the Ellyson Field Navy Exchange service station a new country store. Future improvements include skeet range structures, a handball court and a bowling alley.

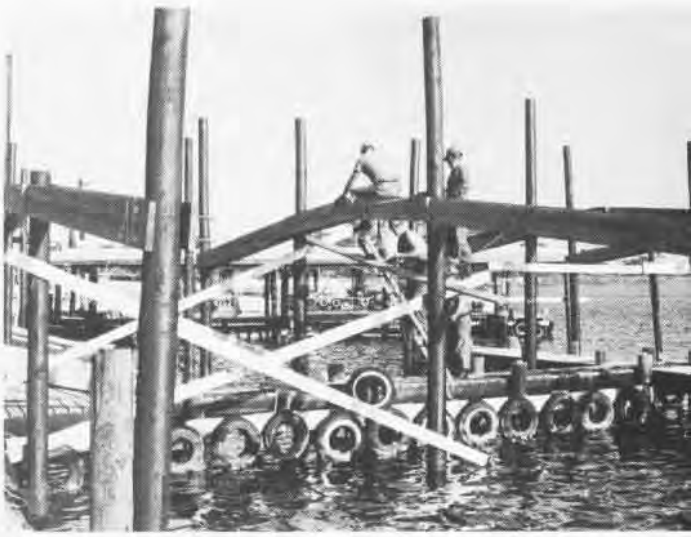
Whiting Field's public works officer, Lieutenant Commander L. H. Opager, calls his station's Seabees the D-Bees; they are busy demolishing several old housing units which have outlived their usefulness. In a more "constructive" vein, the Whiting D-Bees have installed new playground equipment, worked on the station skeet range and, after a recent flood, restored the grounds at the special services boat dock.

At NAS Meridian, Miss., one officer, two Seabees and two Self Help personnel have been busy replacing the television cables in the BEQ's, constructing a parking lot for the CPO Club and improving the golf course.

Across the country at NAS Alameda, Calif., the Self Help program is also in high gear. CBU-409 was established in November and since receiving tools and equipment, the Seabees have been engaged in the construction of their own shop buildings which, when completed, will house the unit's administrative section, trade shops, equipment, maintenance and repair shops. These buildings will be the base of operations for future projects.

Another major effort has been the construction of a new parking lot for exchange patrons. The Self Help personnel are made available as needed by various departments and tenants aboard the station. Utilizing available manpower and Seabee know-how, an EM club party room was converted into a casual bar in time for Christmas. Recently, site preparation work was begun for an expansion of the enlisted

SELF HELP



Seabees and airmen have been busy aboard many naval air stations. On the opposite page, a CBU-407 chief and a VT-28 airman survey a project at NAS Corpus Christi. Texture is mixed, left; a boat cover is constructed at NAS Pensacola, above; and finishing touches are applied — all compliments of Self Help.

men's barracks parking lot.

In the few months since the project began aboard Alameda, the results have been remarkable, but the best is yet to come. Spring and summer are expected to be very busy seasons for the air station's Self Help program and the Seabees. Recently a large fleet recreational complex was funded and CBU-409 will build major portions of it. The project will be constructed near the carrier piers and will consist of ball fields, basketball, tennis and handball courts, and a clubhouse. Before that construction begins, the existing building will be converted into a one stop check-in center for personnel reporting aboard.

NAS Corpus Christi, Texas, hard hit by Hurricane *Celia* in August, is receiving help in rebuilding from the men of CBU-407, MCB-71, Det. J, and the station's Self Help "Airbees."

Twenty-five enlisted housing units that were badly damaged during the storm were repaired. Water damage was widespread in the units and necessitated the replacement of floor tile, the removal of water stains, application of texture and paint, as well as a variety of electrical and carpentry jobs. With the units restored, the Seabees and Airbees are now engaged in demolishing some of the station's more heavily damaged buildings. When the essential demolishing and construction are finished, Corpus Christi's recreation facilities will be next.

The 73 men of CBU-404 at NAS Memphis have significantly changed the appearance of that station. The Memphis Seabees have revamped the EM Club and a Sunday School, built sidewalks and roofed the hobby shop garage. The unit also relocated the station's Teen Club, auxiliary gym and several large movie signs. New office spaces were built for the Red Cross and the Navy Relief Society; the photo lab and barracks were rewired; and a new loading dock was built for the commissary. The unit is presently building parking lots for the station.

These are only a few of the air stations benefitting from the efforts of Seabees and station personnel. At other air stations throughout the country, the transformation of facilities under Self Help has been equally impressive, prompting one observer to build upon the Seabee motto: "Can do . . . a lot with a few." And a little Self Help from their friends.

PH3 Ron Rentfrow

Team Work

Cdr. Harley Hall, team leader and pilot of Blue Angel No. 1, signs autographs for young admirers in Hawaii. The Blue Angels were just completing a month's tour which had taken them to South America and Hawaii.

Badger

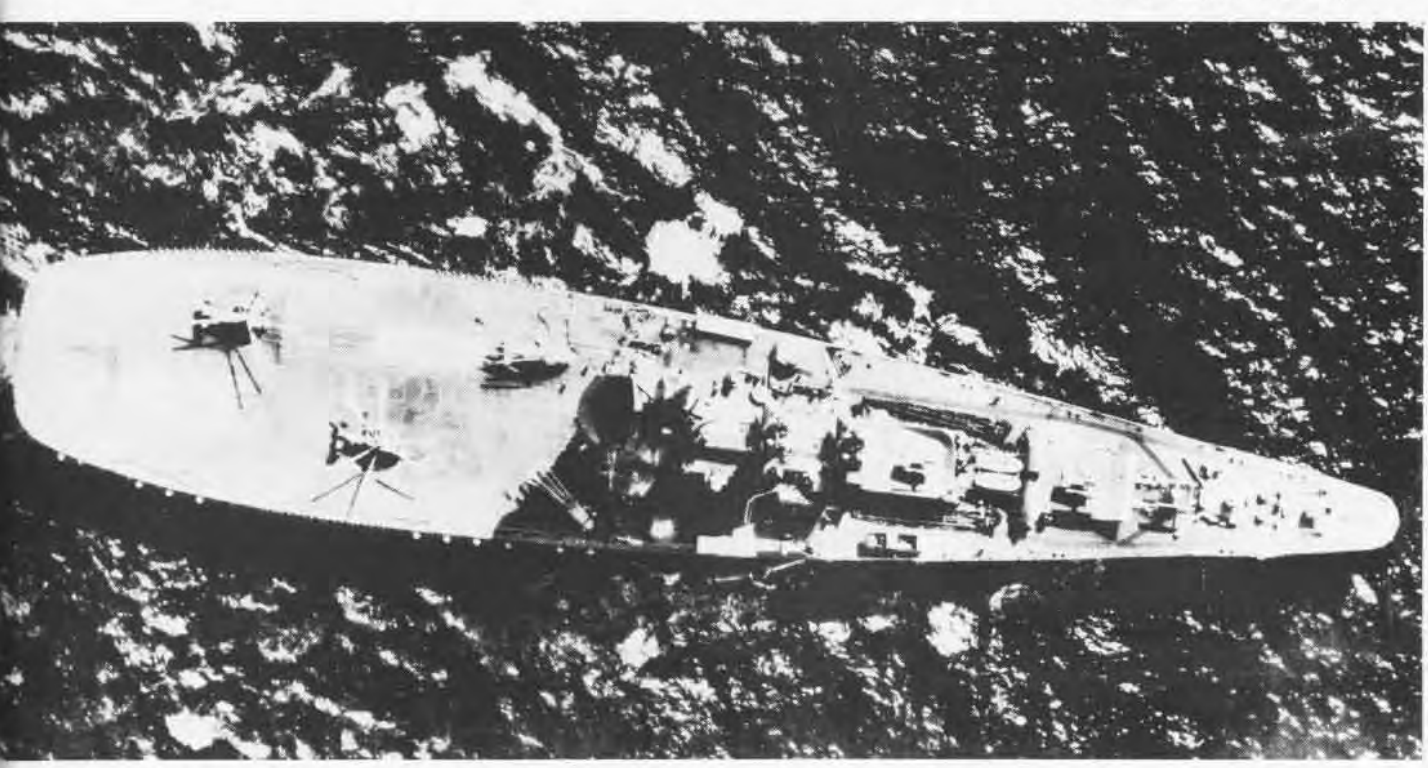
This British Ministry of Defence photograph of a Royal Navy Phantom intercepting a Russian Badger over HMS Ark Royal was taken during NATO exercise Northern Wedding.

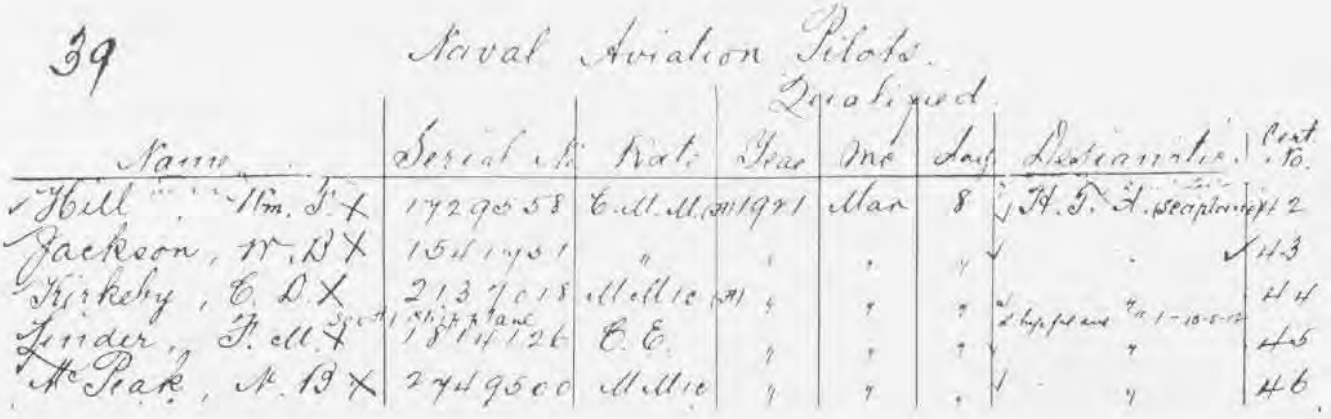
Iced Down

When the ground crew refueled this P-3C before it left NAS Atsugi, Japan, on its record-breaking flight (NANews, p. 4, March 1971), the ground crew iced down the fuel hoses. The cooling permitted a greater volume of fuel to be taken aboard.

Helicopter Ship

All that we know about this photograph is that we think it is one of the best we have ever seen of a Soviet Moskva-class helicopter cruiser.




39

Naval Aviation Pilots.
Designated.

Name	Serial No.	Rate	Year	Mo.	Day	Designation	Cert. No.
Hill, Wm. F.	172905 8	C.M.M.	1911	Mar	8	N.A.S. Seaplane	2
Jackson, W. B.	15[illegible]951	"	"	"	"	"	43
Kirkby, C. D.	213[illegible]018	Mechanic	"	"	"	"	44
Linder, F. M.	[illegible]	C.E.	"	"	"	"	45
McPeak, M. B.	2[illegible]9500	Machinist	"	"	"	"	46

'Going, going...'

This celebrated finale to an auctioneer's spiel is about to silently mark the end of an era in Naval Aviation. Within the next few years, the last Aviation Pilot (AP) will retire from active duty.

At present, there are only 12 enlisted men on the active roles who carry the AP designation after their rating which signifies their pilot status.

AMCS Owen W. Brown is serving at NAS North Island; AFCM Kenneth E. Milburn with VC-3 also at North Island; ADRC Neal G. Fowler and PHCM Claude D. Martin at NAS and NMC Point Mugu, respectively; AOCM Richard E. Wise at NAS Alameda; and AFCM Louis L. Drumm at NS Kodiak.

At NAS Meridian, Miss., are AFCM Charles S. Giles and ATCS Edward F. McDill.

On the East Coast is AVCM Argus D. Byrd at NATTU Pensacola; and ABCS Jack Morgan and AMCS Ira L. Shellhart are at NAS Jacksonville. At NAF Mildenhall, England, is ACCM Robert K. Jones.

Each year the list dwindles as more AP's get in their 30 — and the number is going down fast. Three AP's retired last month, and all but five of the active 12 have, or have requested, retirement dates. Those who retired in March are AMCS Ralph E. Carr, who served with VRF-31; AFCM Vilho V. Hakala, NAS North Island; and ADCS George W. Shockey, NAS Pensacola.

AMCS/AP Ralph E. Carr, VRF-31, piloted an all-enlisted, transcontinental, round-trip flight in a P-3 in 1967. Copilot was Master Chief Merton Jackson, now retired.

Giles will retire in June, Fowler, Brown and McDill in July, and Martin in August. Byrd and Morgan have requested dates of July 1 and January 1, respectively.

Who will be the last one to go is anybody's guess, and any nomination would be based only on speculation. Each of the five AP's without retirement dates are fast approaching the 30-year mark and, according to BuPers, requests to stay beyond 30 years are not generally approved. However, there are so many variables that could determine if someone would go beyond 30, that a computer would probably have trouble selecting the "last AP."

At one time, enlisted pilots numbered upwards of 1,000 and, throughout the years, more than 3,700 men were trained and served on active duty as enlisted pilots in the Navy, Marine Corps and Coast Guard. Those who have been around for awhile generally agree that the AP's have played a major role in the development and growth of Naval Aviation, and this is no less true of those still on active duty.

Chief Hakala, who flew transport missions at NAS North Island, logged 14,000 hours in a variety of aircraft.

By JOC Dick Benjamin

Retired NAP William F. Hill, at left, finds his name in a hand-written ledger, opposite, at Naval Aviation Museum, Pensacola. He was designated Naval Aviation Pilot #42, March 8, 1921. Below, enlisted pilots, ADRC/AP Neal G. Fowler, left, and PHCM/AP C. D. Martin, prepare to take off in an NAS Point Mugu UH-34D.

His only accident was in 1953.

"I had an engine burn out in a P2V about 30 miles off the California coast," he explains. "We were flying into San Diego, and there was no indication that the engine was going bad until it was too late. A *Corsair* pilot saw us go down and radioed the Coast Guard who rescued us."

Nine thousand accident-free flying hours have been logged by Chief Milburn, VC-3's navigation, weight and balance, and aircraft scheduling officer. He has flown helicopters for more than 13 years, and has time in other types, including AD's, C-54's and C-130's.

Chief Wise, a transport pilot at Alameda, completed his flight training in 1944. During the Korean War he flew AD's in night operations from the carrier USS *Kearsarge*. He has 10,000 accident-free hours as a ferry, transport and combat pilot.

Chief Fowler is NATOPS officer at Point Mugu. He serves as test pilot for the air station's UH-34 helicopters, and also flies the *Seahorses* to recover target drones for the Pacific Missile Range. He has logged 8,500 accident-free hours as a pilot and 3,000 as a navigator in the PBM, PBY, P4Y, R5D, R5C and UH-34. He has been flying since he was 16.

Three years ago, the duties at NAS Point Mugu were performed by Chief Martin. He is now leading chief at the Missile Center. A 26-year flying veteran, he has logged most of his hours in the R5D, R4D, PBY, UF(SA-16), JD, JM, TBM, SNB and SNJ.

At NAS Jacksonville, Chief Morgan is pilot training officer, and Chief Shellhart is the air station's scheduling chief.

Chief Morgan started flying when he was 14, and earned his wings in 1945. He is qualified in 19 types of aircraft, including airships which he flew for several years at NAS Lakehurst.

Chief Shellhart, who has been flying for more than 25 years, is qualified in 18 types of fixed-wing aircraft and six types of helicopters. During the Korean war he flew helicopters on spotting missions for the big guns of USS *New Jersey*. They now do very little flying – 30-40 hours a month.

Each of the other active (and retired) AP's has left his mark in the annals of Naval Aviation history.

Enlisted fliers date back almost to the beginning of Naval Aviation. The

AFCM/AP Vilho V. Hakala requests control tower clearance prior to taking off in a C-117 Skytrain from NAS North Island.

first group began receiving formal instruction at Pensacola on January 1, 1916; however, there was no thought at the time of giving them, or the second class who entered pilot training in June 1917, any kind of enlisted pilot designation. Even so, they are considered the predecessors of the NAP's who were to follow.

Requirements imposed on Pensacola by WW I stopped activity aimed at making pilots of enlisted personnel without making them officers in the process, and all of the second class of trainees, and many of the first, were commissioned.

In 1919, the program was rejuvenated by a Bureau of Navigation letter that read, in part:

"In the future, it will be the policy of the Bureau to select a certain number of warrant officers and enlisted men for flight training and duty as pilots of large heavier-than-air craft and directional pilots of dirigibles."

A subsequent letter, dated November 25, 1919, decreed that after training, these men were to be detailed to duty involving flying. The Bureau also pointed out that a lack of legal provisions would result in warrants being designated NAP's, even though they carried the label of "student Naval Aviator" given commissioned officers. Enlisted men were called "student airmen" to keep them from being confused with officers.

In December 1919, 25 enlisted men were ordered to Pensacola to take the course preliminary to appointment as Naval Aviation Pilots. On January 22, 1920, the graduates of that course became the first men to be designated Naval Aviation Pilots.

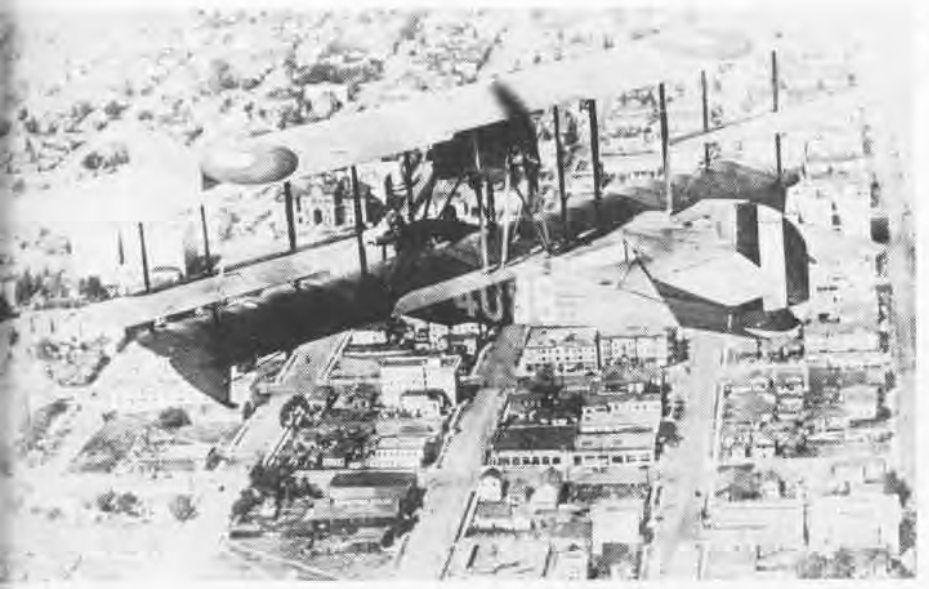
BuNav attempted to more clearly define the status of NAP's in 1921 when it established three basic designations: ship-plane (planes that were launched from large ships and taken back aboard after they landed in the water nearby, or which operated from shore facilities); seaplane (aircraft that took off from and landed on water); and airship (dirigibles).

During the next several years, enlisted pilots numbered from 100 to about 130, even though there was a technical requirement for almost 200. The difference between the number supposedly required and those actually on board was evidently caused by a lack of consistent training efforts between 1921 and 1923.

About two-thirds of the NAP's in service during the early 1920's were assigned to fleet squadrons, with the rest serving ashore. By July 1924, the majority were serving as second pilots in torpedo, bombing, scouting and observation squadrons, or as utility pilots ferrying aircraft. Fourteen were qualified in lighter-than-air craft.

BuAer moved, in 1926, to establish a fighting squadron composed of ten

In 1953, ACCM/AP Robert K. Jones was flying this TBM-3W2 Avenger. Chief Jones will be one of the last enlisted pilots to retire.



One of the first enlisted men (unidentified) to receive flight training flies a Curtiss F-boat over San Diego, California, in 1918.

NAP's, with officers placed in key billets. The purpose – to find out if enlisteds could adequately handle the duties imposed on an operating unit. On January 1, 1927, VF-2B was commissioned, and the handpicked enlisteds logged enough accomplishments and stirred up enough controversy with their wide-open approach to piloting planes to make a name for the squadron that is still known today. (A comprehensive story on the *Fighting Two* was reported in the May 1951 issue of *All Hands.*)

All doubt regarding the status of NAP's appeared to end in 1926 when Congress passed a law requiring that 30 percent of all aviators in the Navy be enlisted men, effective July 1, 1928. The status quo was short lived, however, and, in 1932, Congress reduced the percentage to 20. The following March, the Navy abolished the NAP rating and reverted to the system of requiring enlisted pilots to be proficient in a separate rating even though they had the NAP designation.

The Aviation Pilot rating was reestablished in 1942, but in only a scant four months, changes were being made. In July of that year, AP3 was abolished, and on April 2, 1948, AP2, AP1 and APC were eliminated from the rating structure.

This was the last time there would be an AP rating in the Navy, but all those in the field from the period March 1942 to April 1948 earned the lasting designation AP.

During the postwar period, many of those commissioned reverted to their enlisted status, but many of them received permanent appointments and served as limited duty officers – in a non-flying status. It came down to a choice of continuing to fly or keeping the commission, but not both. A third choice was for a man to keep his wings and take a commission in the Reserves, but there is no record of how many, if any, selected this alternative.

Korea brought an about-face in the situation. After initially refusing to allow AP's to retain commissions and still fly, the Navy offered them officers' stripes with assurances that they would keep their wings. Even some of those who had given up flying to accept general line and non-pilot aviation commissions became Naval Aviators.

When the Korean conflict came to a close, the number of AP's continued to decline, even though more than half of the 620 in the Navy in 1955 accepted commissions.

For a time there was a steady exodus of enlisteds from the field via the LDO route, and retirements have done the rest to bring the number of AP's to its present figure.

AP's are a vanishing breed. The end is so close at hand that there is but a single word remaining to the auctioneer's spiel – gone!

AFCM/AP Kenneth E. Milburn, VC-3, flies the C-130 and other aircraft at NAS North Island. He will have his "30" in January.

Letters

Pearl Harbor Reunion

December 7th marks the 30th anniversary of the infamous attack on Pearl Harbor and the beginning of WW II.

The Pearl Harbor Survivors Association is attempting to locate all survivors and invite them to become members of the association. Founded in 1958, the association has grown to 78 chapters with members in almost all 50 states and in foreign countries.

"Hawaiian Fun in 71" is the theme for the 30th anniversary-convention-reunion, which is being held in Hawaii. Program arrangements have already been made for special travel groups: one group December 1-8; another, December 6-13; and a third, December 1-15.

Interested survivors desiring more details, location of nearest chapter and a membership application should write to:

John H. Shark
D.C. Chapter Chairman P.H.S.A.
7205 Giles Place
Springfield, Va. 22150

Silver Eagles

The Silver Eagles Association, Inc. (Navy, Marine and Coast Guard enlisted pilots, active and retired) is having its Seventh National Reunion Convention at the Jack Tar Hotel in San Francisco, Calif., August 19-22, 1971. This convention will be hosted by SEA, Inc., San Francisco Wing.

All active or retired enlisted pilots may obtain further information by writing to: Bob Strickland, Suite 328, Times-Star Bldg., 1516 Oak Street, Alameda, Calif. 94501.

Frank J. Ranella
21335 Hathaway Ave.
Hayward, Calif. 94541

Kudos

December *NANews* is certainly among your outstanding issues and prompts me to encourage continued coverage of vintage subjects such as the "VE-7" and "Covered Wagon Days."

Because the issue carried the photo of Colonel Owen Clark receiving seven types of wings from Captain Foss, I shall pass my copy along to the San Diego Aerospace Museum.

Captain Malcolm E. Vail
Tactical Air Control Group One
Naval Amphibious Base
Coronado, Calif. 92155

River Rat Reunion

Members of the Red River Valley Fighter Pilots Association will hold their third National Reunion May 7-9 in San Diego, Calif. *River Rat* membership is extended to those fliers — Navy, Army, Air Force and Marines — who made at least one mission into the Route Package VI (Red River Valley) area of North Vietnam. Primary objectives of the *River Rats* is to continue the superb fellowship that developed between air crews who fought in the air war over the Red River Valley. A strong interest in POW/MIA affairs is maintained within the organization which sponsors a scholarship fund for children of POW/MIA *River Rats*.

Anyone qualified for membership and desiring to attend the reunion contact your local base ops for information and application, or write to LCdr. John Nicholas, VF-124, NAS Miramar, Calif. 92145.

Flying Club

I would like to call attention, in your fine publication, to the ever growing popularity of the Navy flying clubs. A common joke has it that a sailor coming in after a long cruise will be found the next day hiring a boat to sail around the nearest lake — a "postman's holiday." Many of us in Naval Aviation also have our postman's holiday — flying general aviation aircraft when not flying, maintaining or supporting naval aircraft. Navy flying clubs provide low cost means for off-duty personnel to fulfill their desire to learn to fly.

Here at Whidbey Island, our club, "The Whidbey Island Navy Flying Club," under the able guidance of LCdr. Charles Chapman celebrated its first year of operation by flying 125,000 accident-free miles. Our club presently has 60 members and operates four aircraft, three Cessna 150's and a fully IFR-equipped Cessna 172. Maintenance of naval aircraft is a serious, demanding full-time job. So, most of us, when off duty, look forward to blue skies and hanging out that little sign which says "gone flyin'." We feel that we are a part of aviation, keeping interest in aviation high, providing lessons for those who want to learn to fly light aircraft, making flying accessible to those who might not otherwise have the opportunity. Please say a word for us . . . we belong, too. Thanks.

AMS1 Michael J. Turner
Airframes, VAQ-129
NAS Whidbey Island, Wash. 98277

Goblins: Awake!

Former members of the Medicinal Brandy Brigades seldom wasted time jotting down their adventures but the time has come to flush out the record. *Naval Aviation News* is interested in hearing from survivors of the old unmentionables — the outfits variously delineated as VF(N), VMF(N), VT(N), CVLG(N), VC, etc. If the young whippersnappers don't know what we are referring to, let's tell them . . .

Naval Aviation Films

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

MN-10761B (unclassified) *T-34 Familiarization — Course Rules*. Familiar landmarks and course rules for student aviators training in the T-34, from Saufley Field, Fla., (23 minutes).

MN-10762 (unclassified) *Tactical Employment of the S-2E Aircraft*. Coordinated use of aircraft sensors and armament in dealing with localization, conversion, tracking and attack problems (35 minutes).

MN-10768 (unclassified) *A-6A Nuclear Weapons Delivery*. A description of the nuclear weapons attack system and T375 AMAC operations including attack modes and maneuvers with VD1 (25 minutes).

MN-10782A (unclassified) *The Omega Long-Range Navigation System — Introduction*. A worldwide, long-range navigation system that is simple, accurate and dependable under all weather conditions (17 minutes).

MN-10782B (unclassified) *Omega Long-Range Navigation System — AN/SRN-12 Receiver Operation*. Use of the AN/SRN-12 receiver in the *Omega* long-range navigation program (16 minutes).

MN-10943 (unclassified) *A-7 Familiarization — Carrier Flight Deck Operating Procedures*. Basic procedures for A-7 pilots making carrier qualification landings. Standard practices and some problems encountered on or around the ship (25 minutes).

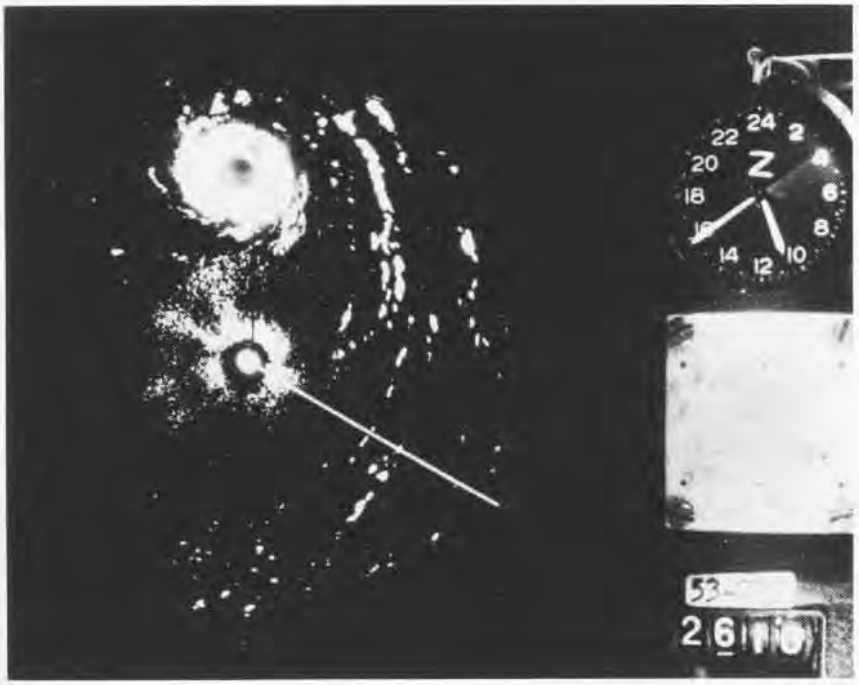
MA-10720B (unclassified) *Packaging and Packing of Dangerous Materials for Airlift*. Properties of items or substances classified as dangerous materials and special packaging; packing and marking requirements for air shipment (18 minutes).

MN-10936 (unclassified) *Servicing the TA-4F*. Complete daily servicing procedures for the TA-4F, including fuel and hydraulic systems, oil and lox servicing. Safety aspects and equipment required to perform this servicing (15 minutes).

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

SQUADRON INSIGNIA

Since its commissioning in 1952, VW-1 has completed a wide range of weather reconnaissance, airborne radar surveillance and training missions throughout the Pacific area. Currently flying the EC-121, the 'Typhoon Trackers' have accumulated over 160,000 accident-free hours and were recently awarded their second Meritorious Unit Commendation. Home-based at Agana, the squadron is led by Commander N. S. Bull.



NAVAL AVIATION
NEWS