NAVAL AVIATION NEWS

45th Year of Publication

OCTOBER 1964

SHARE THIS COPY

NUCLEAR POWER AND 'SEA ORBIT'

Take three nuclear-powered ships, load them (off Spain) with food and fuel enough to support themselves and a Carrier Air Wing for more than 60 days, send them off on a 30,000-mile trip around the world. Plan no stops for refueling, none for replenishment of stores. Fly the air squadrons frequently as you churn swifty around the Cape of Good Hope, past India, Australia, Cape Horn and South America, then home to Norfolk, Virginia, with power enough left over to continue operating, if needed. Nuclear Power Means Sea Power (see the story on page 11).

■ COVERS

Cooperation between the McDonnell Aircraft Company and the Art Director of the Naval Aviation News is responsible for the front cover of the Phantom II's used by Navy, Marines and USAF. Above, decktop formula, $E=MC^2$, is Einstein's famed formula for converting matter into energy.

NAVAL AVIATION NEWS

Selected BEST INTERNAL PERIODICAL 1963-64 by Federal Editors Assoc.

FORTY-FIFTH YEAR OF PUBLICATION OCTOBER 1964

■ IN THIS ISSUE

■ THE STAFF

Capt. Cecil E. Harris	**Head, Aviation Periodicals Office**
Cdr. Paul Jayson	**Editor**
Izetta Winter Robb	**Managing Editor**
Lt. Rosario Rausa, Scot MacDonald, JOC	**Associate Editors**
Cdr. Mack Wortman, Harold Andrews	**Contributing Editors**
Janis C. Burns	**Assistant Editor**
James M. Springer	**Art Director**

Issuance of this periodical approved in accordance with Department of the Navy Publications and Printing Regulations, NAVEXOS P-35

Published monthly by Chief of Naval Operations and Bureau of Naval Weapons to disseminate data on aircraft training and operations, space technology, missile, rocket and other aviation ordnance developments, aeronautical safety, aircraft design, power plants, aircraft recognition, technical maintenance and overhaul procedures. Send mail to Naval Aviation News, Op. 05-A5, Navy Department, Washington D. C., 20360, located at 3704 Main Navy Bldg.; telephone Oxford 62252 or 61755. Annual subscription rate is $2.50 check or money order ($1.00 additional for foreign mailing) made payable and sent to Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. Single copy is $.25.

NAVAL AVIATION NEWS

CNO Safety Awards Made

VAdm. Thach Praises Winning Units

Announcements of the CNO Safety Awards to active and reserve squadrons for FY 1964 were accompanied by the congratulations of VAdm. John S. Thach, DCNO(Air).

In his message, Adm. Thach said, "It is a distinct pleasure to congratulate the winners and commend the many other outstanding units for their contribution to the Navy's aviation safety and accident prevention program. The level of combat readiness required to meet our responsibilities can only be maintained through effective supervision and individual professionalism so evident throughout Naval Aviation. WELL DONE."

The following winners are listed by command and competitive group:

Naval Air Force Atlantic	
VF(Day)	VF-33
VA(Jet)	VA-66
VA(Prop)	VA-65
VF/VA/VAH RCVW	VF-101
CVW	CVW-6
CVSG	CVSG-56
VP	VP-45
VS	VS-24

Naval Air Force Pacific	
VF(AW)	VF-151
VAH	VAH-13
VP/VS/HS RCVW	VP-31
VR/VMR	VR-21
HS	HS-2
Special Fleet Unit	VFP-63

Air Fleet Marine Force Atlantic	
VMF/VMF(AW)	VMF(AW)-451
Special Fleet Unit	VMO-1

Air Fleet Marine Force Pacific	
VMA (Jet)	VMA-211
HMR	HMM-364
H&MS	H&MS-15

Naval Air Training Command	
ATU(Jet)	VT-24
ATU(Prop)	VT-27
BTG(Jet)	VT-7
BTG(Prop)	VT-3
Technical Training Activity	NAS Memphis

Naval Air Reserve Training Command	
VF	VF-672
VA(Prop/Jet)	VA-771
VP	VP-811
VS	VS-663
VR/VMR	VR-741
HS	HS-813

Marine Air Reserve Training Command	
VMF(Jet)	VMF-611
VMA(Jet)	VMA-322
VR/VMR	VMR-234
HMR	HMM-772

Atlantic E's are Announced

Carriers and Squadrons Honored

On August 5, Commander Naval Air Force, Atlantic Fleet, VAdm. Paul H. Ramsey, announced Battle E winners for fiscal 1964. In the CVA class, USS *Enterprise* (CVAN-65) received the award; in the CVS class, USS *Intrepid* (CVS-11).

Awards by departments in the CVA and CVS classes were made as follows: Operations, USS *Independence* and USS *Intrepid;* Communications: USS *Shangri La* and USS *Wasp;* Air: USS *Enterprise* and USS *Intrepid;* Engineering as well as Weapons: *Forrestal* and *Intrepid.*

In the single type competition department award, *Enterprise* also received an E for Weapons and Engineering. The ASW A went to USS *Lake Champlain.*

Attack carrier squadrons who won Battle E's were named as follows: VF-102 (AW), VF-84, VA-86 (jet), VA-85 (prop) and VAH-11. Antisubmarine warfare squadron winners were: VS-32, HS-3, VP-23 (FAirWing-3), VP-44 (FairWing-5) and VP-45 (FAirWing-11).

Adm. Ramsey in extending his "heartiest congratulations," pointed out that the competition had been

A NAVY SP-5B *Martin Marlin patrol bomber returns to its birthplace, Martin Company at Middle River, Maryland, for modification. Under a Bureau of Naval Weapons contract, Martin will install a 3000-pound-thrust Pratt & Whitney J-60 jet engine in the tail of the seaplane and flight-test it to evaluate the improved performance expected during takeoff and in flight. Use of the new engine is expected to cut 20 seconds and 2400 feet off the takeoff time and distance. The engine will be located in what is now the tail observer's position. A radar unit now installed in the tail is scheduled to be relocated in the bow of the big Marlin.*

THE NAVY'S D-558 SKYSTREAK *is being disassembled at Point Mugu, Calif., for shipment to the Naval Aviation Museum at Pensacola. Twice within five days in 1947, the D-558 broke the world's air speed record. It was flown August 20 at 640.7 mph by Cdr. (now RAdm.) Turner F. Caldwell, Jr., and at 650.7 mph August 25, 1947, by Marine Maj. (now BGen.) Marion E. Carl. Above, Fred E. Alcorn, AM1, inspects 8-ply tire especially built for Skystreak.*

keen in all phases. "All hands can be justly proud of their contribution toward the high state of readiness in Naval Air Force, Atlantic Fleet."

Recon Phantom II Tested

Plane Carries Sophisticated Gear

LCdr. Jesse J. Taylor became the first Navy pilot to fly the military's newest, most sophisticated reconnaissance aircraft, the RF-4C *Phantom II*. The flight took place at McDonnell Aircraft Corporation, St. Louis, Mo., when the RF, soon to be delivered to the Air Force, was turned over to the flight test crews of the BuWeps Representative, St. Louis, for production testing and acceptance.

With Ltjg. Harvey I. Brandt in the rear cockpit manning the electronic sensors and radar systems, LCdr. Taylor put the aircraft through its performance envelope as part of the acceptance prior to an aircraft performance test program at Edwards AF Base. Capt. Rowland G. Freeman III, BuWeps Representative at McDonnell, described the flight as another advancement in maintaining the strength of the nation's defenses.

The Mach 2-plus RF-4C is an outgrowth of the Navy's two-place, all-weather interceptor, the F-4B *Phantom II*. With the proven airframe and record-breaking characteristics of the *Phantom II*, the RF version will strike and withdraw with all the speed and accuracy of its famous predecessor. Possessing the ability to penetrate to targets deep within enemy territory at treetop level, without external navigational aids, both the Air Force and Navy versions of the RF-4 are expected to see heavy reconnaissance service during day, night and all-weather conditions. The aircraft's highly sophisticated electronic sensors will ensure more accurate and detailed reconnaissance information than has ever been available before.

LCdr. Taylor is a graduate of the Empire Test Pilot School, Farnborough, England, and now heads the Navy's Flight Test Division at the BuWeps office at McDonnell Aircraft.

FAA Proposal Withdrawn

Area Positive Control Unchanged

The Federal Aviation Agency's proposal to lower the floor of Area Positive Control (APC) from 24,000 to 18,000 feet (NANEWS, Sept. 1964, p. 2) has been withdrawn. Comments received in response to the notice indicated that certain military and general aviation activities would be adversely affected if the proposal were adopted.

"In view of the comments received," David D. Thomas, FAA's Associate Administrator for Programs, said, "the Federal Aviation Agency concluded that further study of . . . operational requirements in the 18,000 to 24,000 feet strata is required."

The change would have extended APC down to 18,000 feet over an area running east to west from New York to California and covering all or parts of 31 states.

APC currently is in effect from 24,000 to 60,000 feet over virtually the entire continental U.S. Only properly equipped aircraft operating under IFR are permitted in this airspace.

VAH-13 Arrives in Florida

NAS Sanford Adds New Squadron

NAS SANFORD gained some new faces—and some familiar ones—when VAH-13 arrived from the Pacific for transition to the new RA-5C *Vigilante* reconnaissance bomber.

The move from Whidbey Island, Wash., former home port of the squadron, adds 280 men to the Sanford base.

VAH-13 is the seventh squadron to join Sanford's Reconnaissance Attack Wing One, commanded by Cdr. C. V. Nolta.

The city of Sanford welcomed the new squadron with a banner: "Welcome Home, VAH-13."

When the squadron receives its first RA-5C this month, it will be redesignated Reconnaissance Attack Squadron Thirteen (RVAH) to denote its additional capabilities.

CMC is Principal Speaker

Mrs. Greene Christens USS Guam

Mrs. Vaughan H. Greene shared star billing with her husband, Gen. Wallace M. Greene, Jr., Commandant of the Marine Corps, at the christening of the USS *Guam* (LPH-9) at Philadelphia Naval Shipyard on August 22. Gen. Greene gave the principal address and Mrs. Greene broke the traditional bottle of champagne across the ship's bow.

Other distinguished guests attending the launching were: VAdm. John S. McCain, Jr., Commander, Amphibious Forces, Atlantic Fleet; RAdm. W. A. Brockett, Chief, Bureau of Ships; RAdm. R. W. Cavenagh, Commandant, Fourth Naval District; RAdm. J. E. Rice, Commander, Philadelphia Naval Shipyard and Capt. N. E. Thurmon, Prospective C.O. of the ship.

The USS *Guam* is the fourth amphibious assault ship built from keel up as an LPH. It is a monument to all who gave their lives in the battle for the famed island in World War II.

GRAMPAW PETTIBONE

Memo from Gramps

Congratulations and a hearty well done to CNO Aviation Safety Award winners (see page 2). Know every guy in each winnin' outfit gave 100% toward the squadron's record and it takes just that to be a winner.

Every squadron that gave their all can't win an award as there's just not enough to go around, but you can bet your bottom dollar ol' Gramps is mighty proud of every outfit that gave it the ol' college try. Keep up the good work. Let's make 1965 the safest year in U.S. Naval Aviation.

That ol' accident curve has been goin' down the past few years. That's exactly the direction we want it to go. It'll take a lot of doin' to reduce the number of accidents this year, but I'm bettin' it can be done.

Planned Trouble

Two S-2D pilots en route to their carrier landed at a Marine Corps air station in southern Japan one evening about 2000. Unable to get a landing time aboard ship, the pilots decided to RON and proceed to the ship the following morning. The flight from the original point of departure was only 1.7 hours (1000# fuel) so the plane commander decided not to top off. He figured there was approximately five hours of fuel remaining in the aircraft and the flight to the ship should be only two hours.

During turn-up the following morning, the aircraft developed a leak in a hydraulic cylinder and was shut down for repairs. Since replacement parts were not available, the plane commander instructed the metalsmith to repack the leaking cylinder and install it on the aircraft. He indicated that he would proceed to the ship with the known discrepancy rather than wait for the shop to fly one to him.

The pilots departed for the ship at 1607 and established radio contact about two hours after takeoff. The pilot informed the ship of his hydraulic leak, stating that he would probably have to pump the gear and flaps down and might not have brakes after landing. In addition, he reported that he was unable to pick up the ship's LB beacon, his Tacan was not working, he had no radar altimeter and no pilot's attitude gyro. Upon hearing all these discrepancies, the ship directed the pilot to return to the air station and await instructions. Two minutes later the pilot reported to the ship that his Tacan, gyro, and radar altimeter were all working, but he still had the hydraulic leak and requested that he be allowed to land aboard. The ship refused his request and again instructed him to return to the beach.

The squadron's commanding officer aboard ship contacted his pilot at 1847 and was informed that the plane was safe to come aboard and flying it all the way back to the beach might damage the hydraulic system. The squadron commander concurred in the pilot's evaluation of the situation and received permission for the aircraft to land aboard.

At 1859 the pilot was 100 miles away from the ship when he received a landing time of 1945. He immediately added power and headed for the ship in order to make the assigned recovery time. At 1948 the pilot reported to the ship that he was holding overhead with 1100#. One of the aircraft being recovered ahead of the S-2 was involved in a landing accident and fire at 2017. When the S-2 pilot saw the fouled deck, he immediately requested bingo data. He stated he had only 950 pounds of fuel remaining and had low level lights on both sides. After approximately one minute, he was given bingo information to the nearest field as bearing 070 distance 170 miles. (The discrepancy of the reported 950# of fuel with low level lights should be noted.) The information regarding the low level lights was not passed to the bridge, so everyone thought that the aircraft departed with 950 pounds of fuel.

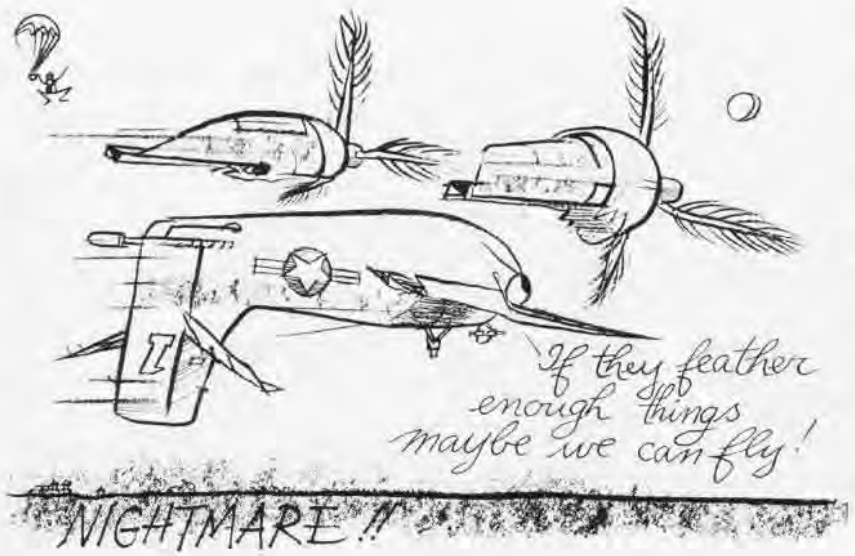
Another S-2 was diverted to escort the low state aircraft to the bingo field whose weather was reported to be 2400 scattered—seven miles. At 2039 the ship contacted the aircraft and directed him to return, but the pilot reported that he could not make it back to the ship which was now 82 miles away. At 2107 the pilot broadcast a Mayday and stated, "One engine is out. We are leaving the aircraft." Shortly thereafter the aircraft crashed approximately 30 miles short of the bingo field. There was no evidence that either pilot attempted to bail out.

Grampaw Pettibone says:

What a waste! A story like this really gets to you. It's downright sickenin' when an experienced carrier pilot decides to fly an aircraft with known discrepancies and, to make bad matters worse, fails to top off with fuel, knowin' full well how landings can be delayed by a foul deck and for other reasons known only to carrier pilots.

The complications that arose after radio contact was established with the ship were a result of more poor planning, misinformation, lack of information, complacency, over-confidence and so forth. You name it and this flight had it. Any one of the above

ILLUSTRATED BY Oblom



usually spells serious trouble, but when you put a couple of them together, there isn't much doubt of the outcome.

There ought to be a real soberin' lesson in this one for every airplane driver in the Navy.

Nightmare

It was late in the afternoon of a fine spring day when two S-2 pilots filed a four-hour IFR flight plan to a Midwest AF base en route to the West Coast. The plane commander was a lieutenant with over 1200 hours in the S-2 and the copilot was a three-striper with 300 hours in model.

The flight progressed routinely for more than three hours except that the head winds were stronger than forecast. This really was no problem to the pilots as there was sufficient fuel aboard to make their destination plus an hour reserve and weather at the AFB was clear and 12.

Shortly after dark and approximately 80 miles east of destination at 6000 feet and 160 knots, the aircraft suddenly began to vibrate and lose airspeed and altitude. With one of the engines backfiring and the increased pressure on the rudder, the pilot was aware that he was losing power on an engine. He immediately turned on the rudder assist and attempted to advance the prop controls, but was unable to do so until he loosened the friction lock. When he released the lock, the starboard throttle advanced to the full power position but was thereupon immediately retarded.

At this point the lieutenant asked the commander to notify someone of the emergency while he feathered the bad engine. By the feel of the rudders and the apparent source of the popping and flashing, the pilot quickly decided that he was losing the port engine and promptly feathered it.

After the port engine was feathered, vibration increased, the aircraft became even more difficult to control than before. It was impossible to maintain altitude. The pilot quickly broadcast a May Day and informed the center that they were losing both engines and would abandon the aircraft. He then ordered the copilot to bail out and, after some difficulty, the commander left the aircraft at an altitude of 2700 feet MSL.

Owing to the low altitude, increased aircraft vibration and control difficulties, the pilot decided to remain with the aircraft and, in an effort to ease his control problems, feathered the starboard engine. As the aircraft neared the ground, the pilot pulled the yoke all the way back and put his left arm in front of his face. Luckily, a clear moonlight night enabled him to see the ground and make a fairly successful crash landing in an open cornfield. After initial contact with the ground, the aircraft skidded approximately 300 feet, struck a fence, twisted to the right about 70° and stopped.

Uninjured, the pilot secured the mags, turned off the gas and battery switch and left the aircraft, through the overhead hatch. He walked to the nearest farm house and after a short wait was joined by the copilot who had bailed out.

Grampaw Pettibone says:

Oh, my achin' ulcers! If this fiasco wouldn't wilt the lilly, nothin' would.

When you've got only two engines and one of them goes bad, it's just downright foolish to secure the good one. About the only thing that can happen in a situation like this did: altitude had to be traded for airspeed until the aircraft crashed. No doubt, there were a couple of very red faces and a general sick feeling when the Accident Board proved it was actually the starboard engine that had failed.

These gents were no doubt busy as beavers for a few minutes, but they sure didn't spend much of their time determining which engine had failed. There is no indication that either pilot checked: heavy rudder pressure (working foot — working engine), swerve of aircraft toward bad engine, RPM and MAP indication, etc.

In his rush to feather an engine, the pilot again proved beyond a shadow of a doubt the sage advice in the old saying, "When in doubt, don't."

Burning Leaves

Those leaves burning outside the Pentagon got Gramps thinkin' the other day. It seems to me the squadron commander and the football coach have much in common.

Each worries about the condition of his men. An All-American on crutches is about as useless as an underslept, overplayed, pooped pilot.

Each worries about getting his team to play as a unit. One goofed-up play costs yardage; a fouled-up flight can cost a heap of green yardage—$$$$$.

Each worries about the mental condition of his men. Many a fired-up team has overcome physical disadvantages to win. There's no doubt in my mind that winnin' squadrons in Naval Aviation have this same spirit.

There is one big difference, however. In peacetime—when the winning is all on paper and not in man-to-man combat—the winner in Naval Aviation is the squadron that is SAFEST. It just follows, natural like, that the Safest will be the Readiest when and if that time comes. That's why the Naval Aviation Safety Center has as its slogan, "Readiness Through Safety," I'd be willin' to bet.

A-7A: MAIDEN VOYAGE FOR NMSE

VADM. WILLIAM A. SCHOECH, *Chief of Naval Material (right), and RAdm. Ralph L. Shifley, Vice CNM, head the Naval Material Support Establishment whose organization is blocked out in the chart. NMSE is "producer" of ships, aircraft, missiles for Navy and Marine Corps.*

INTEGRATED SUPPORT

LAST month *Naval Aviation News* presented a feature story on how the Navy selected the A-7A light attack aircraft for its future inventory as a replacement for the A-4E *Skyhawk*. The program manager for the A-7A, Capt. Henry Suerstedt, of Bureau of Naval Weapons, described the manner in which the Navy pursued the program from its initial phases through to the contract signing with Ling-Temco-Vought.

Bridging the gap from drawing board to actual "hardware" now becomes the task of the Naval Material Support Establishment, the new "producer" organization which was established on December 2, 1963, under VAdm. W. A. Schoech.

In what Adm. Schoech calls the "maiden voyage" of the NMSE, the new organization has commenced working toward the introduction and use of the A-7A in the Fleet. How will the new organization work?

By VAdm. W. A. Schoech
Chief of Naval Material

THE IDEA of a single military commander for the material bureaus is not a new one. We in the Navy have thought about it, and talked about it, for a long time. For that reason, it was an obvious consideration when the Dillon Board began analyzing the Navy's departmental organization in relation to its mission and performance. I believe that the formation of the Naval Material Support Establishment (NMSE), as it is now constituted, was an equally obvious answer. For a number of reasons, some of which I will mention, it makes rare good sense.

In the first place, weapon systems have become so complicated, and their development, procurement, operation and support have become so interrelated, that it is no longer logical to develop them separately, or independently, within a bureau and then, after they are developed and produced, to try to support them with the other bureaus.

Moreover, the new Defense Department budgeting procedures requiring the consideration of weapon systems within mission categories and under the criteria of effectiveness and costs, rather than strictly within a service, have forced us to think of weapon systems in their larger logistic framework; that is to say, including all the support materials, equipment, installations and personnel.

In addition to the budgetary consideration, the Office of the Secretary of Defense has also imposed other over-all management controls. Within the material community, the Office of Naval Material is concerned with such all-inclusive things as cost reduction, value engineering, standardization, and manpower utilization. We might categorize all of these things as intensified centralized management.

For these reasons, and others, it has become obvious that we should retool our organization so that we can respond to the requirements of the Secretary of Defense on a routine basis, rather than trying to answer each of his many questions, and responding to each one of his many requirements on a special project basis.

In a way, the Navy was extremely fortunate in that the legislation which originally established the Chief of Naval Material and the Office of Naval Material in 1949 provided for substantially the type of centralized control of the material bureaus that the Dillon Board subsequently recommended.

In reorganizing the Office of Naval Material to run the Naval Material Support Establishment, we have taken the recommendations of the Dillon Board, and, together with the additional prerogatives granted to us by the Secretary of the Navy, we have adapted them into what we believe to be a very workable and practical organization.

In size it is relatively small. We intend to keep it that way, because

it is designed to control, to guide, to set policy, but not to operate, nor to get into details of operation. Our principal mission is to be responsive to the needs of the operating forces as defined by the Chief of Naval Operations and the Commandant of the Marine Corps.

On my staff, I have four Deputy Chiefs of Naval Material, each of whom has a relatively small staff:

- The Deputy for Programs and Financial Management manages resources and the uses of those resources in the production of new weapon systems.

- The Deputy for Material and Facilities supervises the business, real estate, and the supply side of material support.

- The Deputy for Development, in his dual capacity as the Deputy Chief of Naval Material for Development and as the Chief of Naval Development, fills in the previously loosely coordinated gap that existed between the realms of pure research at one end and operational development at the other.

- The Deputy for Management and Organization concerns himself with the continued assessment of the management of the Naval Material Support Establishment and with manpower utilization.

Also in the Office of Naval Material are the managers for large projects, such as the Fleet Ballistic Missile System Program.

With these four deputies, and a limited number of Project Managers, acting as a staff, the entire Office of Naval Material will operate with less than 700 people, considerably less than is required by any of the other services.

We are able to do this because we have excellent operating divisions in the material bureaus. These divisions will continue to function, as they have so well in the past, with only routine, minor, incremental and evolutionary changes as time goes on.

We have chosen to illustrate the various support functions of the bureaus, in part, by asking each of the Bureau Chiefs to describe just how they will contribute to the development, procurement, introduction, operation and support of a specific new element of Fleet combat power. We have chosen what has been previously referred to in the industry as the VAL aircraft, and what is now to be called the A-7A.

Just in case you are not familiar with what the VAL is, the V stands for heavier-than-air, the A for attack, and the L for light; light attack aircraft. This is the natural operational follow-on of existing light attack aircraft in the Navy inventory.

Interestingly enough, this is the first large developmental project conducted by the Navy under the new programming procedures of the Office of the Secretary of Defense. The initial step in this process is the drafting of a Specific Operational Requirement (SOR) by the Chief of Naval Operations. In response to this Specific Operational Requirement, the appropriate office within the Naval Material Support Establishment responds with a Technical Development Plan. In that plan is a project definition. From this, OpNav prepares a Program Change Proposal and gets authorization from the Department of Defense to proceed with the procurement of the weapon system. In the case of the VAL, this process resulted in a contract which went, under very stiff competition, to Ling-Temco-Vought.

The aircraft is unique in a number of ways, and since I sponsored the Study Group which developed the requirement statement, before I "volunteered" for my present job, I have some knowledge in the premises.

The new A-7A, or VAL aircraft, is the embodiment of the concept that the weapon system should be designed with both mission and cost in mind. I think it is obvious that we must first meet the mission requirement, and then insure minimum practical costing.

The current operations in Vietnam affirm the need for small, simple, reliable aircraft. These operations prove, once again, that sometimes too much speed can be a disadvantage. Vietnam also proves that it is far better to have many relatively simple, and hence inexpensive, aircraft than to have a few very sophisticated aircraft that are not only expensive to produce, but difficult and expensive to operate and support.

This particular aircraft, the A-7A, is unusual in a number of other ways: In the short time it took to go through the initial phases of its development, in the fixed price contract under which it will be produced, and in the very short time it will take for the Fleet to receive it.

Further, it is unique in that it is the first major weapon system that will have been completely produced under the new Office of Naval Material. And so, in a way, it will be a

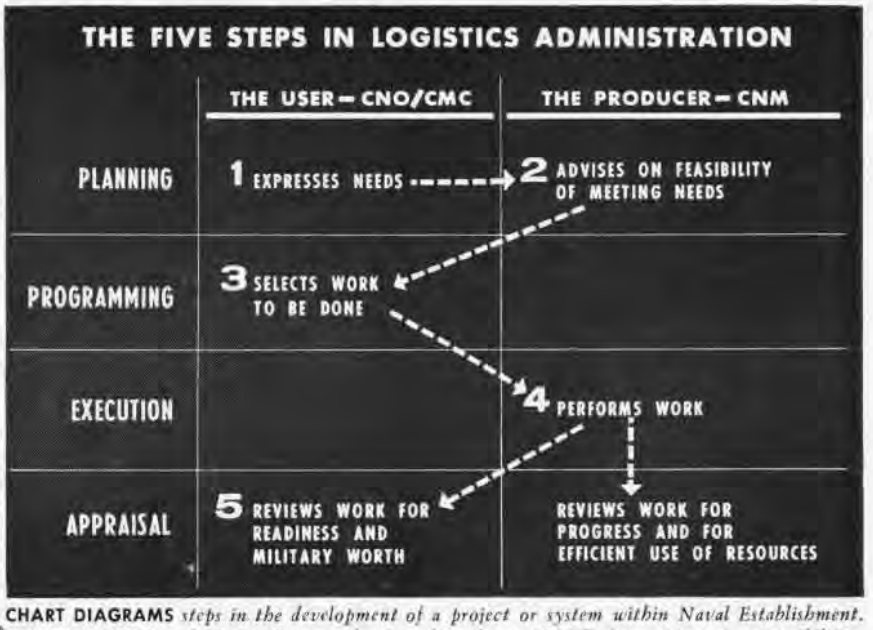


CHART DIAGRAMS *steps in the development of a project or system within Naval Establishment. Both User (CNO and Marine Commandant) and Producer (CNM) have appraisal responsibilities.*

maiden voyage for the Naval Material Support Establishment. There are other more complicated weapon systems that better illustrate the need for more integrated material support, so some of the examples that the Bureau Chiefs will use may have to relate to other weapon systems, but because it is a new aircraft, and the Naval Material Support Establishment's first effort, we are very happy to use Ling-Temco-Vought's new airplane as an illustration.

The operating divisions of the Naval Material Support Establishment, the four material bureaus, each made, or will make, particular contributions to the development, production and operation of the A-7A. In line with the previously stated philosophy of "control but not operate," I have asked each of the four Bureau Chiefs to detail his bureau's contribution in the light of this development.

A NEW CONCEPT

By RAdm. Allen M. Shinn
Chief of the Bureau of Naval Weapons

As INDIVIDUALS, each of us is governed by his background of inheritance and past experience. The same is true of organizations, because each individual member brings his past along with him into the organization.

The Bureau of Ordnance was one of the original bureaus established when the Navy's bureau system was inaugurated in 1842. The original bureaus could be likened to king-sized ship chandlers, very loosely coordinated in their efforts to fill the material needs of the Fleet at sea. Over the years, the Navy's bureaus have experienced many evolutionary changes. Gradually, the organization has moved toward consolidation under one command, towards centralization of executive responsibility for effective use of *all* the resources of *all* the material bureaus.

The new organization places the material bureaus squarely under the Chief of Naval Material. Not only can he direct our bureau actions, if need be, but also we have a single executive head of the Naval Material Establishment to whom we may turn for coordination of matters that have impact on more than one bureau. I look for great advantage to accrue from this organization because it will integrate all Navy material matters in a way that has not been possible before. I am confident that the new organization will have a beneficial effect on cost, schedule, and performance in all programs, and I assure you that all of us in BUWEPS solidly support the newly centralized material organization.

Returning briefly to the background of the Bureau of Naval Weapons, our bureau is the issue of a marriage between two old bureaus, Ordnance and Aeronautics; the characteristics of both parents are easily identifiable in the four and one-half year old offspring. BUORD certainly was the senior parent and perhaps had a better social position. But BUAER was younger, lustier and a good deal richer! The wedding was not dictated by a shotgun but by the missile. It was a necessary alliance because the technical development of propellants, explosives, and electronics guidance were being duplicated in BUORD and BUAER. Also, there was an obvious split in the new weapons development effort. Moreover, we needed one, not two, systems for weapons accounting, storage, rework, and general support in the Fleet. I believe that the marriage has been a successful one. It has given the Fleet better weapons systems and saved the taxpayer money.

The BUWEPS charter is unchanged; it charges the Chief of BUWEPS with certain specific responsibilities for weapons, aircraft, and associated equipment. This responsibility extends throughout the research, development, test, evaluation, manufacture, outfitting, maintenance, overhaul, etc.—right on to disposal and salvage. It is a real cradle-to-grave responsibility. The Chief of BUWEPS also has responsibility for technical direction of aeronautical and ordnance matters throughout the entire Naval Establishment and for management of aeronautical and ordnance shore activities. The new organization will help us in inter-bureau coordination, but the weapons responsibility remains basically with our bureau, and the majority of our BUWEPS work will continue as before—unless it interacts with other bureaus.

It is well to note the integrated character of BUWEPS responsibilities throughout the entire life of a whole weapon system. This is not a divided, producer/consumer interest, but rather a coordinated, integrated service interest and responsibility for the weapon system throughout its entire life. So where we can, I like to see us move toward integration of the functions of planning, producing, employing and supporting our weapon systems, rather than trying to separate these functions into different organizational compartments. I believe that the new Material Organization, under the Chief of Naval Material, is a step in the right direction.

Our two parent bureaus, Ordnance and Aeronautics, had somewhat different living habits—and for very good reasons. BUORD came into existence in the mid-19th century when the U. S. munitions industry was small and was not oriented toward shipboard installation. The Navy, therefore, built its own arsenals and began to produce most of its own ordnance. (The Army did likewise.) In-house development, testing, and production were the order of the day in naval ordnance.

The Bureau of Aeronautics, however, came along in the 20th century after the United States had been industrialized and had developed a lusty, mushrooming aircraft industry. BUAER naturally turned to this industry to produce our aircraft and aviation material. The "prime contractor" system for development and production of aviation weapons systems, used at the outset has been followed ever since.

The trend in recent times has been towards the prime contractor system for all weapons production. And today, in 1964, both our ordnance and aircraft production are accomplished chiefly by industry. We perhaps retain more in-house laboratory and development capability for ordnance than we ever had for aeronautics. But, for production and for support in the Fleet, the melding of the two

systems—ordnance and aeronautics—is now nearly complete and has been accelerated by the formation of BuWeps and the pulling together of both parent bureaus' techniques in this respect.

Nevertheless, we cannot allow all of our technical capabilities to migrate from service to the prime contractor in industry. We must retain a strong and firm in-house technical material capability that will enable us—without turning to any outside source—

1. To develop and specify our essential weapons requirements.

2. To administer and police production contracts to assure that we get what we order, and evaluate the schedule, cost and performance of the product to assure the taxpayer his money's worth and to assure that the Fleet gets the weapons it needs on time.

3. To assure that the technical input for training and operating organizations is available throughout the life of the weapon system. This much in-house technical capability is a *sine qua non* of an integrated, coherent Navy—one that can continue to discharge its essential tasks and fulfill its mission. For technical capability of this kind, we intend to keep not only abreast of, but stay in the forefront of, the technological revolution.

The Navy recently completed the accelerated first phase of a program to provide the Fleet with a new light attack aircraft—the VAL—or A-7. In order to show how our material management system works, consider the steps taken toward obtaining this new light attack aircraft.

In December 1962, an intensive, detailed, analytical study of carrier aircraft requirements was sponsored by Adm. Schoech, then Deputy Chief of Naval Operations for Air. An important conclusion was that the Navy needed a new light attack aircraft with increased payload, radius, and performance. Moreover, this new aircraft should have minimum design departure from aircraft and components already in our inventory; further, that procurement and Fleet introduction of the new aircraft were needed at the earliest possible date.

Accordingly, in May 1963, upon receipt of the Operational Requirement from the Chief of Naval Operations, BuWeps initiated the VAL

RADM. ALLEN M. SHINN *participates in new program as Chief of Bureau of Naval Weapons.*

project, now come to fruition as the A-7. To speed it along, we decided upon an executive "Program Management" type of organization for the A-7. The Chief assigned one officer as Program Manager with executive authority to act, as necessary, to direct all phases of bureau action on the program. The Program Manager is the heart of the management process, and the system provides for direct reporting by the Program Manager, with no intermediate roadblocks of authority. This management system has been given the acronym PROMPT. I surely hope it will live up to its name and give me, and all of us concerned, PROMPT, accurate, information on program accomplishment, so that we may take timely, corrective action where needed.

With the establishment of the A-7 project and assignment of the Program Manager, BuWeps immediately started an accelerated design competition, including both technical and cost evaluation. These evaluations were completed on November 6, 1963.

On November 7, we informed Adm. Schoech of the bureau's recommendation on the A-7 design competition. He concurred, and on November 8, the design competition was presented to the Chief of Naval Operations and the Secretary of the Navy.

Both approved our recommendation, and the Honorable Paul Fay, Acting Secretary of the Navy, concurred in our proposal on November 13. Final presentation was made to the OSD on November 14. This, we note with some degree of Navy pride, was only eight days after the initial presentation by the Program Manager to the Chief of the Bureau. It proves, I think, that the "Washington maze" can be threaded rapidly when you have a solid military requirement and a sound proposal for meeting it. The rapid progress of the A-7 rested on those factors—plus the executive authority that the Chief of the Bureau vested in his Program Manager for coordinating and directing the A-7 program; plus—and not forgetting—the wholehearted support that the program received from the Chief of Naval Material, the Chief of Naval Operations, and the Secretary.

The assassination of President Kennedy on November 22 and the ensuing Christmas Season slowed action on this program until after the first of the year. On January 15, 1964, the first of several congressional hearings on the A-7 began, with Adm. Schoech appearing as primary witness for reprogramming and funding. Secretary Nitze, Adm. McDonald, and Adm. Schoech all supported the A-7 program so effectively that the authorization and funding were approved by the Congress on February 8. Ling-Temco-Vought was announced as winner of the design competition on February 11. Business clearance was given by the Chief of Naval Material on March 18, and the initial contract was signed with Ling-Temco-Vought on March 19.

This major weapon programming task took only ten months which is, conservatively, less than half the time taken under routine handling.

The A-7 program to date illustrates the beneficial results of our new centralized material organization. I am sure similar benefits will carry throughout the life of the program, in which BuWeps has the cradle-to-grave responsibility for keeping the A-7 weapons system fully operational in the Fleet and, eventually, for replacing it and disposing of it. Our only purpose in BuWeps is to support the Fleet, and we shan't ever forget that. We have no self-generated reason for being.

These are excerpts of a presentation made by Adm. Schoech and the chiefs of the four bureaus under his command. The remaining three presentations will be published in next month's issue of NANews.

New Helo Unit is Formed

HMM-164 is Assigned to MAG-36

The Commandant of the Marine Corps has announced the establishment of Marine Medium Helicopter Squadron 164. The unit has joined Marine Air Group 36, part of the 3rd Marine Aircraft Wing based at MCAS SANTA ANA, California.

Slated to receive the CH-46 helicopter, HMM-164 is currently in the forming stage and training with UH-34 aircraft.

The squadron shares the mission of its sister medium helicopter units in providing helicopter transport of personnel, supplies and equipment for the landing force during ship-to-shore movement and after landing.

Quonset O&R's Unique Idea

Jet Engines Repaired Like Autos

A section of NAS QUONSET POINT'S Overhaul and Repair Department has adapted an almost out-dated automotive repair concept to the reworking of military jet turbine engines.

The development of the "service station grease pit" concept proved to be the solution that now enables the

JET TURBINE IS PUT ON HYDRAULIC LIFT

department to expand its jet engine rework programs. Quonset claims to be the only Navy aircraft O&R facility using this type of engine rework method.

Initially, the problem facing O&R engineers at Quonset was the reworking of Pratt and Whitney turbine engines housed in the A-4 *Skyhawk* and A-6 *Intruder* aircraft. In the past, jet engines could be overhauled on a horizontal stand, but the P&W J-52 turbine requires it to be dismantled and rebuilt vertically. Several carbon oil seals positioned along the turbine drive shaft, delicate to touch, demanded such handling.

The "grease pit" concept was executed. In contrast, the jet turbine on a hydraulic lift affords a comfortable working attitude, puts the mechanics tools closer to his job, requires no climbing of ladders, and eliminates the possibility of a workman falling off a stand's narrow walkway.

CAPT. JOHN DOHERTY, *RCN, receives the Air Squadron Technical Trophy which LCdr. I. M. Brown, USN, a recent exchange pilot in the Royal Canadian Navy, donated for the improvement of squadron aircraft maintenance.*

Army to Convert Navy Ship

For Oversas Aircraft Maintenance

The *Albemarle* (AV-5), a Reserve Fleet seaplane tender, has undergone tests at the Charleston, S.C., Army Depot to determine its use in the floating aircraft maintenance base concept. The conversion will be performed at the Charleston Naval Shipyard and entails improvement of living and working areas and adding maintenance and repair facilities.

The "sea-going" shop will provide major repairs and maintenance for Army helicopters and fixed wing aircraft wherever needed, and serve as a back-up for overseas land-based facilities.

Need for the service stems from the excessive time it takes under the present system to return aircraft components from isolated overseas locations to continental U.S. maintenance shops. The time can be reduced greatly by having an overseas floating repair base.

Albermarle will be manned and operated by the Military Sea Transportation Service with a crew of about 135 officers and men. The Aeronautical Depot Maintenance Battalion of the Army Materiel Command will handle maintenance faciilties.

CDR. W. J. ENNIS, *C.O. of VU-7, gives Chief Photographer's Mate Clara B. Johnson the certificate which designates her an aerial photographer with the right to wear coveted aircrewman wings. To attain this distinction, she completed the regular ground and flight syllabus. She is qualified to fly in the copilot's seat of a modified photography C-45. While she cannot handle the aircraft on takeoff or landing, she checks instruments and can fly the plane when airborne. The Wave Chief shoots aerial photos of gunnery practice and naval construction in the 11th ND and heads the camera repair section in the Fleet Air Photo Lab, San Diego.*

TASK FORCE ONE, COMPOSED OF LONG BEACH, ENTERPRISE AND BAINBRIDGE, HAS PROVED INDEPENDENT CAPABILITY IN 'SEA ORBIT'

30,000 MILES WITHOUT REPLENISHMENT

IN A UNIQUE circumnavigation of the world, three nuclear-powered ships, Task Force One, under the command of RAdm. Bernard Strean, have demonstrated their ability to operate independently of support ships, a feat impractical for conventionally powered ships.

Detailing the purpose of *Sea Orbit*, RAdm. Strean said of the nuclear-powered ships, "They can go enormous distances at high speeds without refueling or replenishing with supplies of any kind. We are demonstrating this by making a self-sustaining 30,000 mile voyage."

Two other world circumnavigations were made by U.S. nuclear ships, both submarines. In 1958, USS *Skate* (SSN-578) circled the earth in 50 minutes —on the 12-mile circle of the North Pole. In 1960, USS *Triton* (SSN-586) followed Magellan's route around the world. *Triton* remained submerged for the entire voyage.

Sea Orbit has created the opportunity to win friends in areas not often visited by U.S. Navy ships and showed them an all-nuclear element of the world's greatest power for peace.

Upon being detached from the Sixth Fleet in the Mediterranean, Task Force One stopped along both coasts of Africa; Karachi, Pakistan; Freemantle, Melbourne and Sydney, Australia; Wellington, New Zealand; Buenos Aires, Argentina; Montevideo, Uruguay; Sao Paulo, Rio de Janerio and Recife, Brazil. Task Force One is scheduled to arrive in Norfolk the fifth of this month after her two-month-long round-the-world voyage.

RADM. STREAN COMMANDS FROM CVAN-65

Task Force One, the first nuclear task force, is made up of USS *Enterprise* (CVAN-65), Capt. Frederick H. Michaelis, commanding; USS *Long Beach* (CLGN-9), the first nuclear-powered surface warship to be placed in commission, commanded by Capt. Frank H. Price; and USS *Bainbridge* (DLGN-25), Capt. Hal C. Castle, commanding.

Long Beach is equipped with *Talos* long-range surface-to-air missiles, *Terrier* missiles and *Asroc*, the latter two also arming the *Bainbridge*.

Aircraft on board *Enterprise* are attached to Carrier Air Wing Six, Cdr. T. L. Nielson commanding. The Wing is composed of Fighter Squadrons 33 and 102; Light Attack Squadrons 64, 65, 66 and 76; Heavy Attack Squadron Seven. In addition, detachments from Light Photo Squadron 62, All Weather Early Warning Squadron 12, Helicopter Squadron Two, and Carrier Transport Squadron 40 are embarked. CVW-6 aircraft include the F-8 *Crusader*, the F-4B *Phantom II*, the A-4E *Skyhawk*, the A-1 *Skyraider*, the A-5 *Vigilante*, the RF-8A *Crusader*, the E-1B *Tracer* and the UH-2A *Seasprite*.

DIRECTED BY SUPERSONIC PLANE, REGULUS II FLIES AT MACH 2

THE HUNTER IS THE F-3 DEMON EQUIPPED WITH SPARROW MISSILES

ZEROING IN ON PMR'S TARGETS

AT THE PACIFIC MISSILE RANGE, Point Mugu, Calif., the target is indispensable to the creating of a realistic situation in which the missile with the plane or ship carrying it can be tested.

Only in this way can Navy pilots and ship captains be confident of the effectiveness of the weapons system. If the system proves reliable and meets the Fleet's requirements, it is ready to go to sea with the Navy.

In the course of a single year, up to 500 operations are conducted at the Pacific Missile Range in which a target of some kind is involved. At Point Mugu, the Target Department of the Naval Missile Center supplies aerial and surface targets for air-to-air, air-to-surface and surface-to-air missile and rocket operations.

Heading the Department is Cdr. Selden N. May, a fighter pilot in WW II. He is assisted by target expert H. J. Spey.

Aerial targets are checked for many qualities. Can the target go high enough? Fast enough? Can it stay in the target area long enough to complete the firing test? Does the target represent enemy aircraft realistically? Can the target be recovered and used again? Is it relatively inexpensive to manufacture?

The Target Department can supply many kinds of targets, depending on the use it is intended for. One type of target aircraft, such as the modified QF-9F *Cougar* jet was a successful carrier fighter during the Korean conflict. Now retired from active carrier duties, the pilotless *Cougar* flies through the skies as *Sidewinder* and *Sparrow* air-to-air missiles and *Terrier* or *Tartar* ship-launched missiles attempt to knock it out of the air.

Another type of target is the converted missile. These include target versions of both the *Regulus I* and *II* surface-launched missiles. Both targets can take off and land on conventional runways, like those at Point Mugu and San Nicolas Island, off the California coast.

Pilot/controllers in fast chase aircraft guide the targets into position for firing runs. After the mission is completed, with near-misses being purposely substituted for direct hits, the scores are computed and the target missile is landed on a convenient runway. After it is checked, it can be flown again and the taxpayer is thus saved thousands of dollars.

RELEASED, AQM-34C CAN GO TO 40,000'

Other targets designed from the ground up as targets include the BQM-34A *Firebee* which flies at altitudes up to 60,000 feet at about 600 knots. The *Firebee* is joined by a host of other targets bearing such number/letter designations as AQM-34C, MQM-39A and MQM-36A.

Each is designed to do a different job. Some use piston-driven engines, others use jets. Some are fast, some slow. Most carry dispensers which can be used to scatter "chaff" to electrically confuse the radars on attacking ships and aircraft.

Many of the targets used at Point Mugu have electronic equipment installed which makes them look larger to attacking radar units. Changing the electronic signature which the target etches in the sky is one of the many tricks used to conserve money while evaluating weapons systems realistically. Enlarging the apparent size of the targets also enhances realism. The miss distance is recorded by cameras and electronic equipment installed in the target itself.

One of the common traits of targets is recoverability. Most targets, except the *Regulus I* and *II* missiles, can be picked up from the sea by helicopter or boat. The *Regulus* models are landed on conventional runways.

Miscellaneous targets, other than aircraft and missile targets, include parachute targets which are fired into the air in cannisters and allowed to

float to the surface under a parachute.

On the sea, crash boats, barges and an ex-destroyer escort provide suitable targets for air-to-surface and surface-to-surface missile practice. The sea target currently in use is the ex-*Walter X. Young* (DE-715). It can be towed into position for target practice.

To complete the roundup of targets —on land, at sea and in the air—the Pacific Missile Range uses a bullseye on San Nicolas Island for some air-to-surface missile work.

The Naval Missile Center's A-4 *Skyhawks* also exercise their *Bullpup* missiles against a properly isolated waterborne target off the California coast.

Some of the more unusual targets used at Point Mugu include kite targets and missiles launched from the surface of the sea.

The kites, both box and flat surface varieties, are used mostly to calibrate radars. The kite is raised to a known altitude and the radar is calibrated to indicate correct size, distance and bearing of the target.

The sea-launched targets, based on the *Hydra* principle developed by Navy officers at Point Mugu, are carried to high altitudes (85,000 to 125,000 feet) by various rocket motors. The target then parachutes to the surface, providing a radar target as it falls.

Many other types of targets, not included in any of the categories mentioned so far, are towed targets, air-launched targets, and surface launched target balloons.

For the future, Naval Missile Center target experts envision high-speed hydrofoil targets skimming over the ocean at 100 knots, ramjets operating as high Mach targets. Also planned for training are a variety of other sophisticated targets designed to simulate enemy threats with exactitude.

NOW A TARGET, COUGAR STILL SERVES

AIRCRAFT IS DESIGNED FOR MANY MISSIONS; TWO ARE ATTACK AND RECONNAISSANCE

PRESIDENT ANNOUNCES 'COIN' AIRCRAFT

PRESIDENT JOHNSON has announced that seven prototypes of "an aircraft specifically designed for counter-insurgency and limited war operations" are to be built.

The Department of the Navy has selected North American Aviation Company Columbus, Ohio, Division to build the prototypes at a cost of approximately $18 million.

The counterinsurgency (COIN) aircraft will be an airborne equivalent to the "jeep." The twin-engine design, using 600 hp turboprop engines, will be capable of performing peacetime emergency functions, such as disaster relief, medical missions or riot control, as well as military missions. These include light armed reconnaissance, helicopter escort and attack and support of ground troops.

The new aircraft will be able to operate from rough clearings, primitive roads and waterways, as well as from prepared airfields and aircraft carriers. Ruggedness, simplicity of operation and moderate cost have been emphasized in the specifications which combine the requirements for weapon delivery, reconnaissance and light support. The Marine Corps supplied these specifications and the Air Force confirmed the need for such an aircraft. The Navy was thereupon designated as the developing agency.

The specifications call for a takeoff over a 50-foot obstacle in less than 800 feet with a 1200-pound ordnance load and three hours of fuel. An ordnance load capacity of 3600 pounds can be employed where longer takeoffs are possible.

A maximum level flight speed of 275 knots for helicopter escort is called for, and a minimum usable speed of less than 100 knots is expected for such purposes as jungle search.

Six passengers or 3000 pounds of cargo may be carried internally and air-dropped.

First flight of the COIN aircraft is to take place in about one year.

Quonset's 150,000 GCA's

Record Landing Made in Convair

The 150,000th Ground Controlled Approach landing was made at NAS QUONSET POINT by Howard R. Emerson, ADC/AP, in the station's Convair C-131. He was checking out Lt. Martin F. Achilles on the system.

Vectoring the approach was FAA Controller Robert Pierce. Operating the scope in the final approach control was Michael C. Ficocello, AC2.

The Radar Aircraft Approach Control Center at Quonset is a joint FAA/Navy operation. Officer-in-Charge is Cdr. Dale S. Klaessy.

A SAGA OF SAVING A SATURATED SEAHORSE

'PHILLIPS FLEET' *gets underway on Deer Lake, St. Croix Falls, Wisconsin, at the beginning of quest to retrieve Seahorse Number 313 after it crashed and sank in 40 feet of water.*

FLOTATION BAGS *were attached to the helo by divers of USS YFNB-17 from Norfolk.*

IN THE WORDS of Cdr. L.D. Phillips, assistant maintenance officer, "It wasn't so much *what* was done as it was the perseverance, teamwork and inexhaustible devotion to duty of the *men* who did it!"

On June 28 a crew of Weekend Warriors from NAS TWIN CITIES was flying a routine training mission in SH-34J, number 313, when they were forced to ditch in Deer Lake, St. Croix Falls, Wisconsin. They managed to escape with minor injuries, but their *Seahorse* helicopter sank in 40 feet of water within seconds. Almost immediately a local civilian rescue squad diver located the submerged helo and attached a marker buoy to it. Consisting of a plastic water jug tied to a water-ski towline, the "buoy" represented a preview of the type of jury-rigged equipment which was to assist in an unorthodox salvage operation.

By Dick Wood, JO1

While official assistance was on the way, lakeshore residents quickly offered boats and other equipment to help the Navy in its effort. "Phillips Fleet" was born—a flotilla composed of two donated pontoon-boats, a pair of 35 hp speedboats and three or four outboard motor and rowboats.

A one-ton chain-fall was rigged on a timber between the pontoons of one boat and the miniature fleet got underway. It positioned itself over the sunken helo and awaited the arrival of experienced salvage personnel from the USS YFNB-17, ComServLant, in Norfolk. They came on July 1, three days after the crash, equipped with scuba gear and inflatable flotation bags.

On the first dive, the aircraft was found resting on its port side, nose down in three feet of mud. A lifting sling was placed under the rotor-head, the helo's center of gravity, and attached to the free end of a 60-foot chain. Next, the inflated bags, three-feet in diameter, were attached to the rotor-head. Each bag had a 300-pound lifting power.

Once suction was broken, the helo rose suddenly, coming up under the pontoon-boat, nearly causing it to overturn. This caused great consternation because Cdr. Phillips was using the boat as a command ship.

Soon, however, boats were jockeyed

SATURATED SEAHORSE *rises to the surface in monster-like fashion. Boats from "Phillips Fleet" towed the helicopter with water-skiing nylon line and later, wire cable, a mile through water until truck ashore finished the job by hauling it from the lake with winch-line.*

ADDITIONAL *bags of 300-pound lifting power each were needed to keep helo afloat.*

WINCH-LINE *on truck from Twin Cities public works tows 313 final distance to land.*

ASHORE AT LAST, *the Seahorse is checked by crew before road trip to the air station.*

into position to tow their objective across the lake. With the use of a thin nylon water-ski line, the aircraft was pulled a mile through the water to a suitable landing spot. Twice in the process, it ran aground and divers had to stuff bags inside the cockpit and around the main mounts, enabling it to float higher in the water. A quarter-inch wire cable had replaced the nylon line, but it was severed when it chafed against a broken rotor blade. The line was doubled and redoubled. It worked effectively until the *Seahorse* was hauled to within range of a winch-line connected to a tow-truck on the beach.

After considerable mule-hauling, grunting and exasperation, the salvage crew moved the helo onto land. This happened on July 2, 96 hours after the ditching. "Phillips Fleet" was disbanded and its vessels restored to ship-shape order before return to their owners. By midnight, *Seahorse*, number 313, was cleaned and ready for the road trip home.

This phase, navigating the helo through Fourth of July traffic, was, to quote Cdr. Phillips, "Nothing but a nightmare . . . a horror on wheels."

Despite the full police escort along the route, there were seemingly endless stretches where the weary members of the salvage crew had to proceed on foot ahead of and behind the caravan to serve as traffic flagmen. Never had the main gate of NAS Twin Cities appeared so inviting as when they approached it with their retrieved whirlybird in tow.

The line crew, disregarding holiday routine, turned to, readying the *Seahorse* for a test flight as soon as possible. When maintenance was completed a group of recruits in the Navy's 85-day summer program cleaned and polished the aircraft. Number 313 was moved to the flight line and base C.O., Capt. W.B. Howell, with Cdr. Phillips, inspected it. Helicopter flight training officer, LCdr. G.M. Stokes, then flew 313 and, after landing, happily reported that "she checked out and handled perfectly." This flight took place on July 6, eight days after the plunge into Deer Lake.

All the Navy men and civilians involved in the operation were commended by Capt. Howell for their efforts. An example of ingenuity and esprit de corps, this action marked what is believed to be the first time an aircraft has been recovered from the deep six and revitalized into flying condition in such a short time.

Cdr. Phillips, reflecting upon the saga of the *Seahorse*, understated the event as "quite an experience."

RECRUITS *from the 85-day training program at NAS Twin Cities give 313 a thorough cleaning before its return to the line and a test flight.*

CAPT. HOWELL *said "I want to see that helo three feet off the ground!" Cdr. Phillips confirmed the altitude during flight.*

Reflections on Human Factors

OF DINOSAURS AND AVIATORS

Fourth Article in a Series

'Emotion, which is suffering, ceases to be suffering as soon as we form a precise picture of it'
—Spinoza (1632-1677) in 'Ethics'

By Lt. Joseph A. Pursch, USN
Flight Surgeon

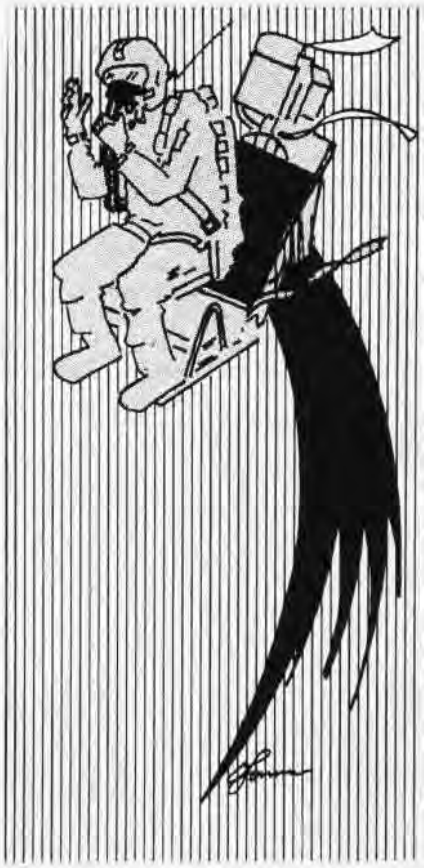
Illustrated by
Lt. Neil F. O'Connor, USN

AN AIRPLANE lets down on final. Everything appears to be just right to the point of touchdown, at which time the airplane makes a sickening slide down the runway on two wing tanks because the landing gear had never been lowered. At first, the pilot can't understand how he overlooked actuating the landing gear handle. We have the makings of another unexplained accident. When the investigating flight surgeon begins to press for details as to what had been happening in the pilot's everyday life lately, and what his thoughts on this flight might have been, the following information comes to light:

Pilot X has 1200 accident-free hours of flight time, 400 in model, and is one of the better fliers in the squadron. He is also a quiet, unassuming fellow, known for his tendency to walk a mile rather than provoke an argument. Six months ago he married a not so quiet, self-assertive girl. "Opposites attract," everybody in the squadron said at the time. But nobody knew that she was no match for her brother, a glib, persuasive, chronically unemployed opportunist who, for the past six months, has been living off Pilot X's flight pay.

While the wife had been needling Pilot X to speak up like a man, the showdown was repeatedly postponed in the naive hope that the brother-in-law would mend his errant ways. Meanwhile, the pilot's sleep had become restless, his appetite had decreased, his cigarette consumption increased, and, on his flying job, the clouds were beginning to lose their silver lining.

Just before entering the break today, he had casually glanced at his house below and spotted the brother-in-law's car parked in the driveway. At that crucial moment, he had suppressed a momentary flash of anger and resolved that "things have to come to a halt today." Little did he realize how abrupt a halt it would be.

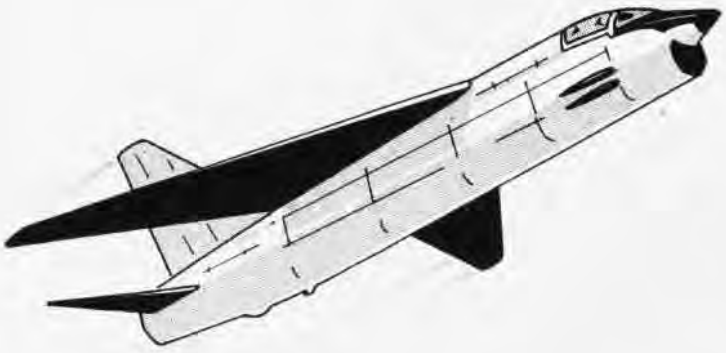


'Preoccupation results in carelessness.'

Hundreds of accidents, in which the psychic life of the pilot played a prominent role, could be cited. Every professional who answers the call to the air knows that preoccupation with problems, be they physical, marital, filial, psychological or financial, commonly result in carelessness, oversight of "minor details," lapses of attention and faulty judgment. No one is a stranger to "stupid mistakes" and everyone has "almost bought the farm."

While the recorded history of emotional illness begins around 600 B.C., studies of psychological difficulties in aviators date back almost to Kitty Hawk. To wit: "In 1916 the incidence of neuroses in pilot trainees in the U.S. Army Air Corps was 50 per cent, and 90 per cent of the accidents were the result of pilot error" (*Flight Surgeon's Newsletter,* May 1964). Since then the machine has become mechanically so complex that it demands nearly total intellectual vigilance from the man behind the stick. Unfortunately, a troubled mind hampers such performance and man has not outgrown his propensity for developing emotional difficulties. Let's take a look at what has been done about solving this problem.

In the past, the procedure of selecting and training pilots was largely what Darwin in biology described as evolution or "the survival of the fittest." Those who couldn't hack it fell by the wayside sooner or later, and all too often it was later. In recent years, the selection and training of Naval Aviators have taken on a more scientific and humane character. Some of the tests given to every prospective flight student probe such facets as his emotional maturity and his potential as a flight student. Every training hop is studied carefully. When a student is having difficulties, he is given the benefit of a thorough evaluation including psychiatric consultation, if such a need is indicated. The funds which were formerly mis-



'The machine demands nearly total intellectual vigilance.'

spent on someone not suited for flying are applied to making an even better aviator of the promising student, while the failing candidate is diverted early into a useful career before any possible stigma of conspicuous failure may unfavorably affect his personality.

But once he wears the Wings of Gold, he enters, in many instances, another world. Actually, in terms of his psychological health, you might say that, for one of several reasons, he has regressed somewhat back to Darwin's wasteful process of evolution. In many instances, he is overcome by the delusion that designated aviators are emotionally invincible people. Should he develop serious difficulties of a psychological nature, he may find himself compelled, because of the tenor set by those around him, to hack it on his own until he is hurt, or killed, or until his motivation for flying has been irretrievably lost.

Although he now has a flight surgeon available to him, he might be reluctant to consult him because he has made the acquaintance of a dangerous myth, namely, "Once the headshrinkers get hold of you, you've had the course."

He may also compound his difficulty because he gets the idea that his inability to solve his own problems denotes his "lack of moral fiber" (whatever that means), although an intelligent look at the daily papers would tell him that bootblacks, psychiatrists and heads of state, too, have emotional ups and downs, at times, of clinical degree.

Chances are that he fails to see any relationship between his decreasing flight performance and his growing personal problem. Pilot X never even dreamed that his own fear to take a stand with his wife's family could lead to a wheels-up landing, although any flight surgeon could have told him that his growing resentment and feelings of self-recrimination, if unresolved, might well result in something of the sort.

The pilot might also have the misfortune of working for a skipper who considers himself to be the best judge of whom to trust in the cockpit of an airplane. Such a skipper, in his own authoritarian, paternal, but possibly misguided fashion, may be apt to tell the pilot at this stage to pull himself together and fly right. But since he sees only the symptoms and not the disease, the well-meaning skipper is, in effect, telling a barefoot boy to pull himself up by his bootstraps. There is nothing in the world the pilot would rather do, if he only knew how.

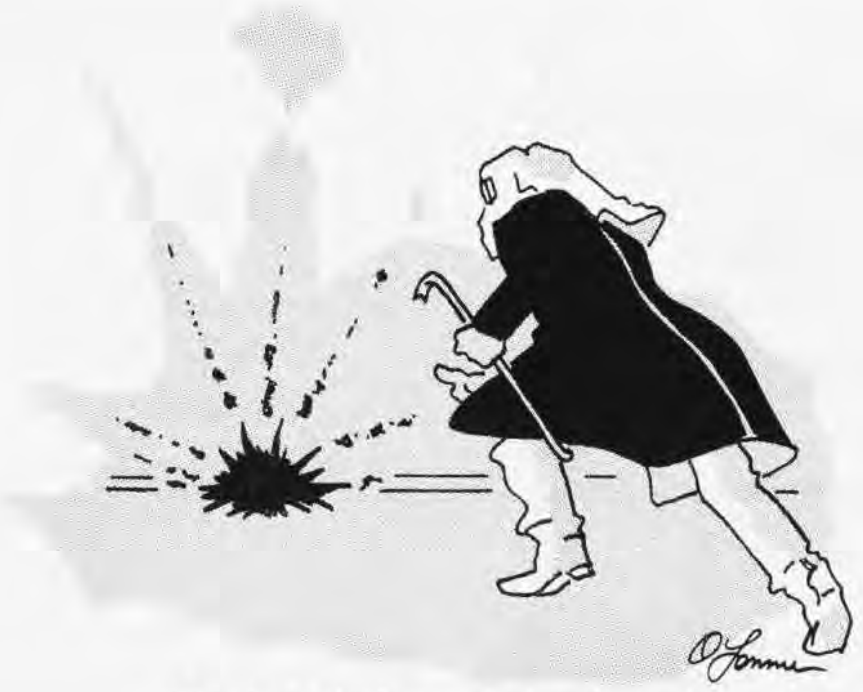
When such a situation comes about, the intelligent thing to do is to seek advice of someone who has been trained to help. If you are skeptical because you feel that your flight surgeon is not mature enough to deal with your personal problems, then you are like the society matron who finds it difficult to believe that some of the fuzz-whiskered baby faces in your squadron are experienced enough to fly supersonic jets alone at night over a horizon-less ocean.

Just as you know the flight characteristics of your airplane, so your flight surgeon has been trained to recognize certain mental mechanisms and to understand their relationship to your efficient living. He is no more inclined to jerk your wings when you tell him that your eyelid has been twitching lately than you are in the habit of pulling the face curtain the instant a fire warning light comes on. In either case a couple of other things will be checked out first.

If at this stage the flight surgeon recommends a consultation with the Special Board of Flight Surgeons at Pensacola because he feels that more expert studies are indicated (which is seldom the case), you might easily panic because rumors have told you that such a trip is usually a one-way journey.

The facts, according to a recent article in *Aerospace Medicine*, show that this is a myth, too. Of the designated aviators who, for the fiscal year 1963, were referred to the U.S. Naval School of Aviation Medicine because of psychiatric difficulties, 58 per cent were returned to full flight status (R. E. Ehrich and P. B. Phillips, "Short Term Psychology of the Aviator," *Aerospace Medicine*, November 1963).

In addition, a fair number of those who were initially examined by other departments of the school were returned to full flight status when it became apparent that their headaches, vertigo, blurred vision etc. were a manifestation of psychological difficulties. All of them had taken the allegedly one-way trip to Pensacola when their efficient flight performance became impossible because of psychiatric problems. They had been steadily losing a desperate, unaided fight against an unseen enemy until somebody saw the light. Although their problems varied, the treatment for all of them consisted of promoting an understanding of the nature and meaning of their symptoms. How many of them would now be dead, or cowed and starting a difficult new career in a non-flying billet, or scratching to meet the monthly quota as used car salesmen is anybody's guess. You'll probably come up with a figure of your own if you run a brief mental



'A serious mistake may lead to disaster.'

inventory of your former buddies who, for some "unexplained" reason, became marginal pilots, quit flying, or met an even worse fate.

While the seasoned aviator gets a thorough physical examination every 12 months, the extent to which his mental health is monitored is often dependent on the degree of maturity with which he or his superior can look at the issue of emotional problems versus flight performance. To have someone pry into your personal life can be, to many, a painful affair at best, and the myths and misconceptions mentioned thus far add to one's tendency to go it alone and to hope that somehow a favorable change will come about. Thus, after some strange quirk of fate or event of everyday life (choice of a mate, alcoholic spouse, financial loss, illness in the family, unmanageable teen-age children, etc.) has brought on an intolerable condition, one is hopeful that another neutralizing, even a lucky, mutation will square things away again. It sounds very much like evolution in the psychic sphere of life.

While natural selection can be an acceptable system for the destinies of dinosaurs, tadpoles and pink-furred rabbits, it becomes a cruel and costly procedure if it governs the careers of human beings whose training runs around $200,000, to say nothing of the potentially astronomical figures of accident costs.

Aviators represent the largest group of very important persons in our Armed Forces. Under emotional strain, the distraught bootblack might stain the customer's socks, the jilted secretary can mail an important letter to the wrong firm, and the angry Senator can "take five" to cool off before he casts his vote on an important bill. But for the aviator, the margin for error can be so slim that a serious mistake may lead to disaster or worse. Remember, the only man immune to troubles of the mind is the man who has no mind at all. If the physician who medicates himself has a fool for a doctor, what can you say for the self-doctoring layman?

IFF System Newly Modified

CPO Simplifies the Gear for Pilots

Donald E. Sadowsky, ATCS, from VAW-33 at Quonset Point, has devised a system which simplifies pilot action in activating the emergency signal on Navy IFF (Identification Friend or Foe) gear. Previously, the man in the cockpit had to set up codes, rotate knobs and press buttons in order to transmit a series of lines which are observed on ground station radar scopes. The pattern of lines informed cognizant personnel of the pilot's trouble so that action could be taken.

Using only eight parts, Chief Sadowsky rigged the IFF system to signal an emergency by flicking a single switch, sharply reducing pilot efforts. He accomplished this after laboring three weeks with his idea and producing appropriate wiring diagrams.

For his initiative, Chief Sadowsky was commended by BuWeps, ComNavAirLant, ComFAirQuonset and his squadron C.O. Additionally, all Navy commands have been instructed to modify IFF equipment according to the Chief's design.

The total cost of making this change in the gear is only $20 per set.

VT-26 Crew is Commended

Helps in Weather Bureau Project

The U. S. Weather Bureau has written the Chief of Naval Operations to express appreciation for the services of a pilot and crew from VT-26, NAAS Beeville, Texas. Flights were undertaken in connection with research on severe storms.

The F-11A which Lt. Edward M. Holmes, VT-26, flew was a Weather Bureau plane. Working with him were maintenance personnel of the same squadron: John D. Goodwin, AMM1, John R. Clark, ADJ2, and Donald E. Bulis, AE2.

Between May 17 and June 19, the F-11A flew from Will Rogers Field, Oklahoma City, to carry out severe local storm investigations. In all, 22 missions, which included 73 storm penetrations, were flown.

On many days, Lt. Holmes, flew two missions and on June 4, he completed three missions. Most of the flights were conducted in severe weather areas under hazardous flying conditions. On a number of occasions, the aircraft sustained damage requiring fiber glass patch work and sheet metal repairs.

The work of the VT-26 crew, according to the Weather Bureau, made it possible to continue high-altitude support of the program in progress by the National Severe Storms Laboratory. During the past spring, the Bureau was studying the fields of atmospheric electricity, turbulence and hail, and air circulation.

HELO RAPPELLING ON THE BONNIE DICK

ABOVE, *Capt. P. J. Ryan, C.O. of the Marine Det in CVA-31, rappels from a helo 120 feet from the deck.* **AT RIGHT,** *2nd Lt. J. L. Hess, X.O. of the Det, assisted by a man on deck, demonstrates how the maneuver is done.*

THE HELICOPTER rappel provides a simple and rapid means of gaining entry into an area that does not lend itself to overland movement, helo-lift, or parachute insertion. *Bonnie Dick's* Marines can descend a 120-foot line in a matter of seconds and be ready for instant action.

This technique was developed by Marine Force Recon units and is still relatively uncommon ashore. Its execution from a HU-1 helo to the deck of the underway aircraft carrier is a "first" in the maneuver's application.

ROYAL DANISH *three-masted training ship Danmark was launched in 1932. In WW II, she served as USCG Academy ship, later returned to Denmark.*

ARGENTINA'S *three-masted Libertad, displacing 4000 tons with her l of 309 feet, beam of 45 feet and draft of 22 feet, heads for New*

HOST SHIP *for the gathering was the Eagle which sailed to San Juan and Bermuda to meet the visitors.*

OPERATION SAIL

USS Randolph (CVS-15) provided a modern contrast to a fleet of windjammers that swept through upper New York Bay during Operation Sail, a week-long salute to sail training ships of the world. Ships from 11 foreign countries joined in the gathering and, led by the USCG training barque Eagle, filed by the carrier. Leading the reviewing party was the Secretary of the Navy Paul Nitze. Canada and Norway each sent three sailing ships, Great Britain and West Germany two, the rest one each, including Chile, Italy and Portugal, which are not elsewhere mentioned or shown in full sail on these pages.

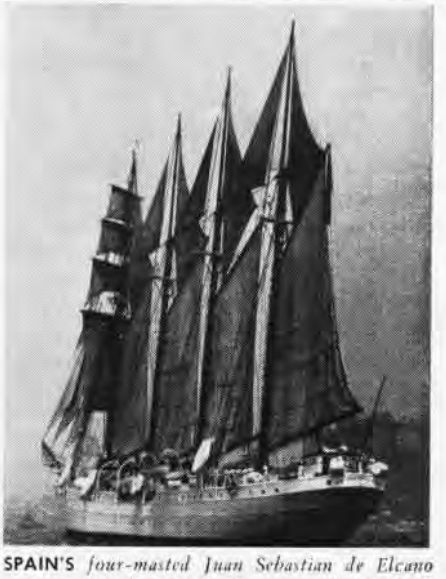
MEN ABOARD *the Eagle view men aboard the Randolph off Staten Island as private yacht and boat owners gather for the impressive event.*

SWOOSH *flows the welcoming water of a New York tug, viewed the Eagle, as Coast Guard helicopters patrol the marine pa*

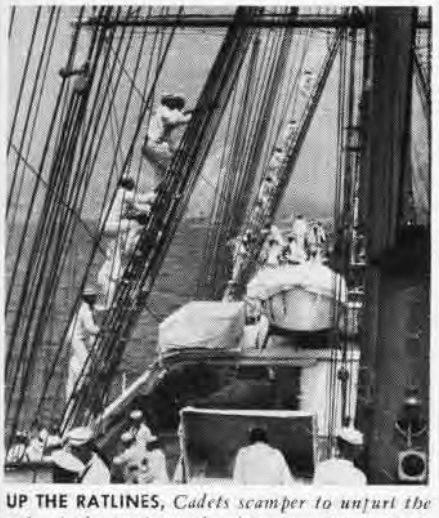
NORWAY'S *barque Statsrad Lehmkuhl met with other ships at Bermuda and sailed north for the "grandest massing of tall wind-powered ships."*

INDONESIA'S *191-foot entry, the Dewarutji, of iron construction, was built at Hamburg in 1953. She has a 600-hp auxiliary diesel engine.*

USS RANDOLPH *men, en route to New York, spell out a greeting to the sailing ships. Original planning for the gathering began in 1960. The late President Kennedy planned to participate in the event.*



SPAIN'S *four-masted Juan Sebastian de Elcano was completed in 1928, has one 800 hp diesel.*



UP THE RATLINES, *Cadets scamper to unfurl the sails of the Eagle as the ship enters New York.*

ALL LEGS, ARMS, *and elbows, the nimble Cadets on Eagle's yardarms swiftly unfurl the canvas.*

SECNAV NITZE *presents President Johnson's bronze plaques to skippers of each training ship.*

WHICH ARE FILLERS? WHICH ARE KILLERS?

THE MOBILE SURVIVAL TRAINER *houses the latest in training aids equipment. Table top display shows various camp sites and handmade utensils recommended for use in a survival situation.*

By H. L. Simmons, JO2

IF YOUR LIFE depends upon it, a dinner of fried Gila monsters and vitamin C-enriched tree bark makes a pretty tasty meal. But beware of eating poisonous plants and animals. The question is: Which are the fillers and which are the killers?

The Mobile Survival Trainer, established in 1959, answers these questions and many others. Functioning as part of the Fleet Aviation Electronics Training Unit, U. S. Atlantic Fleet, the traveling instructors teach pilots and aircrewmen the basic phases of land and sea survival procedures and the equipment involved.

The 13-ton, 40-foot, mobile semi-trailer carries its training aids along the eastern seaboard from Newfoundland through the Florida Keys and southeast to the island of Puerto Rico. The trailer houses a technical library, films, cutaways and the latest in survival equipment.

During the unit's five years of operation, over 13,000 students have completed the two-day course. Naval Aviators have benefitted from this survival training, as well as men from all branches of the Armed Forces and the U. S. Coast Guard, foreign military men, Boy and Girl Scouts, civilian firemen, policemen and, on one occasion, a group of elementary school children.

All the instructors are graduates of Arctic Survival, Escape and Evasion, and Deep Sea Survival Schools. They carry out over 84 per cent of their duties away from their home command which is located at NAS NORFOLK, Virginia.

Those taking this well-rounded course in survival learn how to utilize to the utmost whatever is at hand to stay alive. For instance, you may need to know how to make blowguns from aircraft tubing, how to take the salt out of sea water, or how to fuel arctic fires with blubber. Your instructors familiarize you in the use of various types of lifejackets, rafts, radios, parachutes, exposure suits, survival and first aid kits. You learn to protect yourself by building shelters, using parachutes, logs, leaves, ice and other available materials, how to trap or snare animals, etc.

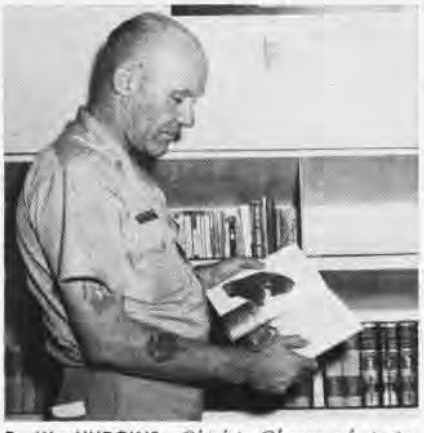
One of the major lessons, of course, involves the "do's and don't's" of food procurement and utilization. The don't's warn you against poisonous plants and tell you how to recognize and avoid them.

One way to test the edibility of an unknown plant is to eat a small bite and wait three or four hours. Then gradually increase the amount consumed and lengthen the time period. If the first phase of the test proves unsuccessful, the remedy for counteracting the poison is to scrape off the charred portion of a piece of burnt hardwood, grind it into fine particles and swallow, with water, one handful.

Some animals with poisonous bites have tasty flesh, such as rattlesnakes and Gila monsters. The portion containing the poisonous glands must be removed. Birds' eggs are the safest food and may be eaten at any stage of development. On the other hand, the livers of the bearded seal and polar bear are not edible. Raw grasshopper meat is dangerous because of the parasites which enter the body through the raw meat. Poisonous fish are often ugly and smell unpleasant. Usually the available foods in a survival situation are not appetizing, but in a life or death situation, they are essential and life-giving.

You can learn how to sustain your body through a survival period, but what about your mind? A bad mental attitude can create a dangerous situation. To guard against this peril, the one who would survive must be prepared for the unexpected. From day to day you must hope for the best and be prepared for the worst. This sound principal has been proved over and over again in World War II and the conflicts since then in which U.S. troops have engaged.

In the past, survival training has paid off in the saving of Naval Aviators and crewmen who have been downed. Those taking similar training today may have to face like hazards. Trained to survive, they will make good use of these lessons.



E. W. HUDGINS, *Chief-in-Charge of trainer, checks reference in technical library.*

Barrier Winner 4th Time

Pacific Flight Crew 12 Outstanding

Airborne Early Warning Barrier Squadron Flight 12 became the first in Barrier history to be awarded an "Outstanding Barrier Crew" award for the fourth consecutive time.

RAdm. William A. Sutherland, Jr., Commander Barrier Force, Pacific, presented the award to Ltjg. Arthur R. Hauver and his crew of 20. The award covered the first six months of 1964. It is given twice yearly.

Evaluation of the crew by Commander Barrier Force, Pacific, was based on radar effectiveness, general barrier performance, communications effectiveness, electronic countermeasures, navigator's charts and records, personal conduct of crew members and the operational readiness and standardization inspections.

The outstanding crew includes, in addition to Lt. Hauver, LCdr. G. M. Hayden, Ltjg. K. L. Meyer, Ltjg. Melvin A. Sarleta, Ltjg. R. F. Bushouse, Ens. D. A. Kienitz, Ens. J. C. Kempf, Ltjg. James M. Walsh, and Ltjg. Theodore L. Behle.

Enlisted men include Thomas A. Medlen, AMH2, R. C. Elms, ADR2, Roy A. Zimmerman, ADR2, G. D. Beaudry, ATW2, L. L. Brennan, ATW2, T. D. McIntire, ATW3, Raymond Johnston, ATW3, R. A. Mosely, ATW3, C.R. Wheeland, ATW3, Robert E. Fleming, ATW3, H.F. Larson, ATN3, and William G. Hull, ATAN.

Air Collision Instruction

Outlines the Reporting Procedures

OpNav Instruction 3750.13B, dated August 5, 1964, outlines procedures for reporting near-misses between aircraft in flight. It cites "the problems of increased speed, smaller silhouettes and an increase in General Aviation flying." These factors it says, "have made the concept of 'see and be seen' more difficult and the hazards of mid-air collision have increased."

Studies have indicated that near-misses are caused by a pilot's failure to maintain proper lookout vigilance (particularly when flying in VFR conditions on an IFR flight plan); failure to maintain assigned or proper cruising altitude, or failure to maintain proper distance from clouds when operating on a VFR flight plan. It was further noted that many pilots have allowed dangerous situations to arise by hesitating to take evasive action.

Pilots and commanding officers have been directed to record and report near-miss information to the FAA, CNO, the Safety Center and other appropriate units.

An enclosure to the instruction outlines in detail the required format for submission of reports.

THIS NEW *helicopter blade crutch for the LH-34D has been approved for use by VX-6 BuWeps noted it is well suited for rigorous environments. It was designed by CWO K.A. Enzminger and M. I. Maddox, AMEC.*

Landing System Installed

Atlanta Gets New Emergency Gear

At NAS Atlanta in Marietta, one of the latest types of shore-based arresting systems is now in operation. This system allows all aircraft equipped with tail hooks to be brought to a safe stop should trouble occur either on takeoff or landing.

Called the E-27 emergency landing system, the arresting gear (NANews, July 1964, p. 36) consists of a cable stretched across the runway and a rotary friction engine mounted underground. When the tail hook engages this cable, it unreels, bringing the pilot to a gradual, safe stop.

Tests on the system were made when a Navy F-1E *Fury* "took the wire." It was piloted by Maj. F. G. Dawson, Operations Officer, MARTD. The *Fury* made several runs into the gear at takeoff speeds. The plane was stopped within the required distance of about 625 feet.

"I've tried almost every type of arresting gear in use today," Maj. Dawson said, "but this is by far the softest I've experienced."

The E-27, costing about $100,000, was installed under the direction of the Southeast Division of BuDocks. After the successful tests, a representative of the Naval Air Engineering Laboratory, Philadelphia, certified that the local system was safe to operate.

CVSG-54 Wins ASW Prize

'Red Rooster' Given for Efficiency

Navy Antisubmarine Air Group 54, based at NAS Quonset Point, has won the Rhode Island Council of the Navy League "Red Rooster" award for outstanding proficiency in antisubmarine warfare. This is the second time the air group has taken the award; the first was in 1962.

All Atlantic Fleet antisubmarine air groups compete annually for the award which was first given in 1961. ASW air groups based at Norfolk, Va., have captured the award twice.

CVSG-5, assigned to USS *Lake Champlain*, is comprised of VS-22, VS-32, and Helicopter Antisubmarine Squadron Five.

Miramar Retires F-8A's

"Aces" have Served for Nine Years

The last four F-8A *Crusaders* operational with Pacific Fleet fighter squadrons have been retired from Miramar-based VF-124.

Four officers from the replacement air wing squadron took the "last" operational F-8A's on their last hop from Miramar. The pilots—LCdrs. M.O. Wright and P. D. Smith, and Lts. C. A. Burnside and T. W. Scott, each with more than 1000 hours in the F-8A series—flew the "Aces" to Litchfield Park, Arizona.

The F-8A's have served for nine years. They will continue to be represented by F-8B's, F-8C's and F-8E's.

Veteran Pilots are Honored

Lapel Pins Indicate Hours Flown

At NAS Norfolk, five Air Transport Squadron 22 pilots with a combined total of more than 40,000 hours flight time—or four and a half years in the air—received accident-free lapel pins from the Commander, Military Air Transport Service. The officers have nearly a century of combined flying experience.

Ten-thousand-hour pins were given to LCdrs. M. A. Katz, Frank M. Howell and Lt. William G. McIntire; 5000-hour pins, to LCdrs. Leo E. Dorman and Louis R. Herman.

Air Transport Squadron 22 has been a member of MATS since 1958.

VP-18 P-2's Join Unitas V

Circumnavigating South America

VP-18, based at NAS JACKSONVILLE, is participating in Operation *Unitas V*, a joint U.S.-South American ASW endeavor. Two SP-2H *Neptunes* of the squadron left Jacksonville August 21 for three and a half months of operational training in South America.

The two *Neptunes* joined the USS *Norfolk* (DL-1), USS *Willis* (DE-1027) and the USS *Odax* (SS-484) to make up the U.S. forces participating in the exercise. Tactical Air Squadron One is sending a Convair C-131 to support the two *Neptunes*.

Operation *Unitas* consists of training exercises with ASW units of the participating South American Countries. U.S. units will also visit Trinidad and the Panama Canal Zone. They are circumnavigating the South American continent, commencing on the East Coast and transiting the Strait of Magellan to the Pacific.

Thirty-three hand-picked members of VP-18, commanded by LCdr. Delis Negron, Jr., make up the two-plane detachment.

New Phantom RIO Arrives

Joins VMF-323 at Cherry Point

Marine Fighter Attack Squadron 323, 2nd Marine Aircraft Wing, has received its first Radar Intercept Officer for its F-4B *Phantoms*. The squadron, recently back from the Far East, is undergoing transitional training in the *Phantom* at MCAS CHERRY POINT.

First Lt. Raymond R. Dunlevy, newly designated Naval Air Observer, received his wings from LCol. N. W. Gourley, Commanding Officer. He is the first "back-seat" *Phantom* flier to join the unit.

In his role as RIO, he and the plane's pilot work jointly during the intercept. He also helps in the navigation and communications phases of a flight.

Lt. Dunlevy attended pre-flight training at NAS PENSACOLA last year and enrolled in the Naval Air Observer's School upon graduation. After completing the NAO course, he went to Glynco, Ga., for two months intensive training at the Radar Intercept Officer's School. There he put school theory and technique to use while flying the F-4B *Phantom II*.

NO FILLER, NO PROTECTION AND IT'S SCRAP

ASC Protests 'Sad Packs'

Cites Loss of Time and Equipment

Despite numerous instructions and articles on proper packaging in the ASO *Bulletin*, ASO continues to receive reports of severe damage to Hi-Value electronic and mechanical equipment components. This means a waste that sends up costs.

Mixed shipment of gear without cushioning in wrong-sized containers for weight or number of items results in heavy loss. The photo shows a recent example (and not the worst) of the results of improper preservation and packaging of aeronautical material. The equipment, which represents a total value of $25,000, is just begging for the scrap heap. The increase in turnaround time and lack of availability of these items impose an additional burden on the supply system. The helter-skelter manner of shipment shows an utter disregard of basic precautions.

Good packaging is no mystery. Here are a few tips:

- When returning repairable components, re-use the specially designed container furnished by the contractor. (Only 40% of the items received are shipped back in these containers.)

- Use adequate cushioning, such as rubberized hair, urethane foam, etcetera.

- When more than one item is packed in a container, cushioning between the items must be the same as that which separates them from the container faces.

- Rugged and heavy items should not be shipped in the same container with Hi-Value, highly sensitive items.

- Use the right size container for the item shipped, one which permits adequate cushioning.

Following these tips, packagers will eliminate packages containing a tossed "spare parts" salad. The parts can't take it, neither can the budgets.

Quonset Trophies Awarded

HS-5 and VS-39 Crews are Winners

Crew No. 6 of HS-5, piloted by LCdr. Donald S. Jones, has won the semi-annual "Dipper" prize as Quonset Point's top sub-hunting helicopter crew. Other members of the crew are Ltjg. A. J. O'Brien, copilot, Jesse Mixson, AX1, and Stephen Sprague, AN. The award goes to crews flying the SH-3A *Sea King* helicopter.

Crew No. 4 of VS-39 was presented with the semi-annual "Bloodhound" award for excellence as fixed-wing sub killers. The "Bloodhounds" are LCdr. Robert F. Caulk, pilot; Lt. Thomas B. Hoppin, copilot; and Samuel H. Golden, AX2. The "Bloodhound" award goes to the best air crew flying the twin-engine S-2 *Tracker*.

Competition for the trophies has been keen, for there are 72 crews in Quonset's three helicopter squadrons and 90 *Tracker* crews in Quonset's six air squadrons.

The "Dipper" is a salvaged helicopter sonar transducer; the "Bloodhound" a miniature aircraft torpedo. Both trophies are mounted on wood.

Reserve Head in Hawaii

RAdm. Koch Visits Air Detachment

RAdm. George P. Koch, Chief of Naval Air Reserve Training, visited CNAResTra's Detachment Alfa at NAS BARBER'S POINT. The detachment is a liaison unit established to administer the summer cruise of 12 Reserve squadrons from the West Coast.

At the time of Adm. Koch's visit, HS-772 and VS-774, both based at NAS LOS ALAMITOS, CALIF., were undergoing two weeks active duty in Hawaii.

The two units were part of the program that saw 1200 officers and enlisted men trained in the 50th state during this past summer.

AROUND, AROUND, AND AROUND GOES 'CAP'

THE WHOLE ROOM'S spinning!" shouted Ens. James L. Spencer, III. His three colleagues, also young naval officers, woefully agreed. They had just emerged from 12 days confinement in a whirling room called the Coriolis Acceleration Platform (CAP). Located at Pensacola's School of Aviation Medicine, CAP is designed to study motion sickness.

Specifically, CAP is helping to determine the exact function of the organs of the inner ear and their relationship to visual and auditory systems. Astronauts, in particular, are subjected to motion or "canal" sickness caused by intense stimulation of the inner ear. Coriolis acceleration applies to the motion of long-range projectiles with respect to the rotating earth.

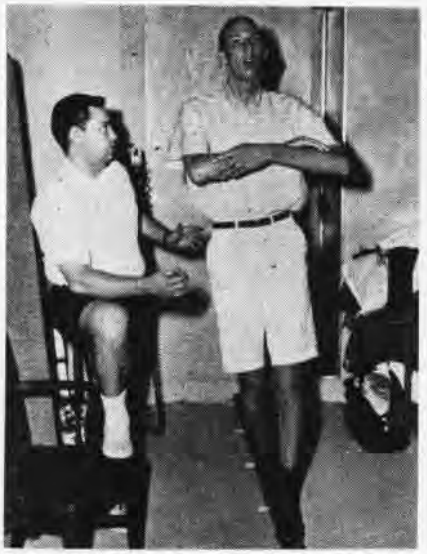
CAP TEST *participants were (from top) Kennedy, Spencer, Lucas, Bondi and Evans.*

The platform consists of a room, 20 feet in diameter, which is mounted on a tracklike structure 48 feet long. A 100-horsepower electric motor drives the platform at 10 revolutions per minute, about three or four rpm's faster than a merry-go-round.

CAP is capable of oscillating a capsule on the track while the room is rotating, thus generating Coriolis acceleration. Either the room or the track platform may be used independently. Its primary function is to cause controlled linear and angular stimuli.

CONSTRUCTION *of the Coriolis Acceleration Platform was funded by NASA. The KPT Manufacturing Company built it in collaboration with Pensacola's School of Aviation Medicine.*

As many as six to ten persons can live in CAP for periods of three weeks or longer. It is equipped with the comforts of home, including hot and cold running water, electric range, refrigeration, sanitation, closed circuit TV, bedding, food, inter-coms, reading material and more than 50 reels of tape-recorded music.



ENS. SPENCER *feels room "spinning" after test. Lt. Kennedy observes his reactions.*

A crew of nine people, military and civilian, normally monitors tests conducted in CAP. They stand round-the-clock watches, checking machinery and observing physiological and psychological tests given to the inhabitants. The four men chosen for the experiment, all 1964 Naval Academy graduates, were Ensigns Robert C. Bondi, Marshall L. Evans, Dale W. Lucas and Spencer. Each was selected because of his low sensitivity to motion sickness. They are now in the flight training command.

Nevertheless, the quartet was very uncomfortable at the outset. Ens. Bondi said that it was, "in fact, sickening." Lt. Robert S. Kennedy, a psychologist, led the examining team and at the end of the rotation period, went aboard CAP. He found that the original nausea hadn't returned, but the men were woozy and leaned to one side when walking. Lt. Kennedy informed them that their equilibrium would return in a few hours.

Other experimental rides in CAP are scheduled. Results from these tests should contribute to the knowledge required by scientists and astronauts in their continuing efforts to solve the problems of space flights.

ADVANCED BASE READY ON DEMAND

ONE OF VP-26's NEPTUNES ON PATROL PASSES STROMBOLI, ACTIVE ISLAND VOLCANO

TALLAHATCHIE COUNTY (AVB-2) has a special mission: the support of antisubmarine patrol aircraft. Ships have long supported aviation units, but the *Tallahatchie County* is unique; it is equipped to provide repairs, servicing, berthing and messing facilities for a complete patrol squadron.

This it does for Patrol Squadron 26, based at the Naval Air Facility, Sigonella, Sicily. VP-26 has the primary responsibility of providing antisubmarine protection for the Sixth Fleet in the Mediterranean. Although Sigonella is strategically located to cover the central Mediterranean, many areas are beyond the practical range limits of the patrol aircraft. To fill these gaps, the advanced base concept was inaugurated—and this is where the *Tallahatchie* plays its supporting role in situations where time really counts.

Within a matter of hours, *Tallahatchie County* can set up operations at any coastal airfield. It is capable of bulldozing out a new field from a roadway or other flat surface without support from other units. Thus, patrol aircraft, in an emergency, would be able to operate from bases close to the scene of action, increasing coverage by cutting down the time required to fly to the search area.

There are risks in fixed bases; changes in the international situation might preclude their use. And again, such bases might be destroyed by missiles or be overrun by enemy forces. The advanced base concept makes many areas available for extensive maritime air operations.

The USS *Tallahatchie County* fills the requirements for an advanced base by carrying a crash truck, ambulance, construction equipment, and trailers that house machine shops, electronics shops, administrative and supply offices, meteorological and communications centers and a mobile control tower.

In recent operations with VP-26, AVB-2 was called upon to support round-the-clock coverage of the Sixth Fleet from Decimomannu Aerodrome in Sardinia. Squadron and ship's company personnel worked hand in hand, relying on the *Tallahatchie County's* large supply of parts to keep the Lockheed SP-2E *Neptune* aircraft flying.

VANS, EACH A UNIT OF AN ADVANCED BASE, ARE SET UP AT DECIMOMANNU, SARDINIA

'STAND CLEAR! HERE COMES A CRASH TRUCK'

A RUNNING START *for the "man overboard" drill gets crew to helicopter on the double.*

THE PLANE COMMANDER *regularly checks handlers as they unfold and lock tail section.*

LIFT OFF! *With ground crew safely away, all is set for the dash to rescue "downed pilot."*

THE RIGHT CLIMATE FOR TRAINING

ACTIVE DUTY for training in Hawaii was led off this summer by the Reservists of Helicopter Squadron 771 and Antisubmarine Squadron 776, both from NAS Los ALAMITOS, Calif. Their primary mission was to obtain antisubmarine warfare training and conduct exercises with Fleet surface and air units.

These two squadrons were the vanguard of more than 1200 officers and enlisted men who came from the West Coast: three squadrons hailed from Los Angeles, four from San Francisco, and three from Seattle. The two weeks of active duty were the climax of a year of weekend training by squadron pilots, aircrewmen and support personnel. In Hawaii, they gained operational training in the latest Fleet tactics. While in Hawaii, the Reservists were under the operational control of Commander Fleet Air Wing Two at Barber's Point.

The commanding officer of VS-776 is Cdr. Thomas Bloom and the skipper of HS-771 is Cdr. Donald J. Brodhag.

Pictures on this page depict the "man overboard" drill, a part of the training of HS-771. It is drilling which produces speed and precision and makes the helicopter the efficient rescue vehicle it has become in the Fleet. By clocking themselves in every move, the participants in the drill speed up the action step by step.

IN AIR/SEA RESCUE, *time is of the essence. Plane handlers regularly practice unfolding rotor blades; locking devices are regularly checked.*

SUCCESSFUL OPERATION *is the verdict. Well within time allotted for the drill, "downed flier" is picked up in a sling and hauled aboard.*

WHIDBEY UNITS TRAIN IN ALASKA

PATROL SQUADRON 47, *flying SP-5 Marlin seaplanes and the tender, USS Salisbury Sound, combined forces for ten days of extensive anti-submarine warfare training and shipping surveillance. They operated out of Cold Bay, Alaska, located at the tip of the Alaskan Peninsula.*

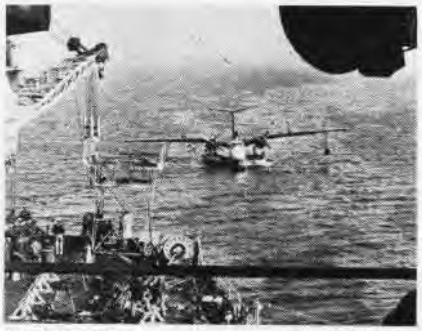
PATROL SQUADRON 47 climaxed fiscal 1964 in training with an Alaskan deployment aboard the USS *Salisbury Sound* (AV-13). Both units are homeported at NAS WHIDBEY ISLAND, Wash.

In Alaskan waters, tempestuous winds of 40-50 knots, sea states of three and visibility limited by ground fog pose serious problems in maintaining seaplanes. All minor repairs are accomplished with the planes on the water moored to a buoy, but for major items, such as an engine change, the aircraft must be on the tender.

One such problem arose when "3-boat" needed a propeller seal and visibility dropped to zero-zero. The pilot couldn't taxi because there were other aircraft on the water and he had no forward visibility.

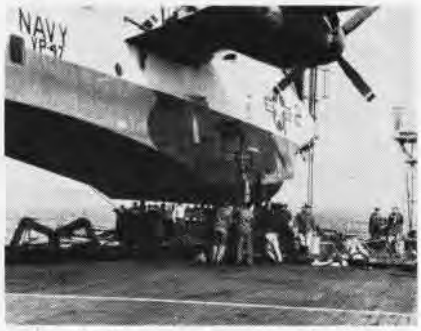
But by the use of the ship's TCA (Tender Controlled Approach), the 3-boat was vectored through the soup to a position 100 yards astern of the ship. There the pilot cut the engines, the ship boats came alongside to position the aircraft for hoisting aboard.

It wasn't all work and no play for the Alaskan visitors, however. Many of the crews had their first glimpse of the natural splendors of the 49th state. They saw the grizzly and Kodiak bears, caribou loping across the tundra, and the Alaskan fur seals in their home on Pribilof Islands.



VP-47'S *2-boat is shown coming in for an engine change aboard the Salisbury Sound.*

THE BIG CRANE *hoists the SP-5B Marlin seaplane aboard the waiting tender, "Sally."*



FINAL TOUCH *is snapping on the beaching gear to make 2-boat ready for engine change.*

SEA CADETS AT SEA IN CORAL SEA

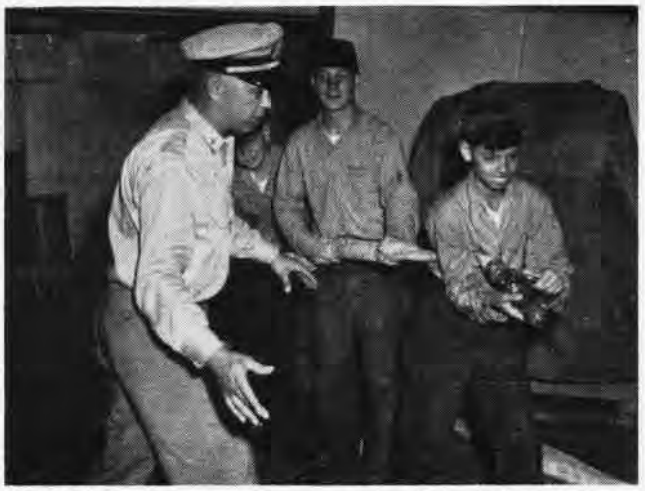
SEA CADETS *Jim Gilley (L) and Alan McKean practice sending messages via the ship's blinkers in the Coral Sea, during their eight-day stay.*

THE CORRECT *sound-powered telephone talking procedures are practiced by Cadets Milton Ott (L) and Douglas Bottler, in shipboard training.*

SIXTEEN U.S. Naval Sea Cadets boarded the *Coral Sea* for an eight-day working/training cruise. Two primary objectives were met during the cruise. First, the cadets completed practical factors for advancement in rating, and second, they got a first-hand look at life aboard a carrier. Each day began with 0500 reveille, followed by material and personnel inspection. They attended lectures and worked alongside active duty personnel. On the fifth day aboard, they were assigned to divisions within the Deck Department and put to work. At taps at 1000, the cadets were tired, but more informed and experienced.

The Sea Cadet program is divided into two phases. Boys between the ages of 12 and 14 are eligible to join the Navy League Cadets. Their program of study is two years of basic seamanship, after which they may join the U.S. Naval Sea Cadet Corps. As long as the lads remain in the Sea Cadet program they are eligible for advancements in rating, which they retain when they go regular.

ONE OF MANY *lectures given the Cadets concerned first aid and personal hygiene, delivered by Corpsman John Lynch in ship's foc'sle.*



FOLLOWING *a lecture on damage control and fire fighting techniques the Cadets demonstrated what they have learned on manning a fire hose.*

THE CHIPPING *realities of sea life are learned by Cadets Milton Ott and Mike Flanagan as they assist their shipmate Mike Smith (center).*

SELECTED AIR RESERVE

CAPT. G. R. KEATING, *Director of the Naval Historical Display Center, Navy Yard, Washington, D. C., accepts a model of the Lockheed P-3A, presented by Ltjg. Terry Larkins, Public Information Officer of VP-44, NAS Patuxent River, as 60 NROTC midshipmen witness ceremony.*

Two Trophies for NARTU Andrews

RAdm. George P. Koch, Chief of Naval Air Reserve Training, announced August 26 that NARTU, NAF Andrews AFB, has won two performance trophies for FY 1964.

Won by the NARTU are the Edwin Francis Conway Trophy, awarded for being "the most efficient" in training and operations, and the Chief of Naval Air Training Trophy, for showing the greatest improvement of any activity in the command. These two honors are rarely won by the same activity, for competition is strong throughout the 18-station command.

Adm Koch said, "I am extremely proud of NARTU Andrews and of Capt. E. A. Parker, Commanding Officer. The winning of these two awards indicates that every officer and man . . . has made a concerted effort to do his very best. You are commended for a job well done."

Adm. Koch also announced the winners of the Noel Davis Trophies, awarded to individual squadrons for being "the most efficient" by type of training. The list of squadrons with the Commanding Officer of each is as follows:

AWS-75, NARTU Lakehurst, N.J., Capt. Leonard D. Booth.

NARMU-722, NAS Glenview, Ill., Cdr. George S. Lambert, Jr.

NARDIV-731, NAS Grosse Ile, Mich., LCdr. Alvin E. Katz.

VF-661, NARTU Andrews AFB, Washington, D.C., Cdr. William M. Polglase.

VA-892, NAS Seattle, Wash., LCdr. Richard W. Laird.

VP-662, NARTU Andrews AFB, Washington, D. C., Cdr. John B. Toomey, Jr.

AT NAS SEATTLE, *F. R. Paylor, Jr., AE1, congratulates himself on commission as ensign.*

VS-752, NARTU Lakehurst, N.J., Cdr. Charles R. Lundgren.

HS-772, NAS Los Alamitos, Calif., Cdr. James L. Cox, Jr.

VR-881, NAS Olathe, Kans., Cdr. James L. Evans.

WEPTU-778, NAS Los Alamitos, Calif., Cdr. John T. Viele.

NAIRU-661, NARTU Andrews AFB, Washington, D. C., Capt. Edward Monsour.

Marine Reservists in 'Sirocco'

Selected Reserve units of the Marine Corps' 4th Marine Aircraft Wing and 4th Marine Division, took part in a tactical test upon California's Mojave Desert when Exercise *Sirocco* was carried out in August at the Marine Corps Base, 29 Palms.

Sirocco was the code name of a four-day operation involving more than 2500 members of the Marine Corps Reserve air and ground units on two weeks annual active duty training at Marine Corps installations in Southern California and at Yuma, Arizona.

Sirocco tested the ability of 4th Marine Aircraft Wing and 4th Marine Division units to operate together as a striking force in a desert.

Marine Corps Reserve Aviation

AT NARTU ALAMEDA, *Snow White (cap) Sara Shaw offers chocolate bars as her seven (hard hat) shipmates give cigars, all as new CPO's.*

PART OF TRAINING *in the 85-day Recruit Program at NARTU Alameda is spent at the firefighting school. Here students battle oil blaze.*

units taking part were VMF-142, Jacksonville, Fla.; HMH-770, Seattle, Wash.; MACS-73, New York City; MACS-24, Andrews Field, Md.; and detachments from Marine Photographic Squadron Four, New Orleans, La., and VMF-353, Seattle, Wash.

During *Sirocco*, the Seattle helicopter unit was augmented by a regular Marine Helicopter squadron of the 3rd Marine Aircraft Wing from MCAF SANTA ANA. A 3rd Wing observation squadron, based at Camp Pendleton, Calif., also lent its support. The Reserve air traffic control unit and air control squadron were augmented by regular Marines.

The mission of these reserve units, comprising a provisional Marine aircraft group, commanded by LCol. R. D. Wells, was to furnish close air support and helicopter transport needed by the advancing infantry and supporting ground units.

Another 'First' for NARTU Norfolk

Members of jet attack squadron VA (J)-861, NARTU NORFOLK, made their first carrier qualifications aboard the USS *Lexington* in the Gulf of Mexico. These jet carquals were the first of their kind for "Weekend Warriors" since the days of the Korean conflict.

Flying A-4B *Skyhawks*, the NARTU pilots who participated in the trip to NAS PENSACOLA and flew ten landings each were: Cdr. F. L. Rowe, LCdrs. D. S. Ward and S. J. Baker; Lieutenants J. H. Carson, Jr., R. H. Lilly, A. W. Markham, J. D. Sapp, C. B. Arnett, and R. L. Fischer.

Three Sons in Retirement Ceremony

When retiring Stephan E. Havasy, Sr., Chief Aviation Machinist's Mate, USNR, passed through an honor guard of fellow CPO's, he found a second honor guard, three of his four sons.

Chief Havasy, who served more than 30 years in the Navy, was leading chief of Fighter Squadron 661 at NARTU, NAF ANDREWS, before his transfer to VF-662. He had many years of perfect drill attendance at the NARTU despite the fact that he lived 55 miles away. He served a tour of duty with the U. S. Marine Corps before joining the Navy for WW II service.

At one time, Havasy's sons (all four) served in his squadron at NARTU. Today two of them are Midshipmen in the Merchant Marine.

CELEBRATING *80,000th GCA at New Orleans are LCdr. W.A. Jensen, Unit #2 OinC; Marine Capt. R. Bright, T-33 pilot; J. Hurwitz, AC2.*

TO CATCH THE EYE *of recruit prospects, NARTU Norfolk fixed up an eye-catching exhibit complete with invitation and phone number.*

AT SEA WITH THE CARRIERS

USS INDEPENDENCE *is viewed here while operating with the Second Fleet in the Caribbean. During recent on-board ceremonies which were held at Pier 12 at Norfolk, Virginia, Capt. Robert W. Windsor, Jr., relieved Capt. James D. Ramage as Commanding Officer of CVA-62.*

ATLANTIC FLEET

ENTERPRISE (CVAN-65)

Aboard the *Enterprise*, the "Coal Scuttle" replenishment trophy was finally relinquished by RAdm. Bernard M. Strean, CCTG 60.1, after holding on to it for four consecutive months. Recipient was RAdm. L. C. Heinz, CCTG 60.2, whose ships achieved the fastest rate of replenishment among carrier task groups in the U.S. Sixth Fleet during the month of July.

The trophy, first awarded in April this year, was the idea of Capt. J. M. Hingson, Commander, Service Forces, Sixth Fleet.

A week after the trophy presentation, *Enterprise* embarked on her round-the-world cruise which she is scheduled to complete this month.

Superb airmanship was demonstrated by Lt. Christopher Thomas of HU-2 aboard the *Big E*. Shortly after a night takeoff in a *Seasprite*, he heard an explosion from the craft's engine. An immediate climbing turn back toward the ship brought the helo over the flight deck about 20 feet high when another explosion was heard, followed by complete engine failure. Quick reactions by the pilot safely brought the helo to the deck of the carrier in autorotation without damage to either *Seasprite* or ship, or injury to the four men in the helo.

The first of the *Enterprise* plankowners to qualify as a Centurion in Air Group Six is LCdr. Walter Koehler of VA-65. He did it in an A-1H *Skyraider*. Tigers of VA-65 describe the arrestments as "nuclear type landings."

INDEPENDENCE (CVA-62)

On the same day, Arthur G. McGowan, SK1, received the Thomas S. Gates Leadership Award, and Capt. Robert W. Windsor, Jr., relieved Capt. James D. Ramage as C.O. of the *Independence*. McGowan received the award for having demonstrated "loyalty, courage, and personal leadership abilities that have contributed most to the fighting capabilities of the crew of the *Independence*." The presentation was made during the Change of Command ceremonies.

An ocean area of 150,000 square miles can be a very large area, especially when a 30-foot sloop is lost in it. But two A-4E *Skyhawk* pilots based on the *Independence* proved it can be small indeed. The privately owned sloop *John Peer* was reported

PROSPECTIVE *Commanding Officer of USS America (CVA-66), Capt. Lawrence Heyworth (L), visits Capt. Ramage on bridge of CVA-62.*

THE COAL SCUTTLE *replenishment trophy is relinquished by RAdm Strean (L) in Big E. RAdm. Heinz accepts; Capt. Hingson looks on*

lost. A search was conducted by ComCarDiv Six, ComCarDiv 14, and U.S. Coast Guard aircraft. The sloop was spotted by Cdr. A. H. "Jim" Cummings, Commander Carrier Air-Wing 7, and Lt. Pat Kober of VA-72. The *John Peer* was accompanied to Norfolk by the USCGC *Cherokee*, an ocean-going tug.

Marine Fighter Squadron 333 reached a magic number in the *Independence*. In a three-day period, 21 squadron pilots made 267 day landings and 66 night landings. Total: 333. The squadron is based as MCAS BEAUFORT, South Carolina.

FRANKLIN D. ROOSEVELT (CVA-42)

Men in the *FDR* are happy Ltjg. Paul Kayle and Walter Tkacz, AMS1, of HU-2 are aboard.

Instance: while flying plane guard position off the carrier, Kayle sighted an aircraft in trouble immediately after its catapult from the ship. Before primary control could pass the word to go, the helo crew was on its way. Aircrewman Elvis B. Jordan, AE3, in the *Seasprite*, jumped into the water, swimming through jet fuel to aid the RIO.

Instance: a couple of weeks later, just after landing and securing the engine, Kayle heard a man overboard call from the ship. With no time for the helo's electronic equipment to warm up, the *Seasprite* lifted immediately and was directed to the victim by the ship. Tkacz was crewman. He jumped to the aid of the fatigued sailor, inflated a raft, and dragged the victim aboard. Both were shortly hoisted to the helo and returned to the nearby *Franklin D. Roosevelt*.

Instance: Tkacz earlier made a spectacular rescue when a *Seasprite* piloted by Ltjg. Albert G. Perry flew to the aid of downed *Skywarrier* pilots. Tkacz jumped from an altitude of about 40 feet, landing 15 feet from one of the victims. Finding this man uninjured, he swam to help the pilot of the jet who had been hurt during the crash. While the helo returned the injured man to the ship, Tkacz remained in the fuel-coated water with the second victim until help returned.

In the apparently never-ending competition between *FDR* and *Coral Sea* in the X000th landing department, CVA-42 reports two new landings that gives her a quantum jump ahead of her nearest rival. Ltjg. Ralph F. Dewalt of VAW-12 recorded the 130,000th in an E1B *Tracer*. The 131,000th was made by LCdr. Richard B. King of VF-14, in an F-4B *Phantom II*. Only nine days separated the landings, both made during an at-sea period.

LAKE CHAMPLAIN (CVS-39)

Joseph E. Hoffman, BT2, used a one-gallon can to transfer the three millionth gallon of black oil pumped from the *Lake Champlain* in 1964. USS *Beale* (DD-471) was the recipient. Hoffman, dressed in white overalls with "Champ's Super Service" written on his back, was high-lined to the *Beale* to deliver the oil. Cdr. Frank Corley, commanding the destroyer, accepted the oil and the customary "Champ Green Stamps" and then emptied the can into the forward fuel tank. His parting words were: "We are glad to receive the three millionth gallon and will continue to do business with such a reputable firm."

RAdm. Donald Gay, Jr., was relieved as ComCarDiv 18 by RAdm. John Joseph Lynch in ceremonies aboard the *Champ*.

LEXINGTON (CVS-16)

It was an international affair when LCdr. Hugo Ecklund of VT-30 recorded the 111,000th landing on the *Lexington*. His LSO was Lt. Hugo Adamoli of the Argentine Navy. Lt. Adamoli is undergoing a course of instruction as a landing signal officer with the squadron. After controlling 2000 field mirror landings and 150 actual carrier landings, he will return to Argentina to serve as LSO in the ARA *Independencia*, the Argentine Navy's aircraft carrier (ex-HMS *Warrior*, *Colossus* class, sold to Argentina in 1958).

SHANGRI LA (CVA-38)

Currently going the rounds of major theatres in the country is the Technicolor Cinemascope picture, "Mediterranean Holiday." Importantly featured in the picture is USS *Shangri La*. The film is about 20 teenage Nordic sailors on a holiday aboard a three-masted clipper. CVA-38 got into the act when one of the teenagers contracted appendicitis on the doctorless ship. The lad was flown to the carrier by helicopter.

Press agents describe the Navy sequence as "an important feature." The release continues: "The recuper-

DANISH CADETS *from the sailing barque Danmark visit the Essex when the training ship visited Providence. Essex is based at Quonset Point.*

REFUELING *the submarine Cubera at sea is something of a first for the Randolph. Those aboard believe that it is also a Navy unrep first.*

ating visitor watches the jets land and take off and lives the life of the American sailor during his stay. Other ships of the Sixth Fleet are also in the film and many of the ship's personnel and the flying personnel are to be seen in the numerous interesting shots on board."

WASP (CVS-18)

Ltjg. T. C. Sharkey of VS-28 made the 55,000th landing on the *Wasp*. The flight was launched from NAS QUONSET POINT, carrying mail and personnel in an S-2E *Tracker*.

ESSEX (CVS-9)

Rhode Island Governor John H. Chaffee paid his first official visit to NAS QUONSET POINT last August, arriving by state helicopter, and landing aboard the *Essex*. He was greeted by RAdm. Magruder H. Tuttle, ComFAir Quonset; RAdm. John J. Lynch, ComCarDiv 18; and Capt. William R. Mayer, commanding the carrier. Purpose of the visit was to read an official proclamation declaring Navy Relief Days in Rhode Island.

The 117,000th arrested landing in CVS-9 was made by Lt. Donald Tyler and Ltjg. James Bolster of VS-34, in an S-2D *Tracker*.

FORRESTAL (CVA-59)

En route to her current Med tour, *Forrestal* conducted her ORI in the Caribbean, overnighted at St. Thomas, Virgin Islands, and recorded her 94,000th landing during several days of training in the Rota, Spain, area before passing through the Straits of Gibraltar. *Forrestal* then relieved *Enterprise*.

The record landing was made by 1st Lt. Robert C. Trumpfheller of VMA-331, in an A4E *Skyhawk*.

PACIFIC FLEET

BENNINGTON (CVS-20)

Bennington returned to Long Beach after a successful tour with the Seventh Fleet. VS-33 completed its third WestPac deployment in the *Benn* with this tour. Pilots flew approximately 3500 hours with high flight time going to Lt. Richard Simia with over 260 hours and Lt. C. R. Bubeck with over 200 hours as top copilot. A total of 900 carrier arrested landings were made aboard, of which 375 were night landings. Top man in the aircrew for flight time this cruise was R. E. Seale, AX1, who logged nearly 250 hours.

CONSTELLATION (CVA-64)

Lt. Edward Clexton, Jr., during his second tour with VA-143 aboard the *Constellation*, logged the carrier's 27,000th arrested landing, in an F-4B *Phantom II*.

CORAL SEA (CVA-43)

Coral Sea established what they believe to be an all-time record for the most arrested landings of combined jet and prop aircraft for a one-day period. In 17 hours operating time, the carrier recorded 536 traps, including F-4, F-8, A-4, A-1 and TF aircraft. In daylight hours, 375 arrestments were made, with an additional 161 landings completed during night ops. Of these landings 470 were made by jet aircraft and 66 by prop-driven planes. Participating were detachments from VA-125, VF-121, VMCJ-3, VMF(AW)-513, VA-163, VA-164, and VA-165.

HORNET (CVS-12)

Capt. M. A. Hadden, Jr., relieved Capt. J. I. Hardy as commanding officer of the *Hornet* during shipboard ceremonies at San Francisco.

KITTY HAWK (CVA-63)

These men are wearing broad smiles: Airman Donald R. Wildie, Donald R. Beedy, HM3, Brice T. Nesmith, SHC, Ear1C. Henney, AA, and Kenneth D. Hemenover, ADJ3. Why? The day before *Kitty Hawk* set sail for San Diego, they were given commercial airline tickets from Tokyo to San Francisco—first class. Capt. J. L. Butts, commanding, drew the five names. To qualify, men aboard had to conduct themselves properly while ashore in the Far East. Those who failed to keep a clean record were not eligible. The drawing was held by Special Services to boost morale. It succeeded. The winners were in San Francisco 12 hours after they boarded the plane.

MIDWAY (CVA-41)

The Bad Guys were in the *Midway*, the sub *Razorback*, and the destroyers *Hopewell* and *Wedderburn*. The Good

HOOKED AND LANDED, *this Tracker from VS-25 logs the 95,000th landing aboard the Yorktown. Pilot of aircraft is LCdr. C.C. Keller.*

SECNAV NITZE *talks with Capt. G. S. Morrison, commanding the Bon Homme Richard. The special shirt he wears was presented by crew.*

Guys were in the *Ranger* and *Yorktown* and other surface units of the First Fleet. The Bad Guys tried to sink the *Ranger* and *Yorktown* and bomb a few targets ashore. It all happened recently in Exercise *Bird Dog*. Results of the exercise weren't published (though it must be noted that *Ranger* and *Yorktown* are still shipshape), but a release from the *Midway* indicates it was all a professional job: the leader of the Bad Guys was ComCarDiv One, RAdm. E. C. Outlaw.

TICONDEROGA (CVA-14)

Capt. D. W. Cooper relieved Capt. J. P. Weindel as Commanding Officer of the *Ticonderoga* during ceremonies aboard while the carrier was at Sasebo, Japan. Attending was Capt. J. G. Daniels, III, former commanding officer of the *Ti*, now Chief of Staff to ComCarDiv 5 embarked in CVA-14.

YORKTOWN (CVS-10)

LCdr. C. C. Keller, III, of VS-25, made the 95,000th landing on the *Yorktown*, in an S-2E *Tracker*.

GUADALCANAL (LPH-7)

Celebrating her first anniversary, *Guadalcanal* looked back on a year of accomplishment. She steamed 17,600 miles, logged 10,240 helicopter landings without incident. She received the yellow E for Air Department, red E for Engineering Department excellence, and the Amphibious Assault insignia for efficiency in combat flight operations.

Capt. Dale K. Peterson is C.O. of LPH-7.

VALLEY FORGE (LPH-8)

While the *Valley Forge* was anchored off Okinawa, LCol. Thomas J. Ross of HMM-361 turned over MAG-16 Special Landing Force (SLF) duties to HMM-364, commanded by LCol. John H. Lavoy. MAG-16 helicopter squadrons assigned carrier tours work with a 3rd Marine Division battalion. LPH-8 and her Special Landing Force are assigned to the Seventh Fleet.

BON HOMME RICHARD (CVA-31)

Continuing to add to her log of arrested landings, *Bonnie Dick* experienced her 101,000th landing. It was made by LCdr. Thomas B. Evans of VA-192. It was his 401st carrier landing and his 200th in an A-4C *Skyhawk*.

During a visit to the carrier, VAdm. Paul D. Stroop, ComNavAirPac, received a check for $1000 from *Bonnie Dick* officers, a contribution towards a stained glass window in the Naval Aviation Chapel at Pensacola.

Secretary of the Navy Paul H. Nitze made a one-day visit aboard CVA-31 during his familiarization tour of Western Pacific Naval installations. After a tour of the ship and a briefing by key officers, he observed flight operations from Primary Flight Control and the Bridge. CVW-19 fighter and bomber aircraft demonstrated strafing and rocket-firing techniques against a "Spar" target. Between launch and recovery of the aircraft, a firepower assault by the ship's Marine Detachment was demonstrated on the flight deck.

Wearing a specially designed Navy short-sleeved shirt presented by the crew of the *Bonnie Dick*, Mr. Nitze personally administered re-enlistment oaths to three crew members in the Captain's cabin. He later congratulated LCdr. Thomas J. Cawley, of VF-191, for making the 102,000th landing aboard the carrier.

During the night, he observed underway replenishment from the oiler USS *Chemung* as the oiler simultaneously refueled the carrier and the destroyer USS *Ernest G. Small* in heavy seas.

Cdr. Ernest E. Tissot, X.O. of VA-192, made his 600th arrested landing, on *Bonnie Dick*, in an A-4C *Skyhawk*.

KEARSARGE (CVS-33)

Cdr. Julian Hattersley, commanding Air Antisubmarine Squadron 21, logged his 500th arrested landing, aboard the *Kearsarge*. He made the landing in an S-2 *Tracker*.

Kearsarge, patrolling the Western Pacific, was one of the Seventh Fleet units put on alert after the North Vietnamese PT boat attacks on U.S. destroyers in the Gulf of Tonkin.

The aircraft carrier is flagship for Commander, Antisubmarine Warfare Group One, RAdm. Fred E. Bakutis. Commanding officer of the *Kearsarge* is Capt. Charles P. Muckenthaler.

Real Estate is Exchanged

Los Alamitos Land Dispute Ends

A new approach to a ticklish land dispute has resulted in complete satisfaction to all parties concerned. Capt. William P. Tanner, Jr., Commanding Officer of NAS Los Alamitos, has announced that the final approval has been received for an exchange of property between the Navy and Mr. Henry Van Ruiten, owner of Meadowview Farms.

The prolonged dispute was triggered in May 1963 when the T and T Investment Corporation requested a zone change on the Van Ruiten property, adjacent to the air station runway, from A-1, "Agricultural," to R-3, "Planned Development," with the announced intention of building condominium residences. At a public hearing, Capt. Tanner objected to such rezoning and the proposed development. He pointed out that the aircraft approach pattern made the location extremely susceptible to excessive noise and danger from low flying aircraft.

A round of hearings, legal moves and controversies between opposing parties, city planners, the Chamber of Commerce and organized home owners ensued. When it was evident that no zoning laws or legal action would provide a solution, Capt. Turner suggested exchanging parcels of land. Navy would acquire control of the critical parcel adjacent to the air station runway and, in turn, surrender a like parcel of land further removed from the noise and danger from aircraft flight operations.

The authority to do this was approved by the appropriate Defense officials and the Armed Services Committee of the Congress. The exchange satisfied all three parties. Van Ruiten can develop his property as he sees fit, the Naval Air Station can operate in the knowledge that its aircraft will not unduly disturb the residents, and the City of Los Alamitos can continue to grow in an orderly, planned manner.

Guam Elevators Cost Less

Beneficial Suggestions Adopted

The deck-edge elevator being installed in the USS *Guam* (LPH-9) is less expensive than the one on LPH-3, thanks to two suggestions submitted by three workers at the Philadelphia Naval Shipyard.

The elevators project from the side of the ship during normal operations but will fold against the ship's side when traversing the Panama Canal. The elevator is hinged, secured to a movable bracket cantilevered from the side of the ship. The "A" frame travels vertically between the hangar and flight decks. It acts as a support for the elevator platform and its aircraft load, and as a hoisting strut to raise the platform in a stowed position when going through the Canal.

One suggestion recommended the elimination of expensive and elaborate shoring, extending about 30 feet above the bottom of the dock, formerly used to land the elevator platforms and "A" frames for regulating and securing them to the ship's structure.

By using cables and chain falls, supported from the elevator sheave housings at the flight deck level, the elevator structure can be hoisted into position without shoring and jacks.

The other Beneficial Suggestion recommended delivery of the elevator platforms, "A" frame, and fittings as a complete package from the yard's structural assembly shop, instead of accomplishing final fittings and regulation of the platform and "A" frame on staging and jacks adjacent to the ship's elevator openings.

FOUNDER STILL HEADS NAVY LAB

By Elretta Sudsbury

THE OLDEST BUWEPS field Materials Laboratory, located at NAS NORTH ISLAND, is still headed by the man who established it nearly 30 years ago, Mr. Stanley L. Chisholm.

In many ways the laboratory *is* Stan Chisholm. The professional interests, management philosophies and personal characteristics of its founder are reflected in every facet of the operation, from the enthusiastic attitudes of the staff to the integrity of the work accomplished.

Aircraft corrosion prevention, engine preservation and anti-friction bearing reclamation are among the areas of research in which the lab has pioneered under Mr. Chisholm's guiding hand.

MR. CHISHOLM TESTS OIL SAMPLE IN LAB

Mr. Chisholm, now in his 70th year, was hired by the air station in 1936 to establish a chemical and materials lab. The founding staff included one chemical engineer and one assistant, a sailor. Operations increased gradually in the late 30's and early 40's and expanded rapidly during WW II. Among its wartime contributions, the lab instigated adoption of heli-arc welding of magnesium alloys. This enabled North Island to salvage nearly 10,000 aircraft wheels.

Mr. Chisholm was on active duty as a naval officer from 1941 to 1946, serving first at North Island's O&R, then later, for two years, at BUAER in Washington as head of the chemical section of the Airborne Equipment Division. In 1946 he returned to North Island where he has remained.

MATERIALS LAB AT NORTH ISLAND IS STAFFED WITH 25 PEOPLE, HAD ONLY TWO IN 1936

Today the modern lab is operated by 25 chemical and material engineers, metallurgists and related professional and technical personnel. In its early years, however, things were markedly different. A former associate of Mr. Chisholm, Mr. C.V. Brandon, recalled, "The laboratory, when first I saw it, was confined to the very forward corner of Building 341 next to the fire house. It had something of the air of an alchemist's den because the windows were all painted over as a war measure and the lights were not really adequate. The place was loaded with all kinds of jelly glasses, salad dressing bottles and various other make-shift containers, all filled with various quantities of oil."

At the time, Mr. Chisholm was trying to determine the service life of aircraft engine oils. Typical functions of the lab now include determining causes for failure of aircraft parts; developing a bonding process for high speed sheaves; making changes to the NAVWEPS Preservation Manual; and designing a packaging container.

But when Stan Chisholm can take time out from management duties, he continues the project which has spanned nearly his entire career—corrosion prevention. High strength, light weight alloys used in today's weapons systems make corrosion a critical and challenging problem.

His achievements, however, are felt beyond the environment of the technical lab. Mr. Brandon notes that "what is equally significant, but far less readily discerned, is the influence Mr. Chisholm has had upon the organizational and operational structure, not only of the particular Naval Air Station with which he chose to associate himself, but of all similar establishments in the Navy." Further, he says, "Mr. Chisholm was the first aeronautical materials engineer in the Navy, to the best of my recollection. . . . He long ago became a well recognized 'elder statesman' in his particular field of endeavor and has been looked to by management and worker alike for his sage solutions of the most intricate problems."

Mr. Chisholm has, through the years, performed thousands of tests on hundreds of painted electrodes, attempting to learn the substance which has the greatest value as a protective coating for aircraft. As a gifted teacher, he is dedicated to assisting younger scientists and engineers.

Mr. Chisholm is reluctant to consider retirement. "There is still so much to do, so many questions not answered, so many experiments not completed," he says. Especially concerned about his pet project, he points out, "The corrosion prevention project is going in the right direction. I'd really like to finish it."

NO LIFELINES ON THE FLIGHT DECK

By William A. Vorpahl, JO3

THE DANGER of going overboard from an aircraft carrier is great. There are no lifelines on a flight deck. Jet aircraft, the exhaust from which can hurl a man 50 feet, are constantly on the move. Alertness must be second nature: if it isn't, a sailor can end up being a "fish." Fortunately, aircraft carrier lifeboat crews are expert "fishermen."

At a man-overboard alarm in the *FDR*, a scramble begins. Eight men board a 26-foot motor whaleboat. The

'NOW, AWAY THE LIFEBOAT' FROM THE FDR

safely—prepare to rescue the victim. The search is not easy: a head bobs on a wave and then disappears; a man's body is almost 90 per cent submerged when in water.

In command is the first deck Division Officer who arrives at the boat when the alarm is sounded. In the boat, a coxswain, a trained and experienced handler of small craft, does the maneuvering while an engineman-mechanic stands by to correct any failure in the boat's diesel engine. A Marine non-com operates a walkie-talkie, a vital communications link

AFTER PICKING UP 'OSCAR,' FDR'S PERRENNIALLY WATERLOGGED DUMMY, RESCUE BOAT RETURNS TO THE CARRIER FOLLOWING DRILL

lines fastening the boat to the carrier are loosened, pulley lines are manned by the lifeboat team, and the boat slowly begins its 50-foot descent into the sea.

Teamwork, timing and speed are all-important. The boat must come down evenly and cannot enter the water without capsizing until the carrier has slowed to less than five knots—usually in a matter of minutes.

The amount of time expended in a lifeboat rescue is dependent on existing weather conditions and upon the speed with which the alarm is given. Many rescue attempts are completed in less than 20 minutes.

Inside the boat, eight specialists—men chosen and trained to accomplish this mission quickly, efficiently and

THE WHALEBOAT HOISTED ABOARD CVA-42

between the searching boat and the ship's on-deck lookouts. He reports the range and bearing of the man overboard to the boat officer. The reports from the carrier's lookouts are so vital to the rescue operation that a signalman stands by to act as a back-up communications system should the walkie talkie fail.

As the lifeboat closes in on the victim, a second Marine in the boat, a qualified marksman, readies his rifle to ward off sharks or other predators. The bowhook braces himself to haul aboard the man in the water and a hospital corpsman is on hand to render immediate aid. As soon as the lifeboat has the man aboard, his condition is reported to the ship and the boat returns to the carrier.

PERSONAL GLIMPSES

Editor's Corner

HUMOR IN UNIFORM. Capt. Whitney Wright, C.O. of the USS *Midway*, took notice of two nicknames for the wives of his officers and men. The ladies are known collectively as "Midwives." Those who are lucky enough to follow the ship while it is deployed to the Western Pacific are known as "Seagulls" (*Midway West*, July 1964).

Boats, Not Birds. A press release from the USS *Ticonderoga* noted that two attack squadron commanders were vying for ratings as "aces" in the unending combat between aircraft and birds. Cdr. Henry Urban, VA-55, ran into (or ran DOWN) four birds and Cdr. Wes McDonald, VA-56, three birds while the two squadrons were in training at Yuma, Ariz., before the cruise began. "They kept track of their 'hits' by painting birds on their planes." After the Yuma period, the squadrons deployed, "heading for the relatively bird-free waters of the Western Pacific." In the understatement of the year, the release concludes, "An unexpected bird is always possible, however, and an underlying feeling of anticipation precedes each flight as Cdr. McDonald tries to even the score." (Note: The press release was dated August 3. The *Ti* took part in the Americans' aerial bombing of Tonkin Gulf PT bases on August 5).

LITTLE MEN FOR BIG JOB. Men no taller than 5 feet, 7 inches, weighing no more than 145 pounds, may become the "space jockeys" of the future. So say Douglas Missile and Space Systems Division engineers. Referred to as the "20 percentile man"—being smaller than 80 per cent of American males—the smaller man consumes less food, less oxygen, takes less living space and wears lighter personal equipment than larger men. In calculating the weights necessary for a Mars trip, Douglas engineers figure that 70,000 pounds could be shaved from the gross weight of the spacecraft if it was crewed by six men of the shorter, lighter variety.

Appropriate Names Department. In the Republic of Vietnam, there is a one-airplane operation which furnishes transportation for 300 passengers and 100,000 pounds of freight each month to the Marine Corps Task Element. It provides fresh vegetables, meat and PX items to forward area units and takes soldiers, airmen and Marines for R and R to Bangkok, Hong Kong, Okinawa and the Philippines. Name of the Marines' C-117? 'Trans-Paddy Airlines.'

BROTHERHOOD IN ACTION. VF-51 aboard the USS *Ticonderoga* has six sets of brothers among its 187-man crew. Assigned to the *Crusader* squadron are the Moores, Jerry and Larry; the Rogers, Nolan and Larry; the Morrisons, Timothy and Phillip; the Cannons, James and Garland; the Mathews, Jerome and John, and the Kealms, Daniel and Edward.

Command Change, Junior Grade. For 17 months after reporting to VA-35, Ltjg. R. H. Marron stood at the most junior end of the squadron's roster. When Ltjg. J. A. Merkle reported aboard, the squadron C.O. wrote a set of orders for Marron relieving him of "the top spot on the available for duty list and as permanent #2 in a 4-plane flight." An inspection ceremony marked the occasion of the junior officer change-over.

FISHING TIP. The *Torii Teller* had the following fishing report for Marine Corps Air Station, Iwakuni, Japan, anglers: "It seems that for the next couple of months the rivers are going to be crowded with game wardens. If you don't have a license, best get one."

Larger Shoes, Please. In a column entitled "June and Love and the Right Time," the USS *Midway's* Chaplain, James Conte, gave counsel to the ship's crew about love and marriage. Said the Chaplain, "Love is NOT hearing bells when you kiss (that usually comes from wearing tight shoes, having gas on the stomach, living too close to a church, or from being an ex-prize fighter). Love is not a matter of a maiden's measurements (after a few years things begin to shift around)."

FREEWAY FUN. A *Kitty Hawk* wife drove from NAS Lemoore, Calif., to San Diego to greet the carrier on its return from the Far East. On the car's rear bumper was a sign, "Beware . . . nervous wife . . . meeting husband after 9-month cruise." She made it unscathed.

Did Someone Say Sunny Florida? That was the question posed by a news release from NAAS WHITING FIELD, Milton, Fla., where Naval Aviation's student pilots are billeted. In the period from July 11 to August 11, this summer, the Whiting area recorded 11.46 inches of rain, an average of .39 inches for every day. "Rain, rain, go away, has been the wish of beach lovers, sportsmen and the local community for over a month," the report concluded soddenly.

BROTHERS MOORE, CANNON, MORRISON; CDR. STOCKDALE; MATHEWS, KEALM, ROGERS

LETTERS

HUP'S STILL FLYING

SIR: In the June issue of *Naval Aviation News* on page 3 is a story headlined "End of a Long Career—Last Pacific Fleet HUP Retires."

The last of the Navy's Pacific Fleet operated UH-25B tandem-rotor helicopters have not retired, albeit there are no more at Helicopter Squadron One, NAAS REAM FIELD, Imperial Beach, Calif.

Utility Squadron One, based at the NAS BARBER'S POINT, Hawaii, still has two HUP's in use, as proved by a recent (March 15, 1964) rescue by Ltjg. K. K. Knabb of VU-1.

True as your June story was of the April retirement of the "last" HUP's at Imperial Beach, and allegedly the last in the Pacific Fleet, the craft at Barber's Point have had careers filled with varied and exciting missions and will probably have more before they, too, are actually retired.

But, at this writing, they are still very active. Perhaps these two are really the "last" of the craft being operated in the Pacific.

PIO, HELICOPTER SQUADRON ONE

NOSTALGIC LOOK PLEASES

SIR: I enjoyed immensely E. C. Copeland's article on Coco Solo in the July issue of *Naval Aviation News*.

I was stationed at "Coke" with VP-45 from April 1951 until May 1954 and enjoyed every minute of it. I had the good fortune to return for a visit while on active duty for training in 1959. The base had been deactivated for some time. The emptiness was heartbreaking and the fond memories were very strong. I actually felt as if I were losing a friend.

Thank you for one last tribute to a fine base.

ROGER W. TULLY
Grumman Aircraft Engineering Corp.
Bethpage, Long Island, N. Y.

Escape Module is Delivered

Unique System for Use in the F-111

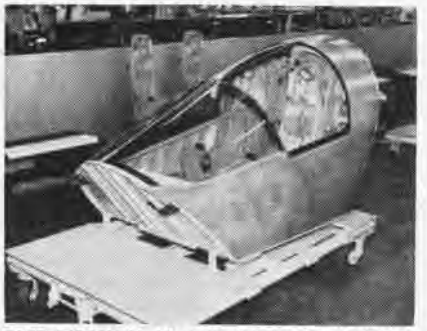
The McDonnell Aircraft Corporation has delivered the first crew module for the F-111 tactical fighter now under development by General Dynamics for both the Air Force and Navy. The module was finished on schedule after 19 months of intensive design and development.

The module design includes a unique system which permits the crew to remain in an enclosed, pressurized cockpit during any emergency escape. This technique represents a major breakthrough in protection and survivance under emergency conditions for flyers. Ejection can be made at any speed or altitude.

Two crewmen sit side by side in the cockpit. Escape from the F-111 is accomplished by igniting a pyrotechnic system which "cuts" the entire cockpit section away from the fuselage in less than 10 milliseconds. Once the structure is cut, a 35,000-pound thrust rocket motor separates the module from the plane. It remains aerodynamically stable from the time of its ejection until the deployment of a 70-foot parachute. The parachute, similar to that employed on the *Mercury* spacecraft, lowers the module to a safe landing either on land or sea.

On landing, the pressurized module continues to be the vehicle for survival. All emergency items are carefully stowed within easy reach. Inflated bags cushion the impact of landing, and special flotation and self-righting bags are deployed for water landings.

McDonnell officials said the new



SAFE EJECTION AT ANY SPEED OR ALTITUDE

design stemmed from the company's experience with supersonic fighters and pyrotechnic devices developed during *Mercury/Gemini* programs.

NATWP Wins Two Firsts

Flies with Air Force in Germany

The Naval Air Transport Wing, Pacific (NATWP), a MATS unit, participated in Exercise *Northwind* last summer at Erding Air Base, Germany. The operation marked two firsts for the Moffett Field-based Wing: the initial time a MATS Naval command unit performed actual drop exercises and the first instance in MATS history during which a tactical airdrop force was comprised of Navy as well as Air Force units.

Northwind was designed to demonstrate the aerial delivery capability of the C-130E *Hercules*. Six sorties were flown by NATWP crews in the deployment and a total of 38 tons of cargo and equipment was airdropped.

MGen. J.A. Cunningham, MATS Chief of Staff for Operations, praised NATWP in a letter of appreciation to Capt. A.H. Bowker, Wing Commander. It said, in part: "The ability of the Air Force and Naval crews to 'blend' during formation flying and drop was outstanding."

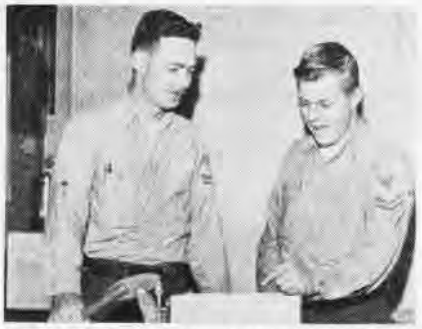
VF-174 Pilots Sets Record

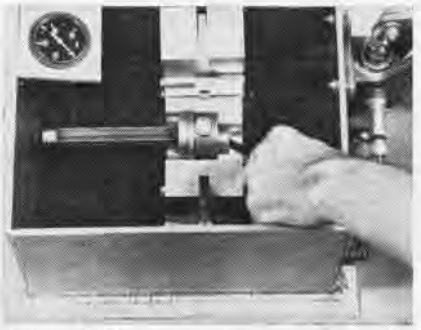
Completes 2000 Hours in Crusader

At NAS CECIL FIELD, VF-174 flight instructor, LCdr. David Perault, has become the first pilot in the Atlantic Fleet to log 2000 flight hours in the Ling-Temco-Vought *Crusader*.

This milestone has been passed by a pilot in the Pacific Fleet before, but never by an East Coast flyer.

LCdr. Perault began flying the *Crusader* in November 1958. He reached the 2000 mark without an accident.





THESE MEN *of Saufley Field's VT-5 designed a device which tests opening pressure of relief valves on T-28 engines. Lawrence St. Jacques, ADR2 (L), made basic design when the maintenance officer found that foreign substance was by-passing the main engine oil strainer through the valve. Thomas A. Ruegg, AMH2 (R), refined St. Jacques' jury rig. Picture at right shows strainer relief valve, center, clamped into place. Hydraulic pump, right, is actuated and gauge, left, records psi. Design has been approved by BuWeps for use throughout the Fleet. VT-5 C.O., Cdr. R. J. Burns, commended the men and officers for achievement.*

SQUADRON INSIGNIA

Attack Carrier Air Wing Seven's arsenal includes Vigilantes, Crusaders, Phantoms, Skyhawks, Intruders, Skyraiders and Tracers. The squadrons which fly these aircraft are VF-41, VF-84, VA-75, VA-72, VA-86, VAH-1 and Detachments 62 of VAW-33, VAW-12 and VFP-62. Together, they compose the striking punch of the Atlantic and Sixth Fleet's USS Independence. Below, Big 'I,' CAW-7 aboard, drawfs Italian training ship, Amerigo Vespucci.

NAVAL AVIATION

NEWS

MILITARY MEN ARE FREEDOM'S GUARD

'The military man is many persons. He is the great captain who commands the fleets and air forces and armies. He is the dedicated professional in school, on patrol, on guard. He is the draftee taking his turn at freedom's watch. He is the reservist or guardsman leaving his home to go to summer training. He is also in a sense the civilian who devotes his mind and his energy to public service. Whoever he is, wherever he serves, the man is a product of of our whole society, and he means more to peace today than he ever meant before.'—President Lyndon B. Johnson