NAVAL AVIATION NEWS

47th Year of Publication

MAY 1966

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THIS IS ONR'S VICENNIAL YEAR

During the past 20 years, a new Navy has been brought into existence, characterized by nuclear propulsion, missile armament and the reliance on modern electronics, managed by computers, for intelligence and communications. These are the technologies which have sprung from the fields of research which the Office of Naval Research helped to open up and advance during the early years of its operation. In the same manner, the shape of the Navy which this country will build in the mid-80's is now being formed in the research being conducted and supported by the Navy's Office of Naval Research.

NAVAL AVIATION NEWS

FORTY-SEVENTH YEAR OF PUBLICATION MAY 1966

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■ THE STAFF

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■ COVERS

View of Saratoga's deck reflected in an airman's helmet was caught by Martin Finkelstein, PH3. Above, A-7A carries 24 250-lb. GP's and two 300-gallon tanks "Not a full load," says a Ling-Temco-Vought spokesman, "but a pretty good one."

NAVAL AVIATION NEWS

USAF TO PURCHASE OV-10, A-7

THE AIR FORCE has announced plans to purchase a new multi-purpose light reconnaissance aircraft that will give forward air controllers in Vietnam a strike capability. First production models of the aircraft, the OV-10A, are scheduled for delivery to the Air Force in early 1967.

In March, a tri-service team of military test pilots started putting North American Aviation's new OV-10A (LARA) through its paces at the Columbus Division.

Maj. J. A. Read, USMC, was leader of the team which arrived from NATC PATUXENT RIVER to conduct the formal Navy Preliminary Evaluation of the new twin-engine aircraft.

Commander C. W. Fritz is OV-10A program manager from Patuxent, while other pilot members of the special team included Capt. R. E. Deitrick, USMC; Capt. J. F. Stroface, USAF, and Lts. P. E. Erickson and G. D. Myers, USN.

Members of the evaluation team flew the first three aircraft produced at the Columbus Division. North American has built seven prototypes for evaluation.

The Air Force version of the aircraft will be used for either armed reconnaissance or as a small troop and cargo transport. It is scheduled to replace the Cessna O-1 *Bird Dog* used by forward air controllers in Vietnam since March 1963 to mark targets for strike aircraft.

Armed with two 7.62mm Gatling guns, capable of firing 6,000 rounds per minute, the OV-10A can deliver fragmentation, chemical or demolition bombs, rockets and *Sidewinder* missiles in varied combinations.

Capable of carrying 3,000 pounds of cargo or armament, its 110 cubic feet of cargo space will carry six combat troops or five paratroops or it can be fitted to carry two litter patients with a medical attendant. Combat radius with a 3,000-pound payload is 190 miles.

The OV-10A is powered by two Garrett T-76 turboprop engines. It can make short takeoffs and landings at speeds as low as 50 mph and has a maximum level flight speed of 300 mph.

Plans also were announced for the purchase of an undisclosed number of a modified USAF version of the A-7 *Corsair II* attack aircraft during FY's 1966 and 67.

The A-7 is a heavily armored single-place, subsonic jet originally developed for the Navy by Ling-Temco-Vought's Aerospace Corporation. The Air Force version will be powered by one Pratt and Whitney TF-30-P-8 engine equipped with afterburner.

The *Corsair* can carry bombs, rockets or missiles and is equipped with two 20mm cannons. Combat radius—with external fuel tanks, 6,000 pounds of bombs plus a half-hour loiter time over the target—is 800 miles. Maximum speed is 575 miles per hour.

Ground Broken for Hangar

Newest at NS Roosevelt Roads

On March 2, ground was broken on the site selected for a $1,287,000 aircraft hangar at Naval Station, Roosevelt Roads.

The building, measuring 325 feet by 110 feet, will feature cantilevered construction. The hangar bay, a completely unobstructed area, 325 feet by 80 feet, will house two operational squadrons. The area, 325 feet by 30 feet, behind the hangar bay will contain offices, training rooms and storage space.

Captain H. Burt Bassett, Commanding Officer of the station, and Captain W. R. Sisley, Chief Staff Officer, Fleet Air Caribbean, presided at the ceremony.

Captain Lovell Honored

Receives Navy Astronaut Wings

Admiral David L. McDonald, Chief of Naval Operations, presented Captain James A. Lovell with his Navy Astronaut Wings in a ceremony at the Pentagon. The 38-year-old Astronaut became the seventh man to be awarded these wings.

In *Gemini 7* with Captain Lovell was Astronaut Frank Borman. They were launched December 4 and remained in space until December 18 when they were recov-

LOVELL GIVES CNO GEMINI 7 FLAG

AT NAS CORPUS CHRISTI, *Mrs. Walter C. Dick, State Regent of the Texas Society, Daughters of the American Revolution, presented the 11th annual "Armed Services Awards for 1965" to three outstanding flight students. The winners were (left to right): Ltjg. Dennis G. Draper, USN, due to report to VP-21 in June; Lt. Allen D. Nease, Jr., USMC, now flying the F-8E Crusader with the First Marine Air Wing; and Lt. Thomas D. Fisher, USCG, who is attached to the U.S. Coast Guard Station, Bermuda, for search and rescue missions. Rear Admiral R. A. Macpherson, CNAVanTra, pinned aviator's wings on students graduating from advanced flight training.*

ered from the Atlantic by USS *Wasp* (CVS-10).

To Admiral McDonald, Captain Lovell gave the Navy flag he carried for 14 days aboard *Gemini 7*.

At the ceremony, Admiral McDonald said, "Your flight was especially historic in that it was the longest manned space flight in history and the first rendezvous of two space vehicles."

5th Marine Division Formed

To be Fully Manned within Year

Activation of the first of the units of a new Marine division—the Fifth—took place in March. The division is expected to be fully manned within one year.

Since the activation is scheduled in increments, some battalion landing teams will have reached a state of full operational readiness by the time the entire division is formed.

The headquarters and major portions of the Fifth Marine Division will be located at Camp Pendleton, Calif. One battalion landing team from the division, plus supporting aviation elements, will be based at Kaneohe Bay, Oahu, Hawaii.

ONR Celebrates 20th Year

Leading Scientists at Convocation

Top government officials and leading scientific figures in this country and abroad are helping the Office of Naval Research inaugurate its Vicennial Year May 4, 1966, with a solemn convocation at the Departmental Auditorium in Washington, D. C. President Truman signed Public Law 588, establishing ONR, August 1, 1946.

Heading the list of prominent scientists scheduled to speak is Sir Solly Zuckerman, Chief Scientific Adviser to the Ministry of Defense, Great Britain. He will speak on "The Open World of Science." Others slated to speak are Dr. Donald Hornig, Science Adviser to the President, and Dr. Frederick Seitz, President of the National Academy of Sciences.

On the evening of May 4, a Vicennial Banquet will be held in the International Ballroom of the Washington Hilton Hotel.

During the Vicennial Year, scientists will examine, from a broad historical perspective, the achievements of the last two decades and the prospects for the decades ahead. This theme will be carried out during the year in various scientific symposia, Navy seminars, and Office of Naval Research publications.

COMBINING SPEED *with heavy lift, a Sikorsky CH-53A assault transport lifts a 6½-ton truck and, at an altitude of 5,000 feet, carries it through the air at 138 miles an hour. In its normal military mission, the CH-35A carries 38 fully equipped troops or four tons of cargo at a cruising speed of 172 miles per hour. BIS trials begin this month at NATC Patuxent River, Maryland, with delivery to Marine Corps operating units later this summer.*

GRAMPAW PETTIBONE

Head Up, Wing Down

A flight of four RF-8A's were briefed by the flight leader for individual departures through a low overcast. They were to continue individually for entry into the Mirror Landing Practice pattern at the auxiliary field. Vertigo and generator failure were discussed as well as other emergency procedures. All aircraft were fueled to 5,800 pounds and it was planned to shoot heavy passes from the estimated initial MLP weight of about 4,000 pounds until reaching maximum gross touchdown weight.

At about 30 miles out, our victim called for the current field altimeter and at 15 miles he received confirmation of the scheduled Charlie time. Approaching the break, the F-8 driver was cleared by the tower to shift to paddles frequency which he had previously set on the manual position. Unable to contact paddles, the pilot switched back to tower and was cleared to break and contact paddles downwind.

The break was executed at 1,500 feet and 300 knots. He reduced the power to 82% extended the speed brakes and rolled into 60° of bank. After 90° of turn and at 220 knots, the pilot lowered the landing gear,

shallowed the bank to 30° and turned his attention back to the field. Glancing back in the cockpit after 90° of turn, the pilot noted the airspeed approaching 170 knots. At this point he added power to 90% and again looked back to the field.

Shortly thereafter, the aircraft began to roll and pitch up mildly. The pilot attempted to level his wings with opposite rudder, noting the airspeed to be 130 knots and angle of attack at 22-25 units.

At this time he was experiencing disorientation and *thought* the aircraft rolled to about 60° right wing down. Passing 500 feet, he pulled the curtain and ejected successfully, landing in soft dirt.

Grampaw Pettibone says:

Great balls of fire! If this fiasco don't wilt the lily, nothin' will.

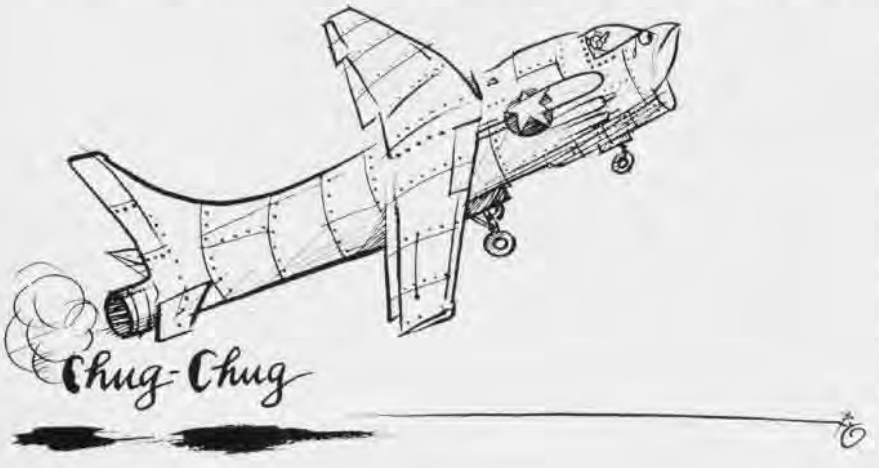
Here's a case of just plain doping off. Old Gramps has been out there at night and bewildered at times, but never enough to forget all the fundamentals of flying that bird in the dark. You've got to put that wing up for landing, Bub, or you darn well better have enough airspeed to stay airborne. Can't beat that checkoff list to keep you out of trouble—and alive. Not usin' that flip-top wing on the Crusader is like walkin' in the rain with a closed umbrella.

Spadango

A spunky *Spad* driver, field qualified and ready for his original carquals, hot-seated (changed pilots without shutting the engine down) his trusty steed abeam the island, completed the checkoff list and signalled his readiness to go. The handling crew towed him aft to the launch line (550 feet down the straight deck). Upon completion of a final check, he received the launch signal from the flight deck officer.

After releasing the brakes, this unsuspecting youngster was observed to add throttle hesitatingly in increments up to full power. Directional control was good initially, but deteriorated considerably after 200 feet of deck run. A hard swerve to the right, (which in no small way was hampered by full back stick) ensued and the A-1 proceeded in a nose-high attitude (main gear airborne) until the tail wheel struck the deck edge coaming. Continuing off the starboard side at an angle of 30° to the straight deck and 70 feet short of the bow, the game *Spad* became airborne.

The left wing began dropping as the nose continued to rise. At 90°



ILLUSTRATED BY Gibson

left bank and 30° nose up, the rider reduced power to idle. The nose dropped and the angle of bank decreased as the machine descended in a port turn, crossing the bow to the port side. The unguided missile struck the water about 100 feet forward of the port bow in a 20° nose-down and 5° left-wing-down attitude at an estimated 95 knots.

Following impact, the beleaguered pilot released his restraints and pushed himself out of the cockpit and 20 feet upward to the surface. The Angel was overhead and had the dunked but unhurt lad back aboard ship in six minutes.

Grampaw Pettibone says:

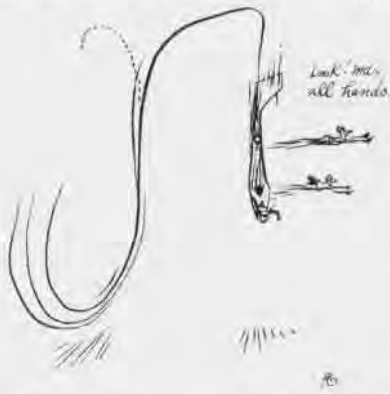
Fetch me another asprin tablet, 'cause this one made my port ulcer do nip-ups. This lad found out the hard way that the ole reliable Spad is like most of the birds we drive around in. You have to use a little influence on it sometime to make it go the way you want it to. You can't just sit there and let the cantankerous beast have its head without gettin' into more trouble than most people can handle. This lad made old Gramps' list but it's not the one you brag about.

FAM Folly

An instructor-pilot and his student manned their assigned A-6A *Intruder* for a scheduled day VFR familiarization flight. This was the student's first time actually to control the aircraft in the left seat. Following a normal start and checkout, both pilots were satisfied with the plane and they taxied out for takeoff.

Initial phases of the flight went as briefed and the instructor was well satisfied with his student's performance. After 40 minutes of flight a let-down from 10,000 feet was initiated to attain proper entry altitude for the half-cuban eight maneuver called for in the syllabus. This maneuver was attempted with slightly high entry speed and altitude, but with no greater than normal acceleration forces. Owing to a lack of precise lateral control during the pull-up, the flight path deviated from normal, and a 90° change in heading resulted.

After completing more than a half-loop, the pilot attempted a roll-out from the inverted position. The attitude of the aircraft at this time was approximately 40° nose down at an estimated altitude of 8-9,000 feet. The aircraft stalled and entered uncontrolled flight with abrupt side-to-side rolling accompanied by an increase in the nose-down attitude to vertical. A tight descending spiral ensued and, at 3,800 feet, indicating over 300 knots, heading straight down, the instructor issued orders to eject.



Estimated ejection altitude was between 2-3,000 feet for the instructor and less than 2,000 feet for the student.

Both aviators sustained minor injuries and were subsequently picked up by the station helo.

Grampaw Pettibone says:

Jumpin Jehosaphat! What a waste of an expensive and much needed bird.

Old Gramps can't figger why a qualified instructor would sit idly by and allow the student to disengage his brain and shift control to the seat of his britches.

They came mighty close to losing two lives and it all points to supervisory error. It's a cold hard fact of life that every bird we lose hurts our combat readiness but, if a hopeless situation develops, the only logical thing to do is eject and not compound the loss.

Memo from Gramps:

Simple as it sounds and though it has only one syllable, the hardest word in the world to say is "NO." With each month that goes by, an accident report crosses my desk that says as surely as though it were listed in the conclusions of the AAR Board, "Somebody didn't have the guts to say No."

It doesn't have to be the C. O. Why should he always be the hatchet man? The Ops Officer, Training Officer, and Exec could have a little more iron in their backbones, too. Military flying is not a profession in which every man is trying to win a popularity contest.

We fly to train ourselves to FIGHT and to fight so well that no man on the other side, whoever he may be and no matter what the color of his eyes or skin, will EVER be our equal. The very nature of Naval Aviation and the fast mobility of our striking forces will almost always mean that we'll fight another guy who'll have numerical superiority so we have to be twice as good as the average pilot anywhere!

Someone has to cull over the flight schedule to make sure each man progresses normally toward attaining this goal and doesn't run before he's learned to walk. Someone has to keep the chargers from expending themselves needlessly. This then is the time for decision and the exercise of true leadership.

A pilot who flies an 0730 hop on Friday morning should never be cleared for a long "Nav Training" cross-country RON hop that night. Either the night hop is worth scheduling and worth bringing him on duty at the hour you'd normally have the night flyers come in or *it shouldn't go!*

A tired pilot's instrument scan all too often breaks down. He makes errors that would make a NAVCAD blush with shame. He forgets to check NOTAMS on his destination or en route radio fixes. Or he collides with his wingman, stretches his fuel too far, pushes his skill in weather and just plain takes too many darn fool chances!

The younger pilots think we have too many restrictions nowadays. Why ARE we restricted to military fields on cross-countrys? Ever see a set of field arresting gear on a civil airport? Or a military type crash crew? An AD pilot slowly smothered in his cockpit at a civil airport just a month or so ago while the local fire department tried to figure out how to raise the tail of his overturned bird. Poor flight planning and lack of experience put him in a spot he couldn't get out of. He wasn't ready for a cross-country. Someone should have said "No!"

For the new man, a "NO" is not a disgrace. Just work a little harder and earn your C.O.'s recognition as a man to whom he can say "YES." A really good professional fighting man can go anywhere, anytime, because he has the judgment to know when to say "NO" to himself. Then you've REALLY earned your wings!

IN MINUTES, ENTERPRISE AND LONG BEACH CAN UNLEASH MORE FIREPOWER THAN FLEET DURING WW II

SECRETARY McNAMARA ON DEFENSE BUDGET

APPEARING before the Senate Subcommittee on Defense Appropriations, Secretary of Defense Robert S. McNamara outlined his proposals for the armed services for the coming year. Those portions pertaining to the Naval and Marine Aviation squadrons and ships are presented as they appeared in his "posture" statement.

Attack Carrier Forces

Last year in support of the FY 1966-70 program and FY 1966 Budget, I discussed a plan which would have reduced the attack carrier forces to 13 ships and 13 air wings by the early 1970's. A reduction of this order was considered appropriate for several reasons: the introduction of far more effective ships and aircraft into the Fleet, the release of the attack carriers from the strategic alert mission, and the over-all increase in quantity, range and effectiveness of land-based tactical air power generally. Since that time a plan has been developed for the attack carrier forces which I believe is superior to the one discussed last year. Under the new plan, the number of ships would be held at 15, but the number of air wings would be reduced to 12—an increase of two ships and a reduction of one air wing compared with the previous plan. Significantly more usable combat power could be obtained from a force of 15 carriers and 12 air wings than from a force of 13 carriers and 13 air wings and at no increase in cost.

Such a force structure would require some change in the present mode of operation. Carriers would normally deploy with less than the maximum complement of aircraft and additional aircraft would be flown to the carriers as needed. In effect, we would be treating the aircraft carrier as a forward floating air base, deploying the aircraft as the situation requires. It is this almost immediate operational availability which gives the attack carrier forces their unique importance.

Ships—Our attack carrier forces at end FY 1965 included one nuclear-powered carrier, the *Enterprise*, seven *Forrestal*-class, three *Midway*-class and five *Essex*-class carriers for a total of 16.

As I indicated last year, we plan to modernize two of the three *Midway*-class carriers, the *Midway* and the *FDR*, during the FY 1966-69 period (the third *Midway*-class carrier, the *Coral Sea*, has already been modernized). The *Midway* was to have begun modernization last November and the *FDR* was scheduled to begin modernization when the *Midway* rejoined the Fleet.

To avoid major fluctuations in personnel and

equipment, we had planned to place the *Coral Sea* in temporary reserve status when the new *Forrestal*-class carrier, the *America*, joined the Fleet last June, retaining an *Essex*-class carrier in service until the *Midway* phased out for modernization in November. However, because of the additional requirements for Vietnam, the *Coral Sea* was retained in the active Fleet; and the start of work on the *Midway* was deferred to this February, giving us a temporary force of 16 active CVA's during the June-February period. Thereafter, a CVS temporarily diverted from ASW tasks will help support the Vietnam requirement. Thus, by the end of the current fiscal year, the CVA force will be down to the planned 15 ships, plus one CVS functioning as a CVA.

In FY 1969, a new *Forrestal*-class carrier will join the Fleet and one *Essex*-class carrier will be transferred to the ASW carrier force. By end FY 1970, all three *Midway*-class carriers will be in the Fleet and the number of *Essex*-class carriers will be reduced to three. Thus, the CVA force by that time will consist of the *Enterprise* and eight *Forrestal*-class, three *Midway*-class and three *Essex*-class carriers.

To provide for the progressive modernization of the attack carrier force, we have included funds for the construction of a new nuclear-powered attack carrier in our 1967 request. When this ship is delivered to the Fleet, we will have ten large carriers and three of the *Midway* class. Now that we plan to retain a force of 15 carriers, two more new carriers will have to be provided, and these have been tentatively scheduled for later years. These, also, would be nuclear-powered. As these ships are delivered to the Fleet, the *Essex*-class carriers will be retired from the CVA force which would then consist of four nuclear-powered, eight *Forrestal*-class and three *Midway*-class carriers, for a total of 15.

CREWMEN WORK IN STEAM WAKE OF A SKYWARRIOR

TWO SKYHAWKS FLY OVER THE USS CONSTELLATION

Carrier Aircraft—Approximately 80 per cent of the total air complement of the attack carrier forces is currently organized into 15 carrier air wings; the remaining 20 per cent is made up of aircraft used for combat readiness training. The decline in the total number of fighters after FY 1967 reflects two factors—the reduction from 15 to 12 wings and the substitution of the F-111B's for other aircraft on less than a one-for-one basis when these aircraft become operational. As I noted in previous years, the F-111B promises a substantial increase in effectiveness over the F-4, the Navy's current first-line fighter. Eventually, the fighter force will consist of F-111B's, F-4's and F-8's. The F-8's are retained for the *Essex*-class carrier which cannot effectively operate the F-4's or F-111B's. The attack aircraft complement will consist of A-6's, A-4's and A-7's.

In the reconnaissance/ECM area, a new aircraft, the EA-6B will be introduced into the force. It will be far more capable than the EA-1F which it will replace. We will also continue the conversion of the A-5A's to the RA-5C configuration for use on the *Forrestal*-class carriers. The RF-8's will continue to be used on the *Essex*-class and *Midway*-class carriers.

ASW-Surveillance and Ocean Patrol Forces

Last year I pointed out that the preliminary findings of a Navy study indicated that we were, generally, in better shape with regard to the submarine threat than we had previously thought, but that a continued high level of ASW research and development would be needed to hedge against the possibility of a more sophisticated threat in the future.

ASW Carriers—At the end of FY 1965, we had nine *Essex*-class CVS's, all but one of which had "angled" decks. The one "straight" deck carrier is less capable than the others and, because of the adequacy of our over-all ASW capability, we have decided to phase it out of the force during the current fiscal year, with a reduction in annual operating costs of about $22 million. This will leave eight CVS's in the Fleet, four for the Atlantic and four for the Pacific, plus one training carrier in the Atlantic. (Four additional CVS's in the Reserve Fleet could be made available if required.) I believe this force, together with the many other elements of the ASW forces, will be sufficient to carry out the missions assigned to the CVS's. In this connection, we plan to provide a force of new ASW helicopters (SH-3A/D) for the attack carriers to enhance their own ASW capabilities. These are the same helicopters used on the CVS's. The pres-

ent ASW carriers will eventually be replaced by the more up-to-date *Essex*-class CVA's as they, in turn, are made available by the delivery of new *Enterprise*-class CVA's.

In order to maintain the attack carrier force off Vietnam, we are, as I noted, temporarily deploying one of the Atlantic-based CVS's, the *Intrepid*, to Southeast Asia. Very minor modifications were required on this vessel to permit it to operate light attack aircraft and it can be quickly reassigned to its ASW role. What is involved is mainly a change in the aircraft complement. The ASW air group is being retained in the active Fleet, thus giving us the capability to operate the carrier as a CVS on short notice.

The ASW carrier forces will continue to be equipped with both fixed-wing aircraft and helicopters. The older SH-34 helicopters have already been replaced with the new SH-3A/D. The older S-2's are being replaced by the S-2E's. We are also providing a few A-4's for each CVS in order to give them a limited intercept and air defense capability. We will also continue to maintain 11 squadrons of land-based ASW patrol aircraft, eight squadrons of carrier-based ASW search aircraft and four squadrons of ASW helicopters in the Naval Reserve.

* * *

Patrol Aircraft—As I indicated last year, we plan to maintain a force of 30 squadrons of ASW patrol aircraft, three squadrons of seaplanes (SP-5's) and 27 squadrons of land-based aircraft (SP-2's and P-3's). Eventually, all of the SP-2's will be replaced by P-3's. Beginning with the FY 1968 buy, we plan that all new P-3 aircraft will be equipped with a new avionics system (A-NEW) at a cost of about $1 million per aircraft. This system will greatly improve the effectiveness of the P-3 by increasing its capability to utilize information from either existing or new sensors and by automating more fully the data analysis and correlation operations.

The patrol aircraft squadrons in the Naval Reserve will be modernized by replacing the earlier SP-2's with the later models as they are released from the active forces.

* * *

Amphibious Assault Ships

Two years ago I presented a program designed to provide a modernized (20 knot) amphibious lift for 1½ Marine Corps Division/Wing teams by FY 1972 plus sufficient older ships to provide a slower lift for another half of a Division/Wing team. This program, as adjusted last year, involved the construction of a large number of new ships during the FY 1965-69 period. Our goal was to build toward a capability to land about one-third of the assault troops by helicopter, one-third by amphibian vehicles and one-third by either helicopter or landing craft, whatever the specific situation might dictate.

However, further study of this program has convinced us that some modification is desirable. The Navy is now investigating the possibility of designing a multi-purpose amphibious ship which could combine the features of several of the current specialized types. Accordingly, we have rescheduled the entire program, first, to provide time to develop a new ship design, and, second, to accelerate the construction of the types most needed now. Under the program now proposed, 12 ships (11 LST's and one LSD) would be started in FY 1967 at a cost of $306 million.

* * *

Mine Warfare Forces

. . . We are now accelerating the helicopter minesweeping program which I mentioned last year and have begun procurement of the sweep equipment. We plan to provide this emergency minesweeping capability for a substantial number of Marine Corps vertical assault helicopters (CH-53A's). During FY 1967 we propose to reconfigure some of these helicopters to accept the sweep equipment. The equipment will be stowed aboard the helicopter assault carriers where it can be quickly installed in the aircraft as needed. This element of the minesweeping program will give us, at a modest cost, a significantly augmented minesweeping capability for certain types of operations. We also tentatively plan to procure additional helicopters with this emergency sweep capability for use aboard mine countermeasure support ships now planned for procurement in future years.

* * *

Other Navy Aircraft

The Navy will gradually reduce the number of Fleet Tactical Support Aircraft during the FY 1967-71 period, as more capable aircraft enter the force. The force presently consists of heavy transports, medium transports and "carrier on-board delivery" aircraft used to deliver high priority items directly to the carrier forces. We will continue our program for modernizing the "carrier on-board delivery" aircraft force, replacing older C-1's in the Fleet Tactical Support Squadrons with the more capable C-2's. Each of the 15 CVA's and eight CVS's will continue to have one C-1 directly assigned to it.

* * *

Marine Corps Forces

During the FY 1966-67 period, Marine Corps active duty strength will be increased to about 278,000, compared with 190,000 at the end of FY 1965. One division and several supporting units have been added as part of the temporary Vietnam augmentation.

. . . At the end of the current fiscal year, the three active Marine aircraft wings will have about 1,200 combat and combat support aircraft. Over the next few years all of the older fighters will be replaced by F-4's armed with *Sidewinder* and *Sparrow* air-to-air missiles. The Marine Corps attack aircraft capability will continue to be improved with all weather A-6 aircraft replacing visual attack A-4's.

Although the number of reconnaissance and counter-measure aircraft will remain level, the over-all

capability will increase significantly as a new and much more effective countermeasure aircraft, the EA-6, is introduced to replace the older and less effective EF-10B.

The tanker-transport forces are about the same as I presented last year. With respect to helicopters, some temporary transport squadrons will be added in FY 1967, and beginning in that year, the older CH-37's and UH-34's will be replaced with new CH-53's and CH-46's at a faster rate than contemplated last year in order to provide for combat attrition in Vietnam and free additional aircraft to equip the reserve aircraft wing. The number of light helicopter/observation aircraft will increase in FY 1967, reflecting the activation of two new squadrons and the introduction of the OV-10. The OV-10 is the counter insurgency/light armed reconnaissance aircraft (COIN/LARA) which we propose to buy for Marine Corps and Air Force needs.

* * *

Navy and Marine Corps Reserve Forces

. . . The Naval and Marine Corps Reserve air units are now scheduled to be equipped over the FY 1968-71 period with a greater number of aircraft than planned last year. The principal changes involve the addition of a large number of helicopters for the Marine Corps Reserve aircraft wing and the reduction of aircraft in the Search Unit category. We had planned to maintain in the reserve forces sufficient S-2's to provide two squadrons each for six CVS's in the Reserve Fleet. Inasmuch as two of these carriers have limited usefulness because of their present materiel condition and the length of time required to restore them for active service, it was decided not to provide reserve aircraft squadrons for them. Accordingly, only eight squadrons are needed for the remaining four carriers and the number of S-2's planned for the reserve forces has been reduced commensurately.

Navy and Marine Corps Aircraft Procurement

To continue the modernization of the forces and provide for combat attrition in Vietnam, we now propose to increase the FY 1966 procurement program to a total of 1,129 aircraft and buy another 620 aircraft in FY 1967. . . .

In the fighter category, we have substantially increased the proposed FY 1966 procurement program for F-4's over that planned a year ago. However, as I noted last year, we encountered a number of problems in the development of the *Phoenix* missile and the airborne missile control system for the F-111B. These problems have not as yet been fully resolved and some delay in the F-111B program appears inevitable.

In order to provide for attrition in Vietnam and continue the modernization of the Navy and Marine Corps attack forces, we now propose to buy significantly more attack-type aircraft in FY 1966 than planned last year and another large quantity in FY 1967. Included in the FY 1966 program are additional A-4F's. . . . Although the last procurement of these aircraft was made in FY 1964, the TA-4F, a trainer version of the A-4E (which I will discuss later), is still in production. We also propose to increase the FY 1966 procurement quantities of the A-6A and the A-7A.

Another large quantity of the latter is included in the FY 1967 Budget. Also, the first procurement of 100 OV-10's (COIN-LARA) for the Marine Corps is scheduled in FY 1967. As noted earlier, we propose to initiate the development of a new electronic countermeasure aircraft, the EA-6B, and fund the first increment in FY 1966.

I pointed out last year that we had encountered difficulties in the development of the radar for the E-2A Fleet early warning aircraft. Although these problems have been overcome to some extent, we do not now plan to buy any more of these aircraft, beyond

SH-3A/D SEA KINGS ENHANCE ASW CAPABILITIES

those funded in FY 1966. Sufficient aircraft will be available to provide for each of the 12 attack carrier wings. The FY 1966 procurement of S-2E ASW carrier search aircraft will be reduced slightly, reflecting the reduction of one CVS.

The helicopter program is essentially the same as I presented last year except that we have increased the number to be procured in FY 1966-67, partly to provide for attrition in Vietnam and partly to release more helicopters to the Marine Corps Reserve aircraft wing. We now plan to buy more CH-46A's and CH-53A's than previously planned. Our request includes sufficient funds to install the new Integrated Helicopter Avionics System (IHAS) on most of the CH-46's. This avionics system permits precise all-weather operations, including close formation tactics.

To provide for increased pilot training in support of the Vietnam operation and free some more A-4's for the operating forces, we are increasing our FY 1966 procurement of the TA-4F. These additional TA-4F's will be assigned to the Combat Readiness Air Wings (CRAW's) and to the Marines.

SECRETARY NITZE IN A PRESS BRIEFING PRESENTS THE PROPOSED REORGANIZATION OF THE NAVY DEPARTMENT

NAVY'S REORGANIZATION IS ANNOUNCED

On March 7, Secretary of the Navy Paul H. Nitze announced a wide-sweeping reorganization of the Department of the Navy to take place May 1. Secretary Nitze had with him for the press briefing Admiral David H. McDonald, Chief of Naval Operations, Vice Admiral I. J. Galantin, Chief of Naval Material, and General Wallace M. Greene, Jr., Commandant of the Marine Corps.

Secretary Nitze opened his statement as follows: "The Secretary of Defense has approved my proposal of 4 March for a reorganization of the Department of the Navy. This reorganization will increase the breadth of authority and responsibility of the Chief of Naval Operations under the continuing direction of the Secretary of the Navy and will strengthen the management of the Navy's material support organization."

The purpose of the reorganization, he pointed out, is "to enable the Navy more effectively to carry out its functions of preparing Naval forces for assignment to unified and specified commanders and developing and providing the manpower and material resources to support Naval forces."

With the aid of a chart, he pointed out the principal elements of the plan:

- Restructuring the bilinear Navy organization into a unilinear framework by placing the Navy's material, medical and personnel supporting organization under the command of the Chief of Naval Operations.
- Reconstituting the Naval Material Support Establishment as the Naval Material Command.
- Reorganizing the components of the new Naval Material Command into six functional commands (as against the four material bureaus of the old structure) as follows: (1) Air Systems Command, (2) Ship Systems Command, (3) Electronic Systems Command, (4) Ordnance Systems Command, (5) Supply Systems Command and (6) Facilities Engineering Command.

In his statement, the Secretary said, "The reorganization will not affect the internal organization of the Marine Corps nor disturb the traditional relationship between the Chief of Naval Material and the Commandant, Marine Corps.

"Under the reorganization, the office of the Chief of Naval Operations will not be affected directly; however, CNO, in addition to having the operating forces of the Navy under him, will exercise command over the Chief of Naval Material, the Chief of Naval Personnel and the Chief, Bureau of Medicine and Surgery."

That the decision to reorganize the Navy was motivated by the desire to bring it into line with modern administrative and management methods was made clear by Secretary Nitze.

"In addition to improving the over-all coordination of the Navy's support activities in the areas of material, medicine and personnel by assigning responsibility for these total functions to the Chief of Naval Operations," he said, "I expect that the new organization will accomplish the following purposes:

"1. Affirm and strengthen the systems management approach to weapons development and acquisition.

"2. Reinforce the management strength of the functional organizations under the Chief of Naval Material; achieve more balanced and efficient spans of control; and give more emphasis to ordnance and electronics.

"3. Centralize and improve the coordination of RDT&E management.

"4. Place more emphasis on the logistic support and maintenance of weapon systems.

"5. Increase the efficiency and economy of the Navy's material organization by exploiting opportunities for consolidation of common services."

The reorganization is to be effected under the authority vested in the Secretary of Defense by law, the procedures to be identical to those used in the 1962 reorganization of the Department of the Army.

The Navy, in making the changes effective, has recommended to the Secretary of Defense that the Department of Defense sponsor legislation to provide the commanders of the new functional commands of the Naval Material Command certain privileges of rank, pay and retirement which have heretofore been accorded to Bureau Chiefs by law.

The plan of reorganization was firm, subject to the concurrence of Congress.

The proposal itself was the result of a management review which was conducted throughout the greater part of 1962. That review immediately led to the inaugurating of the Naval Material Support Establishment (NMSE). Since then, the NMSE has consisted of the Office of Naval Material, Bureau of Weapons, Bureau of Ships, Bureau of Supplies and Accounts, Bureau of Yards and Docks and the field activities associated with these bureaus. The basic change at that time broadened the responsibilities of the Chief of Naval Material to include command over the previously autonomous material bureaus of the Navy Department.

The current reorganization is a further refinement of the 1963 organization and is based on many months of study by the Chief of Naval Material in consultation with CNO and the Marine Commandant.

Prior to the establishment of the NMSE in 1963, each of the material bureaus reported directly to the Secretary of the Navy and there was no coordinating authority for their efforts below the Secretarial level. Under the 1963 arrangement, the NMSE coordinated the activities of these four material bureaus. The present arrangement further enhances the coordination of the support activities of the Navy by placing the NMSE (to be reconstituted as the Naval Material Command) under CNO. The Chief of BuPers and the Chief of BuMed report to CNO, rather than directly to SecNav.

The personnel to be assigned to the six Systems Commands, as compared to the four material bureaus

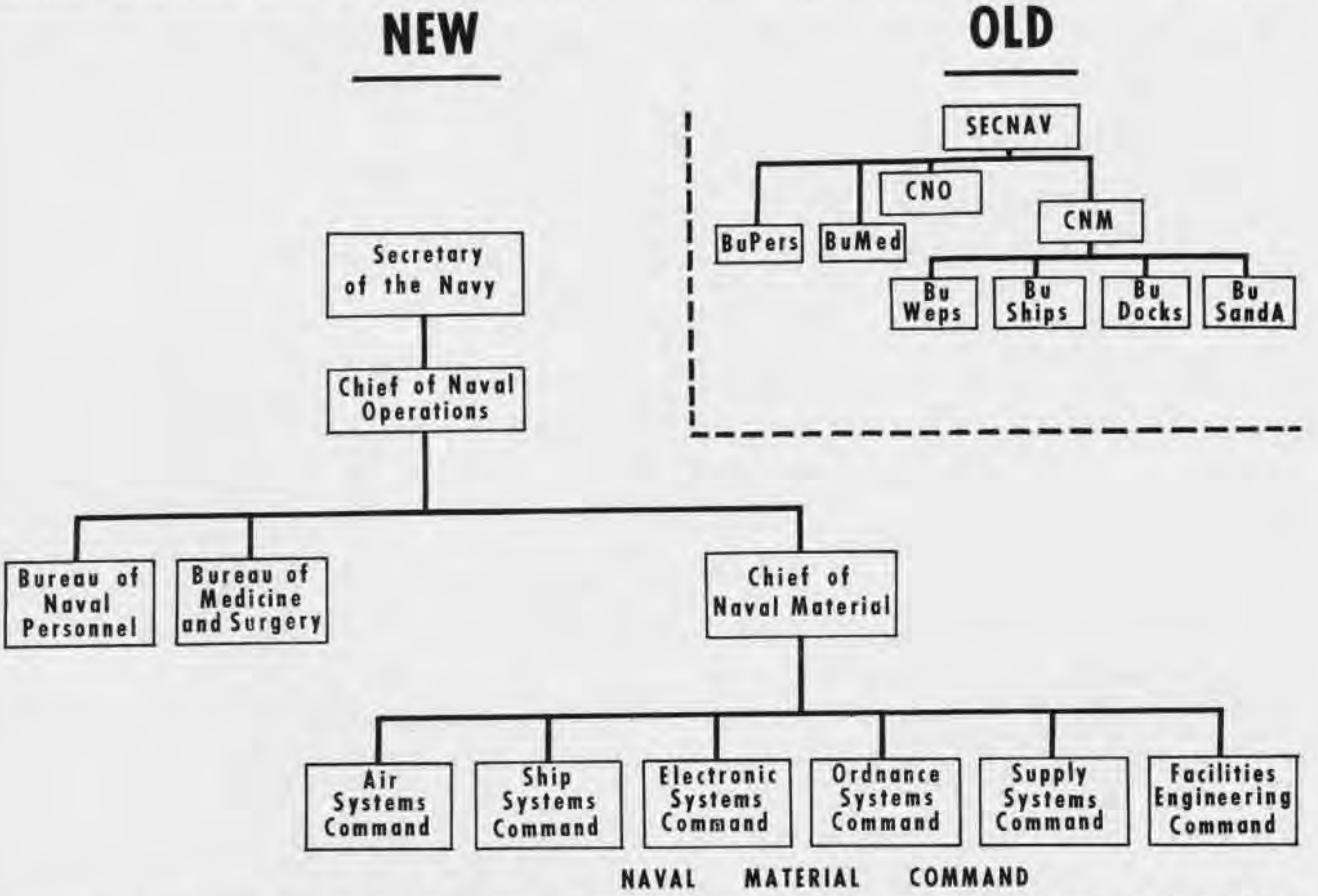


CHART CLARIFIES AND CONTRASTS CHANGES IN STRUCTURE AS NAVAL MATERIAL COMMAND IS ESTABLISHED

which they replace will be approximately as indicated in the following tables:

OLD STRUCTURE

	Headquarters	*Field*
ONM	600	
BuWeps	4,000	206,000
BuShips	3,400	108,000
BuSandA	800	30,000
BuDocks	1,000	22,000
Totals	9,800	366,000

NEW STRUCTURE

	Headquarters	*Field*
NMC	600	
Air	2,000	167,000
Ships	2,400	105,000
Electronics	1,000	3,000
Ordnance	2,000	39,000
Supply	800	30,000
Facilities	1,000	22,000
Totals	9,800	366,000

By shifting to the Systems Command structure, it is certain that the Navy's current emphasis on project management will continue. The new structure, it is expected, should serve to strengthen the systems management approach to weapons development and acquisition.

The new commands, those who will head them and the areas of their responsibility are as follows:

Air Systems Command: Rear Admiral Allen M. Shinn: Aircraft complete (airframes, engines, etc.); air-launched weapon systems, complete including airborne aspects of torpedoes and mines; airborne electronics, complete; air-launched underwater sound systems; airborne pyrotechnics; astronautics, including project management of SPASUR; catapults, arresting gear, and visual landing aids; airborne minesweeping equipment; aircraft drone and target systems; air systems special support equipment; photographic and meteorological equipment; and active and reserve air systems maintenance and support.

Ship Systems Command: Rear Admiral Edward J. Fahy: Ship systems design and integration for all displacement type ships, ground effect machines (GEM), or hydrofoil craft; ship construction, overhaul, modernization and conversion; ship propulsion, complete; ship auxiliary power generating and distribution systems; ship navigational equipment; ship habitability and environmental control features; shipmounted sonar: research, engineering, acquisition and support; shipmounted search radar; antenna design and integration; NTDS; rescue and salvage systems; active and reserve ship maintenance and support; degaussing; and shipborne minesweeping equipment.

Electronic Systems Command: Rear Admiral Joseph E. Rice: Shore (ground) electronics, complete; shipboard electronic equipment, under system control of SSC, as follows: communications, IFF, ECM, navigation aids, air traffic control (all, less antenna systems); SOSUS; material support of Air Systems Command for following electronics equipment: navigation aids, air traffic control, meteorology; space programs as follows: SATCOM and material support of SPASUR; shore-based strategic data systems: OpCon centers; data-link systems (external to ships and aircraft); radiac equipment (less installed shipboard monitoring systems); general-purpose electronic test equipment and common components, techniques and services; and technical authority for electronic standards and compatibility.

Ordnance Systems Command: Rear Admiral Arthur R. Gralla: Shipboard weapon systems; including functional responsibility for fire control radar, fire control equipment, weapons direction equipment, switchboards, launchers, and expendables; shipmounted sonar: programming and control of system performance, technical characteristics and configuration; air-launched underwater weapons: torpedoes and mines under system control of ASC; explosive safety; EOD, small arms, demolition, infantry equipment, harbor defense equipment, ship pyrotechnics; seaborne targets; special support equipment for above; and research and exploratory development of explosives.

Supply Systems Command: Rear Admiral Herschel J. Goldberg.

Facilities Engineering Command: Rear Admiral A. C. Husband.

Although the titles of BuSandA and BuDocks are changed by the new organization, there is to be no major reassignment of the responsibilities of these bureaus.

DCNO(Air) Change Made

Op-50 Becomes Two Divisions

A reorganization of the Office of DCNO (Air), designated Op-05, was approved by the Chief of Naval Operations and the reorganization completed March 15.

The reorganization was based on the need to strengthen Op-05 "to refocus the aircraft Program Director matter and to conform with the Program Planning Systems."

The old Aviation Plans Division (Op-50) was divided into two Divisions: A Plans and Requirements Division (Op-50) and a new Programs Division (Op-51). Rear Admiral Norman Gillette heads up Op-50; Captain Malcolm Cagle (Rear Admiral selectee), Op-51.

All Aviation Program Directors will report to Op-506 when Program Director billets are created in accordance with procedures set forth in the Navy Programming Manual.

Certain offices had to be renumbered, but there is no significant change in titles: Op-50C (Budget) became Op-51C; Op-501 (Statistics) became Op-511; Op-502 (Aircraft Programs) became Op-512; and Op-505 (Aviation Base Programs) became Op-515.

The old War Plans Branch (Op-507) was divided with that part relating to weapons programs becoming a new Aviation Weapons Programs Branch (Op-517), the remaining portion becoming the nucleus of Aviation Plans Branch (Op-508).

The reorganization established officially the new Aircraft Maintenance and Material Readiness Branch, Op-504, as coordinator of the 3-M aircraft maintenance program.

The reorganization involved an increase of six officer billets; the transfer of six officer billets (two from Op-07, four from the Fleets); an increase of four civilian billets (two professional, two clerical).

Preventive Dentistry Tried

MCAS Beaufort has Pilot Program

Military dependent children were recently—for their own good—baring their teeth to a group of Navy men at MCAS BEAUFORT, S. C.

About 3,000 youngsters took part. Five dental officers and 11 dental technicians conducted a pilot program in a dental clinic set up temporarily under canvas for five days of operations.

The examiners belonged to the 12th Dental Company, attached to Marine Air Base Squadron 32. The dental clinic at Beaufort was one of three in the country selected by BUMED to conduct the program for children of military personnel.

Before the examination, Red Cross volunteers interviewed and registered each child. Dentist-technician teams next screened the youngsters by examining teeth, gums and throats. Next door, in a larger shelter, the actual treatment began.

At wooden water troughs, the children cleaned their teeth with a mixture of fluoride and pumice after instructions in proper brushing techniques. In the final step, the children were treated with a topical application of fluoride. (In the photo, Lt. Donald H. Lareau applies fluoride to the teeth of first-grader, Teresa McGrattan.)

Treatment was to be followed by the continued use of a dentifrice containing stannous fluoride.

DENTIST APPLIES FLUORIDE TO TEETH

VT-9 Claims a Record

Flies 1,365.8 Hours in a Week

Training Squadron Nine at NAAS MERIDIAN set a record for hours flown in a single week.

The old record of 1,124.2 hours, set during the week of November 1, 1965, was flown over a six-day period. In contrast, the new record of 1,365.8 hours flown during the week of March 7 is even more impressive. It was accomplished in only five days.

VT-9, commanded by Commander T. E. Davis, has 60 North American T-2A *Buckeye* jet trainers.

T-39 WILL BE USED IN NAV COURSE

Jet Navigation Training

New Course at Glynco Center

In addition to the present 22 aviation courses given at the Naval Air Technical Training Center, Glynco, Ga., a new course in Basic Jet Navigation began March 7.

The four-week course leads to designation as a Naval Flight Officer. Students, assigned at the rate of ten per month, report from Basic Naval Aviation Officer's School in Pensacola.

LCdr. W. F. Kimzey, course officer, says that it is primarily a "flying school": 104 hours in flight training and 56 hours of classroom instruction.

The future bombardier-navigators will receive instruction in airmanship, voice communications and operation of the T-39 radar.

Upon completing the course, the students will report to A-3, A-5 and A-6 attack squadrons for duty.

Keel Laid for a New LPH

At Philadelphia Naval Shipyard

On March 1, the 50-ton keel of the Navy's newest amphibious assault ship, LPH-11, was laid at the Philadelphia Naval Shipyard. Thousands attended the ceremony.

Vice Admiral J. B. Colwell, Deputy Chief of Naval Operations (Fleet Operations and Readiness), was the principal speaker.

Other distinguished guests included Rear Admirals E. B. Grantham, Jr., Assistant Chief, BUSHIPS, for Fleet Maintenance; G. F. Pittard, Director and Chairman, Ships Characteristics Board, CNO; and R. W. Mehle, Director, Strike Warfare Division, CNO.

Ten Years of Safe Flying

Marine Squadron Celebrates

A Norfolk-based Marine aircraft squadron has commemorated ten years of accident-free flying.

Personnel of Headquarters Squadron, Fleet Marine Force, Atlantic, marked the decade of aviation safety with informal ceremonies at NAS NORFOLK. Lieutenant General A. L. Bowser, ComGenFMFLant, presented a citation to the squadron commander, Maj. J. F. A. Jones.

The squadron provides aviation support for the headquarters of the Atlantic Fleet Marines. In the past ten years, more than 32,000 hours have been flown throughout the U.S., Europe, South America, Canada and the Middle East.

Present squadron aircraft are the C-54 *Skymaster*, C-131 *Convair Liner*, Beechcraft C-45 and the T-1A *Seastar*.

Two Accident-Free Years

VC-7 Logs 25,000 Safe Hours

Fleet Composite Squadron Seven, commanded by Commander W. M. Early, completed two years of accident-free flight time on March 12. In those two years, VC-7 amassed over 25,000 accident-free flight hours in F-8 *Crusaders* and A-4 *Skyhawks*—an average of over 1,000 hours of flight time per month.

VC-7 is based at NAS MIRAMAR.

FOD-MOBILE, *designed to help curb Foreign Object Damage (FOD) at NAS Quonset Point, R.I., is on display at the station. The idea came from LCdr. Norton H. Goodsell and Lt. Robert C. Borden.*

MAY BE THE SMALLEST ASW HELO

Lightweight Helo is Tested

XH-51A Under Joint Contract

Lockheed - California Company, under a joint Army-Navy contract, has developed what is believed to be the smallest ASW helicopter. The 4,000-pound XH-51A was tested in an ASW configuration recently off the Southern California coast.

To demonstrate the all-weather capability of the light, rigid-rotor helo, the pilot was enclosed by an opaque plastic shield, which forced him to fly on instruments. The handling characteristics, during dunking sonar maneuvers, were also successfully evaluated.

The fuselage bulge under the nose of the aircraft contains a radio doppler device which provides the pilot with ground speed information (as opposed to air speed) to ensure a stable platform for sonar dipping operations.

Six 'Igloos' in California

House Maintenance Personnel

Six "silver igloos" have sprung up at strategic locations in the VR-7 and VR-8 area at NAS Moffett Field. The temporary structures, constructed from 40mm gun tub covers taken from mothballed ships, serve as Dock Control Centers for maintenance teams as they perform 500-hour checks on the squadron's 32 C-130 aircraft.

Previously the senior petty officer, who coordinated the check, was exposed to the weather for the duration of the inspection, which normally took 21-24 hours.

VR-8's Dennis Q. Meyer, ATC, originated the idea and is responsible for the "igloos." The airframes shop installed windows and doors. The electronics shop installed wiring and lighting. A heater, desk, workstand and file cabinets are placed in each of the structures which are made up entirely of scrap.

AN 'IGLOO' THAT IS AN OFFICE

NMC Tests Rocket Stages

Successful Flight for the DAR-3

In early March, a new, low-cost, two-stage, solid-propellant sounding rocket was lofted to an altitude in excess of 300 miles by personnel of the Naval Missile Center, Point Mugu, Calif.

The rocket, DAR-3, consists of a *Hydac* second stage and a *Terrier* missile booster. The second stage *Hydac* motor is nine inches in diameter and 147 inches long. Its propellant is Lockheed's high-performance, rubber-based polycarbutene.

First stage of the rocket was a *Terrier*, 18 inches in diameter and 155 inches long. Over-all length of the fin-stabilized ballistic rocket vehicle was over 30 feet; launch weight was in excess of 2,500 pounds. A standard *Terrier* launcher was used.

The *Hydac* was developed by Lockheed Propulsion Company of Redlands, Calif., under a contract from the Naval Missile Center. The test and evaluation program is being conducted by the Center for the Bureau of Naval Weapons.

Captain Carl O. Holmquist said the purpose of the flight was to test and evaluate the *Terrier/Hydac* combination as a launch vehicle to boost space research and/or tactical payloads to high altitudes.

Robert F. Hurt, president of Lockheed Propulsion Co., said that these new two-stage rockets could provide the Navy with an improved system to boost scientific payloads beyond the atmosphere or to propel tactical payloads over long ranges economically and reliably.

The launch was handled by personnel of Guided Missile Unit 55.

Jax is A-4 Rework Point

Moved from NAS Quonset

Overhaul and Repair at NAS Jacksonville has been designated as the East Coast test and repair facility for the A-4 *Skyhawk*. The facility had been located at NAS Quonset Point.

The change, brought about by the proposed transfer of all East Coast A-4 squadrons to NAS Cecil Field, was announced in February.

O&R Jacksonville is currently the repair center for the A-5 and RA-5C. It has also been named overhaul point for the *Corsair II*.

Gift to Navy Air Museum

Given in Memory of VS-33 C.O.

A $100 check was presented to the Naval Aviation Museum at NAS Pensacola March 15th in memory of Commander J. A. Blair, USN, who died of natural causes while skippering VS-33 aboard the USS *Bennington*.

Rear Admiral J. J. Lynch, Chief of Naval Air Basic Training Command, accepted the check from a group of naval officers who were serving under Commander Blair at the time of his death. Commander Blair's name has been added to a memorial plaque in the museum.

CHIEF WARRANT *Officer Rasmus Christensen in an informal photo taken in 1921.*

REAR ADMIRAL *Ernest E. Christensen pins Navy Wings of Gold on his son, Ltjg. Ernest E. Christensen, during March 11 graduation ceremonies of NAAS Kingsville, Texas.*

THREE GENERATIONS OF NAVAL AVIATORS

LTJG. ERNEST E. Christensen wrote a new page in the annals of U. S. Naval Aviation in March when he became a third generation Naval Aviator. Both his father and grandfather before him wore the Navy Wings of Gold and have a proud history of Naval Service.

"This is the first such claim," according to Adrian O. Van Wyen, DCNO (Air) historian, "and he may well be the first third-generation Naval Aviator."

Ltjg. Christensen's father is Rear Admiral Ernest E. Christensen, Assistant Chief of Staff for Plans and Programs in the Bureau of Naval Weapons, Washington, D. C. His grandfather, Chief Warrant Officer Rasmus Christensen, flew as copilot with Lt. Theodore Ellyson, the first Naval Aviator, when the two were stationed in Brazil in the early 1920's. On September 14, 1921, CWO Christensen received the "Award of the Knight of the Military Order of the Tower and Sword," given to him by the Portuguese government.

Rasmus Christensen was born in Denmark in 1883. During his early Naval service, he was cited on two occasions for saving the lives of several shipmates. He once rescued a number of men after a boiler room explosion on the *Walke* (DD-34). Later, at NAS ANACOSTIA, he smothered the flaming clothing of a man, which had been ignited by a blowtorch. These feats won for him the Navy Cross and an assignment to flight training. On December 14, 1918, he was designated Naval Aviator #1,885. He was appointed Chief Warrant Officer on August 26, 1919.

The high point in his career came when he flew as reserve pilot on one of the NC boats attempting the first Atlantic crossing in 1919. His plane, the NC-1, was flown by LCdr. Patrick Bellinger and LCdr. Marc Mitscher. It broke up after a water landing near the Azores; all aboard were saved. He died in 1960, aged 77.

Rear Admiral Ernest E. Christensen was born in Selmouth, Maine, on July 31, 1913. He was awarded a Presidential Appointment to the Naval Academy and received his commission as an Ensign on May 31, 1934. He was designated Naval Aviator #5,237 on June 18, 1937.

While in flight training, Rear Admiral Christensen flew famed F4B. This was, however, a vintage different from the F-4B *Phantom* that is operational today. Later in his career, he was Commanding Officer of the USS *Hornet* in 1960. During the Cuban Missile Crisis in 1962, he directed patrol activity in the Atlantic as Commander, Carrier Division 18.

Ltjg. Ernest E. Christensen was designated Naval Aviator #V23,352 on March 11, 1966. Rear Admiral Christensen was present at the ceremony and pinned on his wings. Young Christensen received advanced flight training with VT-21. After leaving NAAS KINGSVILLE, he reported to Attack Squadron 125 at NAS LEMOORE for 20 weeks of training in the A-4 *Skyhawk*.

His first Fleet assignment will be with Attack Squadron 55, which is also based at Lemoore, California.

NAVY'S BUSH AIRLINE IN VIETNAM

By Robert W. Dietrich, JOCM

U. S. AND AUSTRALIAN military advisers working with Republic of Vietnam troops in mountain, jungle, or rice-paddy enclaves owe their existence to air support. The reason: Except for heavily armed convoys, the Viet Cong make movements over roads and highways hazardous.

The airlift job is performed by virtually every type of military propeller-driven aircraft, including helicopters, but it never ceases to amaze American military men—particularly those in remote spots near the Cambodian or Laotian borders—when they spot the words, "United States Navy," on the side of an aircraft that's just landed.

Even so, there are four such aircraft—two C-47 *Skytrains*, a U-16 *Albatross*, and a Beechcraft C-45—operated by the U.S. Navy Headquarters Support Activity in Saigon.

The four vintage transports form a bush airline known in Vietnam as "Air Cofat." "Cofat" is the name of a former French cigarette factory in Saigon that was transformed into the headquarters of the Navy Support Activity.

Air Cofat's primary mission is airlift support for the Naval Advisory Group, a component of the U.S. Military Assistance Command in Vietnam. One of the group's responsibilities is to work with the Vietnamese Navy to block VC movements offshore and on inland waterways.

The bases for the Junk Forces and River Assault Groups employed to thwart Viet Cong movements over water are in distinctly disputed territory, ranging from Viet Cong-infested Phu Quoc Island in the Gulf of Thailand to Phu Bai.

PILOTS AND CREW *members of an Air Cofat C-47 Skytrain install a new engine in their plane. The transport limped into a Vietnam air strip, just missed jungle crash.*

The bush airline's secondary mission is airlift support for military advisory and Seabee teams.

From its flight line at the sprawling Tan Son Nhut air base just outside Saigon, Air Cofat's four planes range out to fields in all the battle zones. Most of them are dirt strips carved out of jungles or laid out in marshy delta country; only a few, at the big troop concentration areas, have concrete runways. Air Cofat's destinations are such that its *Skytrains* and *Albatross* have been hit by Viet Cong anti-aircraft snipers during landings and takeoffs. Its pilots have developed an ultra-steep landing tactic to foil the enemy's aim.

Passengers carried in the Navy planes have included Viet Cong prisoners, refugees, Vietnamese troop reinforcements, and U.S. Navy and Coast Guard crews for patrol and river assault craft. Several Air Cofat missions consisted of transporting a Vietnamese psychological warfare unit assigned to work with newly liberated villages. The unit included dancing girls who perform folk dances for Vietnamese who have lived for years under grim Viet Cong domination.

Cargo not quite so lively, but

WEARY *U.S. Navy men en route to patrol craft bases in the I Corps area—Vietnam's northernmost combat zone—ride in a Skytrain.*

VIETNAMESE *dancing girls, part of a psychological warfare unit, await dawn takeoff in Air Cofat plane from Tan Son Nhut base.*

more important, ranges from engines and machinery for ships and aircraft to such Project *Handclasp* consignments as food, clothing, medicine, and toys for refugees. A C-47 once airlifted 2½ tons of lumber and building materials to a Montagnard tribe that fought its way out of Viet Cong encirclement to set up a new village near Dalat in the central highlands.

When a Viet Cong mortar attack caused multiple Seabee and Marine casualties in Da Nang, Commander Porter E. Clemens made a hazardous 440-mile night flight in an Air Cofat plane carrying desperately needed blood from the U.S. Navy hospital in Saigon.

As it is with any kind of flying in Vietnam, danger is a constant companion of Air Cofat pilots. Re-

COMBAT *airliner flies over Vietnam's Mekong Delta country on a support mission.*

cently, an engine fire nearly forced one of the *Skytrains* down in the trackless highlands, but it limped into the strip at Ban Me Thout with USAF planes flying cover. Then, while a new engine was being installed, Air Cofat crew members joined Army Special Forces and tough Montagnard tribesmen in security sweeps around the airstrip.

As of last January, the four Navy aircraft had logged 45,670 flight miles over Vietnam—a distance nearly equal to twice around the world at the equator. One of the line's crew chiefs had a comment about the kind of flying it's been: "We often fly from 110° heat into monsoon areas where the temperature is cut in half. The winds and the ground fog make mountain landings sticky, and we know the Viet Cong have their sights on us. But when we offload things like fresh food, ammunition and, particularly, mail, we get grins from advisers, Seabees, and sailors. It makes the trip worthwhile."

DAMAGE CHECK *is made by Lt. Ward A. DeWitt and Ltjg. W. C. Stearn while cargo is offloaded from Albatross at island base.*

SNIPER FIRE *is pinpointed by LCdr. Carl R. Patrick. Lt. Donald R. McCarrigle was copilot of C-47 on mission that drew attack.*

ASW—WESTERN PACIFIC STYLE

FLIGHT DECK *crews ride a wildly pitching deck as aircraft turn up for a launch in the sea of Japan. CVSG-57 conducted air operations under all-weather conditions.*

By Ltjg S. T. Millikin, HS-2, and Ltjg. V. A. Nelson, VAW-11 Det N

THE GREAT Western Pacific Ocean encompasses nearly one-sixth of the surface of the earth, close to 30-million square miles. Its boundaries extend from Siberian waters to Antarctica, from the Indian Ocean in the west to a point approximately 1,200 miles east of the U.S. Territory of Guam. This expanse of ocean is the responsibility of the U.S. Seventh Fleet.

The moods of the Western Pacific are many. In the latitudes near the Equator, the ocean is often calm but sometimes, with unexpected swiftness, develops terrible tropical storms. In the north, where the dense layers of stratus overcast replace puffy tropical clouds, the air and water turn icy cold. The sea seems to rise in protest to the lashing of the winds that rake its surface.

This is the Western Pacific as seen by the eyes of those who sail it. Beneath this immense expanse lies the largest unexplored area on earth today. This is the home of the submarine.

The mission of Antisubmarine Warfare Group One, based aboard USS *Hornet* (CVS-12), is to meet undersea threats in the Western Pacific. The *Hornet*, commanded by Captain W. M. Pardee, carries the flag of Rear Admiral Evan P. Aurand. His ASW Group One includes the destroyers USS *McCain* (DL-3), USS *Epperson* (DD-719), USS *Nicholas* (DD-449), USS *Fletcher* (DD-445), USS *O'Brien* (DD-725), USS *Eversole* (DD-789), USS *Benner* (DD-807) and USS *Cunningham* (DD-752). The air arm of the ASW group, Carrier Antisubmarine Air Group 57, is led by Commander Edison E. Mouton.

CVSG-57 is made up of three squadrons and two detachments. North Island-based VS-35 and VS-37, commanded by Commander Troy E. Stone and Commander Milo Rumfelt, fly S-2D *Trackers*. HS-2, homeported at NAAS REAM FIELD, flies the SH-3A *Sea King*. They are led by Commander D. J. Hayes. The four E-1B *Tracers* of VAW-11's Det November and the four A-4 *Skyhawks* of H&MS-15 Det November are led by LCdr. Kenneth E. Wolff and Captain Henry C. Ivy, Jr., USMC.

It is an established fact that three-fourths of the earth's surface is covered with water. The majority of international commerce is transported by ship. Every major country of the Free World is bordered by the sea.

It is further established that the Soviet submarine fleet numbers more than 400. There has also been evidence, as yet unnumbered, that the Chinese Communists possess submarines.

For this reason, antisubmarine warfare has assumed a role of growing proportions in the U.S. Navy. As part of a deterrent force, CVSG-57 spends considerable time practicing, briefing, flying, and waiting.

Before a launch, the flight and hangar decks teem with activity. Planes are sent up the three elevators. Men with red, white, brown, green, blue and yellow shirts are constantly on the move to ensure that all will be ready for the launch.

Below decks, ASW briefers from each squadron and detachment obtain the latest intelligence data, then hurry to brief the pilots and crewmen for the flight.

"Pilots, man your aircraft." Soon they appear on deck, carrying navigation bags, cameras, plotting boards, various intelligence data and charts. The S-2's are spotted near the number two elevator amidship. Slightly forward is the E-1B; aft are the SH-3A's.

"Check chin straps, goggles, chocks, tie-downs, fire bottles. Check all loose gear about the deck." The bull horn brings the warning from Pri-Fly that the planes will soon be started. The drama of the launch has begun.

"Check propeller clearance. Stand clear of jet intakes. Start the props and helos." While pilots signal for external power to start their planes, the men in colored shirts scurry

about tending to last minute details.

Soon the helo's T-58 jets are turning; blades are spread and engaged. The R-1820 engines of the S-2's and the E-1B lend their powerful notes to the flight deck chorus.

The helos take off first. Wind whips around the flight deck crew as the last helo clears the deck edge. Meanwhile, the E-1B nears the catapult where highly efficient blue and yellow shirted men guide it skillfully into position and attach launching bridles and hold-backs. The S-2's get a final check on their ordnance loads of depth charges, rockets, flares and torpedoes. Soon the flight deck is a symphony of noise as one plane after another pours on full power, strains against the hold-back, and is launched over the South China Sea.

Once airborne, the *Willy Fudd* flies to a point within communications range of the *Hornet* and a vital communications link is established. The entire Hunter-Killer group is linked through the E-1B's *Middleman* radio relay. The E-1B radar is used to detect *bogies*, control aircraft and search for surface contacts.

An S-2 working alone or with a helo is launched as a *scrapper* under control of the E-1B. Fishing boats, merchant ships and possible submarine contacts are rapidly investigated and accounted for.

Other S-2's are assigned search sectors. Radar, sonobuoys, MAD and ECM are used to comb the air group's assigned search areas.

The Marines' A-4's, assigned air defense responsibilities, stand by on five-minute notice. Armed with *Sidewinder* missiles, the *Skyhawks* provide air cover for *Hornet's* 2,500 men and her accompanying destroyers. Control of the Marine jets is provided by Marine air-intercept officers in the ship's CIC.

The SH-3A *Sea King* twin-turbine helos complement the search sensors of the S-2's. HS-2's 16 helos are used to further classify and track submerged contacts with their sensitive dipping sonar.

As dictated by its very mission, flexibility is the keynote of any ASW team operation. Highly trained pilots and aircrewmen fly missions ranging from surveillance and reconnaissance to *scrapper* flights.

S-2 *Trackers* carry cameras to take valuable intelligence photos of foreign shipping and cargoes. Hundreds of surface ships are identified and their positions relayed to CIC. A current surface summary, provided by the air group, aids in formulating a defense against a surface attack, especially in areas where a maze of shipping and fishing boats serve to disguise the movement of torpedo boats. Helicopters, with their hovering ability, allow close scrutiny of contacts and provide photos and information to complete the surface intelligence picture.

Protection from air attack is provided by the airborne early warning capability of the E-1's.

Recently, helicopters have developed an in-flight refueling capability. The helo draws on *Dash* helicopter fuel carried in the destroyers. A pump aboard the destroyer transfers the fuel to the helo's pressure refueling port and into its tanks. The refueling hose is supported by the SH-3A's rescue hoist, and the operation is completed in approximately 15 minutes. The first such operation with a destroyer was made by HS-2 on June 24, 1965.

EXPOSURE SUITS *are necessary gear during cold weather operations from a carrier.*

WINDS UP *to 60 knots and 40 foot waves dumped acres of snow and ice on the Hornet's flight deck while she was operating with ASW Group One in the wintry Sea of Japan.*

THE PRECEDING narrative could probably be applied to any ASW air group aboard a CVS. It is an accurate portrayal of the USS *Hornet*, her CVSG-57, and the events, now history, that took place during her last deployment to the during her last WestPac tour.

When *Hornet* left San Diego on August 12, 1965, few guessed the scope of what was in store for the air group. All-time flying records were smashed; many faced the harsh demands of combat flying; all enjoyed liberty in Japan, Hong Kong, the Republic of the Philippines and Australia. New concepts and techniques were devised for all phases of flying. The list of accomplishments and lessons learned would be long and impressive.

During *Hornet's* Operational Readiness Exercise, the air group first fully exploited the many

(*Continued on page* 22)

WITH SIDE *numbers painted over for rescue missions on Yankee Station, HS-2 helo prepares to offload cargo to Seventh Fleet sub.*

THE SERENE BEAUTY *of the Western Pacific belies hidden world of the submarine where missile-carrying b*

A PORTRAIT OF A

HORNET BLUESHIRT *guides Skyhawk from H&MS-15 Det November onto catapult. Marine A-4's provide air cover for ASW forces.*

TRACER *from VAW-11 Det returns from AEW mission. "Fudds" also provided communication relays.*

constantly patrol defenses of Free World. ASW Group One and her air group maintain Seventh Fleet's ASW coverage.

I ASW AIR GROUP

TRACKER *launches from Hornet for a six-hour hop in support of Task Force 77 on Yankee Station.*

HOVERING OVER *a contact, a helicopter crewman is about to drop a practice depth charge for the "kill." Sonar pinpointed the sub.*

'MAMIE STOVER', *her combat log book inscribed on her side, was one of Hornet's A-4's that took part in strikes against the VC.*

THE BOSS, *Commander Carrier Antisubmarine Air Group 57, Commander E. E. Mouton, is briefed with his copilot, Ltjg. R. R. Smith, in VS-35's ready room before a hop.*

months of training that made it an effective antisubmarine team. New and old tactics met the test of the modern submarine in a realistic problem to gauge the effectiveness of man and machine. The pace was hard and fast. It was an ideal breaking-in period in anticipation of weeks of round-the-clock operations that proved to be routine when on Yankee Station in support of Task Force 77.

One major feat saw the air group conduct flight operations in complete electronic silence for periods as long as one week. Despite lack of communications with CATCC and the tower, day and night flight operations continued without incident and on schedule.

At the conclusion of the operational readiness exercise, ASW Group One put into Honolulu for liberty before leaving for Yokosuka, Japan. When en route to WestPac from Honolulu, many pilots and crews for the first time, saw on the teletype the message, "nearest land bearing 160—725 miles."

During October and November 1965, H&MS-15 Det November's A-4 *Skyhawks* saw action on two occasions. Most of the detachment operated from the *Midway* while making strikes against the Viet Cong in South Vietnam. Operating with their four A-4's, the Marines dropped over 84 tons of ordnance and expended 7,400 rounds of 20mm ammunition in 108 sorties.

Their endurance supplemented by in-flight refueling as well as internally mounted A-4 drop tanks, the SH-3A's of HS-2 were alerted to stand ready to provide assistance in the rescue of downed pilots inland and off the shores of North Vietnam.

A special rescue line was devised in preparation for possible rescue through the high trees common to much of Vietnam. With the SH-3A rescue hoist, only 100 feet long, a nylon extension line of 80 feet was rigged so that it could be attached to the rescue hook, lowered through the forest canopy to the survivor and easily retrieved.

In the face of enemy fire, it was necessary to mount two M-60 machine guns in the unarmored helos for protection. One was mounted forward in the upper part of the personnel door and the other aft in the cargo access door. Special kits with armor plating and shields were installed to give protection to the gunners. Sonar gear was removed to lighten the gross weight and enable the helo to hover in the mountains or in high-density altitude conditions. In order to lessen its vulnerability, all white markings with the exception of the star were painted out. The result was a grim-looking armored helicopter well fitted to penetrate Vietnam on rescue missions.

On November 6, 1965, the first night in-flight refueling and night rescue in North Vietnam by Seventh Fleet units occurred. LCdr. Vernon E. Frank and his crew successfully located and rescued a downed Air Force crewman. He was pinpointed in the darkness by lighting his cigarette lighter on command for recognition. As a result of their outstanding airmanship, LCdr. Frank and his crew have been nominated for the Silver Star and the Navy Commendation Medal. Three other rescues of downed airmen were credited to HS-2 pilots.

On one occasion, an HS-2 helo was ditched because of rotorhead vibration and abandoned. After steaming 150 miles to the downed bird, still afloat, *Hornet* recovery crews retrieved it.

Helos were again called upon when it was discovered that two Chinese Communist fishing junks were adrift near the Yankee Team area. Hoping to find intelligence information, a team was put aboard one of the two junks by HS-2 helos. Medical personnel were also sent along to aid any people aboard in need of medical attention.

During this Yankee Station operational period, VS-35 and VS-37 carried on their missions with determination. Squadron flying records were toppled by an increase of 50% over all-time high monthly records. The S-2 *Trackers* furnished vital information utilizing their ECM and MAD gear in support of Task Force 77.

Between tours on Yankee Station, *Hornet* put into Subic Bay for liberty. During this period the S-2's practiced glide-bombing and experimented on both land and sea bombing targets to improve their ability to bomb as a contingent mission. For many pilots this was a first; glide-bombing was not in the S-2 training syllabus.

While *Hornet* was away from Yankee Station, HS-2 continued SAR assistance to Yankee Team strike pilots. Four detachments were stationed aboard different attack carriers as they rotated on sta-

tion in the Yankee Team area.

While in Subic Bay, flight crews from CVSG-57 participated in jungle environment survival training. Techniques in procuring food and living off the land were tested in preparation for future operations in tropical climates.

At the conclusion of the second tour on Yankee Station, all hands spent a relaxed Thanksgiving Day while steaming to Hong Kong.

After ten days of liberty in Hong Kong, early December found CVSG-57 heading north to a crucial period of testing—winter in the Sea of Japan. Typical of most cruises for ASW carriers in the Pacific, the Sea of Japan transit took the pilots and crews of CVSG-57 into the heart of the operating area of potentially hostile submarine and surface forces.

The climate in this area in December also offers training and experience in cold weather operations. High seas and freezing conditions along with ice and snow on the aircraft and the flight deck are common sights. The *Hornet*, after rolling in swells whipped by vicious winds, rocked and rolled like a destroyer as her bow nosed into the waves, sending torrents of green water over her flight deck. On December 16, after a particularly huge lurch that sent lockers, cabinets and crates already secured for heavy weather smashing to the deck, air operations sent the following cryptic message over the teletype:

"1100 Local WX EST 8/SW 18/16
wind 300/52
ALT 29.84 SEA TEMP 44 DA 2670
Freezing Level Surface. Ready
Room 5 are you still there?"

Operating with a sub in this climate tested the capabilities of *Hornet's* air group against a formidable opponent. The ship's operating schedule also included exercises with units of the Republic of Korea Navy, and CVSG-57 aircraft were given working experience with controllers and ASW experts from Allied forces. The result of this contact with our counterparts in the field of antisubmarine warfare was valuable experience.

Christmas found *Hornet* in Sasebo, Japan, where the men enjoyed two weeks of relaxation and the chance to do last minute Christmas shopping. It was a welcome relief from the turbulent Sea of Japan.

Underway from Sasebo, CVSG-57 started the new year in style. Launching within minutes after casting off the last line, the first aircraft was catapulted while the ship was within sight of the dock. Around-the-clock operations were conducted en route to Yankee Station. CVSG-57 set a record pace in the number of flight hours for a single calendar month with only 29 days scheduled flying.

VAW-11 Det November flew 796 hours, the VS squadrons logged 3,350 hours and HS-2 spent 1,448 hours in the air. H&MS 15 Det November recorded a total of 225 flight hours. During this last Yankee Station tour, the Marines operated for two weeks from the *Ranger* and the *Ticonderoga*. They flew 82 combat missions, delivered 50 tons of ordnance and fired 3,600 rounds of 20mm ammunition on Viet Cong strongholds.

ON THE LONG awaited trip home, *Hornet* visited areas that she helped make famous during WW II—Saipan, Tinian, Guam, Truk and Iwo Jima—as the ship toured the South Pacific war zones. During the visit to Iwo Jima, HS-2 airlifted a detachment of Marines to the island where they scaled Mount Suribachi and hoisted a flag in the same place made famous in the Pulitzer-prize winning combat photograph by Joe Rosenthal. The date was January 19; 21 years after the crucial battle.

Before pulling into San Diego, Commander Mouton, Air Group Commander, made a statement that will long be remembered by his men:

"I'm tremendously proud of this air group and the accomplishments it has made. A few milestones: operating eight days around the clock with no navaids and a 'Charlie' signal given by turning on the deck-edge lights, since the task group was running completely darkened . . . first helicopter day and night in-flight refueling . . . first Navy night overland successful SAR mission in North Vietnam . . . attaining a conventional glide-bombing capability in the S-2's . . . most monthly flight hours ever recorded in an E-1B detachment . . . operating the A-4's in an attack role aboard CVS's . . . and many others. . . . At times I felt like saying, 'There they go and I must hurry to catch up, for I am their leader'."

★ ★ ★

MARINE PILOT *from CVSG-57 prepares to step into his Skyhawk to assume Condition 1 CAP. He will be strapped in and ready to go if called to intercept an intruder.*

WITH RA-5C *Vigilante ready for launch from USS Saratoga (CVA-60), members of the ship's Air Department await the bull horn call that will send them back into action. Most of these men are assigned to the V-1 Division as flight deck plane handlers.*

The Modern Aircraft Carrier

A RAINBOW OF JERSEYS ON THE FLIGHT DECK

'When the time gongs ring, we like to see those birds hit the air. A countdown of five, three, two, and one minutes is given on the mickey mouse and backed up by red, amber, and green lights from primary. This allows the cat officer to draw up steam, bring the shuttles aft, hook the bridles on, and check the steam pressure and wind. The ship's into the wind, 35 knots across the deck . . . 30 seconds . . . 20 . . . 10 seconds—yodel, green light . . . launch aircraft.'
—Cdr. Robert A. Uhwat, former Air Officer, CVA-59.

By Scot MacDonald

TWO FORMER Air Officers, one from an attack aircraft carrier and the other from an ASW carrier, sat in a Pentagon office in Washington, D. C., and reminisced. The room was quiet and, because their experiences were recent, they spoke—depending on the topic discussed—with intensity, with ease, with conviction, with humor, with pleasure, and with noticeable authority. They were Cdr. Robert A. Uhwat, who served in the *Enterprise* as Commanding Officer of VA-64 and as Air Officer in *Forrestal*, and Capt. Lester Morris, who served in the Air Boss billet in *Hornet*. The general topic was the Air Department in a modern aircraft carrier.

"The most important thing an Air Boss must never forget," said Uhwat, "is safety of operations—without sacrificing the achievement of your mission. If you have a 24-plane launch and things are dragging a little, you have to push. But not to the point where the guys start making stupid errors. If you succeed in doing the mission safely, then you've succeeded in doing the job."

"You might emphasize this," said Morris. "The Air Boss is a coordinator between the squadrons embarked and the various divisions in the Air Department, to provide guidance and make sure that everyone is working toward the same goal."

The Air Department's "real estate" constitutes about 60 to 70 per cent of the aircraft carrier, Uhwat

estimated. This includes the hangar and flight decks, such below-deck spaces as maintenance shops and pump rooms, deck-edge elevators, pits and voids, and certain spaces in the ship's island. It usually is the largest department aboard an attack aircraft carrier, manned by "anywhere from 500 to 650 persons. The *Enterprise* had 650; the *Forrestal* had an average of 550."

"Are you including the squadrons?" Morris asked.

"No, just the Air Department."

"Then you are considerably bigger than we are on a CVS. We had about 350 in the *Hornet*, not counting the squadron people either."

These men are divided (unequally, but as required) among five divisions that comprise the Air Department of most CVA and CVS aircraft carriers. To follow the comments by Commander Uhwat and Captain Morris, it is first necessary to understand the functions of the Air Department divisions. As examined in various carriers, they are:

V-1 Division. In the *Oriskany*, this division has a complement of 115 men assigned to the flight deck handling of embarked aircraft. "The mission sounds as routine as operating a parking lot in Anytown, U.S.A.," said a former CVA-34 Air Officer, "but it should be compared to operating a three-ring circus on a road tour."

The flight deck is divided into three "arenas" of operational control, and the flight deck chief is the "ringmaster." The forward arena is called Fly-One. The men here spot (move and park) incoming aircraft during the aircraft recovery evolution. After recovery, the planes must be pulled back and spotted for the next launch. This movement must be coordinated with the movement of planes being brought up all aircraft elevators, or being taken down. During the launch, Fly-One personnel spot the aircraft on the catapult.

Fly-Two men, in the center arena, park, secure, start, break out, and send forward planes to be launched. They also signal the pilots, after landing, to raise the tailhook, fold the wings, and move smartly out of the area and across the foul-deck line to allow other airplanes to make their landings.

The after arena, Fly-Three, "is composed of unsung heroes of many battles with whirling propellers, stinging jet blasts, and fast-moving cross-deck pendants. When the planes are re-spotted for launch, it is Fly-Three which initiates the action."

V-2 Division. Launching and recovery of aircraft are the principal jobs of this division. In the *Independence*, it is headed by a lieutenant commander and is comprised of five officers and 121 enlisted men. They also operate the SPN-12 radar system for carrier control approaches (CCA's), the Fresnel optical landing system, and the PLAT system.

Richard Graddick, JOC, in the *Independence*, pointed out that the average age of a flight deck crew member is under 21 years. "Yet, he works around aircraft costing approximately one to four million dollars each—some as much as 12 million."

Lt. M. Z. Haggard aboard the same ship described the catapult crew: "The green jersey identifies the ABE (aviation boatswain's mate) who enjoys few material pleasures. During flight operations, he works around the clock, averaging only two hours a night in his bunk, and grabs a nap on the deck or on a catwalk whenever he can. He works in compartments where the temperature sometimes reaches 130 degrees and the bulkheads become too hot to touch. He often misses chow. This schedule holds true only when 'his' crew is operating. Three other cats and three other crews share the workload."

FORRESTAL *crewman directs moves of pilot as his F-8C is lined up on the catapult.*

The arresting gear crew in the *Shangri La* consists of 25 men. In addition to operating the gear for routine landings, the crew rigs the triple-webbed barricade, when needed, assisted by men from V-1 and the Air Wing embarked.

V-3 Division. In the *Oriskany*, 73 men populate this division. They handle all aircraft on the hangar deck, operate three aircraft elevators, the boat and aircraft crane, and assigned fire-fighting equipment. They are further divided into three aircraft handling crews, with one crew for each hangar bay. Within each bay is a bay leader, an aircraft director, and two aircraft safety directors.

Cdr. E. H. Doolin, Jr., former Air Boss in the *Intrepid*, further described the hangar deck arrangement:

"Hanger Bay One serves the ship in two ways. In addition to a storage area for aircraft, the bay is used for showing movies to the crew when the ship is not at flight quarters. It is also a display area. Hangar Bay Three is used for maintenance of the Air Wing's 'downed birds.' This, coupled with the ship's vehicles and other equipment, makes aircraft movement in the bay rather tricky."

V-4 Division. The *Oriskany* Air Officer: "The 64 men of the V-4 Division — primarily of the Aviation Boatswain's Mate, Fuels, rating—run the carrier's filling stations. They pump the fuel that keeps her planes flying. Modern jets can digest only what is known as 'pure, bright fuel.' In this respect, the men of V-4 stand behind the quality of their product. They monitor the fuel that *Oriskany* receives from dockside, or from tankers when they are underway, to make sure that it is acceptable. The fuel is 'scrubbed' through three processes before it is considered pure enough for use in an aircraft. To maintain top operating standards, all equipment and spaces have to be kept in the highest state of cleanliness and preservation."

In the *Ranger*, 80 to 90 men are assigned to this division. "Getting fuel to *Ranger's* planes means a three-pronged assignment for the division," wrote John Burlage, JO1,

while serving aboard. "Besides getting their flammable cargo into almost 60 storage and service tanks, the men maintain the spaces and equipment, as well as the fuel itself, and are responsible for delivering it to the aircraft."

Part of the division is broken up into crews in order to do the jobs efficiently. Five four-man crews are assigned to the flight deck. Two four-man crews work in the hangar deck. There are six repairmen—two lube oil men, two checkers, two telephone talkers—plus six men in the ship's avgas pump room and eight more in the two JP-5 pump rooms.

V-4 men get the stored fuel from tank to plane through a system of pipes and pumps, with the pump rooms acting as control points for the operation. The fuel is sent topside as needed—often at a fantastic rate. In one instance, *Ranger's* V-4 men refueled 31 aircraft in a little more than 40 minutes. "This is no small feat," wrote Burlage, "when you consider that an A-3B holds as much as 4500 gallons of JP-5."

Normally, V-4's refueling must be squeezed into the brief turnaround time allotted for aircraft.

"The bulk of fuel aboard *Lake Champlain* is avgas," wrote Ltjg. Jerry S. Chasteen, "because the Atlantic ASW carrier doesn't fly fixed wing jet aircraft—only twin-jet SH-3A helicopters. The *Champ's* fixed wing aircraft, S-2's and EA-1's, use aviation gasoline while *Ranger's* aircraft, chiefly jet-powered, use JP-5. Aviation gasoline has a very low flash point (—40° F.) while JP-5 is a high grade kerosene with a flash point of 140°.

"Owing to the explosive hazard aboard *Lake Champlain*, the 45 men working for the gas king in the V-4 Division must be especially conscientious—likewise for all the crew members of *Lake Champlain*. When the word is passed for the smoking lamp to be put out while refueling aircraft or venting the gasoline system, the smoking lamp *must* be put out. And it is."

V-5 Division. This division was the Aviation Ordnance Group, since merged with the Weapons Department. Most carriers no longer have such a division in their organization. An exception is the *Oriskany*. This division in CVA-34 performs two important functions for the Air Department. Five men work in Primary Flight Control and four men work in the Air Department Office.

Under the supervision of the Air Officer and the Assistant Air Officer, the men in Pri-Fly man the various sound-powered circuits, keep aircraft status boards, perform whatever tasks the Air Boss wishes, and run numerous errands.

Oriskany's V-5 men who work in the Air Office are under the supervision of the Air Administrative Assistant. Their duties include the various administrative functions required of an Air Officer in operating his department effectively.

V-6 Division. This is the Aircraft Maintenance Division, but the duties performed by some men assigned spill over to areas that bear no obvious relation to the division's title. The *Oriskany* describes the scope of the division:

"The mission of the V-6 Division is to furnish and maintain the shipboard shops, equipment, and facilities required for the maintenance of embarked aircraft and aeronautical equipment and the maintenance and repair of these aircraft and this equipment when the required maintenance is beyond the squadron's capabilities."

Six shops in the *Independence*—MUGS (mobile ground support equipment), Aviation Structures, Aviation Electronics, Aviation Survival Equipment, Avionics, and BACE/SACE shops—operate on a 24-hour-a-day basis in the V-6 Division. (BACE stands for Basic Aircraft Checkout Equipment; SACE for Shipboard Aircraft Checkout Equipment. The latter designation, in the current phase of evolution, tends to be more popular.)

The MUGS shop carries the brunt of the V-6 workload, inspecting and repairing starting units, starting and repairing two tractors, forklifts, and Tilly, the 74-ton crash crane. The Structures Shop furnishes welding and lathe facilities, liquid oxygen, and metal work. The Electronics, Avionics, and BACE/SACE shops maintain millions of dollars worth of test equipment. The Survival Shop, containing the paraloft and 'chute drying room, maintains parachutes, liferafts, lifejackets, exposure suits, and other survival equipment.

Recently, a change hit Navy aviation maintenance that affects the status of personnel and facilities assigned to the V-6 Divisions of carriers which have incorporated the new three-level concept into their operations.

Under this system, work or inspections performed at squadron level are known as Organizational functions, while work normally performed in centrally located facilities for the support of squadrons goes by the name of Intermediate Level Maintenance.

Carriers operating under the three-level concept send the V-6 personnel assigned intermediate maintenance functions TAD to the air wing when it comes aboard and turn over required V-6 facilities to the air wing commander.

[NANEWS *will soon carry a detailed feature article concerning intermediate maintenance; it will appear as part of the magazine's current series, "3-M and 3-Level Maintenance."*]

Intrepid's C-1A *Trader* has four V-6 men permanently assigned for maintenance. Each is a qualified Plane Captain. The aircraft is used by the Medical Department for emergency transport, by the ship as a daily mail courier (when required), for transport of personnel on emergency leave, delivery of emergency spare parts, and for liaison flights before the ship enters a foreign port.

The Jet Engine Test Facility is manned and maintained by V-6 technicians in the *Independence*. Ashore, the V-6 Automotive Transportation Unit furnishes upkeep for 11 vehicles as well as providing drivers.

In the *Saratoga*, the yellow gear is manned by V-1, V-3, and V-6 Divisions. This assortment of wheeled vehicles includes the Tilly, 18 tow tractors, seven mobile high-pressure air compressors, nine hydraulic "jenneys," seven liquid oxygen trailers, 16 heavy-duty trailers used to transport engines and tail sections removed from aircraft for repair, two 15,000-pound forklifts, and eight 6000-pound forklifts.

"This is where we are going to have a real difference," said Commander

Uhwat to Captain Morris in the Pentagon. He was speaking of the average work day in a carrier's Air Department. "The ASW people work around the clock when at sea. In *Forrestal*, we worked six days a week, on an average. If we worked on a Sunday, we might get a halfday off on a Monday; get Saturday off, we work on Sunday.

"Flight quarters usually went an hour and a half—sometimes even two hours—before scheduled first launch time. First launch would be scheduled for 0730 to 0800, depending on how late they flew the night before."

Morris interrupted: "The ASW exercise would run seven to ten days, around the clock. We'd never stop. Our s-2's would run on a three-hour cycle, helos an hour and a half. That way we'd have two helo launches to one s-2.

"We actually split our flight deck, our hangar deck, the gasoline crews, the V-2's and the V-6 men into 12-hour shifts. We didn't split the shifts exactly in half, because there were many more helos flying during the day and consequently we needed more personnel. You experiment. We started out two-thirds of our enlisted personnel working in the daytime and the other third at night. Well, this wasn't quite equal, so we took a few from the day shift and added them to the night. This worked better for us."

"Didn't you have a break?"

"Not during the exercises. Sometimes they'd try to work in a break on a Sunday, but this really wasn't a break for the Air Department. This is the day that you transfer the spare parts to the destroyers—we had eight 'little boys' with us and a couple of subs. And the chaplains wanted to fly to the destroyers for services."

"The Holy Copter."

"Few people know how much work goes into that," said Uhwat. "Now, to launch only a single helo requires a considerable number of people. It may even require a re-spot of the flight deck, but usually you'll anticipate this the night before. Still, the tower has to be manned and some key personnel have to be on the flight deck who know how to handle the helo—where to land it and what the wind requirements are. And these people have to stand by until the helo has returned safely."

"Which brings up another point," said Morris. "The traditional calls over the 1MC don't mean much to the Air Department. After one of these around-the-clock operations, everyone is dead-tired. At 0800 when the word is passed, 'Turn to,' the Air Department has been working all night; its people haven't stopped. And at 1630, 'All hands secure. Knock off ship's work'—it doesn't mean a thing."

Uhwat: "When reveille goes in *Forrestal*, the Air Department's been up since 0500. The same thing holds true when they blow taps at 2200; the Air Department doesn't secure until 0200. When do these men get their rest? Well, as Haggard pointed out in the *Independence*, they lie down on the catwalks and get catnaps. This is condoned and accepted. I accepted it because these people needed rest."

Morris: "We got short-handed in the V-2 crew so we put up cots in the catwalks and the men slept there between launchings at night. That's the only way they could get some sleep."

The question arose: Wouldn't the flight deck noise disturb them?

"Not much," said Uhwat. "The men condition themselves to the noise. It's a steady kind of a noise. If we want them awake, we get on the bull horn. This is the most effective."

If the hours are long and work arduous, is the morale low?

"No," said Uhwat, "and you might think this strange, but it isn't. We had airmen on our catapults, for instance, 18 to 20 years old. We had more airmen than rated men. Same thing is true on our arresting gear. You take some 18- or 19-year-old with a year or two in the Navy, he's pushing the firing button on a million-dollar aircraft. There's responsibility there."

Morris: "And motivation."

Uhwat: "It's the younger ones, I think, who have the greater motivation. It's an extremely adventurous, dynamic type of life. Any young guy between 18 and 24 has an adventurous spirit and this type of work satisfies that spirit in him.

"And the group attitude can contribute to his wanting to do a good

FLIGHT DECK *director aboard CVA-59 attaches tow bar to "mule," a tractor-like vehicle that tows aircraft on the flight deck.*

ENLISTED MAN *assigned to Forrestal's V-6 (Aircraft Maintenance) Division works on the jet engine of one of the carrier's planes.*

job. If one guy in a group of 10 or 20 doesn't do a good job, he stands out like a sore thumb. His co-workers spot him and that's motivation enough; he has to live with them. These guys are hustlers."

Said Morris, "I don't know how the men keep it up day after day."

CDR. BILL BURGIN of the *Shangri La* notes that one of the most important members of the Air Department is the Aircraft Handling Officer. "His basic function is to exercise over-all supervision of the handling of embarked aircraft and to assist the Air Officer in the conduct of flight operations. In particular, he plans and supervises the spotting of all aircraft on the flight and hangar decks, including the movement of aircraft between decks, via the aircraft elevators.

"He must not only be efficient, but also have insight to plan ahead. In this respect, he must keep the Air Officer advised of any possible delays. With only two catapults on the *Shangri La*, we have a problem if one goes down, particularly when we are operating on short cycles (one hour, ten minutes, or one hour, 20 minutes). We have been able to overcome this by launching five minutes early and delaying the recovery five minutes. As you can see, this really cuts down our re-spot time, but good planning and good supervision have allowed us to make the launches without cutting the schedule or pulling forward. It's really a matter of pride with the Air Department to make the schedule—and it's the Aircraft Handling Officer who makes it work."

Champ's Cdr. Richard G. Brand has a comment to make: "As the Air Boss on the only straight-deck carrier in the Navy, I'd like to note that aircraft handling situations in the *Champ* are unique in that we have the center line number three elevator. This not only requires that the deck be closed whenever it is down, but we lose several aircraft parking spots on the hangar deck. Also, there are no dud spots aft of the island.

"The Air Group that flies aboard the *Champ* can still be separated into two groups—those that have, and those that haven't, barriers. We're the only carrier in the U.S. Navy that rigs and unrigs barriers, a job that V-2 men do in seconds. Coupled with the straight deck is the requirement that the LSO be a 'paddle waver.' "

Finally, Cdr. George F. Bean, Air Officer in the *Intrepid*:

"There can be no bluffing on this circus arena called the Flight Deck. Mistakes can't be covered up; they're all in plain view. In this regard, the Air Boss is never a 'Poker player.' Figuratively speaking, his cards are always on the table—face up.

"A patient captain and an understanding admiral are a great help, but even they can carry the Air Boss only so far. Those guys in the rainbow of jerseys on the flight deck are the key.

"For example, the coordination and team spirit of a well-drilled catapult crew during a launch would be a credit to a professional football team. Where do you see a better display of sheer guts and confidence than of a yellow-shirt director backing into 35 knots of wind, three feet from the bow, while spotting an aircraft following a recovery on a dark night? Or a bridle runner retrieving a stuck bridle from the catapult horns, one slip from the water 50 feet below? Where among the higher income tax professions is more hustle demonstrated than the arresting gear crew rigging a triple-web barricade for a tailhook-less, low state jet, or the fuel men pulling a hose for a rapid turnaround? Responsibility far exceeds the pay of the young tractor driver maneuvering a multi-million dollar aircraft into a close deck-edge spot.

"Whether it's a Sunday afternoon helo launch or sustained, around-the-clock operations in the Med, a wet night at Point Pete [a grid point operating area in the Med], or the kind of chilling gales you find so often occurring in northern latitudes, these airdales put on a fine show."

FLIGHT QUARTERS AUTHORIZED CLOTHING

Personnel	*Helmet*	*Jersey*	*Symbols, Front and Back*
Aircraft handling officers and plane directors	Yellow	Yellow	Billet title—crew number
Catapult and arresting gear officers	Green	Yellow	Billet title
Elevator operators	White	Blue	Elevator Operator
Aircraft handling crew and chockman	Blue	Blue	Crew number
Hook releaseman	Green	Green	
Arresting gear	Green	Green	A
Catapult crew	Green	Green	C
Photographers	Green	Green	P
Messengers and telephone talkers	White	Blue	
Maintenance crews	Green	Green	Black stripe and squadron designator
Plane Captains	Brown	Brown	Squadron designator
Repair parties and fire fighters	Red	Red	R
Helicopter crewman	Red	Green	H
Helicopter plane captain	Red	Brown	H
Aviation fuels	Purple	Purple	G
Medical	White	White	Red Cross
Ordnanceman	Red	Red	Black stripe and squadron designator
Maintenance	Green	Green	Squadron designator plus "Maint. CPO"
Line	Green	Brown	Same, except "Line CPO"
Squadron plane inspector	Green	White	Black and white checkerboard pattern and squadron designator

Only officers charged with the actual control or direction of aircraft movements on the flight or hangar decks wear yellow jerseys. Officers in charge of a detail, such as aviation fuels, ordnance, and maintenance, wear a helmet and jersey corresponding in color to that of their respective detail, with their billet title on the jersey.

CLEANSWEEP IIIB RESTS UNDER WING OF AIR FORCE RB-57 CANBERRA

CLEANSWEEP IIIB IS TRIED

A MISSILE SYSTEM designed to collect and bring back samples of debris from nuclear clouds is being tested at the Pacific Missile Range, Point Mugu, Calif. The system, called *Cleansweep IIIB*, was introduced to PMR in 1963.

Being developed by the University of California's Lawrence Radiation Laboratory, *Cleansweep IIIB* will be part of the national readines program to resume nuclear testing in the atmosphere if the present test ban treaty is broken.

The single-stage, air-launched ballistic missile is propelled by the *Shrike* rocket motor. At PMR, it is launched by an Air Force RB-57C *Canberra* jet aircraft.

During a typical operation, the pilot of the launch aircraft is directed to a pre-determined course and altitude. Once a launching point is reached, the pilot pulls the aircraft up in a low-altitude bombing system (LABS) maneuver and launches the missile at a prescribed horizontal angle, which varies between 40 and 85 degrees.

Twenty seconds after launch, the nose tip and aft port covers of the missile payload are ejected. Air passes through the vehicle; under actual sampling conditions, micron-sized debris from a nuclear cloud would be collected on a cellulose paper filter in the payload.

Its mission accomplished, the missile descends and the rocket motor is jettisoned. Seals close in the payload to make it watertight, and a parachute system deploys to lower the vehicle to the water, where two balloons keep it afloat.

A dye marker, flashing light and radio transmitter aid in locating the vehicle. Recovery forces consist of a helicopter and rescue boat.

Airlift to Southeast Asia

MAC's Modern Day Pony Express

Red Ball, *Quick Stop* and *Fast Fly* are not new baseball terms. They are all terms used by the Military Airlift Command (MAC) to identify projects which speed supplies and troops to Southeast Asia.

Priority cargo is identified by the Army, marked with the *Red Ball* label and delivered to the Airlift Command. MAC air expresses it aboard the first available aircraft bound for Southeast Asia.

Quick Stop is just that—a quick stop. Its aim: to get MAC aircraft into the air again as soon as possible whenever they land at an en route station. Loads going to the same destination are packed for handling as a unit. Flight plans and clearances for crews are prepared by computers at airlift command posts. Maintenance and refueling crews work with a sense of urgency; ground crews labor around the clock in a never-ending race against time. And it works. When a C-141 *Starlifter* stopped at Andersen AFB, Guam, recently, it was completely serviced and in the air again in less than 45 minutes.

Fast Fly can be best described as an air "pony express." MAC crews are staged along the air routes to Southeast Asia just as pony express riders were spotted across the western plains. When an aircraft lands, a new crew replaces the one which brought the cargo plane in and, as soon as it is serviced, it is on its way again. The air pony express stations are located at Kadena AB, Okinawa; Wake Island; Clark and Mactan Air Bases, R.P.; and Hickam AFB, Hawaii.

Award for Air Controller

VAdm. Ramsey at Presentation

For his work as an airborne controller of combat strikes during Vietnam operations, Lt. William S. Norman, USNR, has received three awards: the Navy Commendation Medal, the Air Medal and the Armed Forces Expeditionary Medal. VAdm. Paul H. Ramsey, DCNO (Air), made the presentation.

As an airborne controller, Lt. Norman flew 38 missions off the USS *Coral Sea* (CVA-43) aboard E-1B *Tracers*. He directed jet fighter and attack aircraft against targets in North Vietnam and also controlled close air support craft and helicopters during vertical envelopment operations in South Vietnam.

Lt. Norman's combat missions were flown from February through May, 1965. He later became assistant combat information center officer aboard the USS *Constellation* (CVA-64) and is now assigned to the Navy Department in the Pentagon.

In March he toured 18 southern colleges and universities to discuss Navy officer career opportunities as a representative of SecNav's Committee on Equal Opportunity.

VADM. RAMSEY AND LT. NORMAN

SELECTED AIR RESERVE

MEMBERS OF THE SPECIAL COMMITTEE, RESERVE FORCES POLICY BOARD, AT THEIR MEETING IN GLENVIEW

Policy Board Meeting

An agenda meeting of the Special Committee, Reserve Forces Policy Board, was held recently at NAS GLENVIEW. Members from all sections of the country were in attendance.

In the picture (from left) are: Mr. Eugene Hedberg, staff director, RFPB, Washington; Major General Charles A. Ott, Jr., Air National Guard, Santa Barbara, Calif.; Major General Frank McCoy, Air Force Reserve, Nashville, Tenn.; Major General Ernest J. Massard, U.S. Army Reserve, Ardmore, Okla.; Rear Admiral Leslie Reid, Naval Reserve, Glenview; and Major Ralph Palladino, military executive, RFPB, Washington.

From AF to Navy via Army

In a period of four days, an Air Force Staff Sergeant was discharged, sworn into the Naval Air Reserve by an Army officer and went on active duty in the TAR program of the Naval Air Reserve.

William E. Pruitt, the former Staff Sergeant, was sworn into the Naval Air Reserve by 1st. Lt. Gregory Dobinson, U.S. Army, the day after he received his discharge from the Air Force. Two days later Pruitt received a permanent rating of Second Class Aviation Boatswain Mate and the very next day applied for TAR duty and was given his first choice — South Weymouth, Massachusetts.

People-to-People

Minnesota's Future Farmers of America, with the aid of the Naval Air Reserves at NAS TWIN CITIES, recently sent more than 2,500 college text books to schools in the Republic of the Philippines.

The books, all texts on general agricultural subjects, were collected, sorted and packed by the Future Farmers. Then Reserve personnel flew them to NAS ALAMEDA, Calif., where they were turned over to Books for Asian Students, a UNESCO organization.

Project Management Seminar

A two-week Project Management Seminar for Naval Reserve Officers was held early this year at Naval Air Facility, Andrews AFB. Subjects covered included recent modifications in naval weapons, new weapons under development and revised management techniques.

The up-to-date training these officers received on current management and operations systems will aid in their rapid and efficient transition to assigned positions in the naval establishment if the need arises.

Hosts for the seminar were the Weapons Training Unit at NAF ANDREWS and the Bureau of Naval Weapons. The lecture series and question and answer sessions were conducted by key personnel from both organizations.

Parallel Careers

When Howard L. Roshave and Tom C. Field, AZ's, boarded the train for Charleston, S.C., and their two years of active duty, they were just carrying on a tradition which began three years ago.

It all started in 1963 when Roshave and Field entered the Naval Air Reserve together by joining the 85-day Recruit to Airman Acceler-

ated Training Program at NARTU JACKSONVILLE. Then these two made airman apprentice on the same date. October 1964 saw the similarity increase, both made airman on the same date. In 1965, they added to the chain when they both became third class petty officers—on the same date.

Not satisfied, they both entered Aviation Maintenance Administrationmen Class A School at NATTC MEMPHIS—you guessed it—on the same date, and further, finished as the two top men from the Jacksonville Unit.

Until they boarded the train for Charleston, they both were members of Transport Squadron 742 at NARTU JACKSONVILLE.

Had enough? There's more. Field and Roshave were born the same year in the same hospital, (in Flint, Michigan) and now claim the same home town, Winter Haven, Fla.

Outstanding Leadership

For his outstanding leadership, Commander H. R. Smith, Jr., Commanding Officer of Weapons Training Unit 873, NARTU ALAMEDA, was recently presented an inscribed ceremonial sword. Commander Smith led his unit to a 3.986 score out of a possible 4.0 during a recent inspection by CNAResTra. As of this date, the mark stands as the highest achieved by any unit in CNAResTra.

The presentation was made by Commander J. P. Bowers, on behalf of the officers and men of the unit. Captain J. B. Bock, NARTU C.O., presented his congratulations.

COMMANDER *Smith (left) and Captain Bock admire the ceremonial sword.*

Senior Naval Reserve Aviator

Captain Edelen "Ace" Parker has been selected for promotion to the rank of Rear Admiral, USNR. The promotion will establish him as the senior Naval Reserve Aviator on active duty.

Captain Parker assumed his current duties as the first Deputy Chief of Naval Air Reserve Training in July 1965.

Rescue at Willow Grove

For his part in the rescue of five children from the icy waters of the Delaware Canal on January 18, Jerome P. Duick, AT1, of Levittown, Pa., was officially commended by Captain N. R. Charles, C. O. of NAS WILLOW GROVE.

The children, ranging in age from seven to eleven years, were skating on the ice in the Canal when Duick observed the ice cracking. As he ran toward the canal bank, the children broke through, one after another. Although only five feet deep, the water was above the heads of the smaller children. Duick, assisted by two other witnesses, quickly got the children ashore.

The letter of commendation read, in part, ". . . for coming to the aid of several young children in danger of drowning, without regard for his personal safety; a courageous and gallant action in the highest tradition of the Naval Service."

Duick was on two weeks active duty for training with the Naval Air Reserve Electronics Training Unit at Willow Grove.

CNAResTra Visits Key West

Rear Admiral Richard L. Fowler made an official visit to the Key West Naval Base on March 28 to inspect the facilities used by Air Reserve squadrons. Taking to the air, Admiral Fowler viewed an ASW training exercise off the Florida Coast in which Middle West Reservists were engaged.

Ordnance Training Mission

The first live ordnance training missions ever launched from NAS ATLANTA were flown March 17th. Members of MARTD and VMF-351, led by LCol. Neal Heffernan, flew syllabus strafing flights in their F-8's to Shaw AFB, Columbia, S.C.

AN "AVENUE *of pennants"—one for each squadron, unit and command at NAS New York—and an F-11A enhance station's entrance.*

IT WAS *a family affair at NAS Norfolk as Cdr. R. C. Weekly, USNR (Ret.), enlisted his second son, Christopher, in the Naval Air Reserve.*

AT DUSK *an SP-5B Marlin from VP-50 prepares to take off while another circles to land.*

FLYING *over a junk under suspicion a crewman watches for unusual movement on deck.*

ON A LOW *pass, one crewman takes pictures and another notes identifying features.*

HEAVILY *perspiring from the 100-degree heat, the navigator relays data to pilot.*

A VIETNAM COASTAL PATROL WITH VP-50

Story and photos by
William M. Powers, PH1

As part of a massive effort to monitor coastal shipping that is *Market Time,* VP-50 is one of many units who spend long hours in the air and on the water.

During the day the coast and waters seldom betray the fury of the war that rages inland. The sun shines, the water is blue and crewmen aboard the junks give a friendly wave to the plane.

After dark, the flashing lights of battle can be seen from the hills and the airplane's crew mounts and primes machines guns. Night brings the beginning of stepped up activity by the Viet Cong. The watchful aircraft remain on the alert.

AT ONE *end of the plane, a machine gunner waits; supper is cooked at the other end.*

RADIOMAN *keeps in constant contact with home base and friendly naval units in area.*

BIGGEST *responsibility belongs to the pilot. He makes sure that everyone gets back safely.*

ALL HANDS *share the load as the copilot takes a turn at the navigator's position.*

VR-3 Joins a USAF Wing

End of Navy Air Transport Wing

Naval Air Transport Squadron Three became the only Navy squadron in the U.S. Air Force in February when operational control of the squadron switched to the 438th Military Airlift Wing at McGuire AF Base. This preceded the decommissioning of Naval Air Transport Wing, Atlantic, March 1, 1966.

Brigadier General Roland J. Barnick commands the 438th Military Airlift Wing.

VR-3, which is currently commanded by Captain Stanley Montunnas, has flown with the Air Force since 1948 when the Naval Air Transport Service merged with the Air Force to form the Military Air Transport Service. It has been called the Military Airlift Command (MAC) since January 1.

VR-3 is one of Navy's veteran squadrons. Since its commissioning in 1942, it has flown in nearly every important airlift action since the Berlin Airlift. A VR-3 C-130E *Hercules* was the first U.S. plane flown into Santa Domingo during last summer's crisis. Currently, VR-3 MAC crews are heavily involved in moving troops and cargo into Vietnam and Southeast Asia.

Wave Solos in T-34 Mentor

First Woman to Fly Navy Plane

On March 28, Ens. Gale Ann Gordon, Medical Service Corps, USNR, became the first woman in the history of the Naval Air Basic Training Command to fly solo in a Navy training plane. The historic solo was made at NAAS SAUFLEY FIELD, Fla., in one of VT-1's T-34 *Mentors*.

Ens. Gordon, who holds a Masters degree in experimental psychology, received her flight training as part of a course of instruction leading to a designation of Aviation Experimental Psychologist.

She was commissioned in September 1965, and assigned to the U.S. Naval Aerospace Medical Institute at NAS PENSACOLA as a member of the 111th Flight Surgeon Class.

Basic orientation finished, she reported to VT-1 in February to begin flight training. A lone woman among 1,000 men, her big problem was the usual (for a woman): finding correct sizes in boots, gloves and flight suit. She studied the very same course as her male counterparts, progressing routinely to flight number 12—solo.

Ens. Gordon must make four more flights. Two will be dual acrobatic flights, then one in the T-2A *Buckeye* jet trainer used by VT-1, and another in one of VT-5's T-28 *Trojans*. While at VT-5, Gale, with an instructor, will make a landing aboard USS *Lexington*.

FIRST PHOTO—*Captive flight test model of the Navy's Phoenix missile, which will be powered by solid propellant motor under development by Rocketdyne, is viewed by VAdm. I. J. Galantin, Chief of Naval Material, and M. A. Livesay, of Aeronautical Systems Division, Hughes Aircraft. Rocketdyne is propulsion sub-contractor to Hughes which has prime contract to develop the missile system. The missile's first successful airborne test was made at the Pacific Missile Range, Point Mugu. The Phoenix is being developed as long-range armament for the F-111B, Navy version of the all-service interceptor.*

ENS. GORDON MAKES WHEEL CHECK

CVA-64 Receives Essa Pix

Can Get Four Photos per Orbit

USS *Constellation* announces that it was the first ship to receive a picture from an operational weather satellite.

The first picture from the *Essa* 2 satellite was received March 2, two days after the satellite had been launched from Cape Kennedy.

Each picture taken from the satellite covers 490,000 square miles. *Essa* 2 takes one hour, 53 minutes, to complete its orbit. *Constellation's* facsimile recorder can receive four pictures from the satellite during the part of its orbit over the ship. Three of its orbits each day are receivable on the ship.

Operational Test and Evaluation Force, Pacific, is now studying CVA-64's satellite receiving operation with a view to installing it in ships throughout the Fleet.

AT SEA WITH THE CARRIERS

ON HER WAY *to decommissioning for a three-year overhaul, Midway slips under a crane to berth at Hunter's Point. Some $85 million will be spent to modernize the CVA.*

COMBAT *troops race across USS Iwo Jima's flight deck as assault starts in Vietnam.*

PACIFIC FLEET

MIDWAY (CVA-41)

The terse message from ComTwelve to CNO said, simply: "USS *Midway* placed 'out of commission, special' . . . at Hunter's Point Division, San Francisco Bay Naval Shipyard. Captain R. L. Kopps, USN, assumed duties as OinC." But the designation, "out of commission, special," meant that the United States Ship *Midway* became just *Midway*, with a 34-month, $85 million overhaul ahead before she returns to the Fleet.

The three years *Midway* will spend at Hunter's Point will give yard workers the time they need to provide the 21-year-old CVA the capability to actively participate in operations for at least a decade, while, incidentally, saving more than 60 per cent of the $200 million price tag for a new carrier.

Major effort will center around equipping *Midway* so the ship can handle newer and heavier aircraft. Higher pressure steam catapults, strengthened deck and new arresting gear will be major installations. The ship will also receive air conditioning, new avionics shops, modified ammunition and bomb stowage facilities and equipment and modernized radar and communications systems.

ENTERPRISE (CVAN-65)

Command of CarDiv Three passed from Rear Admiral Henry L. Miller to Rear Admiral Thomas J. Walker during a ceremony aboard *Enterprise* as the nuclear-powered carrier operated in the South China Sea. Before he left the carrier for new duties as Chief of Information in Washington, Admiral Miller told assembled personnel from CarDiv Three, ship's company and CVW-9: "As the commander of the first nuclear-powered task group in history to engage in combat, I feel the results which you here on *Enterprise* produce will prove to be of great significance to the future of the United States Navy and the Free World. You are leading the way."

Rear Admiral Walker's previous assignment was as Deputy Commander (Navy), Joint Task Force Two at Sandia Base, New Mexico.

The President of the Republic of the Philippines, Ferdinand Marcos, visited *Enterprise* while the carrier was in port at Subic Bay. Arriving by helicopter, he was welcomed by Vice Admiral John J. Hyland, ComSeventhFleet; Rear Admiral Walker and Captain J. L. Holloway, III, C.O.

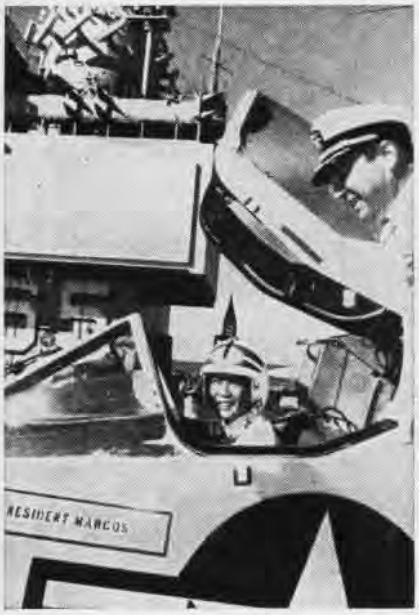
A 21-gun salute headed the full honors accorded President Marcos in a ceremony in the ship's forward hangar bay. A tour of the ship gave him the chance to try out the cockpit of an A-4C *Skyhawk* and to visit one of the CVAN's nuclear power plants where he was presented a metal symbol of an atom with a model of the *Enterprise* at the center.

Accompanying President Marcos on the visit were ranking Filipino dignitaries, military personnel and political figures.

Medals, all earned the hard way, were the order of the day aboard CVAN-65 when 100 pilots and flight officers of CVW-9 received 141 Air Medals and gold or silver

stars in lieu of subsequent awards while the ship was at sea. They were presented by Rear Admiral Miller before he left the ship.

"With replenishment at sea an almost daily occurrence among Seventh Fleet carriers, the transfer of large loads at high . . . rates is common," the *Enterprise* news release said, "but when two giants in their fields got together recently the records tumbled." The release referred to unrep operations between



PHILIPPINE *President Ferdinand Marcos tries out cockpit of an Enterprise A-4.*

Enterprise and USS *Sacramento* (AOE-1), during which the carrier received 654 tons of ammunition and more than a million gallons of jet fuel.

The release claimed the ammunition tonnage is a new high for a one-day Seventh Fleet operation.

"In six hours alongside," the release added, "*Sacramento* sent 458 tons of aviation ordnance and other supplies across to *Enterprise*. Earlier, in a daylight vertical replenishment operation, *Sacramento's* two helicopters hauled 196 tons of ammunition and supplies. The huge jet-powered UH-46 *Sea Knight* helicopters made one round trip every minute and 20 seconds, [pacing] their operations to coincide with the intervals between launch and recovery of *Enterprise* aircraft flying strikes against the Viet Cong."

The release pointed out that it took *Enterprise* crewmen an additional five hours to move the ammunition from the hangar deck to storage magazines.

"Weary sailors were glad when it was done," the release said. [But] an hour and a half later the first strikes of a new day were launched.

"*Ad infinitum*," it concluded.

VA-36 personnel aboard *The Big E* reported that squadron pilots have flown their A-4 *Skyhawks* for 10,000 accident-free hours, 1,500 in combat.

BENNINGTON (CVS-20)

Bennington is reportedly the first ship in the Fleet to test a new, longer-lasting, money-saving flight deck surfacing compound under operating conditions. Called poly urethane, the plastic compound costs more to install initially than previously-used material, ferrox. Its advantages, including an expected ability to last three to four times longer, are good bonding capability which makes it an excellent preservative for wooden flight decks, and—with the addition of crushed quartz sand—an effective non-skid surface.

CORAL SEA (CVA-43)

Captain Frank W. Ault relieved Captain George L. Cassell (NA-News, May 1965) as C. O. of *Coral Sea* during a ceremony held while the carrier was at the San Francisco Bay Naval Shipyard.

Hunter's Point personnel reported that the carrier was nearing time to leave drydock and boiler light-off was due soon after the CVA was reberthed. "Staging came down from the mast," the report added, "a sure sign that many antennas will soon start returning to their roosts."

HANCOCK (CVA-19)

Rear Admiral Maurice F. Weisner, CTF 77, was flown aboard *Hancock* to discuss air operations over Vietnam with *Hancock's* C. O., Captain J. C. Donaldson, Jr.

The 84,000th arrested landing was made aboard *Hancock* during operations off Vietnam by LCdr. S. J. Thomas, VF-211, in an F-8.

A record was claimed for VA-215 when the squadron's ordnance officer, Ens. Norm Hansen, and his crew loaded their two millionth pound of bombs on one of the unit's A-1 *Skyraiders*. "That's 2,000,000 pounds of bombs, not counting rockets and flares, since *Hancock* arrived on the line in the South China Sea in mid-December 1965," a report said.

KEARSARGE (CVS-33)

Eleven senior foreign naval officers, including two rear admirals, completed a five-day cruise aboard *Kearsarge* as part of the Senior Officer Antisubmarine Warfare Tactical Course offered by the U.S. Fleet ASW School in San Diego.

FLIGHT DECK *action is fast aboard Hancock as Crusader is readied for launch.*

Kay crew members marked their ship's 20th anniversary during a period in which the CVS was operating out of home port, Long Beach, Calif.

Fifty-three *Kay* crewmen attended a basketball game and dance at the Santa Monica City College. It was an "exchange visit" in return for a dance held aboard the CVS.

KITTY HAWK (CVA-63)

Kitty Hawk is another carrier in the South China Sea that has been trying out vertical unrep methods with USS *Sacramento*. The CVA reported that, during a 90-day period, 97 unreps were conducted with various ships "but [such operations] have been made easier and more efficient" by using helicopters.

Hollywood screen star Robert Mitchum, one of many entertainment personalities taking the time to visit American military personnel in and around Vietnam, flew aboard *Kitty Hawk* for a one-day stay. He was greeted by Rear Admiral James R. Reedy, Commander of Seventh Fleet Attack Carrier Striking Forces, and Captain Martin D. Carmody, skipper.

Mitchum spent most of his time aboard touring the ship, talking with crew members and being interviewed. He observed aircraft launches and a tanker unrep.

after Lt. D. L. Bourland, VF-51, made No. 78,000 in an F-8 *Crusader*. *Tico's* aircraft were averaging more than 100 sorties a day as the ship operated off Vietnam and the around-the-clock flying earned the CVA's C. O., Captain Robert N. Miller, membership in the "10,000-Trap Club."

Tico crewmen also logged their ship's 100th unrep, and new records have been claimed in this department. While *Tico* was alongside the Fleet oiler USS *Chipola*, carrier crewmen got the oiler's hoses rigged and ready for pump-

The 70,000th helicopter landing aboard *Boxer* was made as the LPH steamed to the *Apollo* recovery station. The landing was made by Ltjg. Bill Tanski, pilot, and copilot LCdr. Jack Hickey, HS-5.

AMERICA (CVA-66)

The 10,000th arrested landing aboard the Navy's newest CVA was made by Lt. Dennis B. Nichols, VA-64, in an A-4 *Skyhawk* while *America* operated in the Mediterranean.

Ambassador Harlan Cleveland, permanent U.S. Representative to

BOXER *helicopter is set down on flight deck of the LPH to make the ship's 70,000th helo landing. Pilot was Ltjg. Bill Tanski.*

AMERICA *receives assistance from tugs as the carrier departs Norfolk. Navy's newest CVA is presently with the Sixth Fleet.*

ORISKANY (CVA-34)

Captain John H. Iarrobino relieved Captain Bartholomew J. Connolly, III, as *Oriskany's* C. O. during a change-of-command ceremony held while CVA-34 was in port at NAS North Island, San Diego. Captain Iarrobino came from command of the attack transport USS *Bayfield;* his predecessor was bound for Washington duty.

RANGER (CVA-61)

Ltjg. Howard E. Hess, VAW-11, made *Ranger's* 76,000th arrested landing in an E-2A *Hawkeye*. Lt. Raymond D. King was plane commander.

Forty ranking Filipino military officers toured *Ranger* while the CVA was in port at Subic Bay.

TICONDEROGA (CVA-14)

LCdr. B. J. Wallace, VAH-4 Det Bravo, brought his aircraft aboard *Ticonderoga* for the ship's 79,000th arrested landing only a few days

ing in five minutes and 14 seconds to break *Chipola's* previous record of eight minutes and 14 seconds with USS *Hornet*. *Tico* also holds *Chipola's* fastest time for unrigging and disengaging from an unrep; the time: seven minutes.

ATLANTIC FLEET

BOXER (LPH-4)

Five days after returning to home port, Norfolk, with America's first *Apollo* spacecraft aboard, *Boxer* put to sea for a *Gemini* space shot operation.

Boxer crewmen recovered the *Apollo* craft near Ascension Island. The flight was the first test of the vehicle, in which the U.S. hopes to land a man on the moon. Designated primary recovery ship for the entire *Apollo* series, *Boxer* held the same title for the *Gemini 8* manned space flight but did not participate in recovery activities because of GT-8's abortive Pacific landing.

the North Atlantic Council, boarded CVA-66 for a two-day orientation visit.

The first Ensign to qualify for the underway officer of the deck watch aboard *America* also heads an all-Ensign watch team.

Although he's been in the Navy only 14 months, Ens. George W. Thomason has worked his way through assistant junior officer of the deck to qualify as an underway OOD.

His all-Ensign watch team included John L. Pini, Richard W. McGowan and John L. Builder, Jr.

Concrete examples of the revival of the Navy's warrant officer program were in evidence aboard *America* when three former CPO's exchanged their rating badges for the pin-stripe that designates warrant status. The three included former PNC John T. Garner, Jr., now ship's clerk, GMC John F. O'Neal, ordnance technician, and ABC Robert E. Parsons, aviation operations technician.

FORRESTAL (CVA-59)

Commander H. B. Baumann, VF-74 C.O., accepted *Forrestal's* Golden Tailhook Award for his squadron while CVA-59 operated at sea. It was the second time in a row VF-74 won the award, established by *Forrestal* for the squadron with the outstanding performance record in the landing pattern during the preceding at-sea period. Its purpose is to generate in aircrews a greater attention to overall performance.

Lieutenant General Jose Avilas Bascuas, Chief of the Spanish Air Defense Command, and Brigadier General Julie Salvador Diaz-Benjumea, Chief of the Spanish Air Defense Command Air Forces, toured CVA-59 during a Sixth Fleet orientation visit.

F. D. ROOSEVELT (CVA-42)

There's a saying to the effect that if Mohammed won't go to the mountain, the mountain must come to Mohammed. Aboard *FDR*, Haywood Mitchell, JO1, reported, they take the saying seriously.

It went something like this: While *FDR* was being used for carrier pilot training off the coast of Florida, Commander W. K. Smith, skipper of the CVA's air wing, flew out from NAS CECIL FIELD to practice landings. When he brought his A-4E *Skyhawk* aboard, he made the carrier's 149,000th arrestment.

To celebrate the milestone, Captain Charles L. Burbage, *FDR's* C.O., planned a special cake-cutting ceremony. Complications set in, however, when Commander Smith had to return to Cecil Field. *FDR* steamed back to Mayport, *sans* ceremony.

Plans to hold the ceremony aboard ship were discarded as impractical. Too much time and distance were involved.

"Well," said Captain Burbage, "if we can't get the man to the cake, we'll take the cake to the man."

So, a specially-baked and suitably inscribed cake was loaded on the ship's COD aircraft, bound on a scheduled run for Cecil Field. A short time later, Captain Burbage and several carrier and air wing officers watched proudly as Commander Smith cut the long-awaited cake and received an inscribed cigarette lighter.

GUAM (LPH-9)

A rescue operation by a *Guam* helicopter and a Coast Guard seaplane saved a 19-year-old man from drowning off Vega Baja, Puerto Rico.

LCdr. Allen L. Kruger's crew hoisted Moises Serrano Martinez aboard the helo after a call from a Coast Guard HU-16 *Albatross*, sent to aid Serrano, diverted the *Guam* pilot from a routine operational mission. Martinez was buffeted against a rock for almost an hour

RESCUER *of youth off Vega Baja, LCdr. A. L. Kruger leaves helo aboard USS Guam.*

after he fell off a coral cliff about 200 yards from the Vega Baja beach.

The Navymen gave Serrano first aid as the helo flew to Isla Grande Airport in San Juan. A Navy ambulance took him to a local hospital, and the *Guam* flyers resumed their mission. Others in the helo included Commander David Worrell, copilot and *Guam's* X.O.; Carmine Nobile, AM2; and F. A. Sides, AD3.

INDEPENDENCE (CVA-62)

LCdr. Vernon E. Frank and Ltjg. Steven J. Koontz, pilot and copilot of an H-2 *Seasprite* helicopter based aboard *Independence* when the carrier was operating off Vietnam, received Silver Stars for their rescue of a downed airman in a heavily-defended enemy area south of Than Hoa, North Vietnam. The awards were approved by Admiral Roy L. Johnson, CinCPacFlt.

INTREPID (CVS-11)

CVW-10 pilots, based at NAS CECIL FIELD, completed a week of training exercises aboard the Norfolk-based *Intrepid* off Florida.

SARATOGA (CVA-60)

Sara sailed from home port, Mayport, Fla., bound for the Caribbean and a cruise that was destined to take her to the Mediterranean. The ship underwent an eight-month overhaul at Mayport, the first of its kind accomplished there.

On her seventh cruise to the Med, *Sara* was scheduled to relieve *Forrestal* in the Sixth Fleet.

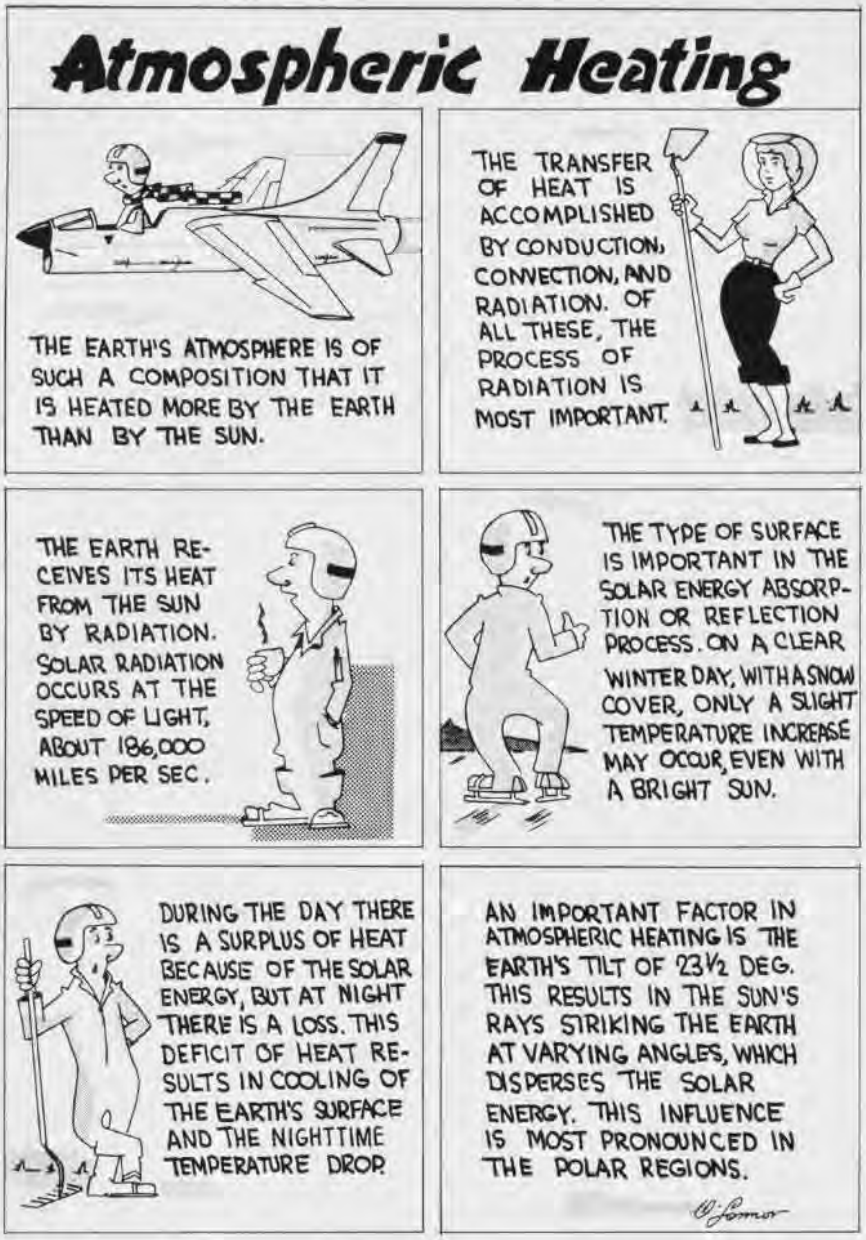
Ens. Mitchell W. Davis, youngest pilot assigned to VA-106, made *Sara's* 105,000th landing in an A-4.

SHANGRI LA (CVA-38)

In preparation for a return to sea, 20 *Shangri La* crewmen attended a special lecture on celestial navigation at the Fels Planetarium, the Franklin Institute, Philadelphia. The subject was appropriate since the lecture was arranged especially for officers and quartermasters by Commander C. B. Crockett.

Shangri La is scheduled to leave the Philadelphia Naval Shipyard in May and return to normal operations with the Atlantic Fleet.

FIRST *unmanned Apollo spacecraft to be launched by NASA is brought aboard Boxer.*



A Drama at Moffett Field

Damaged Craft Landed Safely

A malfunctioning nosewheel, flight crewmen and maintenance personnel were the ingredients in a real-life drama over NAS Moffett Field recently.

It began aboard a *Hercules* en route to Travis AFB from Midway Island. LCdr. L. C. Watson of VR-8 found that the nosewheel would neither lock up nor down. Rather than dump fuel and return to Midway, LCdr. Watson decided to continue to the mainland.

Although the nosewheel gear could not be fully retracted, the wheel well doors closed, enabling the plane to maintain a normal cruising speed for the nine-hour flight.

Over Travis, all emergency procedures, including the use of positive "G" forces, were unsuccessful. The plane then flew over NAS Moffett Field where Lt. R. E. Liss, VR-8 workload control officer, was advised of the difficulty. He immediately assembled a team of hydraulic specialists.

Meanwhile crewmen B. A. Grissom, ADJ1, C. D. Campbell, AMS1, and J. F. Fleming, AMS2, dismantled the nosewheel viewing window and attempted to secure the wheel gear with the tie down straps. No luck. Then the hydraulic team advised the aircrew to attempt bleeding the nose gear hydraulic lines in the wheel well.

The gear extended further, but not enough to be locked down. The team then advised the aircrew to tap the shuttle valve housing with a wrench. The gear extended to within one inch of lock position. Close!

Then the loadmasters dismantled a troop seat in the hold. Using the 3½-foot aluminum frame piping from the seat as pry bars, they managed to force the gear into the locked position. They used tie-down chains to secure the nosewheel. A "normal" landing followed.

Ground inspection revealed that the malfunction was caused by a broken piston rod in the nosewheel hydraulic pump.

The ground technical advisors, Lt. Liss, J. P. Graham, AMCM, J. A. Fitch, ADRC, and D. D. Hamal, AMH1, and the aircrewmen received high praise from LCdr. Watson: "The men demonstrated a high degree of professionalism at a time when immediate action was essential. Through their combined efforts a possible gear-up landing that could have resulted in personnel injuries and extensive aircraft damage was avoided."

New Quarters at McMurdo

Biggest Building in Antarctica

Plans have been completed for construction of a new building—the largest ever erected in Antarctica—at McMurdo Station.

The building's 67,693 square feet of floor space will provide Operation *Deep Freeze* personnel with a two-story, 250-man barracks, barber shop, ships store, dining hall, laundry and mechanical equipment area. It will be built of pre-fabricated materials by Seabees from the Construction Battalions of the Atlantic Fleet.

Scheduled for completion by 1969, construction costs are estimated at one million dollars.

PERSONAL GLIMPSES

Editor's Corner

FIRST IN MAC. When Commander William Kerber reached the 15,000-hour flying mark February 4, he claimed the distinction of being the only Navy crew member in the Military Airlift Command (formerly MATS) to reach that mark. Attached to VR-22 with MAC, Commander Kerber has been flying since 1943.

Monument for Viet Vets. Writing seriously his reflections on the Vietnam fighting, Marine Corporal Stanley Tiner (Third Marine Division) suggested the following "necessary ingredients" for any monument to be constructed for American soldiers, sailors, airmen and Marines:

1. A stretch of white sand from Chu Lai.

2. A chunk of jungle from the Central Highlands.

3. Several hundred acres of rice paddies.

4. A complete Vietnamese village encircled by a trenchline and punji traps and a booby-trapped gate.

5. A weather regulator that can change a heavy monsoon deluge into a beautiful clear day, where the temperature is a mere 130 degrees in the shade.

6. A sound machine that produces the incessant pounding of artillery and mortars in stereophonic style.

7. A transistor radio tuned to "Hanoi Hannah."

8. A "Dear John" letter.

9. An old Vietnamese woman chewing betel-nut holding a basket of beer and asking, "You buy, you buy?"

10. A tattered New Testament opened to a passage of scripture that was helpful.

11. A helicopter full of bullet holes.

12. Hordes of leeches, mosquitoes and pit-vipers.

13. An empty canteen.

14. A carton of C-rations.

15. A copy of *Stars and Stripes.*

16. Lots of barking dogs in all sizes, shapes and colors.

17. A bottle of plasma.

18. A sea bag with Danang, Phu Bai, Chu Lai, Saigon, An Khe, Nha Trang, Guang Ngai, Plei Me, Pleiku and Cam Ranh Bay stenciled on it.

Concludes Corporal Tiner, "If the builder was to throw all these ingredients together in no particular order, he might have a memorial befitting this war and the men who lived and died in it."

THE JAPANIZATION OF AMERICANS. Three items in the *Torii Teller* (MCAS Iwakuni, Japan) caught the editor's eye because of their side-by-side appearance. The first was a call for volunteer square dancers: "either sex, single or married, experienced or not." The second item gave notice of religious services for Jewish personnel at the MCAS chapel. The third was the menu for one of the station's clubs: "Sunday—teriyaki steak with Chinese fried rice."

Did You Know? The Coast Guard Aviation Center in Elizabeth City, N.C., is scheduled to begin construction this year of a round barracks, a first in the construction of military barracks.

ASK A SILLY QUESTION. The Inquiring Reporter at NAAS Whiting Field asked, "What Hollywood character would you like to see fight against the Batman?" One answer: "Lassie—I think their mentality is on the same level and they both wear distinctive uniforms."

Cross Country en Masse. When VR-22 left Norfolk, Va., to take up permanent station at NAS Moffett Field, Calif., it meant a major road problem for 430 men and their families. The move was made in the period of the worst weather (from Thanksgiving through the New Year's holiday). Safety score: only one minor accident was recorded during more than 1,290,000 man/miles of travel by VR-22 personnel and families.

MISTAKEN HOT DOPE. The *Hot Dope Sheet*, safety periodical of the Marines on the East Coast, contained the following editor's note: "In case you find any mistakes in this magazine, they are on purpose; we try to put something in this magazine for everybody and some people are always looking for mistakes."

Who Says 3-M Won't Work? The VC-7 *Towline* had the following "interim report" on its adoption of the new 3-M maintenance system:

"Great gobs of goose grease! Who says 3-M won't work? All it takes is nine quarts of blood (each), lots of sweat, half a head of gray hairs, many, many pencils, two desks full of paper forms, 14,269 overtime hours, reading glasses (to wade through the manual) and an outstanding squadron. I think we qualify for each item. The work center supervisors are doing an outstanding job at making this system work and it's paying off in more ways than one. The new slogan goes well ('G.I.G.O.—garbage in, garbage out'). We have been putting in good data so we're getting good data out."

LIFE'S EMBARRASSMENTS. Melted snow from hills surrounding McMurdo Sound, Antarctica, causes rare wet periods on the Seventh Continent and brings MUD even when temperatures rarely reach up to 30 degrees. Writes Tom Morgan, JOSA, "These rivulets gradually find their way down to the sea, but in their tracks they leave masses of gooey, cold and very wet mud, especially at low points, and always between you and where you want to go, It is somewhat disquieting to stand in mud halfway up to the knees and look out over the ice pack. And as for a 'White Christmas,' it was downright embarrassing to scrape the mud from boots while less than 800 miles from the South Pole."

Murphy's Law Cubed. Naval Aviation is given credit for Murphy's Law: "If a part can be installed incorrectly, someone will install that way!" Now comes Navy Captain George F. Bond, of the Man-in-the-Sea Program, to report expansion of the law. In a recent report on *SeaLab II*, Captain Bond writes: "Murphy's Law becomes cubed when you go under water. Anything that can foul, will foul, that can be lost will get lost, and anything that can get seasick will get seasick."

LETTERS

Reunion

SIRS: The USS *Hornet* Club (CV-12, CV-8) will hold its 18th Annual Reunion in Annapolis, Md., Saturday, June 25. Rooms may be reserved at the Holiday Inn, Bowie, Md. Dinner and dance will be held in the Coral Sea Room, Officers Club, Naval Academy. Arrangements will be made to provide tours through the Naval Academy and historic Annapolis.

Registration starts Friday, June 24, at the Holiday Inn. For further details write to: USS Hornet Club, Curtis A. Myers, President, P.O. Box 628, Annapolis, Md. 21401.

TOM PROPHET
Vice President
USS *Hornet* Club

Calling Phantom I Pilots

SIRS: I would like to hear from pilots who flew with VF-17 Able at the time that they received the U.S. Navy's first true jet, the *Phantom I*. This material is to be used in conjunction with an anniversary article on the Navy receiving her first true jet in 1946. I would like their comments on how the ship handled and any little anecdotes about the *Phantom I* which may stick in their minds.

I would also like to hear from any other squadrons which used the *Phantom I* other than VF-17 Able.

Last, but not least, I would appreciate hearing from members of VMF-122 who were affiliated with the "Marine Phantoms," the first precision flying team organized at MCAS CHERRY POINT in 1946. Any anecdotes they may have on the *Phantom I* will be appreciated.

RONALD BEERENS

302 Grace Avenue
Newark, N. Y. 14513

Qualified Praise

SIRS: The article by Lt. Richard Booth, "*Omega*, Global Navigation at a Glance," which appeared in the February 1966 issue of *Naval Aviation News* was read with interest by the [*Omega* Navigation System Project Office]. The author is to be complimented on a very lucid and up-to-date presentation of the *Omega* system.

The accuracy figures quoted for *Omega* in the article are obtainable a large part of the time, but are somewhat optimistic for the general case. As indicated in the article, the ultimate accuracy obtainable is limited only by random, and therefore unpredictable, variations in the time of propagation of the radio signals. These variations typically produce about a 0.3 to 0.4-mile standard deviation in line of position on the baseline during daytime and about twice that distance at night, resulting in an RMS fix (two intersecting lines of position) error of from one to two nautical miles. Reduction of charting and instrumental errors is not expected to provide any significant improvement in the fix error beyond the one to two-mile error presently advertised.

The *Differential Omega* concept, however, should permit significant improvement in the accuracy obtainable within the *Differential Omega* coverage area. Evaluation of this technique is being actively pursued at this time.

M. X. POLK, CAPTAIN
Omega Project Manager

Shipmates Sought

SIRS: If there are WW II veterans of the USS *Steamer Bay* (CVE-87), VC-93 and VC-90 who knew Chief Commissary Officer, William H. Houser, I would appreciate their writing to me. Chief Houser was my uncle.

ROBERT PORRAZZO

414 North Rennell Avenue
San Dimas, Calif. 91773

Aircraft Data Requested

SIRS: The Public Affairs Office of the USS *Bennington* is now engaged in setting up a display of all of the aircraft that have served aboard *Bennington* since her commissioning.

If anybody has any knowledge of the types of aircraft and their manufacturers, it would be greatly appreciated if you would send this information to:

PUBLIC AFFAIRS OFFICER

USS *Bennington* (CVS-20)
FPO San Francisco, Calif. 96601

B-1 Craft at North Island

Built by 'Early Bird' Waterman

Fifty-four years after he had flown as a passenger in Navy's second airplane, the B-1, Waldo D. Waterman flew to NAS NORTH ISLAND piloting a modified 1911 Curtiss-type pusher airplane he had built.

His wood, wire and fabric craft touched down smoothly and was then put on display not far from where Waterman landed more than half a century ago.

Waterman made his B-1 flight in 1912, when the entire flying Navy was based at North Island. It included three 1911 planes, an A-1, an A-2 and the B-1.

During his career, Waterman was not directly associated with Naval Aviation but worked as a civilian pilot, instructor, designer and builder. He is a past president of the "Early Birds of Aviation," an organization of pilots who soloed before December 17, 1916.

The occasion that brought Mr. Waterman to San Diego was a meeting of the North Island Historical Committee in preparation for the 50th anniversary celebration of NAS NORTH ISLAND in 1967.

He was welcomed (see photo) by Commander H. C. Hollandsworth, chairman of the committee, and Mrs. Elretta Sudsbury who is collecting historical material.

The committee is trying to locate photographs and other mementos of San Diego's history, items related to the naval air station, the ships home-ported there and those from Rockwell Field. A history will be published in 1967.

PIONEER FLIER WATERMAN AT NORIS

NAVAL AVIATION FILMS

Among the latest motion picture films released by the Film Distribution Division, U. S. Naval Photographic Center, the following should prove of particular interest to personnel in Naval Aviation:

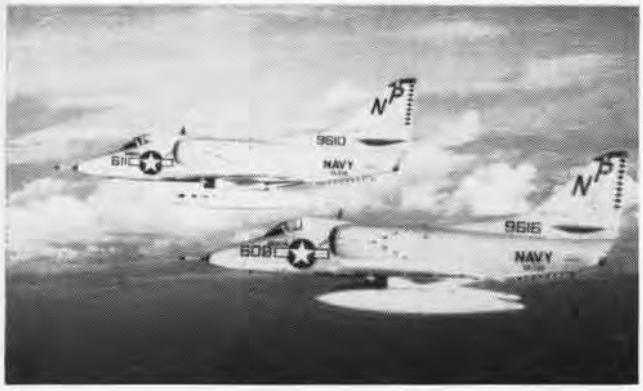
MN-9707 (unclassified) *Human Disorientation — Experimental Rotating Environments.* Common environmental experiments to give credence to illusory phenomena; explains how such phenomena may result in disorientation. 36 min.

MN-9971 (unclassified) *Doctor on the Flight Deck.* Importance of the flight surgeon in maintaining operational effectiveness of the Naval air force. Special training and preparation, basic duties and responsibilities with forces ashore and afloat. Survey of careers available in Naval Aviation medicine. 31 minutes.

FN-9836I (confidential) *Electronic Warfare Recognition — Part I — Soviet Shipborne Early Warning Radar (U).* 22 min.

Instructions for obtaining prints of newly released films are contained in OpNav Instruction 1151.1C.

The film *"G" and You* (MN-2361) has been declared obsolete.



Attack Squadron 216, permanently attached to Carrier Air Wing 21, is serving aboard the Hancock with the Seventh Fleet. Flying the A-4C Skyhawk, the 'Black Diamonds' were commissioned at Moffett Field in 1955. They are now led by Cdr. Carl Birdwell, Jr.

SQUADRON INSIGNIA

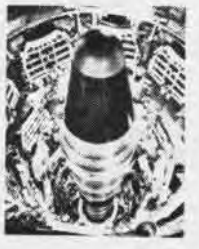
ARMED FORCES DAY

1966

POWER FOR PEACE

"Four years ago, President John F. Kennedy stated to Congress and the world, 'The primary purpose of our arms is peace, not war.' That is still their purpose. We are armed, not for conquest, but to insure our own security and to encourage the settlement of international differences by peaceful processes".

Lyndon B. Johnson
January 18, 1965



NAVAL AVIATION
NEWS