NAVAL AVIATION NEWS

RESTRICTED
SECURITY INFORMATION
NavAer No. 00-75R-3

JULY 1953

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TROUGHS TO TUBES TO TANKS

TANKS—Plasticized cardboard tanks holding seven to 19 Mighty Mouse rockets are latest Navy method for launching

RAILS—First Navy rockets were fired from TBF's rails

TUBES—Air Force first used heavy tubes for 4.5 inchers

PODS—Latest Air Force idea for carrying Mighty Mouse rockets on F-86D is retractable 24-rocket belly *mount*

THE ROCKET'S NEST

EVER SINCE the first aircraft rockets were fired from clumsy rails in World War II, plane designers have sought the ideal way to load these lethal missiles on fighting planes.

In that 10-year span, rockets have grown in size and then retreated, until today's emphasis is on the 2.75" *Mighty Mouse* type of rocket. During this time it has been a procession of launching rails, tubes, pylons, pods, zero-length launchers and tanks. At least 15 different methods of carrying and launching rockets from beneath planes' wings or within their fuselages have been tried out.

An airplane, after all, is only something with wings, built to carry guns, bombs or rockets aloft for firing. That definition is an over-simplification of the plane, but essentially they are only gun platforms, a fact which fighting men never let plane designers forget.

Planes started out carrying armament when pilots in World War I threw grenades over the side and brandished their .45 pistols. At first .30 cal machine guns were mounted on planes, then .50 cal and now the 20 mm cannon is the favorite. At one stage, a 75 mm cannon was mounted in a B-25 nose, with ingenious recoil-absorbing mechanism. Pilots reported the gun recoil seemed to stop the plane in midair.

The obvious answer to the recoil problem in aircraft armament lay in the rocket. The problem with these missiles was how to hang as many of them as possible on fighters and bombers. This article will discuss some of the ingenious systems of loading and firing rockets which have been tried by the Navy and Air Force, leading up to today's tanks and pods.

NOSE TUBE—*German vertical-rising 578 mph rocket interceptor carried 24 rockets in its nose; airplane had no landing gear.*

ZERO LENGTH—*Two stub rocket pylons replaced heavy launching rails on Navy planes; Sangamon's men were loading 3.5" rockets.*

ROCKETS date back to Chinese antiquity, but their use on planes began in World War II. The Russians, who claim they did almost everything first, probably really can claim being the first to use rockets on their planes for close air support. Ground-strafing projectiles were used during 1941 first on the IL-2 *Stormovik* attack airplane.

Soon the IL-3 and IL-4 were equipped with rockets, fired from rails. Other Russian planes, which specialized in supporting their ground troops like the MIG-3 and YAK-1, also carried the rocket projectiles. Late in 1943 the Germans appeared with rocket-firing Focke Wulf 190's, Messerschmidt 109's and 110's, which were used against our daylight bombers with telling effect. The Nazis' vertical-rising *Natter* (*Viper*) 578 mph rocket interceptor had 24 rocket tubes buried in its blunt nose.

As soon as the first rockets suitable for firing from a plane were developed, the problem arose as to how to hang them on the plane. Possessing greater accuracy and velocity than ground-fired rockets, thanks to the airplane's forward speed, the rocket had to be hung far enough from the plane so its flaming exhaust would not burn the wings or damage control surfaces.

The Air Force at first tried mounting 4.5" rockets in clusters of three tube launchers. The tube restricted the blast of the rocket, but it presented a problem because of the rocket's fins. Folding fins were developed, which flipped out when the rocket emerged from the tube. This same idea is revived on today's *Mighty Mouse* and other 2.75" rockets.

The Navy was not satisfied with the bulky launching chutes because they were heavy and slowed down the planes somewhat. Early in the war it developed zero-length launcher posts which gave less wind resistance and enabled use of rockets with fixed fins. The Navy used two of these small posts for each rocket. Later it replaced these with a single, larger pylon launcher that was strong enough to hold bombs, auxiliary gasoline tanks or the huge 1200-pound *Tiny Tim* rocket.

TUBES—*Belligerent Air Force men install bazooka rocket launcher tubes on a Piper.*

The Air Force also developed a three-point suspension idea for its rockets, one pylon holding the rocket nose and the two rear points fastening onto its fins. In the case of jet fighters, these small pylons fold back into the wing, presenting no wind resistance at all. Landing loads on a carrier plane with hung rockets are too great for Navy to use the retractable type, which are not as strong as fixed pylons.

The 4.5" aircraft rocket never saw much use, being superseded by the 3.5" AR, the 5" High Velocity Aircraft Rocket (HVAR), called the *Holy Moses*, and the big 11.75" *Tiny Tim*.

While the Air Force favored tube launchers, the Navy's early attempts at rocket use saw them fired from long tracks on the underside of plane wings.

LANYARD—*Tiny Tim rocket drops 16' below fuselage of F6F, then a lanyard fires it.*

One early type of rocket, called the *Mousetrap*, was for use against submarines and was fired backward at a low speed from tracks alongside TBF fuselages, or from under a PBY's wings.

The *Mousetrap* rocket was used by bombers which also carried magnetic airborne detectors to seek out submerged submarines. Bombing the subs or dropping depth charges was somewhat inaccurate, so *Mousetrap* was developed. It left the plane at the same velocity as the plane's forward speed, thus in effect dropping straight down on the target.

About the time the *Mousetrap* bomb and launcher were perfected in 1942, German submarines changed their tactics. They stayed on the surface and shot it out with attacking planes so the magnetic air detector was not needed. The retro bomb went out with it in favor of

RETRO ROCKET—*Rear-firing rails on TBF dropped low-speed rocket on U-boat below.*

forward firing rockets, so the planes could fight back. But not before VPB-63 operating *Catalinas* in Gibraltar area in 1944 located and helped sink a U-boat with its retro bombs and racked up two "probables."

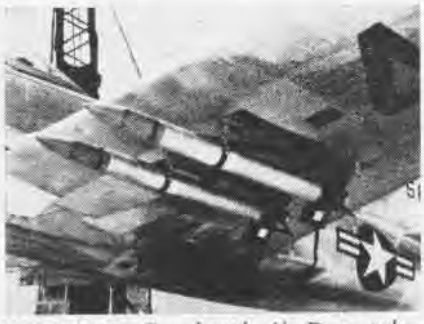
In April, 1945, a VPB-63 *Catalina* spotted a schnorkel-equipped submarine in the English channel and sank it—the last use of retro-bombing and also one of the last German subs sunk in the war. The retro-rocket idea was even tried on aerial torpedoes, to slow them down after dropping, a belt of 12 rockets being fastened to the "fish" and firing backwards. The idea was to have the torpedo hit the water at a slower speed to prevent "fractures."

American interest in aircraft rockets really went up when the British sank nine submarines with them in 1942 and 1943. British planes used a pair of

TUBES—*Spin-stabilized 5" rockets throw flame below launcher tubes buried in wings.*

small-diameter rods to guide their rockets during launching. The Navy, however, used launching rails for its 3.5" rockets, first to be used from U.S. planes. This was the same type launcher Russians used on their *Stormovik* planes.

These eight 90" rails projected ahead of the wing's leading edge, cutting the TBF's speed by 17 knots—an acceptable loss on a torpedo bomber, but too great a penalty for a fighter. It would reduce its speed, range and maneuverability. So the rails were "bobbed" to 70", and work went ahead to develop zero-length lauchers—two streamlined posts on which rockets were suspended. These penalized fast fighters only six to nine miles an hour. Rail launchers were used a few months and supplanted by zero-length ones by the summer of 1944. Little SCAR practice rockets



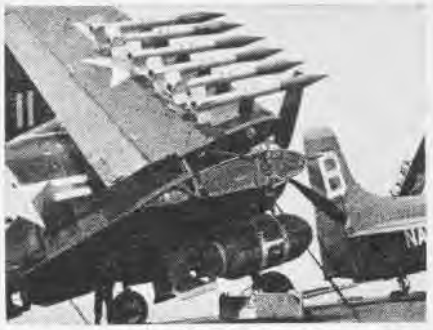
RETRACTABLE—*Zero-length Air Force pylons pull back into wing after Holy Moses fires.*

still are fired from rail adapters fitted to pylons.

The 3.5" aircraft rockets reached the fleet in the winter of 1943-44. The first submarine kill which can be credited to them was made in the Atlantic on 11 January 1944. Two carrier-based TBF's caught a U-boat on the surface and got two probable and two certain hits, then finished it off with depth bombs. The TBF's were from VC-58 flying off the CVE *Block Island*.

In the Pacific, aircraft rockets first went into combat on January 31 that year. TBF's from VC-7 flew off the CVE *Manila Bay* to attack ammunition and fuel dumps on Bigej island in the Marshalls with rockets.

Two weeks later VMTB-134 got its hands on some launching rails and installed them by guess since no instruction came with them. A ship with



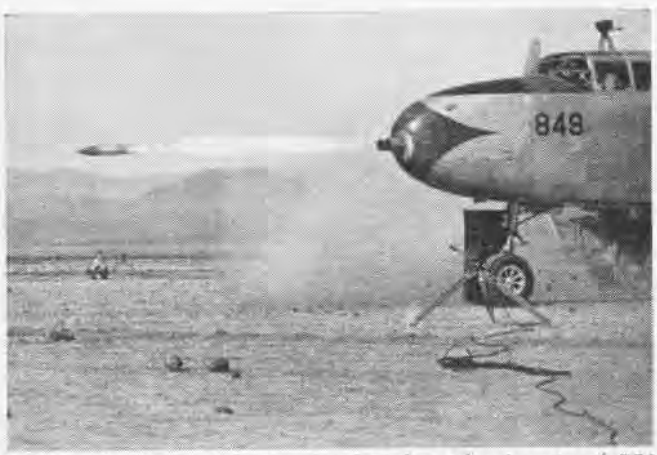
PYLON—*Zero-length fixed launcher on Navy AD hold 6" Ram rockets with shaped charges.*

rockets was located, but they were stowed so far down that rather than unload the cargo, a bulkhead was cut through and the 3.5" and 5" rockets pulled out and given to the squadron. After only three days of training, the pilots hit Jap shipping and Rabaul with the rockets, doing heavy damage.

Although the Navy developed the HVAR 5-incher, the Air Force got the first chance to fire them, putting them on F-47's to hit flak towers, tanks and trucks with them in the St. Lo area of the Normandy beachhead. Zero-length launchers had replaced the rails and tubes by that time. *Hellcats* with HVAR's helped blast open the southern French coast for the invasion there.

The zero launchers worked fine with 5" AR and HVAR's but along came the Navy's huge *Tiny Tim* in 1945 with its 11.75" warhead—too big to hang from small pylons and spewing too much flame to be fired near any aircraft surface. A new launching system had to be developed to get it farther away.

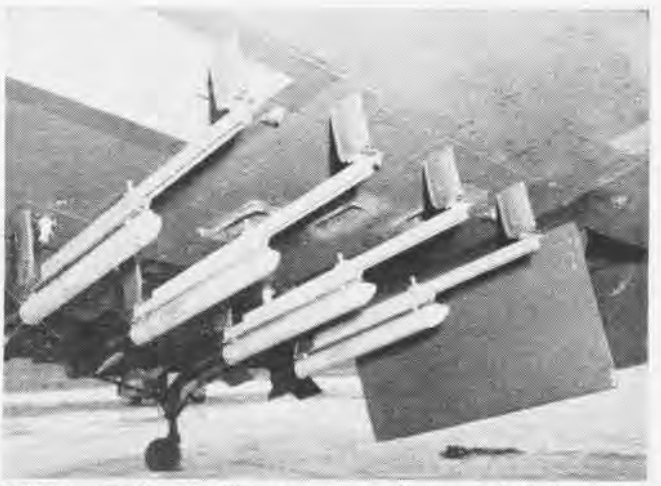
For use against warships larger than destroyers, the *Tiny Tim* was a 1284-pound baby with 800 fps velocity exclusive of plane speed. It was first test fired from a TBF by LCdr. Thomas F.



NOSE TUBE—*Navy tried mounting launcher tubes in nose of PBJ and firing 5" spin-stabilized rockets; idea never worked out.*

TUBES—*Experimental tube in AD wing fired 38 5" spin-stabilized; note exhaust vent; fiery exhaust burned plane aileron.*

PODS—*Air Force has mounted leading edge wing pods on F-94C with 12 2.75" rockets, augmenting the 24 in Starfire nose ring.*



CHUTES—*2.25" sub-caliber practice rockets are fired from special adapters fitted to zero-length pylons for gunnery school.*

Pollock, who also made the first firing flights of the 3.5" AR and 5" AR at Inyokern.

First launcher to separate the *Tim* from the plane before it ignited was a displacement yoke which swung it down and then retracted, like the bomb yoke on an SBD. Planes came back from firing with their undersides burned by the 50-foot sheet of flame that shot out when the rocket was ignited. The trouble with the displacement arm system was that the delay as the rocket swung downward might cause the pilot to come off the target. The turbulence as the rocket and gear swung into place caused bucking. So a lanyard-drop system was adopted to replace the swinging fork.

In testing this system with an SB2C at Inyokern, California, Lt. John M. Armitage went into a steep dive after firing a *Tiny Tim* and crashed. The airfield at NOTS INYOKERN is named in his memory. Investigation showed the blast from the big rocket had damaged the tail surfaces, so the rocket drop distance was increased to 16' before the lanyard paid out and the round fired.

By the time the Japanese surrendered the Navy was hanging eight 5" HVAR's and two *Tiny Tims*—a total of 3,800 pounds—on its F4U fighters' zero-length launchers and pylons.

Tiny Tims used in the Korean theater are carried on pylons and fired by lanyard, the system developed near the close of World War II.

WE HAVE covered thus far four types of launchers for firing aircraft rockets—rails, tubes, zero-length pylons and lanyard-drop launchers. All were designed to fire rockets with stabilizing fins on them and the latter two types still are in use on today's jets and fighter-bombers. But fighting men wanted to load more rockets on planes and wanted greater accuracy in getting hits. Rockets had a habit of yawing and dispersal was high.

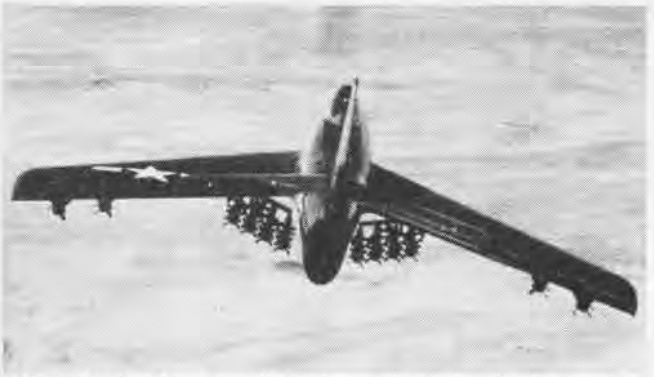
At the same time fin-stabilized rockets were being developed, work also went on to perfect spin-stabilized rockets. Because their exhaust nozzles were slightly canted, the rockets rotated in flight like a bullet. These spin-stabilized rockets looked like ordinary artillery shells and naturally different kinds of launchers had to be developed to fire them. The "stovepipe" was born.

Soon 3.5" and 5" spin-stabilized rockets were developed by California Institute of Technology for use on PT boats and Marine ground rocket launchers. Naturally, steps also were taken to see if they could be fired from airplanes. Taking a tip from the 75 mm cannon mounted in the nose of a B-25, Inyokern mounted two launcher tubes in the nose of a PBJ and fired spin-stabilized rockets from it.

This type rocket, by its nature, had to be fired through a tube, but to hang tubular launchers under the wings of a high-speed fighter would create great drag and impair its maneuverability, the Air Force had found. It became apparent the tubes had to be buried in the fuselage or wing.

Two types of such tubes were tried out—those which fed the flame exhaust of rockets downward below the plane's wing and those, located inside a fuselage, which had to have closed tubes. The Navy tried the former type in AD aircraft but found the exhaust flames seared the plane's underwing surfaces.

The closed-tube launcher system is



RACKS—*Under the wing of Air Force swept-wing F-84F are slung racks full of 5" rockets in pairs; lower rocket is fired first.*

NOSE RING—*The Lockheed Starfire carries 24 rockets around its nose; exhaust from rocket is contained within sealed-end tube.*

used today in the Air Force's F-94 *Starfire*. In this jet, 24 2.75" folding fin aircraft rockets are fired from tubes ringing the jet's nose. Early tests with this installation revealed some difficulties with the rockets' smoke and exhaust fouling up the plane's jet engine momentarily and causing flameouts.

IN THE AD launching type system the rockets were contained inside the attack bomber's wing and fed like a machine gun until the 38 5" spin-stabilized rounds were all fired. So far, no system has been worked out where the spin-stabilized rockets could be fired inside the fuselage, thus making it easier to reload in flight.

Another *Starfire* rocket installation being tried out by the Air Force is two 12-rocket wing pods augmenting the 24 in the jet's nose. Although smaller than the 5" and 11.75" rockets of World War II, the 2.75" rockets of the Navy and Air Force respectively will knock out of the sky any airplane flying today—the larger sizes being more useful against ground targets or ships.

The emphasis today appears to be on rocket-filled pods hung on the wings or fuselages of high-speed jets, employing the smaller-sized missiles. The Navy has worked to speed up the loading of rockets on its jets and attack planes, in line with the hurry-up operations aboard a carrier. Pods are the answer.

Two pods have been developed, one holding seven *Mighty Mouse* rockets and a larger one with 19 missiles. Instead of metal tanks to hold the rockets, cardboard impregnated with plastic is used for the containers. The rockets are stored in these containers for shipment and storage in ship magazines. When used, streamlined frangible nose and tail caps are placed on the container and the assembly loaded on the plane's bomb rack. The cardboard container is jettisoned after firing. It is both cheap and light and especially valuable for fast arming of planes.

The tremendous firepower these rockets pods will give such planes as the workhorse AD *Skyraider* can be imagined. Each AD has 12 rocket launchers and two zero-length pylons. Putting 19 rockets on each of those 14 stations would permit it to fire 266 rounds of 2.75" missiles. Remember, these rockets are only slightly smaller than a 75 mm cannon shell.

The F-89D *Scorpion* interceptor of the Air Force has on its wingtips two rocket pods which look like fuel tanks. These replace the 20 mm cannon used on earlier versions of the jet. Coupled with electronic equipment for all-weather attacks, the rockets can be fired singly or at high rates of ripple.

Another interesting launcher—one which goes back to the original tube idea—is that installed on the F-86D *Sabre* jet. This retractable launcher can be lowered under the fuselage to fire its 24 2.75" *Mighty Mouse* rockets, then retracted to improve streamlining.

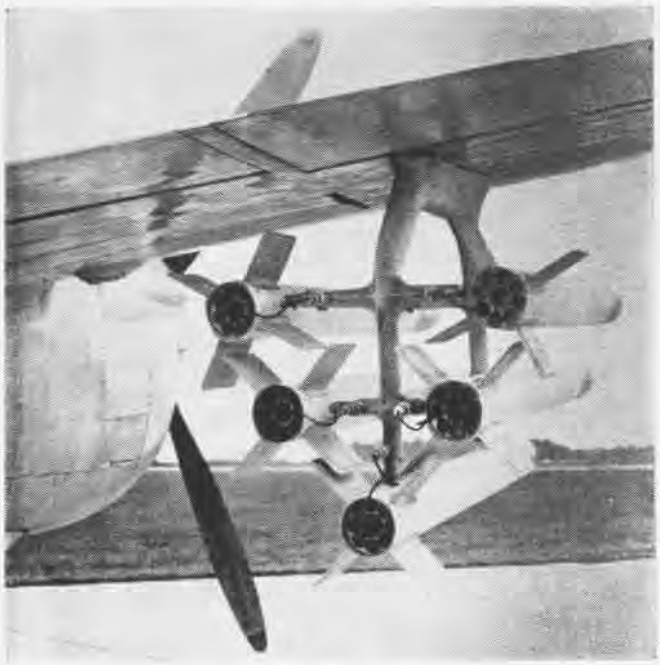
In its desire to hang more and more rockets on its fighter-bombers, the Air Force developed several types of launchers during its "growing period", including the five-rocket "Christmas Tree" launcher. This installation looked like an inverted tree but created considerable drag after rockets were fired.

Another system tried out saw one rocket hung below another one from a single pair of launcher pylons, the lower missile being fired first. Experiments were made with putting the Christmas Tree-type launcher on the wingtips and closer inboard on the wing, but later developments appeared to favor putting most of the F-84's load of rockets nearer the fuselage in clusters of two and single rockets near the wingtips.

Probably the most novel of these various launcher ideas was an Air Force adaptation of the old Colt revolver principle to rocket firing. A revolving chamber holding six 4.5" finned rockets was placed in an F-80 nose and fired through a single "gun barrel" tube. The idea was given up because not enough rounds could be carried to justify the "gun".

So anxious were aviators to hang rockets on their planes that during World War II, pilots of the defenseless little observation planes used to hang six small bazooka rocket tubes on their wing braces and fire them at the enemy.

Weapons are always fitted to wars and when the Korean war started rockets were needed to stop the Red tanks, so the 6" *Ram* with its shaped-charge head was crash-developed at Inyokern. A few *Tiny Tims* were used in Korea, but the 5" HVAR has been the workhorse.



XMAS TREE—*One of oddest launchers for rockets was this early Air Force development for fighters, carrying five Holy Moses.*

BELLY POD—*Newest system of firing rockets used by the AF is the retractable 24-rocket pod slung under F-86D jet fuselage.*

GRAMPAW PETTIBONE

How Hairy Can It Get?

The lad whose statement is quoted in part below was a member of a flight of four TV-1's on an authorized high altitude simulated gunnery flight.

"I was at 30,000 feet. I rolled my TV-1 over on its back and started into a 'split S' with about 75-80 percent power. As I went over on my back and started down, my head was pushing hard against the top of the canopy. I decided I was distinctly uncomfortable and rolled out. I eased the power off gently and hit the speed brakes.

"As the speed brakes extended, the nose of the aircraft raised upward as if it were pulling out, then suddenly whipped under in a violent tuck throwing my head up against the canopy. The plane continued to alternately tuck under and pullout, constantly throwing my head and shoulders against the canopy. I glanced at the airspeed needle and it was even with the mach needle. I didn't see the instruments clearly thereafter.

"The continuous whipping and tucking motion of the aircraft was beating me so I could hardly distinguish objects

in front of me. I decided to bail out and reached for the canopy ejection lever. I tried to hold my head down when I released the canopy, but the aircraft tucked under throwing me outward and my anti-buffet helmet was sucked off as the canopy actually released. The force of the slipstream forced my head out and against the back of the seat."

You haven't heard nothin' yet. Listen—

"The slipstream prevented me from getting my head back into the cockpit. From this position, I managed to raise the arm rests in order to arm the ejection seat (Air Force type ejection seat).

I released the control stick and placed both hands around the back of my neck, trying to pull my head back into the cockpit so that I could eject. This was unsuccessful and only resulted in my right arm being pulled out into the slipstream also. Due to the continued gyrations of the aircraft, I was unable to get my arm and head back into the cockpit to use the ejection seat. My face felt like it was being torn to pieces and finally I lost consciousness."

Grampaw Pettibone Says:

Yipes! How hairy can it get! It seems that this is one of those days when the pilot should have stayed in bed. His problems started before he entered the cockpit. He was 6'3" tall and was using a para-raft. The thickness of the para-raft caused him to fly with his head bent forward in order to clear the canopy of his

TV-1. What happened when he rolled over on his back is already apparent.

Since the pilot was being shook up a little more than somewhat during the whipping and tucking motion of the aircraft, he was a little vague about what happened and unable to recall exactly what he did about trying to recover from the unusual attitudes. He probably got into an accelerated high speed stall and held it in this stalled condition trying to recover from this steep dive. As the airspeed increased, the acceleration stall increased in violence. The accelerometer in the plane registered 5.0 negative (maximum limit of the instrument) and 4.5 positive G's.

For your own protection, you boys who fly these high speed flying machines better be sure you know the flight characteristics of your airplane and the difference between a high speed stall and compressibility together with the recovery techniques.

Oh, incidentally, the pilot regained consciousness hanging on his safety belt inverted at 9,000 feet with the plane indicating about 250 knots. One eye was completely closed and he could just barely see out of the other but he says, "Everything was peaceful and quiet when I regained consciousness and I rolled over, returned to the field and landed without further incident." Well, that's one way of putting it!

Poor Show All Around

The pilot of an F9F-5 made the routine preparations necessary to start his turbines. The APU was engaged and when the tachometer reached approximately 10%, the pilot set off the ignitors keeping the throttle in the off position for three or four seconds, then advanced it to the idle position. The tail pipe temperature soared rapidly to 800 degrees.

The pilot then retarded the throttle to the *off* position, thinking he had experienced a hot start. However, the tail pipe temperature remained in excess of 800 degrees and the tachometer continued to increase in percentage. The pilot, feeling that the engine was out of control and fearful of an explosion, abandoned the aircraft.

The aircraft jumped the chocks and proceeded at full throttle. After moving approximately 65 yards, the aircraft rammed into a second F9F-5 and locked on in piggy back fashion. Losing very little momentum the two aircraft rammed into a third pilotless F9F-5, locked together and created a three-plane wedge. These three planes con-

tinued in a wide arc to the right and after a 270 degree turn they plunged head on in between two more F9F-5's.

The three aircraft were finally stopped when a pilot in one of the latter aircraft locked his brakes. The engine of the first *Panther* was still turning up at 100%. After about 30 seconds, the pilot of a nearby aircraft not included in the accident, jumped to the wing of the runaway F9F-5 and cut the fuel master switch, stopping the engine.

Damage to the aircraft involved in this accident has been estimated at $2,000,000. Two of the aircraft sustained strike damage, two sustained overhaul damage and one received substantial damage.

Grampaw Pettibone Says:

Great Balls of Fire! This is the second accident in a period of five months in which the circumstances and cause factors are almost identical; each costing two million dollars or more. No tellin' how much damage would have occurred had there been a fire, and the ammunition in the planes started going off.

In each case the throttle linkage had been disconnected at the upper cam in the port oxygen access space in order to remove the oxygen bottle and had not been reconnected prior to the plane being cleared for flight. Also, in each case the pilots reacted the same—abandoned the aircraft without using correct procedures for shutting down the runaway turbine or setting the brakes.

I just re-read Weekly Aviation Safety Bulletin 38-52 (October 1952). It has a mighty fine description of the first accident and was specifically designed to alert commanding officers to the dangers of inadequate indoctrination of pilots and the need for sound maintenance procedures. What really makes me want to blow my top is this statement of the Accident Board: "Unfortunately, the information on the preceding accident was not discovered until after the accident occurred." This is just downright discouraging since the information had been available for four months. I wonder what kind of safety program is in effect?

This is the second accident of the same type that practically everybody and his brother had a hand in. In the first place, it isn't necessary to disconnect the throttle linkage to remove the oxygen bottle in the F9F-5 involved, but since the throttle linkage is located between the oxygen bottle and the exterior access panel, it does make the job a little easier if the throttle linkage is disconnected. The man removing the oxygen bottle didn't complete his job and the maintenance inspectors didn't catch the oversight.

Even after the initial mistakes were made, the accidents might have been prevented had the pilot hit the fuel master switch. Granted that the noise factor involved at the time of the runaway start plus the rapid departure of the line personnel in the vicinity would be a little disconcerting to the pilot, but he certainly used mighty poor judgment when he made no attempt to hold or lock the brakes or turn his fuel master switch to the "off" position prior to his precipitous ground bail-out.

However, it seems to me that one *good* way to eliminate the possibility of another repeat performance is a redesign to accomplish either a relocation of the oxygen bottle or a re-routing of the throttle control linkage in order that such vital control linkages need not be disconnected to perform frequently required services.

Further, it appears that an emergency "shut down" procedure should be included in the F9F Operational Training Syllabus to ensure, among other things, adequate indoctrination of pilots in the use of the fuel master switch. An ounce of prevention along these lines would certainly pay off in dollars, not to mention the odd cents.

Well, at any rate it makes me feel good to know that there were a couple of people around who used the old bean—the pilot who locked his brakes, thereby stopping the movement of the "pack" of damaged aircraft, and the other who at great personal risk jumped up on the wing of the aircraft and secured the "runaway" engine.

Same Technique—Poor

On 30 March 1953 a pilot took off on an authorized day familiarization hop in an SNJ-5. On returning to the field, he made a full flap, wheels landing.

During the landing rollout with the tail wheel still off the deck, brakes were applied to shorten the rollout and the aircraft continued on down the runway in a most unusual attitude for approximately 25 feet—on the main wheels, propeller and engine cowling.

The next day, just 15 hours later, the same pilot made the same type flight and in the same type aircraft (SNJ-6) had the same type accident, proceeded down the runway in the same unusual fashion and came to rest in approxi-

mately the same spot on the same runway. As a matter of fact, the accidents were so similar that it's difficult to tell the difference in the photographs of the two.

Grampaw Pettibone Says:

All right, let's face it. At least this fellow is consistent. He used the same poor landing technique preceding both accidents—a touchdown on the main landing gear, application of brakes, nose over. He is scheduled to explain his technique before an aviator's disposition board.

Of interest is the pilot's recent flight experience which shows that he had flown only 15.3 hours in the past three months (8.5 in the SNJ with only three landings) and only 59.7 hours in the past year. In addition, he had failed to meet the annual flight requirements in fiscal year 1952.

You know, I can remember the time when a pilot learned something from an accident. At least he stayed on the ground until the reason for the accident was cleared up. I think a short grounding period is still a mighty good idea, particularly where the investigation of the accident reveals poor pilot technique as in this case. Under these circumstances, a little fatherly advice usually does the trick.

Grandpaw Pettibone Says:

He who turns around and lands at base,
Will live to fly to some other place.

KOREAN AIR WAR

The Blue-Tailed Fly

Parts for an orphan-type aircraft are mighty scarce in the Korean area, but VF-153's engineering crew aboard the *Princeton* took two planes and came up with an interesting creation they call *The Blue-Tailed Fly*.

Lt. Richard (Stretch) Clinite of VF-153 was flying an experimental-finish F9F-5 with an F9F-4 fuselage when he was hit by Communist flak. The tail section of the plane was badly damaged, but he managed to get the fighter back to his ship.

At first, it appeared that the plane would have to be grounded until a major overhaul could be accomplished in port. In the meantime, Ens. William A. Wilds, Jr., of the same squadron brought back a standard F9F-5 with its "innards" flak-riddled.

That's when the engineering crew showed its ingenuity by matching the two planes despite structural differences. After an all-night session, Lt. Clinite was presented with the new creation.

The strange story of the *Blue-Tailed Fly* was concluded after its twelfth mission, with Lt. Clinite primarily at the controls. The plane was ordered back to the United States for rebuilding. Lt. Clinite left the decks of the *Princeton* flying another plane.

Somewhere near Wonsan, the pilot's plane crashed. He bailed out and a helicopter hustled to the rescue. Stiff winds whipped the water's surface, preventing the downed pilot from collapsing his chute. The 'copter picked up Clinite, but was unable to raise him because of the winds billowing his parachute. The ensuing danger forced the 'copter to release him to await rescue by a ship.

MASSING *of men and planes makes an impressive sight in Korean waters as Capt. W. R. Hollingsworth takes command of the Princeton during change of command ceremony.*

Clinite was picked up by the destroyer USS *Samuel N. Moore*, but too great a time had elapsed. Clinite was dead and all attempts at resuscitation were to no avail.

THE RESULT *of an unusual salvage job is the Princeton's "Blue-Tailed Fly." Lt. Clinite taxies forward after completing another mission against Communist targets.*

Navy Pilot POW Returns

An epic that ended in seeming tragedy over 14 months ago was brought sharply to mind at Freedom Village at Panmunjom, Korea. Ens. Marvin S. Broomhead stepped across the white line into freedom, becoming the first Navy pilot to be returned by the Reds.

Early in 1952, Ens. Broomhead was flying with VF-194 from the *Valley Forge*. One day his plane was struck by enemy fire and he crash-landed among the mountains in hostile territory 30 miles northwest of Wonsan.

What followed was a story of human sacrifice and super-human endeavor. Some of Broomhead's fellow pilots formed a canopy of fire over the unconscious pilot and held back the eager enemy. Others set out to escort a helicopter from the *Manchester*, but it crashed.

The two Navy men got out safely and continued on their mission as calmly as though nothing had happened. They reached the injured Broomhead, improvised a sledge and hauled him to a safer position. Enemy gunners moved in, eager for the kill with three targets to pick off.

HIS SMILE *is for real as the first naval officer to be repatriated, Ens. Marvin Broomhead, climbs out of UN ambulance. LGen. Maxwell Taylor welcomes him back.*

Word of the predicament spread rapidly through the fleet and a squadron from the *Philippine Sea* moved in to take over the job of watchdog. One of these planes was lost during the operation. The tragedy continued to spread. On one rescue attempt, every American plane was hit. The pilots still insisted on going in to get their men.

An Army helicopter managed to land on the only flat spot some 200 yards from Broomhead and the two Navy pilots. There was space for only two men in the 'copter. It would have been fatal to carry Broomhead through the enemy fire to the "chopper" so the two Navy pilots elected to stay with Broomhead. They waved the helicopter off.

As the Army craft moved off, it took a heavy volley of fire through the cabin. Then night closed in and the pilots were forced off. Early in the morning, at break of day, the fliers returned. Written in the snow was the tragic end of the valiant attempt. There were trails in the snow and the marks of the trampling of many feet where there had been a fight. No one dared to guess what had happened.

The curtain has lifted partially with the return of Ens. Broomhead. There was good news for the ex-POW. During his 15 months as a prisoner, he became eligible for promotion. The Navy hurried up the red tape and passed out his additional half stripe shortly after his release.

Fast Descent

Pilots from the *Valley Forge* were raring to go back into action against the Communists when the carrier returned from a six-day visit to Hong Kong. On one of the first strikes, Ens. E. J. Thabet of VF-51 found himself wishing he were back in Hong Kong.

Thabet's plane was hit by flak as VF-51 *Panthers* unleashed their power on an important rail sector south of Kowon. Discovering that the after section of his jet was afire, the pilot headed toward the sea. Lt. (jg) D. C. McNaught, his division flight leader, stuck close by him in order to provide him with any protection and help that might be required.

The ensign stuck with his plane as long as he could, realizing that the closer he got to the sea, the better his chances of being rescued were. When Wonsan Bay finally came into view, the entire after section of his plane was in flames and he decided it was time to "hit the silk."

When he bailed out, two panels of his parachute ripped, causing him to come down at a mighty fast rate. Fortunately, though, a strong wind was blowing off shore and it carried Thabet out into the bay for a comparatively comfortable landing. A nearby ship sent out a helicopter immediately to pick Thabet up.

The remaining seven planes in Thabet's flight flew protective cover for him and made strafing runs on enemy positions that were firing at the 'copter and the downed pilot during rescue operations. Thabet was recovered uninjured and returned to the *Valley Forge*.

He Scarcely Got Wet

Off the northeast coast of Korea, flight deck crewmen watched as Ens. Ben T. Sutherlin of VF-154 was catapulted from the *Princeton* as part of a strike against Communist targets. The time was exactly 1218.

In the next few seconds, anxious crewmen were stunned to see the plane lose altitude and crash into the water. As they raced to the edge of the flight deck, a helicopter sped towards the sinking plane. Using a specially designed pick-up sling, the 'copter crew plucked the uninjured pilot out of the sea and deposited him back aboard the carrier.

The time was exactly 1219.

EXACTLY *one minute after the fatal launch began from the Princeton, Ens. Ben T. Sutherlin is deposited safely aboard the carrier by 'copter that sped to rescue.*

NEW "COON *Club" members, Capts. K. H. Studley and A. Newendorp, examine card.*

Masked Marvels

Pilots of MAG-33 have formed a new society in honor of the resemblance some pilots acquire to the American racoon.

The "Coon Club" admits pilots only after they have flown 50 jet missions over North Korea and suffered the sunburn around the eyes which accompanies the 50 trips. The crash helmet and oxygen mask conceal the face, permitting the sun to burn only the area around the eyes, which resembles the mask nature placed on the racoon.

VF-153's 'Big' Man

Maybe the Navy's fighters were never designed to accommodate the six-footers, but VF-153 has one pilot who solved his difficulties along that line. LCdr. Chuck Jones stands six feet three inches tall and weighs 265 pounds when fully clothed in flight gear and poopy suit. At first he encountered a good deal of difficulty in getting in and out of the cockpit of his F9F. His squadron mates solved this by having him use the *Princeton's* hoist.

Getting a poopy suit large enough to fit him was a major supply problem. Finally, a special suit was built for him and labeled "size 46 special."

The former multi-engine pilot reported to CAG-15 as operations officer and is now a permanent fixture in the operational organization of VF-153. He flies regularly scheduled hops from the *Princeton* against the Communists.

EX-MULTI-*engine pilot LCdr. Chuck Jones uses Princeton's hoist to enter cockpit of F9F.*

No Jail Birds Here

It may sound crazy, but the men aboard the *Philippine Sea* are flocking to the brig and, crazier still, are leaving gifts in the cells when they depart.

SOMEWHAT *skeptical, brig warden MSgt. R. Ohman is wondering what happened to brig.*

"Brig Warden" R. M. Ohman, a Marine master sergeant, is mighty unhappy, however, because none of the men are remaining behind with the gifts. For the past several months, the brig has been vacant because of the crew's good conduct in Korean waters. The empty cells gave Capt. Paul Ramsey, the *Phil Sea's* CO, an idea of where to store the over-abundant supply of Japanese souvenirs that the men were bringing aboard.

The wasted brig space is now used for storing the large volume of Japanese goods flowing aboard. Ohman finds himself directing traffic into various cells of the brig for the gift-laden sailors. What's more, the cell doors remain open. The Marine sergeant is wondering these days whether he's still a brig warden or if he's now a Navy storekeeper.

Khaki Amid The Navy Blue

When the USS *Bairoko* sailed from Okinawa for Hong Kong, the carrier was taking a rather unusual passenger along. Crewmen were amazed to see a lone member of the U. S. Army walking through the passageways.

The soldier was Cpl. John E. Clark who took a 10-day leave from his command on Okinawa to come aboard the *Bairoko* to see his brother, Lt. Allen Clark. The corporal boarded the carrier at Okinawa, before the ship left for Hong Kong. Crewmen who didn't know of the soldier's arrangement thought they were doing him a favor by waking him up and warning him that the ship was ready to leave. They were surprised when he informed them that he wasn't going ashore.

The khaki uniform was a little conspicuous among the blue-dressed Navy men in the chow hall, but before long the corporal was a familiar figure at the table. The soldier enjoyed his trip, but felt that the space a sailor is limited to aboard ship wasn't his idea of the wide, open spaces.

COD Competition

Out in the Korean combat zone a miniature airline, formed by VF-54 aboard the *Valley Forge*, is running in competition with VR-23's Codfish Airlines.

Before leaving the United States, VF-54 obtained permission to install rear seats in four of its *Skyraiders*. With this installation, pilots could be transported to outlying fields for Field Carrier Landing Practices and others to the carrier for qualifications during CAG-5's training period. The planes were also used for training enlisted crewmen.

After arriving in the forward area, these planes were assigned unofficially to the mythical "VR-54 SCROD Airlines." (Scrod is a baby Cod.) The planes were used to transport personnel from ship to shore. Pilots who made emergency landings in South Korea were also returned to the *Valley Forge* by "SCRODS."

MYTHICAL *"VR-54 SCROD Airlines" disembarks not-so-mythical pilot, Ens. J. Rockford.*

The VR designation and use doesn't seem to have had any effect on the

NAVY RELIEF *gets prize money as LCdr. L. B. Green gives check to Capt. R. E. Dixon, CO.*

fighting ability of the planes. One of them flew its 60th combat mission over Korea. Others have finished a mission over North Korea and then landed at a UN airstrip to pick up passengers before returning to the carrier.

Navy Relief Benefits

In a squadron name-selection contest, VF-53 aboard the *Valley Forge* picked a name to suit their modern crusade. The *Blue Knights* retained their squadron insignia, a coat of arms and its motto "Sans Reproache."

With 20 mm guns, sturdy Grumman jets and the imposing structure of the giant aircraft carrier serving as counterparts to the lances, steeds and castles of yore, the new name is a fitting one. The three men who named the squadron donated the prize of over $50 to the Navy Relief Society.

Prize winners shown in the picture above are Ens. R. R. Green (center) and LCdr. C. E. Mulligan (second from right).

Take Your Pick, Boys

"Boy-san day" wasn't an insult to the pilots of TF-77. It was a day for celebration, a day when RAdm. R. F. Hickey permitted each pilot to select his own target for the morning and afternoon strikes.

Pilots flocked to the ready rooms to choose targets that had caused them grief on previous strikes—heavy flak areas, gun emplacements that had shot down a buddy, targets that had been weathered in or bridges that wouldn't fall. From there on out it was a field day for the pilots.

LCdr. J. E. Roddy and Ens. W. A. Johnses flying from the *Princeton* chased and strafed two tanks off the road. Other *Princeton* fliers pounded guns that had been firing on Seventh Fleet units, avenging two destroyers that were hit by those same guns.

Pilots from the *Oriskany* dropped the center span of a highway bridge over the Songchon-gang River at Hamhung and heavily damaged two other spans. Credited with the destruction

LOW-FLYING *jets from Princeton blasted a supply concentration along Korean seaboard.*

were Lt. (jg) R. C. Innis, Ens. K. E. Kuehner and Lt. Bob Oechslin.

Other planes from the two carriers made run after run over "Heartbreak" and "Sniper" Ridges, scenes of bitter ground fighting for our troops. They destroyed 14 enemy bunkers, 50 yards of trench lines and a gun position. The action took place only 1500 yards in front of friendly troops.

"Boy-san" pilots and airborne observers reported that 65 buildings, 10 trucks, three railway cars, a boat and four warehouses were also destroyed. Tired but happy pilots returning from the strikes had one thing to say, "Boy! What a day!"

Long Doggies Amaze Kids

When the *Oriskany* paid a two-day goodwill trip to Nagoya, Japan, the citizens turned out over 5000 strong to visit the carrier during its open house (Minasan Kangei Shimasu). The fact that the carrier had to anchor 10 miles out from the city didn't dampen the visitors' ardor. They braved choppy seas to get a good look at the ship.

Prominent Japanese citizens, members of the Japanese Sea Scouts and a mixed group of school children got a first-hand look at the jet planes, *Corsairs* and *Skyraiders* that were displayed. Most intriguing sight for the children

JAPANESE *Sea Scouts pay a visit to Adm. R. F. Hickey and Capt. C. Shands on Oriskany.*

was the offspring of the carrier's mascot, Schatzie, the Dachshund. Two of her elongated puppies caught the attention of the kiddies who had never seen anything like them before.

While the Japanese flocked to the ship, the sailors went ashore by the hundreds to visit the famed Noritake China factory, Mikimoto's pearl farm, the Axtuta shrine and the historic Nagoya castle.

What—No Keystone Kops?

Two Navy fliers played producer and director in a scene in North Korea that was more than faintly reminiscent of a Mack Sennett comedy. The pilots, members of a night heckler team aboard the *Valley Forge*, brought two railroad engineers face to face in a train crash.

Corsair pilot, Lt. H. D. Crowley, was making a routine patrol of road and rail lines on one side of a mountain when he spotted a 15-car train moving without lights north toward a tunnel. On the other side of the mountain LCdr. W. C. Griese was patrolling the same line when he noticed another 15-car train moving south toward the same tunnel.

Jockeying their planes into position to press the attack, the pilots were spotted by the engineers who applied steam and scooted into the single-track tunnel. The two trains roared head on into each other. Although steam and smoke were pouring from the tunnel entrances, each pilot sealed his end with bombs to make sure the Reds wouldn't find escape easy.

As the two pilots turned away to search for more targets, they spotted a third train backing away from the tunnel. They quickly cut the rails at each end of the 30-car train, leaving it stranded. Then they were joined by other *Corsair* pilots who helped to destroy the train and leave it burning.

A little later, LCdr. Griese spotted a fourth train going in another tunnel. With his last bomb, he cut the rails at the tunnel mouth, leaving the train holed up. Field day was over then.

THE CARRY-ALL OF THE FAR EAST

THE CAPE ESPERANCE IS DOCKED AT YOKOSUKA WITH A LOAD OF PLANES FOR THE AIR FORCE

THE BOXER, the *Princeton*, the *Oriskany* and other veteran carriers of the Korean war are familiar names to the American reading public. Their planes make news carrying death and destruction to the North Koreans. Chances are that the *Cape Esperance* will never make the headlines. Yet, this escort aircraft carrier makes it possible for all the armed forces to operate with maximum efficiency.

The ship has the unheralded but important job of keeping the units in the advanced positions supplied with combat aircraft and provisions of aviation stores. Since the outbreak of the Korean conflict, the *Cape Esperance* has been operating in direct support of the United Nations, ferrying aircraft for both the Navy and the Air Force. Since the carrier was recommissioned in August, 1950, she has made more than 30 trips across the Pacific Ocean to points as far as Bangkok, Thailand, and Hong Kong.

At present, the *Cape Esperance* and her crew are experienced travellers. She has steamed just short of 200,000 miles or the equivalent of making a trip around the world eight times.

"Liberty Hound" would have a rough time if he drew duty on the ship. Rarely does she remain in port longer than is necessitated by the unloading or taking on of aircraft and stores to be transported. Average time is usually about four days. The crew spends three-fourths of its time on the seas and the better part of the remaining fourth either loading or unloading the ship. The men feel that they are making a real contribution to the war effort on the carry-all trips.

Handling large numbers of aircraft and stores necessitates pin-point loading, planned before each crossing by the air and transportation divisions. Dummies of the craft are placed on the decks, constructed to scale so that available space can be used to the fullest. By using several basic patterns, the *Cape Esperance* is able to ferry the maximum number of aircraft on each crossing.

There's nothing in the aviation supplies field that the ship won't try to take aboard. Her decks have been lined with aircraft ranging from single-engine reconnaissance aircraft to the twin-engine transports that have a wing span wider than the ship's flight deck. Cargoes consisting of troops, air and ground stores, and even complete squadrons have been deposited in forward positions in Korea, courtesy of the *Cape Esperance*. Weather-protective coatings are provided for aircraft transported on the flight deck, while non-protected planes are housed on the hangar deck.

One of the most memorable crossings made by the carrier was the Hong Kong run in September and October of 1952. General Claire Chennault, famous *Flying Tiger* of WW II, feared that his planes might fall into Communist hands and requested help in getting them out of Hong Kong. The *Cape Esperance* got the nod for the operation, ferrying the planes from Hong Kong to a safe haven at Long Beach, California. She was cited for this performance by Commander Naval Forces Philippines.

She has done her share in contributing to atomic history also. The carrier ferried atomic scientists and equipment to Eniwetok in February, 1951 for the important experiments which were to take place there. Just a month later, she was on her way to Bangkok on a lend-lease trip. Her usual run, however, is between her home port in California and the busy ports of the Far East.

With only a skeleton crew on board, it's a man-sized job for the crew to keep her in tip-top condition. On the last inspection by MSTS, Western Pacific, the *Cape Esperance* copped one of the two "excellent" ratings.

Vinson Sets Jump Record

El Centro Parachutist Leaps to 416

NAAS EL CENTRO — The Navy's champion parachute jumper, Carp. L. T. Vinson of the Navy Parachute Unit here, passed another milestone in his

VINSON (RIGHT) SUPERVISES RAFT DROPPING

record-breaking career in June when he made his 416th jump.

Vinson's leap put him far ahead of all other Navy parachute jumpers and well above all other jumpers in the Armed Forces. Vinson, a small, rawhide-tough warrant officer, holds the rank of carpenter although he admits he never has driven a nail.

The Navy's second man in making parachute jumps is CMach C. E. Storm, who quit for a while after making 237 parachute descents. Vinson as jumpmaster rides herd on a score or more of jumpers at El Centro and usually is the last man out of the plane when the men leap to test new types of chutes or harnesses. Since new parachute designs usually are "jumped" 1,000 times or more, it is not surprising that the jumpmaster piles up a large total if he is attached to the parachute unit for long.

"HERE'S *our adopted son, boys." Cdr. J. S. Harris, Skipper of VJ-61, and Chief H. Hansen hold up picture of little Christos.*

NO COMPLAINTS *in this group. Elmer Schneider, ADC, and Larry Millman, AO3, serve children from St. Mary's at Willow Grove.*

SAILORS DIG DEEP WHEN HAT IS PASSED

WHENEVER Navy men travel in disaster-torn nations, they realize with a shock the startling contrast between American comfort and the privations which people of other countries are forced to endure. For these men, kindliness and charity are no longer seasonal affairs. Day after day they dig deep into their own pockets for contributions that will help to lift the world's underprivileged out of their misery.

Christos Kalopanayiotis is more than a tongue-twisting title to the men of VJ-61 at NAS MIRAMAR. It means a seven-year-old Greek tot that the squadron has adopted.

The idea got its start when a detachment of VJ-61 returned from Greece with the story of Greek children who were still suffering from the ravages of WWII Nazi occupation. Shortly after the detachment returned, some of the men read in a paper that a world-wide organization, "Save the Children Federation, Inc.," aided underprivileged children. They wrote a letter to the Federation, saying that they wanted to adopt a seven or eight-year-old Greek boy.

The Federation chose Christos, a small boy standing just four feet high and weighing a scant 50 pounds. The money donated by VJ-61 personnel will provide the boy with food and clothing for two years. His progress will be noted by letters exchanged between the boy and his Navy "brothers." Present plans call for further aid to him at the end of the two-year period.

Remote as the news of the Netherlands' flood disaster seemed to the *Valley Forge* in Korean waters, it brought news of personal tragedy to one crewman, Harley W. Waters. His sister-in-law and her two small children were lost.

News of Waters' loss spread quickly through the carrier, giving added incentive to the men to donate to the Netherlands Relief Fund. In a true "all for one" spirit, the men designated Waters as Honorary Chairman of the relief drive. Within five days, they demonstrated their sympathy for Waters and their desire to help the thousands of homeless with a contribution totaling $2,436.69. The money left the *Valley Forge* dedicated to the memory of Waters' lost relatives.

Only a few weeks later, disaster struck in Turkey in the form of an earthquake. VAdm. J. H. Cassady, Commander Sixth Fleet, requested all ships in the fleet to make voluntary contributions for distribution to the injured and homeless victims in the area.

When the hat was passed from man to man aboard the *Midway*, the response was spontaneous. Money poured in with many of the divisions reporting 100 percent contributions. A check for $1,700 was forwarded to Sixth Fleet headquarters to be sent on to the Turks.

THANKS *to CAG-19, crippled children at the Chandler Tripp School will get new playroom.*

During the 1952 Korean combat tour of CAG-19 aboard the *Princeton*, the men collected a sum of money to be used for charity. It was finally decided that a major portion of the money would be given to a charity which they could follow personally. Therefore, a check for $3800 was presented to the Chandler Tripp School for cerebral palsied children at San Jose, California for the construction and furnishing of an outdoor playroom.

RECENTLY, CAG-19 presented a check for $200 to the school. When personnel of CAG-19 visited the school, they invited the children to come to NAS MOFFETT FIELD to pay them a visit. The men of the air group gave 46 children a full tour of the line and hangar and then treated them to ice cream, cookies and cokes. The most inspiring sight for the Navy men was watching these crippled children help each other up and down from the planes.

The men at NAS WILLOW GROVE wanted to do something for a group of orphans in their area, but there were so many homes to pick from that a choice was difficult to make. Finally, names of all the local homes were put in a hat and the nearby St. Mary's Home at Ambler, Pennsylvania was drawn. The children were invited to make a complete tour of the station and then were treated to a sample of good Navy "chow." The youngsters left the station with smiles on their faces and a feeling they had found some Navy brothers.

TELEMETERING GUARDS PILOT'S LIFE IN AIR

THE TIME is tomorrow. The Navy's new million-dollar X-10 stratospheric research plane is screaming along at 75,000 feet at Mach 2. Inside, in the purplish darkness of the tiny cockpit, the pilot stares fixedly at his instrument bank.

In his earphones, a voice shouts, "Wake up, Kistner, you are passing out! Your oxygen tank must be empty! Switch to your reserve tanks!"

Roused by the radioed voice from his project engineer on the ground below, the pilot manages to turn on a new tank of oxygen. His head clears. He brings the ramjet plane out of the screeching dive headed toward the earth and flattens out at 50,000 feet. The pilot's life had been saved and the expensive plane also, thanks to the ability of ground observers to watch his physical condition while he was watching the flight instruments.

The above case is fictional but the Navy today has developed a telemetering system which will enable it to do just that—keep close tab on the mental and physical condition of its pilots while they are flying.

SMITH CHECKS TELEMETERED DATA ON PILOT

The system has been two years in the making at the Naval Medical Research Institute at Bethesda under the guidance of Cdr. Norman L. Barr, head of the aviation research branch. It has been proved out with pilots flying overhead and revealed to the public at the Aero Medical Association's annual meeting in Los Angeles in May.

By reading a bank of instruments and inked rolls of paper, Cdr. Barr, sitting in a Los Angeles hotel room, was able to tell how his two "guinea pig" pilots 6,000 feet over the city in an R4D were functioning. The pilots were Lt. (jg) R. D. Murray and Lt. Carl L. Hodge.

LT. HODGE (LEFT) AND CDR. BARR FASTEN TINY TRANSDUCERS ON BODY OF TEST PILOT MURRAY

Scientists from 36 nations were present for the demonstration.

The Navy for years has been using telemetering to keep tab on how its aircraft engines and guided missiles were functioning as they flew into space. It now hitches up the tiny electrical waves which the brain and human body gives off during activity. It multiplies those waves 60,000 times and reports them back to the earth via the telemetering system over UHF.

Down below, doctors can watch how the pilots' mental and physical faculties are functioning. Tiny silver electrodes fastened on the pilot's forehead, nape of his neck, shoulders and legs, gather the faint electrical waves from the body. Behind the pilot's back is a small electrical device which makes them stronger.

Other electronic gear in the plane—weighing 40 pounds in all—sends these more powerful UHF waves down to the telemeter receiving station on the ground. Range of this system of pilot-checking is limited by the earth's curvature so that at 10,000 feet the telemeter station could be 150 miles away. Pilots of a plane flying at 100,000 feet could be "watched" from 400 miles away. Tests so far have been made as far off as 60 miles.

By attaching the little silver transducers (one of them at the Bethesda experiment was a U. S. 25¢ piece soldered to a piece of wire) to various parts of a pilot's body, scientists can get the following information via telemetering:

1. Electrocardiogram readings on the heart showing how it is working and what the pulse rate is.
2. Rate of breathing and the volume.
3. Skin temperature of the body and its extremities.
4. Body temperature.
5. Electro-encephalogram readings of the brain waves which would show whether a pilot was nearing unconsciousness.

Dr. Barr revealed that the Research Institute is working on ways to get telemetered information which will show the pilot's blood pressure and the oxygen saturation of his blood. The latter information can be secured if a small vacuum-type photo-electric cell can be developed.

These seven telemeter channels would give to doctors on the ground below the same information on the pilots they would get if examining them in an office. Since the pilot fails nine times as often as an engine or plane in flight, information secured from this telemetering system will enable the Navy to save many of its test pilots' lives and keep their costly new aircraft from destruction.

Researchers are also interested in getting such telemetered data from combat pilots to check how their minds and bodies react under extreme stress of battle. By knowing such information, scientists can better plan ways to safe-

TELEMETER DATA USED TO CHECK NEW MISSILES

guard their lives. Many crashes blamed today on pilot error might be proved due to mechanical failure through such inked lines and oscilloscope readings.

To get such data in the past, the Navy has built giant machines like the human centrifuge at Johnsville. There the same electrodes are fastened to men in the gondola and their reactions to extreme G forces measured electrically. The telemetering system will enable the Navy to get more accurate data from pilots while in actual flight. Effects of tight turns, low oxygen, high G's and other forces can be determined.

Dr. Barr is one of 16 flight surgeons who also wear naval aviator's wings. He started out as an Air Force pilot in 1929, flew commercial airliners for three years and then got his doctor's degree. Since the Air Force then had no need for flight surgeons, he joined the Navy in that capacity in 1938.

Monterey Lands its 50,000th

Stenstrom Brings in SNJ for Honors

USS MONTEREY—This training carrier takes its place among the leaders in naval carriers in taking aboard planes, passing the 50,000th mark, 13,612 of them during the past seven months.

Honor of making the 50,000th landing went to NavCad Jon E. Stenstrom. RAdm. John P. Whitney, Chief of Naval Air Basic Training, flew out in a helicopter to observe the landing. Stenstrom got the usual big cake and ice cream feed for the whole crew for his feat. He made five other carrier landings the same day to finish out his training requirement.

● MCAS KANEOHE BAY—The 1st Provisional Marine Air-Ground Task Force has one of the highest percentages of Korean War veterans for any Marine unit of comparable size. These men are going to don theatrical grease paint to appear in scenes of "The Caine Mutiny," scheduled for filming in Hawaii by Columbia Films Corp.

MED FLATTOPS EXCHANGE JIBES

USS CORAL SEA—Monkeyshines unlimited were the order of the day when the *Coral Sea* arrived at Oran, Algeria, to relieve her sister flattop, the *Midway*, on the Mediterranean beat.

As the *Coral Sea* approached the pier, thousands of *Midway* bluejackets sporting a porpourri of Mediterranean costumes put on an impromptu demonstration, with a "we're going back to the states" theme.

A costumed band from the *Midway* marched down the pier and halted by one of the *Coral Sea's* gangplanks. Arab fezzes, Spanish sombreros, French berets, World War II helmets, cossack hats and kepis outnumbered the usual white hats 10 to 1. In the words of one *Coral Sea* bluejacket, "It looked like a Shriner's convention."

In its "counter attack", a group of *Coral Sea* sailors invaded their sister flattop with no holds barred. Their skits lampooned the *Midway* from skipper to side cleaners. Their subject—the strange case of the *Midway's* Barcelona incident.

During the *Midway's* recent visit to Barcelona, Spain, a dance was held with Spanish dignitaries and several hundred senoritas attending. Weather and rough seas cancelled small boats from returning the guests to shore. The commanding officer of the *Midway* had no choice—he extended the dance until early the next morning—sore feet or no sore feet.

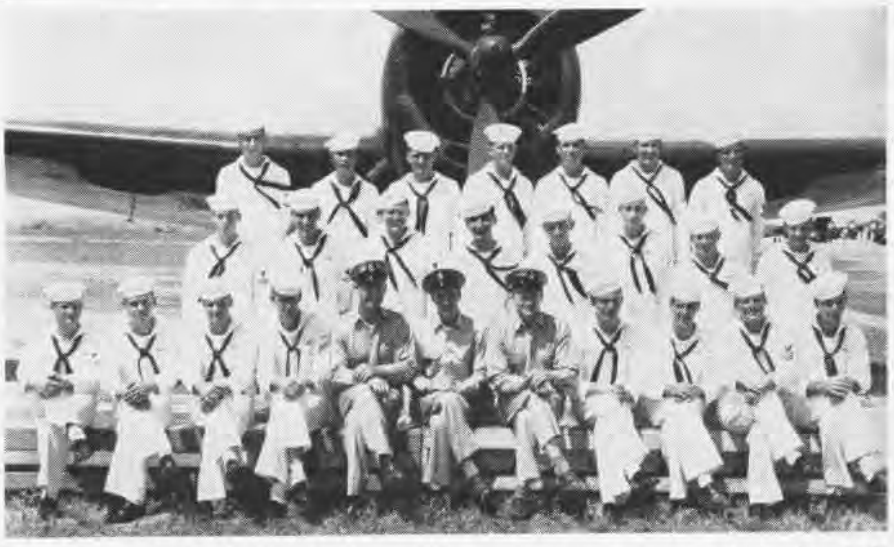
CORAL SEA 'CHARMERS' SHOW OFF TO MIDWAY

The relief ceremony between the *Coral Sea* and the *Midway* or *Roosevelt*, one of the distinctive features of every Med cruise, is gradually becoming a Navy tradition. It began in January, 1951, when the *FDR* and the *Coral Sea* were moored close together in Oran.

An official limousine sped down the jetty and three Arab princes and a French Admiral got out and began inspecting the *Coral Sea* crew, which had been mustered and made ready on the pier.

Then the dignitaries crossed to the *Roosevelt*. They started up the forward bow, but after glancing at the 42 on the stack, gave a Bronx cheer and left for the ship they had intended to visit—the *Coral Sea*.

The Arabs and the Admiral? Oh yes—four *Coral Sea* lieutenants.



PROUDEST *man in VS-23 is W. B. James, ALC, squadron aircrew training chief, whose training program enabled 28 men of his squadron to qualify as combat aircrewmen on 28 March. Based in the Western Pacific, VS-23's group is believed one of the largest to receive its wings in a single ceremony. To qualify, the men had to pass tests on communications, ship and aircraft recognition, first aid and survival and to operate all electronics and ordnance gear in the squadron TBM's. The men are, front row, White, Georgen, Vugrin, Terral, Burrows, Beeman, Wieting, Hoth, La Rocque, Adams and Holmes. Second row, Beville, Megas, Seger, Rusinak, Burford, Kelly, Hiller and Bradley. Back row, Kerr, Spires, Hesketh, Cluff, Clements, Mills and Thomson. Several hundred hours of training were required of each man to qualify for aircrew wings and ride in the squadron Avengers.*

HU-1 IS PACIFIC'S FAMED HANDYMAN

WHEN HELICOPTER Squadron One was commissioned five years ago, its spectacular activities which would cover a good part of the Pacific were in the future. Because there was no precedent to follow, HU-1 was to make history as it met it, blazing its own trail and discovering how various are the ways a modern fleet uses helicopters.

Ahead of it lay dramatic rescues of United Nations personnel in Korea. Without hunting headlines, helicopters were in them. Something new in getting stranded or wounded men out of combat or enemy zones had arrived. Some have described the helicopter as the greatest single morale force in Korea.

United Nations personnel come to welcome the black whirlybirds with the "UP" designation. Those initials before the model number signified HU-1 had arrived. HU-1 was and is the only Navy utility helicopter squadron with units operating the the Far East.

HU-1 was commissioned as the first operational Navy helicopter squadron April 1, 1948 at NAS LAKEHURST, but this was largely a matter on paper. The squadron came into physical being at NAAS MIRAMAR and later moved to ALF REAM, San Ysidro, Cal., in October

LT. B. E. McMULLEN, *most decorated officer of HU-1 gets Sikorsky "S" from Skipper.*

1951. This is still home base for HU-1.

Although helicopters were new to the Navy in an operational status, the personnel comprising HU-1 were, for the most part, experienced hands in rotary-winged aircraft. They had been members of Helicopter Development Squadron Three, the experimental unit which pioneered the use of the helicopter.

During the first two years, the numbers of officers and men remained substantially the same; and with the opening of the Korean hostilities in 1950, few pilots, crewmen or machines could be mustered to meet the stepped-up demand for helicopter service.

Only a few pilots had been trained since the squadron had been commissioned, and at one time immediately following the outbreak in Korea, there remained at HU-1's home field only the commanding officer, maintenance officer and electronics officer—the latter two not Naval aviators. All other officers had been deployed on major ships to the Far East.

HERE UP-29 *is coming in to make a landing aboard U. S. Navy Hospital Ship Haven*

HOVERING *in after a spotting mission, an HU-1 helicopter sets down on the fantail of a heavy cruiser off Korea. Helicopters are now a permanent fixture on warships.*

Now, five years after commissioning, HU-1 has 102 officers, 532 men and 40 helicopters. It is at once an operational squadron and a training facility, for it maintains a program for new pilots and crewmen. Units of HU-1 are now deployed throughout the Pacific on carriers, cruisers, LST's, icebreakers and other ships. These units were all trained at Ream Field. The present faculty is made up of Korean veterans who have accumulated valuable experience and developed efficient rescue techniques.

HU-1 helicopters are to be seen wherever the Pacific fleet is operating. They transport personnel, deliver material and mail at sea, and rescue downed airmen. They take high-ranking officers aboard flagships for conferences and carry the chaplain on his regular Sunday circuit. They calibrate radar and spot mines.

HU-1 takes pride in its enlisted men. They have established among commanders in the Far East and survivors in Korea a reputation for resourcefulness and composure during emergencies.

Their training is longer than that of newly designated helicopter pilots. Enlisted men are sent to maintenance schools, given addition instruction in sharp shooting, required to complete a strenuous rescue course and trained in many ground subjects. This vigorous, thorough training pays dividends in the success of hazardous missions.

UP-27 *takes off after retrieving shipwrecked Siamese sailors from beach, a famous rescue that won friends and applause.*

CDR. CRABILL, *ATG-1 based on Valley Forge, come up copter hoist from DD which picked him up after he had been shot down.*

The success which they maintain the aircraft assigned them is reflected in their record: Helicopters in the Korean theater have had an availability quotient in excess of 95 percent. This is an outstanding record in view of the intricacies of helicopter maintenance and the fact that the helicopter averages 6 to 10 hours aloft each operating day.

Since helicopters fly regularly and long, repairs and maintenance checks are usually made at night. But not only are the crewmen maintenance experts, they also rotate flying duties during the day. Without them, most overland and water rescues could not be accomplished. The crewmen must do a large share of navigating; they also operate the rescue hoist for the pilot. Crewmen have, on occasions, dived into the water after an unconscious pilot. They have often applied first aid to men being rescued.

When a newly designated helicopter pilot reports to HU-1, he is qualified and given additional operational training in the steady Sikorsky HO3S-1 and Piasecki's new HUP-2. He is trained especially in mountain flying, a necessity for pilots who are going to be flying treacherous Korean terrain on rescue missions. He makes simulated water rescues and receives a check-out on the operational procedures of various warships deployed to the Far East. In this way he acquires the skill that makes routine missions of seemingly impossible rescue feats.

OF THE MANY "firsts" of HU-1, these are most noteworthy:

- First helicopter in Korean conflict.
- First rescue of a downed pilot by helicopter in the Korean theater.
- Participation in first night rescue by a helicopter behind enemy lines.
- First use of a helicopter for spotting and direction of naval gunfire.
- First use of helicopter for spotting, cutting and destroying an enemy mine.

But undoubtedly the most gratifying achievement of HU-1 since its commissioning has been the rescue of over 460 Army, Navy, Air Force and Marine Corps personnel. Of these, 416 have been trapped infantrymen or downed airmen in Korea, whose chance of escape from the enemy, the bitter winter cold or the frigid waters was small.

The rescues and every-day feats are the culmination of five years of growth and work. In operational use, the helicopter was something new. Most Navy men, in fact, saw their first helicopter when a unit from HU-1 was deployed aboard their ship. The flying and maintaining a machine so radically different from other aircraft brought its problems. To overcome them, the squadron put forth its greatest efforts.

The Pacific Fleet has approved the helicopter wholeheartedly. HU-1, Unit 17 was commended for "ability, resourcefulness, and courage . . . in rescue mission . . . Effective reconnaissance under fire on return flight reflected calm judgment, complete mastery of plane and maximum use of mission to needs of service." These were the words of VAdm. Harold M. Martin, ComAirPac. They are typical of the confidence this new and tested service inspires.

by Lt. W. K. Martin

FORCED *down in the Arctic while flying an HTL-4 off icebreaker Burton Island, Lt. J. L. Baldes makes shelter of parachute cloth*

UP-23 IS *an amazing sight to Pt. Barrow, Alaska, villagers who know now that HU-1 has reached northern reaches of the Pacific.*

Capt. Joy Hancock Retires

First Editor of NANews Was Yeoman

Capt. Joy Bright Hancock, early editor of NANEWS, stepped back into civilian life June 1. For the past six years, she has been Director of the Waves.

A Yeoman (F) First Class in 1918, Capt. Hancock was on duty in the N. Y. Shipbuilding Corporation yards at Camden, N. J. She was mustered out of service in September 1919 and subsequently became a civilian employee at NAS LAKEHURST.

In the early twenties, Capt. Hancock

CAPT. HANCOCK, CDR. WILDE LEAVE PENTAGON

was married twice. Both her husbands were Naval Aviators. Her first husband, Lt. Chas. G. Little, Navy Cross recipient, was killed when the ZR-2 crashed in England in 1921. Her second husband, LCdr. Lewis Hancock, Jr., an LTA pilot, also holder of the Navy Cross for WWI service in a submarine, died in the crash of the USS *Shenandoah* on 3 September 1925.

In 1921, Capt. Hancock reported as a civilian to an office that was in the process of becoming the Bureau of Aeronautics. Her boss was Lt. Arthur W. Radford who as Admiral has been recently appointed by President Eisenhower to head the Joint Chiefs of Staff. From 1934 to 1942, Capt. Hancock was in charge of the Editorial and Research Division of BUAER. One of her many duties was the editing of Naval Aviation News which she had taken over in the early twenties.

In October 1942, Capt. Hancock became Women's Reserve representative for BUAER and DCNO(Air). For her work in WWII, she received the Commendation Ribbon from the Secretary of the Navy. On July 26, 1946, she became Women's Reserve director.

On 29 May, Capt. Hancock received the Legion of Merit, citing her work as first assistant chief for women in BUPERS and her success in integrating women into the regular Navy. Capt. Hancock's successor as head of the Waves is Cdr. Louise K. Wilde.

ONE OF THE *unusual jobs handed the R4D crew flying for the U. S. Naval Attache, Mexico City, was to carry Gen. J. Lawton Collins, U. S. Army chief of staff, to Puebla for ceremonies marking the Mexican army's fight against the forces of Napoleon III on 5 May 1862. Flying the attache over Guatamala, El Salvador, Honduras, Costa Rica, Nicaragua and British Honduras are the crew members H. J. Pontiff, ALC; LCdr. J. M. Tully, Jr.; R. H. Shockley, ADC and L. V. Talbot AMC(AP).*

Pilots Prepare for Combat

Navy Cougars Fight Air Force Sabres

NAS ALAMEDA — Residents of the San Francisco-Oakland Bay area have been seeing a realistic sample of Korean combat tactics in the skies. The region has been the scene of many hard fought air battles as VF-24 *Cougars* have gone out to intercept the F-86 *Sabres* of the 84th Fighter-Interceptor Squadron of Hamilton AFB.

These daily battles, arranged beforehand by the two squadrons have proved invaluable. Individual pilots have gained experience and the squadrons have formulated tactical doctrines that will be used in actual combat. Gun cameras are loaded for the missions and their evaluation in post-hop debriefings has been a great aid to the pilots in correcting mistakes and improving technique.

VF-24 is training at Alameda for its fourth tour in Korea, its second in jets. It will be the first squadron to fly the *Cougar* in combat. The plane, a swept-wing version of the F9F *Panther*, has proved a match for the plane that the Air Force is using with great success against the Russian-type MIG-15 in Korea. It is believed that the *Cougar* will be able to engage any plane that the enemy uses in Korea on at least an even basis. The performance it has shown against the *Sabre* indicates that it will more than fulfill these expectations.

VA-175 Likes Canted Deck

NAS Jax Pilots Operate Off Antietam

The first Navy attack squadron to operate off the *Antietam* since the canted deck was installed was VA-175. The COMFAIR JACKSONVILLE squadron spent two weeks aboard the carrier while she conducted heavy weather evaluations.

Squadron pilots enjoyed the novelty of making touch and go landings aboard the *Antietam*, and they liked the idea of being allowed to overshoot the "groove." Overwhelming feature from their point of view was the worry about the complete lack of barriers.

Squadron mechanics maintained a high aircraft availability during flight operations so that only one sortie was missed during the entire time. A total of 67 touch-and-go and 128 arrested landings were rolled up by the pilots.

THE LARGEST *combat review in the Hawaiian Islands since the end of World War II was held at MCAS Kaneohe Bay recently when 2,500 battle-ready Leathernecks paraded before ex-President Truman. The occasion marked the turning over of operational control of the group commanded by Col. Edwin C. Pennebaker, Jr., and the Third Battalion Landing Team to the task force for training purposes. Included in the review were MAG-13's Panther jet aircraft flown by VMF-214 pilots, the Black Sheep squadron, and VMF-235, Death's Angels.*

VR-21 Officer Turns Writer

'Navigational Stars' Used by 3 Units

A navigation instructor in VR-21 at NAS BARBER'S POINT has written a little book on navigational stars which promises to make life much easier for the harassed aerial bubble-chaser.

Lt. Clifford Nelson has spent many an hour peering through a wobbly sextant as a navigator with VR-11 and VR-21. His new book, *The Navigational Stars,* combines the fruit of his experience and the gifts of an imaginative mind. The result is 45 pages on practical star identification that will help the average aviator plot his position anywhere on the globe.

There are certain outstanding features. For example, a seciton is devoted to high-speed navigation in planes using the periscopic sextant—a relatively new device found in the P2V, R6D and R7V. The little book also offers advice on how to tell a navigational star from a planet.

A brand new feature is the book's use of the 1953 Air Almanac stars with their new names, which make its use possible by both British and American navigators.

But the point for which Nelson will be greatly praised is his system of "pointers" for all navigational bodies. His methods and diagrams make the job of identifying the 58 navigational bodies much simpler.

Three squadrons, VR-21, VP-22 and VR-5, are using the book, and several other squadrons have requested copies as soon as they are available. The initial printing of 200 copies has already been snapped up.

AFTER *her graduation from the Parachute Rigger School at NAS Lakehurst, Pfc. Mary Smith belonged in a class by herself—the first Woman Marine to make a parachute jump in order to graduate from the school.*

'OPERATION HAYLIFT' SETS RECORD

SIMILAR TO 'OPERATION HAYLIFT,' 'COPTERS MOVE ROCKET LAUNCHERS AND AMMO TO FRONT

HIGH-RANKING Army helicopter officers who witnessed *Operation Haylift* in Korea were amazed at Marine "know how" and "can do." The operation, a five-day effort to keep two regiments of Marines completely supplied by helicopter, was a "hauling" success.

In 558 hours of flight time, VMR-161 of MAW-1 in Korea carried almost 1,700,000 pounds of cargo, setting an all-time cargo-carrying record. The operation proved that loss of trucks or ground supply routes wouldn't result in ground troops lacking supplies. Not a single truck carried ammunition, food, clothes, wire or gasoline to the two regiments during the five-day period.

Supplies for the regiments were brought to several rear-area helicopter sites, then loaded into the "choppers" or into cargo nets for transfer to the front-line troops. Food was carried inside the 'copters while the cargo nets, slung underneath, carried the other supplies.

Squadron pilots averaged six hours of flight time a day, flying the 'copters until they began to run out of gas. Upon refueling, a new pilot would take over the aircraft.

Maintenance of the helicopters was done by crews who worked through the night. Each morning the planes were ready for another full day of operation.

Much of the credit for helping VMR-161 set their new record goes to an unusual Marine organization — the First Air Delivery Platoon. The primary mission of the platoon is to pack any type of item for delivery by air. Basically, it is organized to make cargo drops from transport planes using parachutes ranging in size from 15 feet to 100 feet in diameter. However, since the movement of battle lines has stopped, the platoon has been helping VMR-161 to load and unload at forward positions of the First Marine Division.

Prior to the beginning of *Operation Haylift* men from the Air Delivery unit prepared helicopter landing sites. During the five-day period, each landing site was manned by four teams of air delivery men. The teams directed the helicopters into position for internal loading as well as for external pickups.

Each team consisted of a signalman, a loader, a checker and a hook man. The signalman, dressed in a bright yellow jacket, waved the planes into the proper sites. The loaders were responsible for proper distribution of weight in the 'copters. The hook men attached the cargo nets to the hook when external loads were to be hauled. The checker made sure the proper supplies were going to the various units.

While the operation was underway, the squadron continued its air evacuations of wounded men to hospital ships. The "choppers" were dispatched by radio and left the shuttle service just long enough to complete the evacuation.

During the operation, the helicopters made their trips flying at minimum altitudes following regular roads when they were available or valleys when there were no roads. This was done to keep the operation concealed from the enemy.

AERO RESEARCH UNVEILED AT LANGLEY

DRAMATIC NACA *photo catches engineers at work on model mounted in Langley Aeronautical Laboratory's 19-foot pressure tunnel tests in which dense compressed air will be used.*

THE NATIONAL Advisory Committee for Aeronautics, the Government's aviation research organization which furnishes technical information to aircraft designers, manufacturers and operators, opened its Langley Aeronautical Laboratory recently for an inspection by naval, military and civil aviation officials. On display were some of the projects underway at Langley's 20 wind tunnels, five major laboratories, seaplane towing tanks and numerous shops. About 70 percent of Langley research is devoted to aerodynamic problems in all three speed ranges—subsonic, transonic and supersonic.

NACA's new gas dynamics lab is equipped to study flight problems up to Mach 9 (about 6,000 knots) and altitudes up to 200,000 feet. The very high air pressures needed to stimulate full scale effects on aircraft at these speeds is only one of the problems facing the scientists in these studies. The air in the supersonic tunnels must also be kept at high temperatures to avoid air liquification at high Mach numbers, and to enable investigation of the tremendous heat transfer to aircraft structures at these speeds and altitudes.

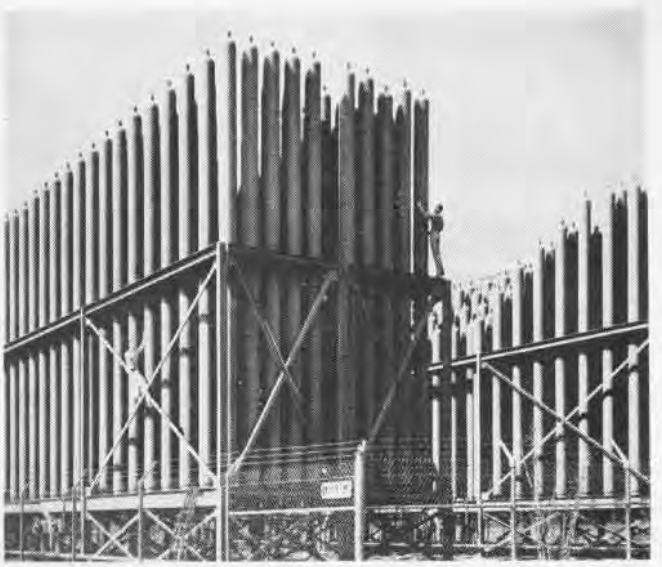
Specially-built steel bottles, each holding 20,000 cubic feet of air at 5,000 psi storage pressure, keep air for use in the supersonic tunnels. The bottled air weighs 250 tons, and has a density about a third as great as water. In use, the air pressure is reduced to a *mere* 3,000 psi or less and is heated to as much as 1,040° to offset expansion temperature drops.

Additional data on supersonic missiles and aircraft is being collected by NACA by flying and radar tracking

TECHNICIAN *measures cones and streamlined bodies used in testing air flows at supersonic speeds in the gas dynamics laboratory.*

HYDRO-SKI *model is fixed under carriage carrying recording instruments and movie cameras for simulated landings and takeoffs.*

MODEL MAKER *fixes wing to X-5 research plane. Varying sweep wings of reinforced plastic are used in testing model's stability.*



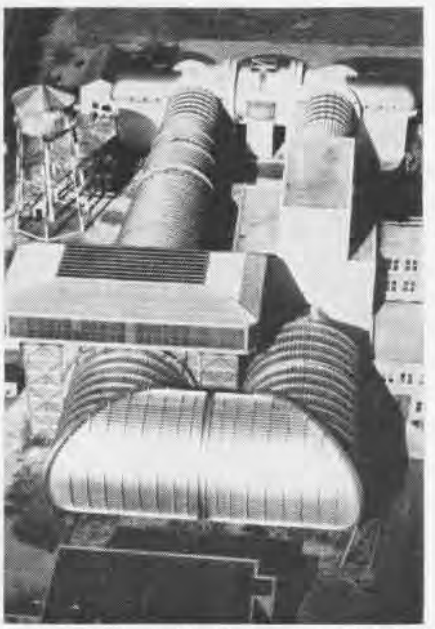
COMPRESSED *air storage bottles for supersonic wind tunnels have pipe organ appearance. Air in these bottles weighs 250 tons.*

rocket-powered models at Wallops Island, 80 miles from Langley. Telemetering devices in the models send information back to ground stations where it is interpolated for application to performance, stability and control, and flutter and buffeting problems of full scale aircraft. The use of free flying models allows behavior study of new designs without endangering either pilots' lives or expensive prototype aircraft.

AT THE "in between" transonic speed ranges, supersonic and subsonic air flows mix to provide conflict and confusion of the flows, and headaches to aeronautical engineers. Slip stick computations haven't provided the right answers. To get them NACA has put another large transonic tunnel, with an eight-foot test section, into operation at Langley. Pressure, temperature and speed can be varied in the tunnel. Speed can be regulated within ¼ of one percent, and temperature held within 2° of that desired. Power is supplied by a 25,000 hp electric motor.

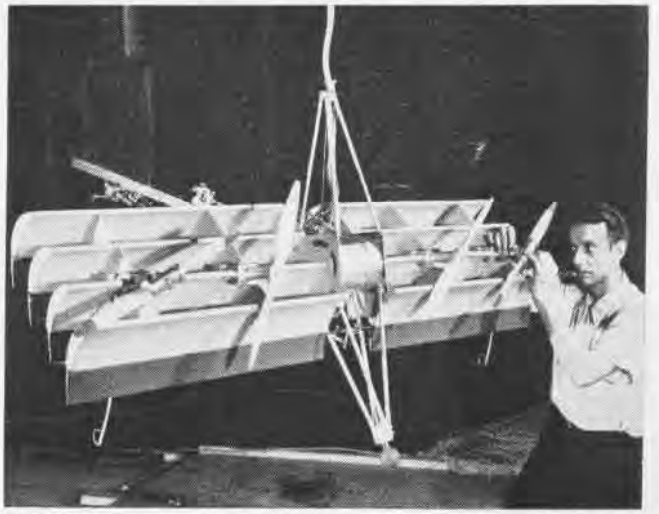
NACA is also studying the possibilities of vertical rising aircraft which may be practical owing to recent development of high power-to-weight ratio engines. If the problems of stability and control during hovering and transition flight can be whipped, an airplane combining 'copter like hovering with conventional aircraft speed abilities might become a reality. One working experimental model looks like something by Leonardo da Vinci. It has four variable-curvature wings which deflect the slipstream from the horizontal to straight down when vertical lift is desired.

NACA has two other major research centers in addition to Langley. Ames Aeronautical Laboratory at Moffett Field concentrates on high-speed aerodynamics, and Lewis Flight Propulsion Laboratory conducts power plant research.



TEST SECTION *of this 16 foot transonic wind tunnel has air flows at the speed of sound.*

MACHINE *measures key points of supersonic model destined to fly with rocket-power at NACA's Wallops Island, Virginia station.*



VERTICAL *rising aircraft flying model changes deflection of slipstream for upward flight. Varying prop pitch controls stability.*

LIVES OF MANY IN HANDS OF FEW

THE SILENCE in the Supporting Air Control Center on the Amphibious Force flagship *Pocono* was broken by an excited voice on the ship-to-shore radio circuit.

"Bongo, this is Hedgehog 32," the loudspeaker urgently crackled. "We are pinned down by 10 tanks approaching the front from north along road at coordinate 8640K. Request air support immediately, I can observe and will control."

An air control officer from one of the Force's three Tactical Air Control squadrons paused briefly to visualize the situation ashore. A TAC party, consisting of a Marine pilot and several enlisted runners and radiomen, was in the front line of attack, just after an amphibious assault landing. The first line of troops was threatened by "enemy" action.

On board the *Pocono*, the air control officer conferred hurriedly with the gunfire support officer and intelligence officer to determine whether naval gunfire might be better, and whether the coordinates were correct.

Ten miles away, a flight of *Corsair* attack bombers orbited over a designated spot. As soon as TAC squadron on the *Pocono* decided aircraft was the answer, the flight leader got the word to strike.

Within 15 minutes, the pinned-down troops were happy to see the *Corsairs* plaster the theoretical tanks with rockets, napalm and bombs as a training exercise. The problem of having planes ready and waiting to send to the right spot at the right time during an assault landing had been solved by the TACRon method.

ALL SERVICES WORK ON TACRON CONTROL PLANT

This system—a development of World War II which came into full flower at Iwo Jima—is based on the premise that all aircraft during an amphibious assault should be under direct control of the amphibious force commander from the time the armada approaches the beachhead until it is secure and a command post set up ashore.

Navy TACRons consist mainly of experienced naval aviators specially trained in amphibious warfare. They are embarked in amphibious force flagships such as the *Pocono, Taconic, Mt. Olympus* and sometimes in attack transports acting as flagships.

The Atlantic Fleet Amphibious Force "air force" consists of Tactical Air Control Group Two headed by Capt. I. J. Schwartz, and permanently assigned in the *Pocono*. Under him are three TACRons, based at NAS NORFOLK. Each has about 17 officers and 45 enlisted ratings—mostly radio and electronicsmen.

TACRon-2 is headed by Cdr. F. C. Duttweiler, TACRon-4 by Cdr. R. M. Deavitt and TACRon-6 by Cdr. J. L. McRobertson. Each includes an Army, Marine and Air Force officer, in addition to naval officer specialists in intelligence and communications.

A special group of TACRon officers and enlisted men from Atlantic Fleet Amphibious Force is in the Mediterranean Sixth Fleet to coordinate landings made there. It has trained Turkish, French, British and Greek amphibious forces in the U.S. Navy method.

IN A TYPICAL example of split-second coordination during an assault landing at Onslow Beach, N. C., the *Pocono* control group simultaneously directed a helicopter airlift of Marines to the beach from a jeep carrier, provided *Panther* jet air cover for the 'copters, directed *Corsair* fighter sweeps on strategic bridges and roads ahead of the troops, held aircraft units in the air ready for CAP strikes, and directed ASW planes over a 75-mile sweep around the beachhead.

Air coverage is an important factor in any amphibious assault today. With modern jets unable to stay aloft more than 90 minutes before needing fuel, the TACRons must work fast to use their services. They cannot circle as long as propellered planes are over an orbit area.

Between operations, Atlantic Fleet TACRons have another important mission. Detachments are sent to various air stations to train squadrons heading for Korea. By using jeeps and other mobile equipment, they set up a supporting air control center ashore, to direct aircraft. Although the Force's TACRons do not own a single aircraft, their direction of those of other arms gives the Force an "air arm" of great striking power.

In the accompanying photo of a typical TACRon control point are Maj. J. J. Larkins, USMC; M. J. Blankenship, ET1; LCdr. T. W. Kennedy, exec of TACRon-4; Maj. K. R. Beard, USA; T. E. Leonard, RM1, and 1st Lt. W. A. Curnutte, USAF.

CLEAN-UP *and salvage operations begin on the Oriskany after bomb explosion on the flight deck when Corsair dropped its hung bomb. The destruction of the F4U is evident in this picture taken after the rescue of the plane's pilot, Lt. Edwin Kummer, by Richard Donovan. Note ragged hole in the flight deck in the lower left portion of the picture. At right, leaving the plane, is Michael Yox who assisted Donovan*

CARP FLAG WAVES OVER COD UNIT

VR-23, KOREA—A fish is a fish in any language, so a Japanese carp flag waves over the headquarters of *Codfish Airlines* as a symbol of the job this Carrier On-Board Delivery unit does as the fleet's airborne taxi service.

Boys' Day in Japan is May 5 and in honor of the occasion, the COD unit hoisted a carp flag over the office of the unit. As the flag resembled a codfish, personnel decided to adopt the flag as their own ensign of the *Codfish Airline*, and it now flies daily over the operations building on a Marine air strip in Korea.

During the Boys' Day fetes, Japanese fly the carp in the form of balloons and kites. Strung high above housetops from poles in front yards, the cloth or cardboard carp signifies pride in the male heir of the home. It wards off evil. The carp is a symbol of manliness to the Japanese.

LCDR. PORTERFIELD, COD OIC, AND CARP FLAG

VR-23's home base is at Atsugi and its advanced base was moved from Itazuke to this Marine air station. Its TBM-3R converted torpedo bombers carry high priority passengers, mail and VIP's from land bases out to the carriers off the coasts of Korea. It serves the Navy, Army, Air Force, the British fleet, South Korean Army and Navy and most of the rest of the United Nations.

Codfish planes are the only transport planes in the world that are sometimes catapulted for takeoffs. Beginning on 5 January 1951, six months after the Korean war started, *Codfishers* land on small dirt strips where larger transports cannot enter or on any runway handy. One strip where they go in is a beach where pilots land when the tide is out. On another trip, within easy range of North Korean artillery, the planes take off between two hills with only a minimum of clearance at each wingtip.

In emergencies, the *Codfish* planes have hauled blood plasma, whole blood and medical supplies to forward air strips. They even have carried corpses back to the Japanese mainland for burial preparations. Wounded Americans and South Koreans frequently are flown to rear area hospitals. Recently, one of the Navy *Codfish* pilots, flying from a Marine airfield, landed on a British carrier, picked up a British seaman, and flew him to an Air Force base where he was taken to an Army hospital for an emergency appendectomy.

CODDY FORGE, CODFISH MASCOT, A COMBAT VET

The *Codfishers* also carry plane parts, priority combat photographs, officer messenger mail, and "kumshaw" mail—letters going back home from shipboard personnel. They have parachuted food and medical supplies and once they brought back a small puppy when the owner was told he could not keep it aboard ship. The dog, *Coddy Forge*, had a full set of service records, including an ID card with his picture (*see photo*), and a Geneva Conference card. He even had a trim zip-front bluejacket's jumper complete with Korean and UN campaign ribbons. Named for the COD unit, he now is its mascot.

Often COD planes have to go in to areas that come under artillery fire. Two planes recently were shelled for more than an hour after they landed at a forward strip. The planes carry no armament and have no fighter escort. Although they fly in all kinds of weather, they never have lost a passenger, a crewman or a pilot in their 30 months of operations.

Kansas Area Gets a 'Lung'

Hults Brings Blueprints from Corpus

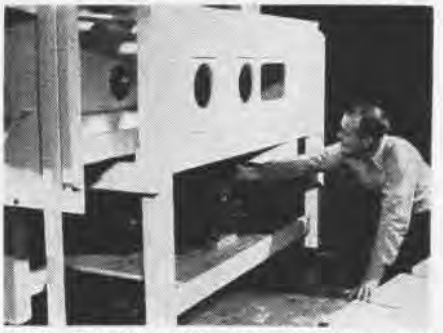
NAS HUTCHINSON—The energy and determination of one man to "do something" about polio has brought an iron lung to this community the same way he helped get a respirator for the Corpus Christi area.

John J. Hults, AD1, brought along the lung construction idea and blueprints when he came to Hutchinson. Spearheaded by him and with the strong support of naval and civilian activities here, a lung was built in 53 days and presented to the Reno county polio chapter for emergency use.

Hults presented the blueprints to Cdr. W. J. Lahodney, Jr., ground training officer, and LCdr. A. P. Zechella, public works officer, who got the go-ahead from Capt. Carl E. Giese, NAS commanding officer, to build the lung. The Haven Lions Club sponsored and financed the project.

Volunteer bluejacket craftsmen contributed 900 off-duty hours of work on the project, finishing it ahead of schedule and well below the estimated cost.

When it was finished, LCdr. J. B. Riggsbee, senior medical officer, and Lt. R. N. Shears, his assistant, announced the lung functioned flawlessly. It measures 50"x69"x24". The unit includes the lung housing proper, removable cot, diaphragm breathing unit, and a 1/3 hp electric drive assembly.


HULTS INSPECT MOTOR UNIT FOR IRON LUNG

VR-6 Men Will Be 'Blue Jays'

Order Commemorates Thule Project

Squadron members of VR-6, based at Westover AFB, are eligible to join a new and rather exclusive order. The Exalted Order of the Blue Jay commemorates *Operation Blue Jay*, the construction of the huge air base at Thule, just 900 miles from the North Pole.

Much of the flying on the Arctic run was done by members of VR-6. They brought in construction material and personnel to help build the base in the wastelands of Greenland. Between April 1951 and November 1952, the squadron flew in more than 6,000,000 tons of freight and 5000 passengers.

Anyone who served with VR-6 during that period can become a "Blue Jay." There's a beautiful membership certificate signed on the authority of Her Royal Highness, Aurora Borealis, Queen of the Arctic, Ruler of All Things Frigidly Rigid, Empress of Thule and Princess of the Northland. VR-6 pilots are now lining up to get their new membership cards in the new Arctic organization.

"EGGSPERTS *in eggbeaters" was an apt appellation for the Rotary Wing Angels as they gave their demonstration in helicopter precision at* NARTU MIAMI *Air Show and Open House. Shortly after their outstanding performance the 'copter team was disbanded.*

NARTU MIAMI BOOSTS RESERVE PROGRAMS

THE ACCENT today throughout the NARESTRACOM is on recruiting to get more young "Weekend Warriors." Like the patent medicine dispenser who drew his prospective buyers with the razzle dazzle of his side show, Reserve air stations have made use of various unusual means to promote and publicize Naval Air Reserve Training and the NavCad program.

The Open House and air show has been one of the most successful methods for drawing large crowds of prospective Reservists. It offers the ideal opportunity for displaying naval air might in all its impressive ramifications.

LU ANN *Sims, one of Godfrey's singers, gets demonstration from W. L. Sellers, Jr.*

NARTU MIAMI succeeded in staging an air show at Master Field that rivaled Hollywood's dazzling "first night" performances. An audience of 75,000 persons gave NARTU personnel a chance to plug naval aviation and explain the opportunities available today for young men in the Navy's training programs. An additional 40,000 persons, who failed to gain admittance to the field, viewed the spectacular air show from the roadside and neighboring communities.

Early arrivals at Master Field got the once-in-a-lifetime chance to inspect many of the Navy's finest aircraft which were on display. Inside the hangar, static displays of ordnance and engineering equipment drew many of the crowd. Youngsters and old folks alike were fascinated by the cutaway of the 1200-pound bomb commonly used by *Corsairs* in attack bombing.

The air show portion of the Open House opened with all the fanfare of a Hollywood premiere. All the elements were there . . . a beauty queen, a movie star, a famous cartoonist and excitement.

ZACK MOSELY, creator of the comic strip character, *Smiling Jack*, arrived in his private plane with movie Star, Jon Hall, noted for his South Sea Island roles. They were welcomed aboard by Iris Maxwell, the beauty queen they had come to crown.

The beautiful, 18-year-old blonde was picked by NARTU MIAMI personnel to be their De-Icer Queen, a favorite title in Mosely's comic strip. Since becoming NARTU's De-Icer Queen, she has gone on to win the title of Miss Miami Beach of 1953 and will compete for the title of Miss America. Her De-Icer Queen crown bore a miniature *Panther* jet.

After the coronation, the flight demonstrations began. First on the program was a group of *Corsairs* which flew over the crowd in an anchor formation. They peeled off one by one and made a mock dive bombing attack on an aircraft which had been damaged previously.

When the wreckage was set on fire, the crash crew got into the act. The fire-fighting team rushed to the scene and put out the blaze and rescued the "pilot." A helicopter aided in the rescue, lowering a wicker basket on a cable in order to remove the "injured pilot."

Next came the popular innovation for air shows—the *Rotary Wing Angels*, the helicopter counterpart of the *Blue Angels*. Three crack Navy pilots—Lt. John Miller, Lt. W. G. Pledger and Lt. R. D. Carlton—made up the Navy's precision team, specialists in slow motion, which has now been deactivated.

Trailing red smoke from their ex-

PANTHER *jet atop her crown, Iris Maxwell smiles happily after being crowned Queen by Jon Hall.*

ZACK *Mosley and Jon Hall are greeted by NARTU's De-Icer Queen and LCdr. V. E. Thompson as they arrive in Zack's private plane for the air show and crowning.*

hausts, they nestled together in the air at an air speed of practically zero. They gave an excellent demonstration of the flying qualities that have made the 'copters such a versatile instrument in the Korean conflict. They amazed the spectators with their demonstrations of square dancing called to the tune of an "aviation caller," played games of leapfrog and volleyball and left the crowd gasping with other close-formation fears.

AFTER THE hovering demonstration, the "hurry-up" specialists whistled in over the field. Trailing red and blue vapors, the *Blue Angels* executed from the echelon formation the reverse echelon roll and the breakup. They also performed such maneuvers as the barrel roll, loop, half Cuban eight and reverse Cuban eight, all in a tight diamond formation.

The announcer emphasized that all these maneuvers are part of the stock-in-trade of a fighter pilot and are normally performed singly and at several thousands of feet altitude. In order that the crowd may see these maneuvers, the *Blue Angels* perform them in formation at about 2,000 feet.

Exhibitions of Navy skill and readiness are good public relations in every community where "Weekend Warriors" drill. They are also an excellent means of kindling the enthusiasm of young lads who haven't quite made up their minds whether or not they want to enter naval aviation. With more publicity of this type scheduled throughout NARESTRACOM, the ranks of the Naval Air Reserve will soon be filled with these youngsters who choose the Navy way of life.

SPECTATORS *were amazed at short time that it required PBY5A to become airborne with JATO during Miami air show demonstrations.*

Swampland Rescue

While on a flight out of NAS NEW ORLEANS, Lt. E. L. Freele spotted a downed helicopter in the swamps on the north side of Lake Pontchartrain and immediately radioed the station about the situation. A helicopter piloted by LCdr. Wm. Dare was dispatched to the scene but couldn't land in the marsh without pontoons.

Believing in the thousands of words that have been written about the "whirlybirds" and their versatility, LCdr. Dare used his craft as a means of communicating with the downed pilot. He hovered over the other 'copter while the pilot shouted up to him exactly what his difficulty was.

A new starter was brought out to the swamp by a previously unavailable pontoon-equipped helicopter and repairs were made in short order. The pilot and passengers were saved from the possibility of a long wait for rescue through the 'copter's versatility.

Reserve Roundup

● NARTU MIAMI—When Arthur Godfrey brought his radio and TV cast to Florida for a Wednesday night broadcast, personnel from this station helped in the demonstrations of survival equipment which Godfrey showed his public. Navy recruiters also did their bit.

● NAS WILLOW GROVE—Just inside the gate a year round exhibit of four former enemy and one *Flying Tiger* aircraft has been established to disseminate information concerning the NavCad program. Approximately 10,000 cars stop annually to read the signs giving data about each plane and, at the same time, to read the well-planted NavCad posters.

MED PHOTO PLANE KEEPS ACTIVE

CLAD IN ARABIAN BURNOOSES, SOUVENIRS OF THEIR TOUR, ARE VJ-62'S ABLE DETACHMENT

NAAS SANFORD—A strange-looking band of men dressed in Arabian burnooses over flight clothing and blue uniforms stepped off a MATS transport here. It was Detachment Able of Photographic Squadron 62, back from a tour of duty in the African theater, claiming a new record for getting their money's worth out of one airplane.

VJ-62, under Cdr. J. Kennedy Jr., flies reconnaissance and mapping missions for the Navy, the U.S. government and the hydrographic office. At any time, the squadron may have detachments scattered all over the world doing special jobs.

VJ-62 has two types of photo planes, the new AJ-2P *Savage*, the North American prop-jet, and the old P4Y-1 *Liberator*. It was the latter plane which performed like a champion for the Able detachment in the Middle East.

The detachment had five officers and 24 enlisted men under Lt. W. U. Class. The only plane it has was one photo Liberator. After flying 8,000 miles to arrive at their base of operations on the Mediterranean, the detachment began flying Old No. 13 for all it was worth.

A total of 584 hours were flown while it was in the detachment, photographing more than 10,000 miles of flight lines. These photo targets were located so as to require a 600 nautical mile round trip to the area each day. All aerial jobs had to be flown at 20,000 and 22,000 feet, with a few at 10,000 feet. Ground operations were made rough by temperatures of 120° to 130°.

In one 30-day period, the plane flew 272.5 hours and 100% plane availability was maintained. During their time over there, the crewmen changed three engines (all at night) making it possible for the plane to fly each day without missing a flight.

The maintenance crew pulled engine checks at 0200 each night for two nights and then would skip the third night. This kind of workmanship made it possible for the hard-working Liberator to fly every day from 10 October to 3 December, a total of 55 days. For this feat, VJ-62 claims a record for this type of plane.

Lt. Class and his group reported natives were not exceptionally friendly but never interfered with their work nor created any disturbances during the Navy men's tours of the city after working hours. The men brought back many souvenirs, including Arabian burnooses, knives, robes, belts, rugs, brass work, cameras and clocks.

Men of the detachment in the accompanying photo are, standing: Lt. Class, ChPhot Wm. Hamilton, Ens. C. H. Monroe, Lt. (jg) D. M. Sullivan, Lt. D. B. Brady. Kneeling, K. A. Kleinfelter, AEC; T. P. Sprouse, ADC, W. L. Crocker, ADC; M. D. Dry, AT3, and B. L. Minetti, ATAN.

Tubeless Tires on Planes

Navy To Try System on New Fighters

The Navy is installing tubeless tires on a number of its fighters and trainers and may follow up with changes in the tires on larger planes.

Three companies, Firestone, Goodrich and Goodyear, are producing the tubeless tires, similar to those used on automobiles, for Navy planes. The new tires will go on the F9F-4 through F9F-7 main and nose wheels, the main wheels on the SNB, F2H-2 and -3 and FJ-2.

Advantages of eliminating the old inner tube and using the new-type tires are many. There will be about a 15% weight saving, supply problems will be easier since tubes will not have to be stocked, less time is required to change tires, mounting is easier and valve failures fewer. Another hazard is removed in that inner tube pinching no longer will cause blowouts.

To adapt present wheels for the tubeless tires, the knurling is removed and and "O" ring inserted to seal the space between the two parts of the wheel. A permanent valve is installed on the rim and air-seal compound painted on to give a tight air seal where tire meets rim.

The tubeless tire has been given considerable testing at Patuxent and aboard carriers before it was decided to send it to the fleet for squadron use.

SEE ANYTHING *wrong with this picture? It's the campaign ribbons on this aviator's chest. Navy Uniform Regulations specify ribbons are not to be worn on working uniforms, such as the greens this flier has on, or the cotton khaki uniforms. Postgraduate school at Monterey reports hundreds of aviators register annually wearing ribbons on their aviation greens, which is non-regulation since they officially are the working uniform for wintertime.*

Quick Action Saves Worker

Pearl Harbor Men Resuscitate Bedard

NAS PEARL HARBOR — Quick and correct action by two training devices men saved the life of a Link trainer maintenance man who was knocked unconscious by a 750-volt electrical shock.

Capt. Walter V. R. Vieweg, Commander Fleet Air Hawaii, gave letters of commendation to Roger D. Rima, TDC and Sidney L. Grueser, TDC, for saving F. G. Bedard, TD2.

The two men loosened the stricken man's clothing, then gave artificial respiration for several minutes until Bedard started breathing again.

THINGS ARE STILL KING SIZE IN TEXAS

F7U-3 CUTLASS INCORPORATES MANY IMPROVEMENTS OVER ITS F7U-1 PREDECESSOR

SPACES are wide open, flying weather is good, women are beautiful, and "Airmen's Passports to the Republic of Texas" are issued in the Lone Star State.

Ft. Worth and Dallas boosters stopped feuding long enough recently to admit that while things were still best there, their combined stomping grounds are the Nation's *second* largest aircraft manufacturing center. This is the spot that boasts Vought, Bell, Temco, Convair and Marine aircraft plants, plush Amon Carter Field and Carswell AFB in Ft. Worth, NAS DALLAS and Love Field east of the Trinity River, and an oil-plated motel with a heliport. This was also the location of the Aviation Writers Association 1953 conclave (time equally divided between the two cities), and the unveiling of much aviation news.

At the convention, the Marine Corps announced its capabilities in using atom bombs tactically in amphibious operations, Chance Vought revealed that the F7U-3 improved *Cutlass* is now in production and that they had won a Navy design competition to produce a brand new fighter, and Bell Aircraft showed off their new XHSL-1 anti-sub helicopter. Douglas Aircraft of California invaded Texas to set an unofficial world record for loads carried by a single-engine aircraft, the AD *Skyraider*, in front of the assembled writers.

For several years the Marines have been developing tactics in landing troops on hostile shores by helicopters to avoid dangers of atomic attacks on congested landing beaches. Chopper assaults can also hurtle radioactive areas. This was tried out successfully in "Operation Desert Rock V" at Yucca Flats. These tactics would be equally effective offensively as well as defensively. With the announced capability of Marines delivering tactical A-bombs, they now have a "three dimensional" attack.

Chance Vought's F7U-3 demonstrated at Dallas incorporates many improvements over the F7U-1 in performance, range and armament. It has dual independent hydraulic power control systems eliminating the need for a separate manual control system. Neither will fail due to a break down of a part of the other. To ease maintenance on the F7U-3, enough access doors have been provided to allow as many as six men to work on the cockpit at one time.

The new model *Cutlass* has a single set of speed brakes instead of the two of the F7U-1. Engine servicing calls for aft removal rather than bottom access doors as in the old model. The company also makes an attack version of the *Cutlass* called the A2U.

Bell Aircraft's new XHSL-1 is this company's first departure from the small single rotor series choppers. The ASW HSL comes in two models, one for search and the other for assault. Both models are powered with an R2800-50 engine and meet carrier operating specifications. The search version has automatic pilot controls to hover at fixed altitudes above the water, and is equipped with electronic sub detectors.

While the writers were visiting NAS DALLAS, LCdr. J. S. Noonan of VA-301 flew an AD-4 *Skyraider* loaded with three 2000-pound bombs, six 250-pounders and six 500-pounders for a total bomb load of 10,500 pounds. Adding on the weight of other armament the AD's load came to 11,944 pounds, about 200 pounds more than the plane's basic weight. Figuring in the pilot's weight as well as flight gear, fuel and oil, this AD-4 weighed out toting 14,491 pounds —more than 3000 pounds over the plane's own weight. Total takeoff weight was 26,739 pounds, equivalent to an R4D carrying 24 people.

When the Korean War started AD's were carrying 4,000 pounds of bombs. This was gradually increased to 6,000 and then to 9,000. Performance continued to be good, so BUAER was requested to raise the load limit. NATC PATUXENT RIVER flew *Skyraider* loads up to 11,000 pounds, but Noonan's flight at Dallas is believed to be a record for single-engine planes.

BELL XHSL-1 ASW CHOPPER COMES IN SEARCH AND ATTACK MODELS

THIS AD-4 TOOK OFF AT NAS DALLAS WITH 10,500 POUND BOMB LOAD

A DESTROYER SAILOR IS TRANSFERRED BY HIGHLINE TO BOXER FOR EMERGENCY APPENDECTOMY

OPERATION 'LIFE SAVER'

AN URGENT radio message crackled over the Atlantic Ocean. An appendectomy patient aboard the destroyer USS *The Sullivans* required immediate attention and facilities aboard were not adequate to handle the required operation. Would the carrier *Wright* help?

The carrier was in mid-Atlantic, returning to the United States upon completion of the joint NATO naval training exercise, *Operation Rendezvous*. The carrier relayed an "affirmative," changed course to rendezvous with the destroyer and upped her speed from 15 to 27 knots. The destroyer was 540 miles away from the *Wright* when she requested assistance.

Fourteen hours later, *The Sullivans* rendezvoused with the light aircraft carrier and pulled up to her starboard side. Within a matter of minutes, the patient, Norman E. Pierce, was on the operating table aboard the *Wright*. After an emergency operation, performed by Lt. (jg) J. W. McKay and Lt. (jg) J. H. Britton, and two blood transfusions, the patient was well on his way to recovery.

The fast action and teamwork evidenced in the emergency is assuring to all Navy men who are thousands of miles from home and hospital. Particularly in the Korean combat zone, the men know they are in capable hands should illness or injury strike. Despite the fact they are in the Sea of Japan, they have available the same modern, skilled and prompt medical treatment they would have were they living in Chicago, San Francisco or any other American city.

In addition to the destroyers which are assigned to Task Force 77, it is composed of aircraft carriers, battleships and cruisers which do carry doctors and dentists. Minor injuries and illnesses on the destroyers are treated by trained hospital corpsmen.

However, when a destroyer sailor breaks a leg, is wounded, becomes seriously ill or needs an emergency operation, he is strapped in a stretcher and transferred by high line over the waves to one of the nearby capital ships, usually a carrier. Once aboard the carrier, the disabled man finds a completely-staffed hospital ready to diagnose his ailment or injury and give him prompt medical, surgical or dental treatment.

In addition to three doctors and three dentists, there are dental technicians and assistants, hospital corpsmen to assist the doctors and to care for the needs of ward patients, a completely modern operating room, two wards and a pharmacy, carrying every known drug and medicine and staffed by trained hospital corpsmen. If diagnosis shows that the patient needs a specialist, such as a brain surgeon, he will be flown off the carrier to Japan. There, in a few hours he will be under the care of the Navy's top medical specialists at the Navy Hospital in Yokosuka.

The most dramatic examples of the utilization of the medical facilities occur when Navy fliers are shot down over North Korea and either ditch their disabled planes or bail out in the vicinity of rescue ships near the shore line. In such cases, the rescue ship sends its helicopter to pick the pilot up from the beach or the water, oftentimes in the face of heavy enemy ground fire. The pickup completed, the pilot is returned to the rescue ship. If wounded or injured, he is transferred to the nearest ship having medical personnel and facilities aboard.

The one-time harrowing question of what to do in a medical emergency at sea has been resolved. Even the high line is giving way to the versatile helicopter as the fastest means of getting the patient to the hospital with the least amount of discomfort.

Brothers in Quonset Outfit

VP-7 Has Officer & Enlisted Combination

NAS QUONSET POINT—Having a high-ranking officer for a brother in his squadron has proved no handicap for 20-year-old Gerald Hollinshead, elec-

LCDR. HOLLINSHEAD HELPS BROTHER ON A P2V

tronics striker. His brother, LCdr. Charles W. Hollinshead, is operations officer of VP-7.

The older brother said he did nothing to influence Gerald to go into the Navy but when he did he just naturally gravitated to the aviation branch. A sister, an ex-WAVE, married a Navy man, but two other sisters liked khaki better—they married Army men.

Quonset GCA Hits 40,000

Capt. Burroughs Brings in Beechcraft

NAS QUONSET POINT — The 40,000th GCA landing made by GCA Unit Six was made when Capt. Sherman E. Burroughs, Jr., NAS commanding officer, brought in an SNB under simulated emergency weather conditions.

J. W. Miller, ADC(AP), served as co-pilot for the flight. Following the landing, Capt. Burroughs joined members of the unit in cutting a congratulatory cake honoring the occasion.

Commissioned in 1947, GCA Unit Six has one of the highest landing totals in the country. It is under LCdr. Don E. Laird, with Lt. (jg) Joseph E. Clause as approach control officer and Lt. (jg) H. S. Birdsong, maintenance officer. Cdr. J. J. Richardson is operations officer.

PECORARO, HALKE AND STERNS HELP FRENCH KIDS TO CHOW AT PARTY

VC-5'S SHELTON, SMITH AND CARLSON MAN AJ-1 SAVAGE FOR FLIGHT

WHAT GIVES AT NAVACTS PORT LYAUTEY

PROMPTLY at 1631½ each workday afternoon a swarm of Arabs on bicycles and afoot hurtles down on the French Navy and U. S. Marine sentries at Port Lyautey's main gate. This group rumbling down the hill towards French Morocco's Oued Sebou River is not mischief-bent, but is simply the naval air facility's civilian workmen heading for home after work.

About 95 percent of the Morrocan population are Moslems. One Arab holy place is located close to the eighth hole on the Lyautey nine-hole golf course frequented by Navy personnel. Not one to miss a quick franc, an enterprising Arab takes full advantage of the local law prohibiting entrance to such places by Christians. Because the shrine is located so close to the golf green, a whale of a lot of balls go bouncing into the prohibited area. The Arab will retrieve them for the golfers—for a price.

The size of the Navy's air facility at Lyautey has had its ups and downs since U. S. naval aviation first showed up there ten years ago. Throughout that time, relationships between the Americans and their French hosts have been most cordial, and they remain so today under Capt. T. U. Sisson, U. S. ComNavActs, and the French Commandant of the base, Capt. Pilo de Sciteveaux.

NAF PORT LYAUTEY, commanded by Capt. W. L. Dawson, Capt. J. B. Burks' Fleet Air Detachment, and Capt. J. L. Melgaard's Naval Communications Station are the major U. S. commands on the field. Among the other activities at Port Lyautey are VR-24, VC-5, VP-16, FASRon-104, an Air Navigation Office and a Fleet Weather Central. The Seabees rotate mobile construction battalions into Lyautey for training.

Capt. Burks wears two hats in that he's CO of VR-24 as well as holding down the Commander, Fleet Air Detachment job. His FlogWing R5Ds make the regularly scheduled runs between Lyautey and London. Cdr. C. R. Doerflinger's VC-5 is equipped with AJ *Savages*.

VP-16, commanded by Cdr. J. W. Hardy, relieved VP-3 on the first of March. Cdr. D. White is CO of FASRon 104, also on the base.

"The climate at Port Lyautey beats San Diego," according to LCdr. C. L. Brown, an old hand on the station as NAF Administrative Officer. The summers are generally cool because of the breezes off the Atlantic Ocean seven miles away. Winters are mild too, seldom getting cold enough to form ice.

Surprising as it may seem to those who think of North Africa in terms of the Sahara, there are several ski resorts within easy driving range of Port Lyautey. Three hours away over good roads is Ifrane which has both beginners and championship slopes.

P2V SHOWN OVER LYAUTEY AS FRENCH TAKE OFF

There is Quonset type housing avail-

SMALL ARAB GUESTS CHAT WITH CAPT. DAWSON

able for Navy families on the base, but not enough of it. Even with a very fair priority system, it takes a long time to get quarters. Some housing is available in the town of Port Lyautey, but it too is not too plentiful, and rents are high.

Navy exchange and commissary facilities are available on the station, and a school is maintained for children.

In spite of the many inconveniences and inadequate facilities, Port Lyautey is generally considered good duty as evidenced by the many requests for extension of duty there. Anyone expecting orders to Lyautey can get an excellent general information pamphlet by writing LCdr. W. S. Noce, the NAF chaplain.

Corpus Runway is Lengthened

High Intensity Lights to Aid Training

NAS CORPUS CHRISTI—An 8,000-foot runway was opened for traffic May 12 so that high-speed jets could operate safely from this training station.

First to land on the runway were Capt. J. R. Reedy of the All Weather Flight school and Cdr. W. C. Wing, NAS public works officer. They landed in a TV-2 instrument trainer.

The runway is 7,000 feet of asphalt, with a 500-foot slab of reinforced concrete at each end. It extends out into Cayo del Oso, a body of water north of the air station. This extension was filled in 6" higher than the desired elevation to compensate for settling.

CDR. WING, CAPT. REEDY TRY OUT NEW RUNWAY

Remaining to be completed in the $3,180,000 project is a high-intensity lighting system so the runway can be used 24 hours a day. CAA also is constructing an instrument landing system on this runway which will be completed early in 1954.

50 Years of Flight Noted

RAdm. Gallery is Coordinator at Detroit

The International Aviation Exposition at Detroit's Wayne County Airport July 9, 10, 11 and 12 will honor the Wright Brothers first flight in 1903. RAdm. D. V. Gallery, CNARESTRA, has been named as the Department of Defense senior liaison officer to coordinate all military air activities in the show. Capt. G. C. Briant will act as his deputy.

In addition to Navy, Marine, Air Force and Army flight and ground exhibits depicting aviation's progress, the show will feature extensive civil aviation flight demonstrations and exhibits.

Cadet Is Ordained Minister

Casey Finally Gets Chance at Flying

NAAS SAUFLEY FIELD—This station has an aviation cadet who is an ordained minister in the Baptist church and occasionally takes time out from flying to preach sermons at neighboring churches.

He is Cadet Robert K. Casey. He was selected for Annapolis in 1948 but decided to enter the ministry instead. Several years later he joined the Marines and when the NavCad program opened up he took up flying. Upon completing his obligated service as a pilot he will return to college to complete his additional seven years of study. At the end of that time, he hopes to become a Navy chaplain.

CADET CASEY PREACHES IN PENSACOLA CHURCH

Smilin' Jack Visits Navy

Comic Strip Features Carrier Monterey

USS MONTEREY—The training carrier *Monterey* and naval aviation's training program in general gained some nationwide publicity when the comic strip *Smilin' Jack* dealt for two weeks with carrier operations.

Cartoonist of the strip, Zack Mosley, spent a day aboard the flattop during a VIP orientation cruise and was so impressed by the operations he decided to work carrier aviation into *Smilin' Jack's* adventures. So for two weeks, the *Monterey* and Navy fliers flew through the comic strip's daily and Sunday theme.

Mosley worked the carrier into the strip by having two planes run out of gasoline while over the ocean and making a crash landing aboard the #26. The strip then explained the workings of the Navy racetrack landing pattern, the LSO, the 20-second landing interval, elevators, arresting gear, tail hooks and other features of Navy carriers.

WE NEVER HAVE TO TAKE A CHANCE IN NAVIGATION

Kansans See Naval Aviation

Explorer Scouts Get 2-Day Checkouts

NAS HUTCHINSON—How naval aviation works was shown to 240 Explorer Scouts from 11 western Kansas counties who camped at the air station for two days during April and received an indoctrination similar to that given new enlisted men.

Using the drill hall as a barracks, the scouts marched off to chow and indoctrination classes. They were divided into 12 flight groups of 20 boys each. They inspected P4Y-2's and the GCA truck in operation, they went to classes on flight navigation, survival, radar operation, aeronautical engineering and saw a Link trainer in operation.

EXPLORER SCOUTS MUSTER FOR VISIT TO 'HUTCH'

The program was directed by LCdr. M. F. Carpenter, special services officer, with Lt. (jg) J. F. Jenista, ground training instructor, and 1st Lt. D. R. Wilkans, USAF, attached to 793d AC&W squadron, assisting him.

Marine Reservists Trained

CVE Salerno Bay is Base for Two Weeks

"The Marines have landed; the situation is in hand"—on the CVE-110, the USS *Salerno Bay*, VMA-332 consisting of 160 enlisted men, three ground officers and 34 pilots, came aboard in Mayport, Fla., in April, bringing with them their personal gear, maintenance equipment and 14 *Corsairs*. Twelve additional *Corsairs* were flown aboard later.

For the first week, under the direction of LCol. J. B. Berteling, the squadron conducted carqual flights and close air support missions. Flight time totalled 567 hours, and 888 carrier landings were made.

One pilot, Capt. J. J. O'Neill, felt right at home. He has flown as a first lieutenant with VMF-114 on the *Salerno Bay* during his last tour before release to inactive duty in May 1946.

● NAS MOFFETT FIELD—CAG-19 is going in for a fast ground sport. It is flying its colors with the Sterling Edwards sports car racing teams this summer. CAG-19's LCdr. Barry Wagner placed third in the Class B entry, and LCdr. Ham Reidy came in second in the Class D entry at the Pebble Beach Sports Car races run off in California.

A BIT OF *sightseeing is on the schedule as three Neptunes skirt Mt. Fujiyama on return from a patrol flight. VP-29 compiled an average of 12 to 16 hours per flight during tour.*

EXCELLENT *maintenance and cooperation of all personnel helped* VP-29 *reach its goal.*

VP-29 MAKES HISTORY IN ITS OWN NAME

IT'S A TOUGH row to hoe when a squadron is commissioned to replace a Reserve squadron with an illustrious history. That's what happened when VP-812 from NAS MINNEAPOLIS was inactivated and all personnel, aircraft and equipment were transferred "en masse" to VP-29 last August.

A month later, with little time to acquire a history of its own, VP-29 arrived at NAS ATSUGI and commenced operational patrols almost at once. Flying weather, antisubmarine and shipping reconnaissance, the squadron had completed its 200th combat mission by December.

By March of 1953 the new squadron completed 500 combat missions, establishing a standard of performance that would be a target for all patrol plane squadrons. At least one of the squadron's nine planes was in the air continuously during the six-month period.

In addition to setting the record for missions, VP-29 acquired higher aircraft utilization than any other squadron in the Far East. Each squadron crew member flew over 40 missions, totaling close to 500 hours, or remaining aloft for 20 consecutive days. That's a lot of flight time in any language.

When Lt. Paul Johnson returned to Atsugi after a routine patrol mission which established the record, RAdm. J. M. Carson, COMFAIR JAPAN, was waiting to greet the pilot and his crewmen.

SKIPPER *and exec take a brief respite from work to discuss operations over Navy coffee.*

OF COURSE, *a cake was baked to celebrate* VP-29*'s record. RAdm. J. M. Carson presents squadron's Commanding Officer, Cdr. L. B. Smith, with a Samurai sword in honor of the event.*

NEW SMOKELESS JATO UNIT READY

OLD STYLE JATO BOTTLES CLOUDED UP THE AIR

NO LONGER will Navy planes coat carrier decks with heavy blankets of white "chalk" or obscure the landscape with clouds of smoke when they take off using JATO bottles.

The Navy has just developed a new JATO which is entirely smokeless. Not only is it that, but the unit delivers more thrust and is slightly lighter in weight than the bottles formerly used.

The new units have been under development at Aerojet Engineering Corp., Azusa, Calif., since 1946. These solid-propellant jet assisted takeoff bottles enable planes to get off the runways under heavy loads, with shorter takeoff run or from high altitude airfields.

Prior to development of the 15KS-1000 unit, the old bottles spewed a large stream of smoke as the plane took off. In cases of low winds or restricted airfield areas, operations frequently were restricted because planes behind could not see the runways. The Navy sponsored the new JATO for use by all the services. The Air Force is one of the biggest users of jet assist, putting 18 such bottles on its jet B-47 bombers for takeoff use.

In an effort to expand the use of JATO, the Navy required that it should be able to be fired at any temperature found anywhere in the world. This versatility thus eliminated many of the logistic and storage problems which formerly hampered use of JATO.

The new unit delivers 1,000 pounds of thrust for 15 seconds, compared to 1,000 pounds for 14 seconds in the older smoky units. The weight is 60 pounds less, being 143 pounds.

One of the most significant applications for JATO is to help seaplanes get off rough water in the open seas faster. This permits rescues to be made in heavy seas which formerly would have prevented takeoffs.

New Jet Wins Gunnery E's

VF-32 Pilots Garner 14 in Competition

COMFAIR, JACKSONVILLE — The Navy's new swept-wing F9F-6 *Cougar* jet was put through its first competitive aerial gunnery exercises by VF-32 recently and passed with flying colors.

Results of the exercises established the squadron as a top contender for the annual Atlantic Fleet battle efficiency pennant. It earned an "outstanding" mark at 15,000 feet and "excellent" at 25,000 feet. Commanding officer of VF-32 is LCdr. Roy Reed.

Ten of the 17 pilots flying the *Cougars* won individual Atlantic Fleet battle efficiency E's, four of them winning two awards. Top man was Lt. Fonville Kelly with 40% hits in firing at both altitudes. The exec, LCdr. Jack Kenyon won an E at 15,000 feet by placing more than 40% hits in the target.

Lt. Joseph Coleman, Lt. (jg) Robert D. Roth, Lt. (jg) Richard B. Hartigan and Ens. Gaylord Mischke, composing one division, won seven E's, all but Coleman winning two. Other E winners were Lt. Tom Crawford and Lts. (jg) George Kling, Robert Seigmeister and James H. Kendall.

In the accompanying photo are, back row, Cdr. Donald Gay, CAG-3; Cdr. Leubke, CO-173, ComDex observer; LCdrs. Reed and Kenyon, Lts. Fonville Kelly, Alvertus V. Barber and Reiman A. Macdonnel, Lts. (jg) Robert D. Roth, Ralph E. McQueen, Bryan C. Rudy, James N. Kendall and Robert R. Spatz. Front row, Lt. Joseph Coleman, Lts. (jg) Robert Taylor, John M. Stump, Richard B. Hartigan, Curtis E. Whaley, Lt. Tom Crawford and Lt. (jg) Robert Seigmeister.

Copter Searches Lost P4Y

Coast Guard, Navy, Civilians Assist

SNOW BLANKETS SKYKOMISH AIRPORT IN SEARCH

NAAS WHIDBEY ISLAND—The close cooperation maintained between military and civilian agencies was shown in the search for a P4Y-2 lost in the mountains east of Seattle.

The small field pictured was at Skykomish in the center of the suspected crash area. The Whidbey Island helicopter was serviced by the NAS radio truck and vectored by the Coast Guard communication trucks to check all reports from citizens in the area. The local game warden and forest ranger living within a half mile of the field gave first-hand information on burned areas, blowdowns and the like to aid in the rescue search.

The accompanying photo by an amateur cameraman, Harold Countryman, shows the pinwheel with its two assisting trucks.

SHARPSHOOTING MEMBERS OF VF-32 POSE WITH SWEPT-WING F9F-6 WHICH WON GUNNERY HONORS

Forty-Two Years in Aviation

Early Flier Still Part of Ready Reserve

HYDE FLEW BURGESS-DUNNE AIRPLANE IN 1911

Naval aviator No. 181, who has racked up more than 40 years of flying, is still going strong. He is Cdr. Russell N. Hyde, USNR-R, of Coral Gables, Fla. He was recently on a tour of annual training duty aboard the *Franklin D. Roosevelt* (CVA-42).

He is a veteran of combat flying in WWI, and his flying experience antedates that conflict by several years.

In 1911 as a lad of sixteen he was fascinated by the construction under way in the workshops of W. Starling Burgess at Marblehead, Mass.

The Burgess family, father and son, designed some 15 of the yachts which completed against perennially successful Sir Thomas Lipton and Thomas Sopwith. They turned to building airplanes about 1910, and it was in one of the earliest models that Starling Burgess commenced giving flying lessons to the 16-year-old boy.

Hyde flew many times in the Burgess-Wright and Burgess-Dunn float-mounted planes, the first aircraft to make water-to-water flights. Though Burgess would give him the controls in the air, young Hyde did not solo.

Trained by the Navy as an aviator, Hyde received his gold wings on 17 October 1917 with his name and "No. 181" engraved on the back. He served with the RAF in Dundee, Scotland, where the battle of the U-boat was going strong. He later served some time in both England and France.

After the war he became an engineer and, in WWII, served as engineering officer for the Eastern Sea Frontier station at Newport, R. I. Today he is an engineer with the company in Miami and keeps up his Reserve activities as Assistant Training Officer of Company 6-45, Miami.

● NAS MOFFETT FIELD—Mrs. Faye Liddon, civilian employee in the Disbursing Department and *Pouder Puff Pilot*, has entered the All-Women's Transcontinental Air Races. Personnel at Moffet will act as sponsor for the woman aviator and her co-pilot. Appropriately, plane is called *Little Miss Moffett*.

RECORD-BREAKING VMF-314 PANTHER JETS DO SOME PRECISION FLYING OVER THE CARIBBEAN

VMF-314 Sets Flying Mark

2403 Hours in Jets without Accident

3D MAW, MIAMI—A two-year flying record set by VMF-115 was broken recently when VMF-314 flew 2,403 hours in one month, flying day and night, without an accident.

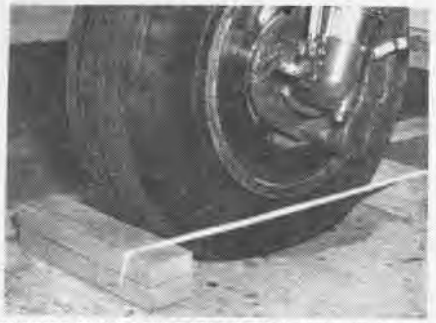
Commanded by LCol. Homer S. Hill, the squadron was on maneuvers in the Caribbean area and had been flying jets only a month and a half before setting the record.

To keep the planes flying, three check crews of four men were on the line at all times. Of the 23 jets taken to Puerto Rico, 18 were kept in constant flying condition.

Pilots were enthusiastic about setting the new record, but gave the credit where it was due—to the maintenance crews, who worked around the clock.

COUNT THE *combat mission bombs on this F9F Panther's fuselage—445 of them. This Marine fighter bomber has flown more than 1,000 hours in Korea and is credited with being the oldest combat plane of its kind there. It has dropped more than 400,000 pounds of bombs and napalm on the Communists. The plane arrived in Korea 14 November 1950 with VMF-311 and flew its first combat mission on 10 December. It wore out 16 20-mm cannons by firing 80,000 to 100,000 rounds of ammunition. One pilot declared, "When you fly that plane you have nothing to worry about. It knows Korea by heart and flies the missions itself."*

THE THOUGHT *uppermost in every man's mind as his carrier heads back from Korea is spelled out by the crew of the CVL Bataan on her flight deck. After three Korean cruises the Bataan finally made it back to San Diego on 26 May, bringing with her VMA-312 and VS-21. On the way back the men took time out to raise $2,000 for Damon Runyon fund for cancer.*



BUNGEE MAKES SURE THE CHOCK WILL STAY PUT

Chock Stability Insured

To counter the danger of aircraft chocks under parked aircraft being blown free by other planes turning up or taxiing in front of the planes, VC-11 has devised a method of keeping chocks absolutely secure.

A piece of ¼" bungee is secured to the outboard side of one leg of each chock. Chocks are placed in position beneath the wheels with the leg with the secured part of the bungee to the rear. Then the bungee is stretched forward and secured to the nail in the leg of the chock. The idea keeps them securely in place.

VR-23's Portable Service

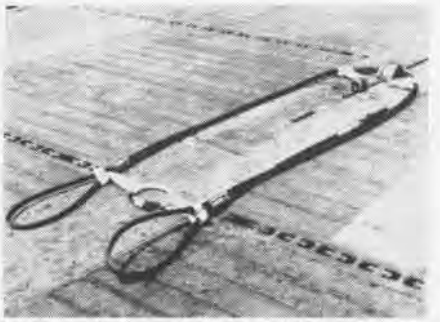
An ingenious and practical solution to the problem of servicing transport aircraft with large quantities of anti-icing and water-alcohol injection fluids has been devised by Lt. C. W. Smith of VR-23 at NAS ATSUGI, Japan.

Having observed that line personnel were required to service aircraft from a 50-gallon drum, using a five gallon safety can, Lt. Smith set out to speed up the system and also to provide a more accurate means of measuring out ratios of water, alcohol, and rust inhibitor.

Engineering Chief R. C. Peret salvaged a PBM bomb bay tank from the scrap pile and placed it on a baggage truck. Lt. Smith then took an old Briggs and Stratton air circulator and adapted it to an aircraft fuel pump. With these materials, I. E. Gray, AM1, completed the actual modification and assembly.

VR-23 now has two of these units in operation, which have enabled them to cut the time required for servicing anti-icing fluid and water alcohol injection fluid for R5D and R6D aircraft to approximately 15 minutes.

IN ADDITION *to the 24 rockets in the nose of the Lockheed F-94C Starfire, there are two 12-rocket wing pods carried on either center of the wings. This doubles firepower of new jet home-defense plane which is all-weather, radar equipped*



MODIFICATION OF CATAPULT BRIDLE WORKS OUT

F4U Catapult Bridle Fix

USS SALERNO BAY—This carrier recently had trouble with catapult bridles when catapulting F4U-4's carrying 500-lb. bombs. The bridles were engaging the bomb pylon sway braces as the F4U's left the deck, and in several instances, bridle arresting devices were torn free and carried with the aircraft for a short distance.

Lt. H. T. Quinn, catapult officer, worked out a suggestion of one of the Marine aviators aboard, which solved the problem by modifying the bridle.

The modification consisted of connecting the eyes of the bridle together, using a loop of ½" bungee. The loop, approximately 8" in diameter, was strapped to each eye of the bridle using 1" cotton parachute webbing. Since the troublesome sway braces were outboard of the catapult hooks, the modification held the eyes of the bridle clear of the braces as the bridle released the aircraft. The modification held together for the life of the bridle, and no further difficulty was encountered.

The *Salerno Bay* reports the catapult fix has continued to prove its worth.

Securing Deck Crash Dollies

Flight deck personnel of the USS *Wright* (CVL-49) have devised a method of securing a crash dolly on the flight deck which insures quick access in the event of an emergency requiring its use.

The crash dollies are stowed on the starboard flight deck life rails between the stacks. A pelican hook and chain arrangement replaces the old method of securing the dollies with line. This has proved ample security for rough weather.

The elimination of frayed lines contributes to the shipshape appearance of the flight deck.

SERVING *with Marine Air Group 33 as hydraulic maintenance men, TSgt. J. L. Spence, W. F. Scott, and C. G. Davis built hydraulic bench tester at forward base in Korea. It is estimated this machine will save the government some $10,000 annually.*

TURNBUCKLE INCREASES SECURITY OF TIE-DOWN

Heavy Weather Tie-Down Fix

USS *Wright* (CVL-49) uses a heavy weather tie-down which includes turnbuckles in addition to lines and reels for the securing of airplanes.

The turnbuckles are strong, easily managed, and can speedily be attached to the flight deck and plane. It has been demonstrated many times that three turnbuckles, one to each wheel, can be attached more quickly than the same number of lines and with a greater degree of security.

When heavy weather threatens the *Wright*, planes on the flight deck are secured with a turnbuckle, three lines, and a tie-down reel per wheel, plus lashing the chocks to the wheels, locking the tail wheel and locking the aircraft controls.

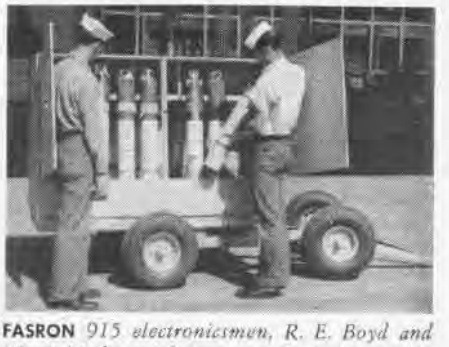
Since this method has been adopted, planes secured to the flight deck have been subjected to the maximum strain of 43° roll and simultaneous winds across the deck in excess of 45 knots with no resulting damage.

Emergency Wheels Are Used

VR-25, NAPLES—Ingenuity paid off for this detachment recently when a P2V blew both tires and ground the wheel rims flat during an emergency stop while landing.

Lack of replacement wheels and tires posed a problem which held up removal of the plane from the runway. While other aircraft circled the field waiting to land, the P2V was raised with a series of wheel jacks. Meanwhile, efforts were made to find a substitute for the wheels.

A pair of main landing gear mounts for a *Constellation* was located and mounted by removing the outboard brake assemblies of the P2V. The *Neptune* then was towed from the runway and taxiied to the hangars.



FASRON *915 electronicsmen, R. E. Boyd and W. J. Underwood have constructed a mobile hot locker for SSQ-2 sonobuoys. The 16 buoys are stowed in racks slanted inboard and kept dry by bulbs spaced along the interior of the locker. The locker is easily moved around the hangar or ramp for loading.*

MONTAGNE READIES K-17 AS KOLNSBERG CHECKS VIEWFINDER IN SNB-2P

APEL'S PUNZI, NUTTALL AND FREYER SET UP SHOT OF MACHINE PARTS

NAVY'S SEEING EYES SHARPENED BY APEL

AERIAL photography is the Navy's seeing and recording eye. To keep these eyes sharp and up-to-date with scientific and technical advances in other phases of the military arts, the Aeronautical Photographic Experimental Lab (APEL) keeps a variety of photo projects underway at Philadelphia. For command it is under the Naval Air Experimental Station, NAMC PHILADELPHIA.

This small, but highly specialized, unit of naval aviation designs and develops prototype cameras, photo processing equipment, airborne camera installation components and control systems, and photogrammetric devices. It keeps a P2V-5, and SNB-2P and an F2H-2P at NAAS MUSTIN FIELD for use in test and evaluation flights, and in taking care of Fourth Naval District aerial photography.

Photo mapping and photogrammetry have been advanced considerably through the APEL work. Two projects were the modification of the K-17 six-inch focal length camera, and development of an improved ratio template slot-cutter for alignment of aerial photos with ground control points.

Evaluation of aircraft photographic installations comes within APEL's scope too. Some aircraft modifications for photography have been completed where the existing mounts or controls were unsuitable, or additional installations were needed.

Another APEL project was the development of an electronic flash enlarger for short duration, high-intensity light needed aboard ship where image motion problems exist. A continuous optical printer for 16, 35, and 70 mm roll film with a fixed four-diameter enlargement capable of operating at 200 feet per minute was also worked out by APEL.

On the current agenda is the development of a new smaller version of the GSAP gun camera for installation in jet aircraft. Also being processed is a shell for high speed drop delivery of aerial film, supplies and equipment to ship or ground units by jet planes. A night photographic installation using photo flash cartridges and image motion compensating camera in jets is being tested and evaluated for the Fleet, and the standard K-17 series cameras are being modified for use in new high speed aircraft.

ELECTRIC CIRCUIT TESTED BY MURPHY AND PRICE

TRAINING FILM IS PREPARED IN APEL STUDIO

In addition to its own experimental and development work, APEL has the collateral function of supplying photographic services for the five other experimental labs under the Naval Air Experimental Station and the Naval Aircraft Factory. This service includes high speed motion picture recording, engineering photos, RUDM's and other regular requirements. APEL also acts in an advisory or consulting capacity in solving optical or photo problems submitted by other agencies of the Defense Department.

JENNISON AND HEETER DEVELOP AERIAL MOVIES

The lab has a well equipped precision tool shop capable of about any fabricating job in photographic equipment. This shop is charged with the responsibility of the overhaul and repair of all Navy motion picture cameras as well as the machining of small parts for the new development projects.

Cdr. Gordon K. Ebbe is APEL's superintendent. His crew consists of 36 naval personnel and 33 civilians. The civilian component includes engineers, technicians and precision machine tool operators. The lab may soon move to NADC JOHNSVILLE to consolidate development work of the two stations.

AN AIRCRAFT *emergency repair cart used at Cherry Point, N. C., enables Marine All-Weather Fighter Squadron 20 to get quick tire changes. The cart is a modified bomb trailer which has been fitted with compartments to carry different sizes of tires.*

SNJ Prop Thread Protector

At NAS PENSACOLA, a thread protector for the SNJ propeller cylinder assembly has been designed.

In the past, considerable difficulty has been experienced in the removal and replacement of the piston gasket and "O" ring seal nut in the Hamilton Standard counterweight propeller cylinder assembly. Damage to the threads in the propeller cylinder and a rounding off effect to the slots in the piston nut were caused by the slippage and wobbling of the piston nut wrench.

This difficulty has been corrected by constructing a thread protector which acts as a guide and prevents wobbling of the piston nut wrench. The item is simple and easy to fabricate from a salvaged part. NAS PENSACOLA will be glad to give further, detailed information.

JEEP DOUBLES AS WORK STAND AND POWER UNIT

Work Platform Put on Jeep

A line maintenance jeep equipped with a platform has been constructed by Marine Helicopter Transport Squadron 161. This work platform has been used when personnel have been called upon to remove and install blade covers, remove tail rotor blades, grease tail rotor hubs, check blades for defects, clean blades etc.

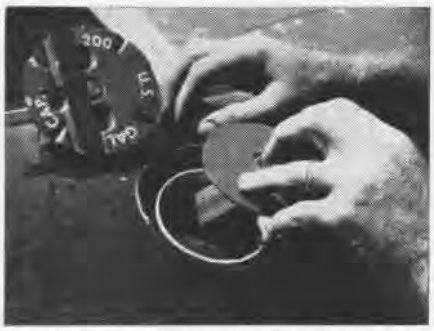
The platform has proved ideal because of its mobility and rigidity. The platform is mounted on a standard jeep without any rework or modification required on the jeep.

Pressure Relief Valve Made

After the tip tanks of the F2H-2P aircraft of Marine Photographic Squadron One are filled, expansion of the fuel from the heat during the day causes leakage through the Kenyon relief valve. It has been found inadvisable to remove the filler cap to relieve this tip tank pressure because of excessive foreign matter in the air.

SSgt. John Cotter and Cpt. Joseph M. Ashba constructed a device to meet this problem which has worked out well.

Using a section of aluminum stock 10" x 1" x 3/16" with two rivets inserted 2½" and 2¾" from one end and mounting a slotted disc ⅛" aluminum stock the size of the filler hole between the two rivets, a device was constructed whereby tip tank pressures could be released. By removing the filler cap, depressing the flapper valve and inserting the long length of aluminum stock into the filler neck, pressure is relieved while the disc prevents entrance of foreign matter.



TIP TANK PRESSURE RELIEF VALVE PUT IN PLACE

AD HOLD-DOWN CLAMPS SAFEGUARD DOWELS

Propeller Nut Removal Aid

Fleet All Weather Training Unit Pacific experienced difficulty in removing Aero-Props from AD's because the prop retaining nut had seized enough to require more than 3,600 foot-pounds to remove it.

This pressure was too great for the standard prop retaining nut wrench as it had to be completely seated and secure to utilize the shear strength of the nine dowel pins. There was not enough pressure to hold the wrench in place.

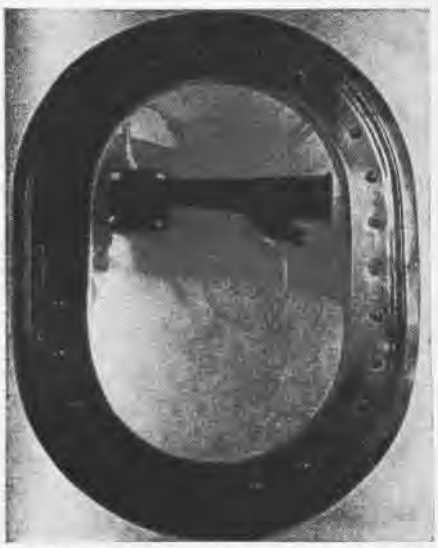
A hold-down clamp consisting of a "T" beam with two rubber coated clamps to hook on the opposite blades of the prop was made. Designed by W. Cawthorne, AD1, of the Maintenance Department, it was built to hold the prop wrench secure in the dowel holes of the prop retaining nut.

This has reduced prop tool waste, for without the hold-down clamp, the dowels would shear and require replacement.

PV-2 Fix for Photographic Use

NAS LOS ALAMITOS—Air Wing Staff 77 has announced the use of an exterior venturi installation on the PV-2 aircraft which allows vertical photography. The problem arose when it was decided to expand into PV-2 aircraft for vertical reconnaissance training at the air station.

It was found that the PV-2 aircraft equipped with vertical camera mounts was lacking in a vacuum system that would supply the K-17 cameras at the camera station. The regular aircraft vacuum system could not be tapped



PV-2 SIDE CAMERA DOOR WITH VENTURI FIX

without a major change.

At that point an exterior venturi system was designed by Lt. R. E. Gates, Jr. and Lt. (jg) J. A. Stewart and constructed by C. W. Dees, ADC.

Designed to replace the side camera door at station 392 on the port side of the PV-2 during photographic operations, the venturi with its accompanying check valve and gauge, provides the required suction—two inches of mercury at 1000 RPM. In an actual airborne operation test, the system was found to function perfectly and has become part of the photographers' regular equipment when flying the PV-2.

New G-Suit Aperture Fitting

A new G-suit aperture fitting has been designed by Arnold Campanile of NAMC PHILADELPHIA. It has been approved under the Navy Awards and Incentives Program.

In order to adapt the anti-G-suit for use with the Mk III anti-exposure suit, a four-piece assembly was devised, consisting of a base, washer, cap and ring. The last two pieces were to be used separately: the cap when no G protection was needed, and the ring in conjunction with the anti-G-suit hose.

Campanile has suggested a very much simplified fitting in which the base, ring and washer are one unit. This design was submitted to the engineering staff at AMEL and accepted in its entirety for use with the Mk IV anti-exposure suit.

Its simplicity of design, efficiency of action and ease of manufacture commend the fitting, and it is now being regularly manufactured.

VP-22 CHECK SYSTEM EFFICIENT

JOHNSON, REED AND PRICE MAKE ENGINE CHECK

IN ITS FIRST three months of deployment to the western Pacific, VP-22 made an outstanding record. It led the Pacific Fleet patrol squadrons in aircraft availability.

VP-22 operates nine new P2V-5 aircraft. Its pilots fly 10-hour patrols as well as additional special missions and training flight. Each plane flies approximately 120 hours per month. During the first month of deployment, VP-22 flew 1,000 accident-free hours and maintained an aircraft availability of 95.8%.

This record owes much to the new intermediate/major check system. The P2V-5 Inspection Requirements Handbook (AN 01-75EDA-6) as modified by Commander Air Force, Pacific Fleet, establishes detailed procedures for performing a first intermediate inspection at the expiration of 60 flight hours and a first major inspection at the expiration of 120 flight hours. An intermediate inspection alternates with a major inspection after each period of 60 flight hours.

Furthermore, combined with this program there are preflight/postflight inspections required for each aircraft for every flight. These checks are the heart of the maintenance system. They are much more extensive than the old preflight check used in the 30-60-90 system. They take approximately one and a half hours and are done by special "pre/post" check crews.

Basically the check is visual and functional. The preflight-postflight inspection can be combined into one check if the aircraft is flying the following day. Generally, however, plane crews prefer to complete their own preflight check on the plane they will fly and thus insure a thorough job.

The postflight inspection itself requires opening the engine cowling and visually checking each line and connection on the engines. Frequently faults or failures are caught during this inspection which could have resulted in serious trouble in the air.

To prevent accidents resulting from "assumptions," a Red Clip Board system has been used. As an example of such a misunderstanding, the maintenance chief might assume the electrical work has been completed when the crew departs for lunch and so schedules the aircraft for a flight when the plane is actually "down."

Whenever a "gripe" is assigned to a shop, the personnel obtain a red clip board from the Chief with a "gripe sheet" attached which they place on the nose wheel strut of the plane. When the work is completed, the clip board is returned to the Engineering Shop and the work written off.

MCCLANAHAN, HOPKINS SHOW SAFETY BRACKET

Money - Saving Ingenuity

HICKAM AFB, HAWAII—A small mechanical device, costing between 10 and 25 cents to construct, will probably save the Navy thousands of dollars.

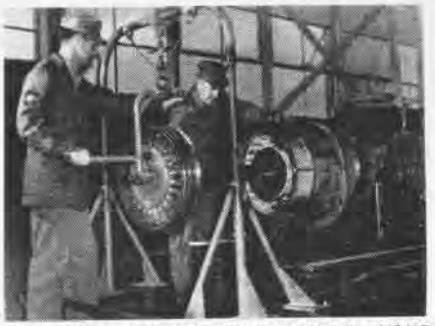
This device, a safety bracket for the magneto switches on aircraft, was designed and manufactured by Earl F. Hopkins, AM1, and George E. McClanahan, AM3.

The VR-8 mechs decided something had to be done after an accident occurred involving the aircraft they were working on. The switches were accidentally bumped into the ON position while the testing and energizing of engine starters were in progress.

Using scrap metal, Hopkins and McClanahan designed and built the safety bracket. After testing their project with satisfactory results, they submitted their idea to VR-8's Engineering Officer. He immediately ordered the safety brackets made for all VR-8 aircraft.

This bracket was manufactured out of 24 ST aluminum and one zeus button fastener. Their device has been submitted to the Bureau of Aeronautics, Washington, D. C.

Inspection personnel who run up the engines, prior to the maintenance inspection of the aircraft, install this safety bracket after stopping the engines, and the bracket is not removed unless the crew chief gives the order.



ROSS (LEFT) DESIGNED NEW PORTABLE HOIST

Portable Hoist is Efficient

A portable hoist for jet turbine rotors which conserves both time and labor has been developed by MSgt. John L. Ross of MAG-24 at Cherry Point.

"The original idea arose from a need of bringing a convenient hoist to an engine instead of bringing the engine to the hoist," Sergeant Ross explained. "The portable hoist replaces other stationary type hoists."

The hoist was originally a suspension support from a jet engine overhead stand. It was modified by welding two extension rods to give the proper height, then adding two more braces for the base and installing universal castors on the base for mobility.

A standard turbine rotor removing fixture was attached to the adjusting turnbuckle, and finally a safety cable was installed to prevent accidents in case the adjusting turnbuckle is extended too far.

Before Sergeant Ross designed the helpful device, five to seven men were required to carry a huge jet engine to one of the overhead hoists. With the portable hoist, one man has little trouble removing the jet turbine rotor from the engine.

Sgt. Ross was assisted in his design by Sgt. Stanley Kowalski.

'Eye' Charts Link Altitude

NAS WHIDBEY ISLAND—A new "third eye" has come to the aid of Link trainer instructors in Fleet Air Seattle aviation training aids unit, attached to FASRon-113 at Seattle.

The glide path altitude indicator was developed by Charles L. Wentz, TD2, to compute the altitude of a pilot's glide path when he is approaching the runway for a landing.

Calibration of the instrument is so delicate that the operator immediately can detect when the pilot is above or below the glide path by a single foot. The operation is simulated with the use of the Link trainer. Former methods of determining a pilot's altitude were difficult because the instructor had to watch the remote desk altimeter and compare it to a charted altitude for correcting a pilot's error.

WENTZ AND HIS WIFE USE ALTITUDE DEVICE

AVIATION ORDNANCE

Bomb Director Replacement

New construction aircraft began receiving the bomb director Mk 3 Mod 4 in January 1952. However, many planes are still equipped with the bomb director Mk 3 Mod 3 which must be replaced with the Mod 4.

Test unit Mk 44 was designed for the bomb director Mk 3 Mod 4. Activities which now have the test unit Mk 37 Mod 0 should modify this unit to Mod 1 in accordance with NAVORD Instruction 8610.1. It then can be used to test both the Mk 3 Mod 3 and Mod 4 bomb director when used in conjunction with the test unit Mk 44 Mod 0.

BUORD will ship to the Aviation Supply Depot, Oakland and the Ordnance Supply Depot, Norfolk, sufficient bomb directors Mk 3 Mod 4 and test units Mk 44 to permit ComAirLant and ComAirPac to equip all planes which require this equipment. The commands will control the allocation of the bomb directors in priorities which they deem advisable.

Squadrons or units receiving the bomb director Mk 3 Mod 4 to replace the Mk 3 Mod 3 are requested to turn the Mod 3's in to the nearest supply activity and inform the BUORD (MA8-B) as to the disposition. BUORD will then send the supply activity instructions for the return of the Mod 3's to the U. S. Naval Ordnance Plant, Indianapolis for change.

Keep those Gel Cells COOL!

Naval Ordnance Plant Indianapolis recently conducted an investigation of the application of aluminum paint to the gel cells of the sight unit Mk 8. This investigation was conducted in an infrared oven under controlled conditions of time and temperature. The tests were made by testing the three gel cells now in use in the field;

1. The clear gel cell as placed on the sight unit Mk 8 by the NOP INDIANAPOLIS.

2. The clear cell with the top and front surfaces painted black as supplied on Grumman-built aircraft.

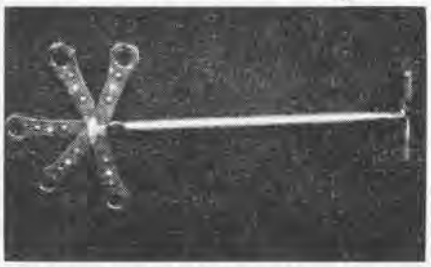
3. The clear cell with the top and front surfaces painted with aluminum paint.

Of the three, the aluminum-painted cells proved most capable of withstanding the combination of radiant and ambient temperature usually encountered by unprotected sights mounted in aircraft. The cells supplied by the NOP INDIANAPOLIS proved to be more heat resistant under these conditions than the units modified by Grumman. The application of black paint to the gel cell is undesirable.

If dust covers had been used to protect these sight units after installation in aircraft (NANEWS, November 1952, page 39, "Keep Cool with Dust Covers"), it is believed that deterioration could have been avoided.

BUORD and NOP INDIANAPOLIS recommend that field activities apply aluminum paint to the gel cells as an interim measure until backfitting with new high temperature cells has been accomplished.

VF-53's New Re-Arming Tool



MULTIPLE EXPOSURE SHOWS VARIED POSITIONS

VF-53 recently manufactured an AN-M2 feed mechanism loading tool to facilitate the loading of 20 mm aircraft guns in F9F-5 type aircraft. This tool was designed and constructed by Harold E. Wayner, AO3, and Raymond L. Kleinow, AN, while attached to the squadron aboard the USS *Valley Forge*.

Previously, a ⅜ inch box wrench with ratchet had been used to wind the ammunition into the AN-M2 feed mechanism. This method proved to be unsatisfactory because of the length of time involved and the limited space available in which to work. The use of the new loading tool has reduced the wind-in time by approximately one-half. Photograph shows multiple exposure of the ratchet in five different positions on handle.

Under present combat operations the time element for re-arming of aircraft is sometimes critical. Inasmuch as this loading tool has been a material assistance in shortening the re-arming time for VF-53, BUORD recommends that this tool be adopted by other commands.

The tool is made by using a ⅜" x 1 1/16" box socket wrench, Stock No. R14-W-624855; a ½" dia x 18" steel bar stock, a ½" dia x 4" steel bar stock, and a 5/32" size rivet.

Cut the box socket wrench in the middle, leaving the ⅜" box with an overall length of 4½". One end of the ½" dia x 18" stock is then machined to a flat thickness of 3/16 of an inch. The ⅜" x 4½" socket wrench is then riveted to this end, so there is a free movement through an arc of approximately 210 degrees. The ½" dia x 4" stock is then welded in the same plane as the box wrench to the 18" length forming a "T" handle.

NAVIGATOR ALWAYS KNOWS WHERE HE'S GOING

20mm Bolt Assemblies Note

BUORD has evidence that Bolt Assembly, Army Dwg C70493, stock number J941-B-3364, are being stocked and issued interchangeably. These items are NOT interchangeable. Refer to NAVORD OTI GV4-44.

All maintenance, test, overhaul, and supply activities are to examine all stocks of 20mm bolt assemblies on hand. Bolt assembly, S/N J941-B-3364-50 has an extractor spring hole, and the bearing area to the rear of the lock recess is 2".163. Bolt assembly S/N J941-B-3364 may or may not have an extractor spring hole. The bearing area to the rear of the lock recess is 2".502. Any bolt assembly lacking the extractor spring hole, or which measures 2".502 across the rear bearing area is not to be issued or used.

Obsolete bolt assemblies J941-B-3364 are to be retained and reported to BUORD for disposition.

20mm Feed Mechanism Fix

NAVORD OML GV8-51 informed activities of discrepancies in 20mm feed mechanisms AN-M2 manufactured by the Davis Aircraft Engineering Company. These feed mechanisms are now being withdrawn from service use as replacements become available.

Replacement feed mechanisms may be requisitioned as prescribed in OP 1820: Supply of Aviation Ordnance Equipment, Class J94.

Operating activities are to effect the replacement of all Davis manufactured feed mechanisms installed in aircraft. Replaced feed mechanisms are to be turned into the nearest Naval Air Station Supply Department for disposition.

All supply activities are to remove the Davis-manufactured feed mechanisms from inventories on hand in ready-for-issue stock and Class 265 under stock numbers J941-F-122-275 and J941-F-122-300. These Davis manufactured feed mechanisms and future receipts of same shall be scrapped as defective material. This material shall be mutilated as prescribed by paragraph 301.2 of Navy PR&D Regulation No. 1, Revised Edition of 1 Aug 1951, Advance Change No. 1-53.

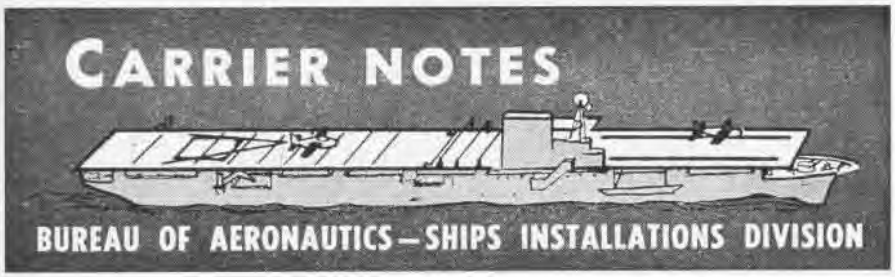
New Sunbeam Feed Mechanisms. Over the past 14 months the Sunbeam Corporation has been manufacturing and delivering AN-M2 feed mechanisms. These new feed mechanisms are being installed on new aircraft.

Instrument Grease is Ready

Range Control Mk 2 Mod 0, a component of the gunsight Mk 18 Mod 6, may bind in service. This can be alleviated by the application of MIL-G-15793 instrument grease.

FASRons, overhaul shops and installation activities should use this grease on all installed range controls Mk 2 Mod bearing serial numbers *below 2031* in order to prevent possible binding of the shaft. Units bearing serial numbers 2031 and higher were lubricated at the time of manufacture. Units in original factory sealed containers should not be unpacked for this purpose alone.

Requisition in accordance with the instructions contained in OP 1820, under BUORD drawing specification MIL-G-15793 and BUORD stock numbers as follows: J942-G-562-20, 2 ounce tube; J942-G-562-40, 4 ounce tube; and J942-G-562-80, 8 ounce tube.



New Barricades

The present barricade has very capably fulfilled its mission by arresting 13 aircraft without barrier assistance which, if not for the barricade, would have been free to crash into the forward deck area. The barricade has proven to be so important to the safety of shipboard landing that it must be made applicable to all aircraft.

Forthcoming airplanes such as the F7U-3, F3H-1 and the A3D-1 which exceed the height of the present barricade even in the static attitude, have required the development of a higher, 21-foot barricade stanchion and webbing. This new height will assure protection of the above aircraft and, in addition, will offer a greater possibility of protection to those other aircraft which may enter the barricade in free flight.

The new 21-foot barricade is being installed with both Mk 5 and Mk 7 arresting gear. Increased strength required to withstand the Mk 7 barricade loads is being provided by the use of additional webbings.

Arresting Gear Bulletins

The following bulletins are being promulgated:

Arresting Gear Bulletin, No. 50, dated 18 May 1953, supplements previous information and provides additional information concerning the applicability of barriers and barricades to various aircraft.

Arresting Gear Bulletin, No. 51, dated 6 May 1953, establishes new criteria for periodic inspection and replacement of Mk 4 and Mk 5 arresting gear and barrier cables aboard aircraft carriers. Replacements are based on external damage, number of landings, and length of service.

New Control Valve

A "constant runout" arresting-gear control valve has been developed by the Naval Aircraft Factory. The use of this new valve will permit a sizeable increase in the total, energy-absorbing capacity of Mk 5 arresting gear, and the safe acceptance of engaging speeds considerably greater than those which currently limit Mk 5 arresting-gear operation.

The new valve operates to bring each airplane to rest at the same point on the deck (for a given deck pendant) and requires a setting by the operator for airplane weight only. Engaging speed effects are automatically balanced out by valve operation, and, if the valve is properly set, "two-blocking" cannot occur within the working range of the valve.

Outstanding advantages of the valve are:

1. Complete independence from engaging speed effects.

2. It applies only enough load to bring the airplane to rest at the specified point, which in general means that it will apply loads less than those now being encountered.

3. It will bring an airplane to rest, under identical conditions, with much smaller cable tensions than those now encountered using Mk 5 arresting gear, greatly decreasing the likelihood of cable failure.

A production program of the new constant runout valve will make the first valves available for fleet use in about one year.

AJ Operates From Antietam

On 23 April 1953, the AJ aircraft was successfully operated from the canted deck of the *Antietam* for the first time, when a total of three arrested landings, two touch-and-go landings, and three fly-away take-offs were executed aboard USS *Antietam.*

Cdr. Richard S. McElroy, Jr. and Lt. Lester B. Lampan, both attached to VC-7, were at the controls and reported no undue difficulty in accomplishing this feat. Approximately, 450 feet of deck was required for the take-offs, two of which were made down the axial deck and the other using the canted deck. Forty to 41 knots of wind prevailed throughout the exercise.

Death of Catapult Pioneer

The death of LCdr. William M. Fellers in April marks the loss of an outstanding pioneer in the development of Naval catapults. Personnel who worked with him during his tour of duty in BUAER, 1925-29, remember him as a very capable engineer.

During this period the fundamental features of launching and recovering VO-VS seaplanes from battleships and cruisers were established under Fellers' direction. Some of the basic criteria still in use in modern applications for launching aircraft were originated at that time.

LCdr. Fellers had other assignments with the Navy until his retirement in 1936. In the years that followed, he was associated with a number of manufacturing concerns as a consulting engineer. In 1944, he developed the first mechanical spring catapult designed to launch target drone aircraft. This development was followed by an air-driven mobile catapult for the same military purpose. This high capacity catapult is still being used by the Navy.

Bombsight for Nomographs

BUORD has issued instructions for securing and installing new combination nomograph assemblies, data cards, and data card holders in bombsight Mk 23. The new nomographs provide ballistic and parallax inputs for current missiles and aircraft.

In addition to providing current ballistic and parallax inputs, these new nomographs employ a new nomograph disc clamping ring. The previous disc clamping ring had countersunk screw holes. Hence, any slight misalignment between the countersunk holes and the tapped holes in the mating spool would cause the clamping ring to distort. Thus, under conditions of high atmospheric humidity the nomograph would distort. The new disc clamping ring has elongated holes and binding head screws which hold the plastic nomograph disc rigidly and prevent this distortion.

FASRons and overhaul shops should accomplish the modification in accordance with NavOrd Instruction 8610.5. The nomograph kits necesary are as follows: For bombsight MK 23 Mod 6 (AF-2s and TBM-3S2 installation), BUORD stock number J942-K-370-1; for bombsight MK 23 Mods 7 and 9 (PBM-5S2 and PBY-5 installations), BUORD stock number J942-K-370-2; and for bombsight Mk 23 Mod 10 (P2V-5, P2V-6 and PB4Y-2S2 installation), BUORD stock number J942-K-370-3.

The nomograph kits are available in the BuOrd supply system and may be requisitioned in accordance with the instructions contained in OP 1820. The nomograph assemblies cannot be made in the field.

Obsolete nomographs should be sent to the U. S. Naval Ordnance Plant, Indianapolis for salvage of metal parts. No special packaging is required; the obsolete film is of no value.

AirPac Carrier Operation

In order to present a realistic picture of the part which carrier aviation is playing in the present Korean conflict, Commander Air Force Pacific Fleet has prepared an interesting summary which shows arrested landings and catapult launchings for AirPac carriers. This summary includes carriers having both H4 and H8 catapults installed.

	Arrested Landings		Catapult Launchings			
			Port		Starboard	
Carrier	1st Qtr 1953	Total 3/31/53	1st Qtr 1953	Total 3/31/53	1st Qtr 1953	Total 3/31/53
ESSEX (CVA-9)	2448	48,606	517	4747	734	4380
BOXER (CVA-21)	1336	55,911	302	6915	318	6630
BON HOMME RICHARD (CVA-31)	4093	26,256	1227	5428	1397	5538
KEARSAGE (CVA-33)	2737	24,442	757	852	738	826
ORISKANY (CVA-34)	2731	13,445	466	2639	643	2691
PRINCETON (CVA-37)	3445	38,039	769	4276	806	4347
VALLEY FORGE (CVA-45)	2710	44,109	378	6920	636	7667
PHILIPPINE SEA (CVA-47)	2449	48,680	748	7287	785	6857
			H4		H2 Mod 1	
BATAAN (CVL-29)	357	25,922	244	3272	116	6529
RENDOVA (CVL-114)	591	14,492	71	2943	68	2465
BAIROKO (CVE-115)	0	11,235	0	4054	0	2841
BADOENG STRAIT (CVE-116)	498	17,738	390	5492	117	4822
SICILY (CVE-118)	1126	14,015	676	5062	261	4075

LETTERS

SIRS:

Concerning your article on p. 18 of the May 1953 issue of NANEWS, I am sorry to disagree with your Whiting Field informant. Lt. J. B. Landon may *not* be the Navy's first triple-threat man—submariner, blimp pilot and HTA pilot. A quick run-through the 1952 Naval Register listed four officers: Capt. A. L. Cope, Lt. M. A. Packer, Lt. Wm. Burlin, and Lt. Wm. Holmes—who already possess these qualifications.

RICHARD A. ELDRIDGE
LIEUTENANT, USN

NAS NORFOLK

¶ This information was also confirmed by Lt. E. B. Kasner of Op. 32, Navy Department.

SIRS:

In your April issue you have a story on a pilot who made 98% hits in air-to-air gunnery.

I do not wish to detract from the accomplishments of Lt. Waits, but I do believe that all is not according to "Hoyle". In your story you state that Waits fired 87 rounds. Note that the other members of this flight fired 200 rounds each. Why the odd loading of 87 rounds? Could it be that Lt. Waits carried 200 rounds aboard? In that case his gunnery score would be 43% not 98%.

As for the claim for stability of the gun platform made for the jets, this advantage does not seem to improve scores. Does the generally low average, to which the scores you reported are an exception, of gunnery scores indicate that maybe we have not yet mastered the art of air combat in our jets?

Back in the summer of 1947, a lot of pilots of VF-1A and VF-2A had no trouble with old *Corsairs* for gun platforms shooting 40%. In fact, Lt. Cheuvront of the latter shot a good honest 86.5%.

G. S. WILEY, LCDR.

VX-2, CHINCOTEAGUE

¶ Fleet Air Gunnery Unit at El Centro reports their training gunnery is not run off by competition rules requiring a given number of runs be made and that all ammunition loaded be expended or charged against the final score. Lt. Waits had 200 rounds but his guns jammed after he shot 87 rounds and got 86 hits. The present day air-to-air gunnery is difficult to compare to prop airplane shooting because rate of closure and increased target speed require far different attacks be made.

SIRS:

On page 38 of the May issue of NANEWS there is a writeup of the "new" tail tow bar for F9F'S designed by *Oriskany* handling crews.

To give credit where credit is due, the bar was designed and built on the *Valley Forge* by Russel J. Hudson, ABC, about the time of the start of the Korean War. The *Oriskany* was introduced to the bar by the Fleet Training Group, San Diego, after the bar had been successfully used by Pacific Fleet carriers for over two years.

A. B. BLOOMFIELD, ABC
FTG SAN DIEGO

SIRS:

The F4U is truly a remarkable airplane!

On November 5, 1943, VF-17 flew high cover over the *Essex* and the *Bunker Hill* during the first carrier air attack over Rabaul (March, 1953, edition).

Vella Lavella must be 4,000 miles from Pearl Harbor!

Incidentally, Adm. Halsey has mistakenly given credit to the *Saratoga* and the *Princeton*. Your *Essex* informants had better change the official records before the proper ships and air groups steal back their glory.

Why don't you do an article on Air Group Twelve on the *Saratoga* and Air Group Two on the original *Lexington?* These outfits mangled first rate Japanese fleets and squadrons long before the U.S. Navy obtained dozens of carriers and hundreds of air groups.

HERBERT R. WELLS, AOC
FRANK J. HAGUE, ALC

VF-776, NAS LOS ALAMITOS

¶ Our story on the *Last of the Corsairs* mistakenly placed the *Essex* and *Bunker Hill* at the first Rabaul attack on 5 November. They took part in the second one on 11 November. VF-17 flew cover for both raids. The *Saratoga* and *Princeton* participated in the first Rabaul strike, according to official Navy battle reports.

SIRS:

In the May issue VF-101 claims that one of its pilots was the first to make his first carrier landing in a jet, the date of the occasion being November 1952.

VC-61 has at least two pilots who can beat that record. On 8 April 1952, seven months prior, Lts. E. V. Grangle and B. B. Frink made the first carrier landings of their careers when they started carqualling in F9F-2P's aboard the *Bon Homme Richard*.

Lt. Crangle continued to fly from the *Big Dick* off Korea as a member of Photo Unit Nan, while Lt. Frink became an F9F-2P pilot in the *Essex's* Photo Unit Item.

P. E. SOUZA, LCDR.

VC-61

¶ The best way to smoke out outstanding feats appears to be to claim you did it first. NANews also got a letter from Lt. James Wolfe, ComAirLant PIO officer, enclosing the flight log of Lt. M. M. Simmons who made six carrier landings, his first, on 12 April 1951, all in an F9F-2.

SIRS:

From my greater consideration: The moving of the present letter is to pray send me bulletins which describe the news in the hydroplane design from the U.S.A.F.

I study the sixth year of electromechanics engineering in the National University of La Plata, student No. 9186, and I am very interested of every referring of planes.

I solicit this publications from the conviction to learn more details as well or better that magazines and/or books. I thank you from now every annoyance, and I remain infinitely grateful.

ISIDORO N. MARKUS
BUENOS AIRES, ARGENTINA

¶ The News is glad to send reader Markus a copy of its story on Navy hydroskis (not USAF).

Published monthly by the Chief of Naval Operations and the Chief of the Bureau of Aeronautics to disseminate safety, training, maintenance and technical data. Address communications to Naval Aviation News Op-05A3, Navy Department, Washington 25, D. C. Office located in room 5D628 Pentagon. Phones 73685 and 73515. Op-05A3 also publishes the quarterly Naval Aviation Confidential Bulletin.

CONTENTS

● THE COVER

This month's "Faces of Naval Aviation" cover features the aviation ordnanceman. John E. Evans, AO2, is shown arming an F4U with SCAR practice rockets aboard the Midway in the Caribbean area. Photo by J. L. Goss.

● SUBSCRIPTIONS

An unclassified edition of Naval Aviation News, containing special articles of interest to Reserves, is available on subscription for $2 a year through Superintendent of Documents, Government Printing Office, Washington 25, D. C. Changes of address for this edition should be sent to the above address.

● THE STAFF

LCdr. Matthew H. Portz
Head, Aviation Information Office

LCdr. Arthur L. Schoeni
Editor

Izetta Winter Robb
Lt. Dorothy L. Small
Cdr. Charles A. Collins
Edward L. Barker
Associate Editors

James M. Springer
Art Director

● The printing of this publication has been approved by the Director of the Bureau of the Budget, 31 March 1952.

SQUADRON INSIGNIA

The first insigne used by women in the service is shown here. It was approved for women Marines at MCAS Cherry Point, with gold lettering on red background, complete with aviation wings and the Marine motto. VC-61's photo unit aboard the Kearsarge used a temporary insigne with sly fox riding a photo *Banshee*, ready to photograph Korean targets. AA tracers fly by. The VF-174's *Hell Razors* feature a machine gun tongue on the razor. Carrier Air Group Two's symbol features Mercury's helmet, and the Group's motto, "For Liberty We Fight."

WMD-2

VC-61 FOX

VF-174

CAG-2

NAVAL AVIATION

NEWS

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