NAVAL AVIATION NEWS

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★ HILLER XROE-1

★ KELLETT KH-15

★ AMERICAN XA-6

WHIRLYBIRDS OF A FEATHER

★ GYRODYNE

One-man helicopters are well on the road to operational reality. The five shown here are some of the more successful designs. Hiller's collapsible rotorcycle, at upper left, weighs less than 250 pounds, and can be packaged for easy transportation or parachute drop, and quick assembly. Its single rotor is just 18 feet in diameter.

★ ROTOR-CRAFT

THESE VERSATILE PINWHEELS

THE HELICOPTER has won its place as an integral part of modern air power. It possesses one notable advantage over its fixed wing ancestor—freedom from speed. Capable of speeds down to zero at altitudes of inches off the deck or thousands of feet above, the helicopter is flight in a new dimension.

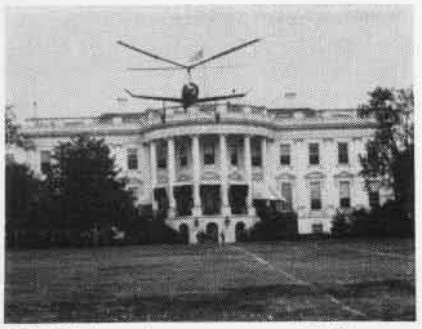
The direct lift rotor alone has the ability to hover, fly slowly in any direction, and land in the space of its own shadow. Because of freedom from speed, the helicopter requires no prepared landing field and no elaborate traffic control.

Today whole aircraft carriers are filled with helicopters, the core of a new type of Marine assault force. Every major ship of the U. S. Navy has at least one helicopter. During carrier flight operations, the rotorcraft "angel" always flies on station, ready in an emergency.

The Armed Forces find this Cavalry of the Sky indispensable. Its civilian uses are manifold. The helicopter has made an outstanding record in the field of rescue; and sailors, soldiers, airmen and civilians by the thousands owe their lives to its unique capabilities.

Airmen have learned to expect many things from the copter—sometimes too much. Occasionally they facetiously ask, "Why no acrobatics?" not realizing that flying this hell-bent pineapple with the sound of a wayward tractor is itself a feat in acrobatics. One helipilot says, "No barrell rolls today, but I'll do a square Immelman sideways at ten knots, ten feet off the deck."

By Joe Stein
Aeronautical Information Specialist, NACA



ONE OF *the early autogyros, an XOP-1, built by Pitcairn, landed on the White House lawn.*

COPTERS *are used in all climes. Here Siamese are shown after rescue from wrecked ship.*

CONTRAST *between ancient and modern is dramatized by this copter and Korean farmer.*

How does the rotorcraft get that way? Whence the ability for the "square Immelman," the odd behavior, the unequalled versatility? Its evolution was difficult and slow over a long history that predates the airplane. The rotor wing started with Leonardo da Vinci's sketch (about 1500 A.D.) of what he called a "Helix." The word is Greek for "spiral." Added later was the Greek "pteron," or "wing," to be merged and shortened eventually to our present word "helicopter." Incidentally, it's pronounced "hell-i-cop-ter."

The Italian genius was first of a great many who believed in the helix wing principle. His successors make a list as long as five centuries of history, as international as science. Some men in this field were distinguished for their development of the fixed wing, and it is probable that the helicopter would not have reached its present state without the foundation of fixed wing experience.

Da Vinci had a remarkable idea for his time. So did a good many others, include Sir George Cayley, W. H. Phillips and Raoul Hafner in England; Paul Cornu, Louis and Rene Breguet and Etienne Oemichen in France; Forlanini and d'Ascanio in Italy; Igor Sikorsky in Russia and U. S.; Theodore von Karman and Stefan Petroczy in Hungary; Raoul Pescara and Juan de la Cierva in Spain; Von Baumhauer in Holland; Antoine Flettner and Heinrich Focke in Germany; and, in this country, Emile and Henry Berliner, M. B. Bleeker, George de Bothezat and Raymond Young. Their ideas, compiled and combined through the years, furnished the foundations of today's advanced helicopter technology.

In Spain, Juan de la Cierva's *Autogiro* first flew in 1923. Cierva was first to apply the principle of flapping blades. The *Autogiro,* built on license in this country, derived lift from freely wind-milling airfoil blades. Except for later models incorporating a clutch for starting rotation of the blades, the engine power was disconnected before take-off, and the gyro was pulled forward by a propeller. The *Autogiro* could hover momentarily and land vertically, but take-off was a matter of at least a short run on the ground.

The Pitcairn *Autogyro,* designated OPP-1, became the first rotor craft to interest the Navy. For a few years in the early '30's, the Marines experimented with it. The *Autogyro* was an ancestor of the helicopter, but it passed from the scene with running boards and 10-cent cigarettes.

In the German prelude to World War II, Heinrich Focke built a successful side-by-side rotor helicopter. Dr. Focke's machine set records for duration, altitude, speed and distance.

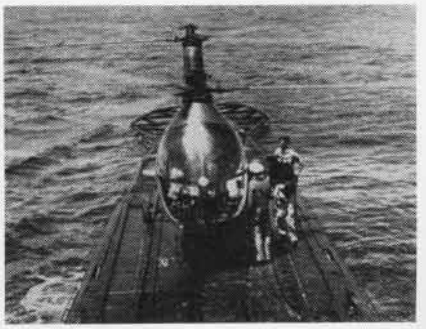
Following closely came Igor Sikorsky, by that time a world-famous builder of airplanes. In 1941 his VS-300 broke Focke's endurance record. Sikorsky went on to fire the imagination of an air-conscious country and produced the first helicopters (numbering in the hundreds in WW II) for the Navy, Army, Air Force and Coast Guard. In 1947, CAA granted a commercial license to a Bell Aircraft helicopter, the first of numerous civilian models.

There have been many who contributed to the high state of helicopter development today. A dozen large companies manufacture them. Scores of smaller ones work on various types in different stages of development. Since the start of WW II, more than 6000 copters have gone into use.

Although it looks utterly unlike the fixed wing airplane, the helicopter flies on the same lift-drag-thrust-weight relationship fundamental in aerodynamics. Meeting the air stream at a given angle (of attack) at a given speed, a given airfoil shape will produce a certain measure of lift. Lift is

ROCKET *launchers were flown to short distance behind lines to avoid counter-artillery fire.*

VERSATILITY *of the whirlybirds even extends to amphibious operations with use of floats.*



A SPOT *landing on the deck of a submarine can't be done by anything else except birds.*

due to the difference in pressure about its surfaces—lower pressure above, higher below. The greater the speed or angle of attack the more lift, and *vice-versa*. This applies whether the wing flies straight or goes round and round.

Rotor lifting action should not be confused with the relatively simple propeller; its function and action are better compared to that of the airplane wing. To produce the lifting force, the helicopter's blades swing around in the fluid mass of air to do what the airplane wing does when it is pushed or pulled forward by its jet or prop. The fact that the blades move in a circle affords some differences, but the disk they form is controllable and potent.

As long as power is supplied, the disk can be made to perform vertical, hovering or horizontal flight in any direction. Without power, the copter glides like the airplane, wing-supported in much the same way, but it retains the ability to hover momentarily.

The pilot controls the speed of airflow on the disk by setting the RPM of the rotor. He controls the angle of attack through his main control stick. He controls the pitch of the rotor blades, comparable to the angle of incidence of the airplane wing, by means of his cockpit pitch control. This is in marked contrast to the airplane wing, whose angle of incidence (angle between the longitudinal axis and the chord line of the wing) is fixed by design and is not usually controllable by the pilot.

In rotor aerodynamics, both lift and thrust come from the disk. In vertical flight, thrust acts upward right along with lift. When the disk tilts, a part of the lift becomes horizontal thrust, which moves the disk in the direction of tilt. Drag likewise is involved with weight, since it acts directly opposite to thrust, and thus is opposite to lift.

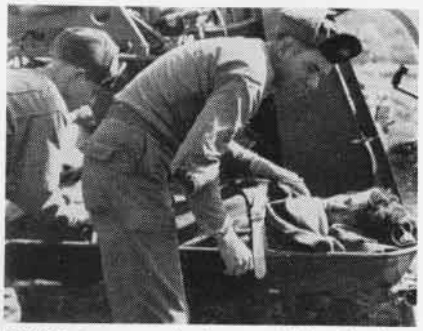
Lift is affected by the length, area and shape of the blades, the velocity and density of the air. In hovering (in no wind condition), any part of the blade meets a constant airflow speed throughout the circuit of the disk, and corresponding sections of all blades have the same speed.

Because the forces active on the disk are complex, helicopter design is fraught with problems and unknowns. By its very nature, the disk does not yield its secrets easily in laboratory or flight tests.

Recently, scientists of the National Advisory Committee for Aeronautics set up a special study of rotor blade pressures. With 50 miniature gauges imbedded in a rotating blade, they measured for the first time pressures throughout the cycle. They found lift, and blade twisting and bending forces significantly larger and more erratic than was calculated. At moderate speed, for instance, lift was twice as great at certain points in the cycle of rotation as at other points, and this disparity increased at higher and lower speeds. Furthermore, lift measurements rose to peaks not only at one but at four points.

A typical test at normal RPM and 30 mph forward speed yielded greatest lift about the rear part of the cycle; dropped abruptly to least lift as the blade approached the side, going forward; rose and fell twice more through the forward section of the disk; then dropped near minimum as the blade went downwind toward the rear. Individual points along the blade varied too, with pressures "walking" to and fro as the blade went through the complete cycle.

Such pushing and pulling helps explain why rotors develop their characteristic heavy vibrations and why they bend and twist as if pummeled by a mad giant. The repeated air loads, set to rhythm by the quick and constant



SPEEDY *transport of the wounded and sick is an invaluable accomplishment of helicopters.*

DAYS AND *perhaps weeks of travel by wounded are reduced to hours or less by the copters.*

THAILAND *sailors await transport to the Manchester after rescue from their wrecked ship.*

FOOD AND *medical supplies are flown to an area isolated and devastated by flood water.*

A SLING *enables "Old Dad" to assist aircrewmen in practicing valuable rescue techniques.*

AN HUP *goes to the rescue of a downed pilot. In background is the carrier Block Island.*

SOME 26 *Marines charge through the clamshell doors of Sikorsky HR2S, assault transport.*

AN HRS-1 *of HMR-261 picks up supplies from the Block Island (CVE-106) in training exercise.*

DIPPING *sonar gear in play, HUP-2 hovers over surface of water, pinging and listening.*

rotation, also reveal the source of the helicopter's noticeable oscillation, as well as the rapid "slap-slap" sound that is its trademark.

When the disk moves in "translational" flight (horizontal movement), new factors enter. Now the air moves *across* as well as *around* the disk, so when the blade advances into the wind, it has a higher relative air speed than when it retreats downwind on the reverse part of its circuit. Hence the blade moving in the direction of travel has a higher relative speed than the opposite blade moving rearward, and this difference increases with the speed of travel. Since airflow speed directly affects lift, this difference or "dissymmetry of lift" means unequal forces on opposite sides of the disk.

Left to do what comes naturally, these forces will roll the disk over to one side or tear the blade system apart. Most designs overcome the dissymmetry problem by hinging the blades at the hub or by changing the blade pitch in the rotational cycle. In one system, changing the angle of attack as the airflow speed changes, balances the lift forces. In the other system, the hinged blade is permitted to tilt upward as the speed and lift increase, so that the angle of attack, and lift, decrease.

WHEN THE hinged blade goes downwind, less lift causes it to drop and increase angle of attack—and lift. This action is called "flapping." In the "feathering" solution, the pitch is changed independently as it rotates in the changing airflow pattern, thus lowering and raising the angle of attack as necessary to even out the lift across the disk.

All things have limits in this world, no less rotor pitch, which is limited by stall, and a stalled airfoil, like an empty bank account, means bankruptcy in flight. Blade stall is to the helicopter what wing stall is to the airplane, but the net influence is opposite. Where stalling speed dictates the minimum speed of the airplane, blade stall dominates the helicopter's high speed. The reason is that the rotating blade on the downwind side must raise the angle of attack each time the horizontal speed rises. At some forward speed, the retreating blade reaches an angle of attack above the critical stall angle. Severe vibration results at this point; at higher forward speed, disaster may be the penalty.

Similarly influencing the disk is the center of pressure (CP), that imaginary point where all the lifting pressures concentrate upon a wing. When the CP moves, it tends to change the pitch of the blade. On most common airplane wings, the CP is allowed to "walk" back and forth under the influence of camber (or curvature) of the surface. Because of different camber on the top and bottom surfaces, the CP changes. Such irregularity of the CP cannot be permitted on busy rotor blades, so the airfoils usually are symmetrical, cambered the same on both surfaces.

But despite the complexities of rotor blades, flight can be smooth and graceful, producing a maneuverability that has made the helicopter a champion in air-sea rescue. Performance is affected by the shape of the rotor blades, their smoothness and pitch, the "solidity ratio" of the disk, the density of the air, and the power applied. Since lift is proportional to the square of rotor radius, the larger the disk, the greater the lift, with the outside limit set by consequent increased drag and power required.

Blade length usually is 15 to 20 times the width, for minimum drag, and the shape varies from the straight rectangular to the tapered, or combined. Taper evens the lift distribution along the blade, but this may be accomplished by twisting the blade for lower pitch at the tips. In helicopter lingo, "solidity" refers to the ratio of blade area to disk area. Like the aspect ratio of fixed wings, solidity ratio determines many other features; it is a compromise between the minimum for best hovering performance and the maximum for highest speed.

Density, which varies with altitude, humidity, temperature, and weather change, affects helicopter and airplane alike, but the helicopter is more sensitive to density, notably in hovering. A fall in the barometer or a rise in temperature can be direct notice to sit on solid ground or lighten one's load.

Density affects both the production of lift itself in hovering, and engine performance. Demands of design put the engine on or near the center of gravity where cooling is less than ideal. In consequence, hot (less dense) air goes into the manifold and causes loss of power. Supercharging helps correct this. Fact is, in a typical model the addition of a 50-pound supercharger gave an increase of 400 pounds useful load at 1000 feet altitude and 75 degrees. The net increase of 350 pounds was about 70 percent of the original useful load. This is why engines of practically all modern helicopters are supercharged.

Density proved mighty important to wounded Marines in the Korean conflict. The same chopper that carried six litter cases at normal sea level was unable to carry more than three at 5000 feet. The seemingly small difference in air density was bad odds for three men. It was this critical need which prompted the addition of JATO bottles to Marine copters. Also, the brief boost of rocket-on-rotor proved fruitful.

RESEARCH at NACA's Langley Aeronautical Laboratory has shown gust response of the copter to be unlike that of the airplane where the reaction worsens with higher speeds. At 80 mph, a helicopter was some 30 percent less sensitive to gusts than the airplane, and, of course, the bounce and grind owing to gusts were less at lower speeds.

In flight maneuvers, the whirly-wing calls for a different kind of coordination. Copter flight always begins and ends with a hover. The business of hovering is a matter of managing that live disk at something approaching full power, so that it flies transfixed over a point on the ground. This means using all the controls in combination, fighting gusts, anticipating what movement may sneak into the formula, and being careful of persons and property underneath, all the while trying not to overcontrol.

The helicopter hovers best close to the surface, whether it is solid earth, a ship's deck, the roof of a building, or the sea, because of "ground effect." This is virtually a huge pillow of down-washed air that cannot get out from under the rotor. Hovering demands less power in ground effect than out of it, so bigger loads can be carried because of it. Since this air cushion means increased density, the chopper is able to hover *close to the ground* at very high altitudes where it wouldn't hover otherwise. From the hover, the copter takes off in climb and normal forward flight. In general, ground cushion depth measures about one-half the rotor diameter at low altitudes.

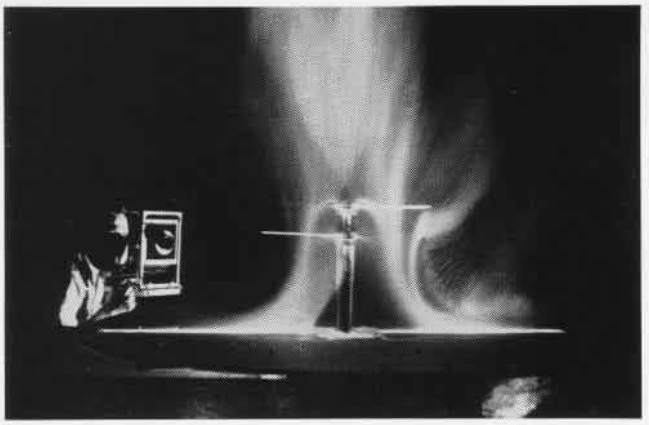
Normally, hovering is possible at any altitude (where the engine can develop enough power) with air speed right on zero. Hovering between the top of the ground pillow and about 300 feet higher is not recommended. The reason involves autorotation and safety.

As the word implies, autorotation is self-rotation, by the upward flow of air through the disk. Autorotation goes to work when the engine quits. A free-wheeling clutch disconnects the engine and the rotor continues turning in the same direction. Instead of the blades pushing downward on the air, the air is pushing upward through the disk to turn the blades like the well-known windmill. Because this process of reversing air flow takes an interval of time, the copter loses some altitude while autorotation develops. Fully loaded, the average helicopter will drop some 300 feet in the process.

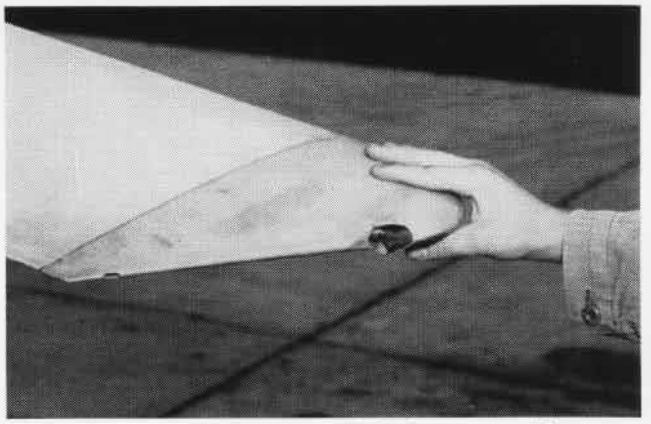
An autorotating system will develop lift while windmilling. Low pitch is essential to reduce drag and keep up the rotor RPM, which is vital to continue producing lift and centrifugal force, or the blades will fold upward. And, since the disk is more efficient with moderate forward movement, a speed of 30-45 mph is essential. Low speed obtains a rather hairy rate of descent.

With good management, autorotation's ride downward is about as fast as a parachute's, but while descending the rotor stores energy, which is useful at the end. Having reached a height of 15 or 20 feet, the pilot slows to a hover on that stored energy and then lowers gently to land. Forward speed isn't necessary in the finale, but a landing can be made under control at 20 mph or so. Handled either with some forward movement or dead stop, autorotation is the helicopter's "Big Pay-off."

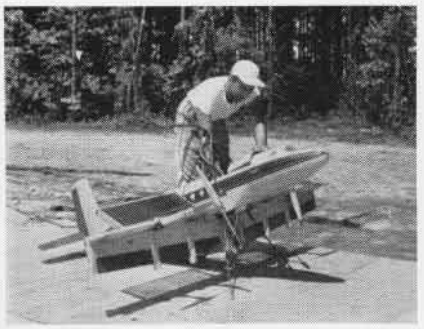
Autorotation helps to explain the helicopter's power re-



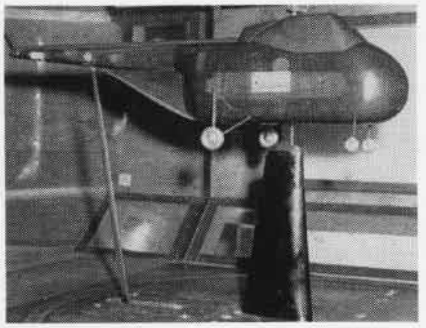
DUST-FLOW *method is used to investigate air flow generated by a scale model of counter-rotating, coaxial rotors in hovering position.*



TINY ROCKET *engines in tips of HRS-2 rotors permit helicopter to take off with heavier loads at sea level or from high altitude.*



AN NACA *scientist checks model of a four-engine VTO model to be used in stability tests.*



THIS IS *a 1/10th scale wind tunnel model which is used to study characteristics of the S-55.*

CLAM SHELL *doors in this Sikorsky copter are designed to give maximum engine accessibility.*

quirements. The windmilling rotor works better at forward speeds than in hovering because the rotor works on a larger mass of air. Thus the power required is less at forward speeds than in hovering. Characteristically, nearly all choppers call for least power at 35 to 60 miles an hour, most power at hovering and top speeds. The sweep of power required runs about 50 percent more for hovering and cruising than for moderately low speeds.

Production of lift alone eats up 60 to 70 percent of the total power in hovering, but this appetite wanes as the rotor flies forward, improving rapidly up to about 30 mph, with further decreases all the way to top speed. Power required to overcome blade drag increases moderately with forward speed, but power needed for fuselage drag rises as the cube of the forward speed. In one of the early production helicopters, one-half of the available engine power was used in overcoming fuselage drag alone at 80 mph, the cruising speed. These drag forces explain the helicopter's varying

CHIEF SWAPS *even for a hard hat before take-off in HO3S for a test flight at San Diego.*

MARINE HRS-2 *copters buzz busily around the Mindoro during pilot carrier qualification.*

HILLER HOE *ramjet helicopter seats two including the crew. Maximum speed is 66 kts.*

power requirements and the need for specialized engines.

Until recently, all helicopters used hand-me-down engines from the fixed-wing world with mixed results. Cooling, vibration, lubrication and weight added problems upon problems for designers. Now, though, a growing stable of reciprocating and gas turbine engines is being made just for the rotor trade. The jets, even the ramjets, appear to offer advantages once their fuel consumption rate improves. But as of now, the torque-free jet on the rotor tip is a real fuel eater which drastically limits range and usefulness.

Every common helicopter power package includes an intricate transmission that must gear down the high RPM of the engine to the low RPM necessary for the rotor. At the same time, it must be light, durable, and dependable, and include a foolproof, free-wheeling clutch. The development of transmissions is a tribute to the skill of mechanical engineers.

There are three broad types of rotor systems, the hinged, semi-rigid, and rigid. Freedom distinguishes the first. The blades move up and down, back and forth, on hinges at the hub, with excessive movement prevented by damping devices. Semi-rigid rotor blades are fastened to a hub which can tilt freely on the mast. Rigid rotors, like propellers, are secured solidly, but their pitch can be changed independently. Depending on a number of factors, rotors may have one or more blades. Rule of thumb is that more blades create less vibration, but are heavier and mechanically more complex.

Control by mechanically tilting the hub is confined largely to jet-driven rotors and autogyros. This method is not efficient for engine-driven rotors since the massive forces to be overcome would require huge and awkward machinery to move the hub. This is why aerodynamic means, or change of pitch in the cycle of rotation, is preferred.

Typically, a small "swash" plate linked to the pilot's main control stick manages this function. Link rods from there to the blades ride on bearings atop the plate, so that when the pilot moves the stick, he tilts the plate. This change of pitch as the blade links ride around is used on the Bell, Sikorsky and Piasecki models. On the Hiller type, the swash plate actually controls a small servo rotor at the hub. The Kaman rotor system connects to servo trim tabs fastened directly to each blade, which individually change pitch.

Of the many problems which characterize helicopter design, torque is one of the most persistent. In the airplane, torque tends to cause the fuselage to twist opposite to the rotation of the propeller. Torque causes helicopter engine and fuselage to oppose a huge rotor, hence the torque is much stronger.

The various answers to the problem of torque influence the shape or configuration of the whole machine. The side-by-side, tandem, coaxial, intermeshing and other multi-rotor types have blades turning in opposite directions to cancel cut torque. Nearly all of the engine power goes to create lift and thrust.

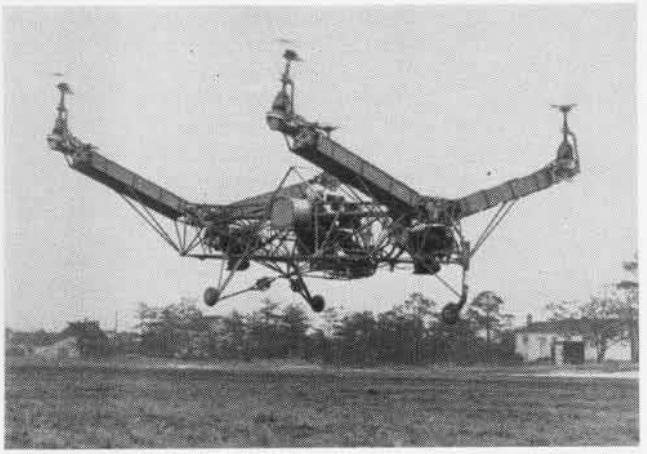
The jet rotor with small engines or jets delivering thrust at the blade tips offers the simplest solution—no torque. Still another corrective is an air jet at the tail controlled by rudder pedals. And the gyrodyne, with a small rotor offset to the side and facing forward, directly counteracts torque as it contributes thrust in forward flight.

These are satisfactory solutions for torque, but the single main- and tail-rotor design is most popular, because it affords the most simplicity and lowest weight. The small anti-torque rotor on the tail, geared through a drive shaft to the rotor mast, turns at constant speed, usually about half the

RPM of the engine. Since the tail rotor itself produces torque, it drifts the helicopter to one side. This is corrected by rigging the mast with a slight tilt against it.

Among its disadvantages, the tail rotor absorbs some ten percent of engine power in hovering and three or four percent in forward flight. And its hazards are something to reckon with. The pilot must be cautious in maneuvering close to the ground or near obstacles—where he does much of his flying. For bystanders, that small rotor can be more dangerous than the airplane prop because they are frequently unaware of this meat chopper on the tail. Of 27 helicopter fatalities recorded by the Civil Aeronautics Board some time ago, nine were due to tail rotors.

If torque imposes burdens on the rotating system, so does gyroscopic precession. A force applied on any rotating body results in an effect 90 degrees later in the plane of rotation and must be compensated for. When the swash plate tilts forward on a counter-clockwise rotor, the blades tilt left—



FIRST FLIGHTS *of the Quadrotor Flying Test Bed, designed by Convertiwings, Inc., proved ease of handling and freedom from vibration.*

90 degrees later in the cycle, due to gyroscopic effect.

The heavy push of centrifugal force calls for strength in the whole rotor structure. The right amount, maintained by RPM, keeps those blades in a horizontal plane. While this force pulls outward, the lift force pulls upward. The two combined cause the blade tips to flex upward in a rotor characteristic known as "coning." Without centrifugal force the blades would stall and fold up. At the same time the blades must be kept in "track," that is, following one another in precisely the same plane, or vibration results, causing a noticeable "beat." When two or more vibrations hit the same beat, resonance takes hold and disaster follows faster than you can say "autorotation."

Problems of resonance have been pretty well licked by engineering, but they still bear watching. They frequently occur in the sequence of damage following accidents; in seconds, resonance leads the copter to smash itself to pieces.

The whirlybird's controls, which look like those of an airplane, are more complex. The pilot's "cyclic" stick manages the up-and-down movement of the nose and the left-or-right bank by tilting the disk through the swash plate. Moving sideways or rearward is limited to low speeds because of added drag on the fuselage. In most models, excessive nose up-or-down movement is prevented by a horizontal fin on the tail. Since the tilt of the disk determines direction, the fuselage must tilt in the direction of flight, whether in climb, descent or level flight, and this applies to forward, sideways or rearward course.

Blade pitch is controlled by a lever usually located at the left of the pilot seat. This "collective pitch" lever controls the pitch of all blades at once. Upward pull increases the pitch of the blades, down stick lowers the pitch. But just increasing pitch will not increase the lift on the disk without an increase of power at the same time, so the throttle usually is connected to the same lever and operated by twisting, something like a motorcycle grip. In addition, the mechanism has a linkage to advance throttle when the stick is lifted, and reduce it when lowered. Some large helicopters have servos or boosters on both cyclic and collective pitch controls.

Directional control by the pilot's foot pedals depends on the kind of rotor system. The conventional tail rotor is

IN A RECENT *fleet review held off Long Beach, one of the participants was the USS Philippine Sea with its copters on the flight deck.*

convenient for moving the tail. Through the foot pedals, the pilot increases the pitch (thrust) or decreases it, to swing the tail right or left. The same pedals increase the torque on one rotor while decreasing another in multi-rotor types. In the intermeshing type, direction is controlled by tilting one rotor forward and the other to the rear. Still others get an assist with a simple rudder on the tail. All helicopters must have positive directional control, so they can turn in any flight maneuver, even pivot while hovering. And it isn't necessary to coordinate stick and rudder for balanced turns.

Its controls and characteristics give the helicopter a remarkable kind of safety in emergencies, along with the ability to go places where even the horse and the mountain goat cannot. This young-old aircraft is still finding new duties in a world full of need, and is still evolving. Perhaps it will become the VTO airplane or convertiplane, which are copycats.

Old as the idea is, the spiral wing concept matured in a world long used to fixed wings and capacities far advanced in speed, height and load-carrying. If the copter ever flies around the world, it will probably make the slowest such flight on record. Speed is nothing to the copter—but teamed with the fast airplane, it gives us full mastery of the air.

GRAMPAW PETTIBONE

Gramp Roars

Jehosophat! Aviators don't make them all! After years of trying to keep pilots from sprouting wings (or horns, as the case may be), now it looks like I'm going to have to take on the education of magazine publishers. In the February issue, the guy's blue pencil slipped, and the article entitled "The Case For Ejection" has me saying that forced landings in jets should be made wheels up. Any durned fool who can read knows that just the opposite is true. The very last sentence in OpNav Instruction 3750.12 spells it out in language that even magazine publishers can understand—forced landings on unprepared terrain by jets or other tricycle gear aircraft should be made WHEELS DOWN.

Remember—make 'em WHEELS DOWN if you hafta make 'em. And you, Bub, keep your flying speed or you'll spin in from that swivel chair of yours.

And now if all the desk jockies will get the heck back to their pencils we can get on with our business in the air. A pox on the chairborne forces!

¶ Detachment ZERO, NAF Lower Slobbovia—Dear Gramp: I did it and I'm sorry. Can I get up now, pleeze?—The Publisher • • •

Boxing Lesson

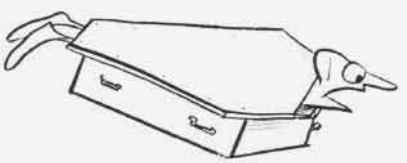
Two JG's flying F2H-3's on a low-level navigation training flight spotted two canyons up ahead. The wingman, noting the rugged terrain, called to the flight leader, "Don't think we can make it from here."

"Yes, we can, it's easy," came the reply.

They proceeded into the selected canyon at 300 knots, the wingman taking the lead.

In the wingman's words: "I was climbing rapidly due to the terrain slope, and I noted that we were just about committed to keep going. The sides of the canyon were now too narrow to turn around. I saw my rate of climb indicator pegged at 6,000 feet per minute and airspeed dropping fast.

"I hugged the port side of the canyon and I knew at this time that if I kept my altitude, I would never make it. Dropping my nose, I tried to increase my airspeed, and at the last moment, I pulled up and nursed the aircraft over the end of the blind canyon. Airspeed was around 140 knots and clearance over terrain from 10 to 50 feet."



When the wingman could get no radio response from the flight leader, he circled back and saw a large billow of black smoke about 1,000 feet below the canyon rim.

Grampaw Pettibone Says:

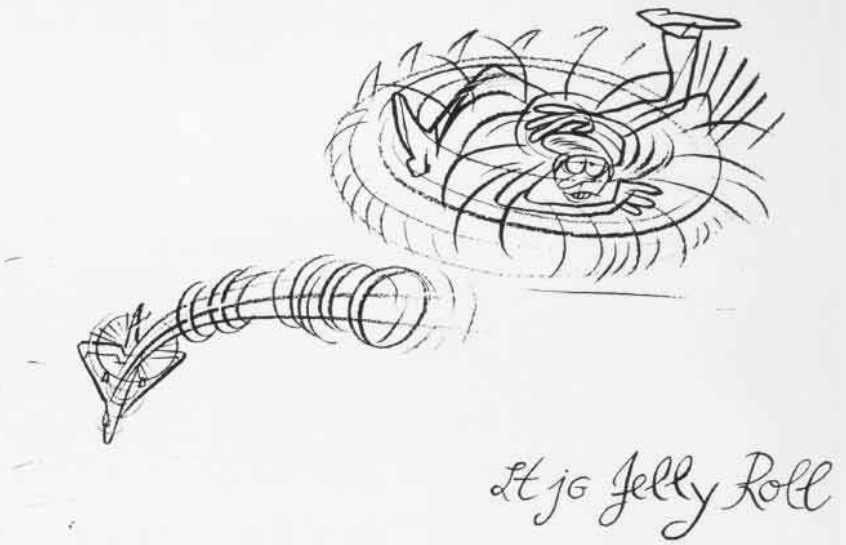
"Yes, we can, it's easy" is high on the list of famous last words. Although the wingman didn't think they could make it, he let himself be influenced by the other pilot's fatal confidence. I suspect he still held some reservations and kept his mind working on a way out. Otherwise, he might not have been set to make that slow motion zoom that permitted him to limp over a low spot in the canyon wall some 12,000 feet above sea level.

I've read several cases of pilots getting themselves boxed in lately,

and I'm convinced that not all of the box canyons are in cowboy movies. The trouble is that too many pilots aren't learning this lesson until they're in serious trouble.

"In case of doubt, don't" is a good rule to follow when tempted to take chances on low-level nav hops. This type of flight is necessary, but the added hazard must be recognized and reckoned with. It looks to me like the older and wiser heads in an outfit could go a long way toward impressing on younger bucks the necessity for extra caution and superior planning.

On Borrowed Time



After downing his F4D because of faulty radio equipment, a Ltjg. took off in the standby plane to act as bogey, making simulated runs on a four-plane division.

During the climb-out to 42,000 feet, the aircraft had a pronounced right wing-heavy tendency which the pilot made several attempts to "trim out." He homed in on the other planes of the flight, which had taken off 15 minutes ahead of him, and spotted them visually. At 43,000 feet and indicating a speed of Mach .9, the *Skyray* was in a starboard turn when it began a slow roll.

The pilot attempted to counteract the slow roll, but the aircraft would not respond and continued into a second slow roll. During the second roll, the pilot counteracted the rotation. Whereupon the aircraft threw both external tanks and reversed direction with a violent snap roll. After one rotation, the airplane again made an abrupt halt, then snapped into another roll.

The pilot released all flight controls, thinking the aircraft might right itself, but he began to "red out" and could not clearly see the flight instruments. At a last known altitude of about 40,000 feet, and almost unconscious, the pilot reached upward with his right hand, grasped the face curtain, and ejected himself from the aircraft.

The pilot lost consciousness, then as his senses began to clear he realized that he was spinning at a terrific rate. He finally forced his right hand to pull the bailout bottle. In the pilot's own words:

"The centrifugal force on my body was so great that I was unable to use either my legs or arms in a 'scissors' manner to cause my body to roll over. I was also unable to turn my head so that I might look down at the terrain and estimate the altitude. I decided to pull the ripcord as soon as I felt warm air as I was continuing to slightly 'red out' and had no idea how high I was above the terrain.

"All of a sudden I had an extremely warm sensation throughout my body, and I pulled the ripcord. The parachute opened immediately, and I found myself staring at small ripples on a very smooth sea. I estimated my altitude to be no greater than 1500 feet. I had just enough time to release my chest buckle and check on the security of my knife as my feet struck the water."

The downed pilot was sighted by an S2F crew and was picked up by helicopter after an hour and 20 minutes in the water.

Grampaw Pettibone Says:

Son, you had me worried. I thought you'd never get around to pulling that ripcord. If that "warm sensation" had been delayed any further, things wouldn't have turned out so hot.

Mention was made in the accident report that the pilot had difficulty in determining whether or not the lateral trim system was functioning properly. Since there is no lateral trim indicator in the F4D, the amount of trim can be determined only by visual reference to the control stick on the ground or by aircraft reaction in flight. The AAR Board listed the following possible contributing factors in this accident:

1. An unequal fuel transfer resulting in full external and internal fuel tanks on the starboard side.

2. A defective yaw-damper system resulting in an abnormal rudder deflection when the attempt was made to recover from the starboard wing down condition.

3. A defective lateral trim system giving loss of lateral trim control with full right trim in.

Since the airplane crashed into the ocean, there's nothing but the pilot's report on which to base an opinion of what happened. But it seems to me that when repeated attempts at trimming failed to correct the right wing-heavy condition during the climb-out, it should have been the pilot's cue to abort the mission, slow down to approach speed, take stock of the situation, and — if practicable — get back on the deck.

This was the sixth accident in which this lad had been involved. Maybe he was a victim of circumstances and sad coincidences in his previous hair-raising adventures—I don't have accounts of his previous accidents available to me at this writing.

A Reservist, the Ltjg was due for release to inactive duty, and immediately following this sixth accident he went into a non-flying status at his own request. That may be the smartest thing he ever did, since the statistics rarely permit a pilot to survive his *fifth* accident.

MEMO FROM GRAMP

Haste makes waste; but for survival by ejection, well planned, rehearsed, fast, coordinated action can save your life. Here, he who hesitates is lost.

IAS CALLS NAVY-INDUSTRY MEETING

RADM. J. S. RUSSELL, CHIEF OF BUAER

LEADERS in Naval Aviation and the country's top aircraft designers will have an opportunity to exchange views at the National Naval Aviation Meeting of the Institute of Aeronautical Sciences to be held in late summer at San Diego.

The conference set for the 5th through the 10th of August will bring together members of the IAS and Naval Officers who are responsible for the procurement of aircraft for the Navy. The purpose of the Naval Aviation meeting is to furnish a forum for the free interchange of ideas between designers, and between designers and users, of information on problems and developments peculiar to the aircraft which are designed for use by the Navy.

RADM. James S. Russell, USN, Chief of the Bureau of Aeronautics, is the Honorary General Chairman of the conclave, and William H. Mollering of Convair is the General Chairman.

The meeting, while under the direct sponsorship of the San Diego Chapter of the IAS, is national in scope and has the approval and support of the national body. Attendance is not limited to members of the Institute and the Navy, but is open to others who have an interest in the subject matter and have the necessary security clearance.

Tentative plans call for the presentation of a number of papers on the first day of the conference covering in general the role of Naval and Marine aviation and their operational requirements, including: water and carrier-based aircraft, missiles, rotary wing planes, lighter than air, STOL and VTOL.

Second, fourth and fifth days will contain a great part of the "meat" of the convention. Technical papers will be given by both Navy and industry representatives. The presentations will discuss in a specific way the topics covered in general on the first day.

Particular stress will be laid on matters concerning design, testing and operations; reliability and safety; human engineering and environment; special weapons, power plants (including nuclear), and the problems involved in such Navy specialties as ASW, ECM and AEW.

The third day will be devoted to field trips with the industry participants taking a one day cruise in an aircraft carrier to pick up some first hand information on Navy operational requirements. Plans call for them to observe flight operations and to witness the firing of some of the Navy's family of guided missiles. Simultaneously the Naval Officers in attendance will visit aircraft plants on the West Coast to get a quick impression of the industry in operation.

The meeting will conclude on the sixth day with an aerial demonstration at NAS MIRAMAR including the *Blue Angels* and a simulation of vertical envelopment by the Marines.

Additional information on the National Naval Aviation Meeting of the IAS can be obtained from William Mollering or from the IAS Technical Program Chairman, J. G. Wenzel, 3380 Harbor Drive, San Diego, California.

- More than 1000 vacuum tubes are used in a modern jet bomber. These tubes cost from 56 cents to $681 each.
- The tapered wing covering of new jet aircraft is ten times thicker than the aluminum sheets used in World War II aircraft.

LGen. Schilt to Retire

Pioneer of Marine Corps Aviation

LGen. Christian F. Schilt, a pioneer of Marine Aviation and winner of the Nation's highest decoration for bravery, plans to retire on 1 April. At present, he is the Assistant Commandant of the Marine Corps for Air, and Director of Aviation.

Gen. Schilt has seen action with Leatherneck air units in World Wars I and II, the Haitian and Nicaraguan campaigns, and the Korean fighting. He was awarded the Medal of Honor for heroism from 6 to 8 January 1928, at Quilali, Nicaragua, where two Marine patrols were ambushed and cut off by rebel bandits. Then a lieutenant, he voluntarily risked his life to make ten flights into the besieged town, evacuating 18 casualties and carrying in a replacement commander and medical supplies.

The Marines on the ground had to burn and level part of the town, to make a landing strip. Since the plane had no brakes, they had to stop it by dragging from its wings as soon as it touched down.

In Korea, where he commanded the 1st Marine Aircraft Wing, Gen. Schilt earned the Air Force Distinguished Service Medal and his fifth Air Medal. He also holds the Legion of Merit with Combat "V," the DFC, Bronze Star with Combat "V" and four Air Medals for WW II service. During that conflict, he participated in the Guadalcanal campaign, the consolidation of the Southern Solomons and the air defense of Peleliu and Okinawa.

General Schilt enlisted in the Marine Corps in June, 1917, and served with the 1st Marine Aeronautical Company in the Azores. Upon his return to the U. S., he entered flight training at the Marine Flying Field, Miami, Fla. He was designated an aviator June 5, 1919 and was commissioned a second lieutenant five days later.

LGEN. SCHILT WON THE MEDAL OF HONOR

MAILMEN ON BOARD THE RANDOLPH UNLOAD THE COD AIRCRAFT

ELEVATOR LOWERS MAIL DELIVERED BY PLANE TO HANGAR DECK

MAILMEN OF THE MEDITERRANEAN

By Dick Morris, BM3

MAIL CALL on the boatswain's pipe is the "sweetest music this side of heaven" to the ears of the bluejacket far away from home. Time was when weeks and even months of waiting were involved before letters were received aboard ship. But in the modern Navy, it is only a matter of days between date of mailing in the States and receipt aboard ships of the Sixth Fleet in the Mediterranean area.

The average time for an air mail letter, stamped Stateside, to reach the Sixth Fleet is about seven days. It is possible however for a letter mailed in New York to be read by a sailor in Naples four days later.

The mail plane, known as the COD, comes from the Mail Distribution Center in Naples, Italy. The aircraft makes six landings weekly aboard the *Randolph* or the carrier in company. The average mail load that the COD delivers to the *Randolph* is about 2000 pounds. The task of unloading and distribution is the responsibility of postmaster P. J. Naginewicz, TE1, and his six mailmen. It is their job to see that every last letter is delivered to the Fleet and to the crew of their own ship.

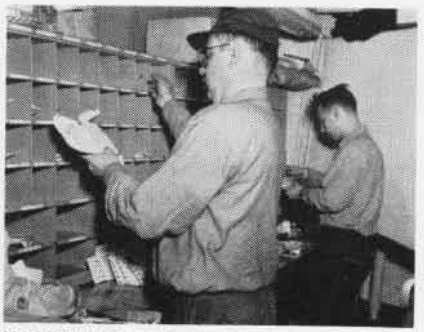
During a three-month period last fall, the *Randolph* dispatched 5627 pounds of air mail and received 3554 pounds. In first-class mail, 5506 pounds were sent. For the second, third, and fourth class, which includes everything from newspapers to cuckoo clocks, 7764 pounds were dispatched and 13,113 pounds received. This keeps the mailmen busy!

On hand in the *Randolph* post office to serve the bluejackets is $12,000 worth of stamps. Each day $70 worth of air mail stamps and $15 worth of three cent stamps are sold. On pay day, the P.O. often has a total of 630 money orders. Money orders for one three-month period totaled a little more than 168,790 dollars.

Half the battle of getting the mail to the addressees is "Operation High Lift." This is the delivery of mail to the ships in company which is done by the *Randolph's* helicopter. All mail which the carrier receives for the task force is completely sorted and the copter, "Angel," makes delivery to the destroyers, cruisers, oilers, and other ships attached.

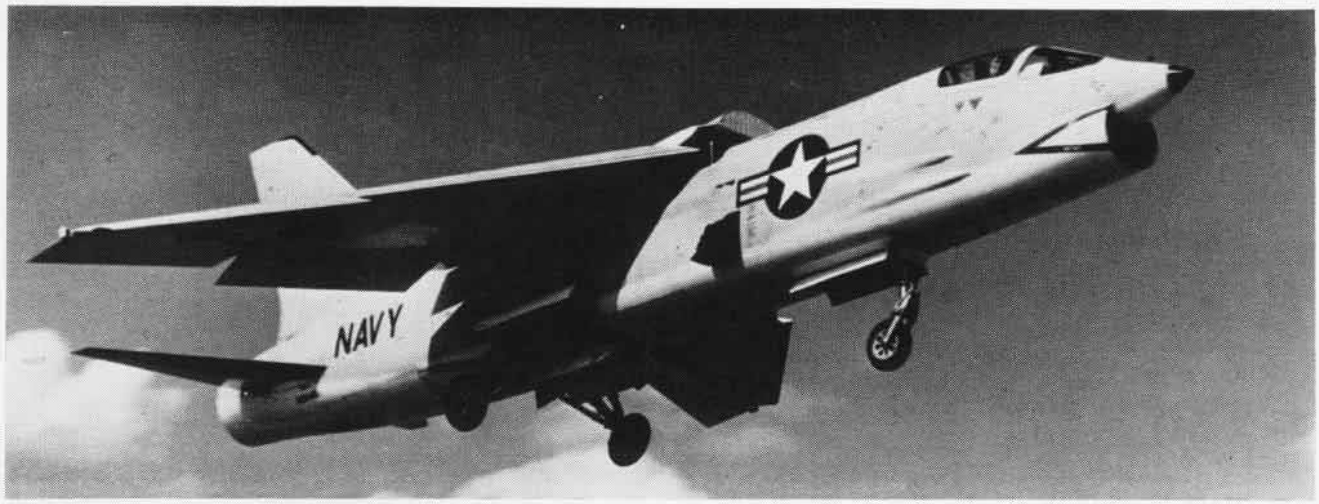
The last few years have seen a rapidly improved efficient mail service throughout the Fleet. Gone are the days of tedious waiting for news from loved ones at home. Mail call for sailors in the Mediterranean areas is now almost a daily operation. Now the men of the Sixth Fleet can proudly boast, "No more rural routes at sea." Credit and thanks for this fine state of affairs go to the cooperation of the Fleet Distribution Center in Naples, Italy, and the teamwork of the aviation branch and the surface forces.

MAIL LINE ABOARD THE USS RANDOLPH



NAGINEWICZ AND AIDE SORT MAIL IN P.O.

DIVISION CLERKS PICK UP THEIR MAIL



F8U-1 CRUSADER, *Chance Vought's number one plane, comes in for a landing with its incidence wing in low-speed position. Black spot on side of fuselage below wing leading edge is a ram air turbine for emergency use should either hydraulic or electrical systems fail.*

CHANCE VOUGHT AIRCRAFT
INCORPORATED · DALLAS, TEXAS

WINNER, leader, source of superior aircraft for the United States Navy! This is a fortieth anniversary salute to the corporation whose F8U *Crusader* won the 1956 Thompson Trophy; whose F4U *Corsair* was the only fighter to receive an official citation for outstanding performance of duty; whose VE-7 was the first plane to take off from the USS *Langley*, the first aircraft carrier in the U. S. Navy.

Chance Milton Vought, founder of the company which has for decades continued to bear his name, was a pioneer aviator, trained by the Wright brothers themselves. A top-flight engineer, he held several executive positions in the field of aeronautics after leaving college in 1910. In 1917, he teamed up with Birdseye B. Lewis, a keen business man, to form the Lewis and Vought Corporation.

THE REGULUS *can be steam-catapulted from the decks of aircraft carriers. This new capability was made possible by a launcher cart which was developed by Chance Vought for the Navy.*

The company's first plane, the VE-7, was the winner of an Army trainer competition. Incredibly, the aircraft took shape on the third floor of the Garside building in Astoria, N. Y. In 1917, this was the headquarters of the Lewis and Vought organization. This company was succeeded by the one bearing his name, the Chance Vought Corporation, in 1922. Mr. Vought became president and consulting engineer, and operations were moved to Long Island City, N. Y.

During these early days, the Chance Vought Corporation found itself a leader among manufacturers of training and observation planes. The VE-7 was originally a two-place trainer. The Navy purchased a number of these, many of which were the modified VE-7SF, a single-seat fighter. The fighter was powered by a Hispano engine and the top speed of the bi-plane was 115 mph. Flying this model, LCdr. V. C. Griffin made the first carrier take-off in the U. S. Navy from the *Langley*, on 17 October 1922.

The VE-9 was Chance Vought's next production plane, and it was designed for the Navy. This two-seat biplane,

★ ★ ★ ★

This is the sixth in a special series of feature articles on companies which have built and are building aircraft for air arm of the United States Navy.

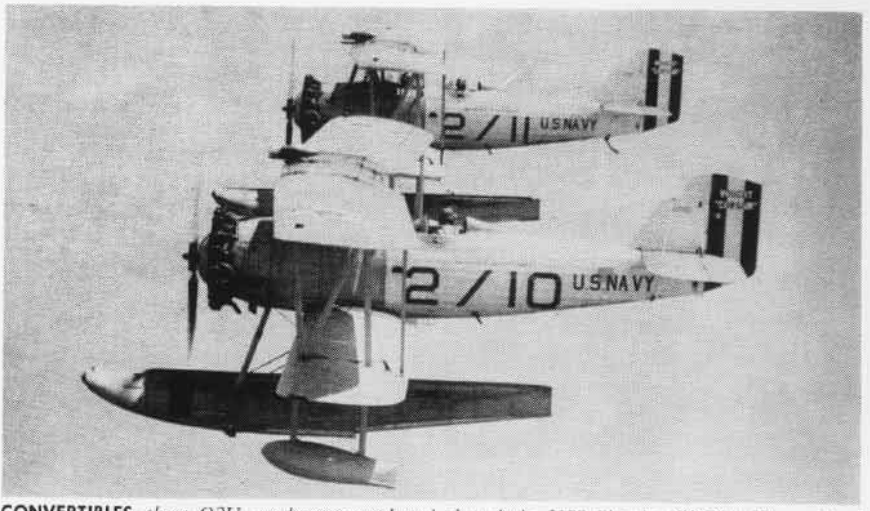
★ ★ ★ ★

first used in 1922, was built around a Wright engine. Top speed was 118 mph. Originally designed for advanced training and gunnery purposes, the VE-9 was further developed into the convertible type (by using pontoons or wheels) so that it could be catapulted from ships and used for observation and gunnery-spotting. This model and the VE-7 were among the early planes used to train pilots in the techniques of carrier operations.

In 1923, the corporation produced a new model for the Navy, the UO-1. It was a two-place observation plane, equipped with a Wright engine, and boasted a four-hour scouting range. Some models of this type had a top speed of 130 mph. This convertible observation plane was widely used aboard battleships and cruisers. Getting the planes in the air was accomplished by using small, powerful catapults. Models of the UO were delivered to the Navy until 1926.

The FU-1, a high altitude (27,500 feet) fighter, was built for the Navy in 1925. It was Vought's first fighter, and was equipped with an air-cooled engine. The plane carried two fixed .30-cal. machine guns synchronized to fire through the propeller.

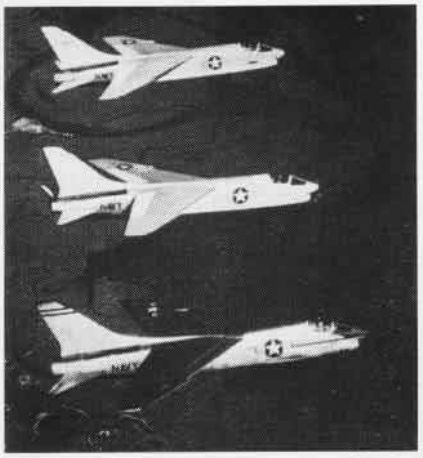
Built for the Navy in 1926 was the original Vought *Corsair,* the O2U-1. Convertible as landplanes, seaplanes or amphibians, the O2U series made their mark during the course of their military service. In 1928, the U. S. Marines, equipped with four *Corsairs,* conducted an attack against rebel strongholds in Nicaragua. The O2U-1 held four world's records for class C2 seaplanes, three carrying loads of 500 kgs: Altitude—22,178 feet, made on April 14, 1927, by Lt. G. R. Henderson, USN; Speed—for 100-kilometer closed course, 147.26 mph, made on April 23, 1927, by Lt. S. W. Callaway, USN; Speed—for 500-kilometer closed course, 136 mph, made by Lt. J. D. Barner, USN, on April 30, 1927; Speed —for 1,000-km. closed course, 130 mph, by Lt. Rutledge Irvine, USN, on May 21, 1927, without payload.



CONVERTIBLES, *these O2U seaplanes were based aboard the USS Florida (BB-30). The original Corsair series, the O2U, delivered to the Navy in 1927, set four world's records that same year.*

THE FAMILIAR *gull-shaped wings of the F4U Corsair evoked a reign of terror among the Japanese Zeros during WW II. Versatile, it operated from both land bases and aircraft carriers.*

PHOTO VERSION *of the F7U-3 Cutlass packs five cameras in its elongated nose. It also carries a large number of flares in the area normally occupied by guns of the fighter version.*



F8U CRUSADER *won the Thompson Trophy and set new speed record of 1015.428 mph.*

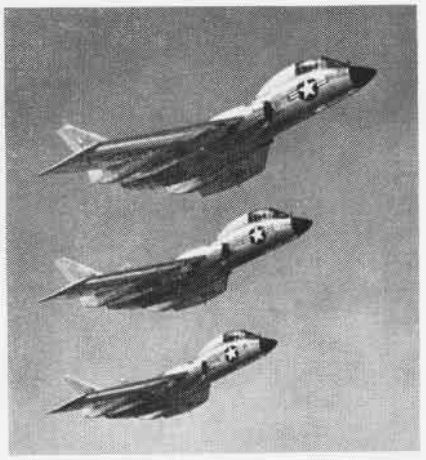
THE FIRST service airplane to use the Pratt & Whitney *Wasp* engine, the dependable and versatile O2U series was produced until 1930.

By 1929, the Chance Vought Corporation was a leading producer of military aircraft. In February of that year it joined other aeronautical organizations to form what was to become the United Aircraft Corporation. In 1930, the company moved to new headquarters in East Hartford, Conn. It was shortly after the new, modern plant opened that Mr. Chance Milton Vought, aeronautical pioneer and founder of the Corporation, died.

The first new plane-type produced at East Hartford was the O3U, a continuation of the *Corsair* line. This series, with its subsequent modifications, saw a great deal of naval service as observation and scout planes aboard both carriers and battleships. During 1934, production types included the SU-2, and -3, both scouting aircraft, powered by the P&W 600-hp *Hornet*, the "ultimate" in power at that time.

Chance Vought, during 1935, became a full-fledged division of the United Aircraft Corporation. The year also marked the appearance of the SBU-1, a new scout-bomber. Built to operate from carriers, it was powered by a P&W *Twin-Wasp, Jr.*, engine, with top speed in excess of 200 mph. This was the company's first airplane of all-metal construction.

While continuing the production of the SBU's during 1936, a new scout and dive-bomber was being readied at Chance Vought. The XSB2U-1, a radical departure from previous Vought designs, was the company's first monoplane. An experimental forerunner of the *Vindicator*, used by Naval and Marine pilots during the early part of WW II, the XSB2U was designed for high speeds, and built to carry machine guns, a 1000-lb. bomb, and a complement of small bombs. Equipped with retractable landing gear, it first flew in



THE TAIL-LESS, *swept-wing F7U Cutlass went into production for Navy, early in 1950.*

January 1936. Three models were developed and produced for the Navy.

Early in 1939, the Division was transferred from East Hartford to Stratford, Conn. It joined the Sikorsky Aircraft division to form the Vought-Sikorsky Division. The separate divisions were reconstituted in January 1943. Production emphasis was on the SB2U-3 when the company came to Stratford. However, development was progressing on one of the most rugged Vought planes ever produced for the Navy, the OS2U *Kingfisher*.

The contract for the *Kingfishers* was the largest received by the organization up to that time. The first production model took to the air in April 1940. When the contract was completed in September 1942, 849 had been delivered to the Navy. Designed specifically for operation from battleships and cruisers, the OS2U-1 was the first monoplane to be placed in catapult service.

Convertible, the *Kingfishers* were called upon for all sorts of missions. In the initial assault against the Japanese based on Attu in the Aleutians, they were rigged as dive-bombers. Based with the Fleet during WW II, they saw action in widely scattered war theatres. It was one of these which spotted and rescued Capt. Eddie Rickenbacker and his companions in the Pacific. The OS2U was one of the Navy's mainstays of in-shore patrol units during WW II.

Before the American entry into WW II, in 1939, Chance Vought engineers were at work, designing a new single-engine fighter, the XF4U-1, later called the *Corsair*. Built around the P&W R-2800A Double *Wasp* engine, the design configuration featured an inverted gull wing without external struts or braces and sleek fuselage lines. The first production F4U-1 flew in June 1942. Designed as a carrier-based fighter, this Vought plane bored

BATTLE-PROVED *Corsairs again showed their mettle against enemy during Korean conflict.*

through the air at the then breath-taking speed of 400 mph.

More than 13,000 Chance Vought designed planes joined the Fleet between the spring of 1940 and VJ Day. The Company's production "miracles" were responsible for four separate Army-Navy "E" awards. When the Japanese surrendered, the company had built 6,000 *Corsairs*, and was turning out the F4U-4 at the rate of about 300 per month. Goodyear Aircraft Corporation and Brewster Aeronautical Corporation, working from Vought designs, had produced more than 4700 *Corsairs*. Making up the balance of the 13,000 total were OS2U's and SB2U's.

Seeing action for the first time in February 1943 with VMF-124, the *Corsair* fought its way to fame over such places as Guadalcanal, Bougainville, Rabaul, Tarawa, the Philippines, Saigon, Iwo Jima, Okinawa, and the home islands of Japan. The F4U's were one of the greatest opponents of the *Zero*. The Japanese called them the "Whistling Death" with good reason.

One *Corsair*, No. 122, became the only fighter ever to be officially cited. MGen. L. E. Wood, USMC, issued the citation to the valiant bent-wing for "carrying bomb and bullet to the Japanese in 100 combat missions . . . without once causing trouble, without a single time requiring pampering or special favors." The citation was varnished into 122's cockpit, carrying out Wood's directive that it "be made part of her permanent record."

By VJ Day, F4U's had shot down 2,140 enemy planes. Proving their versatility, they functioned as interceptors, bomber - escorts, fighter - bombers, night - fighters, and dive-bombers. From February 13, 1943, until the end of WW II, *Corsairs* flew 64,051 action sorties.

The F4U *Corsair* was undoubtedly one of the most rugged and dependable planes ever produced for the Navy. More F4U's were delivered to the Navy than any other plane type; the total number was an astounding 12,571.

OS2U KINGFISHERS *were mainstay of Navy inshore patrol squadrons during World War II.*

When planes were needed in Korea, the battle-proved *Corsairs* again showed their worth. The F4U's were assigned the low-level attack and ground support phases of battle. In the first ten months of fighting, they flew 82 percent of the ground support missions credited to Marine and Navy pilots.

During the *Corsair's* long production life, there were many different models. Among them were the F4U-1C, cannon fighter; F4U-1D, equipped with pylons for carrying bombs; the F4U-2, night fighter; F4U-3, turbo-supercharger version for high altitude experimental work. Other versions were the F4U-4, F4U-5, F4U-5N, F4U-5NL, a winterized night fighter, and the F4U-5P photo plane. The F4U-5 was capable of speeds beyond 450 mph.

For 11 years, *Corsairs* were in production for the U. S. Navy. The last of the *Corsairs*, the F4U-7, was delivered to the French Navy early in 1953. This marked the last piston-engine fighter to be built in the United States.

In 1948, Chance Vought was chosen by the Navy to occupy the Naval Industrial Reserve Aircraft Plant in Dallas, Texas. The facility had formerly been used by North American Aviation. The move from Stratford to Dallas was a gigantic undertaking. For a time, the company found it necessary to carry on production in both the Connecticut and Texas plants. But on July 1, 1949, the move was officially complete.

Approximately twice the area of the Stratford plant after its WW II expansion, the Texas plant was almost completely air-conditioned. Since occupying the facility, the company has made substantial expenditures for manufacturing and engineering equipment. This includes a $1,000,000 engineering building, extensive machine-shop equipment, tool manufacturing machines, engine-test equipment, a fully equipped foundry, and other auxiliary manufacturing equipment. In addition, a structures test laboratory, a missile hangar, a production hangar and a $900,000 low-speed wind tunnel have been built. The total of all such expenditures has amounted to approximately 12,400,000 dollars since 1948.

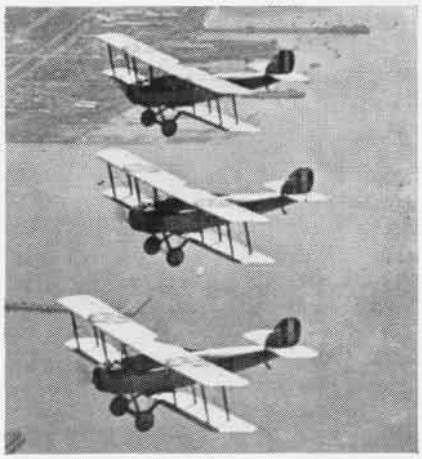
VINDICATOR, *the SB2U, Chance Vought's first monoplane, was used as scout, dive bomber.*

In spite of the upheaval during the months of moving, CVA designers, engineers and production men continued to work. The year 1948 marked the appearance of Chance Vought's first jet plane, the F6U-1 *Pirate*. Although it was never produced in quantity, the company's scientists and technicians gained an invaluable amount of information in the field of jet flight.

November 18, 1948, marked the first public showing of the XF7U-1 *Cutlass*, at NATC PATUXENT RIVER. The *Cutlass* is a tail-less, swept-wing, twin-jet fighter. It went into production early in 1950. It is the first fighter in the United States to be designed from the start for the use of afterburners. In 1954, the Navy received its first quantity of production F7U-3's.

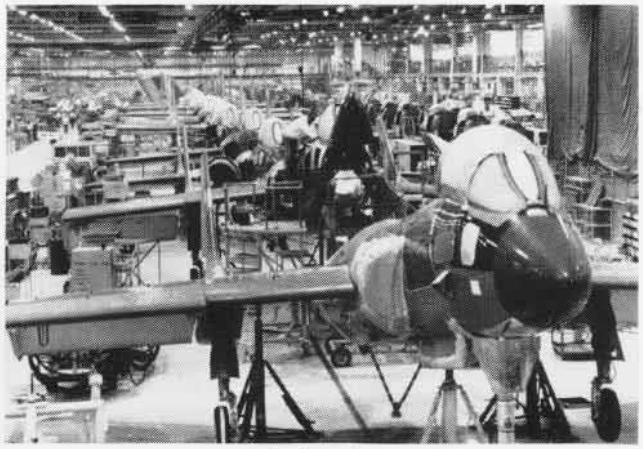
This advanced version of the first model *Cutlass* was built around two Westinghouse J-46 turbojets and afterburners. Top straight-and-level speed of the F7U-3 is more than 650 mph; and its combat ceiling is in excess of 45,000 feet. The *Cutlass* is equipped with folding wings and arresting gear for carrier operations. The F7U-3P and the F7U-3M are photographic reconnaissance and missile-carrying versions of the *Cutlass*. Vought has now discontinued production of the *Cutlass* to concentrate on its latest Navy fighter and its guided missile program.

Chance Vought Aircraft, Incorporated, began business on January 1, 1954, as an independent manufacturer of aircraft, with an independent board of directors and no legal or corporate connection with United Aircraft Corporation, a highly important move.



NAVY FIRST *became a Chance Vought customer when it placed an order for VE-7's in 1919.*

PARKED OUTSIDE *an early production building at Long Island City plant, these then modern VE-7's were awaiting engine run-up tests.*



AN ASSEMBLY *line shot of F7U-3 Cutlasses at Chance Vought's Dallas plant. The Cutlass is no longer in production for the Navy.*

FREDERICK O. Detweiler, veteran of 20 years with United Aircraft, became president of Chance Vought with the changeover. He had been named assistant general manager of the company in 1948, and he became general manager in January 1950.

BUAER announced in May 1953 that Chance Vought had won a design competition for a new supersonic fighter, designed to operate from carriers. It was designated the F8U *Crusader*.

What the Navy wanted was a fighter with a high rate of climb, exceptional combat ceiling, and capable of exceeding Mach 1 in level flight. At CVA, they aim to please. A slender, swept-wing aircraft, featuring a lightweight airframe, was built around a P&W J-57-P-4 turbojet equipped with afterburner. On the F8U-1, the thin swept-wing is mounted high on the fuselage and is set well back from the cockpit to provide clearance for the two-position variable-incidence surfaces.

The swept-wing is so designed that it can be lowered or raised hydraulically to change the angle-of-incidence. This permits lower landing and take-off speeds. The horizontal, "all-flying" tail is joined low on the fuselage. A short, pointed nose, fairing smoothly into a small cockpit canopy, helps reduce drag and aids over-the-nose visibility. Titanium is used in the plane's after section and in a portion of the midsection as an important pound saver. Further poundage is saved by a simplified pilot ejection seat which weighs only 30 pounds. On its first flight, 25 March 1955, the prototype XF8U-1 exceeded Mach 1.

On September 3, 1956, officials of the National Aircraft Show in Oklahoma City, announced that a *Crusader*, with Patuxent River test pilot, Cdr. R. W. (Duke) Windsor at the controls, had smashed through the sound barrier to win the Thompson Trophy. The record flight, clocked at 1015.428 mph, was made over a 15.1 km. course. The event took place August 21, on the desert at China Lake, Calif.

The F8U-1's record marked the third time a Chance Vought designed plane had captured the Thompson Trophy event. In 1947 and 1949, Cdr. Cook Cleland, USNR, flying as a civilian, won the trophy with the gull-wing, piston-engine *Corsair* at 396 and 397 mph over a closed course.

The single-seat *Crusader* is now in production at Chance Vought. Selected Navy squadron pilots and maintenance men are now being indoctrinated in the intricacies of the F8U-1. It passed its carrier suitability trials on the *Forrestal* in April 1956. Delivery to Fleet units is already underway.

The *Regulus* is Vought's contribution to the guided missile field. A swept-wing, turbojet-powered "flying bomb," it has brought increased striking power to the Navy's submarine and surface fleets. It can deliver a powerful warhead at transonic speeds over a range of hundreds of miles, guided by a built-in electronic "brain."

A Navy production contract was announced last July for the *Regulus II*, a larger, faster and longer-range version of the Navy's first model. This second model stems from the successful *Regulus I*, which was introduced into the Fleet during 1955 and has been operating from aircraft carriers, submarines and cruisers. When *Regulus'* development began in 1947, the Navy asked Chance Vought to design a surface-to-surface missile with provision for a recoverable test and training version, as well as a tactical version. The recoverable version, equipped with a retractable landing gear, flies pilotless missions and lands intact to be flown again. As many as 16 flights have been made by single missiles.

A new nuclear-powered submarine and two conventional attack submarines are slated to be made capable of launching the missile, according to Charles S. Thomas, Secretary of the Navy. Two other submarines already are in service as *Regulus* carriers, the USS *Tunny*, and the USS *Barbero*. A version of the *Regulus* missile is also used by the Navy as a target drone.

Vought has taken on additional work vital to national defense. The corporation carries out subcontracting programs for other aircraft firms.

Chance Vought Aircraft, through its lease from the Government of the Naval Industrial Reserve Aircraft Plant in Dallas, occupies approximately 2,345,000 square feet of factory, hangar, laboratory, and office space. CVA employees now total more than 13,000 persons.

Over the years, the U. S. Navy has been Vought's most important customer. The close association between the two since 1919, has resulted in a stronger Naval air arm. Vought—designer and builder of high performance military aircraft for forty years—has acquired the reputation as a pioneer and a leader in the field of aeronautical engineering and development.

VX-3 Receives Skyray
Will Further Evaluate the F4D

The Douglas F4D *Skyray* has been sent to VX-3, based at NAS ATLANTIC CITY. Capt. R. G. Dose, skipper of the squadron, accepted the aircraft from Ltjg. R. S. Barnett, who ferried the plane from the Douglas Aircraft plant.

One of the current squadron missions is to put this particular F4D

CAPT. DOSE AND LTJG. BARNETT WITH F4D

through its paces. Pilots will first evaluate it by operational test. Then they will recommend methods for the most effective tactical employment of the craft and its equipment.

Preliminary flight evaluations have been made by Navy pilots at Edwards AFB and NATC PATUXENT RIVER.

Aviation Pioneer Dies
43 Years Experience in the Field

George J. Hausamann, aviation pioneer and staunch supporter of Naval aviation interests, died on 11 January, after a brief illness.

Mr. Hausamann had retired in April, 1956, culminating 43 years of active service to the field of aviation. At the time of his retirement, he was associated with the Eclipse-Pioneer Division of Bendix Aviation Corporation.

During a testimonial dinner in his honor, he was presented with a special citation from Adm. Thomas S. Combs, then DCNO(Air). It read: "Naval Aviation owes you a great debt. On behalf of Naval Aviation, I wish to thank you for your contribution to our continued advancement."

In 1913, Mr. Hausamann joined the Bijur Motor and Lighting Co., which subsequently became a part of the Eclipse-Pioneer Division. They were in the business of making automotive starting and generating equipment. He foresaw the need for this type of equipment in aviation, and exerted his

CAPT. R. L. SAVAGE PRESENTS CITATION

efforts to convince the flying world of this fact. Much of his time was spent with the Navy and its fledgling unit which was to become Naval Aviation.

BUAER invited Mr. Hausamann to attend the first Naval maneuvers employing aircraft carriers in 1929. The project, classified top secret, was to study the specialized operating conditions and equipment necessary for aircraft to operate from carriers. In 1930, he was aboard the *Langley* on the first cold weather cruise to the Arctic. Improvements to fuel flowmeters and auxiliary power units came about as a result of these trips.

Flag-Maker on Hancock
SM2 Sews Commendation Pennant

Hand-making of flags is not a lost art, at least not out in the Fleet, and specifically aboard the USS *Hancock*.

Jack Innman, SM2, recently broke out needle and thread and completed a pennant for the *Hancock's* Navy Unit Commendation. The award was given to the ship on 15 July 1946, for outstanding heroism during Pacific action, and loyal service in the war effort.

The carrier also earned the Navy Occupation Service Medal for activities in occupied Japanese waters in the fall of 1945, and added three battle stars to its Asiatic-Pacific Area Service Medal.

The commendation pennant will be flown from the main truck of the attack carrier, when the ship is in port.

INNMAN SHOWS NEW HANCOCK PENNANT

BROTHERS MEET FOR LAST TOUR OF DUTY

Brothers Parallel Careers
Serve Last Tour of Duty Together

Cdr. Bruce Swinson of AEW-16 was on hand to welcome his brother, Cdr. Walter Swinson, to Hawaii for duty with Airborne Early Warning Maintenance and Training Squadron Two. Both are serving their last tour of duty together before retirement from the Navy.

The brothers enlisted as SA's in 1929, married sisters in 1932, and served another tour together with VP-5 at Coco Solo, Canal Zone.

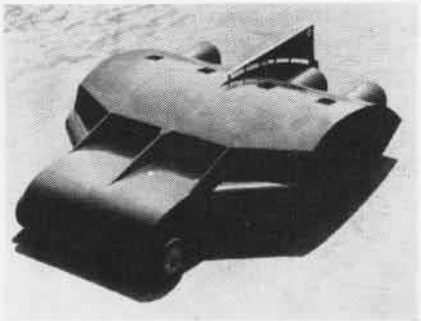
They advanced through enlisted and WO status to their present rank. Both are due to be retired in March 1959.

Operation 'Big Lift'
Moffett Crew Called to Rescue

When a commercial airfreighter crash-landed at San Francisco International Airport, Navy came to the rescue.

Unable to remove the crash from the runway, an airport official asked for help from Capt. A. S. Hill, commanding officer of NAS MOFFETT FIELD.

The Moffett emergency salvage crew, led by LCdr. H. J. Montsch, was sent to the scene, with a giant "Bay Cities" crane. The C-46 was taken from the runway in record time. Lifting capacity of the crane is in the neighborhood of 40,000 pounds of dead weight.



JET 'HOT ROD' TESTS ARRESTING GEAR

Jet Car for Jet Age

Tests Arresting Gear for Planes

A car that reaches speeds of more than 200 mph is used by All American Engineering, under contract to BuAer, to test aircraft arresting equipment.

Because of its four Allison J33-A16 turbojet engines, the car can attain the speed of a landing jet aircraft. At the same time it can push a load comparable to the weight of a twin-engine bomber.

Driverless, the car makes its run along a 5,000-foot runway, and is secured and guided by an "I" beam. Riding ahead of the jet pusher is the dead load on a four-wheeled platform.

As the jet car nears the end of the track, it automatically trips a trigger cutting the engines. A widened section of the beam stops the car and the dead load goes hurtling into the arresting equipment being tested.

Marines Film a Movie

Fury Jet is Star of the Picture

An official Marine Corps motion picture is being produced at Cherry Point, N. C. Featured players in "The Story of the Fury," are the members of VMF-122, skippered by LCol. L. M. Kelso.

Production is being supervised by the Naval Photographic Center, Anacostia, with a Marine Corps advisor. The story demonstrates all of the activities of a typical Marine fighter squadron. The film will be used for Marine recruiting on TV stations all over the country.

The color production, with five Marine sergeants doing the photography, will be released this spring.

Advanced A3D Appears

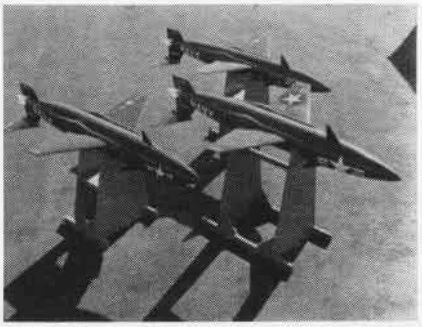
Initial Fleet Service with VAH-2

An advanced version of the Navy's A3D *Skywarrior*, the A3D-2, has gone into service with the Fleet. The new version entered initial Fleet service with VAH-2.

Basically the same aircraft as the twin-jet A3D-1, which went into service in April 1956, the new model has increased strength and maneuverability. It is built around a later version of the J57 P&W turbojet engine.

A three-place attack-bomber, the A3D is capable of carrying almost any weapon in the Navy's arsenal.

VF-61, BASED *at NAS Oceana held a realistic test of all of their survival equipment in the surf at Virginia Beach. Pilots were picked up by a helicopter from Oceana. In winter a man cannot survive for more than about four minutes without an exposure suit. The squadron took the opportunity to test their outfits, termed "Poopy suits," during the test exercises.*



XKD4R-1'S DELIVERED TO POINT MUGU

New Rocket-Driven Drones

High Speed Targets are Delivered

First deliveries of the new rocket-propelled target drones, the XKD4R-1, have been accepted at Point Mugu, California. Developed and produced by the Radioplane Company, it is a small plastic airplane designed as a high speed, high altitude training target for air-to-air missile practice. It may also serve as a high performance, economical target for evaluation of rocket weapons.

The drone is small enough to be launched from the wings of a fighter plane and flies itself by means of a compact, removable flight control unit. It has sufficient payload capabilities to accommodate special tracking and scoring equipment.

The drones are being tested at the Naval Air Missile Test Center.

I&E Office Busy at ZP-2

High School Certificates to Seven

Personnel of Airship Squadron Two are taking full advantage of their high school educational program. Cdr. R. T. Brinn, skipper, recently presented high school equivalency certificates to seven of the men.

Under the program, directed by LCdr. E. O. Smith, Education Officer, and Ltjg. J. W. Deal, Assistant, the following made the grade: R. W. Newman, AD1; W. F. Freeman, AOAN; T. H. McDanal, AN; H. B. Harpster, AN; J. R. Hassell, AN; R. M. Wyman, AN; J. P. Napier, AN.

Study periods are usually held in the squadron training room. Qualified officers are assigned by the CO to supervise and assist personnel during the classes.

ZP-2's education program does not end at the high school level. After reaching this plateau, personnel are urged to take college level courses.

HARD HAT STORAGE IS DONE EFFICIENTLY

VF-91's New Cubicle

Neatness, Convenience Increased

A neat type of storage for helmets and "Mae Wests" has been designed by PRC D. W. Lindquist. Accessibility, compactness and convenience were the main objects.

The cubicle, which is located in the gear room at NAS ALAMEDA, gives Chief Lindquist and his men fingertip accessibility to oxygen masks and life jackets. This expedites daily inspections and periodic cleaning. No longer is there the problem of rounding up from the individual pilots, helmets, oxygen masks and life jackets for inspection.

Also available in the cubicle for the convenience of pilots is a mike-earphone tester and an oxygen test stand. For pilot safety, Chief Lindquist has sewn on each life jacket the pilot's name, rank and blood type.

Link Trainers Delivered

Simulate Flight in F11F-1 Tiger

The first trailerized flight simulators for the F11F-1 *Tiger* have been delivered by Link Aviation under contract to the U. S. Navy Training Device Center. Called "Operational Flight Simulator Trainers" (OFST's), they contain some of the latest refinements in electronic simulation.

The OFST is housed in a 40-foot air conditioned trailer. Layout includes an F11F-1 cockpit equipped with instruments; an instructor's area, which includes a flight recorder, duplicate instruments and control panel for setting up radio problems and introducing emergency situations. Within the trailer is also a maintenance area and a computer area.

Pilots "flying" the simulator, will be able to practice virtually every phase of their in-flight problems.

His Alertness Paid Off

Sailor Averts 'Wheels Up' Landing

C. B. Poor, AA, of V-1 Crash-Fire Division at Moffett Field, has received a letter of appreciation from the CO of VA-214. Because of his alertness during a "wheel watch" he averted a wheels-up landing by an F9F-8 *Cougar*.

As the *Cougar* made its final approach, with its wheels up at a distance of about 150 yards, Poor noticed the situation. He set off four fixed red flares located 1,000 feet down the runway in time to warn the pilot and enable him to make his recovery.

Besides the letter of appreciation from the squadron skipper, Poor was made an honorary member of VA-214.

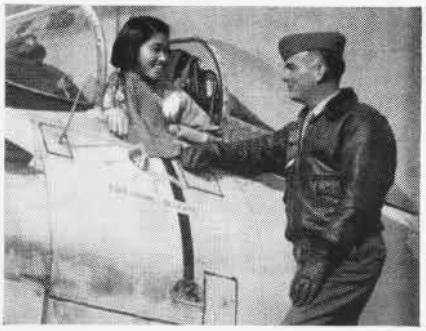
Officers Train at FAGU

Aerial Weapons Refresher Course

A group of staff officers from ComAirPac and ComFAirAlameda took part in an intensified one-week aerial weapons refresher course at Fleet Air Gunnery Unit, El Centro.

The students undertook the course in addition to their regular duties. Each scored high in all phases of the abbreviated F9F-8 and FJ-3 training.

ComAirPac staff officers were: Cdr. D. W. Cooper, Cdr. D. E. Runion, Cdr. A. O. Benjes, and LCdr. J. W. Eash. Representatives of the ComFAirAlameda staff were: LCdr. S. W. Callaway, Jr., and LCdr. D. L. Christianson.



FUMIKO, IN AD, GRINS AT LCOL. DOYLE

Japanese Girl Honored

VMA-121 is Host on Two-Day Visit

When a VMA-121 pilot crashed near Takahaski, Japan, Fumiko Kaneoka, a Japanese school girl, wrote a letter of condolence to the squadron.

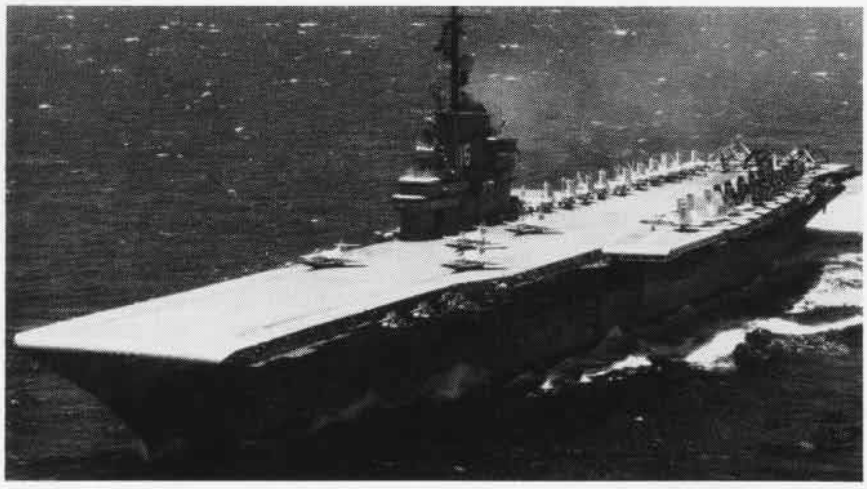
In her letter, she said that she was overwhelmed at the sight of the Navy's search planes. "I could not refrain myself from thinking there was something desolate in the way they flew . . . as if they were saying their last farewell to the deceased pilot."

BGen. D. F. O'Neill, Commanding General of MAW-1, answered her letter and invited her to visit VMA-121 at Iwakuni. When she and her brother arrived, they were given a two-day tour of Marine Facilities. They were feted by both officers and men of the squadron. Fumiko was presented a plaque inscribed: "To a young lady with a big heart from the officers and men of Marine Attack Squadron 121."

CRASH BOATS *at NAS Alameda leap forward on a practice run from the boat docks toward the scene of a simulated crash. Crash boat crews have already demonstrated their speed and efficiency, and the "Airborne Mariners" know these men are ready to help in any emergency.*

USS YORKTOWN, CVA-10

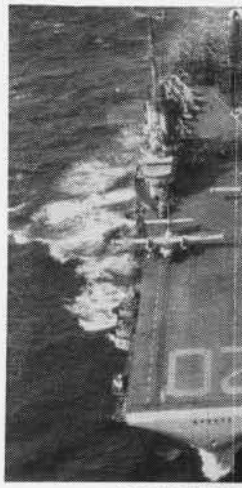
USS SARATO



USS RANDOLPH, CVA-15

Steaming to all points of the
carriers are powerful prote
and for her interests, wherev
and their planes, as they h
a vital part of our coun

USS WASP, CVA-18



USS BENNING

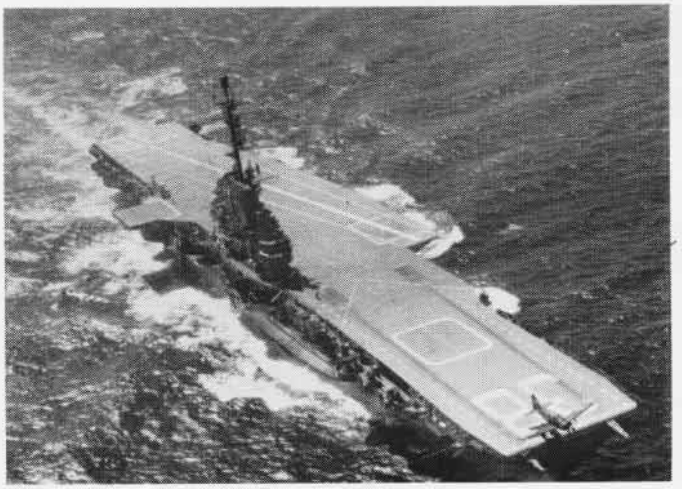
TOGA, CVA-60

USS FRANKLIN D. ROOSEVELT, CVA-42

he compass, the Navy's attack tection for the United States, ever they may be. These ships hold mastery of the seas, are ntry's first line of defense.

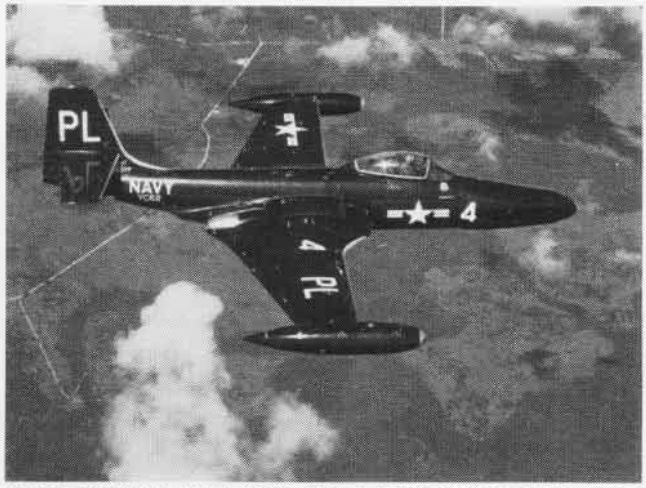
USS FORRESTAL, CVA-59

INGTON, CVA-20



USS SHANGRI-LA, CVA-38

PHOTO CONFIGURED F8F-2P'S SERVED VC-62 IN EARLY YEARS



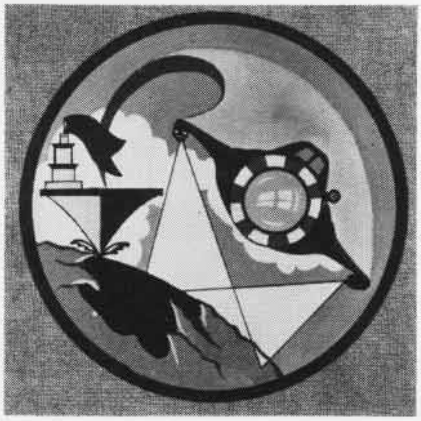
F2H-2P BANSHEES WERE WELL SUITED FOR PHOTOGRAPHIC WORK

'YOU NAME IT; WE SHOOT IT!'

A SHORT history, long in achievement, is the record of Light Photographic Squadron 62, formerly Composite Squadron 62. Their slogan might well be, "You name it; we shoot it!"

In the years following WW II, the Navy had a small number of combat-experienced photo reconnaissance pilots, attached to regular fighter squadrons, or to Air Groups. No standard training syllabus or specialized training existed, and the quality of photographs depended to a large degree upon the pilot's interest in his work.

Late in 1948 two fighter photographic reconnaissance squadrons were formed, VC-61 on the West Coast, and VC-62 on the East. Their mission was "to train and maintain the readiness of units for carrier-based photographic reconnaissance of designated targets in areas of naval operations." These squadrons would furnish detachments of photo-configured fighter aircraft and specially trained photo pilots to each deploying Air Group.



VFP-62'S JETS PHOTO MUCH OF THE WORLD

Nucleus of VC-62 was the FASRon Three Photo Unit at NAS NORFOLK. Numbering 15 officers and 88 men, VC-62 was commissioned in January 1949 with Cdr. W. O. Moore as first

FIRST JET FLIGHT INTO HURRICANE. VC-62 PHOTO PLANE HEADS INTO CONNIE'S EYE

BANSHEE CAMERAS GET 'INSIDE EYE' VIEW

commanding officer, and with a complement of 16 planes—10 F8F-2P's, two F4U-4P's and four F4U-5P's.

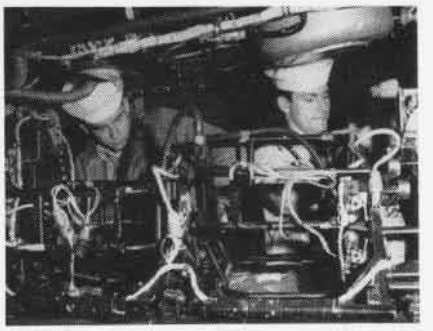
Getting off to a rapid pace that has not slowed in its eight-year history, VC-62's first detachment, Able-49, departed in the USS *Midway* the same day the squadron was commissioned.

That year, VC-62 detachments flew from six carriers, totalling 5100 flight hours, and 297 carrier sorties.

The squadron, now the size of an Air Group, of about 90 officers and 500 men, totalled, during 1956, 12,598 flight hours and 1383 photo missions.

LUBE AND ELBOW GREASE FOR THE BANSHEE

CHECK-OUT ON CAMERA CONTROLS SYSTEM



F2H-2P PHOTO NOSE READIED FOR CAMERAS

PHOTO INTERPRETERS BUSS & BABB AT WORK

PHOTOGS FINISH MULTI-STRIP MOSIAC MAP

PHOTO INTERPRETERS STUDY COMPLETED MAP

From the very beginning, VC-62 has placed great emphasis on training. The ground and flight training syllabus devoted to aerial photography includes lectures, check-outs and demonstrations on the characteristics of films and lenses, on operation of aerial cameras, and on mapping mathematics.

Of equal importance is navigation and instrument training. Flying alone or with one escort, the photo pilot must be able to navigate to the maximum of his plane's radius of action. He must find a small target such as a bridge or railroad intersection, and then get home. Tolerances in flying an aerial map make instrument training essential. A 200-picture map can be ruined by a 100-foot difference in altitude or three degrees in bank.

At the start of the Korean War, a detachment from VC-62 was sent with the USS *Leyte* to the Korean Area. Flying F4U-5P's, the group made photos of strategic targets in Korea. They followed up attacks on these targets with damage assessment photographs. One pilot, Ens. William Wagner, and two planes were lost in action.

In mid-1951 the first photo-jets, F2H-2P's, arrived in the Atlantic Fleet. Though the advent of jets called for an entirely new syllabus, for jet familiarization, and jet photo training, with all hands going through it, the new *Banshees* were welcomed with enthusiasm. While the prop photo planes carried only one camera, usually fixed in the oblique or vertical position, the *Banshees* carried three cameras, all of which the pilot could rotate from the cockpit. The *Banshee's* viewfinder, with which the pilot could see under his plane and center his pictures exactly, was a great improvement after the 'seaman's eye' centering pictures as it was done in the *Bearcats* and *Corsairs*.

With the jets came a new concept of flying in combat areas. While the *Corsairs* and *Bearcats* had carried a normal load of guns, *Banshees* were unarmed. The pilot's defense in combat areas were speed and maneuverability and superior headwork. Defensive tactics become increasingly important.

VC-62's first detachment to taste combat in jets was led by Lt. E. D. Kimble. Flying from the *Lake Champlain* in 1953, they racked up 67 combat missions over Korea without loss.

That same year the first swept-wing photo-jets, F9F-6P *Cougars* saw service in the squadron. The *Cougars* augmented the *Banshees*, rather than replacing them. The F9F-6P's have since been replaced by F9F-8P's.

In August 1955 the squadron attained an important first when two VC-62 pilots, Lts. Peter Mongilardi and George D. Hudson made the first jet flights into a hurricane, taking aerial photographs of "Connie" as they flew over the top, and then into the eye of the storm.

Led by such skippers as Cdr. L. W. Keith, Cdr. N. R. Bacon, Cdr. W. D. Dietz and Cdr. M. P. McNair, VC-62, or VFP-62, as it is now designated, has

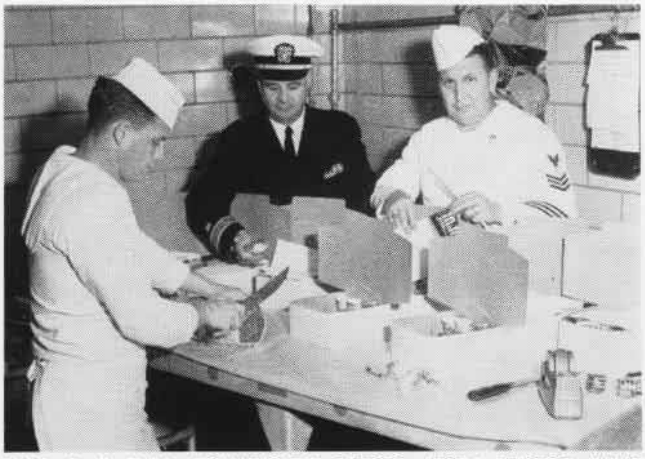
IN THESE SWEPT-WING COUGARS, VC-62 PILOTS HAVE RANGED OVER LARGE AREAS OF THE WORLD, SHOOTING PICTURES AS THEY GO

ranged over much of the world. Since her commissioning over 80 detachments have been supplied to 18 different carriers.

Photographic targets that the squadron has covered have been as varied as the surface of the earth. For a picture of a single installation or a map covering 400 square miles, from altitudes of 200 feet to 50,000 feet, the planes of VC-62 have made their photo runs. In peace and in war, they have discharged their mission of conducting aerial photographic reconnaissance in support of fleet operations, of providing first phase photographic interpretation reports, and second phase damage assessment information.

INSTALLED IN THE PHOTO-BANSHEE'S NOSE, THESE AERIAL CAMERAS CAN MAKE DAY OR NIGHT, OBLIQUE OR VERTICAL PHOTOS

MSGT. A. T. TAYLOR, USMC, RECEIVES LUNCH BEFORE TAKE-OFF



LCDR. F. E. SHEA, COMMISSARY OFFICER, LENDS HELPING HAND

FOOD ON A HIGH PLANE

LIFE IS GOING to be different if NAS MEMPHIS can make it so. The care and feeding of pilots in flight is no longer going to be a hit-or-miss affair. Passengers too are going to be the beneficiaries of a new system. Thanks to an alert and imaginative Supply Officer and a Skipper who backs him up, the day of the pressed ham sandwich, a pint of milk, and an apple for lunch is passing. The day of the lunch *a la carte* has dawned.

The new order goes by the name of Jet Age Flight Luncheon Menu. Proudly NAS MEMPHIS announces that the new menu "caters to the individual palate of flight personnel, provides a wide selection of appetizing meals, and is economical."

LCdr. F. E. Shea, SC, the Commissary Officer at Memphis, originated the Jet Age Menu. The need for a better box lunch came to his attention during World War II, when as the Commissary Officer and Supply Officer of vessels with aircraft to support he was very dissatisfied with what he had to offer. This dissatisfaction was deepened poignantly by the sharp barbs of flight crews after their missions.

In the early days of aviation, a pilot was usually issued a "hunk of bologny" and a "loaf of bread." Why should the fly boys get an extra meal?

Progress and a complete change of attitude has been made since that time. In later years the flight lunch was not considered an "extra meal." It provided sustenance, "fuel," fuel for a man who must exert every ounce of energy, intelligence, stamina and perserverance to remain aloft. In this period, boxes were stuffed with a wide, costly variety of everything that could be crammed into it. And often much of it was wasted. The pilot ate what he liked and threw the rest away.

The Jet Age Menu is timely. Those who planned it asked themselves, "How can the flight mess cater to individuals in flight without some method to have their choice conveyed to them, simply, easily without requiring flight personnel to spend excessive time thinking up a selection?" Something that a person wants will be eaten with relish and enjoyment.

The menu provides selections for individuals preference as follows: five hot beverages, 16 cold beverages, and, in the *a la carte* sections, there are 10 appetizers; 39 salads; 60 sandwich filler selections; seven varieties of bread (that can be plain or toasted as desired); 15 sandwich additions that can be placed in the sandwich or prepared separately and put together by the pilot. There are five popular canned fruit items, all fruit in season, and seven desserts available. There are 27 canned items of nourishing blended foods for the Jet Pilot who cannot leisurely munch a sandwich.

The Commanding Officer, Capt. J. C. Clifton, periodically reviews all comments and watched his flight mess develop from about a zero standing to one of the best in the armed services.

Comments are solicited, criticism corrected. With the introduction of the menu, testimonials came in fast from the delighted beneficiaries. The comment of SecNav, the Honorable Charles Thomas, as reported by Cdr. W. P. Prather was, "The roast beef, Treasure Chest, shrimp cocktails, etc., you prepared for the Secretary of the Navy and party was sensational—it was commented on by them all when they left the plane at NAS ANACOSTIA. My thanks for a job well done."

Many, many other comments on file from airmen apprentice to admirals praise the Jet Age Menu.

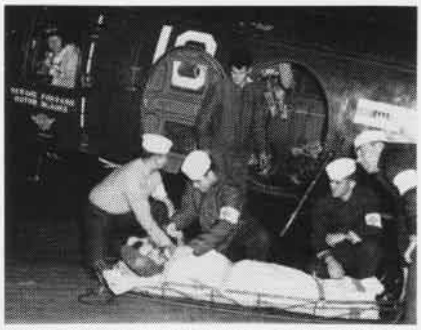
Recently RAdm. W. Dana (MC) of BUMED made this remark on his questionnaire, "Excellent—best box lunch ever. My compliments to Captain Clifton."

In a letter to Capt. Clifton, the Chief of the Bureau of Aeronautics praised the Jet Age Flight Lunch Menu and wrote "The attention devoted by personnel of the Naval Air Station, Memphis, to providing adequate food for pilots, crew members and passengers, is to be commended. Those of us who have flown for many years are entirely too well acquainted with the standard box lunch. By a combination of initiative and imagination, I can see that you are transforming an ordeal into a pleasure."

The menus are varied and excellent. Because you get what you order, not just what the chef decided you wanted, it's really pie in the sky!

Picket Ship Asks for Aid
Yorktown Answers with Helicopter

When the USS *Scanner* asked for aid for a sailor suffering from acute appendicitis, a helicopter from the USS *Yorktown* answered the call. The *Fighting Lady* was enroute from Hawaii to Alameda when the call came. Her course was changed to permit her to rendezvous with the radar picket ship, then 380 miles from San Francisco, Calif.



SAILOR LANDED SAFELY ON THE YORKTOWN

When within a mile of the *Scanner*, the *Yorktown's* helicopter took off, and eight minutes later, landed back aboard with the sick man, Calvin Woollums, machinery repairman second class.

He was thereupon rushed to the *Fighting Lady's* sickbay for immediate attention. The *Scanner* has only very limited surgery facilities.

Naval Air Weapons Meet
Squadrons Will Vie at El Centro

During the first week in April, 12 Navy and Marine squadrons will send teams to compete in the Naval Air Weapons Meet at FAGU, NAAS EL CENTRO.

Chosen by preliminary competitive exercises, the teams will compete for Navy team and individual trophies. The Earle Trophy, for team air-to-air gunnery supremacy, and two awards, presented by the Imperial Valley Navy League, will also go to top pilots.

Purpose of the meet is to further competitive spirit of Navy and Marine squadrons, and to provide official recognition for top gunners, weapons delivery pilots, ordnancemen and maintenance personnel.

The public is invited to watch flight demonstrations of Naval aircraft and live strafing exhibitions.

CADETS AND OFFICERS ABOARD RANDOLPH

Randolph Hosts Visitors
Italian Navy and U. S. Army Tour

The Italian Navy and the American Army joined forces aboard the USS *Randolph* in January. During a two-day cruise off the northern coast of Italy, the carrier hosted officials and students of the Italian Naval Academy and War College, and also officers from headquarters staff at U. S. Army Camp Darby, Leghorn, Italy.

A complete tour of the ship, commanded by Capt. D. F. Smith, Jr., was given the 41 guests. The officers and cadets watched day and night flight operations, live ammunition drops, anchoring procedures, and refueling and highline operations.

The 42,000-ton carrier has been operating with the Sixth Fleet in the Mediterranean Sea since July 1956.

F8U Goes to Fleet Units
VF-32, VF-24 Get New Crusaders

The first carrier fighter squadron in AirLant to receive the supersonic F8U *Crusader* is VF-32, based at NAS CECIL FIELD and commanded by Cdr. G. C. Buhrer.

Based aboard the USS *Shangri-la* in WestPac, VF-24, skippered by Cdr. W. L. Adams, is also scheduled to receive the *Crusader* early this year.

Equipped with a full armament complement of 20mm cannon, and carrying ballast equal to a full load of ammunition, the F8U is the first operational U. S. jet to exceed 1000 mph.

SecNav Visits Douglas
Tours the El Segundo Facilities

SecNav Charles S. Thomas conferred with D. W. Douglas, Douglas Aircraft Co. president, on current and proposed Navy aircraft during a visit to the Douglas El Segundo division.

The Secretary and his party toured the modern production facilities both at El Segundo and Torrance, where the A3D *Skywarrior*, F4D *Skyray*, and A4D *Skyhawk* are in production.

Included in the group were RAdm. J. S. Russell, Chief BUAER; RAdm. D. L. McDonald, Office of CNO; Capt. D. J. Welsh, and Capt. F. W. Brown, BUAER.

ASSISTANT SECNAV *(Personnel & Reserve Forces), the Honorable Albert Pratt, arrives at NAS Glenview early in January, marking his first ride in a TV-2. On hand to meet him was RAdm. H. H. Caldwell, Chief of Naval Air Reserve Training. The pilot (left) was Capt. E. P. Aurand.*

PERSONNEL TRANSFER AT SEA VIA COPTER

ON A CRUISER, HUP-2 MUST REMAIN SECURED TO DECK UNTIL JUST BEFORE TAKE-OFF

CRUISER COPTER CREW

By Henderson Carroll, JO3

ABOARD each of the cruisers in the U. S. Seventh Fleet, a close-knit team of five men operates one of the ship's most valuable tools. A pilot, four enlisted men, and an HUP-2 helicopter provide the big ships with dependable aerial transportation—with a flying vehicle that accomplishes in minutes jobs that formerly were time-consuming, and oftentimes hazardous.

A cruiser copter's most important job is saving lives. Helicopter Utility Squadron One, parent unit of the ships' detachments in the Pacific, has performed 620 aerial rescues since it was formed during the Korean War. At present, the squadron's helicopters, based aboard carriers, cruisers, and other ships, average two and a half successful rescues per month.

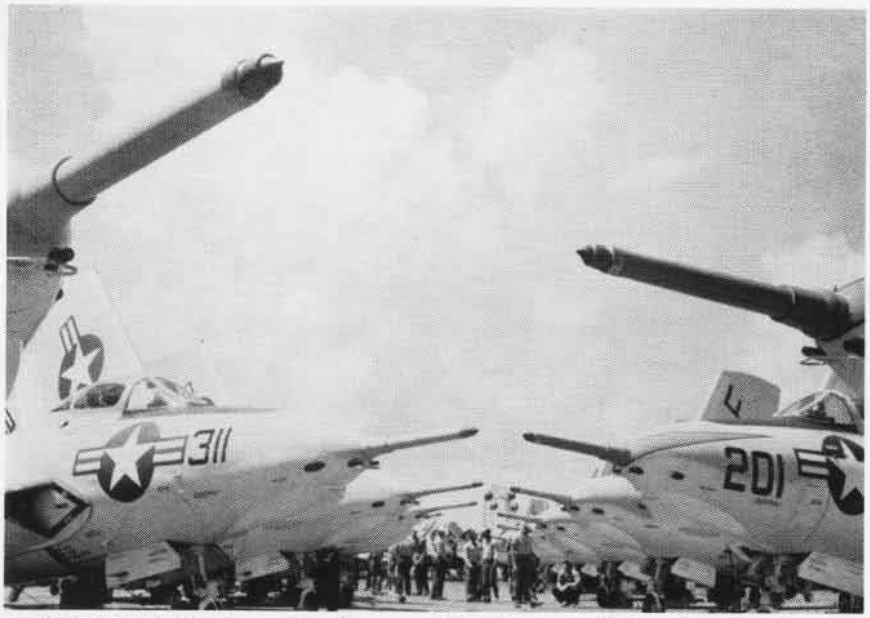
When flight operations or replenishment at sea take place near one of these ships, its helicopter stands by in "Condition One." On cruisers, the after weather decks are cleared, hatches are closed and the ship's big crane is rigged outboard astern. Gun crews depress the barrels of the eight-inch guns that overlook the copter's flight deck, to avoid contact with the rotor blades. The deck gang rigs safety nets over the side and the aircraft's crew spread its rotor blades. Manned and ready, the copter can take off in three minutes.

During replenishment operations at sea last fall with the Seventh Fleet, a rescue took place that might be called typical. The USS *Los Angeles* was steaming 1500 yards behind the USS *Rochester.* A petty officer, directing work aboard the *Rochester,* was knocked into the sea by a cargo net swinging in a stiff breeze. The "man overboard" signal was broken from *Rochester's* mast to alert the *Los Angeles.* Lt. Robert Sigman and Albert Hoppin, AM3, warmed up the copter, left the ship and headed toward the bobbing figure. In ten minutes, they lowered him to the *Rochester's* deck.

A ship's helicopter is an aircraft of all work. In addition to rapid rescue work, it transfers personnel and important mail between ships at sea without the hazards involved in rigging a high line between them. It carries observers aloft during bombardment exercises and task force operations, as "eyes of the fleet." It also acts as an enemy aircraft in drills to calibrate the ship's radar gun directors. When the cruiser is operating with carriers, the helicopter can substitute for the carrier's "whirlybird angel" on station.

Flying a helicopter from the deck of a cruiser calls for a pilot with skill and experience. He must take off and land on a flight deck only ten feet longer than the 38-foot fuselage of his aircraft. Just forward of this cleared area, a clutter of boats is stored alongside an armored gun turret. The other side of his landing area is completely covered with equipment. And a large crane juts up from the stern. In addition to these hazards, the mass of the vessel's superstructure causes turbulence that makes any operation a problem in a strong wind. Some pilots have developed their own variations on the landing and take-off procedures, but no one has found "the easy way."

Cruisers have carried aircraft since the 1920's. Originally, small seaplanes launched by catapult and recovered by crane assisted the men o'war in scouting and observing missions. Until the introduction of the helicopters, however, most rescues at sea were accomplished by motor whaleboats, limited by their speed and poor visibility. The cruiser copter's speed, convenience and versatility gives it an important place in our modern, fast Navy.



A MODERN PATTERN *of power, these Grumman F9F-8 Cougars, which are flown by pilots from Fighter Squadron 43 and Attack Squadron 44, spotted on the flight deck of the USS Saratoga.*

Practice with Profit

Oppama Seabees Level Playground

Children attending Oppama's Urago Elementary School now enjoy a level athletic field when recess rolls around —thanks to some industrious Seabees.

Mrs. Hana Yoshihara, director of the Japanese Girl Scouts, asked Capt. Harold W. McDonald, NAF OPPAMA, a favor. She heard that Oppama Seabees were keeping in practice with bulldozers and scrapers. This gave her an idea.

The athletic field at the Urago School needed leveling. Could the Seabees practice on this project? The Captain said yes.

The work was completed, and a field day held. Officers at NAF OPPAMA were honored with flowers.

'FLAMING MAMIE' *gives final performance as target for fire-fighters from Aviation Fundamentals Class P school, NATTC Jax. The fire-scarred Corsair goes to the junk heap.*

Missile Ship for Navy

'Little Rock' to be Converted

A contract has been awarded to the New York Shipbuilding Corp., for a guided missile center (CLG) conversion.

The cruiser to be converted is the *Little Rock* (CL-92). She will be made capable of launching *Talos* surface-to-air missiles aft, but will retain her conventional armament forward.

Commissioned on 17 June 1945, the *Little Rock* had been consigned to the "mothball" fleet since February 1949.

Son Joins the Marines

Father Celebrates an Anniversary

CWO R. W. Hines, O-in-C of the Second Marine Aircraft Wing's classified files, observed his 22nd anniversary in the Corps by giving his second son to the Marines.

Roger W. Hines, 18, was sworn in by his father in a ceremony at MCAS CHERRY POINT. To make it a family affair, his brother, Cpl. R. G. Hines, USMC, his mother and sister were present.

First to congratulate the new Marine was MGen. J. C. Munn, MAG-2 Commanding General, who was a special guest at the proceedings.

Officer Hines is firm in saying that his sons made their own choice by joining the Marines. It's the career they both have always wanted.

Terrier Units Ordered

29 Million Contract to Convair

Convair Division of General Dynamics Corporation has been awarded a 29 million dollar contract for production of guidance and control units for the *Terrier* guided missile.

Convair participated in the engineering of this surface-to-air missile, developed for BUORD under technical direction of the Applied Physics Laboratory of Johns Hopkins University. *Terrier* is in operational use. It is the main anti-aircraft battery of guided missile cruisers *Canberra* and *Boston*, and recently-commissioned USS *Gyatt*, first guided missile destroyer.

The U.S. Marine Corps has adopted *Terrier* as its primary anti-aircraft missile for use with ground forces.

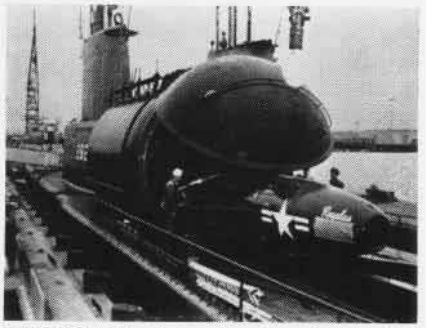
Bell Copter for Navy

New Trainer Designated HTL-7

Bell Helicopter Corp., is in the process of developing and producing a new Navy copter trainer, designated the HTL-7. The aircraft, designed specifically as an integrated trainer, will serve for both basic and instrument flight training.

Basically, the HTL-7 will follow the design lines of the four-place HUL-1, with the exception of the cabin. This section will be similar to the commercial model, 47H, with a side-by-side instructor-student seating arrangement. The aircraft will be powered by a 260-hp Lycoming engine.

The instrument panel includes, besides standard items, an artificial horizon indicator, gyro compass, turn and bank indicator, radio navigation system, and a rate of climb indicator.



REGULUS, *Navy's surface-to-surface guided missile, is held securely within this mighty capsule until it is time for launching. Submarine USS Tunny (SSG-282) is currently conducting exercises with the Regulus.*

'Champ' Wins Battle 'E'

RAdm. Cornwell Makes Presentation

Top over-all performance during fiscal year 1956 has merited the Air Force Atlantic Fleet Battle Efficiency "E" for the heavy attack carrier, USS *Lake Champlain*.

RAdm. D. S. Cornwell, ComFAir-Jacksonville, made the presentation aboard the carrier in behalf of VAdm. W. L. Rees, ComAirLant. Capt. Joseph Young, skipper of the *Champ*, accepted the award for the officers and men.

Capt. J. H. Flatley, former commanding officer, was also present at the ceremonies. He is now in the Office of the Chief of Naval Operations.

RADM. CORNWELL PRESENTS BATTLE 'E'

VF-13 Wins Battle 'E'

Presentation by RAdm. Cornwell

For achieving the highest standing in stiff competition with all AirLant day interceptor squadrons, VF-13, based at NAS CECIL FIELD, has been awarded the Battle Efficiency "E."

RAdm. D. S. Cornwell, ComFAir-Jacksonville, made the presentation to Cdr. C. D. Winner, squadron skipper.

In addition to awarding the "E" plaque to VF-13, Adm. Cornwell presented individual "E's" to seven pilots of VA-36 and the commander of ATG-201. Winners were Cdr. E. H. English, Cdr. T. T. Coleman, Lt. K. T. Weaver, Ltjgs. M. E. Hill, J. B. Busey, M. N. Guess, F. R. Dunne, and W. A. Harrison. LCdr. Julian Lake was awarded a CNO citation and a USAF decoration for meritorious service while on exchange duty with the Air Force.

Throughout the 12-month period, VF-13 operated on both the East and West Coast, and participated in a Far East cruise aboard the USS *Bennington*.

DR. LUEHRS DEMONSTRATES SUIT (CENTER)

High Altitude Suit

Used to Instruct Flight Surgeons

A high altitude flying suit, designed to make it possible for a flier to stay alive and continue his mission in the event of cockpit pressurization failure at extremely high altitudes, has been received by the Naval School of Aviation Medicine, Pensacola. Cdr. R. E. Luehrs, O-in-C of the school's High Altitude Indoctrination Unit, is using the suit in the instruction of student flight surgeons. The flight surgeons will be responsible for indoctrination of pilots in the use of survival equipment, which may include these "space suits," when they report for duty to various squadrons.

The Navy suit, termed an "omni-environmental, full pressure suit" is in effect, a rubber bag with nylon ball-bearing swivel-type and bellows-type joints. The suit will insulate and protect the body from extreme cold or heat, either in the air or in water.

Young Germans with USMC

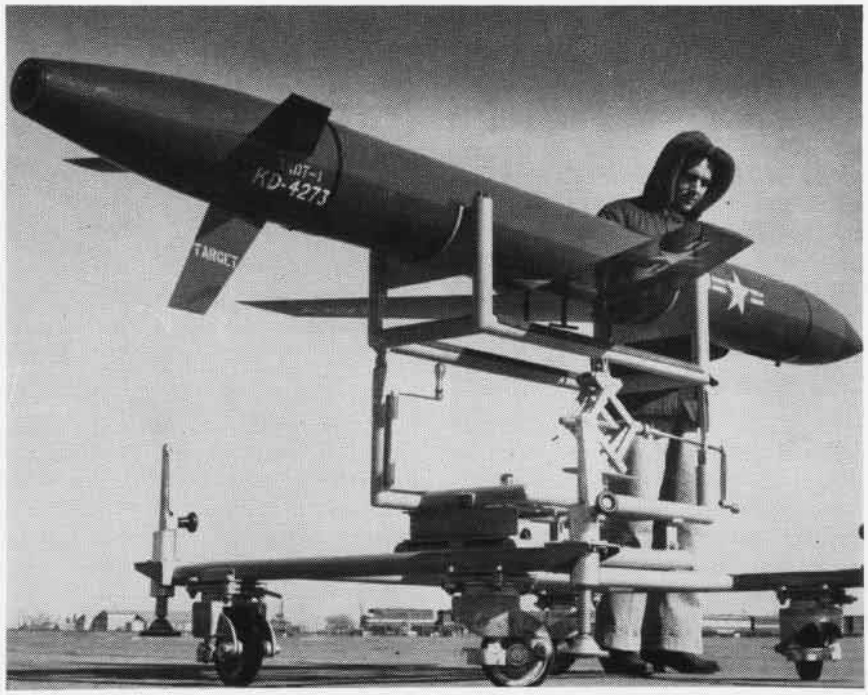
Plan to Seek U. S. Citizenship

Two young German immigrants, who came to this country in 1955, are now stationed at MCAS CHERRY POINT as aviation electricians with MAG-32.

Pfc. Wilhelm Bortels, 22-year old former merchant seaman from Bremen, Germany, and Pfc. Hans Dajka, 20, ex-Berlin bricklayer, joined the Marines in December 1955. Despite the similarity of their backgrounds, they never met until they were both assigned to the Navy's preparatory school for airmen at Jacksonville.

Bortels is now married to the former Mary J. Gruetter, a one-time WAVE. Dajka, still single, completed the aviation electrician's course with Bortels.

Both men are currently working with FJ *Furies*. Bortels is with VMF-312, and Dajka is a member of VMF-235.



TEMCO'S NEW *rocket-powered target drone, the XKDT-1 is about 12 feet long and 10 inches in diameter. The drone is a low-cost, expendable target which can be launched from a carrier-based plane. Top speed of the XKDT-1 is slightly less than Mach 1 at 50,000 feet.*

LET'S LOOK AT THE RECORD

VA-126 Garners 'E's'

Accuracy Counts at NAF China Lake

Cdr. George Cassell and his VA-126 *Cutlass* squadron, based at NAS MIRAMAR, returned from loft-bombing training at NAF CHINA LAKE. Pilots and crew demonstrated their ability by chalking up 28 individual "E's."

Conducting three competitive exercises, pilots won 11 "E's" in the low angle release, 11 in the medium angle release, and six in the high angle release. Sorties totaled 503; 232.5 pilot-hours were flown, and 1658 practice

PILOTS OF VA-126 BEFORE 'LINE SHACK'

bombs were dropped. Despite the fact that because of crowded conditions at the facility the squadron conducted many of its operations from a parking mat remote from the rest of the station, VA-126 came through with flying colors.

Ltjg. Walt Hollister, a first tour pilot, emerged as the squadron sharpshooter, with four individual "E's."

Record for Student Pilot

Tops in Rocket Firing at ATU-206

Ltjg. W. K. Rhodes, Jr., of ATU-206, NAS PENSACOLA, won his wings and was given an informal commendation on the same day. He established a new rocket firing record for students at the Training Unit. Present at the commendation, given by Cdr. L. E. Doner, Assistant O-in-C of the unit, was Capt. W. K. Rhodes, Sr., USN (Ret.).

On his record-breaking flight, Rhodes, on four successive runs, fired four rockets within an average of 16 feet of the bullseye. This is considered outstanding for students and tops the previous record of over 30 feet.

Rocket flights are conducted at a target on Santa Rosa Island. Rhodes' instructor was Lt. Grant B. Carver.

New Record for Boxer

79,000 Arrested Carrier Landings

Ltjg. D. H. Stechmann made two successive "thousandth" landings aboard the USS *Boxer*. In late December, he brought his S2F *Tracker* down to make the ship's 79,000th arrested landing.

Three months earlier, Stechmann recorded the 78,000th landing aboard. Both flights were routine patrol missions off the coast of Japan. On the December flight, the co-pilot was Ltjg. D. A. Spencer. Both are from VS-23.

The *Boxer* is currently operating with the Seventh Fleet in the Far East.

Safety Record for VS-31

Squadron Hosts Sixth Fleet Head

Deployed aboard the USS *Antietam*, VS-31 has chalked up an enviable

VADM. BROWN AND CDR. SCALES IN S2F

record since it left NAS QUONSET POINT in September. Commanded by Cdr. J. R. Rutledge, the squadron has flown 1750 accident-free hours.

Recently, Ltjg. G. H. Hatch made VS-31's 1000th carrier landing since the current deployment began.

VAdm. C. R. Brown, Commander Sixth Fleet, visited the anti-submarine squadron. He joined Cdr. H. H. Scales, squadron XO, at the controls of an S2F *Tracker* during ASW exercises.

VS-31 is currently operating with the Sixth Fleet in the Mediterranean.

VA-36 Offers Challenge

Disputes 'First' Claims of VA-46

In the December issue of NANEWS there appeared a picture of VA-46, with a caption listing what the squadron called its "firsts."

Shortly after, Cdr. T. T. Coleman, CO of VA-36, sent the NANEWS a refutation, stating that his squadron took pride in some of the very "firsts" claimed by VA-46. This, of course, poses quite a problem.

Not wanting to "do anybody dirt," members of the editorial staff burrowed through some of the old musty files. The situation wasn't solved completely, but one or two interesting facts were uncovered.

VA-46 claims to be the first attack squadron equipped with jets. VA-36, formerly VF-102, says no. According to the records of Naval Aviation History, VA-46 was commissioned on 1 June 1955, and was equipped with F9F-5 *Panthers*. VA-36 came into being on 1 July 1955, when VF-102 was redesignated. They were flying F2H's.

According to VA-46, this unit was the first operationally deployed squadron to night qualify using the mirror landing system. But Cdr. Coleman claims that distinction for his squadron. In July and September 1955, VA-36 qualified aboard the *Bennington* for night and day landings. During one, or both of these periods (the skipper isn't clear on this point), the squadron completed night mirror qualifications.

We want the facts, boys; just the facts. Friendly rivalry makes life interesting, so let's pool our information and find out "Who's on first!"

CDR. WILLIAM *Coley, CO of Guided Missile Group Two, Chincoteague, receives a plaque from F. O. Detweiler, Chance Vought president. Coley's group was first to make 100 launchings of Regulus I guided missiles.*

A VF-33 FURY FIGHTER HAS BEEN READIED FOR HIS TAKE-OFF

A LAST MINUTE DISCUSSION OF FLIGHT PLANS TAKES PLACE

VF-33'S FAST FLASHING FURY FIGHTERS

FIGHTER Squadron 33, stationed at NAS OCEANA flying the FJ-3M *Fury*, is one of AirLant's day fighter carrier squadrons. A member of Carrier Air Group Six which is composed of two fighter squadrons and two attack squadrons, VF-33 has the primary mission, in the event of hostilities, of establishing and maintaining local air superiority by the destruction of enemy aircraft.

During the Korean conflict, VF-33 served aboard the USS *Leyte*. At that time the squadron, using F4U *Corsairs*, took part in the battle of Hungnam and furnished air cover for the evacuating troops. In 1951, VF-33 returned to the States.

In October 1953, the squadron embarked aboard the USS *Midway* as part of CVG-6 and after a short training cruise departed for the Mediterranean for a seven month cruise. After returning to Cecil Field, Florida, the squadron was transferred to NAS OCEANA in September 1954. It was here that the squadron received the new FJ-3 *Fury* jets, and went through an intensive period of transition training.

On January 27, 1955, VF-33 made headlines as the late Cdr. W. J. Manby, Jr., set a new altitude climb record when he took an FJ-3 to 10,000 feet in 73.2 seconds. This record cut 9.8 seconds from the best previous attempt made by an FJ-3 at NAS MIRAMAR.

After 11 months of training at NAS OCEANA, which included training trips to Guantanamo Bay, Cuba and a trip aboard the USS *Ticonderoga*, VF-33 again departed for a seven-month Mediterranean cruise on September 5th aboard the USS *Lake Champlain*.

Returning to the United States in March 1956, VF-33 took intensive gunnery training. It paid off when VF-33 won the Atlantic Fleet Gunnery Championship.

The squadron is now engaged in a training cycle in preparation for another Mediterranean cruise this year. This training involves cruises to Guantanamo Bay as well as intensive training in tactics, field carrier landing practice, night flying, gunnery and carrier qualifications.

CO of VF-33 is Cdr. James Ferris.

SKILLED MEN REPAIR ELECTRONIC GEAR

CHIEF SHOWS AF OFFICER HOW FURY WORKS

CDR. GUINN, CAG-6, ACCEPTS AIRCRAFT

NAVY'S TOONERVILLE TROLLEY

THESE MEN *form the nucleus of the crew which handles the "Toonerville Trolley" on her runs. They are (L to R) H. B. Farrell, J. R. Carson, C. J. Arleth, Lt. L. L. Dobbs, LCdr. A. T. Hall.*

ANYONE for a holiday in Spain, land of romance and old-world customs? "Sounds like fun," say Navy men assigned to Commander, U. S. Naval Activities, Spain, "but we don't have much time to live it up."

This small force of aviation personnel is setting a high standard in performance efficiency. Their lone R4D-8 logs 250 hours a quarter, and is the only U. S. Navy plane assigned to Spain. The men do most of the maintenance work themselves at Getafe Spanish Air Force Base, about 10 miles from Madrid.

Chief pilot and plane commander is LCdr. Albert T. Hall. His responsibility is to keep the plane in flying condition. The aircraft is a support to the contractors and the O-in-C of construction of military bases being built in Spain.

The transport is known throughout the Spanish Airways as the "Toonerville Trolley." Besides Navy and civilian engineers, it has carried a variety of cargo, ranging from concrete specimens to turkeys. According to LCdr. Hall, "If it's been hauled by air, we've hauled it."

Members of the crew leave home at 0600 each day, and if they return before 2000 they have had a short day. The crew takes care of practically everything: passenger booking, loading and unloading cargo, acting as stewards, and of course, flying and maintaining the aircraft. Major maintenance work is done at Port Lyautey, but the crew at Getafe can handle most situations.

Some of the men who help keep the "Trolley" flying are: R. D. Sullivan, ADC, H. B. Farrell, AT1, C. L. Hatcher, ADC, J. R. Carson, AD2.

The cadre will be the nucleus of the Naval Air Station at Rota when it is commissioned sometime this year.

THIS R4D-8 *is the only U. S. Navy plane assigned to Spain. It averages 250 flight hours a quarter. Here the "Trolley" waits at the U. S. Naval Station, Rota, for an outgoing cargo.*

Military Surgeons Meet
Foreign Associates Also Attend

BRIG. GEN. *Sarup Narain, Indian delegate to convention, examined Marine evacuation helicopter during D. C. Medical Facilities tour.*

LT. GEN. *Chin-Tah Loo and Col. Tih Tai, Chinese surgeons said, "We are impressed with these machines' life-saving capabilities."*

IT WAS IN *the homeland of Commodore Chubung Pak, Korean Navy, that helicopters proved their wartime versatility and worth.*

IFR-IQ?

For other than all-weather configured aircraft or for clearance to other than an all-weather air station, what are the weather minimums at destination for a single pilot plane on an IFR flight plan?

Answer on page 40.

NavCAT's Going Strong

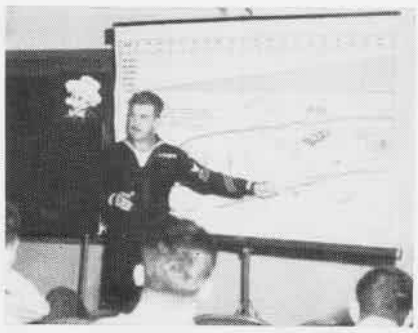
Results from Career Appraisal

From its modest beginning in 1954, the Naval Career Appraisal Team program (NANEWS, August 1955) has expanded to a force of about 210 teams. Of this hard-hitting combination, about 37 percent, or 80 teams, are connected with Naval Aviation.

There is plenty of evidence that commands with NavCAT's have better reenlistment rates than those without teams, other things being equal. In addition, a number of cases have been reported of men in the "undecided" and "determined to leave Navy" categories deciding to reenlist after seeing a NavCAT presentation.

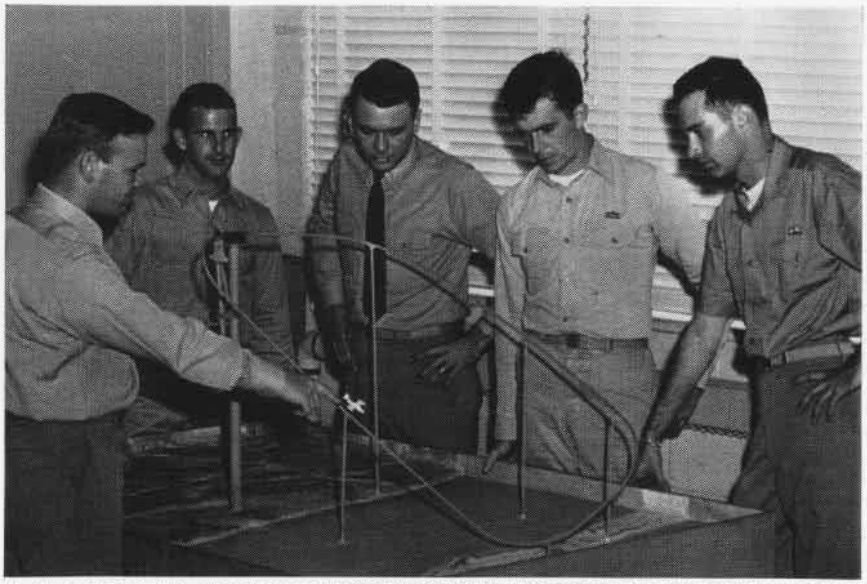
The Navy's re-enlistment rate for men ending their first cruise has been steadily climbing from the low of less than five percent that prevailed during the fall of 1954. The first term minimum goal is at least 25 out of 100 men eligible for reenlistment. The recent rate is about half that.

Three Marine Corps Career Appraisal Teams are in action, similar to the Navy's. The Army is now developing a presentation patterned after the Navy's, and the Royal Australian Navy, after seeing NavCAT's in action, "bought the idea." At their request, a NavCAT kit was sent to Australia.



NAVCAT MEMBER LECTURES VP-7 IN ICELAND

JET BOMBING DEMONSTRATOR



LT. M. J. CHEWNING, ATU-206 INSTRUCTOR, OPERATES DEMONSTRATOR FOR STUDENT GROUP

AN ELECTRICALLY operated jet dive bombing run demonstrator is proving to be a useful gadget in training student aviators at Advanced Training Unit 206, NAS PENSACOLA, Florida. Consisting of a miniature aircraft mounted on an aluminum tubing track, the demonstrator gives an authentic visual picture of the correct dive bombing pattern.

The idea for the demonstrator originated in the Ground Training Department of ATU-206, and the Navy Training Device Center was called upon for assistance. What was needed was a graphic way of demonstrating every point of the dive bombing pattern, a training device that would make "push over" and "pull out" clear and easily comprehended. Mr. A. W. Stevens, the TD regional representative, worked long hours with ATU-206 personnel developing the details.

The demonstrator is used extensively in the ground school phase to show students the bombing pattern, the surrounding terrain features to assist in visual orientation, and the flight path of the aircraft relative to the target. In fact, the demonstrator is even geared and mounted, so that the miniature aircraft increases speed on the actual bombing run, decreases speed on the pull-out, and turns and banks at all the appropriate places. Use of the demonstrator permits orientation training in the classroom which formerly required several "dry" runs in the air.

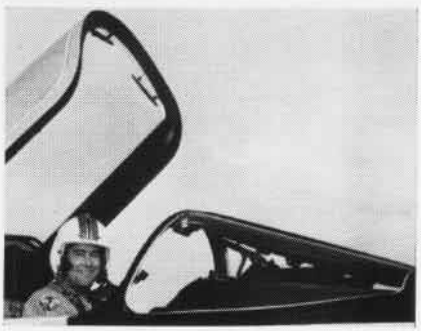
The value of the demonstrator has prompted the Chief of Naval Air Advanced Training Command to authorize construction of additional units.

Crusaders Now with VX-3

First Two Arrived in December

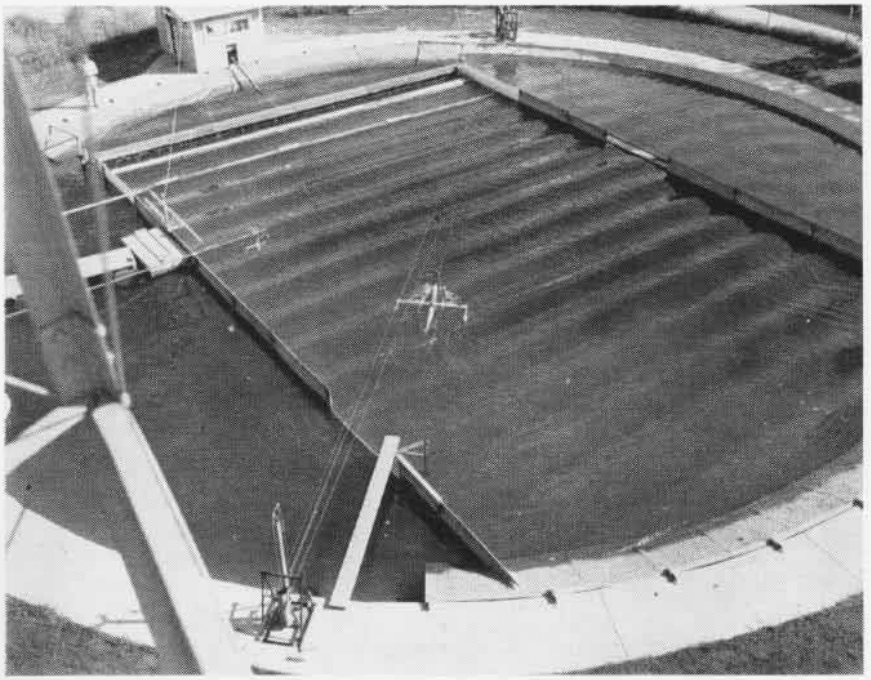
The supersonic F8U *Crusader* is cleaving the air over NAS ATLANTIC CITY. The first of the speedy fighters was flown there by Capt. R. G. Dose, CO of VX-3, followed closely by LCdr. Paul Miller, Jr., in the second.

Six F8U-1's have been assigned to VX-3 for operational evaluation and tactical development. The plane is so powerful that it is capable of supersonic speed in a normal climb.



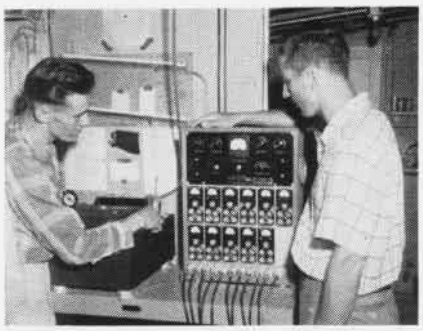
CAPT. DOSE IS HAPPY WITH NEW PLANE

MILE HIGH 'SEA' FOR MODELS



MODEL SEAPLANE *being towed at 135 degrees to direction of wave travel. Waves are five feet long, and the height-length ratio is one to twenty. Compare size of man to size of basin.*

THE CIRCULAR wave basin facility at Colorado A&M College has the unique position of being the only model basin at the present time in this country where experiments in beam or oblique seas can be conducted (NANEWS, Dec., 1954). However, modifications are being made to the towing basin at Stevens Institute of Technology, Hoboken, N. J., so that like experiments may be conducted. Also, a similar basin, but on a much larger scale, is being constructed at the David Taylor Model Basin at Carderock, Md. The building housing the installation will cover some five acres.



AMPLIFIER *system and oscillograph used to record test information from model response.*

Colorado's basin is used for seaworthiness experiments on model ships and seaplane hulls from three to eight feet in length. To date, the tests have been made in simple wave trains, although plans are under way to study model performance in more complex, irregular seas. The waves are created by either a bulkhead hinged at the floor of the tank, or a circular plunger. The wave maker is oscillated at the proper amplitude and period to create the desired wave trains. The energy of the waves is absorbed at the end of the seaway on a sloping bed of steel mesh.

Responses of the models to the waves and their forces are measured and recorded on multi-channel oscillographs. Precision potentiometers, strain gauge type dynamometers, pressure gauges, accelerometers, and wave probes produce the required electrical signals. Some signals are so small that amplification is required in order to get a readable signal.

Untried and radical improvements can be made on the models, and tested in the wave basin at a fraction of the cost required to perform similar alterations on a ship or plane prototype.

Moffett Runway Extended
Twelve Hundred Feet Are Added

Moffett Field is extending Runway 32 Right 1200 feet. This extension will permit aircraft of today or tomorrow to touch down approximately 400 northwest of the present location, and to clear Bayshore, on the approach end, at a higher altitude.

Originally, an extension of 1800 feet was called for, but limited funds reduced the scope of the project.

Completion of the work, originally scheduled for July 1958, has now been moved to September of 1957.

British Inventor Honored
Is Given Newcomen Society Medal

On January 18, Mr. Colin Mitchel, British inventor, was given the Newcomen Society Medal at the Naval Air Engineering Facility in Philadelphia. The award, which is given for outstanding contributions to technical progress in the use of steam, was made to Mitchel, steam catapult inventor.

Originally installed aboard British aircraft carriers, the steam catapult was brought to this country and tested at the NAEF, then the Naval Aircraft Factory. The first use by the U. S. Navy occurred when a Grumman *Panther* was shot into the air in 1953.

Since that time engineers at the Naval Air Engineering Facility have made constant improvements on the catapult, often working in conjunction with Mr. Mitchel. Capt. T. D. Davies is Commanding Officer of the Facility, and Cdr. E. G. Bull is chief engineer.

The Newcomen Medal, established in 1943, is named after Thomas Newcomen, a British pioneer in the development of steam engineering. His steam engines paved the way for the Industrial Revolution from 1712 to 1775.

CDR. BULL, CAPT. DAVIES, AND MR. MITCHEL

BLUEJACKETS SPELL OUT 'MAY GOD HELP YOU,' ABOARD CORAL SEA, FOR SPECIAL CHRISTMAS MESSAGE TO HUNGARIAN PEOPLE

NAVY AIDS HUNGARIAN NEEDY

"IT IS BETTER to give than to receive," is the motto of personnel aboard the USS *Coral Sea.* Money from the ship's welfare-recreation fund, previously set aside for a Christmas party, was unanimously donated to Hungarian Relief.

The embattled people of Hungary received a Christmas card and a gift from all 3,258 hands of the attack carrier. The card was a mass formation of the ship's personnel on the flight deck, off the port of Cannes. White-hatted bluejackets spelled out: *Isten Segitsen,* "May God help you." The gift was a $7500 check to the Hungarian Refugee Fund.

During a special meeting of the enlisted recreation committee it was decided that a Christmas party was less essential than financial aid to the Hungarians. A petition was drawn up for signatures of the entire crew, to be given to Capt. J. A. Jaap, the skipper. The petitioning scroll was spread out the length of the flight deck. Soon there were 3,258 names.

After approval from BUPERS, the CO accepted the petition from T. E. Thornton, ICC, chairman of the enlisted recreation committee.

American Ambassador to Italy, Mrs. Clare Boothe Luce, accepted the check at the Embassy in Rome, from representatives of the crew. She agreed to present the check to President Eisenhower when she returned to the United States.

In January, 100 Hungarian refugees paid a "thank you" call to the carrier, while the ship was at Naples. They had an all-expense-paid trip from Rome, and return, by courtesy of the crew.

HUNGARIANS VISIT CORAL SEA AT NAPLES

PETITION, SCROLL WERE SIGNED BY ALL

LINE FORMS TO RIGHT FOR SIGNATURES

During the day, ship personnel acted as guides, conducting tours throughout the carrier. The refugees ate their noon meal with the crew, and later watched a program of American movies.

Leaving the ship, the Hungarians took with them voluntary donations of candy, gum, razors, and other inexpensive items which they considered luxuries. These had been collected by crew members themselves.

THE GRAVE plight of the Hungarians was recognized throughout the Fleet. Donations to the Hungarian Relief Fund came pouring in from all corners of the globe. NAS LOS ALAMITOS and its Naval and Marine Reserve squadrons filled box after box of clothing. At NAS DENVER, a Christmas tree was weighted down under the load of white envelopes containing donations for Hungarian Relief. Personnel of NAS WHIDBEY ISLAND donated $1370. In Africa, Port Lyautey responded to the cause with a contribution amounting to $1013.75. More than $2400 were sent from Navy and Marine units based at NAS IWAKUNI. The American Red Cross received a $1000 check from NAS ATSUGI. The list could go on and on.

The free world was saddened by the situation in Hungary. Those who fled its boundaries in search of freedom were met by all with deep-felt sympathy. The American sailor, guardian of freedom, always ready to lend a helping hand, again opened his heart and his purse-strings for those less fortunate than himself.

PLANNING TEMPLATES READY

WHERE RADIOACTIVE fall-out is likely to occur in terms of an attack is a matter of paramount importance to Navy planners. Because prevailing winds are in a general sense predictable, it has been possible to devise a method of calculating the probable direction of fall-out.

Diagrammatic overlays are used on area maps with a scale of 1:1,000,000. Using these templates, Navy planners can evaluate the relative risk of radioactive fall-out in terms of distance and direction in event of a bombing. The value of such a procedure in locating a new installation is obvious.

The plan of using these templates was developed by Dr. F. W. van Straten, a meteorological engineer in the Office of the Chief of Naval Operations. OpNav P44-1, entitled "Radioactive Fall-out Templates for Navy Planning Purposes," has recently been distributed.

The templates cover all areas of the United States and many overseas areas of specific interest to the U. S. Navy. These templates permit Navy planners to find the answers to the following questions:

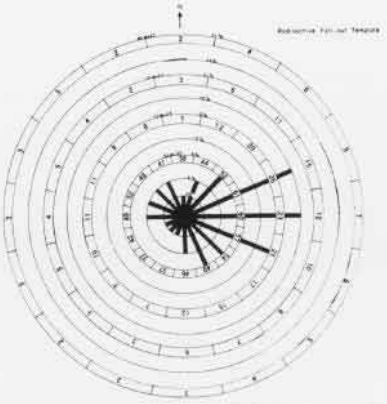
1. At what rate does the risk from radioactive fall-out decrease with the distance?

2. At a given distance, which geographical directions are relatively most safe from any fall-out whatsoever?

3. At a given distance, should fall-out occur, what are the relative risks of serious contamination in each direction?

Each question involves certain considerations. The answer to the first question may be used to find a practical solution to the problem of what is the optimum distance from a potential ground zero for an installation. Of course, other factors such as economics, facilities, terrain, personnel, etc., must be weighed along with the radioactive safety question.

The answers to the second and third questions must be weighed against each other to obtain a practical solution. The answer to the second question indicates probability of fall-out in a given direction; the answer to the third indicates the relative probability that fall-out will be hazardous in that direction.



BLACK BARBS *indicate probability of radioactive fall-out to nearest three percent.*

For example, take an extreme and unlikely case. A selection may have to be made between two locations: a location which has 99% chance of escaping fall-out but where, if fall-out were to occur, the level of radioactivity might be dangerously high; or a location where fall-out has a 50% probability, but the resultant radioactivity would be moderate to low.

The probability of fall-out in a given direction is given to the nearest three percent by the length of the barbs radiating from the center of the template. Percentage labels are given on the template.

The relative severity of such a fall-out as may occur is given by relative numbers for each of the sixteen compass directions at 30, 50, 70 and 90 miles from ground zero.

THIS MODERN *Navy believes in keeping its men informed on all fronts. This French model shows off latest styles aboard USS Coral Sea, while ship was at Cannes, France.*

BuOrd Wants Suggestions

New Ideas on Aviation Ordnance

The Director, Air Weapons Systems, BUORD, R&D Division, is continually looking for new ideas for aviation ordnance, and suggestions for improving or correcting observed deficiencies in present aviation weapons. Responsibilities of the Division include development of such weapons as air-launched guided missiles and special weapons, rockets, bombs, and aircraft guns. Equal responsibility exists for devices such as JATO units, personnel seat ejection cartridges and rockets, lap belt and parachute opener cartridges, pyrotechnics, including flares and marine markers, and the ammunition, fuzes, ballistics and gun-type launching devices for such items.

Naval aviators, aviation ground officers, and aviation enlisted ratings are invited to submit new ideas and suggestions for improving aircraft weapons and components. Send them to Chief, BUORD (ReW), Navy Dept., Washington 25, D. C.

Describe your idea and its intended application in clear, concise language. Include the aircraft model concerned, or the Mark or Modification of equipment involved. Sketches or drawings should be included if deemed desirable for purposes of clarification.

Cecil Field is Growing

18 Construction Projects Set

NAS CECIL FIELD, which has been expanding by leaps and bounds ever since it was commissioned during the Korean War, is now celebrating the awarding of construction contracts for a new building program totaling better than $8 million.

Three major projects included in the program will cost more than $1 million each. They are a $1.5 million runway and bore-sighting range; a modern 150-man bachelor officers' quarters, to cost $1.2 million; and a married officers' and enlisted housing installation costing $1,092,566.

Fifteen other projects include such items as ordnance facilities, high speed refueling facilities, utilities, radar air traffic control center, recreation facilities, a gate-house, a supply warehouse, cold storage building, etc.

The entire program is scheduled to be completed sometime this year.

TOWER IS USED FOR LANDING PRACTICE

Memphis Portable Tower
Helps Student Pilots to Land

A portable tower to house the Advanced Training duty officer as he assists student pilots to land their planes has been built at Memphis.

Equipped with a radio and insulated for warmth, the tower is almost completely enclosed with tinted glass and gives the Duty Officer full view of the sky. Although the Operations control tower is still in control of traffic, the new tower controls ATU landings.

Construction of the tower was under the supervision of LCdr. W. F. Tilghman, Aviation Training Unit.

New Helicopter Squadron
HMR(M)-461 is Commissioned

A new transport helicopter squadron, using the twin-engine Sikorsky HR2S copter, was commissioned at MCAF NEW RIVER in January.

Designated HMR(M)-461, the unit is commanded by LCol. G. B. Doyle. It is the first Marine 'copter squadron equipped with the HR2S. A cadre of squadron pilots and maintenance men have undergone intensive familiarization training with the new aircraft at MCAS QUANTICO.

Mission of HMR(M)-461 is to support operations of the Second Marine Division, stationed at Camp LeJeune.

Pilots Aid in Rescue
Locate Downed Air Force Flier

It had been a routine flight for LCdr. J. J. Coffey and LCdr. G. B. Brothers, stationed at Saufley Field, as they prepared to land their T-28 at Brookley AFB, Alabama. Suddenly a "Mayday" call came over the radio, and "I'm bailing out."

In response to a request from the Brookley flight tower, the Navy pilots immediately joined the aerial search parties. It wasn't long before they spotted the Air Force pilot who had been forced to ditch his plane in Mobile Bay.

LCdr. Coffey, who was piloting the plane, managed to direct a nearby shrimp boat to the aid of the stricken aviator. Once aboard, the airman awaited the arrival of a helicopter.

When LCdrs. Coffey and Brothers landed at Brookley, after directing the rescue operations, they were given a full dress "red-carpet" reception.

New Stadium at Academy
Memorial to Navy and Marine Corps

Construction of a Navy-Marine Corps Memorial Stadium will begin at the Naval Academy this spring. It is planned as a lasting memorial to Navy and Marine personnel of the present and past.

The stadium will be built from private funds. More than a million dollars has already been collected. Voluntary contributions may be accepted by Commanding Officers, and sent directly to the Treasurer, Naval Academy Athletic Association, Annapolis, Md.

Names of ships and stations contributing will be suitably recorded on bronze plaques at the stadium.

TO PROTECT *upper wing of AD during servicing of outboard wing guns, Marvin R. Young, AO1, of VA-145, NAS Miramar, devised a 100x42-inch canvas cover working surface. Strips of wood at one end serve as foot braces.*

SIRS:

Just happened to notice an article in the

Columbus Welcomes Rocky at Zoo

One genuine Barbary Ape who went wrong on the Rock of Gibraltar has gone straight to Columbus through the efforts of Mr. Earl Davis, Superintendent of the local zoo, and the U. S. Navy. Through the services of Cdr. James W. Short, U. S. Naval Attache in London, Rocky, the ape, was obtained. Cdr. Short put in the request for a Barbary Ape to the British authorities.

'A MOST HAPPY FELLA' AT COLUMBUS ZOO

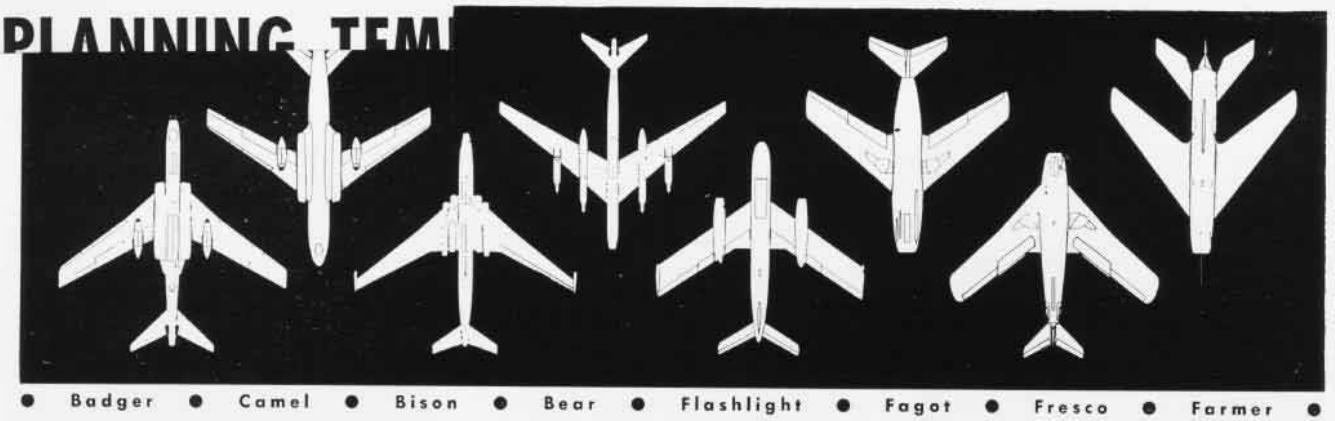
Rocky bore the title of "Deputy Pack Leader, Queens Gate Area of the Upper Rock." As a contender for the crown, Rocky was obliged to engage another ape named Max in mortal combat. This method of power politics was traditional on the Rock.

In order to preserve peace and prevent bloodshed, the "Officer in Charge of Apes," a member of the Royal Garrison Artillery de-selected Rocky and made him available for transfer to the United States. After his arrival on the USS *Alcor* at Norfolk, he was delivered by air to NAS COLUMBUS.

A handsome, brown beast of four feet, Rocky bore the brief presentation ceremony with a casual air. After delivering him to the Mayor of Columbus, Capt. L. L. Koepke departed and Rocky went to his new quarters in the zoo.

This about winds it up, except that Rocky, the ape, isn't an ape at all. He's really a tail-less monkey properly labeled Macaca Sylvana of the North African littoral. Honest!

PLANNING TEM



● Badger ● Camel ● Bison ● Bear ● Flashlight ● Fagot ● Fresco ● Farmer ●

MASTER LIST OF MILITARY AIRCRAFT

NAME	AIR FORCE	ARMY	NAVY	MANUFACTURER
Skymaster	C-54		R5D	Douglas
Skynight			F3D	Douglas
Skyraider			AD	Douglas
Skyray			F4D	Douglas
Skyshark			A2D	Douglas
Skytrain	C-47		R4D	Douglas
Skytrooper	C-48-49-53		R4D	Douglas
Skywarrior			A3D	Douglas
Sophomore	BT-12			Fleetwings
Starfighter	F-104			Lockheed
Starfire	F-94			Lockheed
Stratocruiser	YC-97B			Boeing
Stratofortress	B-52			Boeing
Stratofreighter	YC-97, C-97A			Boeing
Stratojet	B-47			Boeing
Stratotanker	KC-135			Boeing
Super Fortress	B-29-50			Boeing
Super Sabre	F-100			N. American
Terminator	B-32			Cons. Vultee
Texan	T-6		SNJ	N. American
Thunderbolt	F-47			Republic
Thunderchief	F-105			Republic
Thunderflash	RF-84F			Republic
Thunderjet	F-84			Republic
Thunderstreak	F-84F			Republic
Tiger			F11F	Grumman
Tiger Cat			F7F	Grumman
Tornado	B-45			N. American
Tracker			S2F	Grumman
Trader			TF	Grumman
Tradewind			R3Y	Cons. Vultee
Turbo Transporter		YH-16A		Vertol
Trojan	T-28A		T-28B	N. American
Traveller	C-43		GB-1	Beech
Tutor			N2T	Timm
Twin Mustang	F-82			N. American
Valiant	BT-13		SNV	Cons. Vultee
Vengeance	A-31-35			Cons. Vultee
Ventura	B-34		PV-1	Lockheed
Vigilant	O-49, L-1	L-1		Cons. Vultee
Voodoo	F-101			McDonnell
Warhawk	F-40			Curtiss
Whirlaway			XHJD	McDonnell
Wichita	AT-10			Beech
Widgeon		OA-14	JRF	Grumman
Wildcat			F4F, FM	Grumman
Workhorse	H-21	H-21		Vertol

SOVIET MILITARY AIRCRAFT

BOMBER, JET

Badger	IL Type 39
Beagle	IL 28
Bison	IL Type 37
Blowlamp	Replace IL-28
Bosun	TU naval bomber

BOMBER, PISTON & TURBO PROP

Bank	B-25
Barge	TU Type 31
Bark	IL-2
Bat	TU-2
Bear	—
Beast	IL-10
Bob	IL-4
Box	A-20
Buck	PE-2
Bull	TU-4

CARGO AND LIAISON

Cab	LI-2 (DC-3)
Camel	TU-104
Camp	—
Cart	TU-70
Clam	IL-18
Coach	IL-12
Colt	AN-2
Cork	YAK-16
Crate	IL-14
Creek	YAK-12
Crib	YAK-6
Crow	YAK-14

(Continued on next page)

FIGHTER, JET

Fagot	MIG-15
Fantail	LA-15
Fargo	MIG-9
Farmer	MIG-19
Feather	YAK-17
Flashlight	YAK-25
Flora	YAK-23
Fresco	MIG-17

HELICOPTER

Hare	MI-1
Horse	YAK-24
Hound	MI-4

TRAINER

Magnet	U-YAK-17
Mascot	U-IL-28
Midget	U-MIG-15

MISCELLANEOUS, PISTON

Madge	Flying boat
Mare	Transport glider
Mark	YAK-7
Max	YAK-18
Mink	UT-2
Mist	Transport glider
Mole	Flying boat
Moose	YAK-11
Mop	PBY-5
Mote	MBR-2
Mug	MDR
Mule	PO-2

New Douglas Blowaway Jet
Sweeps Runways Clean for Planes

Jet engines are sturdy things, but they are at the mercy of foreign objects that may be sucked into them during runup or at low speeds at the beginning of the take-off run.

According to NACA findings, the villain is the vortex, or small whirlwind plus an updraft from the engine intake. This vacuums everything in its path right into the intake.

Douglas Aircraft Company has developed a relatively simple correction. Now under laboratory test, it is a jet of engine bleed air directed to the deck at an angle of 70° below horizontal. This device, called the Blowaway Jet, sweeps the surface just forward of the inlet with a thin layer of high velocity air.

During tests, the Blowaway Jet has successfully prevented the pickup of such objects as marbles, rivets, metal scraps and rocks. Without the blowaway jet, this debris would have been drawn right into the test inlet.

Upon conclusion of the laboratory tests, the Douglas company intends to offer this device for service testing.

LETTERS

SIRS:

Your mention of the old *Aeromarine* on p. 21 of your November 1956 issue reminded me that on 10 August 1918 I had the dishonor of washing out the last *Aeromarine* at NAS DINNER KEY, Miami, Florida. Its number, according to the page in my log book signed by L. V. Lamar (4th from right end of rear row in your picture), was 527.

I wish I could remember the name of the officer who conducted the inquiry. He was more charitable than I deserved. Briefly, the AM and I were approaching the beach for landing in long glide. Some 300 feet above water an HS2 came up under AM's right wing, damaging his rudder and elevators. The pilot skillfully landed the HS2 with use of on-and-off throttle.

Old-timers will remember that HS1's and 2's tended to be a bit tail heavy when power was cut and also, if I remember correctly, tended to nose over a bit when engine was gunned. Anyhow, that's the way I remember the explanation of how the HS2 was landed safely. I don't remember just how I did get that AM down. That was the last "black cat" insignia AM on the station.

Incidentally those two and three digit numbers of the *Forrestal's* Pioneer Party make me look like a latecomer. My number is 1931.

Last April at Corpus Christi I pinned on my son, Ens. Edward C. Davis, the same 14K wings given me by my father in 1918.

I enjoy NAVAL AVIATION NEWS and admire these young men who "Keep 'em flying for USN."

DWIGHT DAVIS

P.S. Remember Noel Davis? Our middle son is named after him. Noel was best skipper under whom I ever served.

Clearwater, Florida

SIRS:

The *Master List of Military Aircraft* begun on page 39 of the January issue of NAVAL AVIATION NEWS will be most interesting, when completed.

It is obvious some starting date had to be selected and, as a result, many types remembered with nostalgia (and some wonder) by many older pilots still on duty had to be left out. But why not show all of what you have? I'm just a recruit but if memory serves, those listed have Navy designators as indicated below:

Name	*Air Force*	*Navy*
Airacobra	P-39	XFL-1
Bob Cat	UC-78	JRC
Fortress	B-17	PB-1

And didn't the Air Force get the B-66 *Destroyer* by picking up the A3D?

A. A. SPROULE, CDR.

SIRS:

Just happened to notice an article in the '53 edition of NANEWS concerning the trans-Pacific flight of the AJ aircraft with accompanying note that it is believed to be the first trans-Pac of any carrier-type aircraft. 'Tain't so!! Copy of ComFAir Alameda letter of 13 October 1948 enclosed.

G. D. PIERCE, AKC

¶ ComFAir Alameda's letter was a letter of appreciation addressed to Pierce, commending him for his part in the "first single-engine airplane mass trans-Pacific flight. The trans-Pacific operation just completed emphasized the flexibility of carrier aviation to the world."

SIRS:

It is believed that VF-84 is the first jet squadron to have all pilots fully carrier-qualified on both angled and axial deck carriers. VF-84 was angled deck qualified on 27 October 1956 on the USS *Saratoga*, CVA-60, and axial deck qualified on 6 November 1956 on the USS *Lake Champlain*, CVA-39.

It is requested that the above information be verified. . . .

J. W. ELLIS, JR., CDR.

¶ ComAirLant adds that he is unable to speak for Pacific Fleet units, but that there is a general belief prevalent at AirLant that a jet unit accomplished similar qualifications during first air trials aboard the USS *Antietam*. A claim for first, biggest, best, is always a touchy thing. Aviation History Office of OpNav comments that the first jet squadron to qualify was VF-17A, on May 1948. The supposition is that the first jet squadron to qualify on both the axial and angled decks would be the first one to operate on the *Antietam*. First tests were conducted in January 1953 by pilots from NATC, CVG-8, VC-33, and VC-4, but the record doesn't state whether any of the units were complete or fully qualified.

SIRS:

Your excellent listing and interservice cross listing of aircraft on page 39 of the January 1957 issue brings to mind a point on which I feel strongly, namely, the helicopter is the most taken-for-granted, most neglected (as well as one of the most interesting and invaluable) of naval aircraft.

For instance, in your "Master" list of military aircraft only one helicopter was listed, the H-25. The Navy designation was not listed (HUP *Retriever*), and apparently, in no case except the HUP has the Navy even assigned a "calling name" to a helicopter except to research aircraft such as "Stable Mabel," etc.

Many of the helicopter operating problems are grounded in the general lack of knowledge of the machine, its capabilities and limitations. For instance, most naval aviators mentally class it as not too different from a fixed wing airplane and therefore assume they know all about it. It is, however, a unique device with its own peculiarities and inherent requirements.

Yours for more appreciation and for a naming contest for all service helos.

C. J. BURTON
Helicopter Utility Squadron Two

LETTERS

SIRS:

I was enjoying reading your "1956 Naval Aviation Review" in the January 1957 issue when I noticed on page four you referred to the F3H-2N as the *Banshee* instead of the *Demon*. I enjoyed reading your article on the *Blue Angels* and the manufacturers series on McDonnell Aircraft Corporation.

EUGENE LESSERSON
Brooklyn, N. Y.

¶ This cat is strictly NOT out to lunch! Our boo-boo.

SIRS:

The fine spread devoted to the "old-timers," both men and machines, in the January issue was most welcome. To anyone whose experience dates back to the 30's, the aircraft photos bearing the colorful markings of the period are certain to recall memories of a Naval Aviation far different from that of today.

Having collected photos of naval aircraft over a period of many years, some 2,000 in the files at present, I found several views on the inside cover of particular interest. The Caproni "tripe" is a rare item, only one being used by the Navy, I believe, and pictures of it are very seldom seen. Considering the relatively small size of naval air in the 20's and 30's, markings and insignia were varied and numerous and I'm constantly searching for oddities, such as NY trainer in Marine Corps markings.

Realizing that space limitations restrict the amount of historical material that may appear in NANEWS, I hope that you will continue to give attention to this interesting aspect of naval air. Mr. Van Wyen's review of 1956 was very well done and will be of great value for future reference.

Congratulations on turning out such a consistently fine publication.

WILLIAM A. RILEY, JR.

SIRS:

Ya missed one on inside back cover in the January issue! What kind of aircraft is between the XBG-1 and the F4B4? Looks kinda like the Consolidated "Husky." But Marines didn't have any and rudder is a little different.

I'm always interested in old airplane pictures cause I presently am owner of a 1931 Waco—still licensed and flying.

JACK T. LE BARRON, JOC

¶ Our source did not identify the plane in question, but if you will read Mr. Riley's letter in this column you will note he identified it as an oddity (NY trainer in Marine Corps markings).

SIRS:

Your "1956 Naval Aviation Review" in NAVAL AVIATION NEWS is a splendid article for people like myself who are on detached duty. You have my vote of thanks.

JAMES C. SHAW, CAPT.
U. S. Naval Attache, The Hague

SIRS:

I think the "Sweet Pea" (USS *Princeton*, CVS-37) has more than broken the previous record of 10 absentee-free sailings held by the USS *Kearsarge* as reported on page 29 of the October 1956 edition of NANEWS.

On our recent WestPac cruise, from which we returned 17 August 1956, we made 22 successive sailings without a single case of "missing the ship."

Can anyone break THAT record?

W. A. SCHLAPPER, ENS.

SIRS:

Enclosed is an article which appeared on page 18 in the December issue of NANEWS. You may be interested in printing the correct version of the incident.

The tower supervisor on duty, upon hearing the MAYDAY, took the initiative, pulled the AD's from the FCLP pattern, and gave them headings to intercept the aircraft in distress. After taking this emergency action, the operations duty officer, Lt. C. A. Jantzen, was advised of the MAYDAY and the emergency measures taken by the tower.

It seems to me that your publication would be very much interested in giving credit where credit is due, but you certainly have not indicated that this is the case. After reading this article, I can see that it is no great mystery why the Navy is having so much difficulty retaining a large percentage of trained personnel in critical rates when their enlistment expires. There is nothing that will make a man do his work better and enjoy it more, than well deserved praise for a job well done.

LAYNE G. BROWN

¶ We agree with your last paragraph, Brown, and try to give due credit for noteworthy achievement. However, to do so, we need the facts, prior to publication. Our source for the story did not indicate that you, the tower supervisor at the time, took the initiative as stated in your letter, now condensed. Well done!

IFR-IQ?

According to OpNav Air Traffic Control Procedures Section, the answer is ceiling 800 feet, visibility one mile.

REF: OpNav Instruction 3720.2.

CONTENTS

● COVER

Hovering HUP over the water offshore from NAS Patuxent River, the Navy's center for testing new aircraft.

● SUBSCRIPTIONS

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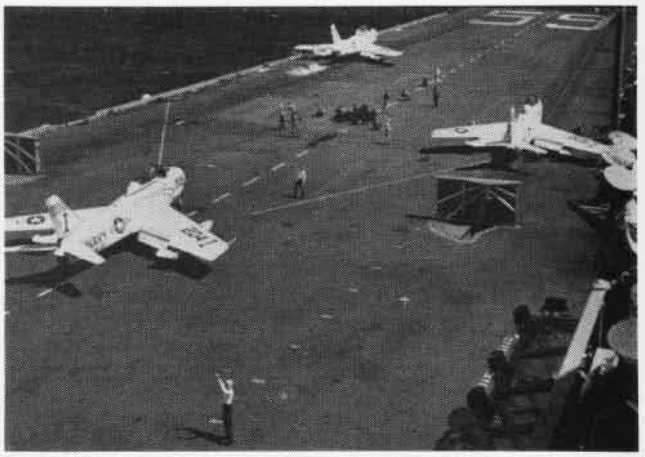
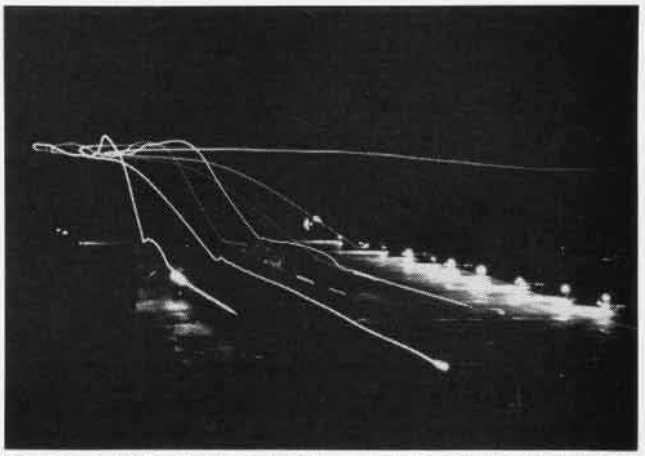
DEALING FROM THE TOP OF THE DECK

F3H LEAPS INTO THE AIR DURING CARQUALS ON FORRESTAL



ONE, TWO, THREE—FURIES GO IN RAPID LAUNCH SUCCESSION

'CUT' SIGNALS THE MIDWAY'S LSO TO THE APPROACHING JET



DEMONS WRITE LIGHT PATTERNS DURING NIGHT OPERATIONS

AN F9F-8P, 'EYES OF THE FLEET,' WINGS OVER THE OCEAN

FLASHING ITS AFTERBURNER, AN F11F TIGER LEAVES INTREPID

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