NAVAL AVIATION NEWS

43rd Year of Publication

MARCH 1962

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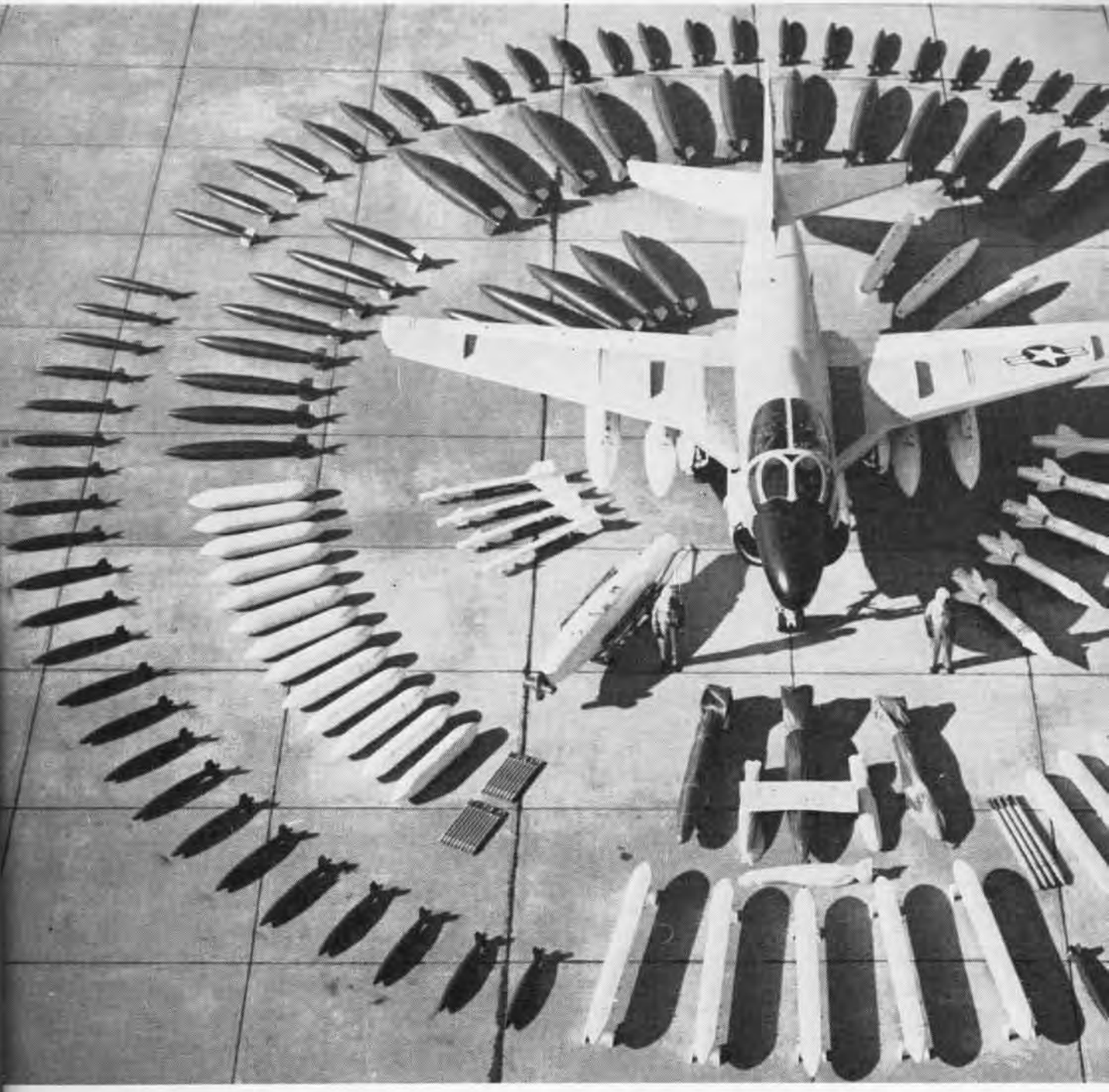

A SINGLE ARMED INTRUDER

Concentric circles of varied bomb, rocket and missile loads show, in a glance, the versatility and awesome power of the Grumman A2F Intruder, attack aircraft due for fleet delivery in 1963. Capable of carrying greater amounts of stores than any naval attack aircraft, the A2F was designed to carry either nuclear loads for long range delivery or conventional weapons loads for close air support missions. For a description of the varied loads, see full listing on p. 40.

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FORTY-THIRD YEAR OF PUBLICATION MARCH 1962

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Issuance of this publication was approved by the Secretary of the Navy on 3 April 1961

■ COVER

Chance Vought photographer Arthur L. Schoeni caught this silhouette of Cdr. George Talley, CAG-1, and his wingman in flight off the Virginia Capes. Cdr. Talley was first to land his F8U aboard the Enterprise as it began sea trials (details, pp. 20-22).

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NAVAL AVIATION NEWS

NAF Andrews is Opened
C.O. Accepts Washington Base

Naval Air Facility, Andrews, was commissioned 19 January 1962, setting an official beginning date for the new Washington, D.C., area home of Naval Aviation.

NAF ANDREWS was placed in commission by the Commandant, Potomac River Naval Command, RAdm. Thomas H. Robbins, and accepted for the Navy by the facility's first commanding officer, Capt. Frank D. Heyer. VAdm. Robert B. Pirie, DCNO (Air), was the principal speaker at the ceremony.

The new facility, based aboard Andrews AF Base, was built to replace NAS ANACOSTIA, which closed its runways in December after serving 44 years as the Navy's air center in the Washington area. New taxiways, 11 new buildings, aviation fuel storage facilities and an aircraft parking apron were included in the project.

NAF ANDREWS, with more than 100 aircraft based aboard, serves as the proficiency flying base for all Naval Aviators in the capital city and as home for the Naval Air Reserve Training Unit, in addition to supporting CNO flight operations.

Carrier is Called 'America'
Keel of New CVA-66 Laid in 1961

President Kennedy has selected the name *America* for the attack carrier, CVA-66, being built by Newport News Shipbuilding and Drydock Co., Newport News, Va.

Keel of the newest carrier was laid 9 January 1961. The ship is scheduled to be launched in the fall of 1963 and commissioned in the fall of 1964. The name *America* has been carried by three United States Navy ships.

The first *America* was a 74-gun ship-of-the-line which was presented to France in 1782 following the Revolutionary War. The second ship to bear the name was a racing schooner taken over by the Navy in 1862 during the Civil War. The third was the German liner *Amerika* which was acquired by the Navy in July 1917 and placed on transport duty during the rest of World War I as the *America*.

LAST OF A FIGHTING BREED, *the FJ-4B Fury jet attack bomber at MCAS Kaneohe rolls down the flight line past its successor, the Douglas light attack A4D Skyhawk. The last aircraft of its kind in the Hawaii command, WE-19, took off from NAS Barber's Point, flown by Marine 1st Lt. D.C. Mackie. The Furies are being transported to California and after reconditioning will be employed in the United States by various Weekend Warrior squadrons.*

'Chuting Stars' Make Move
NAS Pensacola is Now their 'Home'

The Navy skydiving team that has thrilled thousands was officially assigned to NAS PENSACOLA 1 January.

The group, which was formed early last year, had been based at the Naval Parachute Facility at El Centro, Calif. Recent orders officially transferred the team and placed them under the command of the Chief of Naval Air Training, VAdm. Fitzhugh Lee.

The "Chuting Stars," consisting of two officers and six enlisted men, jump from their specially painted blue and gold R4D-8 transport. Their show includes such feats as baton passing in mid-air, breath-taking free-fall with closed chutes from 12,500 feet and spelling out "Navy" with colored smoke flares on the way down.

1961, MATS' Safest Year
Ninth Year of Improvement Marked

For the ninth consecutive year, the Military Air Transport Service (MATS) has improved its safety record.

Operating in 1961 with more than 500 Naval Aviators assigned to the integrated air transport service, MATS registered a rate of 1.08 accidents for every 100,000 hours of flight time. The 1960 rate was 1.45 accidents per 100,000 hours.

MATS, the principal four-engine transport unit for all the armed services, flies a total of 51 different types

of aircraft in a variety of missions. Included in the service's routes are frequent trips to both polar regions and such special assignments as the 1961 Congo Airlift in support of the United Nations.

Working with the Air Force and Naval Aviators are 3500 enlisted men of the U.S. Navy as flight crew and maintenance personnel.

Biggest area of gain in flight safety was the four-engine aircraft operations division. Only three of more than 500 MATS transports were involved in accidents during the year.

Barrier Makes Record Flight

Flies 10,000th in Early January

After thirty million miles of flying —the equivalent of more than 60 earth-to-moon round trips—Airborne Early Warning Barrier Squadron, Pacific, based at NAS BARBER'S POINT, logged its 10,000th barrier flight in early January.

The flight time involved represents more than 3.5 million man-hours and 150,000 surveillance hours for the far western extension of the North American Air Defense Command. The barrier was established in July 1958.

This squadron flies the WV *Warning Star* and, on round-trip flights to Midway and the Aleutians, conducts reconnaissance on a round-the-clock basis. Barrier radar operators scan their scopes continuously for "blips" which might indicate an aggressor attempting to penetrate our warning systems for a sneak attack on American soil. Capt. Louis P. Pressler has commanded the squadron since Aug. 1960.

NAF Annapolis is Closed

Operated 15 years, Served Longer

NAF ANNAPOLIS closed up shop 17 January. Certain personnel were ordered to NAF ANDREWS, while others received orders to various Navy units, ships and stations.

Naval Aviators began flying from the Annapolis area in 1911 when the Navy bought its first three planes and established its first air base at Greenbury Point which had wooden hangars. Tents were later erected at a nearby site to serve Naval Aviation units.

In 1925, aviation indoctrination, including actual flights of Academy midshipmen became an integral part of the Academy's curriculum. Training as a group was received for the

ADM. DAVIDSON TRANSFERS ACADEMY UF

first time by the class of 1926. Several aircraft squadrons conducted this training for this and succeeding classes until 1947 when the air facility was formally commissioned.

From 1947 through 1959, the academy used the N3N trainer, a bi-wing, open cockpit seaplane, better known as the *Yellow Peril*. When the N3N's were retired in 1959, flight indoctrination became part of the midshipmen's summer program and training was shifted to Pensacola and Jacksonville.

Since 1959, NAF ANNAPOLIS has provided flight proficiency services for approximately 130 aviators in the area, transported midshipmen to cruise embarkation points, and furnished logistic support to all activities of the Severn River Naval Command, commanded by RAdm. J.F. Davidson.

A NEW SPEED RECORD *was unofficially claimed on February 5 when a Navy pilot, Lt. R. W. Crafton (R), and Capt. Louis K. Keck, USMC, co-pilot, flew the Sikorsky twin-turbine HSS-2 at 210.6 mph at Stratford, Conn.*

'Green Card' Gained Early

Years Waived for 3000-hr. Cadet

Naval Cadet Raymond P. Miller had the Navy's Special Instrument Rating—the "green card," usually held only by pilots with several tours in the Fleet—when he completed multi-engine flight instruction at VT-28, NAS CORPUS CHRISTI, on 17 January. He is probably the youngest Navy pilot to hold a green card and the first to earn it while still a student.

VT-28 students generally earn a Standard Instrument Rating after flying one-tenth the flight time required for a special rating. A Special Instrument Pilot must have 2000 pilot hours and 100 actual instrument flight hours. Miller, with 3000 total flight hours, exceeded the requirements.

He had, of course, a head start. Entering the Navy's flight program in November 1960, he already had five years of pilot experience since his first flight at the age of 17. He earned flight lessons as a "line boy" and mechanic. By 18 he had his commercial, instrument, and flight instructor certificates, and made something of a record by completing these three flight checks in a two-week period. With special Congressional approval, he won his Air Transport Rating at 20, three years below the minimum age limit.

Miller's family background probably had something to do with his early flying start. His father is a former TWA Captain who retired with over 20,000 pilot hours. His mother, also Air-Transport rated, flew 3000 pilot hours, which included flight time as an Air Force primary flight instructor, during World War II.

When Miller entered the flight program, he had 2800 pilot hours, more flight time than most of his instructors. But he is quick to say that he had much to learn in the program.

VMA-214 Gets Skyhawk

Skipper Makes First Skyhawk Test

Pilots and crewmen of VMA-214 received the first of 20 A4D-2's at MCAS KANEOHE BAY in January.

Maj. R.W. Mullane, C.O., lifted the *Skyhawk* off the runway for its first flight test after being received by the squadron.

A Douglas aircraft with speeds in excess of 600 mph, the *Skyhawk* replaces *Fury* jets flown by the attack squadron during the past three years.

GRAMPAW PETTIBONE

Brush-Cutter

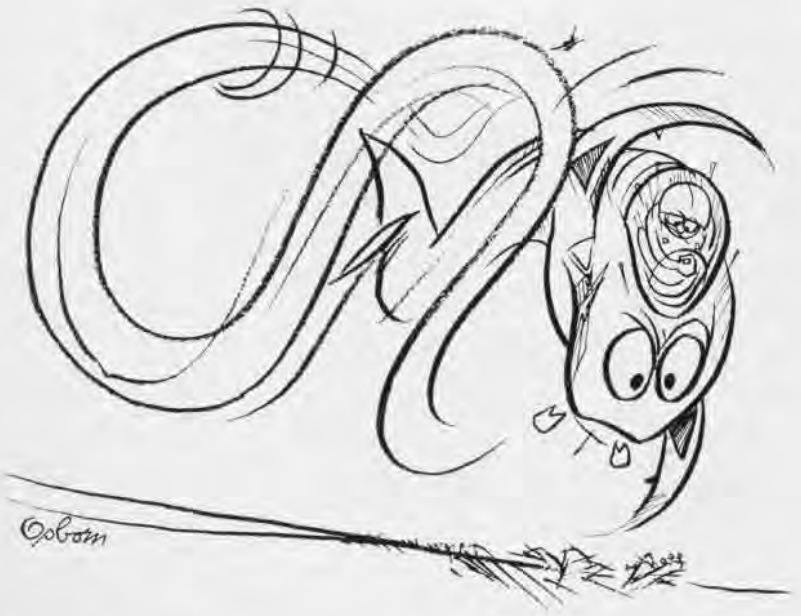
A student pilot, nearing the end of his advanced flight training, took off as scheduled for a solo field mirror landing practice hop in an F9F-8T. He was pretty heavy on fuel, so he flew out to the burn down area to lighten up before commencing his FMLP work.

The ceiling was pretty ragged, ranging between 1000-2000 feet, and when he sighted another F9F ahead of him, he tailed in behind the established race track pattern. Training Command rules forbid formation flight by solo students at this stage unless an instructor is in the flight.

The pilot ahead eased into an 180° turn to the left. Our lad turned to the inside of him to close the distance, ending up to the right of the plane ahead and about 700-1000 feet behind in the trail position. With speed brakes out and 96% power, he held this position nicely on the straightaway.

They started into the next turn, and he cut to the inside again to maintain the interval properly, at the same time checking the gauges in the cockpit. Fuel coming down—airspeed 260—tailpipe temp O.K.—oil pressure O.K. He looked up—the other plane ahead had rolled out of the turn, and he was closing on him fast, had him boresighted! Rolling his right wing down and pulling back stick, he tried to avoid a collision by taking it outside of the lead plane. Suddenly the F9F-8T hit the jet wash of the plane ahead and went out of control! It seemed to pitch and heave about every axis. Our student pilot now hit 100% power, pushed full forward on the stick, pulled in the speed brakes, and careened past the startled student pilot ahead, missing the other F9F by a couple of hundred feet, maybe less.

Meanwhile, his unruly T-bird somewhat under control, the erstwhile tail-chaser looked back over his left shoulder to spot the plane he had just missed and the F9F-8T did a half roll to the left! Realizing he was inverted and nose down—for the ground was coming up at him—he completed the roll and pulled back on the stick as hard as he could. The nose came up, but the T-bird slammed into the sagebrush and sandy ground, hit hard, bounced and became airborne again, nose high! Reaching for the curtain, the pilot ejected. The Martin-Baker performed beautifully! The chute canopy blossomed, and he hit the ground instants later, shaken but unhurt. The F9F-8T splattered all over the landscape a quarter mile ahead.



Grampaw Pettibone says:

Bust my achin' bones! This lad got a real expensive and fortunately non-fatal lesson on the dangers of jet wash, especially when combined with a head in the cockpit in a closing situation. This is the best way I know to start a "Kill your Buddy" movement and make yourself about as popular as an anarchist with a lighted bomb in his pocket.

When hitting jet wash like this, the best thing to do is just hold what you have. That wash trail is mighty narrow, and you'll be out of it almost instantly. Using full stick throw in any jet aircraft is about the equivalent of using Spanish spurs on a half-broke bronc. All you can do is hang on!

ILLUSTRATED BY Osborn

Memo from Gramps

There's a story on pp. 14-15 about an outfit that's tryin' to put me clean out of the writin' business. Unfornately, there's plenty of material furnished by less professional types.

I'm so proud of VA-56 I could bust my buttons! If it's catchin', they'll put me out to pasture yet.

Blasted

A young fighter pilot, scheduled for touch-and-go landing practice at an outlying field, commenced dumping excess fuel from his *Crusader* to get her down to landing weight. After only five or ten seconds of dumping, there was a flash and a considerable explosion, followed by moderate vibration of the entire aircraft!

He stopped dumping, reduced power and the vibration quit. All instruments read in normal ranges. This was strange! He added power and climbed to altitude to avoid numerous thunderstorms around him. There was frequent lightning in the sky, so he rationalized to himself that THAT must have been a close one! Whew!

The F8U handled well — they're steady birds, these *Crusaders*—so he let down again and carried on with the scheduled hop. After six or seven "touch and go's," all done without difficulty, he returned to the home field and noted a "higher sink rate" than usual at the normal power settings for landing. It just took a little more gun, that's all.

After engine shut-down, he made the usual post-flight inspection of the machine before going in to fill out the gripe sheet. Main discrepancy? A jagged three-foot wide by seven-foot long section of the trailing edge of the starboard wing was gone! Blasted off!

Grampaw Pettibone says:

Great jumpin' Jehosophat! This lad came mighty close to havin' to use the "spring seat." The mounting bracket in the wing tip light transformer had busted, allowing electrical arcing which ignited fuel vapor in the wing. A minute fuel leak at the fuel dump fitting "O" ring supplied the explosive for this job.

An inoperative wing tip light on preflight was his clue to the loose transformer. Bet he's the best light checker in the business now! Best cure for a problem such as he had is to go home, land, and have the plane inspected. You can't see much of this bird from the driver's seat.

Old Hands

Two experienced S2F-TF pilots, plus their plane captain, thoroughly preflighted a TF-1 for a test hop. The rudder trimmer had been reworked and a hydraulic reservoir in the port wing replaced during the course of a routine 30-hour check. A quality control inspector, a hydraulic specialist and a tech rep with 30 years of aeronautical experience were the crew for this hop. Altogether they had about 70 years of aviation experience between them—a high-powered aircraft crew.

The take-off run was normal until just after lift-off when severe buffeting, sluggish controls and a semi-stalled feeling spelled nothing but TROUBLE. The pilot raised the wheels. This helped. They were heading out over the Bay and not gaining altitude above 200-300 feet. The plane was porpoising almost uncontrollably and was extremely left wing heavy.

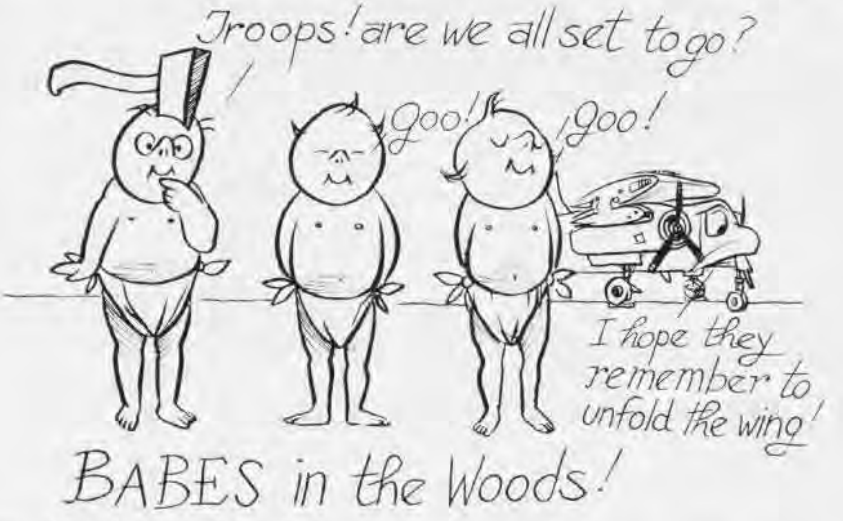
Just about now, the control tower called to notify them "an unidentified part of their wing had fallen off."

Power was reduced to 40 inches and 2500 rpm. This eased the buffeting somewhat and dampened the porpoising, but they were just barely maintaining 200-300 feet at 110 knots and in a slightly nose high attitude.

The Bay Bridge was dead ahead, and they'd never clear it!

The pilot started an easy turn back to the field, called the tower and said he was coming in gear and flaps up! Both pilots had talked it over briefly and decided this was the only way. Dropping gear or flaps might change their precarious flight attitude and plunge them into the Bay in a stall condition.

Climb power was carried until they crossed the runway threshold. Then on signal, the copilot feathered both props and the TF touched down in a nose-high attitude with wings level and slammed to a stop. The only injury was to the quality control inspector who was hit hard by all the Mae Wests, parachute harnesses, wing jury struts, a fire axe, canned hydraulic fluid and a lot of other loose gear which no one was either wearing or had tied down. These traveled forward on impact in one solid mass!



Grampaw Pettibone says:

Great balls of fire! This "experienced" crew was less prepared for a survival situation than a bunch of new recruits! NO ONE wore a Mae West or parachute harness even though it was a test hop over a considerable body of water. NO ONE wore a hard hat. When were those waived in the TF? No gloves on anyone, no boondockers, no nothin'! The only piece of regulation flight gear worn was an orange coverall by the pilot. He musta had a brand new uniform.

This wreck was triggered off by the man who FORGOT to latch the port inboard leading edge access panel after changing the hydraulic reservoir in that wing. Anyone who FORGETS such things has no business working on ANYBODY'S airplanes! It comes really close to criminal negligence. This is a critical item and has caused three known accidents in S2F's and TF's. It better get in EVERYONE'S preflight check-off list—and right away!

SECRETARY McNAMARA ON DEFENSE BUDGET

'THERE IS NO REASON TO EXPECT THAT THE NEED FOR THIS FORM OF AIRPOWER WILL DIMINISH IN THE FUTURE.'—SECDEF McNAMARA

SECRETARY of Defense Robert S. McNamara appeared before the Armed Services Committee of the Senate as first witness in support of the fiscal year 1963 (1 July 1962 to 30 June 1963) $51,640,000,000 defense appropriation request.

A new conventional attack carrier, modernization of ASW carrier forces, new aircraft procurement and missile development programs were included by Mr. McNamara in his discussion of Naval Aviation matters before the committee.

The Secretary proposed a non-nuclear carrier in the 1963 budget and asked for Fleet Rehabilitation and Modernization of one CVS each year. As Essex-class carriers are released from the attack carrier forces, they will join the ASW groups.

'Quantity' procurement of the F4H Phantom II for Navy and Marines was included. 'A considerable number' of A4D-5 Skyhawks are programmed for a number of years. The reconnaissance version of the A3J Vigilante (A3J-3), the A2F-1 Intruder, the S2F-3 Tracker, the P3V Orion, the HSS-2 Sea King, the HU2K Sea Sprite, the HRB-1 Sea Knight, the T3J Sabreliner are included in the Secretary's 'buy' program.

A training version of the Bullpup missile, first of its kind, and quantities of air defense missiles, the Sparrow III, Sidewinder 1C, Terrier, Talos, Tartar and Bullpup are included in the program.

A 'major expenditure' in other Navy procurement, he said, involves the procurement of the lightweight Mark 44 aerial torpedo. The Zuni 5 rocket, new type bombs, torpedoes and other equipment are included.

The U.S. Air Force will buy quantities of the Navy-developed F4H while tapering off on the purchase of F-105's, he said. Funds for the development of the joint service fighter, the TFX, which he described as a tactical weapon system having a variable geometry wing and turbofan engines, are programmed for 1962 and 1963, with a reconversion of the Navy's TFX to be developed for 'the late 1960's.'

Secretary McNamara's statement covered the long-range defense program through fiscal year 1967 in addition to the defense budget for fiscal year 1963.

The following sections of the Secretary's statement are of particular interest to everyone in Naval Aviation.

WE COME before you this morning with the first Defense program and budget prepared wholly by President Kennedy's Administration. It is also the first to be developed under the new programming and budgeting procedure. Under this new procedure, the Defense program is developed in relation to the principal military missions of the Defense establishment, rather than by organizational component as in the past.

* * * * *

Need for Conventional Forces

After long and intensive study, we have reached the conclusion that, while our nuclear forces are increasing, greater emphasis than in the past must be given, both by ourselves and our NATO allies, to our non-nuclear forces. This does not mean that we would hesitate to use nuclear weapons even in a limited war situation, if needed. As I stated in my appearance before the Committee last spring:

> ". . . Even in limited war situations we should not preclude the use of tactical nuclear weapons, for no one can foresee how such situations might develop. But the decision to employ tactical nuclear weapons in limited conflicts should not be forced upon us simply because we have no other means to cope with them. There are many possible situations in which it would not be advisable or feasible to use such weapons. What is being proposed at this time is not a reversal of our existing national policy but an increase in our non-nuclear capabilities to provide a greater degree of versatility to our limited war forces."

That is still our policy.

* * * * *

While we will always be prepared to use our nuclear weapons when needed, we also want to have a choice other than doing nothing or deliberately initiating a general nuclear war; or as President Kennedy said, a "choice between inglorious retreat or unlimited retaliation." No one can put a precise figure on what the conventional strength ought to be, but we do know it must be more than what we had available last year. . . .

Active Navy Forces

For the General Purpose Forces of the Navy, we are recommending an active fleet of 824 ships for the end of fiscal year 1963 which will include attack carriers, antisubmarine warfare carriers, cruisers, command ships, destroyer type vessels, submarines, and amphibious, mine warfare and auxiliary ships. We now plan to continue the same number of carriers and cruisers into future years, but a gradual reduction is planned in other types as we increase the combat power of individual units of the fleet over the years.

Attack Carrier Forces

We are recommending in the fiscal year 1963 shipbuilding program one new attack carrier, conventionally powered. The principal use of the attack carriers in the years ahead will be in the limited war role. As we acquire larger forces of strategic missiles and *Polaris* submarines, the need for the attack carrier in the general war role will diminish. However, they will still maintain a significant nuclear strike capability which could augment our strategic retaliatory forces. But in the limited war and cold war roles, the attack carrier forces provide a most important and unique capability.

There are many potential trouble spots in the world where the attack carrier is and will continue to be the only practical means of bringing our air striking power to bear. Carrier airpower can be employed without involving third parties, without invoking treaties, agreements, or overflight rights. And, as has been demonstrated many times before, the carrier task force is a most effective means for presenting a show of force or establishing a military presence, which often has helped to maintain the peace and discourage hostilities.

There is no reason to expect that the need for this form of airpower will diminish in the future. The fact that they may be vulnerable to attack in a general nuclear war does not detract from their value in limited war.

To meet our commitments around the world, we believe a modern force of attack carriers is required. The *Essex*-class carrier is marginal for this purpose. Most are about 20 years of age and despite extensive modernization, they no longer are fully effective in their role as attack carriers. For example, a *Forrestal* carrier can launch aircraft twice as rapidly as can an *Essex*-class carrier. The added length and tonnage of the *Forrestal* carriers are a distinct advantage under severe sea conditions prevalent in the Western Pacific—China Sea area in the typhoon season—

A2F INTRUDER HELPS PROVIDE A WIDE RANGE OF DEFENSE OPTIONS

or the northern oceans in the winter. In the North Atlantic, for example, aircraft can be operated 345 days per year from the *Forrestal*-class carrier and only 220 days from the *Essex*-class carrier. Moreover, the *Forrestal* carriers have about 300% more jet fuel and over 150% more ordnance capacity. . . .

We have carefully considered the question as to whether the new carriers should be conventional or nuclear powered. Our studies indicate that a nuclear-powered carrier costs about ⅓ or ½ more to construct and operate than a conventionally-powered carrier of otherwise equivalent characteristics. The operational benefits to be derived from the nuclear-powered carrier, particularly in limited war operations, do not, in our judgment, justify the higher cost. . . .

ASW Carrier Force

With regard to the ASW carrier force, no new construction is required. As *Essex*-class ships are released from the attack carrier force, they will replace the older carriers in the ASW force. We also plan, during the next few years, to put one CVS each year through the fleet rehabilitation and modernization [FRAM] program, thus keeping the force in good operating condition. . . .

National Command Ships

We now have in the fleet one cruiser-type converted to a command ship—the *Northampton*. This ship, which can serve as an alternate national command post, provides a capability essential in a nuclear war environment. Because of the urgent need for this type of capability, we are reprogramming FY 1962 funds to start the conversion

DEFENSE BUDGET REQUEST INCLUDES A QUANTITY OF P3V-1'S

'WE PROPOSE TO BUY IN 1963 A NUMBER OF FIXED-WING S2F-3'S'

CVL HULLS WILL BE CONVERTED TO NATIONAL COMMAND POSTS

of one mothballed CVL hull to a command ship in place of the major communications relay ship (AGMR) in the 1962 program. The AGMR is included in the 1963 budget along with a second command ship conversion. The first command ship conversion will be ready about the end of fiscal year 1963, and the second about a year later. For the next few years, we have tentatively programmed the construction of one new command ship in each year.

* * * * *

Aircraft Procurement

To maintain and modernize [Navy and Marine Corps Aircraft] inventory, we propose to buy in fiscal year 1963 an increased quantity of aircraft, compared with the number procured in 1962 and 1961. Based on our force projections, we would expect to buy substantially the same number in the next few years.

Among the principal models in the procurement list is the F4H. We are requesting funds to procure a quantity of these aircraft for the Navy and Marine Corps in 1963 and under our projected program, we would continue to buy at about the same rate for several years. The F8U's in the 1963 procurement list are, according to our present plans, the final procurement of that model. Within a few years, we would hope to make the initial procurement of the new TFX, with follow-up procurements in succeeding years.

A considerable number of A4D-5's are included in the 1963 procurement list and we have tentatively programmed the same level of procurement for a number of years. At some time in the future, we should be able to initiate procurement of the new VAX Tri-Service close-support aircraft, the development of which is to be started in 1963. Also included in this budget are A3J-3 aircraft configured for reconnaissance missions to support Navy and Marine Corps operations. Because of the urgent requirement to replace the older aircraft, we are programming 1962 funds to procure a quantity of A3J-3's during the current fiscal year. We also propose the procurement of A2F-1's in 1963, with increasing quantities in later years. This is the new all-weather close-support attack and electronics reconnaissance aircraft.

For the ASW carrier air groups, we propose to buy in 1963 a number of fixed wing S2F-3 long-range search aircraft and HSS-2 helicopters. We plan to continue to procure more of both of these aircraft in the future. W2F-1 early warning aircraft are included in the 1963 procurement program for the attack carriers. We tentatively plan to continue to procure these aircraft to replace the earlier models.

A quantity of P3V-1's are included in the 1963 buy to continue the modernization of the land-based patrol squadrons now predominantly equipped with the propeller-driven P2V. [The P3V] is the Lockheed turboprop aircraft which has a much greater speed, flight endurance and capacity than the P2V. We plan to continue to buy this airplane for a number of years.

Other aircraft procurement in 1963 includes HU2K-1 utility helicopters, HRB-1 assault helicopters and T3J trainers. Under our projected program, we would continue to buy additional quantities of all of these aircraft for several years.

Other Navy Procurement

Our 1963 procurement program also provides for substantial quantities of air defense missiles including *Sparrow III*, the improved *Sidewinder 1C*, *Terrier*, *Talos*, *Tartar*, and *Bullpup*. Provision is also made for a quantity of *Bullpup* training missiles, the first time this item has been scheduled for Navy procurement. . . .

Navy procurement, other than ships, aircraft, and missiles, includes substantial quantities of *Zuni* 5" air-to-surface rockets, new type bombs, torpedoes, ASW sonobuoys, electronics and communications equipment, training devices, etc. One of the major expenditures involves the procurement of Mk 44 torpedoes in 1963 to improve our readiness position substantially. Delivery of this new lightweight ASW torpedo will be expedited by the opening of a second production source.

The Navy electronics program for 1963 represents a modest increase of about 19% over the 1961 program, and about 9% over that for 1962. While these increases are not

HSS-2'S IN NUMBERS ARE SLATED FOR ASW CARRIER AIR GROUPS

F4H TO BE ORDERED IN QUANTITY FOR AIR FORCE AND NAVY

REQUEST INCLUDES W2F-1'S FOR CVA'S

A4D-5'S IN NUMBERS SLATED FOR SIXTIES

QUANTITIES OF SIDEWINDER-1C ARE ASKED

ZUNI AIR-TO-SURFACE ROCKETS INCLUDED

MK 44 LIGHTWEIGHT ASW TORPEDO WILL INVOLVE MAJOR EXPENDITURES IN FY 1963

large, the quantities recommended are sufficient to support the other Navy programs.

Our logistics objective for the Navy General Purpose Forces is to provide balanced inventories to enable the fleet to engage in combat for a specified period of time.

* * * * *

Air Force to Buy F4H

In order to modernize these forces over the next few years, we will have to buy substantial numbers of new tactical fighters. There are two high-performance fighters suitable to Air Force needs now in production, the F-105 and the F4H. The Air Force will designate this latter aircraft the F-110. It is a newer design and enjoys an over-all performance advantage in most respects. Therefore, F-105 production will be gradually tapered off in favor of the F4H. Specifically, we are proposing the procurement of a number of F4H's for the Air Force from fiscal year 1962 monies (using reprogrammed funds for this purpose), as well as a number of F-105's. In 1963, we are proposing the procurement of more F4H's and fewer F-105's. The procurement of additional F4H's is planned for future years.

Development of TFX

In the future, we expect to begin the procurement of the TFX, the follow-on tactical weapon system planned for use by both the Air Force and the Navy. Utilizing a variable geometry wing and powered by turbofan engines, the TFX should be capable of very high speeds at altitude, as well as low-level bombing operations. This fighter should be highly efficient in all the tactical and air defense missions for either limited or general war and because of its long ferrying range and refueling capability, it can be rapidly deployed to all parts of the world. Funds are programmed for the development of the TFX in the current fiscal year as well as in the 1963 budget. Industry proposals were recently submitted to the Air Force and Navy on the TFX, and we hope to select a contractor and get the development effort under way within the very near future.

Reconnaissance Role for F4H

During the coming fiscal year the RF-84F's called up to meet the Berlin crisis will be returned to reserve status, reducing the force to about its pre-Berlin level. By the end of 1963, the tactical reconnaissance force will consist of RF-101's and RB-66's. Under our longer range plans, the latter would be phased out of the force within a few years and replaced with the Air Force reconnaissance version of the F4H. We also plan to develop a reconnaissance version of the Navy's TFX, to be available in the late 1960's.

* * * * *

Of the $51,640,000,000 of new obligational authority, $12,481,100,000 is requested to be authorized for appropriation for aircraft, missiles, and ships under the provisions of Section 412(b) of Public Law 86-149, approved August 10, 1959. The specific amounts for each Service and each category are shown in the Bill which this Committee will consider. ★★★

A DUMMY *knows something—the value of a low-level ejection suit! When Ling-Temco-Vought conducted ejection seat tests using a couple of dummies, a wag with a grease pencil put a smile on and words "Me Worry?"*

Experimental Target Fired
It Hits Mach 2 at 70,000 Feet

An experimental high speed fleet training target for Navy missiles was successfully tested 22 January at Naval Missile Center, Point Mugu, according to Capt. K.C. Childers, C.O.

The target, an XKD2B-1 which was launched at 35,000 feet from an F3H-2, climbed to 70,000 feet and accelerated to twice the speed of sound.

The liquid rocket propulsion system, utilizing dual thrust chambers for climb and cruise, is capable of operation at any pre-determined altitude from 5000 to 70,000 feet. At 70,000 feet altitude, this target will maintain a speed of Mach 2 for five minutes or Mach 1.5 for eight minutes. By combining powered flight time and glide time, it is possible to obtain as much as 27 minutes duration.

The target, developed by Beech Aircraft Corporation, can be tracked by radar and infra-red devices. It is 13 feet long and weighs 560 pounds when fully fueled.

Set for fleet introduction in early 1963, the XKD2B-1 target is scheduled for testing at different speeds and altitudes and for launching from other aircraft, such as the F4H.

The pilot for the launch was Lt. Richard B. Brown. The program is under the technical control of NMC.

Ranger Reaches for Record
Claims 'Mosts' in 'Long' Month

USS *Ranger* (CVA-61) met good flying weather last November and racked up what she thinks is a peacetime air group flying record for one month in the Western Pacific. Air Group Nine embarked and during that month flew 4249.6 hours. During this time, *Ranger* sailed 8115 miles in 23 days.

In what she calls "the long month," 86 per cent of all scheduled flights were flown, 1566 catapult launchings were made, and 1569 arrested landings. There were 450 night landings and 1538 day landings. Planes based aboard flew 931.2 night hours. Four hundred hours were spent at flight quarters. Planes aboard used 1.5 million gallons of JP-5 and 3724 gallons of liquid oxygen.

In hours flown, VA-95 logged 1022.8 hours qualifying as leading squadron in this category. Other squadrons based aboard during this period included VF-91, VF-92, VA-93, VA-94, as well as detachments from VAH-6, VAW-11, VAW-13, and VFP-63.

VP-7 Trains in Puerto Rico
Scheduled for Med Deployment

Patrol Squadron Seven, commanded by Cdr. W.F. Abernathy and based at NAS JACKSONVILLE, is on the go again. It left on 20 January for U.S. Naval Station, Roosevelt Roads, Puerto Rico, for Operation *Springboard '62*.

The squadron had recently returned from Guantanamo Bay, Cuba, where it maintained a five-plane detachment under the operational control of Commander Caribbean Sea Frontier.

During *Springboard '62*, VP-7 intensified its ASW training.

Upon returning from Puerto Rico, the squadron engaged in Operation *Slamex* and stood an Administrative Material Inspection.

VP-7 heads for the Med soon.

IAS Recognizes Navy Men
Flight Surgeon, Engineer Honored

At its 30th annual convention, the Institute of Aerospace Sciences (IAS) honored outstanding leaders in the field.

Capt. Ashton Graybiel, USN (MC), Director of Research, Navy School of Aviation Medicine, Pensacola, Fla., received the John Jeffries Award for his studies into the effect of acceleration and anoxia on the human body. Capt. Graybiel's research led to outstanding improvements in pilot safety standards.

Among the scientists elected Fellows of IAS was Mr. A.V. Verville, famed for his contributions to aeronautics. Mr. Verville recently retired from the Bureau of Naval Weapons.

SCUBA-EQUIPPED ENGINEER *observes pilot's escape technique in underwater test conducted at Air Crew Equipment Laboratory, Philadelphia. Early tests have shown that use of right method will permit pilot to trim up to 15 seconds from his escape time; since aircraft may sink up to 150 feet in 15 seconds, the faster the escape, the better the chance of survival. Other tests also were conducted in the nose down, tail down and inverted positions.*

Carrier Division 15 Report

THEY HUNT IN THE PACIFIC

By LCdr. M.R. Starr and Lt. T.D. Eyres

CARRIER DIVISION 15, commanded by RAdm. Henry L. Miller, is a typical U.S. Pacific Fleet Hunter-Killer Group. A specialized ASW group made up of an ASW carrier, carrier-based aircraft (fixed wing and helicopters), and destroyers, CarDiv-15 is an air-surface member of the Navy's ASW team. This group is capable of operating independently in the open oceans as well as in close support of other forces. It can operate over some 70 per cent of the earth's surface, conducting ASW as a support force.

CarDiv-15 represents one of the seven Hunter-Killer Groups now in commission. In the Pacific, Carrier Divisions 15, 17, and 19 are cycled through an annual training schedule. They operate in rotation in the Eastern Pacific with the First Fleet, the mid-Pacific with Commander Anti-Submarine Warfare Forces, Pacific, and finally with the U.S. Seventh Fleet in the Western Pacific.

The Hunter-Killer Group originated in 1943 during the Battle of the Atlantic when it effectively bridged the mid-ocean gap between surface forces and coastal air forces. The escort carrier was the heart of the HUK (short for Hunter-Killer) Group, then composed of destroyers, destroyer escorts, Navy F4F's and TBM's. These groups played major roles in keeping the sea lanes open and in effectively protecting convoys laden with men, equipment and vital materials.

In early 1942, the Allies were losing 13 ships for every submarine we managed to destroy. A year later, in 1943, the ratio had been reduced to two ships lost for every submarine sunk. And by 1944, we were making Hitler pay two submarines and two full crews for every Allied ship he managed to sink.

Anti-Submarine Warfare ranks among the most complex types of warfare facing this nation today. Its purpose is clear: To deny an aggressor effective use of his submarines

A TRACKER LOCATES A PERISCOPE—A NEEDLE IN THE SEA

VS-33 AND VS-38 FLY TRACKERS WHICH CARRY CREWS OF FOUR

against the continental United States or against the free use of the sea lines of communication.

Our Navy is primarily responsible for ASW and accomplishes this mission by the use of various types of forces to:

- protect merchant shipping,
- protect naval forces of all types,
- protect the United States against enemy-launched submarine missiles,
- detect, track and kill enemy submarines.

One of the best known of our modern ASW forces is the Hunter-Killer Group. Normally, such a group consists of a carrier division, a staff, an anti-submarine aircraft carrier, an air group (VS and HS) and a squadron of destroyers. However, a HUK Group could consist of any combination of naval forces which operate together to hunt and kill submarines, including VP patrol, nuclear submarines, and mine craft.

The Navy's ASW team includes the specialized HUK Group and much more. Attack aircraft carriers and guided missile submarines contribute with their capabilities to strike the enemy's submarine pens and ship-building yards. Long-range anti-submarine patrol aircraft cover open oceans, conduct offensive mine operations or coastal patrols, and supplement other HUK forces. Picket submarines and ocean radar station ships constitute anti-submarine barriers. All these forces support the Navy's ASW mission today.

Assisting Commander Carrier Division 15, RAdm. Miller, is an operational staff of 15 officers and 42 enlisted men. For the planning of any scheduled mission, the Operations and Plans Officer, under the Chief of Staff, can call upon a wealth of operational talent. The staff billets of Air Operations, Surface Operations, Sub-Surface Operations and Combat Information Center are filled by officers with extensive background and experience in their respec-

AD-5W, NICKNAMED 'GUPPY,' IS RADAR VERSION OF AD SERIES

tive fields. In addition, the Commander has staff officers assigned to advise him in matters of intelligence, communications and electronic warfare, as well as personal aides who conduct administration and scheduling.

The anti-submarine aircraft carrier *Bennington* (CVS-20), commanded by Capt. John A. Ferguson, is the flagship. With its underway replenishment support, the carrier provides great mobility and endurance to the HUK Group. A converted *Essex-class*, the *Bennington* displaces over 40,000 tons and can operate at high speeds. One hundred officers and more than 1400 enlisted men operate this carrier in round-the-clock all-weather operations.

Aboard USS *Bennington* is Carrier Anti-Submarine Air Group 59. It is composed of VS-33 and VS-38, Helicopter Anti-Submarine Squadron 8, and detachment "Q" of Early Warning Squadron 11. Led by Cdr. Paul A. H. Spears, this air group conducts ASW operations in coordination with destroyers and other HUK Group components of VP and SSN when assigned. The VS squadrons fly Grumman S2F *Tracker* aircraft and have more than 30 pilots and 175 crewmen. This effective combination has the capability of

COMMANDING OFFICERS OF CARRIER ANTI-SUBMARINE AIR GROUP 59 ARE SHOWN WITH CDR. PAUL H.A. SPEARS, GROUP C.O. (C)

hunting out, localizing and destroying submarines.

HS-8 pilots, in their Sikorsky HSS-1N *Seabat* helicopters equipped with dipping sonar, can operate day and night. The squadron has almost 50 pilots and more than 200 men who fly and maintain the helicopters. The AD-5W *Skyraider*, specially equipped with high-powered radar and communications equipment, is flown by the early warning detachment to the air group. Eight pilots and about 50 men constitute the detachment.

CVSG-59 was one of the first two ASW air groups commissioned in the Navy. Its history commenced when VAdm. Clarence E. Ekstrom, Commander Naval Air Force, U.S. Pacific Fleet, commissioned it on the flight deck of the *Bennington* in May 1960.

The destroyers represent an all-weather, long-range ASW system. Capt. Frank M. Romanick, Commander Destroyer Division 92, leads one team of four destroyers compatibly equipped to meet the various problems in combatting enemy submarines. In addition to Destroyer Division 92, Capt. R.B. Harrell, Commander Destroyer Division 252, and the four destroyers of his division complete the eight assigned which operate with the group. With an allowance of about 15 officers and 200 men each, these destroyers are called upon to screen the carrier and conduct detached search and attack tactics. They form an important part of the HUK Group operation.

Hunter-Killer operations are complex. The capabilities of the short-legged aircraft are compensated by the stamina and staying-power of destroyers. The speed limitations of destroyers are overcome by the swiftness of aircraft. Each HUK Group component augments and complements the others to form a highly mobile, integrated naval force. The sum of the capabilities of the team is far greater than the individual abilities of the various participating units.

HS-8 FLIES SIKORSKY HSS-1N EQUIPPED WITH DIPPING SONAR

The HUK Group is a versatile, specialized operational command whose combined talents must cover the enormous ASW field. The role of ASW is clear. We must protect the sea lanes for our own use and for the peace and security of the Free World. The role of the HUK Group is also clear: *To deny any aggressor effective use of his submarines.*


USS BENNINGTON REPLENISHES ITS STORES AND GROCERIES FROM USS ALUDRA, ONE OF THE SUPPLY SHIPS OF THE SERVICE FORCE

VA 56

GETTING READY *for a training flight involves special instructions given in the ready room.*

ALMOST READY *to go, two VA-56 pilots make sure by giving map another check.*

IN CITING some of the highlights of its nearly six years as an operating squadron, Attack Squadron 56 points first to an outstanding safety record. This record was made with various types of aircraft under all kinds of conditions.

The power-packed, efficient squadron has clear claim to its reputation as a first line fighting force.

Commissioned in June 1956, the squadron originally operated F9F-8B *Cougars*. After training, VA-56 deployed in May 1957 aboard the USS *Bon Homme Richard*. A year later, the *Cougars* were replaced by FJ-4B *Furies*, which were, in turn, superseded by A4D-1's in December 1958. In April 1959, the pilots switched to A4D-2's.

March 1960 found VA-56 deployed in the Western Pacific aboard the USS *Ticonderoga*. After a seven-month turn-around at its home base, NAS MIRAMAR, the squadron again deployed with CVG-5 aboard the *Big Ti*. January this year, VA-56 returned to its new home port, NAS LEMOORE, Calif. On both deployments, the pilots flew A4D-2's.

Now for the safety record since the squadron was commissioned:

- Never a fatal accident.
- Never a carrier accident.
- Only one strike accident (June 1958).
- No accident since May 1959. Thus, VA-56 has had two WestPac deployments with over 10,000 hours of flight time, and more than 4100 carrier arrested landings in 2½ years of flying without an accident.
- Between December 1958 and May 1959, VA-56 received 12 new A4D-2 aircraft. In January 1962, they were still flying these original planes.

The last three years of operations have brought VA-56 a number of triumphs. In December 1959, the squadron represented ComNavAirPac in the All-Navy Weapons Meet and was the winner of the Light Jet Attack phase.

In 1960 the squadron won the Battle Efficiency E for light jet attack and was runner-up for the CNO Safety Award. As one of the squadrons in the USS *Ticonderoga*, she shared in that carrier's Battle E award won both in 1960 and 1961.

Current pilots of the squadron hold

ON THE USS TICONDEROGA, *Elkholm, ADJ1, and Bloomquist, AM2, are at work on the power plant of one of the squadron's A4D's.*

VA-56 PERSONNEL *have been untiring in their efforts to keep the A4D Skyhawks available. Here two men check the wheel-well.*

VA-56'S A4D-2 *Douglas Skyhawks show their smooth, sweep lines in training flight. As a "Top Gun" award squadron, VA-56 has proved that through thorough training and teamwork, it can deliver consistently fine performance combined with outstanding flying safety.*

23 E's, and all the pilots are day and night carrier-qualified.

The squadron has emphasized conventional ordnance delivery and its associated close air support tactics. This has not been done at the expense of special weapons delivery capability. Virtually all sorties flown by VA-56 during the past year have included some form of ordnance delivery.

In January Cdr. J.A. Homyak relieved Cdr. W.H. Hoover as C.O.

KEEPING NAVY PILOTS IN THE PINK

FLYING FITNESS SENSE, NAVWEPS 00-80Q-53, now being distributed, is bound in exactly the right color—PINK. In the usual once-over-lightly manner, characteristic of the Navy's popular Sense Pamphlets, the latest is illustrated as the others have been by the famed artist, Robert Osborn.

The evils of fatigue, cigarette smoking, alcoholic intake, crash diets and emotional upsets, are enunciated, illustrated and reiterated. Authorities—medical and nutritional—as well as flight surgeons' injunctions and presidential pronouncements — are drawn upon to attest to the critical importance of physical fitness. President Kennedy is quoted: "Our growing softness is a menace to our security." This is true of everyone, but especially for pilots.

One thought for the day: "The improvement of the airplane since its invention has never faltered or ceased; it still goes on. We, of course, remain Mk 1, Mod 1. And the tensions, both physical and mental, imposed upon today's airplane drivers by supersonic, flying devices would make Grandpa quail—and Grandpa, remember, was no Casper Milquetoast."

Since pilot error accounts for 64 per cent of Navy's accidents, according to the pamphlet, how the pilot feels is crucial. What does physical fitness in a pilot include?

Alertness—"When you climb aboard your airplane, don't take a backlog of fatigue in with you."

Slimness: Calisthenics is not the whole answer to the weight problem. Eating less food *is*, provided that the pilot stays away from crash diets which may induce a malnutrition that will cause him more trouble than surplus pounds. Stress is placed on the right foods: proteins, liquids (water, milk, vegetable and fruit juices), and nourishing food at regular times. Breakfasts are not something to omit.

Sobriety—To the succinct statement of the OPNAV instruction on the subject of drinking: "Pilots who are impaired by alcohol, even to the slightest degree, should be grounded until fully recovered," the author writes "Amen." He then adds: "What isn't so well known are: (1) how boozing it up fouls you up; and (2) how can you feel cold sober and still be more or less crocked."

Smoking—Cigarettes get a real thumbs-down. "Smoking more lately—but enjoying it less? Good, why don't you give it up entirely?" While the author is apparently not hopeful of many following this suggestion, he gives more than enough statistics to prove the wisdom of it.

Emotional Upsets—Here are three F's that can foul you up—Fatigue, Frustration and Families.

Because of the wide public interest in President Kennedy's Physical Fitness program, copies of *Physical Fitness Sense* have been made available at the Office of the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C., at a price of only 40 cents each.

NEW LEADER FOR BLUE ANGELS

LCDR. KEN WALLACE ACCEPTS COMMAND FROM CDR. KNOTT AS ANGEL LEADER

REORGANIZED and refreshed after a winter training period at Pensacola, the *Blue Angels* Flight Demonstration team prepared for a new season with a new leader and two new additions to the team.

Installed as Officer-in-Charge of the team 16 January is LCdr. Ken Wallace, who was elevated to the Number One position after two tours of flying in the #4 slot in the *Angels*' famous diamond formation.

Cdr. Zebulon Knott, who led the team through the 1959-60-61 seasons, was ordered to report to the West Coast as C.O. of Attack Squadron 153, NAS LEMOORE. Cdr. Knott's tour reached a peak in 1961 when the *Blues* participated in almost 80 official demonstrations as part of Naval Aviation's 50th Anniversary celebration.

Once described as having flown "more time in the slot position than many pilots log in a whole career," LCdr. Wallace flew with the team from 1953 to 1956, returned in 1960 for his second tour. Number Four position in the formation is regarded as the most demanding position from a pilot's standpoint.

Flying right wing in the four-plane formation of F11F *Tigers* with the new leader will be Capt. Doug McCaughey, Marine representative, starting his third season with the team. The Number Three position, left wingman, will be flown by newcomer Lt. George Neale, an F8U *Crusader* pilot in VF-174 and VF-84 prior to assignment to the *Angels*.

Flying the slot this year will be Lt. Dan McIntyre, who flew the 1961 season as one of the solo *Angels*.

Solo performances for the new season will be flown by Lt. Lew Chatham, a holdover from last season, and new team member Lt. Dick Langford, a *Crusader* pilot who made two deployments with the USS *F. D. Roosevelt* prior to reporting to the team.

TWO NEWEST 'BLUE ANGELS' ARE LT. DICK LANGFORD (LEFT) AND LT. GEORGE NEALE.

Ranger Aids Sasebo Pupils

Christmas Gift to Educate Eleven

Eleven Japanese students of Sasebo received scholarships for the remainder of this school year from Capt. William N. Leonard, Commanding Officer of USS *Ranger* (CVA-61).

The scholarships were made possible when *Ranger's* officers and men decided to forego their annual Christmas party and use the monies to send Japanese children to school. The $3000 Christmas Fund gift to Sasebo will be used to educate Japanese students who merit scholarships.

The scholarships these students received are just a small part of the program started by *Ranger*.

TFX Field is Narrowed

Boeing, General Dynamics Named

The Boeing Company and General Dynamics Corporation are to undertake final detailed studies leading to the development of a new tactical fighter aircraft for the United States Navy and Air Force.

Development of the advanced fighter, now known as the TFX, is in line with the belief of Secretary of Defense McNamara that over-all program costs can be reduced, and delivery dates expedited, by the two services cooperating in designing and producing a single aircraft to meet future needs of both.

Minor changes in the basic design will be made to provide two versions designed to meet the Navy's requirement for a carrier-based fighter and the requirement of the Tactical Air Command for a fighter-bomber.

The selection was the result of almost two months of evaluation by a team of Navy and Air Force experts of design proposals submitted in December by a number of individual or associated companies. Based upon the evaluation of the results of these study contracts a final selection will be made in approximately 90 days.

Proposals were submitted by Boeing, General Dynamics, Lockheed Aircraft Corporation. McDonnell Aircraft Corporation, North American Aviation, Inc., and Republic Aviation.

IN FOREIGN SKIES

India's First Aircraft Carrier

The first aircraft carrier in the Indian Navy, INS *Vikrant*, arrived in Bombay late in 1961 and was formally received by Prime Minister Nehru.

The carrier, commanded by Capt. P.S. Mahindroo, has a complement of 1300 officers and sailors. She has a displacement of 19,530 tons, a length of about 700 feet and an extreme beam of 128 feet.

Aircraft aboard are *Sea Hawk* strike and Breguet *Alize* anti-submarine airplanes.

Air Direction facilities take the form of an operation room of the "double decker" type which gives a complete air, surface and underwater display. Information is provided by the latest radar and communication systems.

The aviation wing of the Navy was inaugurated in 1953 with the establishment of the Indian air station, INS GARUDA at Cochin. Since its inception, Garuda has been training pilots, observers and others with the help of the Fleet Requirement Unit. This unit is comprised of amphibious *Sealands*, target-towing *Fireflies* and jet *Vampire* aircraft.

A number of schools have been set up to train personnel in various other branches of naval aviation.

VP–16 Personnel Train in Ireland

Spurred by a mutual concern over communist submarines, VP-16 members joined their opposite numbers in the Royal Navy the middle of January for four weeks of special studies at Londonderry, Ireland. The selected personnel, based at NAS JACKSONVILLE, had been invited by the Royal Navy to participate in a tactics course at the Joint Anti-submarine School located on the northern tip of the British Isles.

Cdr. R.G. Bagby, VP-16 C.O., selected Crew Nine to make the trip.

The ASW training included actual patrols and exercises with VP-16's British counterparts. Classroom subjects included hydrography, hydroacoustics, submarine operating procedures and closely related subjects.

NINE LIGHTNINGS IN TIGHT FORMATION

RAF HUNTERS IN 16-PLANE FORMATION

PRECISION OF HUNTERS IS DEMONSTRATED

Farnborough Addendum

Capt. E.S. Lee, Jr., Chief of Navy Section, MAAG, The Hague, Netherlands, upon reading Cdr. C.E. Price's report on Farnborough in the November 1961 issue of *Naval Aviation News*, sent in pictures he had taken of some of aerobatic demonstrations.

He wrote a brief critique of the show which is quoted in part: "The Royal Air Force squadron of nine *Lightnings* gave an outstanding performance. . . . The group that really took my eye was the 16-plane squadron of Royal Air Force *Hunter* aircraft. They performed formation, loops, rolls and wing-overs in a fairly tight formation with excellent precision. I feel they deserve praise."

Capt. Lee spoke of the fine quality of the Royal Navy *Scimitars*, which also used nine-plane formations.

Britain's New Experimental Tank

A new $4,000,000 experimental maneuvering tank will play a large part in the development of Britain's future naval vessels. The facility was opened by the Duke of Edinburgh.

The tank, 400 feet long and 200 feet wide, holds 40,000 tons of water. It was built at the Admiralty's Experiment Works at Haslar, near Portsmouth, England. Massive wave-making plungers, each 40 feet long, capable of producing regular or irregular wave systems, can simulate storm conditions in the tank. The tank is also fitted with a 100-foot-long rotating arm which pivots from an island in the center of the basin.

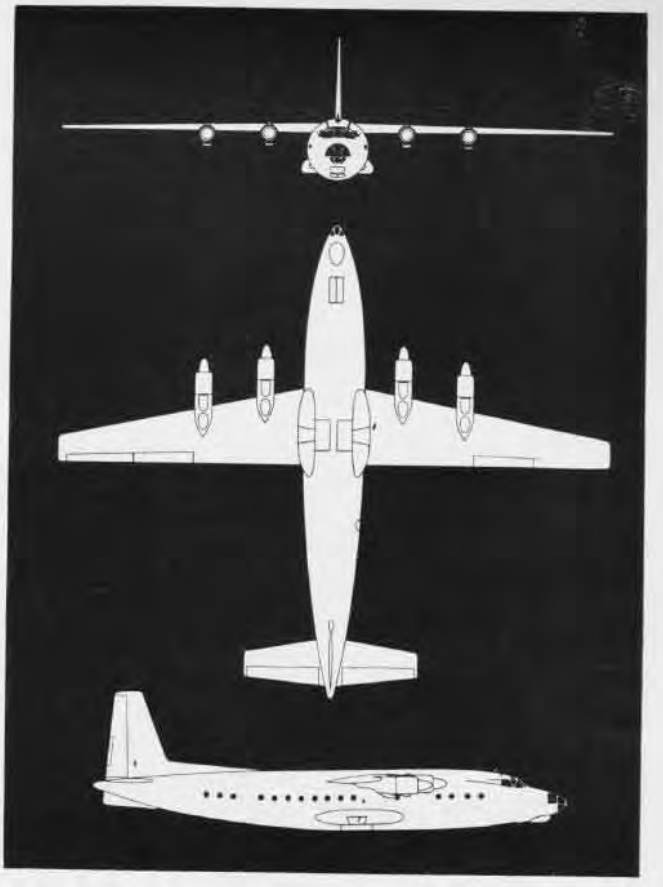
Models can be attached to the arm and driven through the water at simulated speeds of up to 70 knots. The free-moving models, all dynamically representative of full-scale vessels, are fitted with remote control gear and operated by short-wave radio from control rooms beside the basin.

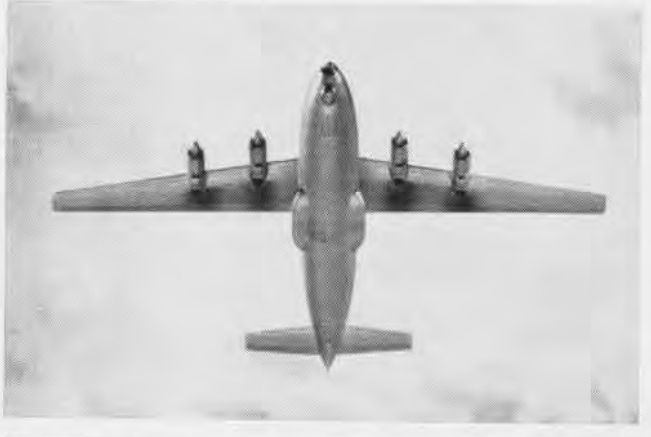
Experiments to be conducted at Haslar will include specially planned maneuvers, recorded by overhead cameras and by instruments concealed in the model ships, seaworthiness experiments and investigations to assess the dynamic stability of both surface ships and submarines.

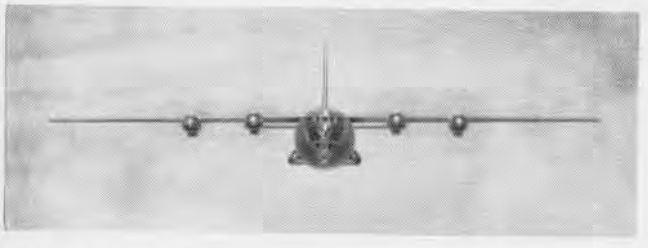
All the model vessels are fitted with apparatus to record and measure the pitch, heave, roll and yaw, as well as propeller rpm as they plough through the heavy waves in the tank.

Results of the research will be shared with a number of friendly navies, in particular with the U.S.A., Canada and Australia. The U.S. Navy's Maneuvering and Sea-Keeping Facility (MASK) at the David Taylor Model Basin in Maryland, opened in June 1961. It has similar equipment and is closely linked with Haslar.

THE four-turboprop-engine transport, called 'Ukrania' in USSR, was designed by Antonov. Wing span is 125 feet; length, 107. Weighing about 75,000 lbs., it has a range of some 1500 nautical miles. Tricycle landing gear retracts into long side blisters. Blister under transparent nose may be for navigation radar.







TRANSPORT 'CAT'

★ ★ ★ ★ ★ ★ ★

BIG E'S FIRS

After years of building, months of training world's mightiest mobile airfield were brou aboard the USS *Enterprise* in the Atlantic on Group One, brought aboard a *Crusader* for the initial landing, the tempo of air operati *Enterprise* and her air group join the Second come routine. In the moments before the fir of uncertainty. When the first aircraft appea 'Here we are! Are you ready for us?' A scathed, seems to scream back, 'What do yo breaks the 'ice.' For a story on the Enterpri

T TALLEY-HO

nd weeks of sea trials, all the elements of the
t together for the first time for air operations
January. Cdr. George Talley, Commander Air
e first *Enterprise* landing. From the moment of
will build up to a fighting pace. By the time
et several months hence, the work will have be-
anding, however, there always exists a thread
ver a 'virgin' carrier, they seem to be shouting,
the carrier, her decks clean and her paint un-
hink we've been waiting for?' A single landing
and her first landing operations, turn the page.

FIRST THREE NAVAL AVIATORS *to land aboard the USS Enterprise, right to left in the order of their arrestments, were Cdr. Talley, CAG One; Cdr. Moorer, C.O., VF-62, and LCdr. Taylor.*

IN SPECIAL CEREMONIES conducted at sea 17 January off the Virginia Capes, the world's mightiest carrier was united with her air group for an opening round of landings and take-offs.

To Cdr. George C. Talley, Commander Air Group One, went the honor of making the first landing on the 1100-foot deck of the USS *Enterprise*, CVA(N)-65, only nuclear-powered carrier in the world.

His landing aboard the chill deck, catching the third of four arresting wires, was the signal for a celebration by the ship's crew. After Cdr. Talley had taxied forward of the streamlined island, he was met with a series of "Welcome Aboard" signs whipping in the 40-mph wind over the deck. Dismounting from his F8U-1 *Crusader*, Cdr. Talley was greeted by the *Enterprise's* Operations Officer, Cdr. Harold F. Lang. A boatswain's chair, rigged as a sedan chair, carried him aft of the island where a traditional cake was waiting.

A few minutes later, Cdr. John Dick, Air Officer of the mightiest ship afloat, signaled his assistant, Cdr. Robert Kasten, to bring aboard the two other *Crusaders* which accompanied Talley to the rendezvous with the *Enterprise* off the Virginia Capes. To Cdr. J.B. Moorer, commanding officer of VF-62, which will be one of the *Enterprise's* seven combat squadrons when it deploys this summer, and to LCdr. J.J. Taylor went the honor of being No. 2 and No. 3 to land aboard.

On the windswept wintry deck, the *Enterprise's* flight deck crew, many of them seeing their first action, clicked like veterans as the two F8U's landed. Following them came four A4D-2N's from VA-64 and three AD-5N's from VA-135.

The 10 pilots were briefed in the ready room as soon as they had landed. They received instructions from Cdr. Dick and others of his air department staff on the afternoon's program of launches and landings. The AD pilots were headed by Cdr. G.C. Watkins, skipper of VA-135, and included Lt. R.R. Knepper and LCdr. N.N. Olson. Cdr. Paul Anderson was skipper of the the A4D squadron which also sent Ltjgs. R.L. Larson and J.B. O'Donnell and Ens. S.T. Taylor out to make first-day landings and cat shots from the *Enterprise*. Two more VF-62 *Crusaders* flew out from the beach the second day to join the first three.

The ship held a day and a half of air operations which saw some 170 landings and take-offs made by the three types of combat planes.

After a week of training operations at sea to check out its crew, the *Enterprise* took aboard 60 newsmen and sailed for the Bermuda area to join the fleet of Navy ships stationed in the Atlantic to pick up Astronaut John H. Glenn. Aboard were several *Crusaders* from VF-62 which will be among the 100 aircraft which will base on the *Enterprise* when it joins the Second Fleet in early summer.

SEAT OF HONOR *is a boatswain's chair, occupied by Cdr. Talley as flight deck crew transports him from aircraft to first landing rites.*

FLIGHT DECK CREW *scrambles to greet first F8U-1 Crusader to land aboard nuclear-powered carrier during initial phase of air operations.*

SUIT GIVES ARRESTERMAN ASSURANCE

Latest in Safety on Lex

Arrestermen Don Protective Suit

The catapult bridle arrestermen aboard USS *Lexington* (CVA-16), serving in the Seventh Fleet, are sporting the latest safety fashion in flight deck apparel. The arrestermen, who retrieve bridles from the arrester boom after an aircraft has been launched, have cast away their safety lines and adopted a new "safety suit."

With the flight deck level 65 feet above the water, and 35-45-knot winds whipping over the bow, retrieving bridles from the narrow, 15-foot-long catapult extension is a hazardous job.

In the past in using the standard Navy safety line, a manila line secured around the waist, there was always the danger of the lines slipping around the man's feet or neck if he ever had the misfortune of falling over the side. The new safety suit eliminates the hazard.

The safety suit is made from surveyed flight suits, with 1800-pound test nylon straps sewn around the shoulders, chest, waist and legs. These three straps are linked by vertical straps sewn on both sides of the suit. Two friction buckles, one on the chest strap and one on the waist strap, are used to fit the suit properly. Either of two "D" rings, located on the waist strap, can be used to secure an end of a manila line. The other end of the line is fastened to the flight deck edge.

The idea for making the suit was that of Ltjg. K.D. Barton, Aviation Supply Officer, who also helped Lt. D.M. Herriott, Assistant Catapult Officer in its design. The suit was made in the ship's parachute loft. Total cost of the suit was estimated at $1.50; using new flight suits the cost would be approximately $15.00.

Lt. Herriott estimates that the suit is capable of withstanding a shock of 800 to 900 pounds, more than enough needed if the suit were ever to be given the "final test."

Fuel Facilities Transferred

Cabaniss Tanks for Orange Grove

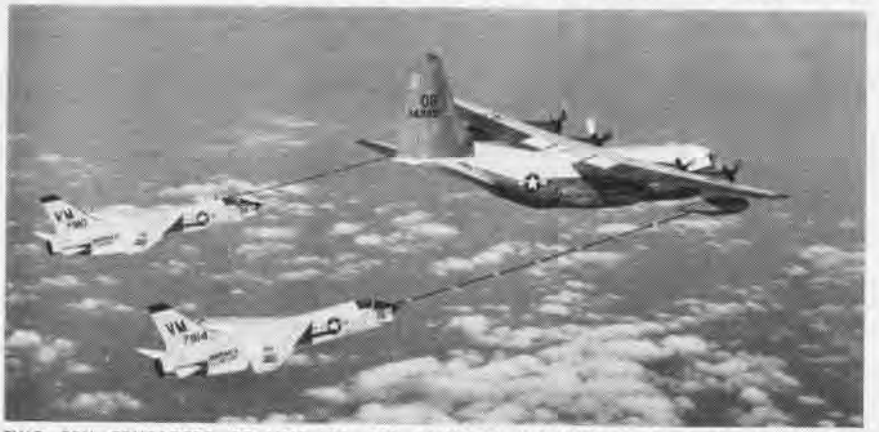
Three 25,000-gallon fuel tanks are to be moved from NAAS CABANISS FIELD to NALF ORANGE GROVE, Texas. When in operation, the fuel facility will handle approximately 25,000 gallons of JP-4 fuel daily.

The move was decided upon in order to utilize the landing field more efficiently for practice carrier landings.

VT-21, VT-22, VT-24 and VT-25 from Kingsville and Beeville will be able to use the field, thereby eliminating the turnaround time involved in travelling from Orange Grove to Beeville or NAS KINGSVILLE to refuel.

BUCCANEER, THEN AND NOW. *Aviators of the early World War II period may recall the Brewster SB2A Buccaneer, a sleek-looking divebomber which never quite lived up to the expectations for it. Some were exported to the British as Brewster Bermudas, but none saw use in combat. Currently Lt. W.W. Foote, USN (right), is making the acquaintance of a new Buccaneer, the Royal Navy's Blackburn NA-39. Shown above with Lt. D.J. Ellin, RN observer, Exchange Pilot Foote is assigned to Flight 700Z at RNAS Lossiemouth, Scotland. Mission of the flight is to prove the operational suitability of this low-level all-weather strike aircraft.*

MARINE JET FIGHTERS CROSS PACIFIC



TWO F8U CRUSADERS OF VMF-451 ARE REFUELED INFLIGHT FROM A HERCULES GV-1

FOR THE FIRST time in Marine Aviation history, an entire jet fighter squadron flew from California to Japan. Leaving MCAS EL TORO, Calif., Marine All-Weather Squadron 451, commanded by LCol. Charles E. Crew, relieved VMF-312 in the Far East. VMF-451 is assigned to the 1st Marine Aircraft Wing, Atsugi. The flight began 15 January, and destination was reached seven days later.

The movement of the 18 radar-equipped, single-engine *Crusaders,* Operation *Pine Needle,* was highly successful, according to Col. B.G. Myking, VMRG-252 C.O., who commanded the 2nd Marine Aircraft wing refuelers. The new *Hercules* refuelers were stationed with 11 other giant Marine aerial refuelers and Navy "flying radar stations" along the 7000-mile route.

The 18 F8U's traveled in groups of six at a 40,000-foot altitude. During the 17 hours in the air, the 18 jets dropped to 20,000 feet at refueling times.

The route taken involved three stops. The first at Hawaii, 2250 miles from California, then Wake Island, 2180 miles west. A swing was made north over Midway as a check point. Leaving Wake, the jets made the shortest leg of the trip, 1297 miles to Agana, Guam.

VMRG-252 aircraft refueled the 18 jets at two of the six rendezvous points. The first time between El Toro and Hawaii and the second operation between Midway and Guam. "The two operations couldn't have gone more smoothly," remarked Maj. W.P. Elzey, one of the plane commanders taking part in refueling.

Maintenance personnel of the squadron were pre-positioned at stopping points to insure that the jet fighters were in top mechanical shape before each take-off. Personnel were also stationed at Midway and Iwo Jima in case a jet was forced down by mechanical trouble.

The *Crusader* squadron flight, an attempt to further increase the high state of mobility of Marine Corps aviation units by relocating them faster and at less cost than before, was expected to cost about one third of the expense of trans-Pacific shipping.

VP-17 Passes a Milestone

Seven Unbroken Years of Safety

As the New Year 1962 approached, VP-17 claimed its seventh consecutive year of safe flying, logging 51,571 accident-free hours. The squadron, based at NAS WHIDBEY ISLAND and commanded by Cdr. W. J. Pressler, operates P2V-7 *Neptunes.*

In achieving its seven-year safety record, the squadron has deployed seven times. It is currently in its third consecutive deployment to the Alaskan area.

The impressive number of accident-free hours represents an average of 7367 hours per year, or 614 hours per month, flown in the Pacific under a variety of weather and operating conditions. In the current deployment, VP-17 conducted ASW, mining, and reconnaissance missions.

At different times in the period covered, the squadron has flown P2V-6 and P2V-5F planes, as well as P2V-7's.

Management Briefing Held

10-Day Institute for CNATRA

The 1962 CNATra Management Development Institute was held in Washington 22-31 January. Eight CNATra air station C.O.'s and 25 other officers of Captain and Commander grade participated.

VAdm. Robert B. Pirie, DCNO (Air) addressed the group on the subject of "Military Management Opportunities under Program Packaging." He defined management as "the organized application of good judgment and leadership to obtain maximum mission accomplishment." He went on to emphasize command responsibilities for getting the most from the available material, manpower and money.

Adm. Pirie explained the new program package system being used by the Secretary of Defense to allocate the Defense budget among competing programs and Services and pointed out how, under the system, the command-management efficiency of individual commands would affect the Navy's future.

"Program Packaging," the Admiral told the CNATra officers, "is endeavoring to view each weapon system on the basis of economic performance, that is, its mission effectiveness and cost. . . .

"Since the cost of supporting our major weapons systems now becomes directly related to whether we retain them, the management effectiveness of all our supporting commands will have a direct and vital influence on over-all Navy effectiveness. . . .

"If there was ever any doubt that the detailed management of your money, manpower and materials is a command function of the first order, there should be no doubt now."

Other high level officials, including the Honorable Paul B. Fay, Jr., Under Secretary of the Navy, VAdm. Fitzhugh Lee, Chief of Naval Air Training, VAdm. G.F. Beardsley, Chief of Naval Material, addressed the group. The Training Command officers were also briefed by experts from government, industry and universities.

The conference was designed to give participants an opportunity to refresh and update their knowledge of formal management practices as well as to give them a better understanding of their own command-management problems. Experts briefed the group on PERT and other developments.

Evolution of Aircraft Carriers

DECISIONS OUT OF JUTLAND

'It is impossible to resist the admiral's claim that he must have complete control of, and confidence in, the aircraft of the battle fleet, whether used in reconnaissance, gun-fire or air attack on a hostile fleet. These are his very eyes. Therefore the Admiralty view must prevail in all that is required to secure this result.'—Winston S. Churchill.

THOUGH THESE WORDS were written in 1936 as a private citizen, Winston Churchill earlier, as First Lord of the Admiralty, advocated the development of aviation in the navy while the aeroplane was still young. He was partially responsible for placing the new machines aboard British ships shortly after the first decade of this century. As a result, during World War I Great Britain developed the aircraft carrier and built a small number of them before any other country had a single ship designed for the operation of planes at sea.

Heavier-than-air craft had its start in Great Britain four-and-a-half years after Orville Wright launched the world's first successful aircraft at Kitty Hawk. Mr. Alliott Verdon-Roe completed constructing his plane at Broadside, England. Modeled after a Wright brothers' aeroplane, it was successfully flown on 8 June 1908.

On 2 March 1911, three Royal Navy officers and one Marine officer began taking flying instruction given by a civilian enthusiast. The first of the four to solo was Lt. Charles R. Samson who, in the next ten years, built a distinguished reputation for being a flamboyant man of action.

In 1912, Horace Short produced Britain's first seaplane (Churchill has been credited with coining this one-word description of the aircraft) and it was successfully flown by Samson. Only months earlier, Samson demonstrated the potentials of naval aviation when in December 1911, he test-launched a Short S.27 biplane from rail platforms on the foredeck of HMS *Africa* while the warship was at anchor at Chatham. He made a safe landing alongside, using flotation bags strapped to the wheels of his plane.

Four months later, in May 1912, the first British flight from a moving ship was effected when Lt. R. Gregory, one of the "original four," took off from a temporary flight deck of the battleship *Hibernia*. The ship was steaming in Weymouth Bay at a speed of 10 to 12 knots.

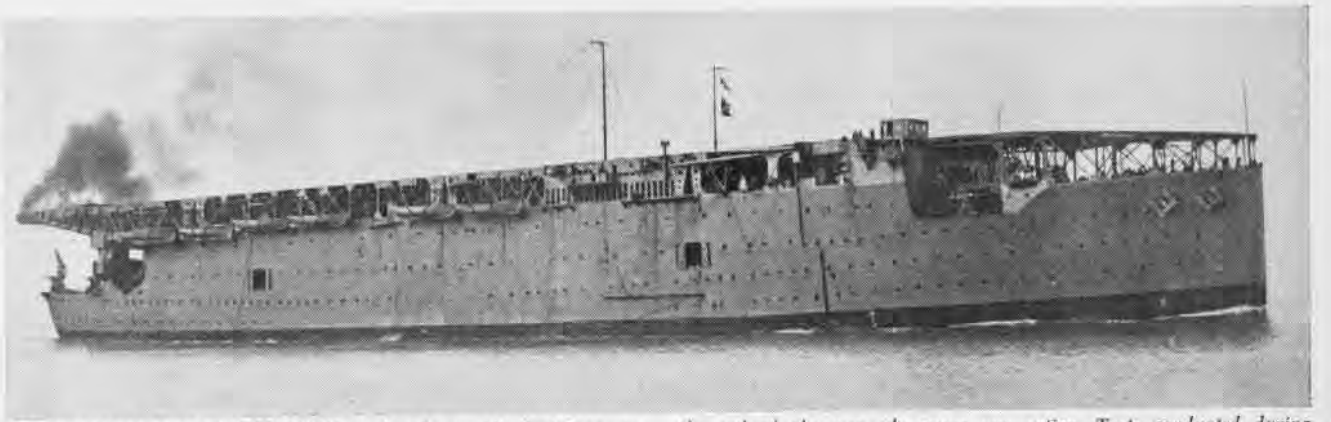
By this time, France already had an Air Corps, consisting mostly of landplanes. Between 1912 and 1914, she experimented with seaplanes aboard the converted cruiser *Foudre*, previously used as a mine ship, but apparently lost interest before any notable advancement could be made. The ship could not house an effective number of aircraft aboard; the rest were hangared on the beach at Frejus. But in number of landbased craft in the military inventory, and in pilots trained, France was the undisputed leader in pre-WW I years.

Germany believed her future lay in the development of lighter-than-air craft, eschewing experiments in sending heavier-than-air craft to sea. Her answer to war at sea was the U-boat, supplementing the High Seas Fleet, and she used it effectively in the turbulent years ahead. She did develop landplanes, some with extraordinary achievement, but it was with Count Ferdinand von Zeppelin and his airship designs that Germany placed her national trust.

Italy, at that time (and for many years after), did not believe carriers were necessary for her defense. The prevailing opinion was that the country was so centrally located it was virtually a land base from which the Mediterranean could be controlled.

Japan developed aircraft carrier designs, but details of construction were not revealed to the rest of the world for decades.

The United States, after originally inventing the aeroplane, did not during WW I aggressively push their op-



CONSIDERED BY MOST HISTORIANS *to be the world's first true aircraft carrier, HMS Argus had flush deck installed. Completed toward the end of the war, she never saw action. Tests conducted during construction and post-war operations influenced design of later carriers.*

ON HMS BEN-MY-CHREE *during the Dardanelles campaign, a Short seaplane is lifted over the side. Double-acting ailerons on both wings.*

A SOPWITH CAMEL *launches from converted HMS Pegasus in 1918. Note machine gun mounted on wing. Camels were used extensively.*

eration at sea. True, the Navy had equipped at least three ships to operate aircraft by installing catapults on them, but the catapults were removed during the war. On the whole, the military was not encouraged and seldom financed; civilians had little motivation for building carriers.

With France the undisputed master of the landplane, Germany the acknowledged expert in lighter-than-air craft, and the whole of Europe feeling the faint stirrings of unrest as early as 1912, Great Britain was intent on catching up with and overtaking, if possible, France and Germany in their respective aeronautic specialties.

As war years approached and the German submarine force grew in potential, Britain, as the major sea power, instinctively sought ways of adapting aeroplanes for operations with the fleet while out of flying range from home bases. Her success eventually gave her a weapon more powerful than those developed by competing powers.

The genesis of the British aircraft carrier can be plotted with simplicity. At first, attention was directed to the launching of aircraft from water. Both hydroplanes and flying boats were studied, tested, and developed.

Later, experiments were made in launching planes from ships, followed almost immediately with efforts to successfully retrieve them at sea.

Eventually, the performing advantages of the light landplanes over the awkward hydroplanes led to efforts to develop vessels which could take the landplane to sea. When these achieved success, the forerunner of modern aircraft carriers was born. The gestation period was surprisingly short for such a complicated ship, but its parturition was forced by the pressures of wartime and an instinctive fight for survival.

Britain's first step toward carrying aeroplanes to sea was to establish an official air arm. On 13 April 1912, the Royal Flying Corps was constituted by Royal Warrant and, on 19 June, a Central Flying School was opened at Upavon Downs. Both the Corps and the School were planned for the centralization of aviation activities in the Royal Navy and the "Military."

Between 1912 and the outbreak of hostilities in August 1914, Europe became increasingly restless. In October 1912, following the establishment of the Corps, Britain commissioned a number of naval air stations for coast guard duty. One was placed at Cromarty, Scotland, and the remaining three in England, by the Channel coast at Calshot, Yarmouth, and Felixstowe. Two others were already in operation, one at Eastchurch and the other on the Isle of Grain. The sites were selected to form a chain so that planes could fly from one station to the next without requiring an interstop for refueling.

British naval aviation moved more closely toward the carrier concept when a wheeled launching platform was installed in the cruiser *Hermes* in June 1913. At first, two seaplanes operated from the ship. Later, she was capable of carrying a third. By October 1914, *Hermes* had been fitted to handle ten.

In the summer months of 1914, Prime Minister Lloyd George appointed Winston Churchill First Lord of the Admiralty, comparable to the Secretary of the Navy in the U.S.

In a series of sudden decisions, Churchill immediately called out of retirement brilliant Lord Fisher, a cantankerous admiral who advocated great changes in the Royal Navy. He was made First Sea Lord (i.e., CNO). Almost at the same time, Churchill elevated the bellicose Sir John Jellicoe to command the Home Fleet, bypassing several senior officers en route.

Aviation fascinated Churchill. He flew at every opportunity and encouraged the development of aircraft for the Navy's use. In this respect, he was militant. In the words of Sir Sefton Brancker, then Deputy of Military Aeronautics, "The first sign of Churchill's policy was his sudden announcement that the Naval Wing of the Royal Flying Corps had become the Royal Naval Air Service—this without any reason or warning to the War Office."

His most startling decision was made shortly before war was declared. On his own initiative, Churchill called up full mobilization of the Navy, risking a veto by the Cabinet and not waiting for a signature from King George V. The entire reserve strength went on active duty; the ranks of naval aviation broadened with other units of the fleet. It was one of the few times in history that a defending nation's navy was adequately prepared upon the declaration of war.

Events moved swiftly. On 28 June 1914, the Austrian Archduke, Franz Ferdinand, was assassinated by Serbian students at Sarajevo. On 17 July Churchill concentrated the fleet at Spithead for review and maneuvers. All available naval aircraft took to the air: 17 seaplanes and two flights

of aeroplanes. On 28 July Austria-Hungary declared war on Serbia. Russia sided with the Serbs and Germany mobilized. On 1 August, the British planes at Eastchurch were tuned up. August 4th, England declared war on Germany, and Germany declared war on Belgium.

At that time, Great Britain had only one vessel that could even remotely be referred to as an aircraft carrier, the *Hermes*. Her wartime activity was cut short, however. On the evening of 30 October 1914, she was torpedoed and sunk. Fortunately, most of her crew survived.

In short order, an old merchantman was placed in a shipyard and her superstructure converted to carry and launch seaplanes from wheeled trolleys. It was the same type installation used in the *Hermes*. The merchantman displaced 7450 tons, was slightly longer than 350 feet, and had a speed of about 11 knots. This ship, HMS *Ark Royal*, was to prove valuable to the Royal Navy in future years.

In quick succession, other vessels were converted. The former fast cross-Channel packers, *Empress*, *Engadine*, and *Riviera*, were fitted with hangars for seaplanes and equipped with cranes for hoisting aircraft into and out of water. Later, an Isle of Man packet, *Ben-my-Chree*, was refitted for seaplane operations.

Except for submarine activities—which proved deadly in the early years of the war—the German Navy *seemed* tenaciously timid. The Kaiser adamantly refused to permit the High Seas Fleet to engage the British, so it hung reluctantly to safe ports. There were, therefore, few demonstrations of German belligerence by surface ships at sea. But in the early months, two engagements are notable, for they eventually affected some future designs of Royal Navy ships.

In September 1914, the German cruiser *Konigsberg*, skulking in the Indian Ocean, attacked and sank the British cruiser *Pegasus* in port at Zanzibar. She then hid in a maze of channels in the Rufiji Delta on the east coast of Africa. The Admiralty knew her whereabouts, but not exact location. Charts indicated five possible exits for *Konigsberg*, but there was only one ship in the area able to offer chase, *Kinfauns Castle*.

Not far away, on the island of Niororo, a civilian stunt pilot, H. D. Cutler, suddenly found himself commissioned in the Royal Naval Air Service and his two weathered Curtiss flying boats in the Air Service's inventory. He was immediately assigned to locate the cruiser. Only those familiar with the vagaries of war can appreciate the actions that followed.

On his first flight, Cutler had no compass, got lost, was forced to beach on a deserted island and awaited rescue. *Kinfauns Castle* found him. Two days later, his leaky boat repaired, he found the German cruiser deep up a tideway. He returned to the ship and reported. Charts at the home office indicated the water too shallow to support a ship of the *Konigsberg* draft; another recon was ordered by the Admiralty, this time with an observer aboard.

Ten days were lost while Cutler awaited shipment of his second Curtiss; the first now leaked so badly it was unusable. The ship's commanding officer observed during the next flight and confirmed the *Konigsberg*'s location.

Sinking of the German cruiser now became an *idée fixe* with the Admiralty. The nearest ship of sufficient size and firepower to do the job was too far away. Days passed, while *Kinfauns Castle* awaited help. Cutler launched again to ascertain *Konigsberg's* continued presence, but shortly after reaching the tideway, his engine failed. Forced down, he was captured by the Germans. Aerial reconnaissance no longer a threat, *Konigsberg* saw no reason for leaving her safe anchorage.

It was not until April that Short seaplanes arrived on the scene to take up Cutler's recon missions. One of the planes was shot down on its initial flight before completing a photo run. Use of the others was limited: they could not reach sufficient altitude for bombing.

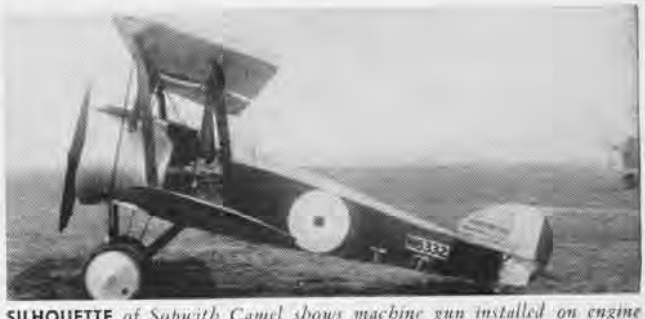
Two more months went by before help finally came—in the monitors *Severn* and *Mersey*. They were equipped with Henri Farmans for spotting, but even then their job was not easy. A spirited fight ensued between the ships, interrupted by a five-day interim for necessary repairs to the Farmans. The battle then resumed and eventually, under persistent British gunfire directed effectively by the aircraft, the German cruiser fell.

The third German-British naval engagement of WW I has been entered in history books as the Battle of the Falkland Islands.

Over on the China Station, Germany had eight cruisers operating in these and nearby waters. When Japan declared war against the Central Powers, the German squadron, commanded by Adm. Count von Spee, sailed for South America, bombarding Papeete and Fanning Island en route. He was joined by two more cruisers at Easter Island and, in company, they proceeded to the coast of Chile. The Admiralty, intent on destroying this enemy force, assembled as many ships as possible off the southeast coast of South America, and even dispatched three from the Grand Fleet to join in the hunt.

Von Spee, still eager for battle, decided to attack the Falkland Islands. It was a fatal decision: the British

THE FELIXSTOWE F.5, *called "Large America," was a British improvement of Curtiss' flying boat built before U.S. entered World War I.*



SILHOUETTE *of Sopwith Camel shows machine gun installed on engine cowling. Synchronizer developed by Germans permitted this system.*

squadron came upon him unexpectedly and sank all the German ships, save one, which managed to escape.

These two incidents—the spotting and sinking of the *Konigsberg* and the Battle of the Falkland Islands—led to the later development of gun-turret launching experiments in HMS *Repulse*, and the construction of Lord Fisher's "Hush! Hush!" ships, *Courageous*, *Glorious*, and *Furious*.

The British turret-launching system was designed and developed in 1917. By early 1918, nine battle cruisers and two light cruisers were equipped to launch seaplanes from systems installed over ships' gun turrets.

Though developed by the British under the pressures of wartime urgency, the idea was first recorded as early as November 1910 when New York Navy Yard quartermaster joiner E.C. Keithley proposed a design shortly after Ely's successful take-off from the *Birmingham*. Keithley's idea was rejected—too advanced for its time—tossed into Navy files and forgotten.

But Fisher's "Hush! Hush!" ships have fascinated naval architects and historians since they were uncovered. Originally, they were built as cruisers of a sort under the war emergency program.

Ships of the Royal Navy describes them as white elephants. "In design," it states, "they suffer from being too strong and too weak. For light cruiser work, they are ludicrously overgunned, while the absence of armour precludes their being employed as battle-cruisers."

Apparently, the First Sea Lord wanted powerfully armed ships of high speed, capable of navigating very shallow waters. Officially described as light cruisers, they were ordered shortly after the sinking of *Konigsberg*. Subsequently, all three were converted into carriers, *Courageous* and *Glorious* after the war. Before *Furious* was commissioned in July 1917, she underwent the first of several conversions and emerged from the shipyard initially as an awkward-looking aircraft carrier.

Britain, in the first months of the war, realized the danger of zeppelin raids on home shores when the Germans became entrenched in Belgium. A series of air patrols in the Channel was immediately established, costing the Royal Naval Air Service in casualties a number of seaplanes and pilots.

WW I AVRO *504 series biplanes were used extensively by the Royal Naval Air Service.*

In December 1914, the British planned a raid on zeppelin bases at Cuxhaven. This time, they tried a new tactic, launching the attack with seaplanes based aboard ships. The converted *Engadine*, *Riviera*, and *Empress* were pressed into service, accompanied by a screen of destroyers and submarines. The mission was not restricted to the bombing of the airship sheds, but broadened to obtain as much information as possible on the strength of the German Navy in the area.

On Christmas morning, the ships converged at a point some 12 miles north of Heligoland. An hour later, seven planes took off. En route, they were attacked ineffectively by two zeppelins, and, as they neared the enemy's main naval base, by seaplanes.

Three hours after launching, three of the seaplanes returned to their ships, the mission only partly accomplished. The remaining four were forced to ditch. The crews of three were rescued by a friendly submarine; the fourth was captured by a Dutch trawler.

The seaplanes did not succeed in finding the zeppelin sheds, thus failing that aspect of the mission. But they did bring back valuable information on harbors and the number of German ships in them. The Admiralty was not disappointed.

If any single action gave birth to the concept of aircraft carrier operations, says one noted U.S. naval historian, this raid would qualify. Several similar raids were made in later years of the war, but attention was directed first at the development of seaplanes and then of flying boats. It was not until the last months of the war that Britain fully realized the limitations of seaplane characteristics and the superiority of landplanes. She then began various experiments with true aircraft carrier design.

Meanwhile, Turkey refused to remain neutral. Influenced by Enver Pasha, the Minister of War, the country was pro-German. On 29 October 1914, Turkish warships, in company with two German cruisers, opened fire on Odessa, Theodosia and Sevastopol on the coast of the Russian Black Sea. Russia declared war on 2 November, and England and France followed three days later. The Ottoman Front was opened.

Churchill soon conceived a brilliant strategy. Had it been successfully carried out, the war could easily have been ended in 1915. Instead, the compaign ended disastrously, and the war dragged on bloodily until November 1918.

He proposed to concentrate British Forces in the Dardanelles, defeat Turkey, and force the Germans and Austrians to deploy troops and machines to that area. The Balkan states would probably join the Allies. And Russia would make a devastating victory in the east; the Central Powers would crumble. It nearly worked.

Though opposed at home and in France, Churchill ordered the Navy into action. As soon as a force of ships was gathered, including *Ark Royal*, the British armada headed toward the Dardanelles to force an entrance.

In *Ark Royal* were six two-seater seaplanes and two single-seater landplanes. Of these, only a Short seaplane, equipped with a good engine, was efficient. The rest could barely get high enough for effective spotting and could launch only when waters were calm.

On 5 March 1915, a Sopwith seaplane, manned by a pilot and observer, took to the air. The plane was to direct fire on a Turkish fort for the guns of the new superdreadnought, *Queen Elizabeth*. It climbed torturously to 3000 feet and, as the observer readied to call the shots, the propeller fell off. The Sopwith plunged to the sea, under furious fire from the fort. Miraculously, both men were saved.

More catastrophes followed. The assault force, entering the straits, ran into a mine field and lost three battleships. Action was broken off abruptly by the admiral—although other ships had managed to toss the Turkish and German troops into confusion.

Churchill composed a telegram insisting the battle be resumed immedi-

ately, but was dissuaded by the Admiralty on the ground that the officer commanding the situation should be allowed to make his own decisions. For the prospect of a shortened war, later events proved this decision was unfortunate.

At war's end, German General Liman von Sanders, in charge of the Dardanelles during the battle, wrote, "If the orders given at that moment had been carried out, the course of the war would have been changed after the spring of 1915, and Germany and Austria would have been constrained to continue the fight alone."

The attack on the Ottoman Front next centered on Gallipoli, but this proved a worse disaster. The enemy learned of the next tactic and buttressed their defenses. The campaign —doomed to drag on till the following January—was lost.

Samson arrived on the scene, via brisk battles at Dunkirk and Belgium, commanding No. 3 Aeroplane Squadron. *Ark Royal* moved to the Gulfs of Enos, Smyrna and Xeros, providing effective spotting, and returned to her base at Mudros. Fighting was sporadic, both a success and a failure—in about equal measure. The Turks were worthy adversaries.

By late June the threat of German submarines in these waters was real, and *Ark Royal* was retired to the safety of Imbros where she functioned as a depot ship. Barely a week earlier, *Ben-my-Chree* was added to the force. Reconnaissance and spotting flights were frequent, but the Dardanelles campaign was now a stalemate.

In early August, a major landing was effected by the British at night without opposition. With the enemy forces nearly all routed and running, the general in charge failed to press the attack. In the meantime, reinforcements came up and the battle raged anew, continuing until the British realized the hopelessness of the situation and evacuated, ending the campaign.

Great Britain recognized the deadliness of the German U-boats early in the war. *Lusitania* was torpedoed 7 May 1915 with 1200 lives lost; 139 Americans were among them. Britain searched for a long-range seaplane that was capable of carrying heavy bombloads. In 1914, Sopwith developed a flying boat he called a *Bat*, but it was inadequate.

A year later, Cdr. J.C. Porte was given command of the Felixstowe naval air station. He took up the problem, started with Curtiss flying boat designs, added improvements, and finally produced an operational craft that weighed between four-and-one-half and six-and-one-half tons. As Porte described them, they "carried sufficient petrol for work far out from land and big enough bombs to damage or destroy a submarine otherwise than by a direct hit." Called *Large Americas*, they were operational by the spring of 1917.

Until 1915, vessels converted for aviation at sea were designed as seaplane tenders. This year, a new experiment was tried and proved sucesssful. The Isle of Man packet, *Vindex*, was refitted to launch landplanes as well as seaplanes. A 64-foot-long deck was mounted on the ship, and a successful flight from it was made on 3 November by a Bristol *Scout*. The *Scout* seaplane was equipped with wheels which dropped off as the aircraft took to the air. It made a water landing, taxied alongside the ship, and was hoisted aboard again. Refitted with wheels and refueled, the plane was once more ready to fly.

Two other experiments were made in attempts to launch aircraft at sea to provide wider range. In the first, British Navymen designed a floating barge upon which seaplanes were towed. Nearing target, the aft compartments of the lighter were flooded, permitting the plane to slide easily into the water and take off. A variation of this was a larger platform from which small landplanes were launched. They enjoyed a brief popularity and operated in the North Sea early in the war. In the closing months of hostilities, a Sopwith *Camel* was launched in the same area, engaged and downed a zeppelin. The towed lighter was not refined further and saw comparatively little action.

The second experiment made by the British in 1916 tried a new approach toward launching aircraft at sea. On their own initiative, two naval officers made a design that was a departure from the standard envelope-gondola airship. The envelope they used was comparatively small, but they hoped, capable of lifting an F.E.2C airplane. Once aloft and sufficient power given the plane, the envelope was to be detached.

Bizarre? Perhaps. At any rate, a trial launching was made of the contraption on 21 February. The plane lifted off successfully and was gaining altitude when the envelope detached prematurely. One of the officers was spilled from the plane and the other crashed with it.

FIRST LANDING *of a British plane aboard a British ship is made in a Sopwith Pup. Deck handlers help bring the plane to a stop. A few days later, pilot was killed in a second landing attempt.*

IN MID-1916, the war's major sea battle was fought, the Battle of Jutland. Earlier in the year, the 20,000-ton Cunarder *Campania* was converted by the British to carry seaplanes and was assigned to Adm. Jellicoe's Grand Fleet.

May approached and nearly ended before the German High Seas Fleet,

now under Adm. Reinhard Scheer, made a definite move to encounter the Royal Navy. Jellicoe was ready. Advised in advance that a squadron of German battle-cruisers had been ordered to Norwegian shores for a show of force, he ordered Adm. Sir David Beatty, leading a similar but larger British squadron, to intercept.

HMS *Engadine*, operating with Beatty's squadron, launched a seaplane for reconnaissance at 1530 on the 31st. The pilot reported three enemy cruisers and ten destroyers taking a northwesterly course. Fifteen minutes later, the German ships changed course to the south. The pilot tried to flash this signal by searchlight, but his message was not received. One of the ships of the squadron noted the alteration, however, and the ships shifted in time. Thereafter, poor visibility and rough water kept Beatty's plane on deck.

The two squadrons clashed and, even though outnumbered, the German ships under Adm. Franz von Hipper, sank two of Beatty's vessels. Scheer's High Seas Fleet crested the horizon, and Beatty led his remaining ships on a strategic retreat, north toward Jellicoe.

On the day before, *Campania* had conducted a series of successful gun-spotting training flights, returned to her Scapa Flow anchorage about five miles from the main fleet, and awaited orders.

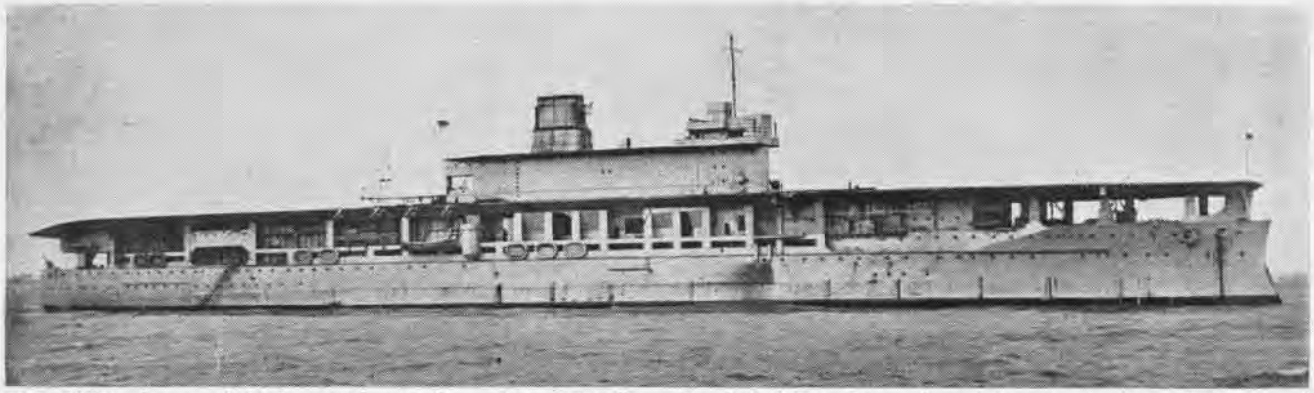
At 1735, a signal was flashed to all ships of Jellicoe's fleet to stand by to get under way. At 1900 the order to raise full steam was given and two-and-a-half hours later, *Campania* was ready. At 2254, the "proceed" signal was flashed—*but the Campania did not receive it.* Several hours passed before her C.O. realized that the rest of the fleet had gone.

Until 0200 the following morning, Jellicoe assumed his aircraft "carrier," *Campania,* was in company. Thus Jellicoe at Jutland fought without benefit of aerial observation.

Briefly, about 1800 on the 31st, the High Seas Fleet met with the Grand Fleet. Jellicoe made a thrust to cut off Scheer's retreat, but the German admiral ordered his ships first south and then east. By this maneuver, he came up in pursuit along the flank of the British ships, turned again and launched torpedoes, forcing Jellicoe to retreat.

Scheer then ordered Hipper to engage Jellicoe's attention while the High Seas Fleet maneuvered for an escape route. Scheer found it by 2100, cutting east across the southerly-moving British ships, and dashed to safety.

At battle's end, each fleet had lost several ships, but the British suffered more heavily in tonnage—by almost double. In post-battle retrospect, the



HMS EAGLE *became Britain's second aircraft carrier. Originally planned as a Chilean dreadnought battleship, the ship was converted at end of WW I. Lessons learned from construction and operation of HMS Argus were applied to this ship, and further tests were made.*

HMS HERMES, *the second vessel with this name involved in the operation of aircraft at sea, is the first aircraft carrier built as such from the keel up. As HMS Eagle learned from tests in HMS Argus, so HMS Hermes profited from tests conducted in the HMS Eagle.*

Battle of Jutland could easily have ended in a triumphant victory for the Allies, had Jellicoe had the advantage of *Campania's* plane to report movements of Scheer's ships. The German fleet had no seagoing aircraft. This, combined with lessons already learned in previous sea encounters with the enemy—especially in countering U-boats—strengthened more than ever the British Navy's dedication to the perfecting of the aircraft carrier.

In February 1917, the pacifism of a patient president broke when, on the last day of January, Kaiser Wilhelm notified Woodrow Wilson and the American people that unrestricted submarine warfare would be commenced on the following day. Diplomatic relations were severed on 3 February, but the President decided to wait until the next overt act before asking Congress to declare war.

He did not have long to wait. In February and March, several U.S. ships were sunk and in March, the British Secret Service obtained the famous Zimmerman note, detailing German plans against the U.S. The note was deciphered and passed on to the Americans. Wilson sent his war message to the Senate on 2 April and war was declared four days later.

Advances in British naval aviation were rapid in the closing years of the war. *Furious* joined the fleet, and experiments on landing aircraft aboard were conducted. The first attempt was successful, though unorthodox; no mechanical arresting gear was used.

On 2 August 1917, a Sopwith *Pup* landed aboard. On deck, handlers grasped hold of lines from the plane's wingtips as soon as the motor was cut and the plane was skidding to a stop.

In the next attempt two days later, a tire burst upon touchdown, the plane folded over the side, and the pilot was killed. Further studies were conducted and a primitive arresting arrangement was installed, along with netting to protect the ship's bridge.

BATBOAT, *developed by Sopwith in 1914, was inadequate. It was powered by 90-hp engine.*

Other conversions followed promptly. A cruiser of the *Hawkins* class was fitted with a flight deck and commissioned the HMS *Vindictive*. This deck was removed after the war.

In 1917, three ships were planned for conversion to carriers, but work was delayed intentionally on two of them. All three figured prominently in Britain's post-war development.

The first of these was the *Argus*, originally designed as the Italian liner *Conte Rosso*, and is generally considered *the* first true aircraft carrier. *Argus* had a flight deck 558 feet long by 60 wide and displaced 14,450 tons. She was the first "island" carrier, her superstructure moved to a tight location on the starboard side of the ship.

The second was commissioned HMS *Eagle*, but was originally laid down as the dreadnought battleship *Almirante Cochrane* under a contract with Chile. War interrupted completion of the ship, contracts were renegotiated, and she was converted to an "island" carrier. She was the only aircraft carrier to have two funnels.

HMS *Hermes*, the second carrier to bear that name, was designed from the keel up to operate as a carrier, the first such vessel constructed.

Argus was the first completed, but saw no action in the war. Convinced now that the progress of seapower lay in the future of aircraft carriers. Great Britain suspended construction on the *Eagle* and *Hermes* until tests were made on the first carrier. The lessons learned were incorporated in the *Eagle*—and this carrier was further tested. Results from experiments on both her predecessors contributed heavily to the eventual construction of the *Hermes*.

The formative, experimental years of carrier warfare drew to a close when, on 11 November 1918, hostilities ceased and the Armistice was signed. Out of the costly, bitter fight for survival a potent new ship-of-the-line developed. Great Britain pioneered in the creation of the modern aircraft carrier.

But at war's end, the U.S. had no vessel specifically built to carry aircraft to sea. Primarily, U.S. Naval Aviation launched patrol flights from shore bases. During the expansion of military forces, the Navy's General Board made concrete recommendations in favor of carrier developments. After the Armistice, it listened to exhaustive testimony concerning the role of aviation in the Navy. Acting on the Board's findings, Congress authorized a small amount of money for conversion of the collier USS *Jupiter*.

When the refitting was completed, the ex-collier was renamed USS *Langley* and commissioned on 20 March 1922 at Norfolk, Va. Surrounded by modern vessels of her day, she appeared to be the strangest-looking ship to join the fleet since the Federal ironclad *Monitor* squatted heavily in the water during the Civil War. Small and gangling as she was, USS *Langley* was the first-born of a large fighting family of powerful Navy ships.

HMS FURIOUS *was originally a light cruiser, refitted to operate aircraft, and recommissioned in July 1917. Flying deck was 228 feet long, 50 wide. Hangars beneath held seaplanes and landplanes. Later, she was provided a landing deck aft, fitted with arresting gear.*

Weekend Warrior NEWS

COMMANDING OFFICER *of VP-872 with contingent of recalled reserve air men who have been transferred to the Regular Navy. Cdr. Edward Roberts, left, has another larger group awaiting approval of their transfer. The squadron went on active duty with Berlin add-on.*

THREE MARINE Air Reserve squadrons have been assigned to fly the newly-acquired R4Q *Packet* aircraft. Marine aviators at Minneapolis, Seattle and Grosse Ile commenced checking out in the twin-tailed R4Q in December. First Minneapolis pilot to get a designation as transport plane commander in the *Packet* is Capt. Robert McClure, a commercial airline pilot in civilian life who is attached to VMR-234. Minneapolis was the site of early transition training.

Prior to this assignment, MARTCom utilized aircraft assigned to the Naval Air Reserve Training Command as its primary mobilization transport. More than 60 Marine pilots and crewmen attended a refresher training course in the R4Q at Cherry Point.

Rickenbacker Signs Up

Recruiters at Los Alamitos did a double-take recently when a new recruit signed his name to enlistment papers. The name—Eddie Rickenbacker—was such a famous one that recruiters asked, naturally, if the recruit were related to the famous aviator and airline president. Young Eddie, who identified himself as the namesake and nephew of the WW I Ace, went on active duty, reporting to the San Diego training center.

NEPHEW OF ACE *Eddie Rickenbacker takes oath, signs for Reserve duty at Los Alamitos.*

Pasha Visits Reserves

The Pasha (mayor) of Kenitra, Morocco, arrived in the United States early in January and commenced an official tour under a Department of State "leader grant." The mayor's visit took him to New York, Norfolk, Charleston, S.C., Jacksonville, Fla., Pensacola, San Diego, Los Angeles, Chicago, Dallas, San Francisco, Niagara Falls and Washington. His Navy escort on the tour was Capt. John L. Counihan, former C.O. of naval activities at Port Layautey, Morocco.

The Pasha, in his official capacity, has received on the behalf of the Moroccan people American gifts brought by Naval Air Reserve squadrons visiting Port Lyautey. He expressed a desire to visit Naval Air Reserve units during his stay to renew acquaintance with Weekend Warriors.

Plans Donated for Chapel

Chicago Navy League member, Clifford F. White, who attended commissioning ceremonies for the USS *Enterprise* last November, has collaborated in the design of an all-faith memorial chapel for the nuclear carrier. Mr. White, who is donating the plans, stopped in Glenview to show the chapel proposal to RAdm. William I. Martin, a noted member of the old *Enterprise* crew of WW II. Adm. Martin is now serving as Chief of Naval Air Reserve Training. Architect W.C. Pehta assisted in the chapel design.

Angels' Score Hits 264

Grosse Ile helicopters, frequently called to assist in rescue of troubled fishermen and hunters in the lake area near Detroit, recorded their 264th rescue early in January with the pick-up of 14 stranded ice-fishermen in Lake Erie. The Detroit area men had been set adrift in the lake when their ice floe broke away from land.

LCdr. Walter Keufel, pilot, and Alvin McClure, AD1, hoist operator, completed the operation in 45 minutes after lifting the first man from the ice. The rescued men were reported in good physical condition.

Using a T-28 as a "spotter" aircraft, two helicopters from Grosse Ile teamed up with the Coast Guard and Ontario Provincial Police to effect the rescue. All the rescues have been recorded since arrival of helicopters at the reserve air station in the year 1954.

RESERVE AIR CHIEF *RAdm. Martin, and Mr. White look over the Enterprise chapel plans.*

GROSSE ILE HELICOPTER *nears the end of rescue operations that meant safety for 14 stranded ice fisherman on frozen Lake Erie.*

BOSTON TV NEWSMAN *Jack Chase, right, turns over reins of VR-913 transport squadron to Cdr. Leroy Stretch at NAS South Weymouth.*

TROXEL TEACHES TROXEL *on P2V maintenance with recalled reserve squadron at Jax.*

Alameda Reserves Go Regular

Recalled last October for the Berlin add-on, Patrol Squadron 872 at Alameda has effected the transfer of 12 men from Reserve to Regular Navy status and has additional men waiting for similar assignment. The dozen new Regulars were sworn in on 17 January. Another 16 men have applied and are reported waiting for BuPers approval. Several other 872 men have applied for flight training. VP-872 is based aboard Alameda.

Weymouth Loses Chase

A well-known Boston Naval Air Reserve officer has retired from active participation at South Weymouth. Cdr. Jack Chase, a news specialist with a Boston television station and a national vice president of the American Federation of Television and Radio Artists, retired in January as Commanding Officer of VR-913. He was relieved by Cdr. Leroy Stretch. Cdr. Chase, who has assisted Weymouth in community projects and public relations events for several years as an air show announcer and as the Navy's "voice" in the Boston area, completed 20 years of service with the Reserve.

JAX Family Team

The Navy acquired a family team in the recall to active duty of VP-741, Jacksonville, Fla. Aviation Mechanic First Class Bob Troxel and his son, Airman Apprentice Robert Troxel, work together in the maintenance of the squadron's P2V *Neptunes*.

NEW ORLEANS STAGES FIRST NATOPS MEET

CONFERENCE MEMBERS HOLD FINAL MEETING IN AUDITORIUM AT NAS NEW ORLEANS

SOME OF THE NAVY and Marine Corps' most experienced pilots gathered in late January at NAS NEW ORLEANS for a four-day NATOPS (Naval Air Training and Operating Procedures Standardization) conference. Test pilots and handbook experts from many different aircraft companies also were invited.

This conference, involving about 135 military and civilian participants, was the first full-scale "gathering of the clan" to review the howgozit NATOPS curve.

The first morning was devoted to general briefings. A Safety Center representative brought the group up-to-date on accident statistics. He stressed the number of major accidents which had occurred owing to failure to comply with standard procedures.

Col. Thomas D. Robertson of the Air Force Tactical Air Command was applauded for his thorough and enlightened review of the TAC standardization program which he heads.

Fleet and major Marine commands, CNATra, and CNAResTra presented resumés of their current NATOPS programs.

Highlight of the opening morning activities was the hard-hitting speech by RAdm. F.A. Brandley, ACNO (Air). He reviewed the history of the program, telling how it was instigated by the Aviation Safety Center and formally launched in July of 1961. (See "New Standards for Naval Air" in *NANews*, August 1961, p. 6.)

The Admiral pointed out how NATOPS seeks to give Naval Aviation the highest possible combat potential by perpetuating operational knowledge gained from hard experience and gathered by experts, keeping it continuously up-to-date, and making it readily available to all.

In discussing the philosophy of NATOPS, Adm. Brandley reviewed how from the very beginning, VAdm. R.B. Pirie, DCNO(Air), had insisted "that we would not have a group of desk-bound aviators dictating flight operating procedures to the pilots." He further stated that "it has been our guiding principle in NATOPS that the manuals be prepared *by the users* and kept current *by the users*."

Analysis of the list of military officers at the conference reflects that philosophy. Over half of the military participants held LCdr./Maj. and Lt./Capt. ranks.

The afternoon of the first day and the full second and third days were devoted to meetings of specialized committees, many of which were concerned with problems of one type aircraft.

Following are a few of the agenda items and recommendations of the cognizant committees:

● *NATOPS comments in AAR's (Aircraft Accident Reports).* Incorporation of a NATOPS section in AAR's was recommended. Pending such incorporation, the committee recommended adding NATOPS information in the remarks section.

Information to be included was the extent to which a NATOPS procedure was applicable to the accident, whether the procedure was being complied with, and whether the accident indicated need to revise or expand the applicable coverage in the manual. (CNO MSG 302028Z of January 1962 ordered this provision into effect.)

● *Incorporation of tactics in the NATOPS manuals.* It was agreed that tactics should be left out of the manuals except for safety of flight and flight technique information.

General consensus was that every effort should be made to keep NATOPS manuals unclassified. Where classified information is required, it will be published in a classified supplement.

● *Need for a NATOPS indoctrination school.* The group recommended establishment of a two or three-day course where NATOPS evaluators and instructors could get a thorough grounding in the program and in standardized check procedures.

It was recommended that responsibility for establishing and running the school be assigned to the people ordered to the six new aviator billets established in the Naval Tactical Doctrine Development and Production Activity. These billets are to be filled by seasoned operational aviators of CAG caliber who will each be responsible for overseeing a group of NATOPS manuals and related NWP's (Naval Warfare Publications).

In addition to the indoctrination course, it was recommended that this group also set up a "road show" to give one day NATOPS briefings for senior commanders to insure their understanding and support of the program.

● *Relationship between the "Big Three" of prime pilot information sources—NATOPS manuals, flight manuals and NWP's.* Several measures, in addition to the assignment of supervisory responsibility for related NWP's and NATOPS manuals to the same individuals, were recommended to keep the "Big Three" complete, non-contradictory and up-to-date.

The group also recommended that change procedures for the NWP's be brought in line with the quick-change capabilities of the NATOPS system.

● *Answers for examination questions.* It was decided that examination questions should cover all of the "Big Three" manuals and that a bank of several hundred questions and answers

be prepared for each model aircraft. Standardization evaluators would then make up examinations from the list.

● *Means of improving the check to insure professional and unbiased evaluations.* It was recommended that checks include oral, written, OFT/WST/NAMO (as applicable) and flight portions. Written examinations should include both open and closed book sections with emergency procedures and flight limitations all in the closed book section.

The Standardization Check Committee also recommended development of a comprehensive standardization check form for each type aircraft and grading criteria to support a three-scale system of grading. Copies of the standardization evaluation form and associated work sheets developed by VA-125 for the A4D are being distributed to all model managers as an aid in preparing check forms.

For checking CRT pilots, the committee recommended using the standard NATOPS check less the tactical portions. (As a matter of incidental intelligence, the SNB NATOPS manual is scheduled for distribution this month.)

● *Incorporation of NATOPS check scores into "E" competition.* It was decided that though this may be the ultimate objective that it would have to wait on greater standardization of the NATOPS check procedures and more experience with the program.

The New Orleans meeting was the first of what is expected to be a semi-annual affair. The next general meeting is tentatively slated for August.

In anticipation of future NATOPS tasks, Adm. Brandley advised the New Orleans gathering to start thinking about standardizing carrier and air station operating procedures Navy-wide.

New NATOPS Manuals Out

Books on 29 Models Available

Before the end of this month, NATOPS manuals on 29 types of aircraft are expected to be issued. The following manuals have been distributed: HSS-1, S2F-1/2, FJ-3, FJ-4, F9F-8/8T, A3D, F8U, AD-6/7, F3H, FJ-4B, HR2S, A4D, F4D, WF-2, AD-W, HO4S, HUP, HTL-6, OE, and T-34.

These books should be in the hands of users by the end of this month: HSS-1N, SNB, R7V/WV, P2V-5/7, F3D, T-28, P5M, S2F-3, and HOK. F11F and HSS-2 manuals are scheduled for distribution in April.

Change 1 has already been issued for the HSS-1, F9F-8/T and HR2S manuals.

When manuals are available for issue after distribution, they are listed in the latest monthly supplement of the NW 00-500, Part I. Previously issued manuals are listed in the basic NW 00-500, Naval Aeronautics Publications Index, Part. I.

Beginning in April 1962 the indexing of all aviation publications, including NATOPS manuals will be shifted from the NW 00-500 to the NavSanda Manual 2002, Section 8, Part C.

Squadrons may order additional manuals by submitting Standard Form #140 to CNO (Op-561F3). Since manuals are for official use only, distribution is limited to official activities.

Safety Tailhooks are Tested

FAA Makes Trials on Jet Aircraft

The Federal Aviation Agency has awarded a contract to design and construct a safety tailhook test facility at Georgetown, Delaware.

The $458,439 contract calls for redesign and modification of surplus military equipment available at Georgetown to produce a catapult powerful enough to duplicate the landing force of a modern jet transport. When completed, the facility will be used to test arresting engines, designed to absorb the energy of a jet speeding down a runway.

As a part of the project, to be built by All American Engineering Company, there will be installed and tested a model 3500 water squeezer arresting engine at the facility. This will involve the first attempt to stop a simulated fully loaded jet transport in less than 2000 feet.

Recently, the firm designed and successfully tested a safety hook on a Boeing 720 jetliner. Earlier, a tailhook-equipped, twin-engine Convair 340 transport was used in a series of arresting tests at All American's facility at Sussex County Airport in Delaware.

VF-53 Back from WestPac

'Blue Knights' Tell Unit's Deeds

After a successful WestPac tour in USS *Ticonderoga* (CVA-14), Fighter Squadron 53 has returned to home base, NAS MIRAMAR.

During deployment, the squadron reports over 3000 cruise flight hours flown, over 1500 arrested landings logged (300 of which were at night), and 11 Centurians qualified.

VF-53, commanded by Cdr. John H. Burhans, currently operates F3H-2 *Demons*, but is scheduled for transition to McDonnell F4H *Phantom II's*.

FOUR JUNIOR OFFICERS *at NAS Miramar flew at twice the speed of sound within two months after being designated Naval Aviators. They piloted the F4H Phantom II after reporting to VF-142 from the Naval Air Training Command. Above, the Phantom fliers pose with their skipper and the C.O. of VF-121: Cdr. V.P. O'Rourke, VF-142 skipper, Ltjg. Leonard J. Unsicker, Ens. Thomas M. Hommel, Ltjg. John C. Leader, Ltjg. Donald E. Watkins, and Cdr. M.M. Casey.*

AIRCRAFT MAINTENANCE GOES ON THE CALENDAR

With the issuance of BuWeps Instruction 4730.2A dated 11 December 1961, all naval aircraft, except a few transports and utility types, were placed on the calendar system for inspection and periodic maintenance.

Under this system, aircraft are given major inspections or "checks" at regular calendar intervals, rather than on reaching a specified number of flight hours. Most types will be inspected every 90 days, with intermediate and major checks alternated.

The program is designed to give Naval Aviation the highest possible number of operationally ready aircraft by making the most efficient use of maintenance manpower.

Under the old inspection system based on elapsed flight hours—aircraft checks every 60, 120, 240 hours, etc. —the maintenance officer was not "master of his fate," but often the victim of the vagaries of the weather or a staff's operating schedule.

Theoretically, a squadron may have had enough trained men to do all required maintenance, but it may have been unable to use the manpower effectively—match the men with the jobs—because of an uneven, uncontrollable and unpredictable workload. On a particular day, the squadron might have all its planes in the air and the maintenance crew could have no work. The next day might find all the planes down for check. Since a squadron has only enough men and equipment to check two or three planes at once, many of the planes would be down for a considerable length of time.

The calendar system will level out the peaks and valleys of the inspection workload, thus making it possible to keep crews working at a steady pace. A typical 12-plane fleet squadron would start a check each 7½ days, with major and intermediate checks alternated.

All planes on the 90-day schedule will be programmed to go into check on the same day of the month. Thus "ole number nine" might go in the barn the first day of spring and autumn for major inspections, and the first day of winter and summer for intermediate checks.

In setting up the schedule, all months are regarded as having 30 days. A plane on the 90-day check cycle would always be programmed to go into check on the same day of the month.

Many provisions of the new instruction are designed to insure that a level-workload schedule, once started, will not be upset. For instance, if a plane should reach the flight-hour limit and receive the inspection a month early, it would be inspected again on its regular date.

However, reaching the flight-hour limitation ahead of the scheduled inspection date will not always cause a double inspection. If the condition of the aircraft justifies it, the reporting custodian or higher authority may grant a waiver to continue operating the plane until its next regular check time.

The instruction also permits checking a plane a few days ahead of, or behind, the scheduled check date in order to accommodate unusual and urgent operational requirements. However, when this happens, the plane must get the following check on the regular long-range scheduled date—or get a new waiver.

New planes coming into the squadron or planes coming back from PAR will not be allowed to disrupt the schedule. These planes will be fitted into the available slot in the schedule even if it requires an otherwise unnecessary inspection.

Commander Naval Air Force, Pacific Fleet, squadrons ran extensive tests of the system before it was ordered into fleet-wide use. This experience showed not only savings in maintenance man-hours, but also better availability without sacrificing maintenance integrity or flight safety.

Project 'Squid' Transferred

University of Virginia in Charge

Navy's major long range research program in aircraft, missile and space propulsion, will be transferred from Princeton University to the University of Virginia, effective 1 October 1962.

The program, in continuous existence since 1946 under the sponsorship of the Office of Naval Research, is concerned with exploring new ideas and turning up new knowledge rather than in developing hardware. Projects undertaken in recent years include pioneering theoretical studies in the new field of magnetohydrodynamics and the basic mechanism of solid rocket propulsion.

An accomplishment of *Squid* is the ducted rocket or ram-rocket cycle which has the static thrust advantage of the rocket and the fuel economy at high speed of the ramjet. *Squid* pioneered the design, construction and operation of the "blow-down" wind tunnel which has proved to be the most economical means of achieving very high Mach numbers.

Dr. John B. Fenn of Princeton has been director of Project *Squid* since 1952. His successor will be Dr. J.E. Scott, Jr., Professor, Aeronautical Engineering, University of Virginia.

WHAT IS IT? AND WHAT HAS IT TO DO WITH NAVAL AVIATION? ANSWER ON PAGE 40.

SHORTER RUNWAYS FOR MARINE PILOTS

MOREST GEAR MAKES IT POSSIBLE FOR COL. BURNS, C. O. AT MCAS QUANTICO, TO LAND A4D SKYHAWK ON 4200-FOOT RUNWAY

IN JANUARY, two aviation milestones were marked in the development of launching and arresting gear for short fields.

At Quantico, Va., Col. R. R. Burns, Commanding Officer of the Marine Corps Air Station there, landed the first of two A4D *Skyhawks* on the 4200-foot runway. LCol. G. E. Mouzakis brought in a second. Two more *Skyhawks* were flown in the next day; all four were assigned to the Station Operation and Engineering Squadron.

The feat at Quantico was made possible by the use of MOREST, a type of arresting gear adapted for short airfields. MOREST makes possible expeditionary airfields from which to provide tactical air support for Marine amphibious assault. Future operations, with the introduction of advanced equipment, are planned for airfields only 2000 feet long and 72 feet wide.

Another of the current developments was demonstrated in January at the U. S. Naval Air Test Facility, Lakehurst, when the XRE-1 catapult, designed by the E. W. Bliss Co., successfully catapulted an aircraft, an A4D Douglas *Skyhawk*.

Capt. W. C. Fortune, skipper of the Lakehurst facility, says that it is one of "the air-transportable devices we are testing to give Marine expeditionary forces greater versatility and operational punch." ★★★

FIRST TAKE-OFF OF AN AIRPLANE BY AN XRE-1 CATAPULT WAS MADE AT LAKEHURST IN AN A4D JET PILOTED BY CDR. W.J. WELTY

SECNAV Approves AX Rate

ASW Specialties are Combined

Class A school training for the AX (Anti-Submarine Warfare Technician) rating will start in July. The new rate has been approved by the Secretary of the Navy.

AX billets will appear on the allowance lists of patrol, air ASW, and helicopter ASW squadrons and fleet support air stations. The scope of the new rating includes the inspection and maintenance of MAD gear, underwater detection equipment, integrated display equipment, and test systems.

It is planned that many personnel now holding ATS, SOA, AT and SO ratings will be converted to the new rate by administrative action, requiring no application or testing.

Class A school will commence at Memphis in July, followed later by setting up of a Class B school for AX men. This rate does not include qualification as an ASW equipment operator. This puts the AX men on the same basis as other Group IX ratings. Identification of ASW equipment operators will continue to be made by Navy Enlisted Classification code.

A4D's Coast-to-Coast Flight

Marines Set an Endurance Record

Two VMA-533 pilots of MCAS CHERRY POINT, Maj. William D. Kelly and 1st Lt. Richard L. Lammerding, logged another chapter in Marine Corps Aviation history on 6 January by setting a new endurance flight record for an A4D.

The in-flight refueling cross-country hop of 8 hours and 25 minutes, according to Douglas Aircraft officials, is "a new A4D endurance record to the best of our knowledge and records."

The flight, which covered 2871 nautical miles, began at Cherry Point at 1015 and ended at 1840 at El Toro, California.

The record-breaking training mission was the forerunner of a proposed non-stop flight across the Atlantic Ocean planned this spring. Plans for the flight, from Kindley AFB, Bermuda, to Rota, Spain, will be based on the results compiled from this record-breaking flight.

One objective of the recent cross-country flight was to test the liquid oxygen consumption of the pilots and the oil consumption of the *Skyhawk*.

MAJ. KELLY, LT. LAMMERDING AND A4D

Both problems were worked out satisfactorily.

During the cross-country hop the A4D's had to be refueled twice in the air. Both refueling sessions were handled by GV-1's. The *Skyhawks* made their first rendezvous with one of the giant air tankers over Muscle Shoals, Tenn.; the second, above Parker, Calif.

Navigation Lesson Device

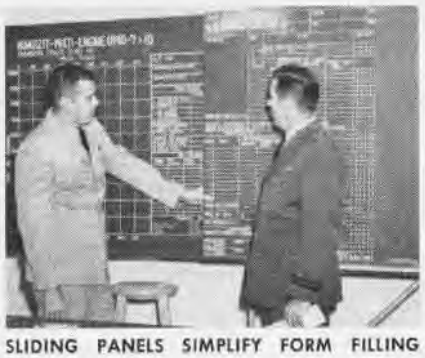
Officer Designs New Training Aid

At NAS CORPUS CHRISTI, Texas, Lt. Henry J. Demers, VT-29, with an eye to improving teaching methods, drafted plans for a new device.

The blackboard is made up of four sections with two sliding panels, making use of both front and back. Displayed will be blank forms, blown up to a large scale, including Howgozit and the Inflight Log.

These forms will give the students a picture of how to fill them out.

The device was built by Training Aids Division, Graphic Arts and the Machine Shops. R.W. Fritz, TDC, shown in picture, presents the device to Lt. Demers, the original designer.



SLIDING PANELS SIMPLIFY FORM FILLING

VT-29 is the Navigation Training Squadron at Corpus. It is commanded by Cdr. James M. Savacool, USN.

Two Navy Pilots Honored

Receive MATS Safety Award Pin

Two Navy pilots who have the responsibility of maintaining the safe-flying practices of Naval Air Transport Squadron Three have set a safety pattern for the rest of their squadron to follow.

The pilots, Cdr. James C. Erwin, VR-3 Training Officer, and LCdr. Charles J. Kesner, Jr., Squadron Safety Officer, recently received the coveted Military Air Transport Service 5000-hour accident-free award lapel pin from the Commander of MATS, LGen. Joe W. Kelly, USAF.

In letters to both pilots, Gen. Kelly expressed his pleasure in making the awards: "This award is concrete evidence of your outstanding skill, alertness and adherence to sound flying practices. As such, it is recognition of a very real and significant contribution to the strategic airlift capability of our country."

Both officers also received letters of appreciation from the Commander of the Atlantic Air Transport Wing, Capt. Frank M. Slater, and their C.O., Capt. David C. Carmichael.

VR-3, along with its maintenance squadron, VR-6, form the basis of Navy's contribution to the operation of MATS. Both are based at McGuire Air Force Base, New Jersey.

VP-4 Scores Safety Mark

Logs 30,000 Accident-Free Hours

Patrol Squadron Four, holder of the Chief of Naval Operations Safety Awards for 1960 and 1961, extended its outstanding record this month when its Lockheed P2V *Neptunes* logged over 30,000 continuous accident-free hours for the Seventh Fleet squadron. VP-4, stationed at Naha, Okinawa, is skippered by Cdr. Leroy S. Edmonds.

Flying continuous operational missions as part of the Taiwan Patrol Force, VP-4 logs between 800 and 1000 hours monthly.

VP-4 made a clean sweep of all awards it was eligible for in 1961, winning, not only the CNO Safety Award, but also the Battle E and the Arnold J. Isbell Trophy for Excellence in Anti-Submarine Warfare.

NO SNAP COURSES FOR MARINE OPERATORS

SGT. VICTOR HALL, *2nd from right, Radio School instructor, supervises typing exercise. Students learn to type messages as they receive them.*

SSGT. RICHARD D. EDWARDS, *seated, Navigation School instructor, explains grid navigation to four students prior to running a problem.*

By SSgt. C. Seijo

THE MARINE CORPS' Navigator and Airborne Radio Operators' Schools keep their classes small in order to give each Marine attending them skilled, individual attention. The navigation class, limited to eight students, is 19 weeks long; the radio course, limited to four in a class, 16 weeks.

All students are volunteers carefully screened at NATTC MEMPHIS to be sure they are physically qualified for flight. Volunteers for the Navigation School must have a GCT score of at least 120, and Radio School students, at least 110. Only the best qualified are sent to MCAS CHERRY POINT, site of the Marines only Navigator and Airborne Radio Operator Schools.

The courses are no snap. Each student must maintain a daily average of 75 per cent.

Classes run from 0745 to 1630, and a nightly study period lasts from 1800 to 2200. If a student fails to maintain his daily average, study periods are a "must." An instructor is always on hand to help.

Four towers house training equipment. One houses celestial navigation training devices. Another houses radar equipment in the top section for use of navigation students and radio gear in the bottom for the radio class. A third tower contains a polar region trainer, and a fourth holds planetarium and electronic countermeasures training devices.

The first six weeks of the navigation course are dedicated to dead reckoning. A student must be able to plot coordinates of a position in any hemisphere and understand the proper use of navigational instruments for plotting and measuring direction and distance.

The written test at the end of the first six weeks covers 19 different subjects on dead reckoning. The student must complete a test on the dead reckoning computer and prove by examination his skill in plotting and measuring distance, altitude and position.

In the next six weeks, the students study celestial navigation. They learn the use of the coordinate system of positioning bodies in the celestial sphere. They are also taught to identify stars, understand the mechanism of the Mark V and periscopic sextants, and take observations with both of them. By the end of the course, they must shoot, compute and plot 40 star "fixes" and 250 sunlines.

FOUR TOWERS, *looking like silos, contain various types of special training devices.*

A week-long study of LORAN (Long Range Navigation) follows. Then a week in aerology teaches students how to classify the types of weather they will encounter in flight. The next three weeks of the course are devoted to pressure pattern flying, radar for navigation, and academic studies. During this time, they also have lessons in survival, should they be forced to ditch at sea, in an arctic region, or in a jungle. They also study air traffic regulations. The last week of the course is taken up by a long over-water flight in which the students put their knowledge of navigation to use.

In the 16-week Airborne Radio Operators School, students are taught five types of Navy messages and the three functions of naval communication—reliability, security and speed. They must transmit Morse Code at 18 words per minute. They learn to operate radio telegraphy, radio-telephony and direction-finding equipment and have a basic knowledge of electronics.

After leaving the schools, graduates of the Aerial Navigation Course and the Airborne Radio Operators' Course need only a few indoctrination flights with a transport squadron before they are ready to perform their duties in any type of Marine transport plane.

LETTERS

SIRS:

Cdr. Harbaugh's article on Landing Signal Officers in the January 1962 issue of *Naval Aviation News* was most interesting. However, in order to correct the caption on the picture (p. 18) of CAG-5 which stated that it was of a picture of LCdr. Flatley making the first landing on the *Yorktown*, CV-10, I submit the following information:

1. Ed Voltz (Ltjg) was senior LSO on the *Yorktown*, and in the picture by the left side of the LSO screen is an SNJ with Ed as pilot and his assistant, Ens. Tripp, USNR.

2. The LSO cutting the F6F is myself, then the Flight Deck Officer. Ltjg. Voltz landed second in the SNJ and then relieved me to recover the group for their carrier qualifications.

VIRG ERWIN, CAPT.
COMNAVFOR CONAD

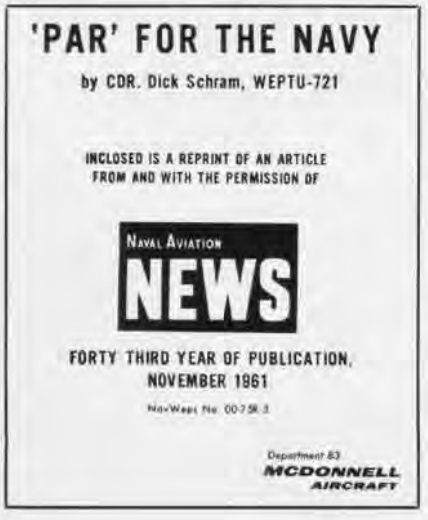
SIRS:

Based on permission granted during . . . [a] telephone conversation, McDonnell Aircraft has reprinted (see cut below) "PAR for the Navy" which appeared in the November 1961 issue of *Naval Aviation News*.

During the past year, personnel of McDonnell's Maintenance Engineering and Support Department have worked very closely with the Bureau of Naval Weapons and O&R personnel in the establishment of PAR requirements for the F4H aircraft. . . .

Personnel of McDonnell's Maintenance Engineering Department periodically conduct in-plant indoctrination courses for Engineering, Flight Test, and Manufacturing personnel concerned with the various aspects of operation and maintenance of the F4H and the PAR program. Copies of this reprint article will be used in this indoctrination.

C.E. SILER, CHIEF
Maintenance Engineering
McDonnell Aircraft



SIRS:

Regarding your article in this year's January issue entitled "P3V's Navy Future Learned," the record for the west-east transcontinental crossing for a four-engine propjet aircraft as noted may be challenged by a trip of which I was a crew member.

On 7 January 1960 I was First Officer on Northwest Airlines' Flight 10 which flew from Seattle, Washington, to New York in 5 hours, 35 minutes. On November 18, 1959 the same flight, on which I was also a crew member, crossed in 5 hours, 36 minutes. I do not have total mileages available, but I'm sure Lockheed and Northwest Airlines may wish to compare notes.

On one of these two trips, our ship made the distance from the Cleveland Omnirange to the New York area Colts Neck Omnirange in 48 minutes. I certainly think that will be unsurpassed.

I have nothing in my log to compare to the record westbound trip.

I've flown jets in the Navy and have ridden Boeing's 720B, but I compare the *Electra* to the T-28B, my all-time favorite machine.

Incidentally, has anybody flown a four-engine propjet from a 4000-feet MSL runway to 12,000 feet indicated altitude in less than three and one quarter minutes?

PAUL A. LUDWIG
Navy Reservist
Minneapolis, Minn.

WHAT IS IT?

Assigned to produce a public information photograph for the Marine Corps Air Station, Kaneohe Bay, Sergeant Clyde Simmons came up with the startling piece of photographic art shown on page 14. With the eye of a true artist in the prosaic world of press photography, Sergeant Simmons shot this picture to pique the imagination of all Kaneohe personnel—the photo shows 48 newly-painted trash receptacles, all "awaiting assignment" for the "Keep our station clean" campaign.

A2F Ordnance Load

Identification of ordnance in the inside front cover picture of the Grumman A2F *Intruder*, is as follows:

Outside ring: From 2 to 10 o'clock are shown 46 Mk 81 250-lb. bombs. The white shapes, five of them, one for each A2F external station, are *papier maché* mock-ups of the multiple bomb racks (one mission). From 10 to 2 o'clock are shown 30 Mk 81 500-lb. GP bombs (one mission).

Second ring: From 2 to 3 o'clock and from 9 to 10 o'clock are shown a total of 15 1000-pound Mk 83's (one mission). From 11 to 1 o'clock are 12 Mk 79 fire bombs (one mission). From 7 to 9 are shown 13 Aero 7D rocket launchers, each of which carries 19 2.75 *Mighty Mouse* rockets or a total of 247 *Mighty Mouse* rockets for one mission. From 3 to 5 o'clock are 15 LAU rocket launchers, each carrying four *Zuni* rockets or a total for one mission of 52 *Zuni* rockets. At 6 o'clock are five classified shapes.

Third ring: At 1 to 2 o'clock are shown three Aero 8A practice bomb containers. At 3 to 5 o'clock are five *Bullpup A's*. At 7 o'clock is the Douglas *Buddy Pack*. In-Flight refueling, and at 8-9 o'clock are four *Sidewinders*. At 11 are five Mk 84 2000-lb. bombs. Under wings are 300-gallon tanks.

FIRST NAVY JET PILOTS

The Aviation History Unit, DCNO (Air), has been asked to prepare a list of the first Naval Aviators to qualify as jet pilots in the order of their qualification. Since no such list exists and no records can be found from which such a list can be compiled, we are making a direct appeal for help.

The Navy's entry into the jet aircraft field began during World War II when several experimental models were acquired and contracts were let for the development of others. The first Naval Aviators were assigned to jet training in the same period. By the time jet aircraft were assigned to operating squadrons in mid-1947, many Naval Aviators were ready to fly them.

If you are one of the Naval Aviators trained in jets during this, or the immediate post-war period, please drop us a note giving the pertinent facts. For the purpose of establishing precedence, the most important item is date of qualification, which is interpreted as the day on which the pilot trainee first had command of his airplane. We are also interested in knowing the unit with which trained, where trained, type of aircraft in which qualified, period of training, others in training at the same time, and other details that will not only help set up the list in proper order, but also permit some amplification. To insure a high degree of reliability in the final product, documentation is desirable and specific dates are a necessity. Copies of pertinent papers will also be useful.

Please send replies to Aviation History Unit, Op-05A5G, Navy Department, Washington 25, D.C.

New Squadron Gets HUS

HMR-364 Receives New Helicopters

The first HUS helicopter for HMR-364, commissioned 1 September 1961, was flown by Capt. F.E. Allgood, squadron commander, and Capt. C. W. Olson, the squadron's exec, from NAS NORTH ISLAND to MCAF SANTA ANA. Early days of the squadron were spent getting ready to handle the helicopter.

Capt. Allgood reports that the squadron now has the necessary equipment to maintain the aircraft.

SQUADRON INSIGNIA

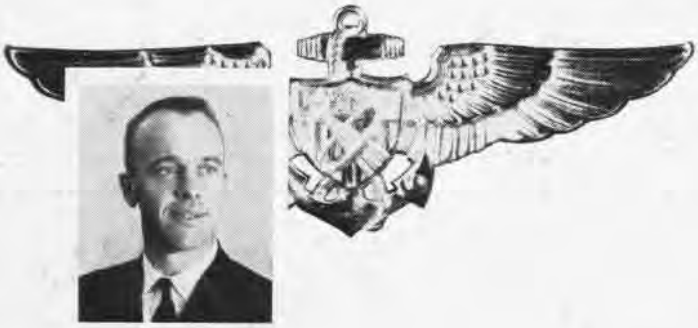
Helicopter Anti-Submarine Squadron Five, with a full complement of HSS-1N *Seabats*, is part of Anti-Submarine Air Group Fifty-Four which also includes S2F *Tracker* squadrons VS-22 and VS-32. *Seabat*'s fully automated hovering feature permits safe and effective operations around the clock. HS-5's twin specialties are pinpointing hostile submarines after initial detection by the far-ranging *Trackers* of sister squadrons, and screening the hunter-killer task group or convoy. Led by Cdr. Michael O'Hopp, HS-5 deploys in USS *Lake Champlain*.

HS-5.....

WAITING FOR LAKE CHAMPLAIN'S 'CHARLIE,' RETURNING PILOTS PRACTICE FORMATION.

HSS-1N'S STAND IN AUTOMATIC HOVER AS THEIR DEEP-DIPPING SONAR SWEEPS THE SEA.

'SEABATS' ON FANTAIL OF LAKE CHAMPLAIN AS CREWS PREPARE TO SORTIE FOR SUBS.



WINGS IN THREE DIMENSIONS

A new look in the Navy's Wings of Gold appeared recently with the presentation of Astronaut Wings to Cdr. Alan B. Shepard, Jr., first American to attain flight in space. More familiar are those belonging to Cdr. Jeff Davis (top), world speed holder as pilot of the Navy's new F4H *Phantom II*, and the Naval Air Observer wings of Lt. Bobbie Young (right), Radar Intercept Officer during a record-smashing, cross-country flight. All three men, singularly prominent in U. S. astronautic and aviation undertakings, are products of the Naval Aviation Training Command. Possession of Navy Wings of Gold establishes the wearer as a man with an extraordinary ability in the fascinating world of flight. If you desire information on Navy's Aviation Training Programs, write NAVIATOR, NAS Glenview, Ill.

NAVAL AVIATION
NEWS