

NAVAL AVIATION NEWS

Department of the Treasury—Internal Revenue Service
Individual Income Tax Return 1978

Page 3 of Instructions For the year January 1–December 31, 1978, or other tax year beginning 1978, ending 19

Identifying number (if joint return, also give spouse's name and initial) *grandpaw* Last name *Pattibone* Your social security number *081 24 9478*

Address (Number and street, including apartment number, or rural route) *Washington Navy Yard* Spouse's social security no. *081 24 9477*

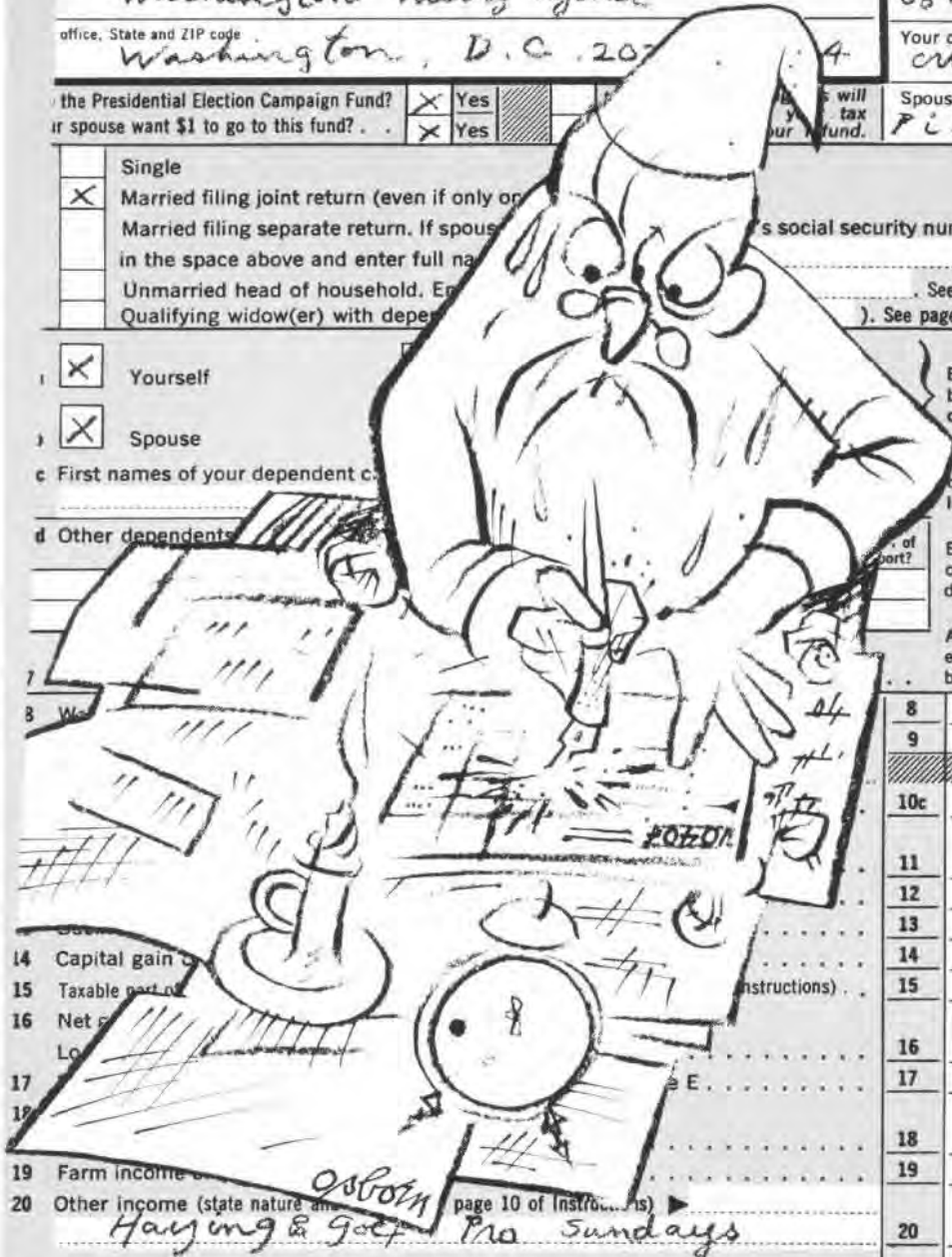
Office, State and ZIP code *Washington, D.C. 20374* Your occupation *critic*

Did you or your spouse contribute to the Presidential Election Campaign Fund? Yes No
 Did you or your spouse want \$1 to go to this fund? Yes No Spouse's occupation *Pilot*

Single
 Married filing joint return (even if only one spouse has income)
 Married filing separate return. If spouse's social security number is on this return, enter it in the space above and enter full name of spouse on page 2.
 Unmarried head of household. Enter name of dependent child in the space above.
 Qualifying widow(er) with dependent child. See page 6 of Instructions.

1 Yourself Enter number of boxes checked on 6a and b **75**
 2 Spouse
 3 First names of your dependent children Enter number of children listed **13**

4 Other dependents Enter number of other dependents **3**
 5 Add numbers entered in boxes above **91**



8	0	
9	.00	
10c	10.00	
11		
12		
13		
14	0	
15	0	
16	10.	
17	0	
18		
19	144	
20	275.	
21	900.00	

21	Total income. Add lines 8, 9, and 10c through 20		
22	Moving expense (attach Form 3903)	22	
23	Employee business expenses (attach Form 2106)	23	
24	Payments to an IRA (see page 10 of Instructions)	24	
25	Payments to a Keogh (H.R. 10) retirement plan	25	2,500 00
26	Interest penalty due to early withdrawal of savings	26	
27	Alimony paid (see page 10 of Instructions)	27	
28	Total adjustments. Add lines 22 through 27	28	
29	Subtract line 28 from line 21	29	
30	Disability income exclusion (attach Form 2440)	30	1/2.00 W.W. I
31	Adjusted gross income. Subtract line 30 from line 29. If this line is less than zero, enter zero. See page 4 of Instructions. If you want IRS to figure your tax, see page 4		

Osborn page 10 of Instructions
Haying & Golf Pro Sundays





NAVAL AVIATION NEWS

SIXTY-FIRST YEAR OF PUBLICATION

Vice Admiral Frederick C. Turner
Deputy Chief of Naval Operations (Air Warfare)
Vice Admiral F. S. Petersen
Commander, Naval Air Systems Command

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COVERS — Front, Grampaw Pettibone struggles with the tax man in this illustration by the masterful Robert Osborn. On the back cover is a Tomahawk cruise missile on its 37th test flight at the Pacific Missile Test Center, January 29, 1979. Designed for both land and ship attack missions, Tomahawks have been launched from aircraft, submarines and land platforms. At left, Vice Admiral Frederick C. Turner, quoted in the Naval Aviation Plan feature beginning on page 8, is flanked by some of his staff officers. Left to right are Rear Admirals E. R. Seymour, D. F. Mow and C. J. Kempf; VAdm. Turner; and Rear Admirals P. H. Speer and C. C. Smith, Jr. Photograph is by NANews' JOCS Bill Bearden.

editor's corner

I'd Rather Be in Films is probably what LCdr. W. N. Updegraff felt that day back in 1933. Mr. Max R. Schwartz sent us a vintage newsletter which contains the story. Seems Updegraff and his squadron were en route to San Diego when his engine quit and he was forced to land in the desert, not far from a film company which was shooting an Algerian desert, lost-patrol-type movie. Updegraff got right into the swing of things, apparently, because one of his comrades made a final sweep over the scene before continuing to San Diego and reported the downed pilot wearing a tropical hat, shorts and little else — much in the manner of the movie people. He was seemingly quite entranced by the silver screen activities. Updegraff spent the night with the company and relief arrived next day. A four-mule team hauled the slightly damaged aircraft to a level spot and Navy ingenuity took care of the rest. Said the report: "By substituting oversize air wheels, lowering the air pressure in the tires, leaving out radio equipment, and lightening in every possible manner, and after replacing approximately 15 square yards of lower wing fabric, a safe takeoff was accomplished. The plane returned to the naval air station at noon." Frustratingly, the report did not say whether Updegraff changed professions and stayed with the cinema or flew back with the plane.

From the Clinfo Newsgram. There are those who think pigeons are good for little more than adorning statues. The Naval Ocean Systems Center, however, is testing homing pigeons to search the ocean surface for lost persons or objects. Homing pigeons are widely known for excellent vision and unique behavioral abilities. Under Project *Sea Hunt*, four of the birds are being trained to report the sighting of orange objects by pecking a response key. In early training, they are placed in an observation chamber that sim-



ulates the vibration and noise of a helicopter. Advanced training takes place in an observation chamber mounted on a helicopter. Early results indicated pigeons can reliably detect objects at distances greater than 2,000

feet. With its superior vision, it is expected the trained pigeon can offer an effective and inexpensive aid to search activities such as the Navy and Coast Guard.

Photo of Navy pigeon is circa 1919



Imaginative Juices. Off and on for months now, *NA News* has labored to contrive a comic caption for this vintage photo. We've drawn a blank.

Exercise your imaginative juices please, and send us words to illuminate the "lighter" side of this picture. We'll publish the best entry.

First Flight Briefing When representatives from McDonnell Aircraft Company gave their first flight briefing and status report on the F/A-18 *Hornet* at NAS Lemoore in December, they also made the first delivery of the new aircraft – Lemoore's C.O. Captain Lee B. Keely was presented with a 1/16th scale model of the dual-mission fighter/attack jet. The status report revealed that the F/A-18 had completed 12 flights and had flown at speeds over Mach 1.



The first *Hornet* for NAS Lemoore is scheduled to arrive in early 1981. All West Coast flight training for the new aircraft will take place at Lemoore, including Navy attack and fighter squadrons and Marine fighter squadrons. The F/A-18 is slated to replace Navy's *Corsair II* and the Marines' *Phantom*.

MCAS(H) Tustin On December 1, 1978, MCAS(H) Santa Ana was redesignated MCAS(H) Tustin, due to the annexation of the air station by the city of Tustin. Originally designated as a U.S. Navy lighter-than-air base in 1942, the air station housed blimps for coastal patrols against enemy subs until decommissioned in 1949. With the advent of the helicopter during the Korean Conflict, it was recommissioned a Marine Corps air facility in 1951. Increased activity aboard the station during the Vietnam Conflict resulted in its redesignation as MCAS(H) Santa Ana on September 1, 1969.

Distinguished Flying Cross Commander Richard H. Truly, an astronaut with the National Aeronautics and Space Administration, was awarded the Distinguished Flying Cross in a ceremony at the Johnson Space Center, Houston, Texas. The award was presented by Vice Admiral F. S. Petersen, Commander, Naval Air Systems Command.

Cdr. Truly was cited for extraordinary achievement in space shuttle orbiter

did you know?

experimental test flights from June 18 through October 26, 1977. He served as a spacecraft pilot for the approach and landing test program and participated in the control of the orbiter vehicle during a test flight atop the Boeing 747 shuttle carrier aircraft. He also took part in two air-launched free flights of the orbiter vehicle. According to Cdr. Truly's citation, "The series of approach and landing test flights provided valuable real-time data, duplicating the last five minutes of an operational shuttle mission."

Cdr. Truly will serve as backup pilot for the first shuttle orbital flight test and as a space shuttle pilot for a later orbital flight.

Improved Bombing Accuracy

A new weapons aiming and delivery system being developed for Marine Corps Aviation by Hughes Aircraft Company and the Naval Weapons Center, China Lake, Calif., proved accurate and reliable during rigorous testing. The technical evaluation of the Angle Rate Bombing Set (ARBS) was completed late last year at NATC Patuxent River, Md., after approximately 65 test flights in Marine A-4Ms and 250 hours of ground testing.

In its first assessment, NATC stated that ARBS accuracy is a "significant improvement over previous A-4 weapons systems" and that "ARBS has demonstrated capabilities not found in comparable light attack airplanes" such as the ability to track moving targets and provide early target identification using a magnified television image in the cockpit. The center also reported that reliability was "excellent with no failures occurring in the ARBS equipment."

The uncomplicated system can be used in aircraft without elaborate radar or inertial navigation systems, requiring only true airspeed, altitude and pitch and roll data from basic aircraft instruments. The compact ARBS system weighs only 110 pounds. Initially intended to fit the small available space in the Marine A-4M, it is also designed to be compatible with the AV-8B. The ARBS eye, which can be seen mounted in the nose of the A-4M, is expected to sharply improve day and night bombing accuracy.

Following completion of the technical evaluation at Patuxent River, the two Marine test aircraft were flown to NWC China Lake for operational evaluation of the ARBS in simulated tactical missions.

Global Positioning System

NATC Patuxent River is supplying the NavStar program (global positioning system) with a P-3 and crew to assist in developmental work on the space-based radio navigation system. The crew, led by Lt. Jim Keen of NATC's Anti-Submarine Aircraft Test Directorate, carried out two weeks of tests at the Army's Yuma Proving Grounds, Ariz., in January.

Under development in an all-service program, it is a day and night, all-weather worldwide system. When fully operational, the system of 24 satellites, circling the globe every 12 hours, will beam continuous navigation signals to earth. With proper equipment, a user can process the signals and determine his position within tens of feet, his velocity within a fraction of a mile per hour, and the time within a millionth of a second. Navy applications of NavStar include aircraft and aircraft-carrier rendezvous, air-sea rescues, amphibious landings, mine laying and accurate weapons delivery.

Wallops Arresting Gear

New, bi-directional arresting gear has been installed at NASA's Wallops Flight Center, Va., to improve the center's capacity as an emergency landing field for Naval Air Test Center aircraft operating in offshore air spaces, particularly the



F-18 which will be development-tested at NATC. The arresting gear was installed and certified by Naval Air Engineering Center personnel from Lakehurst, N.J. Here it is tested by an NATC TA-7.

F/A-18 Development Testing

Delayed briefly by severe weather conditions in the Midwest, the first McDonnell Douglas F/A-18 arrived at NATC Patuxent River on January 16. The multi-mission *Hornet* is the first of 11 F/A-18 test aircraft scheduled for full-scale development testing at Patuxent River over the next three years. McDonnell, Northrop, General Electric, Hughes and other contractors are geared for two-shift, six-days-a-week operations to support the testing program which calls for 3,257 flights. Under a new Navy concept called principal site testing, Navy test pilots and engineers join with contractor personnel to ensure early Navy inputs on design improvements. The Navy will make hands-on assessments of the aircraft during periodic preliminary evaluations leading up to BIS service acceptance trials.

Applications for the Blue Angels

Navy's Flight Demonstration Squadron, the *Blue Angels*, will be selecting two pilots and a flight leader in September 1979 for their 1980 team. Interested officers are encouraged to submit their applications as soon as possible.

An applicant for demonstration pilot should be a tactical jet pilot with 1,500 hours flight time, a regular naval officer, and rolling to or on shore duty. A letter of application should be endorsed by his commanding officer and forwarded to the squadron, with copies to the Chief of Naval Air Training and Chief of Naval Personnel (Pers-433A), or Commandant, Marine Corps (Code AA) for Marines.

An officer applying for the position of flight leader must have 3,500 hours flight time, be a lieutenant commander or commander who has screened for aviation command. It is preferable, though not mandatory, that he has commanded a tactical jet squadron. Flight leader applicants should submit their letters directly to the Chief of Naval Air Training with information copies as above.

All letters of application should include experience and qualifications. For further information, contact the *Blue Angels* on autovon 922-2584/5 or commercial 904-452-2583/4 or write to *Blue Angels*, NAS Pensacola, Fla.32508.



grampaw pettibone

Tanker, Dry – Crew, Wet

A KA-6D was accepted at an East Coast naval air station for transfer to a West Coast repair facility (NARF). The aircraft departed with all fuel tanks filled. The first leg of the flight to a planned Air Force base fuel stop was uneventful. While on deck, the pilot requested that the ground crew fuel only the fuselage tanks, and 938 gallons of JP-4 were taken aboard.

On start, the pilot noted that the main fuel quantity indicator or needle showed 8,600 pounds with 1,000 pounds in the wing tanks. Shortly after takeoff on the next leg, en route to a Midwest ANG base, the crew observed the left fuel psi light on. It



remained illuminated for the remainder of the flight. The oxygen caution light also came on intermittently.

The pilot was unable to reset the constantly flashing master caution light, so he disabled it by pulling it slightly out of its socket. During the descent to the ANG base, the low-fuel caution light illuminated. Both crewmen (pilot and enlisted aircrewman) noted the main fuel needle indicating 4,200-4,400 pounds. The pilot declared "minimum fuel" to the controller and continued with a maximum range descent. During a momentary level-off, the low fuel light went out. The pilot continued in his visual straight-in approach with no further low-fuel indications.

After landing, the crew attempted to trouble-shoot the left fuel psi caution light by depressing the fuel boost pump test button. No degradation of engine performance was noted. The crew concluded that the light was incorrect but also noted the main fuselage needle indicating 3,200 pounds compared to 2,000 pounds of fuselage fuel shown on the selectable needle. A full load of fuel was requested and 13,075 pounds of JP-4 were taken on.

The crew planned to stop at a West Coast NAS in Fog Valley for a 20 minute package pickup next morning. Upon starting at the ANG base, the same left fuel psi light and the oxygen caution light discrepancies experienced the previous day were noted. The flight continued and a landing was made at NAS Fog Valley after 2+0 hours airborne.

The crew departed on the final leg after a 22-minute on-deck package pickup. (No fuel was received.) Both crewmen observed 4,300 pounds of



fuel indicated on the main needle. After climbing out, leveling off and cruising for a time at FL200, a descent to 12,000 feet was made. During a further descent from 12,000 to 6,000 feet MSL, the crew observed the low fuel caution light on and a main fuel needle indication of 3,200 to 3,400 pounds with the selectable needle indicating zero wing fuel.

The aircraft's position at this time was 23 nautical miles between the 130 and 140 degrees radial from the NARF just south of a bridge. The KA-6D crew declared no emergency during descent and was cleared for a visual approach with a right turn away from the field to clear the city and a commercial airport nearby before making the final landing approach.

On intercepting the runway center line, the landing checklist was completed. Airspeed was being reduced to 150 kias. As power was added to stabilize speed, the right fuel psi light illuminated. The right engine began running rough and quit within seconds. The pilot advanced the left throttle, raised the gear, attempted a

restart, and deployed the ram air turbine. During this restart attempt the left engine flamed out also.

The crew remained in the aircraft until clearing the bridge and then ejected. A Coast Guard boat observed the ejection and recovered both crewmen within approximately five minutes.



Grampaw Pettibone says:

Holy jumpin' pinball machines! This aircraft had more flashin' lights going than a penny arcade. The only light that wasn't on was the "big picture bulb" over the crew's head saying, "Hey, we get the message!" Aside from the fact these gents launched from Fog Valley with a known discrepancy, had they spoken up, they just may have been lucky enough to stretch it across the ramp. This one, boys, is another shot right in the old wallet!

Limp Blimp

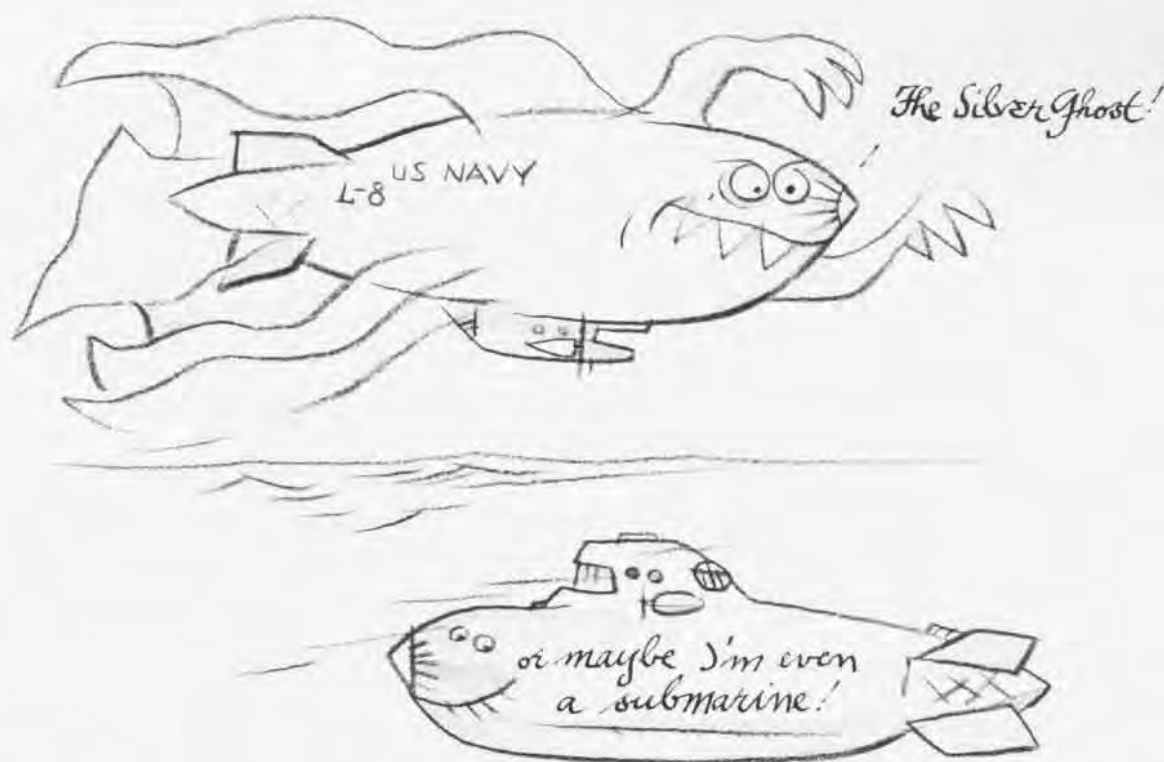
The following article of interest was passed to Old Gramps through the mailbag.

"Aug. 1942. Airship L-8, with engines stopped, made a crash landing at Daly City, Calif. The crew was not on board. No parachutes were missing and there was no evidence of fire or any other reason for a hasty departure. Both engines were stopped when the blimp was first sighted from the beach. No reason for the incident could be found and it remains undetermined. It was theorized that the passenger may have inadvertently fallen overboard. The pilot stopped the engines and in the attempt to retrieve the passenger from the sea, he, too, fell overboard."



Grampaw Pettibone says:

Great balloonin' gas bags! Someone musta told these boys to "go pound sand!" This one has Old Gramps by the whiskers. There's not enough meat in the accident report to say grace over. However, if any of you old pros of the days gone by can shed any light on this mystery, drop me a note. And if, by any chance, you partook in this impromptu Daly City triangle swim call, then fess up! I promise amnesty.



Each warfare mission sponsor in the Navy must annually prepare a 20-year plan. The Naval Aviation Plan, in response to that requirement, is signed jointly by the Deputy Chief of Naval Operations (Air Warfare) and by the Commander, Naval Air Systems Command. It provides broad guidance on aviation matters to Navy and Marine Corps activities in order to ensure that the requirements of Naval Aviation are understood and supported. Planning of future air weapons systems, research and development and acquisition activities are also emphasized in the plan.

In Department of Defense planning, three basic efforts are prepared simultaneously. This would exclude the current budget year, in this case FY 79. The first effort is the President's budget submission to the Congress (currently FY 80). The second is the services' program objectives memorandum, POM, which covers a five-year period and, when approved

by the Secretary of Defense, becomes the Five Year Defense Plan (FYDP). The current POM covers the period FY 81 to FY 85. Finally, the third effort is that of long-range planning, which extends about 15 years beyond the POM-FYDP.

It has become obvious over the last 10 to 15 years that planning extending beyond five years was required due to the very long development time for new systems and their even longer life. The Secretary of Defense and the Navy needed to know the long-range impact of near decisions. In other words, what will the fiscal impact be of new weapons systems when the Navy commences procurement?

Mr. Robert H. Thompson, the coordinator for the Plan, is in the Aviation Plans and Requirements Division, the office of Vice Admiral Frederick C. Turner, DCNO(Air Warfare). "The Naval Aviation Plan," explains Mr. Thompson, "is a requirements document. It identifies what we need

to enable Naval Aviation to continue carrying out its mission. It reflects a balance between requirements and affordability. Although, with today's fiscal environment, all of our requirements can't be satisfied, the Plan identifies our requirements for use in the near-term budget deliberations when other Navy priorities compete with Naval Aviation for the limited Navy resources. The better we prepare, the better we understand our long term objectives and options and the better Naval Aviation can structure a sound program to satisfy a large percentage of its requirements." Mr. Thompson also emphasizes, "This is a Naval Aviation Plan and, therefore, it is essential that Marine Aviation is fully integrated into it and that we make every effort to ensure that this happens by working closely with Headquarters, Marine Corps."

The Naval Aviation Plan is intended for use by all segments of the aviation community — the planners in OpNav



and Marine Corps Headquarters, Nav-AirSysCom, the major fleet aviation commands, the field laboratories and the aerospace industry. It also serves as a valuable tool in educating the many people who review, or are interested in, where Naval Aviation is headed and why.

In updating the Naval Aviation Plan, there are basically three sources of data which are used as guidance. The most important is obviously that which is established by the President, the Secretary of Defense, the Secretary of the Navy and CNO. CNO's Program Planning Guidance (CPPG) reiterates the pertinent guidance from these other sources and establishes his own direction for structuring the five-year POM and the long-range plans. "CNO's guidance," states VAdm. Turner, "serves as our basic guidance for the annual development process. It provides direction which shapes the Navy's future by today's actions. In effect, the Naval Aviation Plan is the

application and implementation of CNO's guidance within the aviation community." CNO Admiral Thomas B. Hayward's top priorities this year are near term combat readiness (equipment and personnel), force modernization to meet the evolving threat and maintenance of adequate force levels.

Fleet requirements comprise a second source of data. The Air Board, chaired by VAdm. Turner and composed of senior Navy and Marine Aviators, meets semi-annually to discuss policy and problems affecting Naval Aviation and is an excellent source of such information. Other sources are operational requirements submitted to OpNav, meetings with fleet personnel and the myriad of other personal contacts in the Navy's dynamic aviation community.

A final source of requirements comes from analysis of the capabilities and age of the current inventory of aircraft and weapons systems. From this analysis, a plan for replacement is

developed, if required. In conjunction with this is the implementation of a major goal of Naval Aviation — the reduction in the number of different types of aircraft in the Navy and Marine inventory. In today's environment of weapons systems sophistication, fiscal constraints and manpower limitations, the goal of reduced types through multi-mission design is more important than ever. Costs can be reduced through more efficient annual procurement rates, improved logistics support and operational commonality where aircraft can perform more secondary missions. All add to the efficiency and flexibility of naval forces.

The main objective of the plan, however, is to assure that Naval Aviation forces can accomplish the Navy's mission — to conduct prompt and sustained combat operations at sea in support of national policies. Gaining and maintaining control of the sea and being able to project power from those sea areas are mandatory. The Naval

Plan

Bob Lawson



Aviation Plan encompasses the broad spectrum of requirements to ensure that this mission can be achieved. Both carrier and land-based aircraft are dedicated to supporting these requirements.

"It's what you do with what you've got." This may be a cavalier expression but in these days of fiscal austerity, it certainly applies. The plan asserts the need for and the challenge involved in carefully managing human and hardware assets and maximizing their use. The pressure to watch Naval Aviation's dollars is heavy and constant now and, in all likelihood, will remain so in the foreseeable future. The plan endorses dynamic research and development programs, identifies R&D objectives to solve fleet operational problems, and openly advocates discovery of weapons systems which might result in quantum technological leaps forward.

The Naval Aviation Plan discusses force modernization as it applies to aircraft carriers, air stations and aircraft — carrier and land-based, patrol, support or training types. Marine Corps Aviation requirements are described, as is the criticality of LAMPS (light airborne multi-purpose systems). Air-launched weapons, ASW sensors, electronic warfare and the growing family of externally carried pods receive attention as do command, control and communications matters, targets, mines and the very important program on aircrew survivability enhancement.

In the current plan, to be distributed in April 1979, special issues which have also been addressed include: introduction of the F/A-18 *Hornet*; the ever serious issue of cannibalization and its relationship to readiness; the Navy's policy towards

V/STOL and the supporting study on future sea-based aircraft alternatives; aviation force levels; and retention and training of aviation officer and enlisted personnel. Commenting on this final category, VAdm. Turner has described the exodus of Naval Aviators as "the single most important problem facing Naval Aviation today." (In a later issue, *NA News* will focus on this migration of pilots from Naval Aviation.)

Other sections deal with aviation manpower; maintenance and logistics support, reserve forces; the numerous completed, on-going and required studies that involve Naval Aviation force structure and/or requirements; and the Summary of Air Board matters (*NA News*, January 1979).

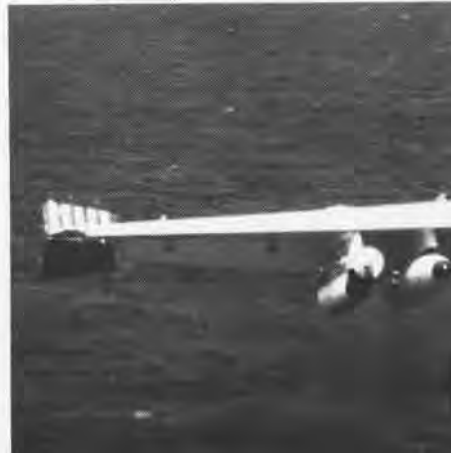
While the entire Naval Aviation Plan draws into one document many long-range goals for Naval Aviation, there are other near-term goals, established by VAdm. Turner, for realization within the current calendar year. These are goals which usually can be achieved without the infusion of great

quantities of money, or which require resolution in the near term because of their critical nature. The goals of 1978 were aircrew survivability, improved aviation safety, reduced helicopter foreign object damage, reduced ground mishaps, increased emphasis on manpower and training, reduced numbers of aircraft in non-operating status, increased management and funding of intermediate maintenance activities, reduction of the fragmentation of logistics management, improved responsiveness of aircraft engine management and accounting and expediting of aviation supply support. Significant progress was made toward most of these goals. New ones are being formulated for 1979.

Central to all the issues addressed in the Naval Aviation Plan are aircraft. In order to conduct its mission, Naval Aviation must procure about 300 aircraft yearly. In the current fiscal year, the quantity is 131. Clearly, a sharp reduction in force levels will be a reality in the not too distant future if this procurement deficit is maintained.



Bob Lawson





Commenting on the future and reflecting on the thrust of the Naval Aviation Plan, VAdm. Petersen said, "I would like to stress a major challenge that Naval Aviation faces in the future. The problem is one of being able to cope with a threat expanding significantly in numbers and capability in an era of shrinking real dollars. We need weapons systems with greater capability, versatility, availability and reduced operating costs at affordable acquisition costs. I believe that advanced technology provides the major key for satisfaction of these goals. It is my intention to have NavAir press forward vigorously to achieve them in a timely manner."



The solutions to this problem have many facets: procurement commonality as previously discussed; extension of aircraft service life with an upgrade in capability through CILOP, a conversion in lieu of procurement, such as the F-4J to S programs; possible restructuring of Naval Aviation forces and, hopefully, increased funding for Naval Aviation procurement.

"The U.S. has suffered an erosion of force levels over the years," says Vice Admiral F. S. Petersen, Commander, Naval Air Systems Command, "while the Soviet Navy has expanded. Fortunately, American technology has permitted the Navy to upgrade the capability of individual platforms, even though the number of those platforms has decreased. In terms of offensive fighting capability, tactical aircraft and air ASW forces represent the best return on the investment dollar in the Navy."

While the Navy's strategy requires that it maintain control of the seelanes for U.S. use, the Soviets need only to interdict and deny that control in order to prevail in a conflict. The U.S. Navy must be able to operate in virtually any area of the world — to escort convoys, protect underway replenishment groups, and support amphibious forces. If the Soviets are able to thwart these capabilities, the American Navy simply cannot sustain combat operations away from home shores. It follows that carrier battle groups, with their mobile and potent

airborne arsenal and the concomitant ability to project power where needed, are essential to the nation's defense and vital to the requirement of projecting power and prevailing against strong and concentrated enemy forces.

Naval Aviation must preserve the quality of its current sea-based tactical air forces. At the same time, it must identify the technologies and requirements to permit naval forces to modernize in face of any threat into the 21st century. The Naval Aviation Plan supports and amplifies these two strategies.

It is critical that strict discipline be exercised by planners as they define the requirements to keep Navy and Marine Air strong. Frequent liaison with fleet units by headquarters level personnel is strongly advocated. Commenting on the importance of this information exchange, VAdm. Turner stresses that the phrase, "This is what I need," represents a far more suitable approach in such matters than, "What can you give me?"

The plan points out that the fundamental objective of military Research, Development, Test and Evaluation (RDT&E) is not the development of hardware but rather the development of operational capabilities. And these capabilities include not only hardware but trained maintenance and operational personnel, facilities, tools, logistics support, and even tactics for optimal employment of a particular system in combat. In other words,

RDT&E must encompass all aspects of a system while maintaining a technological base superior to that of potential adversaries. It is also important to minimize the likelihood of technological surprise. At the same time, developing affordable systems is essential.

The Naval Aviation Plan is an evolving document. Its basic framework doesn't change each year, but it does change internally to reflect near-term program decisions or changes in Secretary of Defense or CNO guidance. If the document is properly prepared, these changes, in most cases, have been anticipated and alternative courses of action exist. This reflects the heart of the Plan — providing the basis for understanding the long-range impact of program changes and having alternative solutions ready. This permits Naval Aviation to operate in a well-structured and efficient manner. *Mr. R. H. Thompson contributed to this article.*

Harry Gann, McDonnell Douglas



Commenting on the plan, VAdm. Turner described it as "... a guiding light for Naval Aviation which will help planners to reach decisions at all levels. In formulating it, we've tried to produce a condensed, meaningful version. In my view, the plan has immediate value and at the same time reflects goals for years to come."



Harry Gann, McDonnell Douglas

Tailhook

How does a fighter pilot go about proving that a given tactic will work against a particular threat!

Can an attack pilot find a way to prove that his low score on his last mining competitive exercise wasn't his fault and, in the process, improve everyone's score?

Do aircrews have to remain ignorant in the tactical employment of newly introduced equipment or is their only alternative acceptance of what the technical experts write down?

Is there a system or program which can help turn an idea into an effective and repeatable tactic?

There is such a program in TacWingsLant which can do all these things and more. The overall program is not limited to use by tactical aviation types and is, in fact, quite broad in scope, covering development of tactics for the entire Navy. The focus is on development and evaluation of tactics, utilizing currently available hardware, against what is considered to be the threat in being. In typical, straightforward fashion, the title of this undertaking is the Tactics Development and Evaluation Program (Tac D&E).

The program in its current form had its beginning in 1972. At that time several things had become apparent. The Vietnam War was drawing to a close; a period of diminishing resources would likely ensue; and, finally, there was no formal mechanism for the development of tactics in peacetime. In response to what was apparently a possibly dangerous situation, CNO directed an OpNav staff study of the problem and feasible solutions. The CNO Executive Board, alarmed by the situation but encouraged by the potential solution offered, recommended the Tac D&E program.

In its infancy, the program was used primarily on the fleet exercise

level. Most early projects were concerned, at least in part, with some aspect of ASW. There were many reasons for this: the submarine threat was potent and growing, there had been a lack of intertype cooperation in the ASW arena and, perhaps more importantly, the results of ASW exercises were usually concrete in nature, easily quantifiable and could be analyzed.

The germ of truth behind the old saying (slightly modified) about always being able to tell a tailhook pilot, but not being able to tell him much, probably is part of the reason why the TacAir community was slow to warm to Tac D&E. To begin with, it is difficult to obtain meaningful data in the midst of an ACM engagement or while maneuvering to get the piper on target while simultaneously dodging *Sams*. Or at least it used to be that way.

We now have some tools for gathering data (a principal one is the air combat maneuvering range) which have made many TacAir tactics evaluations not only possible but reasonably easy. As a result, and because individual type commanders have recognized the need for tactics development within their respective communities, the emphasis is now shifting to intratype projects. In the Atlantic TacAir community, significant strides have already been made in areas such as airborne mine delivery, electronic warfare tactics and tactical data link usage.

The original intent was to develop and/or improve tactics using equipment currently in use in the fleet against the existing threat. The operations evaluation group of the Center for Naval Analyses was tasked with providing direct analytical support to Tac D&E and responded magnificently. In the Atlantic area, CNA analysts are currently assigned to Tac D&E billets on the staffs of ComSecondFlt,



Tactics



ComSurfWarDevGru, ComCruDesGru-2, ComTacWingsLant, ComPatWingsLant, ComSeaBasedASWWingsLant, ComSubDevRon-12 and ComLAtWing-1. Other fleet CinCs have similar staff billets. The incumbent of the ComLAtWing-1 billet is in a most significant position in that he deploys with fleet units and can therefore provide on-scene, real-time analytical support to projects being prosecuted by these deployed fleet units. This adds considerable impetus to the program since it has recently become an accepted fact that the carrier air wing is the ideal arena for both the origination and evaluation of TacAir tactics. Until now, fleet (read CVW) assets were seldom used in Tac D&E projects and fleet TacAir personnel have not been aware of the possible benefits to be reaped from minor expenditures of energy and assets.

For the most part, the formal organization of the AirLant program follows existing chains of command. Overall program coordination is provided by CNO (Op-953). Fleet CinCs ensure liaison and provide direction and control for intertype projects, and each type commander directs and coordinates the effort in his own particular area of responsibility. AirLant has vested this responsibility in ComSeaBasedASWWingsLant and each of the other wing commanders working through that staff. Cooperation between particular communities (i.e., fighters, attack, AEW) is often necessary and encouraged. Lessons learned are promulgated by the tactical developing agent who accumulates the information. The next step is the publication of a tactical memorandum by the developing agent. The final payoff comes as a change to a Naval Warfare Publication which, incidentally, now includes all aircraft tactical manuals.

Currently several projects are being actively pursued by TacWingsLant

units. Two are being supported and prosecuted by fleet units. The first is development of tactics for effective use of a passive fire control system for the A-6E. The second is the best possible tactical utilization of a new radar data processing capability currently being introduced in fleet E-2Cs. TacWingsLant is sponsoring 11 projects, 5 of which are funded. It should be pointed out that funding of any project is limited to analytical support. All other assets must be in existence and in use; costs must be absorbed by individual commands.

In the LantTacAir community, the emphasis is directed toward projects utilizing fleet aircraft and personnel assets. Coordination and assistance will be provided by ComTacWingsLant whenever and wherever possible. What must be emphasized, however, is the process by which an idea can become a Tac D&E project. ComTacWingsLantInst 3510.1 covers the basic mechanism for development of such projects. A formal project proposal, submitted to the appropriate functional wing, should be concise, readable and contain sufficient detail to ensure comprehension by someone unfamiliar with the concept involved. If possible, a suggested plan of attack should be included. Format isn't critical, but it should be kept in mind that clear, well written material is usually more readily understood and more likely to be seriously considered. Each functional wing has a designated Tac D&E officer who should be the initial point of contact.

OK, Tigers, that's what Tac D&E is and what it does, and how to enter a proposal into the system. Now is your chance to see if your idea really is great!

Submitted by
LCdr. Robert D. Work

RESERVE CRUISE

A successful 30-day active-duty-for-training period was conducted recently at Naval Air Station, Bermuda by Patrol Squadron 94, home-based at Naval Air Station, Belle Chase, New Orleans, La.

Having recently completed the transition from SP-2H *Neptunes* to P-3A *Orions*, the 12 newly-formed, 13-man crews had a chance to fine-tune their skills.

VP-94 is one of seven squadrons under the command of Captain R. J. Lanning, Commander, Reserve Patrol Wing Atlantic.

The squadron's mission, simplified, is to ensure that all its flight crews and ground personnel remain at the highest possible degree of readiness in the event they are called upon for immediate mobilization and augmentation of active duty forces. Throughout the year, pilots, navigators, aircrews, maintenance personnel and others attend various schools to improve their abilities. Training periods such as this one to Bermuda further hone those skills.

The photographs on these four pages show only a mere fraction of the action seen by the 175 reservists and 95 TAR personnel who participated.

Back in New Orleans, VP-94 skipper, Commander J. J. Langan, summed up his feelings on the cruise in a report to Chief of Naval Personnel: "As a direct result of this Bermuda active-duty period, VP-94 is fully capable of mobilization. The satisfactory performance of all who weather ASW operations is assured. . .combat crews are ready. . .required personnel to support all primary missions are onboard and trained."



Photos by JOC Russ Egnor



Clockwise from lower left: Crew Five makes a brief stopover at NAS Brunswick, Maine. Aviation ordnancemen position a 500-pounder on the underside of a P-3A. A crewman loads gear aboard as the gloved hand of pilot starts the aircraft for the flight from NAS Belle Chase to NAS Bermuda. A VP-94 aircraft lands on the Bermuda runway which is used by both Navy and commercial flights.



A crewman offloads a leading wing edge as another, perched atop cherry picker, adjusts the high frequency antenna. A merchant ship is observed and photographed during a training flight. A crewman is engulfed in his work at the hydraulic service center door. Mission completed, another crewman takes advantage of the 10-hour flight home.





Cobra

Armed helicopters came into widespread use in Vietnam in the early Sixties. Limitations of the modified armed utility helicopters used led to the specially configured attack helicopter.

Bell Helicopter (now Bell Helicopter Textron) had already evolved the first attack helicopter design, based on the use of UH-1 *Huey* dynamics (rotors, drives, engine) with a new fuselage. Bell also built a company-sponsored, scaled-down prototype using H-13/Model 47 series components, its Model 207 *Siox Scout*.

While the Army went forward with its sophisticated AAFSS (advanced aerial fire support system) program to provide an attack helicopter, Bell proceeded with another company-sponsored prototype, Model 209, using the *Huey* dynamics and an airframe similar to the initial design. The 209 first flew in September 1965. The urgent need for greater armed helicopter performance in Vietnam and the success of the 209 led to Army orders for prototypes and production models of the 209 as interim attack helicopters, pending production of the AAFSS (which, finally, was never to occur). Carried over from the 209 were the slim fuselage with tandem cockpits (gunner in front of pilot), the Lycoming T-53 engine, stub wings with store stations and the under nose turret. Its retractable skid landing gear was replaced by a fixed gear. As the AH-1G, the *HueyCobra* went into combat in September 1967.

The Marines also operated armed *Hueys* in Vietnam, and ordered their own version of the *Cobra* in May 1968. Featuring the Pratt & Whitney Twinpac T400 engine (two 900-hp turboshaft engines coupled together) giving an overall increase in installed power, the AH-1J *SeaCobra* included a new nose turret gun, the three barrel XM-197 20mm and other improvements. While development and production of the first 49 ordered were under way, the Marines obtained 38 AH-1Gs from the Army. After initial training of Marines by the Army, Marine *HueyCobras* first became operational in April 1969 with VMO-2 in Vietnam. In December 1969, the AH-1Gs were transferred to HML-367. After flight tests beginning that same month and subsequent BIS trials, the first AH-1Js joined them in February 1971, entering combat the following month. AH-1Js, including those of HMA-369, participated in SEAsia operations until final withdrawal and continued as the Marine's attack helicopter afterwards, a total of 67 being delivered. The Marine AH-1Gs became the reserve helicopter attack squadron's aircraft.

With increasing demands for higher performance, particularly greater load-carrying capability in high temperature conditions, Bell developed improved dynamic components for the *Huey* series. Application of these components, which included a larger diameter rotor, led to the 309 attack helo in the early Seventies. This allowed an increased payload, providing more combat capability. The subsequent Marine-ordered version of the *KingCobra* was designated the AH-1T. In addition to the modifications for improved combat effectiveness, major efforts were made to incorporate the lessons of the *Cobra* experience in achieving greater reliability and maintainability. With the TOW missile system added to its weapons, the AH-1T now in production and service use gives current-day Marines a ground attack capability far beyond that first envisioned by their predecessors who took the first Marine *HueyCobras* into combat just a decade ago.



AH-1J

AH-1J



AH-1G



Rotor diameter

AH-1G,J 44'
 AH-1T 48'

Length (over rotors)

AH-1G 52'11"
 AH-1J 53'4"
 AH-1T 58'

Height

AH-1G 13'9½"
 AH-1J 13'7"
 AH-1T 14'2"

Engine

AH-1G Lycoming T53-L-13 1,400 hp
 AH-1J P&W T400-CP-400 1,800 hp
 AH-1T P&W T400-WV-402 1,970 hp

Maximum speed

AH-1G 141 kts
 AH-1J 153 kts
 AH-1T 165 kts

Maximum range

AH-1G 355 nm
 AH-1J 288 nm
 AH-1T 342 nm

Service ceiling Limited to 10,000 feet by oxygen requirements

Hover ceiling (with basic combat loading — two LAU-68s)

AH-1J 4,200'
 AH-1T 7,150'

Crew

2

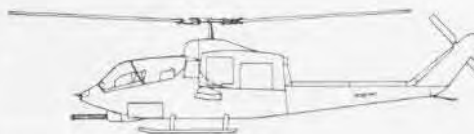
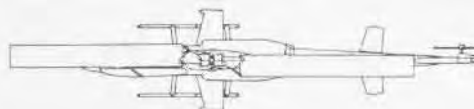
Armament **Turret** **Wing stores**
 AH-1G Two M134 guns or two grenade launchers (or combination of the two) Up to 4 LAU-61As rocket packs

AH-1J XM-197 20 mm
 AH-1T XM-197 20 mm

AH-1T



Prototype Model 209



PEOPLE · PLANES · PLACES

Records



In the course of a recent Med cruise aboard *Enterprise*, VA-196 flew over 2,600 hours, logged 1,070 arrested landings, delivered 185 tons of ordnance and transferred over 2,350,000 pounds of fuel while airborne. Cruise milestones included a joint Navy/Air Force transPac using Air Force KC-135s, winning a ComNavAirPac Safety Award for FY 77, selection as best maintenance department by ComMATVAQWingPac and a successful barricade arrestment with minimal damage (as shown in photo). Personal milestones were achieved by skipper Jerry Smith and X.O. Tom Woodka when they attained 500 carrier traps and LCdr. Biff Rose who reached 700.

While embarked in *Kennedy* during a 1978 Med deployment, Cdr. Lyle E. Lewis, Jr., C.O. of HS-11, logged his 3,000th accident-free hour in a Sikorsky H-3.

VF-11 recently returned from an accident-free, seven-month Med cruise. Led by skipper Cdr. Kent Kilby, the *Red Rippers* tallied 2,181.7 hours, 1,420 sorties and over 1,200 traps. The squadron participated in many exercises including *Tridente*, *National Week* and *Northern Wedding*. Cdr. Kilby became a *Forrestal* centurion, marking his 800th career arrested landing. Twenty-six pilots became centurions with Lts. Del Hall and J. J. Quinn making double centurion. Lt. Chet Strait attained triple centurion status.

Saratoga's 225,000th arrested landing was recorded by Cdr. Samuel Vernallis, C.O. of VF-103. Home-ported in Mayport, the carrier has been deployed to the Med since October 1978.

As part of the Naval Air Reserve Force, VP-67 was commissioned at Memphis on November 1, 1970. Since then the squadron has performed active duty training at such places as Rota, Barbers Point, Point Mugu, Willow Grove, Roosevelt Roads, Key West and Bermuda. The *Golden Hawks* recently surpassed 20,000 accident-free flight hours while transitioning from SP-2H *Neptunes* to P-3A *Orions*.

Cdr. Dave Alexander, CAG-30, recently marked the 5,000th flight hour of his career while flying an A-7B belonging to the *Firebirds* of VA-304, Alameda. The flight was Cdr. Alexander's indoctrination to the A-7B weapons delivery system and included dive bombing and strafing. His reputation as being an "excellent bomber" was proved to LCdr. Tom Scully, his wingman and weapons instructor on the flight, who commented, "Two bull's-eyes, a 20-foot CEP and a high percentage of strafe hits would be an outstanding day for any attack pilot in the Navy; but for a fighter pilot on his initial weapons flight in the A-7B, it can only be described as extraordinary."

When Lt. Rick Hutchens and Ens. B. W. Crow landed their T-2C at Pensacola, it was more than just the completion of another training flight. Their flight concluded the fourth consecutive accident-free year for VT-10. During this period, 67,000 safe hours were flown in the *Buckeye* and T-39D *Sabreliner*. Cdr. William C. Ackerman is C.O.

The *Hawks* of VAW-114 marked a milestone when they recently completed eight years of accident-free operations, encompassing 11,800 flight hours and over 2,500 carrier arrested landings. The squadron began its history in 1962 as VAW-11 Det C, flying the E-1B *Tracer* and, in 1965, was the first VAW unit to deploy with the E-2A *Hawkeye* aboard *Kitty Hawk*. Commissioned as VAW-114 on April 20, 1967, the squadron transitioned to the E-2B in 1970. VAW-114 received its first E-2C in June 1978.

LCdr. Tom Vance of VA-128 rode through his 500th carrier arrested landing while on a recent carqual period aboard *Lexington* in Pensacola. LCdr. Vance was especially happy to achieve the milestone aboard the same ship that, eight years before, he had landed on for the first time in an A-6 *Intruder*.



Point Mugu's LCdrs. Jim Coleman (front) and Bill Craig smile after simultaneously surpassing 1,000 flight hours in the F-14A. This achievement was accomplished in a PMTC *Tomcat*.

Awards

Lemoore's VA-97 received the CVW-5 Tailhook Award aboard *Midway* in WestPac when *Raven* pilots achieved the highest average in carrier landing grades in competition with eight other air wing squadrons and detachments. Skipper Cdr. Scotty Vaught accepted the plaque from Cdr. S. D. Langdon, CAG-5.

Senior Chief Lew Simpson was selected as the Aviation Boatswain's Mate Honor Man of the Year (Pacific) during a recent Aviation Boatswain's Mate Association symposium in Philadelphia. It is an honor shared by the men who work for and with Simpson, and by the ship he serves — *Kitty Hawk*. This isn't Simpson's first assignment to *Kitty Hawk*. "I'm a plank owner," he says. "I served aboard her when she was commissioned in 1961."

An Award of Excellence was presented to NAS Lemoore by the Aerospace Rescue and Recovery Service in recognition of the more than 220 civil SAR missions accomplished by the air station's SAR crews since 1975. The Lemoore crews have saved over 300 lives. The presentation was made to the air station C.O., Capt. L. B. Keely, by Col. James Butera, USAF, Director of Inland Search and Rescue and the Air Force Rescue Coordination Center at Scott AFB, Ill. Capt. Keely stated, "On behalf of the NAS Lemoore SAR team, it is with extreme pride that I accept this recognition for outstanding performance. This, obviously, is not a single crew but a large team effort, an effort which includes each and every one of you from the newest airman to the most senior member aboard. You have developed and maintained the U.S. Navy's most skilled search and rescue unit, well known for high altitude search and rescue operations."

PEOPLE · PLANES · PLACES

VA-45, Cecil Field, received the Meritorious Unit Commendation for the period December 1, 1976, to May 31, 1978. Presented by Capt. Pat Kober, ComLATWing-1, the award cited the *Blackbirds'* "unparalleled excellence in the areas of mission accomplishments, safety awareness and people-oriented programs." During this period, the squadron accumulated nearly 10,000 accident-free flight hours training replacement and fleet pilots in instrument flying and dissimilar air combat maneuvering, extending its record to over 16,000 hours in nearly three years of accident-free operations.

Meritorious Unit Commendations were also presented to two Norfolk-based squadrons: VAQ-33 for service from October 1, 1976, to March 31, 1978; and HM-12 for the period October 1, 1976, to September 30, 1977. Respective C.O.s are Cdr. R. W. Barrett and Cdr. F. M. Dressen.

Sunliner skipper Cdr. Phil Jacobs presented 65 of the squadron's top maintenancemen with recognition patches for completion of in-rate personnel qualification standards (PQS). PQS is a relatively new program instituted by CNO to standardize on-the-job technical training. "The ultimate goal of PQS," states a CinCLant instruction, "is to serve as a vehicle for continuous training of the individual from the time of entry into active service until discharge." VA-81 presents the award to maintenancemen who demonstrate an understanding of theory and system as well as practical and closely monitored "hands on" training.

Rescues

VP-10's Crew 8 recently detected an emergency UHF beeper while on an operational patrol from Bermuda. The *Red Lancers* sighted an overturned 50-foot trimaran. When survivors were detected atop the hull, full SAR operations were initiated. Within 40 minutes, Crew 6 was airborne en route to the scene 130 miles southeast of Bermuda with survival and communications equipment. Trading radar plot and position information, Crew 6 deployed a SAR kit to the capsized sailboat while Crew 8 located the nearest suitable rescue ship. Crew 6 kept one aircraft within sight of the survivors until *Oldendorf* (DD-972) arrived to pick up the two crewmen of the trimaran, who were saved from a long night adrift by the coordinated efforts of crews from Cdr. K. D. Sullivan's VP-10.

Providing rescue services to the people of the Mariana Islands is a 24-hour job undertaken by a sea-air team including Coast Guard and Navy personnel at Agana, Guam. One of



the most serious potential hazards is the offshore reef. Every year dozens of swimmers are pulled out to sea from the reef by strong currents and waves. Personnel from the sea-air rescue team search for these victims and "fish" them from the water. If the control center at the air station is notified within 15 minutes after trouble starts, the chances of rescue are good. In photo, AMAN Gene A. Welter prepares to enter the water while AD2 Steven L. Fears waits to assist.

On an otherwise routine training day, VP-19, Det Adak was called upon to provide lifesaving services to an ill serviceman stationed 350 miles away. With a medical team aboard, Crew 3 responded to the request for evacuation of the patient with a collapsed lung from Shemya AFS to a medical facility at Adak. Members of the *Big Red* crew were Lts. Walt Szwarc and John Etter, Ens. Larry Smith, Ltjg. John Kirtley, AE1 Rich Isaac, AD2 Rod Gateley, AWC Keith Pritchard and AW3 Larry Marshall.

HC-11 Det 6 tallied 81 open water rescues in October 1978. Flying CH-46Ds the Det flew eight hours to aid victims of a Philippine fishing vessel which had struck a reef during a typhoon and was sinking, 400 miles southwest of Subic Bay. One helo flew 52 miles to the scene from aboard *Flint* (AE-32), while the second refueled after aiding *Flint's* navigation through uncharted shoal waters. Three cycles by each aircraft to the wrecked vessel completed the rescue. Flight crews involved were: LCdr. J. McKinney, OinC; Lt. J. Nacht; Ltjgs. G. Enlow and J. Humphrey; AD1 J. Lukenbill; AT1 M. Bearup; ADR2 M. Duncan and AEAN C. Ray. Det 6 is deployed from North Island.

Anniversary

On January 10, *Independence* marked her 20th birthday. She has completed 12 Med deployments with the Sixth Fleet, earned the Meritorious Unit Commendation for her role in the Jordan crisis of October 1970, and launched more than 8,000 strikes from the South China Sea in support of Vietnam. The fifth ship to bear her name, *Indy* looks back on a proud record and ahead with confidence in her part in the national defense.

Change of Command

HC-16: Cdr. Lawrence E. Ewert relieved Cdr. Kenneth J. Owen.

NAS Fallon: Capt. Leonard E. Giuliani relieved Capt. Roger C. Bos.

Saipan (LHA-2): Capt. J. R. Allingham relieved Capt. F. W. Johnson.

VA-75: Cdr. Anthony J. Lynch relieved Cdr. Kenneth R. Werhan.

VA-82: Cdr. David M. Gist relieved Cdr. Donald B. Hunt.

VAW-117: Cdr. Robert L. E. Prath relieved Cdr. J. Compton French, Jr.

VF-1: Cdr. Brad Gordon relieved Cdr. Ronald E. McKeown.

VF-43: Cdr. Eugene T. Smith relieved Cdr. Clinton L. Smith.

VP-40: Cdr. Allan W. Hadley relieved Cdr. Michael W. Gavlak.

VR-56: Cdr. George D. Burrige relieved Cdr. Edward E. Shiflett.

VS-28: Cdr. Francis Herron relieved Cdr. Jerry Goodman.

TraWing-4: Capt. David H. Fischer relieved Capt. Richard E. Williams.

Correction:

VF-301: Cdr. Milburn J. Holmes relieved Cdr. R. C. Hulse.



touch and go

Orientation

A dozen members of the Japan Defense Agency Press Club from Tokyo spent a day at sea aboard *Midway* recently, some 50 miles off the coast of Yokosuka. The orientation visit was part of the Navy's ongoing goodwill efforts in Japan.

The newsmen toured the bridge and primary control

center, hangar bay, jet shop and crew's berthing areas, and then lunched in the wardroom.

Before the newsmen departed, *Midway's* commanding officer, Captain Thomas F. Brown III, held a question and answer period. After watching flight operations and experiencing an abrupt arrested landing aboard *Mid-*

way, the one question common to all the newsmen was, "What is the landing and takeoff accident record?"

His answer, of 8,000 landings and takeoffs aboard during the previous nine months with no accidents, obviously pleased the visiting newsmen, who were soon to be catapulted off the deck for the return flight home.



The Great Cover-Up

There is a group of men aboard *Enterprise* who are dedicated, night and day, to covering up and smoothing over other people's mistakes.

No, they're not public relations men. They are the men who make up the air frames shop, the section of the aircraft intermediate maintenance department which performs structural maintenance on aircraft.

"We smooth up and finish what other people rough up," says AM1 Richard Tuomi, night supervisor of the air frames shop. "We cover up the holes, the outside cones and a lot of other things. Sometimes this includes modifying or remodeling a section of an aircraft to make it conform to the required specifications to accomplish its mission. Our main function is supporting the air group."

Working in air frames requires precision. A maintenance man must know how much a part weighs, the strength of metal, fiberglass or other material, and how much heat and cold resistance it can withstand. All these factors affect the overall balance and durability of an aircraft.

The *Enterprise* air frames

shop has a total of 18 persons — 10 work days, 8 at night. All are aviation structural mechanics. All men in the rating are required to go to the Navy's nine-week AMS A School at NATTC Memphis, Tenn.

Various schools offer training in advanced maintenance as well as wing and control surface repairs. There is a two-week fiberglass repair school at NARF Alameda. Each man has been to at least one of these schools. About half of them are on temporary duty from their squadrons.

"We take care of anything the squadrons can't handle themselves," says AMS3 Frank Sawyer. "That includes fiberglass repair, sheet metal work and welding. When we're not busy with the aircraft, we do odd jobs."

Tuomi laughingly adds, "And we make house calls, too. If there's an air crunch we go right to the flight deck to make necessary repairs. Often the damage is done while moving the planes about the flight deck."

Work on the belly pan (A-7 engine access door) and fiberglass work are the most difficult, Tuomi explains. "Especially the fiberglass. It's

hazardous to your skin. It can cause a bad rash and the dust can get into your lungs." Because prolonged contact with fiberglass is hazardous, the men wear masks and protective clothing.

Fiberglass is used mainly on the nose radomes of aircraft, especially the F-14s. It comes in sheets of resin cloth or matting in two parts. The resin and hardener are mixed and then put on the fiberglass material with an acid brush. When it has hardened, it is sanded. Application may take from two hours to two days.

"Though it is tedious work, the radomes we produce have to be identical in configuration to the originals," explains Tuomi. "If they are too thick, they can cause a beep on the radar system when the aircraft is airborne. They can also cause distortion and the radome can actually come apart in flight."

For this reason, Tuomi carefully inspects every piece of fiberglass the men make.

While they are tasked with the great cover-up, it is the expertise of men like these that keeps aircraft of the *Big E* flying safely.

By JO1 Len Churilla

Check!

For the past year, three Marine Corps captains have had the job of functional check pilots on the maintenance monitoring team for the T-34C *Mentor* at NAS Whiting Field.

The captains are Pete Peters, Gary Wolfe and Andy Gunnels. These three have flown more than 1,250 test

flights as part of the T-34C quality assurance program. Their job is to ensure that those prescribed maintenance items on the aircraft that can affect performance or flight characteristics are evaluated in the air after maintenance is completed.

An aircraft does not go onto the line for training

flights unless it has been tested by one of these three.

The pilots average four hops per day and their major concern is the safety of the aircraft. They have been especially trained through a prescribed course to assure that specifications are met on any system on the T-34C once it is in the air.

Surviving

NATTC Lakehurst

There is a school at NATTC Lakehurst, N.J., which teaches life-saving techniques to people who rarely ever meet those they are responsible for saving.

It is the A School for aircrew survival equipmentmen, the PR rating. Although it is a Navy school, the training is provided to aspirants of all military services.

The school teaches that saving lives is a nuts and bolts operation, done by the book, performing tasks with perfection every time. PRs save lives by repairing, inspecting, packing and caring for survival equipment.

Divided into two phases, the 10-week school first deals with the many types of survival equipment, then with parachutes. The school stresses hands-on training. A prerequisite for maintaining survival equipment is knowing how it works. Training is given in the practical operation of a great deal of survival equipment, including rubber rafts, personal flotation devices, and sundry items found in the various types of survival kits. This training is coupled with lessons in the maintenance and packaging of all equipment and supplies found in every type of aircraft survival system.

Sewing is the first hands-on training. A PR must be able to maintain not only the equipment used in aircrew survival, but also the parachutes, bags, packs and various containers in

which other equipment is packed. Each student learns several sewing stitches and techniques for maintaining sewing machines.

Not all subjects are adaptable to the hands-on concept, however. Survival techniques and aviation fundamentals are pure-knowledge items which are taught through programmed instruction.

In the parachute phase, students learn maintenance and packing of many types of parachutes. To impress upon the student the importance of this task, each is given the opportunity to pack his own chute and make one free-fall jump.

Training for the jump takes approximately three weeks. It includes main and reserve parachute deployments and landing techniques. "Students learn during the jump that they should deploy the reserve parachute even if they only suspect a main chute failure," says GySgt. Dennis Broadhead, parachute supervisor.

Practice in reserve chute deployments is done in a wooden frame with the student hanging in a parachute harness suspended about three feet from the floor. In order to learn the proper method for landing, students jump from a four-foot-high, box-like platform onto mats. "We've calculated that when a student hits the deck jumping from this height, he's going about nine miles an hour," Broadhead

explains. "That's about the speed he'll be traveling when he touches down during an actual jump. We teach them to roll when they land: forward-right, forward-left, and backward, left and right."

Although the students are not required to make the jump, very few decline. "Our ability is really put to the test," a student explains. "This jump proves we have learned to pack these chutes by the book, and that's what it's all about."

The lives of those who may have to jump someday in an emergency may very well depend on the expertise of the aircrew survival equipmentman.

The PR's work may not always be exciting. In fact, it may at times be tedious. But PRs leave NATTC Lakehurst realizing that theirs is a job vital to Naval Aviation's success.

By JOT Al Bray

AIMD North Island

When a pilot of a malfunctioning Navy jet decides it is time to abandon the aircraft, he pulls the bright yellow ejection handle and tenses for the jolt.

There is no time for him to wonder if the emergency survival systems — parachute, portable oxygen system, life preserver and life raft — will work correctly.

At NAS North Island these systems are the responsibility of the 43 men and women of the station's Aviation Intermediate Maintenance Department (AIMD) who inspect and maintain the equipment.

"Everything at AIMD must be done by-the-book," according to AM1 Jim Mitchell, leading petty officer. "When a person has to use our equipment, everything else has already failed. In this business you can't have mistakes."

Much of AIMD's work is performed on the S-3As assigned to the six antisubmarine warfare squadrons based locally. It takes two to three days to inspect and service the survival gear of an average *Viking* four-man crew.

All survival equipment for each airplane is sent to AIMD at the same time for periodic maintenance. Items worn by the flight crew — life pre-



servers, oxygen masks, etc. — are carefully checked every 91 days. Equipment — parachutes and life rafts — on a 224-day servicing cycle.

Flotation gear is inflated and hung up for a specified period, checked for air pressure, inspected for flaws, vacuumed down, deflated and repacked. Every flaw must be noted and repaired. The last AIMD to inspect the equipment is held responsible for any discrepancies.

Flotation survival gear provides the bulk of the shop's work; parachutes, a relatively small amount.

Oxygen regulators are also tested by AIMD on a test stand known as the Green Monster. It simulates different altitudes.

An AIMD team provides around-the-clock liquid oxygen service for all North Island aircraft as well as visiting aircraft. Team members, wearing



special coveralls and boots to protect them from the minus 297-degree liquid, transport the 50-gallon yellow LOX containers. Most modern aircraft have removable containers but some planes, such as the F-8 *Crusader* and the C-9 *Skytrain*, have types which must be serviced in the aircraft.

The safety of many aviators depends on the attention to detail by the AIMD personnel. The quality of their work is put to the ultimate test each time an aircrewman of a disabled jet reaches for that yellow handle or otherwise has to use his emergency gear.

By PH1 Barbara Wisegarver



DWEST

Each week nearly 40 persons are rescued by helicopter in San Diego Bay.

The survivors are Navy aircrews learning sea survival during a two-day Deep Water Environmental Survival Training (DWEST) Course conducted by the Fleet Aviation Specialized Operational Training Group, Pacific Fleet at NAS North Island.

"The course is especially valuable for persons who haven't had a chance to handle emergency gear except during safety inspections," says PRI Ed Driscoll. (Refresher courses are mandatory for aircrews every five years.)

"Students practice using signal mirrors and flares, learn to board inflated life rafts in the water and practice swimming from under a collapsed parachute," says the veteran survival school instructor.

One phase of the training which always seems to offer a challenge is the parachute drag. A 15-foot jump tower is mounted on the back of a M1K-8 assault boat and simulates the approximate speed at which a person would enter the water after ejecting or jumping from an aircraft on a windy day. One at a time, students are dropped from the tower and must free themselves from the harness as they are dragged at speeds up to seven knots. Because of the layers of flight gear (wet suit, life preserver, survival vest, backpack), arm movement is limited.

This makes releasing the fittings a difficult maneuver. Student safety is paramount, so swimmers are nearby to assist if necessary.

Helicopter rescue at sea is the final phase and a highlight of training for most students.

"It's not really a pleasant experience," reflects one weary survivor, "but I think now I'll be prepared if I ever need to be rescued."

Occasionally DWEST receives letters describing situations where the training was necessary. A Navy officer whose EA-6B ditched immediately following a catapult launch wrote:

"Seconds after water entry I was being towed by my still inflated parachute. Instinctively I rolled onto my back, stabilized myself with my legs, released the riser fittings and quickly paddled away. The conditions of this sequence were strikingly similar to the boat tow and helo pickup during training."

"We know the training is valuable," says Driscoll. "Students don't have to say a word. We can tell by the way they act that they have more confidence in themselves."

This confidence means that the 15-man DWEST instructor team has done its job — helping prepare the people who fly Navy aircraft to act quickly and effectively in sea-survival situations.

By JO2 Anne Aguirre

Trojan

By Lt. C. J. Timmes

Training Squadron 27 is the resident T-28 squadron at NAS Corpus Christi, Texas. It conducts primary and intermediate training for future Naval Aviators in the 1,425-hp *Trojan*.

During the primary syllabus, students fly approximately 65 hours, learning visual and cockpit instrument control of the aircraft, as well as radio instrument flying. They also learn standard aerobatic maneuvers, how to make night landings and the basic concepts of formation flight. During 26 hours of intermediate training they refine their radio instrument skills and learn day, night and airways navigation flying.

After students solo and complete about 38 hours, they are selected for jet, helicopter or prop training; this process occurs once more — when primary training is completed. The jet selectee goes to NAS Kingsville or NAS Beeville in Texas, or NAS Meridian, Miss. For the prop and helo student, intermediate training is completed at VT-27. The student then transfers to an advanced training squadron for final instruction. To accomplish all this, VT-27's instructor pilots fly two hops per day, six days a week.

The squadron — consisting of 90 staff officers, some 300 enlisted personnel (270 in the maintenance department) and 25 civilians, and 70-plus aircraft — has many other daily activities. The operations department must coordinate and the maintenance department must support a daily flight schedule of over 90 flights, an average of 140 hours. Maintenance has consistently kept aircraft availability at over 80 percent for long periods of time, evidence of the dedication, professionalism and capability of squadron personnel.



Support of such a large maintenance department requires a great deal of effort on the part of the administrative department. In addition to enlisted records, the personnel office also handles civilian records. The admin office and several support offices help keep the squadron functioning efficiently.

VT-27 excels on the unofficial level, too. The squadron's football team successfully defended the base championship by placing first in the playoffs — for the second year in a row — and four team members represented the squadron on the NAS Corpus Christi team in the 8th Naval

District finals at Beeville. VT-27's trophy case is full of mementos of past victories.

Now that the 26-year-old T-28 has been officially declared a "vintage aircraft" it is eligible to be accorded all the rights and privileges thereof. These include invitations to air shows throughout the U.S., where aviation and aircraft enthusiasts gather to enjoy old and new air machines and to thrill at stunt pilots performing low level aerobatics. As one of the last T-28 squadrons in the Navy, and wanting to contribute its share to Navy's overall image, VT-27 willingly accepts these many invitations to show off its classic

Training



machines.

In 1978, the squadron took part in the annual Confederate Air Force Air Show at the Harlingen Industrial Airport near Brownsville, Texas. The Confederate Air Force features the largest collection of flyable WW II aircraft in the U.S. The piston-powered *Trojan* sat alongside the *Mustangs*, *Corsairs*, *Avengers*, *Hellcats* and *Lightnings*, bridging the gap between the antique machines of the Confederate Air Force and the Navy's *Blue Angels*.

Later, VT-27 appeared at the Castle Air Force Base open house in Merced, Calif. The T-28's participation was requested by the local recruiting office

so that representatives from the training command could answer the questions of possible recruits.

The squadron, incidentally, has been carqualing students again aboard *USS Lexington*.

As VT-27 skipper Commander Jack Glaeser puts it, "We can outdo anybody at anything — a fact that has been proven time and again."

Although the hours are long and the work hard, the squadron pulls together through adversity and good times. It is this spirit of unity and refusal to be second-rate in anything, that gives squadron personnel a true sense of pride and identity.



Left, North American T-28s, built between 1952-1958, still see active service with VT-27. Top, LCdr. John Reid inspects squadron personnel during quarters. Above, the squadron takes on the Corpus Christi Coast Guard SAR unit in a volleyball game. Work hard, play hard is a slogan that VT-27 lives by.



Valions Strike

By Lt. C. H. Johnston

War at sea is now one of the primary missions of the attack community. With cooperation from surface units and close coordination between those units and squadron pilots, a war-at-sea training program has been developed, integrating all aspects of light attack aviation, air combat maneuvering, ordnance delivery, air-to-air gunnery and war at sea.

VA-15 recently participated in strenuous war-at-sea exercises during a training cycle. The *Valions* acknowledge a debt of gratitude and appreciation to the black shoe community for its assistance.

As a token of respect for the surface Navy, Lt. Johnston, who was then assigned to VA-15, has written an account of the squadron's experience.

Our operations officer claimed it all started when the Skipper had a sleepless night toward the end of our cruise, not long before our turn-around training cycle. "Why," he mused, "leave all the planning to the Ops Boss? Why not spread the work around a little?" Besides the standard stuff, bombing, tactics work, low levels, etc., he wanted to spice things up a bit.

With this in mind, he came up with some special projects to be headed by a first tour aviator — with one of the department heads or the X.O., or even the Skipper himself, as advisor. The plan was simple. The first tour aviator would be the project manager, do all the planning, draft the necessary messages and work out all the details, while the advisor would assist now and then.

When the Skipper presented his idea at an officers' meeting near the end of the cruise, there was considerable support. "Yeah, Skipper." "Great idea." "Can't miss." We realized later that the comments had come from department heads who had been briefed earlier. And, caught up in the enthusiasm that was being expressed, we junior officers were volunteering left and right. ACM, air-to-air gunnery and the West Coast exchange program went fast. Air-to-ground weapons was given to the weapons training officer.

The Skipper then said that the war-at-sea exercise was a special one and he would be the advisor. The project manager wouldn't need special talents, he said, just the common sense to do things his way.

Who would do the honors? No volunteers.

"Look," he said, "you might even get the chance to spend a night on a destroyer as an observer."

Hands started slipping into pockets. The Skipper looked around the room. Suddenly, the maintenance officer sitting in front of me faked left and went right, and there I was eye to eye with the Skipper. I was had.

So, with just a few weeks left until the end of the cruise, the Skipper and I started planning how we would persuade a ship to get underway and play target while 8 to 10 Naval Aviators tried to drop practice bombs in her wake. The Skipper consulted the Admiral's chief of staff. He recommended that we personally visit one of the ships and present the idea. He thought they would be happy to work with aircraft.

Soon after we were back home, the Skipper and I went out to see the folks on one of our newest fast frigates. While they were interested, they said their schedule was pretty well set for the next few months. Since they were such a new ship, they would be gone on CSSQT, FCT and RAV, some HDIs and some MTTing. . .??!? Just as well, we told them, we have our LSMFT trials and R2D2 evaluation!!

We next checked with the DesRon ops officer to find out if its master schedule showed any prospects. According to the schedule, about six candidates would be available at different times during the next few months. The DesRon staff was interested in our idea and granted us direct liaison with a ship whose return from deployment coincided with one of our projected war-at-sea dates. We sent her a message asking if there was any chance of our striking her on her return. She said "Yes." We were on our way.

Over the next five months, we flew nine war-at-sea strikes against six different ships — destroyers, fast frigates, two aircraft carriers. One of the carriers was set up at the last minute when the ship we had planned to attack was unable to get underway. The afternoon before the strike, we sent a coded message to the carrier, which was out for carquals, asking if we could attack her before the start of flight ops the next day. "Sure," she replied, "happy to have you." Who says carriers aren't flexible?

We had gotten pretty salty by the time of our last strike. It was to be

against our friends on the first ship we had attacked five months before. We worked with them a few times after that and even shared a happy hour with them. During our training program we had refined our tactics and felt pretty sure about our ability to carry out a successful last attack. However, this particular ship had been very good at defending herself.

The morning of the strike we sent two aviators out to sea with her as observers and arranged for her to have fighter cover from our air wing. We then sent search aircraft to find her and strike control aircraft to run the strike, using squadron planes and a few others we had invited to join us. When we finally found the ship, we discovered that she had craftily hidden herself in the vicinity of some merchant ships in company with the fast frigate we had unsuccessfully approached at the beginning of our training. "Foul!" we cried. "Unfair!"

Now that the smoke has cleared and we look back, there are a few lasting impressions. The first is the total professionalism and pride of every surface warfare type we came in contact with. All of us in aviation are familiar with those qualities in an aviation squadron but we seldom have the chance to see how closely knit the crew on a destroyer or fast frigate can be. Second, although we started out not knowing which step to take next, things seemed to fall into place remarkably well. Third, we learned that you gain much more from an exercise you plan yourself. You know the rules and the desired results. If something comes up that you want to emphasize, you can concentrate on it. Also, the debriefs are more meaningful if you have shared in the planning.

So, in appreciation of the help that was given us, here's my vote for more liaison between aviation and surface units. The effort was worth it. And as for you surface warfare types out there, smooth sailing and check your . . .er. . .stern!

RANGER



Ranger C-1A



VA-25 A-7E



HS-4 SH-3H



VF-154 F-4J



VAW-117 E-2B



VA-145 A-6E



OPS

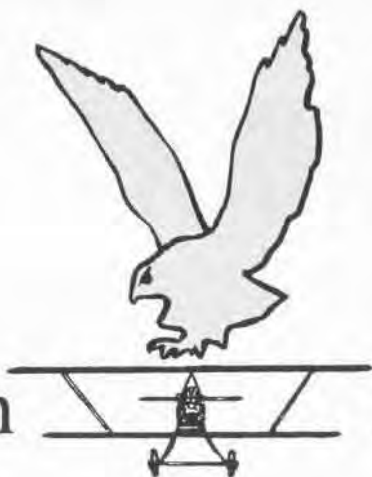
VS-29 S-3A



RVAH-7 RA-5C



Bob Lawson took the photographs on these two pages during operations aboard Ranger (CV-61) in October 1978.



Golden Eagles

The Three Seahawks

In the fall of 1927, Lt. D. W. Tomlinson was authorized to proceed via Spokane, Wash., on the return flight of an FB-5 from the Seattle Boeing Factory to North Island, Calif., so that he might observe the National Air Races. From North Island, three Naval Aviators, each from a different squadron with different types of aircraft, were ordered to Spokane to represent Naval Aviation.

The Army Air Corps was represented by its aerobatic team, the *Three Musketeers*. The Marine Air Corps sent its aerobatic team of Rogers, Sanderson and Towers,

The *Musketeers*, superbly trained and led by Jim Doolittle, stole the show. Thanks to Jim's engineering background and ingenuity, the carburetors of the D-12 engines in their PW-8s had been fixed to run at full power, inverted. This was accomplished by the simple trick of plugging the fuel line to the carburetor with solder, then drilling the right size hole through the plug to form a master jet which fed the correct amount of fuel for full power. Without the modification the float mechanism normally failed and flooded the carburetor during inverted flight. This was a decisive advantage and safety factor when performing low level aerobatics involving flight with negative G.

Thus the *Musketeers* were able to perform smooth, perfectly executed loops, slow rolls and inverted flight. The airmanship of this team amazed

and pleased everyone.

The Marine team members with their P&W Wasp-powered Curtiss F6Cs (same plane as the PW-8) were well trained and put on a nice show, but because they did not have the master jet modification, Towers almost crashed into the grandstand. The team came in in echelon to successively slow roll on, pull up and climb out. Towers' engine quit while inverted. He tried to recover by doing a half loop and failed to clear the ground by perhaps a foot. The wheels came up and sheared the front lower spars close to the fuselage, the wheels flew off into the stands causing some injuries. The tips of the props were curled back, the plane bounced, flew over the stands at a 45-degree angle with lower wings flapping and motor howling. Towers managed a 90-degree turn and belly-landed in the field, OK.

Though the Navy contingent, with its ill-assorted airplanes flew together, the result was less than impressive. The *Three Musketeers* made the headlines and justly brought their service much good and deserved publicity. The Navy also ran.

The naval observer present was burned up at having to helplessly watch the *Musketeers* carry off the honors. He determined that before the next National Air Races, scheduled for September 1928 at Mines Field, Los Angeles, came around, Naval Aviation would have an aerobatic team. It happened that this observer, in addi-

tion to being a Naval Aviator, had for five years owned and flown JNs, utilizing his off time as a stunt pilot and barnstormer. In late 1922 and early 1923, under the tutelage of Earl Daugherty of Long Beach, Calif., who was considered the best stunt pilot on the West Coast, he learned from a maestro how to perform low level aerobatics and live.

The observer was no sooner on the ground at North Island, where he was executive officer of VF-6 (soon to become VB-2B), than he began to fix the carburetor in every plane in the squadron, on the QT. Navy regs required bureau approval, but competitive camera gun practice with VF-1 was on the schedule. What a surprise the VF-1 boys got when they tangled in mock combat with VF-6's F2Bs, which ran at full power inverted. There was never any kickback from the bureau.

Also, the exec screened the younger gung-ho pilots fresh out of Pensacola for the two most promising aerobats to become his wingmen. Very soon, he, with Ltjg. W. V. Davis, Jr., and A. P. Storrs, used every opportunity to practice close-in, 10-foot, wing and tail formation flying. They progressed to aerobatics, loops, vertical turns, wing overs and inverted flight — always above 1,500 feet when anywhere near North Island. Navy regs were explicit: no stunting below 1,500 feet, only easy turns, level flight and gentle glides.

The real problem was to convince

two young Pensacola-trained Naval Aviators that low-level off-the-ground aerobatics were not only possible but safe, if performed properly. This took time and skullduggery. We did not want to be caught until we could go for broke.

First they used the reasonably even top of a fog condition as a reference point. The stunt team practiced its tricks in this manner, without denting the cloud top. Next they went back into the mountains, well away from prying eyes, just off to one side of Capitan Mountain. They used the mountaintop as ground level. Anyone who recovered below the top of the mountain would theoretically be a sponge case. No one qualified. Later, at appropriate secluded spots, by pre-arrangement the leader would peel off and, close to ground level, perform the

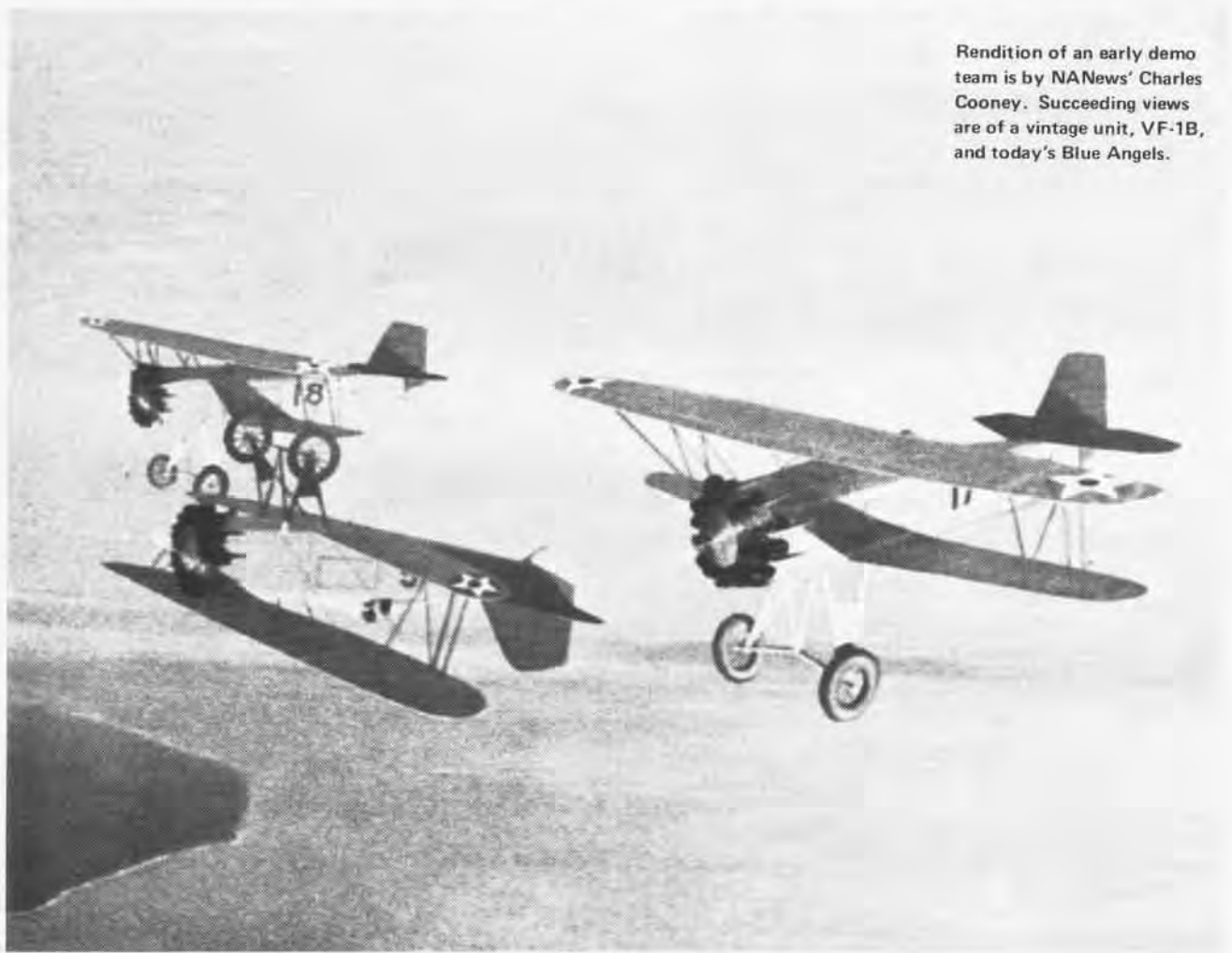
maneuvers he expected his wingmen to do.

Well before VB-2B flew aboard *Langley* for a fleet cruise to Hawaii in the spring of 1928, the stunt team was practicing at ground level. Inevitably word of the team's activities worked up to Rear Admiral Reeves, Commander Aircraft Squadrons, Pacific Fleet. On arrival in San Francisco, *Langley* aircraft were to put on a show over the city. Word was passed down that VB-2B's exhibition team was to break off after the parade and do its act. No restrictions were given. San Franciscans along Market Street and in adjacent tall buildings were startled to see an F2B flying inverted down Market Street below the tops of the taller buildings. Other aerobatics were carried out a trifle more discreetly. The perpetrators held their breath, but

there were no repercussions.

On arrival in Honolulu the Army Air Corps, flying PW-9s, was to come out and attack the fleet. *Langley* VF squadrons were to defend. Legend had it that in 1925, in the course of a similar problem when the Air Corps boys were flying MB3s and the Navy VE-7s and TSs, the Air Corps pilots literally ran the Navy out of the air. One TS was chased so closely that the Navy pilot, in his effort to escape his pursuer, flew into the water and crashed – no injury. With this score to even, the VB-2B pilots had blood in their eyes. The stunt team was raring to go. Navy had a field day. The Army was glad to get back to Wheeler Field with the PW-9s' tail surfaces intact.

A few days later the stunt team took on three brash PW-9 pilots and hung on their tails until they landed at



Rendition of an early demo team is by NANews' Charles Cooney. Succeeding views are of a vintage unit, VF-1B, and today's Blue Angels.



Wheeler Field. The team then flew across the field close to the ground into the wind, pulled up vertical at the end of field, eased over the top to inverted and flew downwind an appropriate distance, eased off power, came down and landed.

By happenstance, Captain Jack Towers, C.O. of *Langley*, was standing on the operating line watching the show. That noon, on the quarterdeck of *Langley*, he stopped the leader of the stunt team and said, "I think the Army has been sufficiently impressed." That put the quietus on the stunt team for a few days.

But then several PW-9 pilots were heard moaning about how dangerous the air currents were through the Pali (Naruanu Pali, a mountain pass). This evoked the commitment, "We will fly through the Pali tomorrow morning at 0900 inverted!" So it was, with an Army observation plane circling overhead to make sure.

Upon return to North Island, the stunt team took advantage of every

opportunity to polish its bag of tricks. Since the previous fall the team had been referred to by several appellations which we did not consider suitable. Putt Storrs, in the course of a discussion of possible names, suggested *The Three Seahawks*, and that stuck.

In the summer of 1928 when the Pacific Fleet Aircraft Squadrons were concentrated at North Island for summer training and maneuvers, Lindbergh Field in San Diego was dedicated. It was a big deal. All the Pacific Fleet Squadrons were to form up, led by the VF wing, and pass in review over the bay in view of a reviewing stand on the east side of the field where the Navy brass and public officials would be seated.

Due to the difference in speed and handling characteristics of the several types of planes, plus poor visibility, the form and precision of the mass flight, except for the wing, was hardly as envisioned. At least there were no collisions.

The leader of *The Three Seahawks*

had succeeded to command of VB-2B. He had orders for *The Three Seahawks* to peel off from the squadron, after the mass flyby, and put on a demonstration in front of the reviewing stand. Again, there had been no mention of restrictions. This was the chance to break the ice, the team would either be selected to represent the Navy at the coming National Air Races, or they would be in deep trouble. As General of the Army MacArthur once said, "It is the order you disobey that makes you famous."

The Three Seahawks squared away to make a diving approach parallel to the stands so that the tips of the inside wingman's plane would clear the outside of the stands by about 50 feet. Directly in front of the stands, when the leader's wheels were raising dust, the team pulled up for the first loop. We were almost close enough to count the whiskers in Rear Admiral Reeves' beard. People in the stands ducked as we came in. Two similar loops followed.

The team then approached again from the east, into the wind and away from the city, and passed close in front of the stands, with the leader inverted and the wingmen cocked up, flying on the side of the fuselage. Upon recovery, the team climbed several hundred feet and, in good view of the stands, performed formation slow rolls, wingovers, vertical turns, et al., in close order. Nothing like this had ever been done before – in public – especially under the nose of Navy brass.

RAdm. Reeves congratulated *The Three Seahawks*. (It was a foregone conclusion that VB-2B would fly for the Navy at the coming National Air Races.)

At the Air Races at Mines Field, Los Angeles, in September 1928, VB-2B took off each afternoon with 15 F2Bs in five three-plane sections, with *The Three Seahawks* in the lead. The squadron demonstrated the standard maneuvers of the era, right and left (90-degree) crossover turns, Taylor turns (180 degrees), and parade maneuvers in five-section V, big V and in echelon. For the finale, the squadron climbed to about 5,000 feet and staged a simulated dive-bombing attack on a target in the field. *The Three Seahawks* came down over the stands

from the north, six planes dove from the east, and six from the west, passing simultaneously across the target. Then *The Three Seahawks* broke away to maneuver for position while the rest of the squadron landed.

They began their demonstration heading west into the wind, doing four consecutive wing-and-tail formation loops. The team then maneuvered to the west to come in downwind parallel to the stands with the inside wingman just clearing the stands about 50 feet up. At the edge of the field the leader half rolled to inverted, the wingmen cocked up flying on the side of the fuselage. In this formation the team flew the length of the field in front of the stands. At the eastern edge of the field, the leader rolled upright and the team maneuvered to come back across the field (in front of the stands) at about 200 feet, doing formation slow rolls. The next act was the squirrel cage loop, the planes spaced 120 degrees apart, each making three loops. The team then climbed, separated and took position for a three-way dive-bombing attack from 5,000 feet – on a target in front of the center stands. The attack and pullouts were closely timed so that it appeared as though the three planes passed over the target virtually at the same time. Actually

this was pretty hairy a couple of times. Collision seemed inevitable. The roar was great. The act shook the crowd.

The resulting nationwide favorable publicity was so great that in following years Naval Aviation was represented at the National Air Races at Cleveland, Ohio. However, the name of the team, *The Three Seahawks*, was never used again. But a tradition had been established and, after WW II, Naval Aviation commissioned the *Blue Angels* as a full time unit and demonstration team.

Now, 50 years later, *The Three Seahawks*, alive and well, members of the Early and Pioneer Naval Aviators Association (Golden Eagles) proudly salute the *Blue Angels* who, in superb jet airplanes, magnificently carry on the tradition established in 1928.

**By D. W. Tomlinson
Naval Aviator #1970**

When the March 1979 issue went to the printer, the titles on the Golden Eagles' articles, "First Yale Unit" and "Second Yale Unit," were in the proper places. Somewhere between that submission and the final product, the titles were reversed. We apologize.



letters

F3B

On page 22 of the October 1978 issue of *Naval Aviation News* you ran some photos of F3B-1s. The top photo of the 3F9 was taken while flying off USS *Lexington* (CV-2). The pilot was Ltjg. "Doc" Purvis; plane captain, AMM3 Ira Oval Wilson. I was the second mech. In fact, that is me coming out of the nets to catch the wing as the plane is taxied up the deck.

In that squadron, which was the best fighting squadron the Navy ever had, 11 of the 22 officers assigned attained flag rank.

Wilson was killed by the prop of 3F13, April 7, 1932, on the deck of USS *Langley* (CV-1).

I retired December 1, 1959, at Point Mugu, having spent 30 years in Naval Aviation.

I enjoy *Naval Aviation News* very much. Thank you for a wonderful magazine. Well Done.

George E. Lillicotch, ADRC, USN(Ret.)
2531 Poli Street
Ventura, Calif. 93003

Patches

I am a 14-year-old boy and I have started to collect naval aircraft photographs, and squadron patches and decals.

I would appreciate any patches, etc., anyone can send me.

Buddy Tholen
RR 1, Box 137
Mason City, Ill. 62664

Navy Helicopter Association

The Navy Helicopter Association invites representatives of industry and the military to submit papers for presentation at its annual convention to be held in San Diego, Calif., in May. Papers of both general and limited interest will be welcome on any subject related to helicopters and multi-mission VTOL and should not exceed 30 minutes. Audio and visual aids will be provided. Abstracts should be submitted to the Navy Helicopter Association, HC-11, NAS North Island, San Diego, Calif. 92135, no later than March 30. Authors of selected papers will be notified by April 15.

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Model Master

Words cannot adequately express the delight with which I received the copies of the November 1978 issue of *NA News* which contained the "Model Master" article. Thank you very, very much.

Really the accolades were more than I expected and now, having heard from Rear Admiral William Harris [letter excerpted below], I am walking on air.

Ed Packard
10307 Detroit Ave.
Cleveland, Ohio 44102

Dear Mr. Packard,

I am delighted to see that recognition of your invaluable service to Naval Aviation has been properly recorded for all to read. Without question many of our intrepid Naval Aviators, past and present, benefitted from the pre-basic training in principles of model aircraft construction and basic aerodynamics of flight through the use of Ed Packard's Cleveland Model Aircraft plans and kits.

We appreciate your interest and dedication in developing an aviation training media through model kits for young potential airmen.

William H. Harris, RAdm. (Ret.)

Kudos

Members of the Jamaica Defence Force Air Wing have been reading *Naval Aviation News* over the years and, needless to say, we have derived great pleasure from doing so. By unanimous decision our pilots have voted Grampaw Pettibone as the most entertaining and informative piece of literature in military aviation.

Although we fly different aircraft from those in your inventory, the lessons conveyed to us by your articles are never lost, and, in the ever expanding field of aviation, one cannot but learn from the mistakes and experiences of other.

Looking forward to your 1979 issues.

W.L.D. Marshall, Capt.
Jamaica Defence Force Air Wing
Up Park Camp
Kingston

Help

I am currently researching the U.S. Navy's battle against the Japanese special

attack corps (kamikaze) during the Okinawa campaign.

I plan to develop my findings into a book manuscript, relating this brave though horrifying epic through the eyes and ears of the men who were there. I would like to hear from the pilots, gunners, officers, cooks, boatswains and firemen who endured the most ferocious form of air attack ever devised.

Bill Alessandrini
5171 West 7 Street
Cleveland, Ohio 44131

Reunions

It has been proposed that VA-106 hold a reunion in May at Walt Disney World, Orlando, Fla. Interested persons please contact Frank G. Clark, 1920 Tahiti Place, Kissimmee, Fla. 32741.

The seventh annual reunion of the USS Wasp (CV-7) Stinger Club will be held at the Holiday Inn-Airport, Charleston, S.C., on July 20-22. Contact George Green, 412 North Green Street, Morganton, N.C. 28655, for further information.

The Association of Naval Aviation will hold its annual convention in Jacksonville, Fla., October 18-21, 1979.

ANA is planning a full program including professional seminars. Admiral Thomas B. Hayward will be the guest speaker at the banquet October 20.

Any Naval Aviation unit that might be considering a reunion will be welcome to join with ANA at its convention. Interested units should contact Captain W. M. Gorney, USN(Ret.), Association of Naval Aviation, Inc., Bald Eagle Squadron, P.O. Box 621, Orange Park, Fla. 32073.

An all hands third reunion/workshop of Naval Air Transport Squadrons, Inc., will be held August 16-23, 1979, at the Hale Koa Hotel, Waikiki Beach, Honolulu, Hawaii. Active duty VR and NATS personnel are welcome. For further information contact Alvin R. May, Jr., 1015 West South Avenue, Independence, Mo. 64050, telephone 816-252-8466.

The MCAF Quantico Annual Marine Aviation Reunion will be held May 5. All Marine aviation and aviation ground officers are invited to attend. For further information contact Mrs. Judy Skinner, Reservation Secretary, MCAF Quantico, Va. 22134, telephone 703-640-2442.



Helicopter Mine Countermeasures Squadron 16 is the newest unit in the rapidly developing airborne mine countermeasures community. Formed on October 27, 1978, the Seahawks' first skipper is Cdr. Robert V. Goodloe, Jr. Flying the Sikorsky RH-53D Sea Stallion, the squadron's primary mission is to provide rapid response, worldwide mine countermeasures capability.

**NAVAL
AVIATION
NEWS**

