

NAVAL AVIATION

NEWS

RESTRICTED



VO-VCS Swan Song
Aerial Cameramen
NavAer 00-75R-3

JULY 1949

RESTRICTED





SQUIRT JOBS

Sleek and sinister are these three jet aircraft pictured in this month's recognition quiz. High elevators feature two, the top one has none. *Look for answers on last page.*





SO LONG GOONEY BIRDS

June 1949 Marked the Demise of the World's Saltiest Type of Aviation; Cruiser and Battleship Seaplanes Are No More; Jousting with Windmills is the Sport

A SWAN SONG but not a lament was heard recently as one venerable part of Naval Aviation gasped its last and departed this sphere forever.

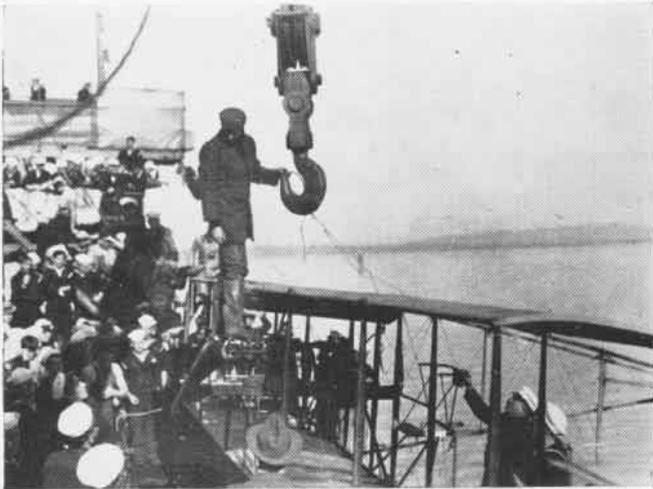
After long service as an adjunct to sea-air power, cruiser and battleship catapult planes were consigned to limbo, supplanted by a new fangled gadget sometimes called an eggbeater but more formally known as the helicopter.

Many will be the sighs of the old timers who spent time as orphans in vo-vcs flying the awkward craft whose flight characteristics resembled those of the gooney birds of Midway island, even to attempted

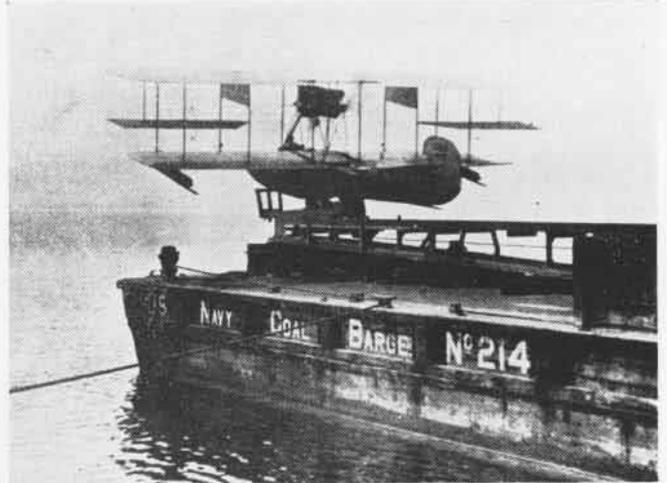
downwind take-offs and doing their flying in a stall.

Only those who flew over the briny deep in a vo plane know how much resourcefulness was required in keeping 'em flying and bringing them home safely. Strange tales came from this duty where a kick in the pants and a bounce on the wave were standard.

To the new and the old we dedicate this space; to the pioneers of 25 years ago who risked and sometimes lost their necks catapulting and landing in the open sea, and to those who are opening another chapter in the book of seagoing aviation with their craft which can ignore the rampages of wild waves.



CURTISS HERE UNHOOKS AFTER BEING HOISTED ABOARD PENNSYLVANIA



F BOAT BEING CATAPULTED FROM BARGE WHERE FIRST SHOT WAS MADE

Glenn Curtiss and Lt. T. G. Ellyson Are Credited With 'Firsts' in VO-VCS

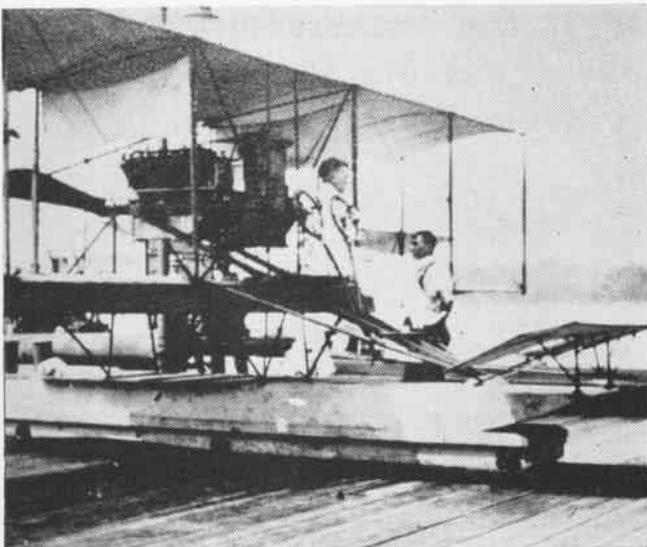
A ROARING engine, a jolt, a swish and a bang. Four hours or more flying at 90 knots. A landing in 15 foot swells with spine-jarring bounces. A hairy recovery swinging like a pendulum from a crane. That was the pattern. For 27 years a small proportion of naval aviators started each flight with a sense of adventure; a trip into the unknown.

Cruiser and battleship aviation, from Lt. T. G. Ellyson's first catapult shot in 1912, always furnished new thrills. No type of aeronautical activity from then until now put the individual flier so much on his own or offered more opportunity for ulcers and gray hair.

Now, after more than a quarter century of distinctive service, the last catapult seaplane unit has become a memory. Many a nostalgic recollection follows its passing.

In no other type of aviation did the sense of pioneering continue through its entire existence as it did in vo-vcs. Although the era of baling-wire aircraft started with Ellyson and Curtiss, it didn't end until the cruiser airplanes were scrapped.

It was a non-Navy man, Glenn Curtiss, who first went



LT. ELLYSON SEATED IN PLANE JUST BEFORE FIRST CATAPULT SHOT

aboard a ship in a seaplane when he landed alongside the USS *Pennsylvania* in 1913. After a chat with the skipper he was hoisted out again—a mild beginning for the rough water operation of later years.

The first catapult, designed by Naval Constructor H. C. Richardson and operated by compressed air, was tried out officially by Ellyson. Note the word "officially." Therein lies a tale. By a curious set of circumstances he was not the first to ride the scientific slingshot.

The catapult was built at the Washington Navy Yard and installed on a barge. Later it was towed to Annapolis.

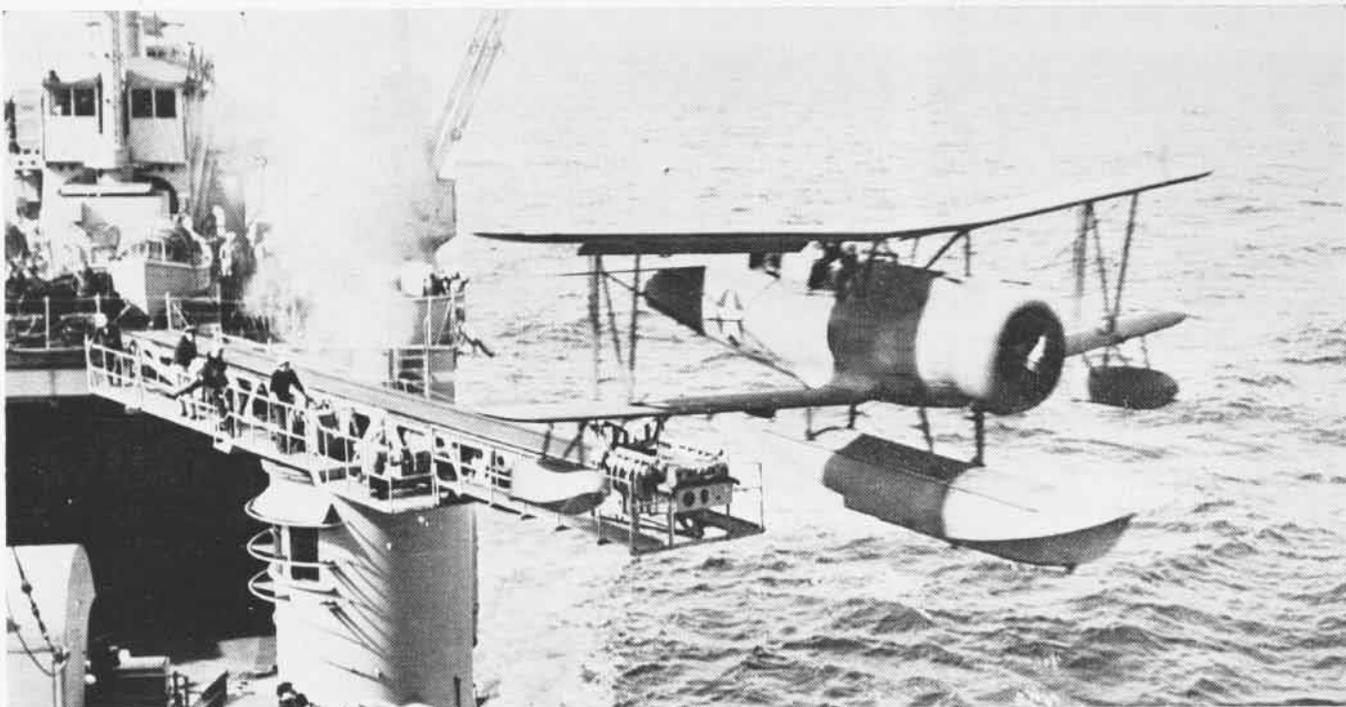
One evening, after the officers had departed for the day, a group of sailors connected with the project were arguing about the effects of catapulting on the human body. That happened to be a major concern of the head of the experiment, Capt. Washington Irving Chambers, and Richardson. As the discussion progressed a brilliant idea was presented. Why not conduct a live trial on the machine?

IT WAS the misfortune of a negro boy named Joe to be in the vicinity at the time. Flattered by attention and offers of chewing gum, he was soon seated on the catapult car having an enjoyable conversation. A half charge of air soon jolted him into the Severn. He emerged from his baptism, wet and scared, but none the worse for his adventure. The car, however, had gone to the bottom of the river, the plotters having forgotten to tie it down. It was recovered after a whole night's work and the officers were none the wiser that the effects of catapulting on the human frame had been tested the night before.

Ellyson, unaware that the machine had been live-tried already, made his first attempt that day. The shot, however, was strictly for the birds. The front of the pontoon was not held down, and as a result Ellyson was looking at the sky by the time he reached the end of the track. The plane was wrecked but Ellyson was unhurt. But he was a brute for punishment, so, on Nov. 12, 1912 at the Washington Navy Yard, he made another try and was successfully launched—this time with the pontoon nose held down—and thus proved that a plane could be shot into the air.

A Navy seaplane in 1913 gave Franklin D. Roosevelt his first ride in the air. Roosevelt, then assistant Secretary of the Navy, accompanied his superior, Josephus Daniels, to Annapolis where they saw the sights from the air.

It wasn't until 1915 that a catapult was put on a ship. The armored cruiser USS *North Carolina* was made the guinea pig with a catapult track first placed at deck level and later straddling the upper turret where it effectively blanked out gunfire while the plane was operating off it.



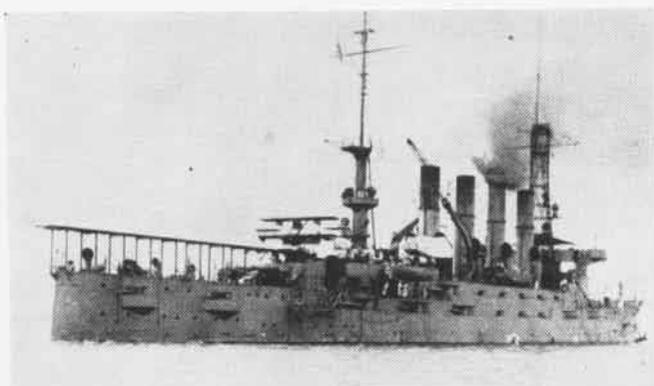
TRUSTY, SLOW SOC, WORKHORSE OF VO-VCS FOR SEVEN YEARS, IS CATAPULTED FROM ASTORIA CLASS CRUISER FROM PERCH 35 FEET ABOVE WATER

THAT didn't increase the catapult's popularity with the ship's skipper and gunnery officers. The first underway launching was made by Cdr. H. C. Mustin flying an AB-2. Since the track pointed aft the ship was obliged to make a little sternway.

By the time the United States became embroiled in World War I nobody had done anything about placing catapults on turntables, so the fixed installations on the cruisers *Huntington* and *Seattle* were highly unpopular because of the restrictions on gunnery they imposed. Lt. Elmer F. Stone directed operations from these ships. R-6 planes weighing 5,500 pounds and carrying a load of two 50-lb. bombs were used on convoy duty prior to U.S. participation in the conflict. Without turntables, the whole idea of salt water aviation was tossed overboard for the duration of the war.

It was Mustin who first broached the idea of turntables and hangars on ships. Thus the flivver stage of cruiser-battleship operations was ended when catapults were placed on revolving platforms or on turrets. The USS *Maryland* had the first installation. N-9 seaplanes were used successfully. Turrets acted as their own turntables.

The first catapult plane to come into general use was the VE-7 and with it the first rough water recoveries were tried. Considering the character of latter day recoveries those pioneers had fancy tales for their grandchildren.

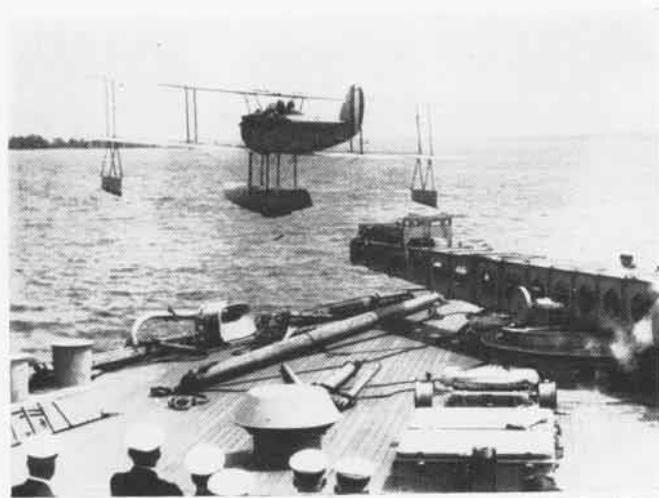


AN AB-3 SITS ON NORTH CAROLINA READY FOR FIRST SHIP LAUNCHING

Interest in this type of aviation rose to such an extent that a plane designed to operate from a submarine was developed in 1923. Strangely, it was called the XS-1. Its wings folded and the tail turned upward over the back. The whole plane could fit into a tank which was to be carried on the deck of a sub. Later generations of naval aviators were spared the horror of such operations when the project was dropped because of lack of money.

Recovery methods were developed and improved upon during the twenties and thirties. These will be described later. After the VE-7 came a whole series of Vought aircraft—the O2U, O3U and their modifications. By 1937 a new biplane, the Curtiss SOC, reached the fleet. A slow, ponderous plane, it was nevertheless unmatched in rough water recoveries. It was destined to see service through the war along with the Vought-Sikorsky OS2U, the first catapult monoplane to go into fleet operations. A Curtiss monoplane, the SO3C, never panned out. The last operational plane was the single seater SC.

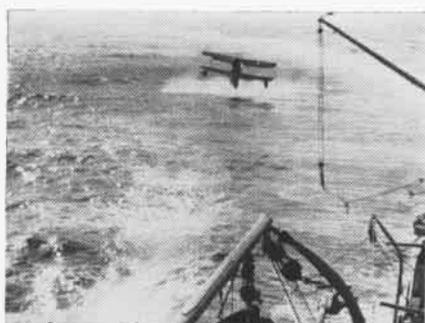
For the period of 35 years that catapult seaplanes were in use their basic design changed little.



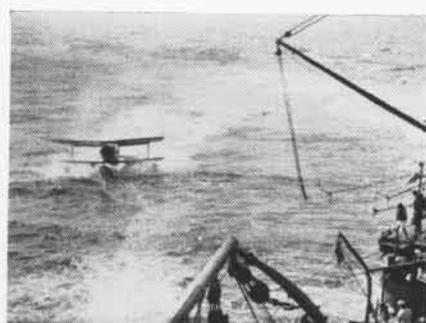
VE-7 OF MIDDLE TWENTIES LEAVES CATAPULT ON BATTLESHIP STERN



SOC ON CHARLIE RECOVERY MAKES APPROACH



WHOOPI! BACK UP IN THE AIR AT 45 KNOTS



POUR ON THE COAL, SON, AND CATCH THAT SLED

Slow Planes Created a Permanent Sense of Frustration, But Life Wasn't Dull

VO-VCS aircraft were foredoomed to obesity. Their power-weight ratios gave them the flight characteristics of locomotives with wings. This was a direct result of the necessity for extreme beefing up to withstand both catapulting and rough water landings. Chronically underpowered, they gave pilots a permanent sense of frustration.

One plane, the S03C, was designed in peacetime. It was sleek and neat with its in-line engine and its performance was reasonable. Came the war, however, and with armor, more guns and gadgets hung all over it, the result was ludicrous. It was not an uncommon sight at Pearl Harbor to see a pilot who was supposed to check out in the type start a run in the upper reaches of the harbor and travel the two miles to the entrance without getting off the water. The production models wound up as red-painted, not-too-successful target drones.

All these streamlined bricks ranged in cruising speed from 80 knots for the 02U to 110 knots for the last and most modern, the SC. Top speed wasn't much faster, either, about 15-25 knots more.

From the twenties until well into World War II every cruiser-battleship unit was an orphan whose only claim to parentage was a squadron commander who rode the flagship of the division. There was no guiding organization ashore solely for vo-vcs and when a unit did move to the beach during ship upkeep or overhaul it was a law unto itself.

All modern heavy and light cruisers carried four planes, an average of six pilots and 25 enlisted men. Battleships carried three aircraft and proportionately fewer men. The old four piper cruisers carried two planes and the most unhappy aviation units of all.



LT. BLAIR WAS PLUCKED FROM TRUK LAGOON BY LT. (JG) BAXTER

In every instance the pilots and their men formed a small group aboard a ship whose main effort was directed toward being a floating gun platform. Many a snide remark about flight pay was made in the wardrooms and living compartments. Pilots in some instances stood deck watches and became fully qualified. With the advent of reserve pilots in 1936 some mild and subtle opposition to this practice was encountered.

The first reserves to report, as mentioned above, were the commissioned cadets who wore half a stripe. Their status wasn't quite clear—neither fish nor fowl nor good rare meat. It was a moot question as to whether they were legally qualified to stand deck watches or not. The mood differed with each ship. Some skippers decreed, "Thou shalt stand watches." Period. In others the pilots volunteered just to cut down the sack time. In still others bunk sores were the rule. Most CO's left the half-castes alone. With wartime operations watches were stood only when no flights were planned for the next day.

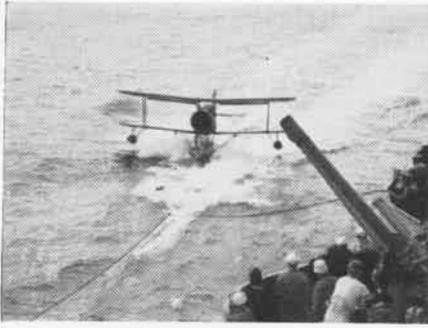
What little time vo-vcs personnel spent at work, they learned resourcefulness. The material officer was always in the role of a beggar supplicating at the feet of supply officers ashore who were stocked to take care of VP and carrier fleet units but not the catapult orphans.

LIKEWISE, the maintenance officer had to take care of more than routine checks. His team had to be prepared to replace wings, empennages, engines and float gear. And minor engine overhaul. And recovering wings with fabric. Nevertheless, the planes were as well maintained as any the Navy ever had, the result of a small organization and the personal interest of every man.

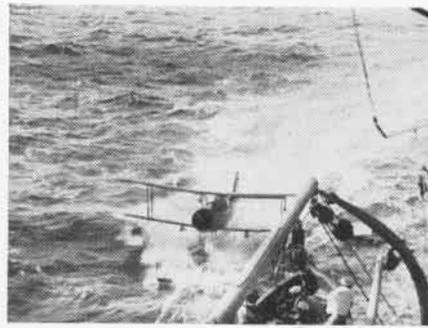
Actual cruiser-battleship operations were a sight to behold. When flight quarters was sounded it was a signal not only for those immediately concerned, but for all hands not on watch or in sight of the catapults. "A bunch of ghouls,"



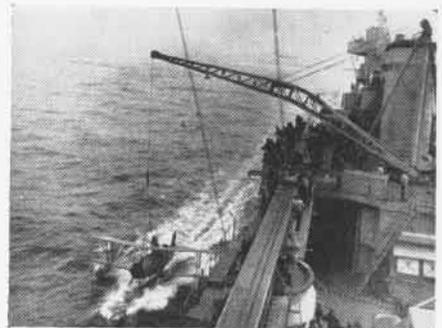
EDDIE RICKENBACKER, LOST IN PACIFIC, WAS RESCUED BY AN OS2U



A LITTLE TO THE LEFT AND KEEP HER STEADY



CHOP THAT THROTTLE AND DROP INTO THE NET!



AAH! CAREFUL, BOY, WATCH THOSE FINGERS!

the flight personnel used to grumble. "Just waiting for something to happen." But they didn't mind, not really. There was a satisfying notoriety in being connected with flight operations, even in some minor way.

Preflight "briefing" consisted of one or more pilots' sauntering up to the bridge and pestering the navigator for some essential information. In wartime some skippers allowed the aviators to share the classified tactical information, while others made life more difficult by keeping their pilots in the dark. There was no organized effort in intelligence briefing. Strangely, it never seemed to matter.

Cruiser-Battleship catapults were the powder type. What appeared to be a five inch casing was loaded with about 23 lbs. of powder and rammed into the breach. Wham, bam, thank you ma'am.

Sometimes on long cruises a ship would run out of catapult charges and would have to manufacture some of its own, using the same powder which propelled the projectiles of the main battery. For pilots who had no ordnance savvy this operation was fraught with some concern. But just until one of the homemade charges was fired. Same as the rest.

But, brother, those recoveries took the cake. First of all there was the Baker recovery. When Baker was flying the plane simply taxied alongside and hooked onto the crane. That could happen in port, at anchor, or when the ship was lying to in an exceptionally calm sea.

THEN THERE was the Dog recovery. Doing it Dog style consisted of the ship steaming ahead, preferably into what little wind there might be, towing sleds and nets onto which the plane would hook on signal. The plane would rush up, engage the float in the net and then be hoisted aboard. The sleds were metal and curved like a toboggan, with two fixed rudders underneath set at an angle to keep the sleds pulling away from the ship all the time. A breast line held the sled at the right distance from the ship's side. Attached to the sled was a net made of heavy line with meshes about 18 inches square. It was this net that a plane would engage with the hook on the bottom of the float in a recovery. While the plane hooked onto the crane the ship towed it at about 7 knots. No other Navy developed so slick a system.

Ah yes, there was the Charlie recovery, bloodiest of all. The Baker was child's play in comparison. It was reserved for conditions when there was more than eight knots of wind to an upper limit of about 25 knots—that depended on the combined daring of the skipper and senior aviator.

The ship, with sleds on either or both sides streaming a frothy wake, would head 45 degrees off the wind line. In a port recovery (the easiest because torque during taxiing wouldn't take the plane into the side of the ship) the ships would start off at 15 knots heading 45 degrees to the right of the wind line. Able was two-blocked as the plane passed over the bridge at 500 feet. The ship would start a 90 degree turn to the left and the pilot 450 degrees to the left,

landing in the slick into the wind. The ship would continue its turn 45 degrees past the wind line, furnishing a lee for the plane to taxi to the net. Our hero would pour on the coal and try to catch up while the ship maintained seven knots.

Those landings were hairy. It required a delicate touch to land on the top of a swell. No matter what it looks like, the ship would iron out the chop only but the swell would remain. If the timing was off and a touchdown was made in the trough of the swell, the plane would zip up the slope and back into the air, staggering at a sickening 45 knots or so to a jarring landing. Bounces were sometimes as high as the mainmast. The old soc seemed better able to take that kind of punishment than any other.

FROM there on in it was a struggle amidst waves and salt spray. If a landing was made too far back the plane would never catch up with the ship and the ship would have to waste five to ten minutes circling back to pick up the plane. But if the landing was a normal one the plane would taxi up, bucking and digging into the water with our salty hero's head out in the spray trying to spot the sled. On reaching the net he would chop the throttle and the nose would settle, allowing the hook to engage. Many a slip could be made at this juncture. If the plane missed the net on the inside the hook would engage the breast line and the plane would slide toward the side of the ship. That's where the man with axe came into his own. A quick chop on the breast line and day was saved. Going into the side of the ship would bring into action men with long fending off poles. Yet despite their grunts the worst would sometimes happen and a wing tip float would be knocked off. That called for quick action of the pilot and radio-man in getting to the opposite wing. If they didn't the plane would roll over faster than you know what.



PREWAR USS MINNEAPOLIS RECOVERS SOC ON SLED BY DOG METHOD



NET TRAILING SLED SHOWS WHERE HOOK ON OS2U FLOAT WILL ENGAGE



SO3C NEVER BECAME OPERATIONAL BECAUSE OF WARTIME OVERLOADING

Float Planes Rescued Many Aviators in Wartime, Landing Under Japs' Gunfire

EVEN AFTER hooking on to the crane there was danger. In a moderate sea the ship would roll; steadying lines had to be skillfully manned as the plane was seated on a dolly or the catapult cradle.

There is nothing like a salt water dunking in teaching seamanship—and to set at rest any remarks about flight pay.

Despite the unglamorous role of cruiser and battleship aviation during the war in conducting inner air patrol and scouting of 175 miles or less radius, it endeared itself to carrier aviators when many rescues were made in ticklish spots.

One of the most publicized instances occurred 17 Feb. 1944 when Lt. (jg) D. F. Baxter of the *Baltimore* unit took his OS2U into the teeth of Jap gunfire in Truk lagoon and picked up pilot Lt. G. M. Blair who had been shot down.

Again in Truk, this time 30 April 1944 another *Kingfisher*, piloted by Lt. (jg) J. A. Burns, taxied out with nine pilots clinging to every available space. A submarine took them aboard and sank the plane.

Often operational orders would come from commands insufficiently prepared to issue orders for air missions. One time early in the war a cruiser task force under a Royal Navy Admiral was operating south of the New Guinea peninsula. One day a plane disappeared. Two days later two

two-plane sections returned from a scouting hop, rendezvoused where they thought the ships should be, but no ships. A square search was to no avail. They landed, spent the night on the water and separately went to Rossel island the next morning. There were days of hiking in bare feet after shoes wore out, encounters with fuzzy-wuzzies with bones in their noses and chewing betelnut. After much struggle in trying to commission an abandoned motor cruiser the RAAF left a message that rescue was on the way. There were visions of Australian liberty. But fate wouldn't have it that way. At the crucial moment the squadron commander invaded the island paradise to lead his brood home to the roost.

NOT ONLY in wartime did the cruiser crews enjoy unusual experiences. A cruiser doing gunnery off the Kona coast of Hawaii in 1940 sent its planes to anchor for the day near a dock. The pilots and radiomen teamed up with a picnic party from Hilo which was plentifully supplied with food and beer. A bystander was a young Hawaiian girl armed with a camera. She took a shine to one pilot and favored him with many snapshots.

A month later our pilot who had intrigued the brown skinned girl received a letter and snapshots. The letter was impassioned, to say the least, for her dream man come out of the sky. It concluded, "Hoping I may some day marry or fully love somebody like you, I remain,"

Perhaps the most rugged experience of cruiser units, en masse, began on the night of 30 November 1942. Five ships raced to Guadalcanal to do battle, expecting to engage at about 2330. Ten planes were sent in at dusk and landed at Tulagi. They milled around and found buoys or beached their planes. They were to take off at 2200. When that time came it was raining. Nevertheless six made it under complete blackout conditions in a strange place full of coral heads. It was an awesome battle; one ship was sunk and three severely damaged.

Upshot was that all five units had to move ashore, set up their own camp and operate at night with the PT boats. They say desperation makes thieves of men. Here was one such case. Fire bricks were begged of the ships for making ovens. Pipe came from the governor's mansion on Tulagi; tents denied them came from a Marine stockpile in the early dawn. In short order the 140 persons had the only military installation on Florida island at one of the most Hollywood-like beaches in the Pacific. Halavo was later taken over by the Seabees and made into any ordinary well equipped camp.



SC HOOKED CRANE WHIP OK BUT THEN DECIDED TO JUMP FROM THE NET



THIS ISN'T THE USUAL METHOD FOR PERSONNEL PICKUP ON MISSOURI

Wild Waves No Longer Bother Cruiser Aviators; Fantail is A Landing Field

HELICOPTERS have captured the imaginations of ships' skippers and fleet commanders. While the old catapult seaplanes were in many cases only tolerated, the windmills are enthusiastically welcomed.

As a means of communication with the beach nothing better can be invented. No landing field is needed ashore and it fascinates the local population. One Admiral got in his required submarine dives in the Caribbean by flying from his flagship to a sub, made the dives and returned, all in an hour. "Wouldn't be without one," he declares.

Helicopter Utility Squadron Two at NAS LAKEHURST is the catchall outfit which furnishes units to all ships, and that of course includes the one battleship and all the cruisers in the Atlantic. The squadron also is responsible for all the helicopter checkout instruction in the Navy.

All pilots and crews of the squadron are subject to rotation of duty at sea. Usually two pilots go with a plane along with five men including a chief, a first class and three seamen. That group can perform all required maintenance.

Since all pilots are already qualified in heavier-than-air, the instructional problem is simplified. A pilot reporting in is first given a cockpit checkout and indoctrination in the Bell HTL, the training aircraft. Then follows the primary stage of level flight, glides and climbs, hovering, take-offs and landings. At the end of 4.5 hours he is given his solo check and goes out for a ride alone.

The intermediate stage takes him through crosswind take-offs and landing and precision work including backward take-offs. Nothing is said about backward landings. There is nothing said about eyes in the back of the head.

THE FINAL stage up to about 38 hours takes the pilot through a progress check, hoisting 50 and 100 pound dummies and a live weight, cross country and operations on floats. If the pilot is destined for duty in the Piasecki HRP's he gets an additional 9.7 hours in that type.

A unit going aboard ship is a package deal. All members are sent on TAD orders for the duration of a cruise. A standard kit of supplies and spare parts is taken along. A small chunk of the squadron's NSA allotment is used to buy that class items aboard ship. The aim is to have each unit as self-sufficient as possible.

Early experiments in shipboard operations had the helicopters landing on turrets. As a permanent installation, however, it was found that the fantail area between the elevator and the after turret offered the best conditions for take-offs and landings. All mushroom ventilator covers have been made detachable as are all hatch covers and other obstructions. The crane is left in place for hoisting boats over the side and in and out of the hangar. With the catapults off, the HO3S can easily operate in the space allotted with the guns of the after turret depressed to avoid interference with the rotor blades.

For operations the wind must be at least 20 degrees on either bow, and for every additional 10 knots of wind over 10 knots the wind must be 10 degrees more on the bow.

In addition to working as aerial taxis the helicopters are used for radar calibration and practice, and have done some gunnery spotting and evaluation. Scouting is out of the question. Nobody has yet invented a compass that will work in one of the vibrators, and if the pilot were to take even one hand to pull out a plotting board to try to navigate he would soon find himself in the drink. These new craft are strictly utilitarian insofar as the fleet is concerned. No tactical mission has yet been evolved for them.

Relations of units to officers and crew are excellent. A helicopter pilot sees more of the Exec. and skipper than any other junior officer. The usual curious crowd watches operations, but not with the faint hope that there will be excitement as there was with Charlie recoveries in the days of SC, OS2U, SOC and O3U.

With helicopter design maintaining a lively pace new vistas will be opened to eggbeater pilots. Plans call for the Piasecki HUP-1 (formerly XHJP-1) to be the standard shipboard aircraft. It has tandem rotors.

Far away places with strange sounding names call the HU units. From the Mediterranean to China you will see the egg-beaters chugging along to the amazement of the local populace. Even here at home they still cause neck strain.



SPECTATORS STILL GAWK NOW THAT HELICOPTERS HAVE TAKEN OVER

GRAMPAW PETTIBONE

Two Missing Screws

About 15 minutes after take-off the pilot of an F6F reported to an accompanying aircraft that he was having trouble with his gas system. Although he turned the selector valve, the tanks were not being changed. At this time he was on "RESERVE" tank and was within 10 miles of two good airfields. Twenty minutes later he passed up another sizeable airfield, and continued to turn his fuel selector in a vain attempt to draw gas from another tank.

After 55 minutes in the air he radioed that his "Reserve" tank was down to 10 gallons. Since the flight was proceeding a few miles off the coast line, he turned towards the beach and jettisoned his belly tank. His engine cut out a few seconds later and the F6F was ditched about 200 yards off shore. The plane appeared to make a perfect water landing and remained afloat for about 2½ minutes. The pilot was observed swimming vigorously towards shore. The tide was high and the surf rough. The pilot is still missing.

A couple of days prior to the accident this F6F and two others had belly tanks installed. Investigation revealed that in all three instances both stop screws on the fuel tank selector valves were removed. The removal of these stop screws allows the selector valves to be rotated more than 360 degrees. Such rotation in turn causes the turn-buckle on the selector chain to ride up on the sprocket, either breaking down the chain arrangement or allowing it to fall free of the sprocket. In either case the chain falls free and it becomes impossible to shift tanks.

 **Grampaw Pettibone says:**

This tragic chain of events started when a maintenance crew failed to get the word on the correct way to install the belly tanks. Only one of the stop screws should have been removed to enable the pilot to move the selector to the belly tank position.

It is difficult to understand why the pilot didn't head for terra firma when he first discovered that his fuel system wasn't functioning correctly. Every year we have three or four cases where pilots virtually sign their death certificates by not landing soon enough when they are in trouble. Last year, you may remember the case of the student who flew past three fields with his engine on fire in a fatal attempt to get home.

Whenever you know or suspect that something is wrong with your engine or any part of your plane, start thinking about



how quickly you can get on the ground. It's a lot better to land and find that the trouble wasn't really serious, than to keep flying along till the engine quits cold or the flames are licking at your ankles.

Booby Trap

The pilot of an SNB-3 retracted his wheels after take-off and tried to return the switch to the neutral position. He found that the switch wouldn't stay in this position, so he returned it to the up position for the rest of the flight. When he landed he noted on the yellow sheet that the switch was faulty.

A couple of hours later he returned to the aircraft for a second flight and was informed by a maintenance man that the landing gear switch had been fixed and that it would now remain in the neutral position.

On the take-off run the pilot applied power to 35 hg. When the SNB had travelled about 600 feet and reached an airspeed of about 45 knots, the landing gear collapsed and the propellers struck the runway.

JRB/SNB Service Change No. 43 had been partially completed in that the old type three position landing gear switch had been replaced by a two position switch. The new type guard was not available so the old guard was reinstalled.

With this guard and switch combination, it was impossible to place the switch in what appears to be the neutral position unless it was held there manually or with the edge of the guard. In reality it was then in the "UP" position.

 **Grampaw Pettibone says:**

This is what I call a real "Booby Trap." Until October of 1948 the JRB-SNB handbooks said, concerning the land-

ing gear switch: "Always return the switch to the center position after raising or lowering the gear." A revision to the handbook dated October 1948 says: "When the landing gear is extended always have the switch in the 'DOWN' position." In March of 1949 SNB/JRB Service Change #43 was issued providing for a change of both switch and guard to eliminate the neutral position.

I wonder how many pilots actually get to read all the changes to pilots handbooks and all the Aircraft Service Changes. My guess is that in a squadron where all the pilots are flying the same type plane—the word gets around pretty fast. But I strongly suspect that the pilots who fly infrequently and in different types don't see all the changes.

Certainly the maintenance people were at fault in this instance in going ahead with the service change when they did not have all the parts to complete the job. At least until the new guard was available it would have been a good idea to tag the switch with a card saying "NOTE NEW TYPE TWO POSITION SWITCH."

Brush With Death

There's a certain Lieutenant (jg) in the midwestern part of the United States who knows that his number just isn't up yet.

After not flying for more than a year, he reported to a Reserve base and was checked out in an SNJ. A couple of days later on a solo flight he decided to try a few acrobatic maneuvers. He did two rolls to the left, two to the right, and then started a split "S" at an altitude of 3700 feet.

He blacked-out during recovery from the split "S" and on regaining his senses found himself at very low altitude in a dive. He eased the stick back cautiously to avoid a second black-out and went through a tree top as he completed his pull out.

 **Grampaw Pettibone says:**

How close can a fellow come to killing himself and still survive? This chap dented up the leading edge of one wing and smashed the landing light, but was able to fly back to base and land safely.

Aircraft Circular Letter 24-49 deals with restrictions on acrobatic flying and specifies that no maneuver shall be commenced in which the entry, follow through or completion will be below 1500 feet above the water, ground, or highest obstruction.

If you're rusty from a long lay-off, as this pilot obviously was, it's a darn good idea to add on a couple of thousand feet to this minimum. You can live longer.

Seven Errors

The F8F-2 which the pilot was flying was a new plane. The safety screw on the fuel tank selector switch, which prevents the pilot from switching to the belly tank when one is not in use, had not been removed. After the flight was airborne the pilot noticed this and reported it to his flight leader, who instructed him to continue with the flight for the time being.

The flight returned to the ship after approximately two hours and made a simulated attack. At this time the division leader informed the ship of the difficulty and the fact that the plane was down to 40 gallons in the main fuel tank. The pilot dropped his external tank and began to orbit the ship.

About 30 minutes later he observed a clear deck on *another carrier* and called to say that he was making an approach. He received an acknowledgement for this transmission and started his approach to the second carrier only to receive a wave-off due to a foul deck. As he took this wave-off he saw that his own ship was ready to receive him. He immediately made an approach but was waved off for a poor pass. On his next turn his engine began to miss but caught again as he leveled his wings on the down wind leg. It cut out again on the cross-leg and the plane began to settle. With the wings level the engine again caught but the pilot was not in a position to continue his approach.

He passed the carrier on the starboard side and called to say that he was almost out of gas and would have to land on the next pass. This transmission was not acknowledged. As the pilot turned in his final approach the engine again cut out, but caught quickly enough for him to continue his approach. In the excitement of his emergency the pilot had forgotten to put his flaps down and was therefore given another wave-off. Seeing the deck clear and realizing that he might not be able to make another pass, he chopped his throttle, floated up the center of the deck, and caught a late wire. The propeller and speed ring hit the barrier.

Grampaw Pettibone says:

Everybody screamed at this lad for not taking that last wave-off, but I'd like to start way back at the beginning of this flight and tally the errors that put him on the spot!

1. The maintenance crew failed to remove the stop screw in the fuel selector.

2. The pilot failed to check for suction on the belly tank during his warm up.

3. The division leader, when first informed of the situation, did not advise the pilot to orbit the ship.

4. The pilot makes no mention of any attempt to remove the screw by any means

available to him such as his knife or the edge of his knee pad.

5. Having been instructed to continue on the flight the pilot should have dropped his belly tank to rid the plane of this unnecessary weight and drag during the next two hours.

6. When the carrier was notified that the plane had only 40 minutes of fuel left, the pilot should not have been required to wait 30 minutes before being allowed to make his first pass.

7. When the pilot radioed the L.S.O. that his fuel was almost gone and that he could not take another wave-off, this message was not acknowledged. Actually this word was never passed to the L.S.O. who assumed that the pilot could take another wave-off.

This is certainly an example of an accident that had no business happening. From the initial discovery of the trouble until the time the plane started to sputter, over two and a half hours elapsed. From where I sit it looks like this accident couldn't have happened without a lot of cooperation from all hands.



SHOULDER HARNESS SAVES PILOT OF THIS F4U

The F4U-4 pictured here had an engine failure shortly after take-off. The pilot found himself losing altitude rapidly and on a collision course with an automobile on the highway which borders the air station.

To clear the automobile he skidded his plane to the right and headed for an open field. His wheels were still down as he had originally expected to make a cross wind emergency landing on the airfield. After taking the tops out of some small trees the plane hit the clearing, rolled about 300 feet and then flipped over on its back.

The pilot states: "I was trapped in the cockpit, but the crash crew and equipment arrived in what I thought was a very short time and they got me out by digging the earth away and then pulling me out. There is no doubt in my mind that it would have been better to go in with my wheels up, but due to my first thought of getting back to the field and then finding that I could not make it; also trying to avoid collision with the auto, there just wasn't time to get them up. . . . My shoulder straps and safety belt were tightly secured and without any doubt saved me from serious injury and possible death."

Dear Grampaw Pettibone:

Thought you might be interested in the following dialogue between a pilot in trouble and the C.I.C. aboard a carrier:

"Flat Turtle from Rabbit Nine Two. Mayday. Mayday. Engine failure at Angels four directly above carrier. Which side shall I ditch on?"

"Rabbit Nine Two from Flat Turtle. Say again your last message."

"Flat Turtle LISTEN TO ME. Engine failure over carrier. Angels three. Which side shall I ditch on?"

"Rabbit Nine Two from Flat Turtle. Roger. Wait."

P.S. About a minute after the big splash the C.I.C. boys were on the air telling Rabbit Nine Two to ditch on the port side. He was fished out of the drink a few minutes later still mumbling to himself about that "WAIT" message.

— LCDR. USN.

Grampaw Pettibone says:

What no sky hook?

Thanks for this interesting yarn. I've been plenty put out myself at some "Wait" messages, but never with as much justification as this fellow had.

Dear Grampaw Pettibone:

The enclosed poem was written by one of our safety-conscious flight instructors . . . perhaps you would like to use it on your page:

THE SAD, SAD STORY OF DILBERT

You know a Dilbert, and YOU know a Dilbert,

But I know a Dilbert with a special twist:

He MEMORIZED his check-off list. Now Dilbert had two years of college His head was chuck full of knowledge: He could MEMO-R-IZE his check-off list.

On runway four there's a heck of a crash;

Dilbert forgot to change his gas; He MEMORIZED his check-off list.

On Dilberts 'wheels-up' there were many hollers,

The Navy doesn't spend such useless dollars:

He MEMORIZED his check-off list. Then he crashed into a drainage ditch,

You see, his mixture wasn't rich: He MEMO-R-IZED his check-off list.

On that crash his head was 'blocked', You know his shoulder harness wasn't locked.

He MEMORIZED his check-off list. The moral of this sad, sad, story

Could be very long and gory. But from further words I will desist,

PLEASE, READ your check-off list.

W. BIEHL

Grampaw Pettibone says:

Many thanks. The author really hits the nail on the head. If I had a nickel for every accident caused by memory failure, I could buy that farm and retire.

'Grampaw' Takes a Bow

THE NAVY took a good hard look at the work it was doing to keep pilots from killing themselves and wrecking planes and found out that of all its flight safety activities *Grampaw Pettibone* is the best-liked and most effective.

It sent National Research Council investigators out to talk to 500 pilots and 46 squadron leaders at Norfolk, Quonset Point, Charlestown, Atlantic City, Oceana, Cherry Point and Willow Grove. The researchers' findings were put out in a sort of sexless "Kinsey Report" on naval aviation filling 243 pages. *Grampaw*, NAVAL AVIATION NEWS' crusty old commentator, carried off top honors.

The survey discovered that 88.2 percent of the 500 pilots always read *Grampaw's* pages in the NEWS; 10.8 percent read it frequently; and only 1 percent said they seldom looked at his sage columns.

Other flight safety activities which were included in the survey included The WRECKord, CNO flight safety bulletins, flight safety moving pictures, BUAER Technical Orders, Flight Safety page of NANews and *Dilbert* posters.

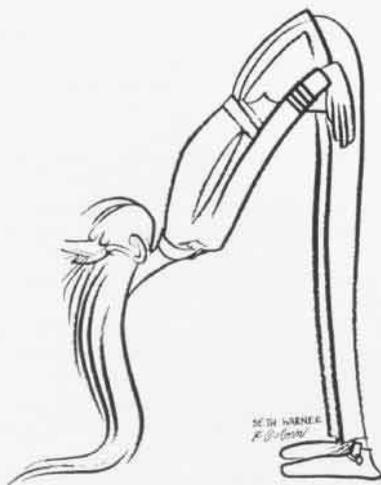
When asked to list which of the Navy's programs to cut down on flight accidents did the "most good," 77.2 percent selected *Grampaw* for top place. The WRECKord placed second with 34.6 percent, TO's finished third and Flight Safety page fourth.

The survey revealed that 96.8 percent of the 500 aviators questioned saw NAVAL AVIATION NEWS regularly, about half of them getting their hands on it in a ready room. "The medium enjoys practically universal readership," the researchers commented.

When asked how the *Pettibone* pages of the NEWS could be improved, the pilots most frequently answered: "leave it alone and don't spoil it."

The survey asked pilots some pertinent questions about why aviators observe safe flying practices. The biggest percentage, 50%, said they did it because their own experiences or those of other pilots who had close calls showed them how to save their necks. Twenty-three percent credited self preservation as the outstanding reason why they fly right. Seeing, hearing, or reading preventive safety materials ranked third, with 20%. It was interesting to note that fear of disciplinary action was hardly any deterrent—only 7.8% of the pilots giving that psychological reason for flying correctly.

When asked why they ignored safe flying practices, 26% said they did it just to show off and 26% because of



overconfidence. Other reasons given, in the order of importance, were being in a hurry, immature youths, doping off, lack of knowledge, physically unfit, inexperience and inadequate briefing.

Helicopter Locates Veteran

Armed Wanderer Found From Air

NAS LAKEHURST—A new use for helicopters—manhunting—turned up recently when HU-2 was asked to help New Jersey state police and local constabulary locate a missing war veteran wandering around the countryside with a .38 revolver.

The man, Tom Hand, was a veteran of the south Pacific action. He was clad only in sweatshirt and pajama pants, LCdr. Charles Tanner and Lt. W. G. Montgomery Jr., took off in the helicopter at 1100 to search for the man.

The pinwheel was given a 200 square mile search area while police and farmers, after 30 fruitless hours of search, welcomed their aerial aides. Tanner flew at 100 feet altitude and 30 knots airspeed, enabling him to make a thorough and systematic search of the entire countryside. After 2½ hours of looking, he saw something unusual among the scrub pines. Closer scrutiny showed it was a man lying under a small bush.

The helicopter flew back to the police squad car and then flew slowly down the highway to lead the searching party to a nearby farm where it landed. Lt. Montgomery led the patrolmen through the woods to the body. Hand was lying there, nude from the waist down, with many scratches on his body. He apparently had died of exposure. Tanner and Montgomery received profuse thanks for their search job for the law.



ADM. PRICE (LEFT) SUCCEEDS RADFORD IN CNO

Price Gets High Navy Post Appointed New Operations Head

VAdm. John Dale Price has been named Vice Chief of Naval Operations, succeeding VAdm. Arthur W. Radford who became Commander in Chief, Pacific and U. S. Pacific Fleet on 1 May.

Adm. Price had been Deputy Chief of Naval Operations for Air since 20 January 1948. He was succeeded in that position by RAdm. Calvin A. Durgin, formerly commander of fleet air at NAS JACKSONVILLE.

Adm. Radford, one of the Navy's outstanding aviation exponents, is succeeded by another man with extensive aviation experience. Adm. Price became a naval aviator in 1920 and made the first night landing aboard any carrier when he came aboard the USS *Langley* on April 1925.

During the war he held such varied aviation posts as commander of Patwing 8, CO of NAS JACKSONVILLE and commander of FairWings 1 and 2.

'News' Moves Into Pentagon Navy Offices Transfer Into Virginia

With the gradual moving of the Navy Department from its temporary building on Constitution ave., to the Pentagon, it finally became NAVAL AVIATION NEWS' turn to make the switch across into Virginia.

Attention of squadrons, air stations and carriers sending in monthly news reports is called to the fact that our mailing address is Room 4-D-356, Pentagon Bldg., Washington 25, D.C. Telephone extensions are 73685 and 73515. Personnel wanting to make personal visits to the NEWS office may obtain supplies, native beaters and a safari at Pentagon information desk for the trek.



ARROW POINTS TO 'NEWS' OFFICE IN PENTAGON

Seat Jolt Collapses Lung

Marine Pilot Finds Cause of Trouble

VMF-461, ATLANTIC—What was first thought to be carbon monoxide trouble in a *Corsair* cockpit, and reported as such in February NAVAL AVIATION NEWS, turned out to have been a considerably different lung trouble for Marine pilot Lt. John J. Fischer.

Fischer appeared to be unconscious in his cockpit but was roused by the voices of his squadron mates shouting to him over the radio. He made the landing in semi-conscious condition and was later given a full medical examination.

Fischer had on an anti-blackout suit. After the launch from the *Palau* he raised his seat to full up position but his chute pack prevented the seat lock from catching fully. Pulling out of a steep high side run at 1500 feet, he pulled 6.5 G's. The seat slipped and slammed down from top to the bottom position.

The sudden severe jar caused him slight pain and temporary dizziness which led him to fly erratically and brought his mates to his aid. Physical examination later showed that the seat slippage combined with the pressure of the stomach bladder of the G suit caused a lung to collapse temporarily. This in turn caused severe lack of oxygen and the flying difficulties described above.

VR-6 Skipper Gets in Time

Cdr. Badger Has 98 Hours in Month

VR-6, BERLIN—Nobody made any big noise about it, but perhaps one of the reasons Navy transport squadrons consistently have led all others in flying food and supplies into blockaded Germany is the hard-working attitude of the men, from the top down.

On 31 March, the operations duty officer of VR-6 checked up and found that Cdr. H. P. Badger, skipper of the squadron, had logged 98.3 hours in 28 trips himself that month. This came on top of the many hours of administrative duties which he had to perform as commanding officer of a busy squadron.

OKINAWA RADIO BUSY

NAF OKINAWA—One of the best morale-builders and good-will activities of this air facility was the Naha amateur radio station KR6NE, established a year ago and going strong as a worldwide cheer spreader for Okinawa-bound personnel until this station was closed.

The station was started in April 1948 under ACMM Wylie M. Hendrickson and a civilian Philco technician, V. B. Sharpe. To build this "ham" station required many off-duty hours and weekends of salvage work on junked or obsolete parts. All parts and equipment required extensive repair and testing.

Finally, sufficient parts were available to set up in a small way. The first test was successful and everyone was elated over the fact they could talk to wives, sweethearts, relatives and friends in the good old U.S., or other naval bases or countries around the world.

Many personnel who never had been interested in radio pitched in to help and learn. Soon they were talking

learnedly of wave-lengths, meters, megacycles, kilocycles, antennae, local and atmospheric interference, and fading or blasting signals. The station consequently proved excellent both for morale and training.

As the "hams" gained experience, they built new and better antennae, including a rotating beam one. They modified or rebuilt the transmitters so they had a 1,000-watt station, one of the most powerful in the Pacific area.

News of the success of the station spread so that many "rock-based" Army, Air Force and civilian personnel were customers. In addition, personnel from Navy, and Army ships often requested schedules for talking to their families in the U.S.

The biggest feather in the "ham" station's hat was received when it operated during and after the typhoon last October. This meant much to the families of personnel on the "rock."

Dunking Expert Put To Test

Rescue 'Copter Airborne in 15 Secs

Dunking and ditching are now old hat for Ens. M. E. Russell, USNR, of Fighting Squadron 63.

Twice in the past five months he has acted out in full dress all the advice of *Dunking Sense*.

Fifteen minutes after taking off in a pre-dawn launch from USS *Franklin D. Roosevelt* (CVB 42) during the Atlantic Fleet Command Exercises, Russell experienced a sudden and unexplained power failure of his F8F. Power failure was also the cause of his previous ditching.

The rescue helicopter aboard the FDR was manned, started and airborne with amazing rapidity—within one quarter of a minute.

Russell was back from his swimming lesson and aboard the carrier in approximately 25 minutes, none the worse for the wear. He is now ready to confine his dunking, however, to doughnuts in coffee.

★ ★ ★ GCA BOX SCORE ★ ★ ★

April GCA Approaches.....	8,332
Actual GCA Landings.....	201
Grand Total Approaches.....	211,298
Total GCA Landings.....	9,097

★ ★ ★

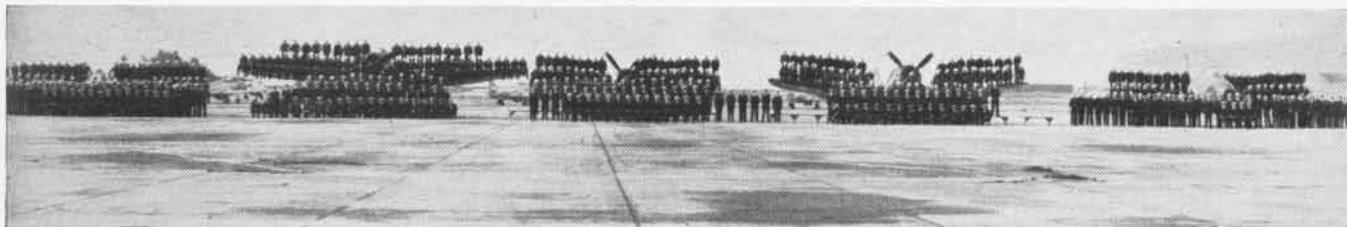
This Boy's Lost, But Good!

Pilot Gives General Idea of Locale

VR-44—A novel and interesting method of orientation was intercepted by the crew of an eastbound R5D from this squadron near Cheyenne the other night. An unidentified bomber cut in on VHF with the following classic:

"Ladies and gentlemen, we are IFR on a transcontinental round-robin at 32,000 feet. We are not lost, but we are not certain of our position. We think we are over Utah, but we may be somewhere in Wyoming, Colorado, Arizona, Nevada or possibly Montana.

"Will the station reading this the loudest please give us a call and tell us where you are so we will know what station we are closest to?"



Recognition of friendly and enemy aircraft is a continuous job for Navy fliers. In this month's recognition test, we have complicated the task a little by including a lot of men in the picture with the planes. Carrier Air Group Five sent the

photograph in to show the five kinds of planes its squadrons fly. From left to right the groups are VF-52, flying TO-1's, VA-55 with TBM's, VF-53 with F8F's, VA-54 with SB2C's, and VF-51 with FJ-1 jets. CAG and his moguls are in center.

Helicopter Helps Take Beachhead



TRANSPORT HELICOPTER HOVERS WITH 75 MM. HOWITZER TO GIVE GROUND TROOPS FIREPOWER

MARINE CORPS aviation demonstrated a new technique in beachhead invasions recently when a fleet of eight Piasecki HRP-1 helicopters landed swarms of combat Marines in a simulated assault at Quantico.

Before members of the 81st Congress and top generals of the Marine Corps, they put on a demonstration of how troops could be landed from carriers far offshore without having to capture a defended beach.

Highlight of the day-long show was a lightning raid into "enemy" territory. Several of the big transport helicopters landed a reinforced platoon of troops and were gone quickly while Marine *Phantoms* and *Corsairs* laid covering smoke screens and hammered "enemy"

positions with strafing, rockets and bombs.

Other helicopters slipped at tree top level behind the smoke screen and delivered light artillery with its crews to support the troops on the ground, or landed telephone lines, supplies, directed artillery fire and evacuated "wounded" from the field of action.

Live bombs, rockets and artillery fire added realism to the show which was staged to be clearly visible from the specially-placed grandstands in the Quantico maneuver area. This action was followed by another demonstration attack by an infantry company on a heavily-fortified position of concrete pillboxes and gun emplacements.

Among the supplies airlifted to help

the attacking Marines in the first maneuver were 75 mm. pack howitzers which were carried in by the helicopters on cables. Troops unlimbered the pieces and opened fire on the "enemy" in distant positions.

The demonstration illustrated graphically a new tactic which could be employed in an invasion—rushing in troops by helicopter to strategic spots around or behind enemy lines. The Marines do not contemplate replacing the landing barges and *Alligators* with helicopters but would use the idea for quick thrusts or support action in strategic spots. Helicopters could not carry the masses of men and supplies necessary to establish a beachhead in the manner of the war in the Pacific.



COMBAT TROOPS CLAMBER ABOARD PINWHEEL WHICH WILL FERRY THEM



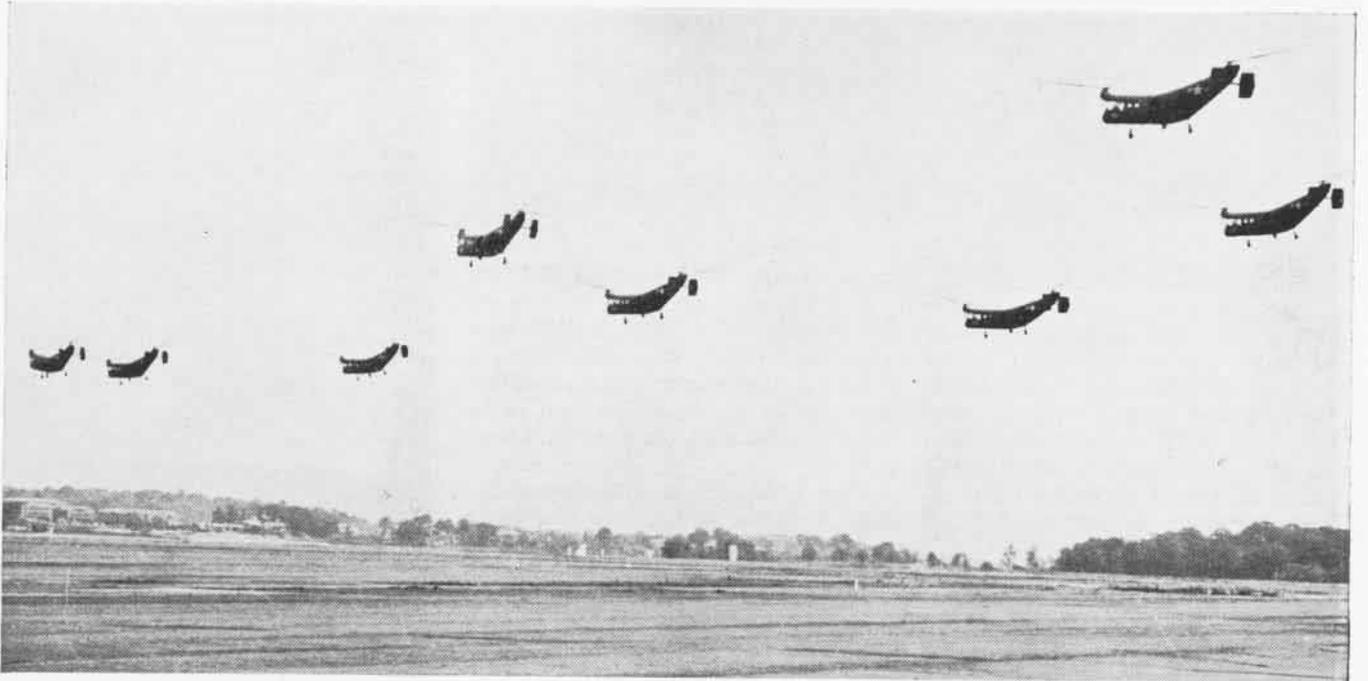
CLUTCHING THEIR RIFLES, GROUND TROOPS AWAIT FLIGHT FORWARD



WEIRD FLIGHT ATTITUDE OF HELICOPTER AS IT STARTS TO GO AHEAD



ARRIVING AT BATTLEFIELD AREA, TROOPS DEBARK, HEAD FOR COVER



LIKE A SWARM OF MOSQUITOES, EIGHT PIASECKI HELICOPTERS SET OUT WITH THEIR MARINE TROOPS TO STRIKE AT THE 'ENEMY' POSITIONS



PINWHEEL HOVERS OVER MARINE TANK IN QUANTICO BATTLE GROUNDS



TROOPS BROUGHT BY HELICOPTER USE 75 MM, CARRIED BY PINWHEEL

SHUTTERBUGS SEE WORLD



Flight lines must be meticulously laid; studying how are: Lt. Sistrunk, Lt. (jg) Marsh, Lt. (jg) Sassman, Lt. (jg) C. L. Smith, Lt. (jg) Elliot, Lt. (jg) McGraw.

LAST year a couple of pilots embarked in the *Tarawa* with their fighter photographic planes and maintenance crew, thinking their temporary additional duty orders would carry them through an ordinary cruise. Many months later, sophisticated world travelers, they pulled into New York harbor.

Theirs was not the usual photo team's experience, but they ably demonstrated how a small smooth-working unit can be self-sufficient for a much longer period of time than originally planned. They are products of a specialty system developed since the war.

Last fall, with the commissioning of Composite Squadrons 61 and 62, carrier fighter photographic reconnaissance came into its own as a specialty to be handled by units outfitted and trained for the mission.

During the war and immediate post-war periods, the photo planes attached to carriers were in the orphan class. The pilots were trained in single-engined reconnaissance but from there on in they were on their own, attached to regular fighter squadrons or Air Group Commanders. "Home" was sometimes a FASRON or a regular squadron. The two lonely pilots and their photographers usually assigned a carrier rarely had an opportunity to compare notes with kindred souls.

Now, when two pilots with their

planes, photographers and other rates go aboard for a cruise they are well trained and have an organization behind them which has been thorough in its indoctrination and complete in equipping the unit.

Like it was in cruisers and battleships, each unit is in charge of a senior aviator.

From the ground up VC-61 and VC-62 are fighter photographic reconnaissance outfits. When VC-62 was commissioned it drew on experienced officers. Eight of them were graduates of photo school at Pensacola where a complete photo course is given, while four others had attended single-engined fighter photo schools at Harrisburg, San Diego or Barber's Point. The Commanding Officers of both squadrons are graduates of photo school.

Before a unit is ready to embark, its members have been through a complete training program. Each photographer must know his equipment thoroughly and must be able to make minor repairs during a cruise. When he installs a camera the pilot expects it to work perfectly. Both the pilots and the photo mates must know how to plan flights. This involves poring over maps of areas to be mapped and then laying out flight lines to take advantage of irregular coastlines and uneven terrain. Such planning cannot be haphazard or the results will be weird and confusing.

Every unit is self-sufficient and is designed to fit into whatever type of squadron is operating from a carrier. This is made possible in that the planes available are the F8F-2P's and F4U-5P's. Most VC pilots are checked out in both. The average unit embarking is composed of two pilots and eight men (photo mates, mechs and seamen).

FIRST word of an upcoming cruise is received usually from perusal of fleet operational orders. Later, definite orders come to the squadron from the fleet commander.

With these latter orders the squadron swings into high gear. The photographic officer, pilots and photo mates make a trip to the ship concerned and inspect the laboratory. It is sized up for amount and condition of equipment, facilities for processing film and making prints as required by the operation, and the adaptability to reconnaissance photography as compared to public relations work.



Installing Sonn  camera are H. A. Sanafer, AFAN and J. W. Raney, AF3.

In many instances it is found that equipment carried aboard is not complete enough for the operation, and in other instances its upkeep is not up to par because of a shortage of experienced camera repairmen. Items lacking on the ship are included in the unit's allowance list.

CAMERAS required for VC operations include the trimetrogon, Sonn  continuous strip, K-17 and all other vertical and oblique cameras. The planes which carry these cameras are not just modified; they are built for the job from the ground up. Most commonly used cameras are the trimetrogon and the K17-12 for mapping.

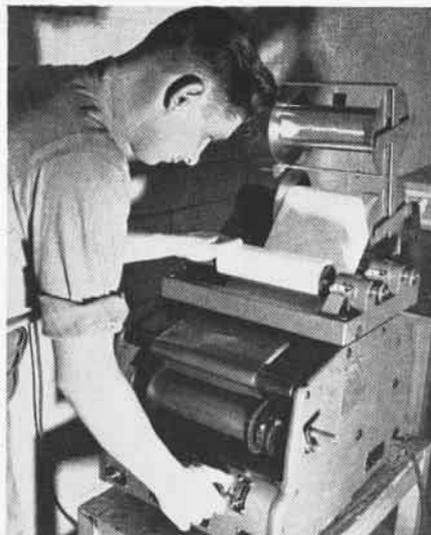
For developing the 50 and 200 foot rolls of film common to aerial photography there is a rugged motor driven roller-tank called the B5, used by both the Navy and the Air Force. The machine winds and rewinds the film through developer fluid, wash water and fixer (hypo). Past models were under-powered for the 200 foot rolls but this fault is now overcome.

For making prints from the rolls of film, most ships and stations use what is known as the Sonné printer. Design of this labor saver was necessitated by the invention of the Sonné camera which is almost human in its operation. Controlled by a "magic eye," this camera is used at low altitudes for vertical photographs. The shutter stays open and the film goes across the back of the camera synchronized with the speed of the ground passing underneath. The result is a continuous picture as long as the roll of film used.

With a continuous negative it was necessary to make a print the same length. The Sonné printer was the answer. Photographic paper and the negative roll are fed into the machine together and the finished print in roll form comes out the opposite end. In traversing its length the paper is exposed, developed for six minutes, rinsed, fixed in hypo, washed and dried.

With ordinary single photos of 9" x 9" or 9" x 18" it was formerly necessary to print each one singly and put them through the steps described above singly. The Sonné printer takes the roll and bangs out the prints toute de suite. All that is necessary afterwards is cutting the prints individually.

AT NAS NORFOLK VC-62 has set up a training program for its officers and enlisted personnel. Pilots who have graduated from photo school act as instructors in that subject. Uninitiated pilots are sent through a course which



Sonné continuous strip printer is labor saver; A. S. Merichko, AFAN, operates it.

includes using all types of cameras. Strip, oblique, Sonné, tri-met, mosaic, and pin point photos are made. The strip is a series of pictures taken along a straight line, any two overlapping by two-thirds so that they can be viewed in stereotype to get depth perception. Sonné has been described already. Trimetrogon photos are taken vertically and obliquely to each horizon at the same time with a special camera. Mosaics are strips taken side by side so that when trimmed and laid out they form a rough aerial map. Pin points are photos of a definite object. Thirty-eight hours of flying are put into completing the above work.

Each pilot must plan his own missions including laying out the flight lines, fly it, index the film and plot the photos. Although the squadron is only seven months old a course of photography from the ground up is being planned. Along with the above, pilots maintain their proficiency in gunnery, bombing, rockets, tactics and navigation

in F8F's and F4U's. They have to practice fighter direction, night flying and instruments, too.

Many enlisted photographers have never been to photo school. Even those who have completed the course need further training. Their ground course emphasizes processing, camera repair and maintenance. Although it can't be done in all cases, men are put into the phase of the work for which they are best fitted. New men are placed in the processing end to improve their effi-



Rugged B5 roller tank handles 50 & 100 ft. rolls; L. J. Allen, AF3, develops.

ciency. VC-62 has its own camera repair shop, mock-ups of camera installations, and an electronic test outfit for the Sonné cameras.

A good example of a fighter photo unit going out on a cruise was the one which accompanied the *Midway* on her Mediterranean cruise of two months this past winter. Lt. (jg) J. M. Sassman was named senior aviator, and Lt. (jg) J. A. Marsh, second pilot. With the squadron photographic officer, Lt. (jg) V. J. DeRoco, they visited the ship and



Sonné camera's magic eye needs expert care; Cdr W. O. Moore, CO, VC-62, LCdr Stetson, watch repairman J. F. Walker, AFC.



Capsule for trimetrogon camera is examined by Lt. (jg) J. A. March, Lt. (jg) R. C. Bridges, Lt. (jg) Ross, Lt. (jg) Elliot.

ascertained that several extra cameras were needed, but that the ship's facilities for processing were fairly complete.

Sassman and Marsh joined field carrier landing practice of the *Midway* Air Group to become familiar with the Landing Signal Officers. They took a quick refresher on photo runs and filled in on tactics. As an independent unit attached to CAG 6 they were responsible for routine maintenance and security of aircraft, education of enlisted personnel, planning of photo missions, administration of the detachment for the ship's CO, cooperation with ship's supply officer, submission of routine reports and processing of aerial film. Outside of that they had little to do.

The ship sailed January 4 and visited among other places, Naples, the French Riviera, Sicily, Tripoli and Gibraltar.

The embarkation of Lt. (jg) Sassman's unit in the *Midway* marked VC-62's first such venture as a squadron. Prior to that time all photo units had come from FASRON Three. Commissioned at 0830 January 3, the squadron shoved off its first unit the next day. Actually, however, the cruise was a known factor for several weeks beforehand.

Photographic pilots have unusual opportunities for gaining an insight into carrier operations not open to the average fighter pilot. They are specifically charged with becoming acquainted with the air group doctrine, the operations officer, ship's photographic officer and CIC officers. They must be familiar with operations of the future and be prepared to advise the command in their specialty. They are available also for line duties as long as they have eight hours sleep prior to operations.

Not since the days of vo-vcs have small aviation units been put so much on their own. All jobs of a much larger outfit devolve on the shoulders of two officers and ten men.

It is a short course in responsibility.



Newest addition to the planes along the line at Corpus Christi is an HO3S search and rescue helicopter, shown here hovering over a PB4Y-2. The helicopter made an actual rescue 30 minutes after it arrived to take over its Corpus duties.

ALASKAN CRUISE PROVES ROUGH

CAG-15, BOXER—This air group left San Diego last winter for a short jaunt into the polar bear country (only no polar bears). Some of its experiences with flight training make interesting reading.

Air operations included simulated carrier controlled approach, conducted on the way to Kodiak. On occasions seas and weather were exceptionally heavy for conducting air operations and there were some close calls due to the icy and pitching decks, not to mention reduced visibility.

During the trip both to and from Kodiak, the planes were launched and recovered in winds up to 58 knots while the seas had swells up to 50 feet. During one of the recoveries a blizzard reduced visibility to almost nothing and a tense situation developed. It wasn't until the last plane was safely aboard that an easy breath was taken. Due to the experience of the ship's personnel and the varied experience of the air group no real misfortune befell the operation.

While on this trip pilots had an opportunity to try out new and different types of survival gear, principally exposure suits. These suits were very

warm and brought forth one of the more humorous incidents. During an underway inspection of the ship by Admiral Wagner, Commander Fleet Air West Coast, some of the pilots literally were "caught with their pants down," in the "longies."

This was due to the fact that the combination of exposure suits and long underwear was too warm for comfort so the pilots took off their exposure suits and waited for flights in just the "longhandles." This exposure equipment may not have been the most comfortable, but all pilots were glad to have the protection that it offered.

En route north, 50 anti-buffet helmets for fighter pilots were delivered to the ship by aircraft from Alameda. These were desirable mainly in the event a barrier crash ensued.

One unusual development during the cruise was the absence of "popping" from the F8F's on take-off. This was solely to the use of the RB19R-2 spark plugs. Not only was engine performance vastly improved, but another result was the saving of manpower as not a single spark plug was replaced during the entire month. Morale of pilots and mechs soared noticeably.

P-BOAT PILOT HAS BUSY TIME

VP-44, CARIBBEAN—The following incident, which occurred during recent advanced base operations from the USS *Timbalier*, illustrates the high degree of training and adaptability a PPC should possess.

The squadron was scheduled to base all nine PBM's on the tender, but the requirement was complicated by the fact three were temporarily based at Guantanamo Bay as search and rescue detachment. Another was down in Jacksonville with engine trouble.

Climax of the operations was a mining exercise with all nine planes. All hands were pleased when the downed plane was made flyable and was able to leave Jax for Guantanamo on the day the rest of the planes left for advanced base. Mining was slated early the next morning.

On the morning of the exercise, Lt. (jg) Sones took off in the repaired aircraft and landed at the advanced base as the other aircraft were taking off, the time 0748. Sixteen minutes later, at 0804, he took off to attempt to join the mining planes. During the 16 minutes he was down, a boat from the *Timbalier* came out and the ship's exec briefed him and gave him charts. This briefing included instructions for several exercises in addition to the mining.

By this time the mining formation had proceeded to the objective, the flight leader having announced his decision not to wait for Sones. Then as the formation was about 2,000 yards from the dropping point, the missing plane appeared, having made a running join up. Sones dropped his first mine at 0822.

Planes Slug Visiting Ships

Simulated Attack Atom-Bombs Mo.

VP-44, PANAMA—Three patrol squadrons based at Coco Solo combined to give the BB *Missouri* and the CA *Rochester* a rousing, simulated atom-bomb welcome when they paid a visit to Panama on a Reserve cruise recently.

The afternoon before their arrival the ships were met at sea by planes of VP-44, VP-40 and VP-3 and thoroughly given the works—for training purposes. VP-44 and VP-40 made low-level torpedo attacks with four PBM's, followed by an "atom bomb" attack by two P2V's from VP-3. The *Mariners* made lightning-like attacks on the *Mighty Mo* and her companion, to be clear of the "atomic bomb." The operation went according to plan; however, the "crippled" ships steamed into Cristobal the following morning for a week-end of liberty.



THICKLY-WOODDED TERRAIN IMPEDED RESCUE PARTY SEARCHING FOR MAN



CORPSMEN PROVIDE WATER FOR THIRSTY PILOT AFTER REACHING HIM

SWAMP RESCUE VIA HELICOPTER

WHEN LT. Shirley W. Reese bailed out of his Marine *Corsair* and broke both legs when he hit the stabilizer, he set off a well-organized rescue operation which utilized a helicopter, forestry department tractor and a good-sized crash crew.

The accident occurred on the morning of 25 April about 12 miles from MCAS CHERRY POINT. Reese's F4U, for some unexplained reason, went out of control. He was forced to bail out. In so doing, his legs struck the empennage and were broken instantly.

The Cherry Point crash crew was dispatched immediately to the area and fought through the dense underbrush to bring aid to the injured aviator. Because of the possibility of further unknown injuries, the doctors accompanying the rescuers advised against moving him overland. The best remaining way, they decided, was to call in the Coast Guard helicopter unit from Elizabeth City, N.C. The injured pilot was given water and morphine to ease his pain, then lashed in an improvised stretcher and hoisted aboard the hovering HO3S-1 helicopter as seen in the photo to the right.

The stretcher hoist was made by using the shroud lines from his parachute to secure the litter so it could be hauled up into the helicopter.

He was taken back to Cherry Point and later transferred to an ambulance and rushed to Camp Lejeune. Lt. Reese was attached to Headquarters Squadron 14 until October, 1948, when he was transferred to VMF-122 and assumed duties as adjutant of the Marines' first squadron of jets. As a result of the accident, a helicopter was assigned to Cherry Point for rescue work. Pilots are Capt. Wallace D. Blatt and M/Sgt. Leonard H. Mounts, both formerly of VMX-1.



DR. C. M. HERBERT OF CHERRY POINT DISPENSARY ATTENDED REESE



COAST GUARD HELICOPTER HOISTS INJURED LT. REESE OUT OF NORTH CAROLINA BACKWOODS AREA

Reserve 'Boots' Come Aboard



SEAMAN RECRUITS AT NARTU ANACOSTIA STUDY PROPELLER OPERATION



LATER THEY GO OUT ON THE LINE FOR PRACTICAL COCKPIT INSTRUCTION

LAUNCHING a new plan to provide intensive training for seaman recruits during the summer months, the Naval Air Reserve has come up with a program which should ultimately do much to keep the Organized Reserve squadrons at top strength.

This program aims to give new recruits a real interest in the Air Reserve, so that they will continue to attend drills regularly, prepare themselves for advancement, and, in fact, become valuable members of the Reserve team. Training is particularly slanted for high school graduates in the 17 to 18 year old group, who comprise the greatest source of new enrollees.

By crystalizing the initial enthusiasm of these young men for the Navy, the Naval Air Reserve expects to cut down one of the major hazards to fully complemented squadrons—that of rapid turnover.

Experience has shown that this turnover is due in great measure to the fact that it is impossible to give new recruits the intensive type of training, needed to indoctrinate them into the Navy way of life, in the limited time available during weekend drills. Yet, when these recruits fail to feel that they are a real part of the Navy, their interest lags and they drop out of the squadrons.

Under the new training program, 21 stations and units throughout the country in the Reserve chain each enrolled up to 100 seaman recruits for an intensive course which started about 15 June and which is scheduled to last for from 8 to 12 weeks. Most of the new recruits were drawn from the graduating classes of local high schools although a few were already in the Reserve.

Living aboard the station during the course period, seaman recruits follow a tightly packed schedule which combines

classroom instruction and practical training with plenty of athletics and recreational activity mixed in.

First they learn about naval organization and customs; then they take up seamanship and ordnance fundamentals. Next comes a section on Navy ratings, so that the recruits can get an idea of what work they wish to specialize in. In the fifth week, they will embark on the Airman's Syllabus, which covers various phases of naval aviation such as plane types, safety and maintenance. During the final weeks they will be given in-service training on actual aircraft. The conclusion of this special training should find the seaman recruits ready to qualify as Airman Apprentices.

Competitive sports are featured in the extensive athletic program which is arranged at each station for the recruits.

Officer and enlisted Reservists with exceptional teaching qualifications were called back for extended duty at each station to help with the training.

The program was pre-tested last year at NAS LOS ALAMITOS, where it has since been paying off in increased interest and attendance. Out of the group of 336 young men, drawn mostly from local high schools, who enrolled in the intensive training course conducted there last summer, 248 are now members of Organized Reserve squadrons. Their drill attendance averages 95%. Moreover these men are doing excellent work in the individual squadrons.

With today's program for seaman recruits rolling along in high gear throughout the country, the Naval Air Reserve is looking forward to receiving the same high dividend of loyalty from the new members on its team.

Shown in the pictures above are seaman recruits Fitzpatrick, Geremia, Bachman, Daniel, Van de Grek, Kirby, Bisch.

Anacostia Inspection Telecast

NARTU Anacostia is the first Naval Air Reserve station or unit to have its Organized Reserve inspection ceremonies televised over a regular network. The telecast was carried on the NBC *Camel News Caravan* on 2 May 1949.

Careful coordination between NBC and NARTU in working out the many details produced an accurately timed four-minute spot on the nightly news program with focus on the opening ceremonies of the annual military inspection by the Chief of Naval Air Reserve Training.

The challenge of getting ready for an indoor "on the spot" evening telecast involved solving many major problems. Sufficient lighting had to be provided; cameras had to be placed so as to gain desired coverage without interfering too much with prearranged squadron formations. Required power and communications facilities had to be set up and the 7000 megacycle parabolic microwave antennae over which the video was relayed to the studio had to be placed on the roof of the hangar and adjusted.

To obtain the necessary light intensity, ten mobile 500 watt flood lights, modified with 1000 watt bulbs, were strategically placed throughout the large NAS hangar where the ceremonies took place.

One camera was placed on an aircraft engine box, which was sufficiently solid and of the required elevation. A second higher camera platform was easily improvised by making use of a large hydraulically controlled aircraft work stand. To prevent vertical vibration the work stand was reinforced with timbers.

Main power busses were tapped and extension switch boxes were placed at desired points to supply the large power

demand. Three trunk lines were established between the TV mobile unit and the studio at WNBW for audio and cueing purposes.

Narration for the inspection spot was done by Robert McCormick, nationally known NBC commentator. He emphasized the national aspects of the Naval Air Reserve Training program as well as giving local highlights.

"Thumbs Up"—Willow Grove Chow

The saying "If it's Navy chow, it's good" has been modified at NAS WILLOW GROVE to read "If it's Navy chow, it has to be good." Carrying the rating board system right into the enlisted men's mess, each Navy cook at this station is paired with his speciality on the menu and his job is rated "thumbs up" or "thumbs down" by his eager clientele.

In the picture below, Rear Admiral Richard F. Whitehead, Chief of the Naval Air Reserve Training Command, is shown questioning William Jones C-1 on the strictly "thumbs up" report on the board. Jones explains that it generally takes only one "down" to get the "whodunit" back in the groove and that the cooks at Willow Grove are definitely in the "up" class.

Don't get confused by that "Weeping Willow Tea Room" sign. It's just the name chosen by the enlisted men for their mess and it represents a combination of the station name and the weeping that is associated with crying towels and griping.

Olathe Aids Advancement

Preparing enlisted Organized Reservists for advancement in rate is a regular feature of Naval Air Reserve training. To insure that O-2 Reservists receive full credit for their work, NAS OLATHE has devised an effective control card system for recording progress in practical factor training for advancement in rating.

Under this system each department, to which an Organized Reservist reports on drill day, keeps a card which shows his practical factor progress. On this individual's card, the instructor enters the time spent in training and the grade or proficiency attained either within the training period or for the entire course.

These individual control cards are collected after drill days by the technical training



NBC-TV CAMERAMAN STANDS ATOP ENGINE BOX TO TELEVISION NARTU ANACOSTIA INSPECTION

department, which originally distributed them, and the reports are entered from them onto the master training record which is kept for each Reservist at training.

A visual chart is also maintained in each squadron office, which shows the phases of training required for each individual. Squares are marked off as the Reservist completes each phase.

Typical of Organized Reserve advancements at Olathe is the fact that 27 members of FASRON-67 were advanced in rate during the period from January to May of this year.

Station Round-Up

● NAS LOS ALAMITOS—During April 37 Organized Reserves either advanced or changed in rate. The majority of advancements were chalked up by seaman recruits who went up to AA or SA.

● NAS NEW ORLEANS—A concentrated effort is being made by the educational section to get high school diplomas for as many eligible station personnel as possible. During one week 80 Reservists were interviewed and 30 requests for GED tests were forwarded to USAFI headquarters.

● NARTU LAKEHURST—During April, 31 recruits were given examinations for Airman Apprentices. Approximately 95% passed and were slated for advancement. These recruits were also interviewed to determine their qualifications and to find out for what rates they wished to strike.

● NAS MINNEAPOLIS—Ground for a skeet practice range was obtained at Fort Snelling through the VA. Seabees on two-weeks cruise cleared the land and station ordnancemen completed the set-up.

● NAS DALLAS—A royal repast was prepared for six stationkeepers who recently were advanced to chief and, to initiate them into their new estate, they were required to eat it in the manner shown below. From left to right in the picture are: P. R. Hackney ADC; L. G. Becknell AEC; F. E. Jones APC; W. H. Hedlund ADC; A. Ashton TDC; and R. J. Tomlin RMC.

● NAS AKRON—Approximately 60 Air Scouts topped off their eight-weeks course in the fundamentals of aviation, given one evening a week by the technical training department, with a flight around the local area in an R4D borrowed from Grosse Ile.



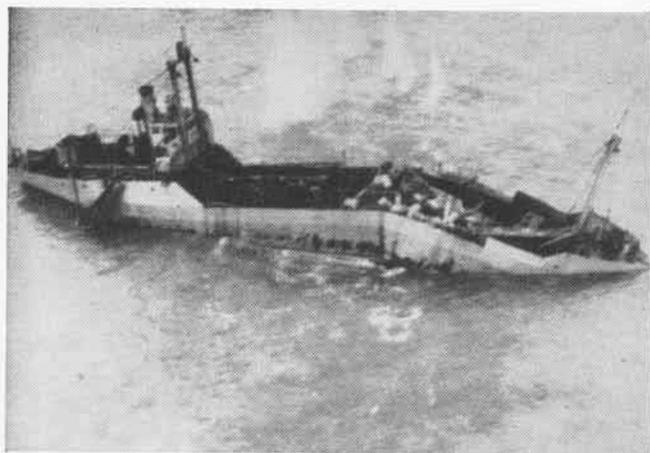
R. ADM. WHITEHEAD FINDS THAT WILLOW GROVE'S CHOW REALLY RATES



IF YOU'D JUST MADE CHIEF THIS DALLAS MESS WOULD LOOK GOOD TOO



R. ADM. J. D. PRICE TALKS TO PRIVATEER PILOTS AT OKINAWA BASE



IN MAY '45, MONTGOMERY CRACKED JAP SHIP WITH A WATERLINE HIT

BOMBING SQUADRON 118

IF THE JAPANESE war lords had hoped that we would be sending third stringers into aerial combat by 1945, they were doomed to disappointment and a great deal more—destruction and death. We still had teams of first stringers as valiant and skilled as their daring predecessors.

In January 1945, VPB-118 led by Cdr. C. K. Harper arrived at Tinian, piloting the new scourge of the seas, the PB4Y-2 *Privateers*. This proud squadron was the first to take these long range, slug-ging heavyweights into action.

Throughout February they flew patrols, a continual menace to Japanese shipping and shore installations. VPB-118's main mission was the obliteration of surface targets, and to this end, they devoted time, effort and firepower with an efficiency that must have lent a special terror to their adversaries who were watching time run against them and inevitable defeat draw near.

On 1 April, Okinawa was invaded, and on the 15th, Lt. Cdr. A. F. Farwell, Lt. Wyatt R. Blassingame and Lt. J. E. Kyle, Jr. arrived to prepare for the arrival of VPB-118. Okinawa, a cloud of dust, a bleak and barren spot, left everything to be desired. Within the next six days, equipment came in by air, and the first group of planes led by Cdr. Harper arrived. Tents were set up for offices and living quarters, and no sooner was this accomplished than VPB-118 underwent its first air raid.

The first blow by the squadron in the aerial blockade of Japanese home waters was struck on 26 April when Lt. (jg) J. A. Lasater and Lt. (jg) H. J. Thompson started the Okinawa show with an attack on a 6,000-ton Fox Tare Charlie. Coming in low in the face of intense AA fire, they left the ship burning, dead in the water and listing badly. They had to break off the attack because

★ THIS IS the eighteenth of a series of short sketches of squadrons in World War II. It is based on reports filed with Aviation History and Research in DCNO(Air).

of the heavy damage to the *Privateer*.

On the 30th, word came that the Japanese were attempting to run a former Italian luxury liner from China to Japan. Farwell and Lt. Thomas L. Dodson took off about 1400 in a slight rain. On reaching Korea, they encountered zero-zero weather, and their planes became separated. However, both pilots extended the search to the limit, and just at dusk, Farwell's radar operator picked up a blip at 36 miles. It proved to be a 5,600-ton tanker. Luck was on Farwell's side because there was a slight break in the weather. Coming in low, he dropped the first bomb, which was long. Circling, he came in again to get a direct hit amidships. The ship went down in a field of burning oil.

On 3 May, six pilots of VPB-118 were briefed for a special strike on the heavily fortified Kanoya Airfield on southern Kyushu where a concentration of *Baka* bombs and *Bettys* for use in wiping out our fleet at Okinawa was reported. Farwell was to lead the first section; Lt. M. V. Montgomery, the second section. Farwell's section was forced to turn back because of various difficulties, so Montgomery with his wingmen, Lt. P. E. Pettes and Thompson, went on.

One hundred miles from the target,



SHADOWS AT DUSK ARE PILOTS AGAINST JAPAN

Montgomery went down so low that his prop wash stirred up the water; Pettes and Thompson were flying a tight formation stepped up slightly. About 10 miles from the target, Montgomery pulled up to 200 feet, and a few minutes later, the three planes went over the target. Field lights were on, and the three attacking *Privateers* were in the landing circle. Down went sixty 100-lb. bombs on revetments and parked aircraft! Then the *Privateers* strafed hangars and other buildings. As they pulled out of range, and while AA fire opened up, they strafed and seriously damaged a locomotive.

As they rounded the southern tip of Kyushu, they passed a small freighter. Turning on their formation lights, they formed a traffic pattern around the vessel and expended their remaining ammunition. They left the ship burning.

In recommending Montgomery for the Navy Cross for this raid, the Commander, Fleet Air Wing One, said that this attack as much as anything else contributed to the securing of Okinawa by preventing a *kamikaze* raid.

The 5th of May was a banner day for the squadron. On that day, two 2-plane sections patrolled off the southern coast of Korea, and as a result, 20,000 tons of shipping were sunk, 23,000 tons damaged, and two enemy airplanes destroyed.

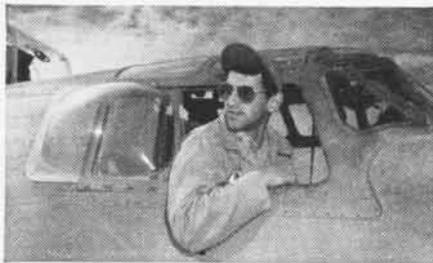
It was during these days of highly successful missions that Lt. A. M. Lodato and Lt. J. D. Serrill came upon a convoy consisting of three merchant ships escorted by two DE's. Clever as foxes, they continued on as if they had not seen the convoy. Suddenly Serrill turned, made a bombing and strafing run, and sank a 4,500-ton freighter. A little further on, Lodato and Serrill spotted another convoy of three freighters and an oiler. As Serrill circled to

look for escorts, Lodato made a bombing run on the 6,000-ton freighter and sank it with a direct hit.

THE SQUADRON further tightened the aerial blockade the next day by sending eight planes against the enemy, an exceptional record considering that spare parts were scarce. The first target for Montgomery and Lasater, who were patrolling the southern coast of Korea, was a tanker making for a harbor in which there were two DD's and a DE at anchor. Montgomery sent the tanker to the bottom with a direct hit amidships. Their next target was a 3,000-ton freighter. Lasater made the first run, but his bomb drop was over the target. Montgomery then went in, guns blazing, and just as he was about to drop his bomb, the ship blew up, flinging debris high in the air. The bomb Montgomery dropped was a little short and skidded under the ship before exploding. That was a freighter that never sailed again.

Montgomery surveyed the damage to his plane: the #1 engine was out, the bombardier's window had been broken, the leading edge of the wing and the tail surfaces looked as if they had been smashed with an axe, 20 feet of the ship's hawser was draped over the port wing, and the king post strap was imbedded in the starboard wing. Montgomery decided that base was the place for him and turned back. Lasater elected to go on with the patrol and never returned with his gallant crew.

The next day was packed with action as five planes went out to work on the enemy. Farwell and his crew had the big adventure. They had already sunk one tanker when they started for another. Farwell's first drop was a little short although the explosion threw the vessel violently to one side. Farwell went around again, and this time the 20 mm. AA gun of the ship let loose with a vengeance. The #3 engine caught fire, #4 konked completely, the



A. F. FARWELL WAS XO, LATER CO, OF VPB-118

hydraulic system was out, and the emergency flap system could not be used.

Going into the water at 105 knots with no flaps and with the bomb bay doors jammed open, Farwell landed the plane so skillfully that the 13 of the crew were able to get out of the plane before it sank. With Duba, Serrill and Lodato flying "fighter" cover, a PBM *Dumbo* picked up the entire crew 30 minutes after they went down.

AT THE END of this four day period, a total of 32 enemy ships sunk or damaged, totaling over 100,000 tons, four enemy planes shot down, and enemy installations damaged testified to the skilled and deadly attack of VPB-118. This record is all the more remarkable because it was done with the eight *Privateers* which VPB-118 had on Okinawa at that time, a feat of maintenance that can hardly be overpraised in view of the fact that air raids were constantly interrupting the work of the ground crews.

Shortly after this, Lt. Cdr. Farwell, the executive officer, relieved Cdr. C. K. Harper as squadron commander, and the squadron took time out to rest up at Tinian.

Upon their return to Okinawa in June, VPB-118's first assignment was to mine the shipping lanes between China and Japan. The 24th of June was the highlight of the mining campaign. Montgomery led Lloyd, Keiser, Thompson and McCutcheon to the area to be mined. After laying their mines, they went into Korea to knock out a loco-

motive, attack two airfields, destroy and damage planes and installations. On turning back to sea, they left a tug and four barges afire, strafed two small freighters, and burned one large ship. It was this day's work that Admiral J. D. Price praised in a dispatch: "The record set by your squadron in reliability, consistency and aggressiveness has been outstanding in this theater. Today's strafing attacks as dessert to your main course, mine laying, is typical of the star performance turned in by your crews. Well done."

When the mining operation was completed the end of June, the squadron planes had, in addition to that mission, without bombs and on their own initiative, hit numerous land targets, sunk five ships for 3,300 tons and damaged 22 others for a total of 11,750 tons by strafing alone.

The remaining weeks of the war were not without incident. Warehouses, docks and railroads became the primary targets, the offensive patrols continuing until 10 August. Tragically Lt. (jg) J. R. Park and his crew were lost on the 8th because they came to attack a Jap ship just as it exploded.

When hostilities ceased, VPB-118 was ordered to Yonabaru, called by the squadron "the mud and dustbowl of the Pacific." As if that were not sufficiently rugged when pilots and men had hoped to enjoy the fruits of victory, the fates decreed a heavy typhoon on 8 October which literally blew their quarters into the air. It was five days before the squadron had a regular meal.

But the end was in sight. By 24 October, they left for Tinian, and on 18 November, they were ordered stateside.

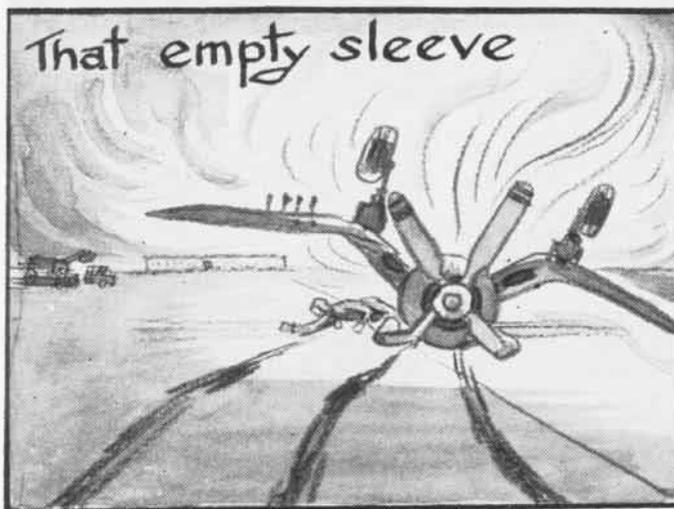
The new first stringers for 1945 were battle-tried veterans. As a part of Navy air power, they had brilliantly executed their missions and steadily pounded away at the crumbling remains of Japanese military might. They had helped to write the flaming end of Japanese aggression. They were ready for home.



VPB-118 WAS JUST AS GOOD AT EATING AS IT WAS AT FIGHTING JAPS



SQUADRON COMMUNICATORS OPERATE GEAR FROM THEIR TENTED OFFICE



A BURNING EXAMPLE

THE PILOT of an F4U was flying at 8000 feet on a tactics hop when he was informed by a member of his flight that his plane appeared to be trailing smoke or gasoline. A second later the pilot noticed that he was losing power and his fuel pressure gauge showed a drop from 25 PSI to 15 PSI.

After turning on his emergency fuel pump the pilot called the control tower for an emergency landing and was cleared for a straight in approach. As he came over the end of the runway, he closed his throttle. The engine backfired and set off the gasoline which had accumulated on and in the fuselage of the *Corsair*. Fire and smoke entered the cockpit of the plane and obscured the pilot's vision.

To escape from the burning plane the pilot tried to stop it as rapidly as possible by applying both brakes. He skidded for about 100 yards on the nose and wheels with the friction from the propeller blades pulling the aircraft to the right. As it left the runway the F4U flipped over on its back. In this position, with the emergency fuel pump on and battery switch on, gasoline and flames enveloped the cockpit.

The pilot managed to extricate himself from the overturned plane, but suffered very severe burns. One arm was injured so severely that surgical amputation was required.



The accident was caused when a hose clamp on a gasoline line loosened and allowed the hose to back off an elbow extension in the pressure fuel line. This caused the initial drop in fuel pressure and allowed a large amount of gasoline leakage into the bilge of the accessory section.

An experienced and capable chief machinist's mate had completed a carburetor change on this aircraft and had installed new hose clamps on the fuel lines a few days before the accident. He did not have a hose clamp torque wrench so he used an alternative method outlined in Airframes Accessory Bulletin 2-48 to secure the clamps. In this method the clamps are tightened until they are finger tight and then given a specified number of turns. The particular clamp loose was burred and slightly stiff, thus making it difficult to turn by hand. The accident board is of the opinion that when the clamp was tightened by hand it came up against one of the burrs and was then assumed to be finger tight. The specified number of turns were then applied with a wrench and the clamp was assumed to be secure. The plane had been flown once before the flight on which the clamp failure occurred.

It is believed that the accident would not have occurred had the clamps been tightened by the use of a torque wrench, or if the fuel lines and hose clamps had been inspected prior to the second flight as directed in A.A.B. 2-48.

The pilot was confronted with a terrifying situation when the plane burst into flames just as he came over the end of the runway, and it is understandable that his only concern was to stop the plane and get out as quickly as possible. However, if he had thought to turn his gasoline selector to the "OFF" position when he saw that he was going to make the field, the intensity of the fire would have been less.



JAX RESERVES FLY TO FAME IN FLORIDA



Organized Air Reservists from NARTU Jax's air group, CVLG-52, proudly pose before the large sign set up on top of the NARTU hangar for all the world to see

IF YOU hear a Navy band play "Anchors Away" and then look up and see a group of fighter planes swoop across the sky in a perfect anchor formation, it's a sure bet that you're looking at a group of crack Reserve pilots from the Naval Air Reserve Training Unit at NAS JACKSONVILLE.

Justly famous for their precision flying, the weekend warriors from NARTU JAX are constantly being invited to participate in civic events in the upper Florida area.

Fitting these requests right into their regular training schedule, the Organized Reservists are experts at cooking up special displays. At the Florida-North Carolina football game, they swept the field with a UF and then an NC formation. At the Florida Beauty Pageant Celebration, they spelled out FLA over the Jacksonville beaches, put on their flying anchor routine and flew low level attack formations off-shore. At the

Governor's Inauguration, they saluted the new incumbent in two *Catalinas*, which had "Hi Gov" and "Warren" painted in 15' letters under the wings.

Jax Reservists have won the applause of the crowd for these spectacular displays, but they have won the respect and support of the community for their first-class, day-in-day-out, Organized Reserve training program. Reservists in the six Organized Naval and Marine squadrons at Jax aim to maintain a constant state of readiness for national emergency.

Their forward-driving teamwork, backed by competent stationkeeper support, pushed NARTU JAX into the #2 spot among stations and units under the Naval Air Reserve Training Command for flight efficiency in 1948. Jax's 92% average was based on a 91.8 average plane availability figure combined with the days not lost to weather.

Top honors in fiscal 1948 were taken

by FASRON-158, which walked away with the Noel Davis Trophy as the most efficient FASRON on the Reserve circuit. At that time, the squadron was composed entirely of Reservists from the Jacksonville beaches area.

Good Florida weather plus fine station target and range facilities over the ocean combine to give Organized Reservists at Jax a maximum of bombing and gunnery practice. From 1 July to 1 March, no less than 6000 miniature bombs were dropped and 1500 rockets and 70,000 rounds of 50 cal. ammunition were fired—a fine performance for a comparatively small outfit.

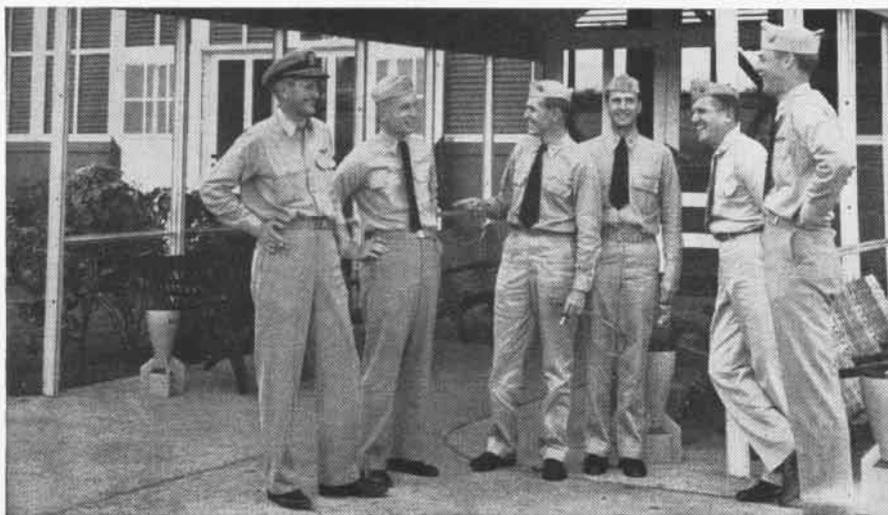
Four Marines from VMF-144, who totalled 26% hits during one drill, are the high scorers.

DESPITE the fact that gunnery is scheduled for practically every drill, squadron ordnance operations are conducted 75% by squadron O-2's.

NARTU JAX has pioneered in setting up an ordnance-electronics program as part of their ground school training, with equipment rigged by shop personnel in the unit.

In addition to their regular duties, ordnance stationkeepers also provided assistance last year to a Marine squadron from NAS ATLANTA and to Reservists in three PV's from NAS DALLAS who came over to use Jax facilities.

The excellent ground training program at NARTU JAX features a wide range of technical training devices. The facilities, in fact, are so adequate that the Fleet Air Groups now at Jax are planning to use them on a kind of lease-lend basis. Similarly, the completely equipped maintenance shops provide outstanding facilities for practical on-the-job training of O-2's. During drills, O-2's now do all the maintenance work on planes in their respective squadrons.



At NAS Guantanamo—NARTU CO Priestman talks with unit pilots Schrader, Brodeur, Hestilow, Williams (MAD CO), Tew, whom he led on the 2,500 mile flight



Cdr. E. S. Gwathmey, CVLG-52 skipper (4th from l.), leads his pilots to their planes for regular gunnery training flights



VA-52-L pilots stop in front of a FleetAirJax 'Able Mable' and CO W. H. Schoen remarks 'We can dream, can't we?'

DURING fiscal 1948, NARTU JAX Reserve pilots piled up 15,594.9 flight hours and managed at the same time to maintain one of the best overall safety records in the Reserve.

Highlighting the pilot training picture were the flights that VP-ML-56 took to San Juan, Gtmo and Bermuda.

Touring the NARTU today, it is hard to realize that when Captain Frederic W. Priestman, the present CO, reported aboard NAS CECIL FIELD on 22 April 1946 to form a Reserve unit for the Jacksonville area, the command consisted only of the captain, a typewriter and a desk. In fact, it was not until September 1946, when the NARTU was moved to its present location at NAS JAX that the program really got up a full head of steam.

The growth and progress of the Unit has been due to Captain Priestman's leadership which has produced smooth-running operations all along the line. Commissioned a naval aviator in 1924, he has been connected with the Air Reserve since that time. His tour of active duty from 1927 to 1935 included



PIO F. Coghlan, R. Widmark discuss Reserve flying in 'Slattery's Hurricane'

service as executive officer at NRAB FLOYD BENNETT FIELD, NEW YORK, when Rear Admiral (then Lieutenant) Whitehead was the commanding officer. Later Capt. Priestman became CO of the NRAB. During the war, he served as Flag Secretary and Aide, to Rear Admiral Read of the Air Technical Training Command, and later took over as CO of NAS JOHNSTON ISLAND and then as CO of NAS MAHULUI, MAUI. Until recently, Capt. Priestman was the only Reservist to command a major Na-

val Air Reserve unit or station.

On his team are a group of 21 officer and 230 Naval and Marine station-keepers, headed by the exec, Cdr. John S. Barleon, Jr. USN, and by the commander of the Marine Air Detachment, Lt. Col. F. W. Williams, USMC.

A GRADUATE of the Naval Academy with the class of 1935, Cdr. Barleon received his "wings" in 1942. He then served as exec of VF-10 and later was assigned to the CVE *Kwajalein* as air officer. He eventually became exec and then CO of the *Kwajalein*, taking her to Puget Sound in 1946 to be put in "mothballs." He has flown the F-80 *Shooting Star*.

Lt. Col. Williams also saw service in the Pacific during the war, having been CO of VMJ-253 and then of VMJ-153 in engagements from Caledonia to Guadalcanal. Later he was CO of LFASCU-3, which provided air support for the Army in the Philippines and Okinawa.

NARTU JAX has profited from the working relationships that Reservists have built up with Regular Navy per-



Marine Reservists from VMF-144 line up for camera during the annual training maneuvers at Cherry Point in 1948



Instructor C. Rheinheimer teaches marlinspike seamanship to seaman recruits in the air conditioned training building



'Weekend Willie' gets the word from M. J. Wiggins right in the EM Club

sonnel, whose station facilities they share, and with civic leaders in Jacksonville, whose community activities they participate in.

WHEN THE Naval Air Training Command moved and NAS JAX became a Fleet Air Base, the NARTU was able to return some of the cooperation it had been shown by giving them the use of their shop facilities. From December to February, the NARTU also supplied planes for 24 Fleet pilots in ComAirLant Training Unit 1. On the other side of ledger, Reserve aviators get the lift that comes from operating on the same field with the Fleet's new Martin Maulers and F4U's.

Typical of the outstanding members of the community who have helped the Reserve program are: Governor Fuller Warren, a naval Reservist who is much interested in the aviation program; the famous cartoonist, Zack Mosley, who put NARTU JAX on the map of Florida which he recently drew for the "Smilin' Jack" strip; and Mayor C. Frank Whitehead of Jacksonville.

To extend the scope of its training for Reservists, NARTU JAX supports

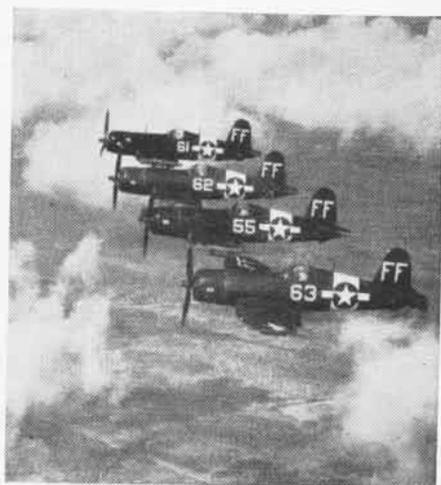
NARTU Jax Squadrons and AVUA's

- CVLG-52**—Cdr. Edward S. Gwathmey, CAG
- VF-42-L**—Lt. John B. Stoudemire, CO; Lt. H. E. Nowatka, Exec.
- VA-52-L**—L.Cdr. Warren H. Schoen, CO; Lt. (jg) Harry G. Kincaid, Exec.
- VP-ML-56**—L.Cdr. Charles W. Rogers, CO; L.Cdr. Tom Ray, Exec.
- FASRon-58**—Cdr. Leroy P. Johnson, CO; L.Cdr. Sam Jones, Exec.
- FASRon-158**—L.Cdr. Robert L. Gittings, CO; L.Cdr. Walter Shinn, Exec.
- VMF-144**—Maj. Thomas E. Mobley, Jr., CO; Maj. Frank E. Hopper, Exec.
- AVUA-1, Charleston, S. C.**—Lt. (jg) David G. Weaver, CO
- AVUA-2, Orlando, Fla.**—Cdr. Thomas O. Hills, CO
- AVUA-3, NARTU Jax**—Lt. Cdr. Fred N. Mohle, CO (Prospective)

two Associated Volunteer Units, one at Charleston, S. C., and the other at Orlando, Fla. On two weekends a month, planes are flown over to these units and regular drills for both aviators and ground personnel are conducted. In addition a third AVUA has just been activated at the NARTU itself.

ON THE recreational side the NARTU has an extensive program for enlisted men. Here, the VMF-144 rifle team and the NARTU softball and basketball teams have chalked up fine competitive records. The NARTU also sports one of the best enlisted men's clubs on the Reserve circuit. Located on the second deck of the administration building, it was built by the men themselves. Special decorations were devised by McDonald Wiggins AD1, creator of that well-known mechanical man and deluxe recruiter, "Week-end Willie."

Reservists with outstanding war records at Jax include Lt. Cdr. Lloyd G. Barnard, who was awarded a Navy Cross for shooting down five Jap Zeros on one flight and Maj. Thomas Mobley, VMF-144 CO, who served aboard the *Bennington* with VMF-461 and who holds the Silver Star.



Led by Capt. Catlin, Reserve pilots of VMF-144 fly a four-plane formation

Other well-known Reservists include: Cdr. John B. Stoudemire who served with CVLG-30 aboard the *Monterey* in the Pacific; Cdr. Waldron Schanz of the Orlando AVUA who is director of aviation for Florida; and Lt. (jg) Frank Coghlan, NARTU PIO and a naval aviator, who left his Hollywood career where he played such roles as "Andy Hardy's" pal, to join the Navy as a NavCad.

Today there are 205 pilots and ground officers and 704 enlisted men in the naval and Marine Organized Reserve squadrons at Jax. In addition there are 130 officers and 55 men in an associated status, along with 225 Volunteer pilots who come out for occasional drills. Pulling together, they are making a fine record.

But the best comment on NARTU JAX operations was that recently made by Rear Admiral Calvin T. Durgin, ComFairJax, who said: "In time of peace or in time of war, I would be proud to have the Organized Reserve squadrons of NARTU JACKSONVILLE take their place alongside the regular Fleet squadrons under my command."

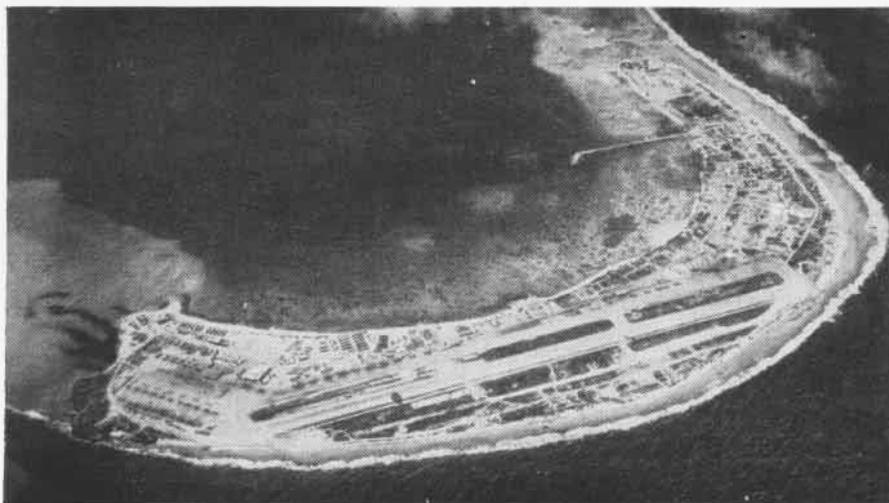


Pilots R. Lowry, G. Taylor, CO R. Gittings, R. Hardin, G. Sutton, J. Fulton of Noel Davis Trophy winner FASRon-158



FASRon-158's J. R. Holton, J. L. Tison and W. J. Powers show VA-52-L's H. Merklinger and G. Harris their PBV

Kwaj Is Pacific Beehive



KWAJALEIN, 2½-MILE ATOLL, HAS LITTLE SPARE ROOM TO EXPAND ITS 6,300-FOOT LONG RUNWAY

NAS KWAJALEIN—One of the smallest Navy outposts and certainly one of its busiest is this crossroads of the central Pacific, a treeless coral "boom-rang" where the airplane voyagers all meet to rest and eat.

A small station on a small coral atoll in mid-Pacific, the job may seem humdrum and unromantic, but it is an integral part of naval aviation; the pilot who sweats all day in the Air Ops shack here over a desk full of paper work is doing a job just as significant as that of the pilot who flies off a carrier every day.

Functions of the NAS are many and its planes are few. It is different from most other naval air stations in that it forms a major part of the Naval Operating Base, Kwajalein, and as such is responsible for the majority of personnel, supply and maintenance. This is all done with only a NAS allotment of personnel and equipment, augmented by the CBD-1509, the naval station and the Marine barracks.

A detachment from VR-23 is stationed here with two PBV-6A's and one R4D-5. Upon it falls the task of making logistic flights to Majuro, the civil administra-

tion center of the Marshalls, to Eniwetok, the atomic proving ground and such other logistic hops as are necessary for the proper function of these trustee islands of the U.S. For their work in this latter capacity, the PBV's have been dubbed the "Tramp Steamers of the Airways."

With MATS and other aircraft flying the Pacific, the search and rescue mission of VR-23 is one of utmost importance. This was demonstrated on 28 March when around noon, a PBV-6A ditched between here and Johnston island, with 11 aboard. All planes in the area were turned to. The downed plane was spotted before dark and all aboard were picked up less than 12 hours after ditching by LSM-448. There was a similar occurrence last December when an Air Force transport with 35 men aboard went down in the ocean. Most of the crew and passengers were picked up by the CVE *Rendova*.

The NAS plays an important part in the function of MATS, providing them with a runway and fleet service. During such atomic experiments as *Crossroads* and *Sandstone*, Kwaj, as the base of the task group, is a beehive of activity.

The air station has a 6,300 foot airstrip, built as a temporary landing strip by Seabees in 1944, which has held up remarkably well. A new surface and sealcoating job recently was completed and construction is underway to lengthen it by 700 feet.

VF-152 WINS GUNNERY CROWN

TAKE A GOOD look at the four men squatted below in front of their *Bearcat* at NAS ALAMEDA—then don't pick any aerial fights with them. They are the champion aerial gunners of the Pacific fleet.

Representing VF-152 in the Fleet's first gunnery competition since the war started, those four men romped off with the championship. Not only that, but one member of the four-man team, Ens. Jack L. Snyder (left) captured high man honors.

Before the final firing was done at NAS SAN DIEGO, eliminations were held at Alameda and El Toro. One team from each place was elected for the finals. Members of the triumphant Alameda team pictured above are Snyder, Lt. (jg) James M. Riggan, Cdr. Robert G. Boyd, CO of the squadron, and LCdr. John M. Rickabough. They copped the first four places individually.

Second place went to VF-113 from San Diego, composed of Lt. (jg) W. H. Dunagon, Lt. C. C. Sanders, LCdr. R. S. Merritt and Ens. C. P. Caultkett.

Champions of the West Coast Mar-

ine Corps and El Toro's entry was VMF-312, composed of Lt. T. J. Ahern, Maj. F. C. Kirkpatrick, Lt. C. G.

Armstrong and the only enlisted man entered, T/Sgt. H. Pokorski. This team finished third. Twelve Navy and five Marine fighter squadrons participated in the original trials.



GUNNERY CHAMPIONS OF PACIFIC FLEET FROM VF-152, BASED AT ALAMEDA, POSE FOR PHOTO

AND THERE I WAS



Hold The War!

WHEN World War II started I was in a patrol boat squadron stationed in the Philippines. Our planes had been on about 14-hour patrols for several weeks and the crews were pretty well tired out.

The morning Pearl Harbor was attacked our skipper came into the barracks about 0400 to arouse the crews and tell us about Pearl Harbor being attacked and that an invasion was probable. One man who was on the other side of the lockers, not knowing it was Lt. Cdr. Peterson speaking, wiped



the sleep out of his eyes and remarked: "Can't the duty section hold them off till reveille?"

WILLIAM GANNOTT, ADC
NAS JACKSONVILLE

The Honest Truth

IT HAPPENED aboard the USS *Independence* during its shakedown cruise. The assistant air officer, LCdr Whitey Moore, had just come into the wardroom following a rather tedious session at flight quarters.

Speaking to one of the steward recruits, he asked, "Snead, what do you have to do to get a glass of orange juice around here?"

Snead, steward's mate striker, and anxious to demonstrate his facility for learning fundamentals, responded with: "We has to squeeze it out of oranges, suh."

LCDR. D. A. BLACK
NAS GROSSE ILE, MICH.

Strictly a Tourist

THEN THERE was the pilot newly assigned to *Operation Vittles* who wandered into Weisbaden flight terminal, stating that he was reporting several days early and prior to his first scheduled flight he would like to visit Berlin, and could he please have a schedule so he could choose a convenient flight.

Trip numbers and departures at three-minute intervals were conspicuously posted on the flight board. The AF sergeant on duty pointed out that all aircraft were loaded to their maximum gross and that non-priority passengers could not be carried.

"Shucks," complained the pilot. Then he brightened visibly, "Could I please have a railroad timetable? I guess I'll go in by train!"



Now Look, Bud!

IT WAS A typical, dreary low-overcast dawn on postwar Okinawa, as several PB4Y-2's were warming up prior to scramble on an SAR mission down the Gunto. As final preparations were being made for taxi, a weathered individual clad in flight gear climbed through the bomb bays and onto the flight deck.

Attached to this particular plane was an ensign-copilot who magnified and overstressed the importance and necessary qualifications of a 4/2 copilot.

The latecoming passenger proceeded directly toward that coveted right seat, but was brought to an abrupt halt by the overzealous ensign. When questioned as to his intentions, the newcomer replied: "I think I'll take the right seat."

The ensign was not long taken aback, but produced his most reproving tone and stressed the exacting nature, responsibility and high degree of competence required for such a position. For a mere passenger to attempt such a grasping move was nothing less than audacious.

At this point the plane captain took the ensign aside and advised him that the insignificant-appearing passenger was a senior full commander, operations officers of the fleet air wing, had logged 5,000 hours and his immediate past duty was skipper of a 4/2 squadron.

When last seen, the ensign was headed for the tail turret.

G. R. FROST, ENS.
NARTU JACKSONVILLE



Getting Religion

IT HAPPENED at a somewhat higher altitude than 30,000 feet, but an unimpeachable source (aircraft manufacturer) swears it's true.

The brand new jet jockey was given a cockpit checkout in one of the latest models and let go. The last word to the pilot was an admonishment not to go beyond Mach .80 as the plane had not yet been tested at top speeds.

However, the Ensign, little used to Mach meters gave these final instructions slight countenance. The plane felt so good at Mach 1.5 that the pilot added a bit more throttle and to hell with the red line. At Mach 4.2 and 153,000 feet, the aircraft was sliding along in greasy fashion, so the lad decided to give it a top speed test.

Well, so the tale grows, after a few minutes of ever increasing performance, the kid looked around for the field. Not only was the field missing, but the pilot couldn't even find the world. He was just a "thing" zipping through a rather frightening universe. "Mon Dieu," he quavered. In soothing tones came the answer, "Yeeees?"

Just Like WPA Days

THIS GOES to show you can't trust these helicopters.

Down at NATC PATUXENT, Rear Admiral Apollo Soucek wanted to go out to inspect a brush clearing project on the other side of his huge base. So he stepped into an HO4S-1 helicopter and flew over to where the work was being done.

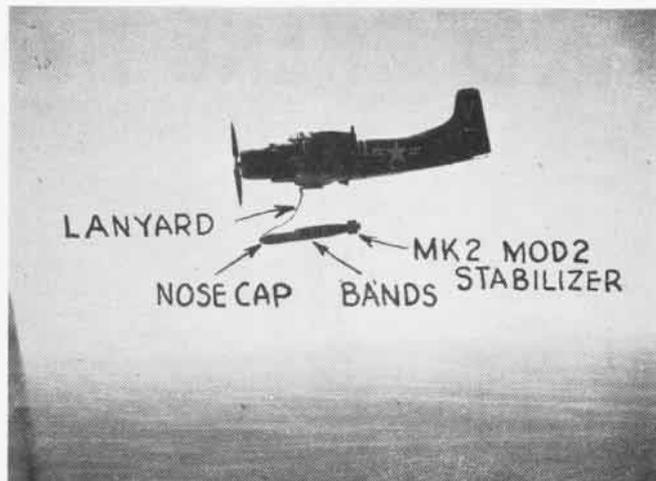
As the pinwheel approached the sight of the project, the workers were busy leaning on their tools. They still were in this attitude of indolence when the supervisor and Adm. Soucek stepped out. But not for long. Soon the dirt really flew.

Several days later the supervisor came in the admiral's office and made the following request:

"Tell your helicopter test pilots to keep flying around our project. As long as the helicopters are buzzing around, our workers really dig. They think I'm likely to come down at any time and step out of any one of the helicopters."



AD-2 FROM VA-114 FLIES ALONG, READY TO MAKE TORPEDO EXPERIMENT



TORPEDO DROPS AWAY AFTER THE DOUGLAS BOMB EJECTOR RELEASES IT

AD TESTS TORPEDO DROPS

WHEN THE Navy abandoned the TBF and its internal bomb bays, in favor of the AD *Skyraider* with external bomb and torpedo racks, it ran into new problems which technical and flight personnel have had to conquer.

Carrying and launching the Mk 13 torpedo from comparatively high speed planes like the AD-2 brought these problems to the fore. The increase in drag, the absolute rigidity of the torpedo during the aircraft flight and just prior to launching, the effect of air loads, the maintenance of proper launching angle during release, proper water entry of the torpedo and elimination of buffeting during flight are just a few of the questions encountered.

The Naval Aircraft Torpedo Unit, NAS QUONSET; BUORD and BUAER have developed various components which have, in a large measure, overcome most of the problems listed above. Drag rings, streamlined nose caps and tail stabilizers have been added to the torpedo. Nose cap releases and more efficient bomb racks and sway braces have been installed in most postwar attack aircraft. These measures have increased the efficiency of external torpedo launchings, but it still cannot be said that the problem has been solved completely.

About a year ago, a number of reports were received by BUAER from fleet activities which indicated that a large number of unsatisfactory torpedo runs were encountered when launchings were made from the centerline station of the AD. The torpedoes in question were equipped with Mk 8 Mod 1 stabilizers, were beam suspended, had drag rings but no streamlined nose caps and were released from the aircraft by means of the Douglas bomb ejector.

The following theories were advanced

for the erratic runs:

1. The foot of the bomb ejector bore against the side of the hoisting lug on the torpedo beam. At the moment of ejection the power-operated foot exerted enough of an upsetting moment to cause the trajectory of the torpedo to be adversely affected.

2. The blunt-nosed drag ring increased the air loads at the instant of release, thereby causing lateral movement of the torpedo.

3. The Mk 8 Mod 1 tail stabilizers did not efficiently damp out the oscillations during the torpedo free flight.

To get at the root of the trouble, BUAER requested ComFairWestCoast and specifically VA-114 to conduct comparative tests to prove or disprove the theories listed above. Comparative data to be obtained were between the conventional beam-suspended torpedoes and torpedoes modified as follows:

1. Use of torpedo suspension band Mk 28 Mod 1 in place of the suspension beam.

2. Use of the streamlined torpedo nose cap Fk 1 Mod 0 and installation of AD aircraft service change #64. The service change installed the torpedo nose cap release Aero 1A on all three main bombing stations.

3. Use of the stabilizers Mk 2 Mod 2 in place of the Mk 8 type.

VA-114 did a fine job in conducting these comparative tests, BUAER reports. Besides submitting a comprehensive report to the bureau, it also managed to get excellent sequence photographs during the launchings. Some of these photographs accompany this article and are self-explanatory. It should be noted that the sequence of events during the drop and the components used are very well defined.

Six Mk 13 Mod 1 torpedoes were used. The first three utilized Mk 28 bands and the last three used centerline beam suspension. Streamlined nose caps and the Mk 2 Mod 2 stabilizer were used on all drops. Torpedoes were set to run at a depth of 30' with a

range of 6,000 yards. (Note: Torpedoes fitted with shroud rings have a range of approximately 4,500 yards.)

Drops were made from the centerline of AD-2 aircraft in level flight at the following speeds and altitudes:

Drop No. 1, 200 knots and 400 feet;
Drop No. 2, 240 knots and 600 feet;
Drop No. 3, 255 knots and 700 feet;
Drop No. 4, 200 knots and 400 feet;
Drop No. 5, 240 knots and 600 feet and Drop No. 6, 260 knots and 600 feet.

The following results were obtained:

1. No difference in launching characteristics was observed between the band suspension and the beam suspension of torpedoes.

2. All nose caps were released satisfactorily and the trajectory of the torpedo was in no way affected by the pull necessary to remove the nose cap from the drag ring after drop.

3. The entry angle and torpedo run were in all respects satisfactory.

4. No lateral movement of the torpedo was observed during the actual torpedo run or at high speeds during flight.

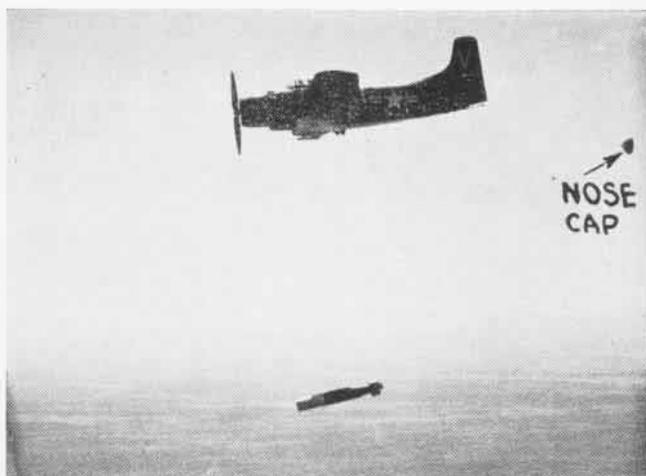
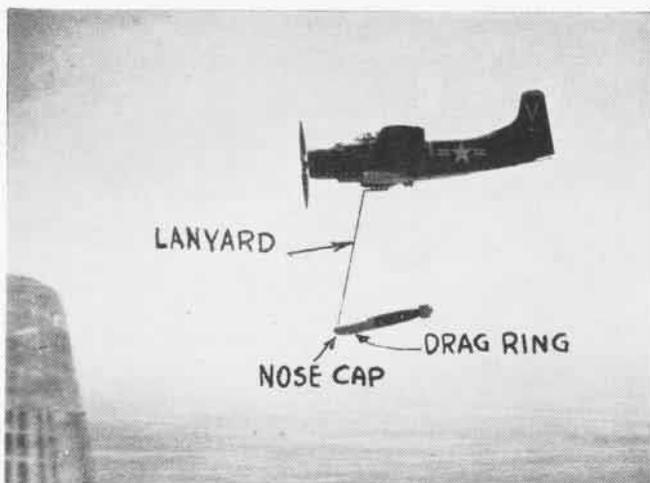
The above tests provided data for a limited number of launchings from the centerline station on an AD-type aircraft. However, a correlation of other data obtained during BIS trials at NATU QUONSET POINT and NATC PATUXENT RIVER, indicates that the following conclusions safely can be stated:

1. The AD-type aircraft is a satisfactory launching platform for Mk 13-type torpedoes.

2. The ejection forces exerted by the foot of the Douglas bomb ejector do not adversely affect the trajectory of the free falling torpedo.

3. Use of the Mk 2 Mod 2 stabilizer in place of the Mk 8 type is desirable.

4. Elimination of buffeting and the drag reduction obtained through use of the streamlined nose cap assists in preventing lateral movement of the torpedo during flight and immediately after launching.



LANYARD PAYS OUT 26', THEN JERKS THE NOSE CAP FROM THE TORPEDO

FREE OF NOSE CAP, TORPEDO WITH DRAG RING HEADS FOR ITS TARGET

5. The torpedo nose cap release Aero 1A satisfactorily releases the nose cap and does not upset the trajectory of the free falling torpedo.

6. Both beam and band suspension of torpedoes are satisfactory.

7. A high percentage of HSN torpedo runs can be made from an AD-type aircraft if the altitude, attitude and speed are carefully controlled.

Personnel of BUAER were much gratified with the report submitted by VA-114. The excellent aerial photographs included with the report went a long way to enhance and clarify the data. Bureau personnel would appreciate hearing from any other fleet activity which has any suggestion or comment to make concerning armament material. Address correspondence to Chief, Bureau of

Aeronautics, Attn. Armament Division (AR-70), Navy Dept., Washington 25, D.C.

Viking Rocket Up 51 Miles

First Test Flight Made in N. Mexico

The Navy's *Viking* rocket made its first trial flight at White Sands Proving Ground, New Mexico, on 3 May, reaching an altitude of 51½ miles.

Developed by Naval Research Laboratory and Glenn L. Martin Co., the 45-foot upper air research missile is about the size of a German v-2, although not so fat-bellied. It carries scientific instruments for research in cosmic rays, atmospheric composition, radio propagation, photography and spectroscopy.

On its first flight, the rocket was launched 30 miles north of the southern range boundary and landed five minutes later 10 miles to the northwest. Altitude was not the primary consideration of the first flight, chief purpose of which was to test the functioning of the power plant and control system. Later flights will carry larger quantities of research equipment up to 200 miles or more.

The *Viking*, formerly called the *Nep-tune*, is the second large Navy rocket to fly. The *Aerobee* already has made flights from White Sands, the first one a year ago, and reached 68½ miles on the second try a month later. The power plant of the *Viking*, a liquid fuel rocket motor, was made by Reaction Motors Inc., and is the most powerful and efficient liquid rocket motor developed in this country.

Plane Mixup Slows Exercise

Marines With Canadian JANAFEX

VMF-322, PACIFIC — After this squadron participated in a JANAFEX against Canadian Task Force 213, recommendation was made that enemy and friendly aircraft be of a different type or at least marked for quick identification.

The exercise took place on 5 November against a Canadian CA, four DD's and a PF. Eight *Corsairs* were used as bombers and eight flew escort for the three attacks. The first, a glide bombing attack, was intercepted by VMF-115, acting as CAP. Both attacking and defending planes claimed success for the resulting melee. The last two attacks were low level ones with the attacking planes unopposed, made while the CAP was being vectored away from the task force.

During enemy attacks with the cover weaving, positive identification was greatly restricted, permitting single and two plane attacks to be made without fighter foes until too late to be effective.



One of the Navy's more ambulatory squadrons is VF-42, pictured here in front of one of its F4U-4's at Cecil Field, Fla. Formerly VBF-75, the squadron has made two trips to the Mediterranean on the F. D. Roosevelt, also visited Rio de Janeiro and participated in Operation Seminole in Florida. The "Green Pawns" pictured below are: front row, Lt. (jg) J. F. Tuttle, LSO; Lt. (jg) L. A. Tompkins, Ens. R. Ostlie, Lt. (jg) E. H. Spangler, Ens. D. L. Cecil, Ens. R. M. Jones, LCdr. Willis Parker, Jr., executive officer; Cdr. J. R. Sweeney, CO; Lt. R. Graffy, Lt. V. R. Brasher, Lt. J. E. Whillans. Rear, Ens. J. C. Riddick, Ens. C. A. Bossard, Lt. (jg) W. F. Chaires, Ens. C. E. Waring, Jr., Ens. M. O. Delgado, Lt. (jg) R. Hardy, Ens. P. E. Petty, Ens. G. K. Gergory, Ens. R. J. Dionne, Lt. (jg) M. F. Pierceall, Lt. (jg) F. A. Downs, Ens. R. G. Jones. Not present Shepard, Vallye, and Benton.

TECHNICALLY SPEAKING

Push Rod Fittings on P2V's

Two RUDM's have been received in the Bureau of Aeronautics outlining failures of P2V-2, -3 power plant control push rod quick disconnect fittings. Both failures occurred after the airplane had accumulated considerable flight time. The spring-loaded retaining sleeve in these quick disconnects is held in place by two collar halves which engage a groove in the rod on their inside diameter and spun shoulder at the end of their retaining sleeve on their outside diameter.

Examination of the photographs forwarded with the RUDM's indicated that the collar halves slipped through the hole formed by the spun shoulder. It is believed that the shoulder was not spun down sufficiently to provide proper engagement in that the slight wear incident to normal service allowed the parts to separate.

The Lockheed Aircraft Corporation had been notified of a similar failure some months prior to the receipt of these RUDM's. Investigation made at that time resulted in the establishment of a closer tolerance for dimensions of the hole formed by the spun shoulder. This was incorporated in production aircraft in BuNo. 122923.

Insofar as the earlier airplanes are concerned, the amount of engagement between collar halves and shoulder may be marginal in a few instances; however, the long service accumulated by the large number of airplanes involved has resulted in only two failures.

All activities operating P2V aircraft should inspect these quick disconnect fittings during the time of the normal inspection periods, and if engagement is marginal the end of the stainless steel sleeve should be peened over to form a proper shoulder. It is believed that this procedure will insure against any repetition of the trouble.

Switch for Arresting Hook

NAS ALAMEDA—A device which permits operation of the airplane arresting hook control from a convenient location outside the airplane, adjacent to the hook itself, has been developed at this station under the Navy Employees' Suggestion Program. It was designed by Louis Cerro and Angelo C. Cavestri, and consists of a portable control switch for setting the arresting hook motor of F6F aircraft.

This switch used in conjunction with a 24 volt D.C. rectostarter eliminated the necessity for a man in the cockpit during hook adjustments. It also increases safety and expedites other work on the airplane by leaving the cockpit free and confining use of electrical power to a single circuit.

The previous practice involved attaching the rectostarter to the external power receptacle of the airplane, making possible accidental electrification of other circuits. Detailed wiring diagrams and lists of component parts may be obtained by writing the



CONTROL SWITCH AIDS HOOK MOTOR ADJUSTING
Commanding Officer, NAS ALAMEDA. A surveyed Grumman junction box was used at Alameda; any similar box would serve as well.

Adjustment of the limit switches on the motor which extends and retracts the arresting hook requires operation of the arresting system by test personnel. Such operation was previously accomplished by a man stationed in the airplane cockpit who manipulated the pilot's arresting hook control on signal from test personnel working on the floor at the extreme rear end of the airplane. This device is plugged directly into the arresting hook motor, and the rectostarter is connected to the switch chassis. This arrangement gives personnel adjusting the motor direct control of hook operation and eliminates the need for a man in the cockpit. A circuit breaker and a warning light are incorporated in the device.

A Mallory rectostarter connected to the plant's 220 volt A. C. line supplies 24 volt D. C. power. Any 24 volt D. C. external power source equipped to plug into the aircraft could be used.

Estimated cost of construction per unit, including manhours and material, is approximately \$15. The average time required to check and adjust the arresting hook motor, when employing this device, is less than one manhour, compared to two manhours required when the switch is not used.

This portable switch can be used on any type aircraft having an electrically operated arresting hook. The only change necessary would be to adapt the cannon plug to the motor used on the aircraft in question. The device has been in continuous use since July 1946 on F6F aircraft overhauled by NAS ALAMEDA.

Torque on Engine Can Bolts

Reports of difficulty in getting a satisfactory seal on steel engine containers indicate that the recommended torque for the flange bolts used in securing the two halves of the cans (300 to 450 inch pounds specified by BUAER letter Aer-Ma-36, Serial No. 64287, dated 31 August 1948) may not be enough for containers on which the mating flanges have become bent or warped through use.

The earlier specified torque of 600-800

inch pounds (GEB No. 38, Rev. 2, dated 21 May 1947) had been lowered because of distortion of the rubber seal ring from excessive torque.

BUAER recommends that the torque requirements of 300 to 450 inch pounds be retained as a desired value but that additional torque be applied as necessary to get a satisfactory seal, with the maximum value as set by General Engine Bulletin No. 38, Rev. 2.

Servicing Anti-Icing System

An alcohol and solvent dispenser unit, designed by Edward G. Velazquez of NAS MOFFETT FIELD and submitted under the Navy Department Beneficial Suggestion Program, has proved useful in filling and servicing aircraft anti-icing systems.

The unit consists of an alcohol dispenser utilizing a 450 gallon fuselage tank equipped



DISPENSER EQUIPMENT AND CLOSE-UP OF PUMP with a booster pump which is powered by a 24 volt battery cart. (The battery cart is the one in daily use on the line.)

The alcohol is pumped through two strainers for positive results. This alcohol dispenser will service 11 planes without a refill as compared to one plane serviced by the 53 gallon drums used formerly.

The solvent dispenser is a 53 gallon drum and is also provided with a booster pump powered by a 24 volt battery cart. This unit will flush 10 airplane anti-icing systems.

Besides making it possible to service many planes per refill, the suggested unit helps eliminate spillage and prevents dust, dirt or other foreign matter from entering the anti-icing systems with the attendant possibility of clogging vital parts.

Target Launch System Works

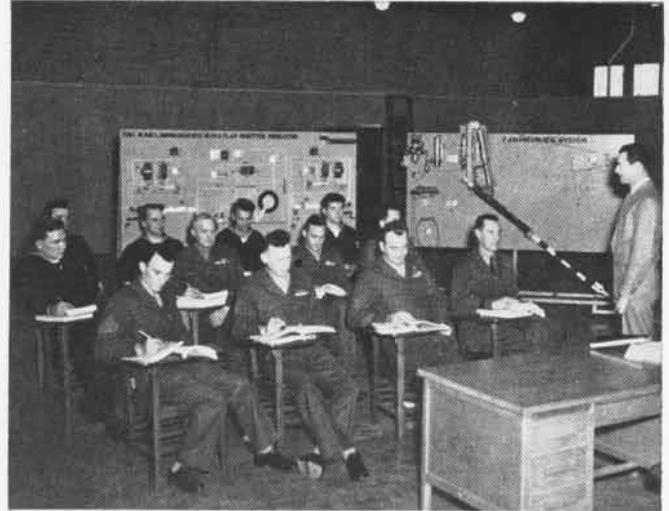
VF-12, ATLANTIC—This squadron, after trying several methods of snapping or dragging gunnery banner targets off the deck, evolved a system which it believes works well.

A rolled banner is secured to the port bomb pylon. One end of the tow line is secured to the banner and the other secured to the fuselage bomb rack. The line is looped forward of the plane and then snapped off the deck on take-off. Upon reaching the gunnery area the banner is streamed, thus avoiding shredding and line-breakage.

FACTORY TRAINING SCHOOLS



VC-5 MAINTENANCE PERSONNEL GET THE WORD ON SERVICING THE AJ-1



MOCK-UPS AID IN McDONNELL CLASSROOM INSTRUCTION ON THE BANSHEE

FACTORY training schools, the deal wherein Navy maintenance personnel get instruction right at the contractor's plant, now include courses on complete aircraft as well as the power plant maintenance training which has been underway for some time. (NANEWS April 1948, April 1949)

Schools in progress this year are giving complete maintenance training for the F2H-1 *Banshee* at the McDonnell plant in St. Louis, for the R-60 *Constitution* at Lockheed's Burbank establishment, and for the AJ-1 at the Downey, California plant of North American.

Factory training fills the maintenance instruction gap in cases where equipment is so new and training devices and personnel so scarce that it is impractical to establish the usual naval training courses. The system provides a few trained key personnel who can return to their activities checked-out on the maintenance of the new equipment and qualified to train others.

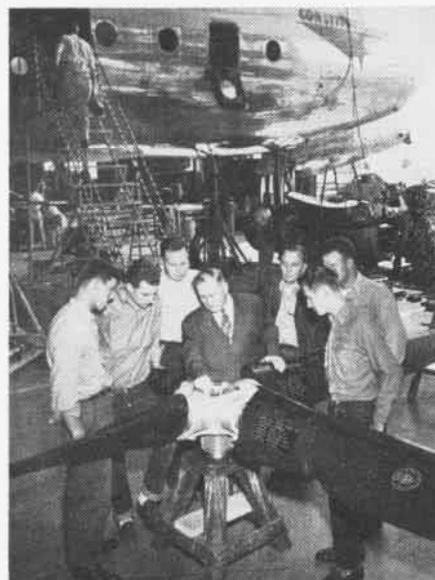
The Bureau of Aeronautics and the Bureau of Naval Personnel have worked out procedures to make the training yield maximum results for the money and man-hours spent. For example, although quotas are assigned to specific activities for various training schools, the activities are advised that it is better to fail to fill the quota than to send any men not fully qualified to profit from the instruction. Consequently, personnel going to the courses are thoroughly screened.

To cinch the matter, examinations are given at the end of the training. Results of the exams are forwarded to the students' commanding officers, with copies going to BUPERS for inclusion in each individual trainee's record. Thus the training school and BUPERS will

know the caliber of the men graduated and will have a guide for any necessary changes in procedure.

Classes at McDonnell's *Banshee* school began in January and will carry on through October. The schedule calls for training 100 service personnel in 10 classes of 10 men each.

Besides the Number 8 *Banshee* which has been placed at the disposal of the school for general study and practice, various demonstration materials also supplement classroom instruction. Ten comprehensive mock-ups bring such items as the working of the fuel system of the F2H-1 out into plain view of the students. The *Banshee* training is divided into the following phases: structures, air controls, engines, fuel and oil systems, landing and arresting gear, electrical system, armament, ground handling, inspection.



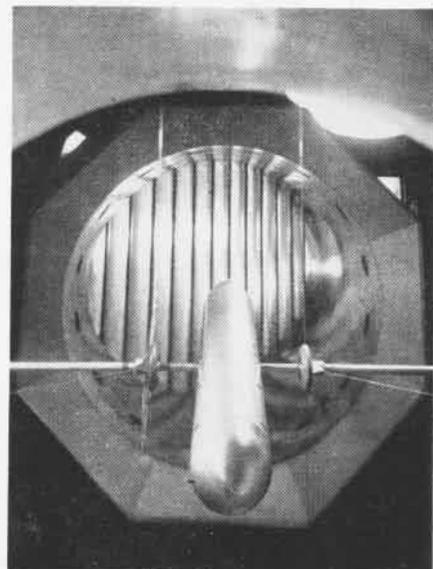
DETAILS OF R-60 PROP GET CLOSE ATTENTION

The Lockheed school for R-60 training began in November 1948 and continued through May 1949 with 110 Navy personnel under instruction. The prime factors of this course were the accessories and systems in the airplane and their individual operation, location and accessibility of these accessories, and the service and inspection requirements and procedures. The individual courses were: flight engineers—13 weeks, maintenance supervisors—11 weeks, line maintenance mechanics—4 weeks, power plant specialists—4 weeks, hydraulic specialists—6 weeks, electrical specialists—8 weeks, radio operators and technicians—3 weeks, pilot's ground school—2 weeks.

After disestablishment of the school, the instructors will go into the field to familiarize Navy personnel with methods of servicing and maintenance.

The AJ-1 school trained 74 Navy personnel in three groups from March through May when officers and men from VC-5, stationed at Moffett Field, received a complete course in all phases of the aircraft. The instruction was given by use of wall charts, films, and actual production parts of the plane.

ESTABLISHMENT of a factory training school is the result of thorough planning. Long before any instruction is scheduled, BUAER requests a syllabus and a cost proposal from the contractor. All phases of the proposed syllabus are appraised by BUAER technicians and the plans are returned to the contractor for revision if necessary. With the courses thus carefully prepared and with personnel selected on the basis of their ability to profit from it, factory training is proving to be a decidedly valuable adjunct to naval aircraft maintenance.



AIRCRAFT TORPEDO UNIT, NAS QUONSET, JOINS IN WORK OF NAVAL TORPEDO STATION, NEWPORT

MODEL OF TORPEDO IS POSITIONED IN TUNNEL

FLYING FISH HATCHERY

SINCE the days when man first ventured on the ocean he has been interested in various means of keeping other men from doing likewise. Over the ages he has found that the easiest method of accomplishing this objective is to let water into the other fellow's seagoing vehicle. In the recent war, ships burned fiercely and suffered heavy damage but lived to fight again because the underwater body remained whole. On the other side of the picture one finds that most ship losses were due to the torpedo, which does the job the easy way—by letting the water in.

The torpedo has become one of the major weapons used by aircraft against ships. However, the torpedo is a complicated, sensitive gadget, and it can be of no use if, on entering the water, it is slapped around too severely, or if it dives to the bottom. The problem of how to ease the torpedo into the water

from the highest possible altitude at the greatest possible speed gets continuous investigation at the Naval Torpedo Station at Newport, R. I.

A useful tool for predicting what a torpedo will do after leaving the airplane is the wind tunnel. With accurately-made models, the wind tunnel can tell us whether or not various types of external "stabilizers" will keep the torpedo properly lined up in air flight; whether the torpedo's control surfaces will keep it on course at the proper depth in the water; how much resistance the water will offer to the torpedo and, therefore, how much power will be necessary to provide the speed desired; what effect the propellers will have on the control problem; and various other factors.

After our educated guesses are made in the wind tunnel, we go to work with full scale operations for final proof. The

Naval Aircraft Torpedo Unit at the Naval Air Station, Quonset, R. I., in conjunction with the Naval Torpedo Station, spends much of its time putting through their paces the various brain children that come from many sources. Some pet ideas fail; others after rigorous months prove acceptable and eventually find their way to the fleet.

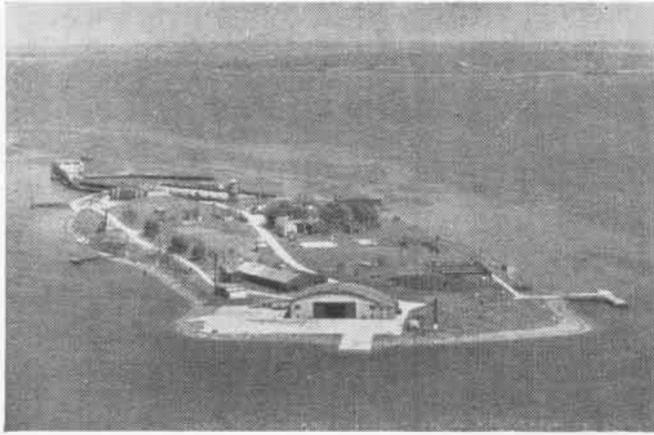
There are several hundred aircraft torpedoes in mothballs at the Naval Torpedo Station. Frequent checks on their condition are necessary and they must be overhauled periodically. In addition, many of these torpedoes were returned from various bases after the war, having had no attention for several years. Often so many parts must be replaced that re-ranging for proof is necessary. This is to insure that, if called upon for wartime use, the weapon is in the best possible condition, and a pilot will not be risking his life to drop a dud.



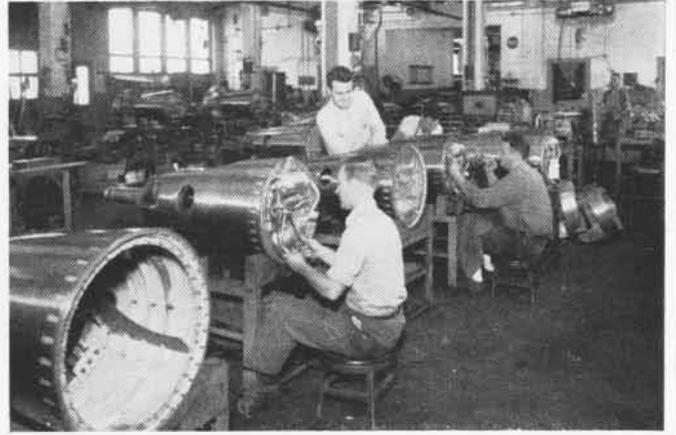
ORDNANCEMEN LOAD A PET IDEA ON PLANE FOR ITS TRIP TO THE RANGE



HELICOPTER IS IDEAL FOR WATCHING TORPEDO AFTER IT'S IN DRINK



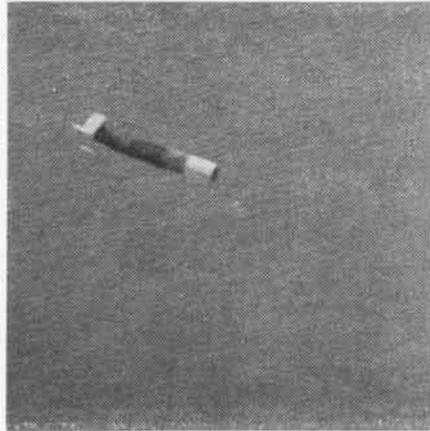
GOULD ISLAND AND TORPEDO TESTING RANGE IN NARRAGANSETT BAY



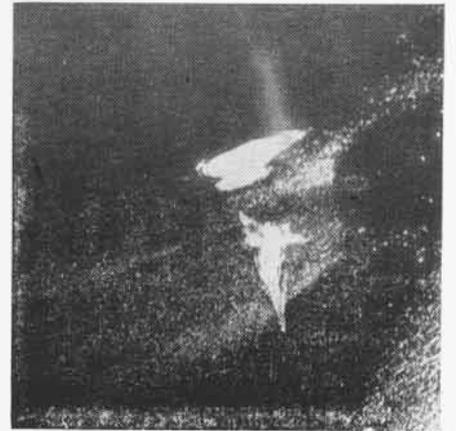
TORPEDOES RETURNED FROM FORWARD AREA GET CAREFUL OVERHAUL



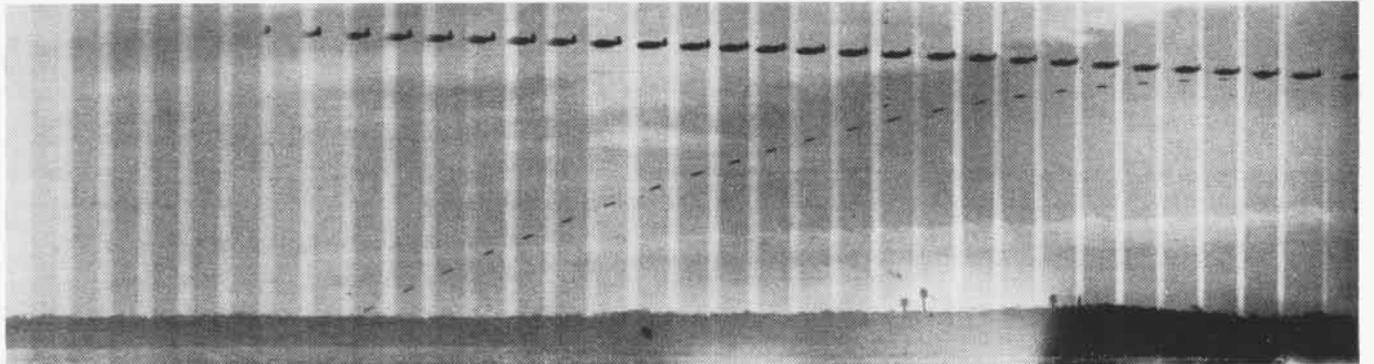
NATU PLANE DROPS ITS FISH OVER TEST RANGE



THE TORPEDO IS ON ITS OWN AND ON ITS WAY



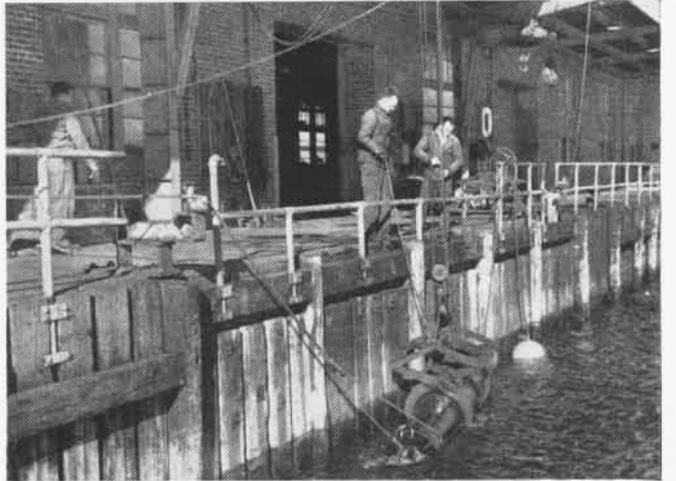
GONE BUT NOT FORGOTTEN; TORPEDO HITS BAY



THIS IS THE WAY THE DROP LOOKED TO THE MAN ON THE BEACH; TORPEDO PERFORMANCE IN THE AIR AND IN THE WATER IS CAREFULLY STUDIED

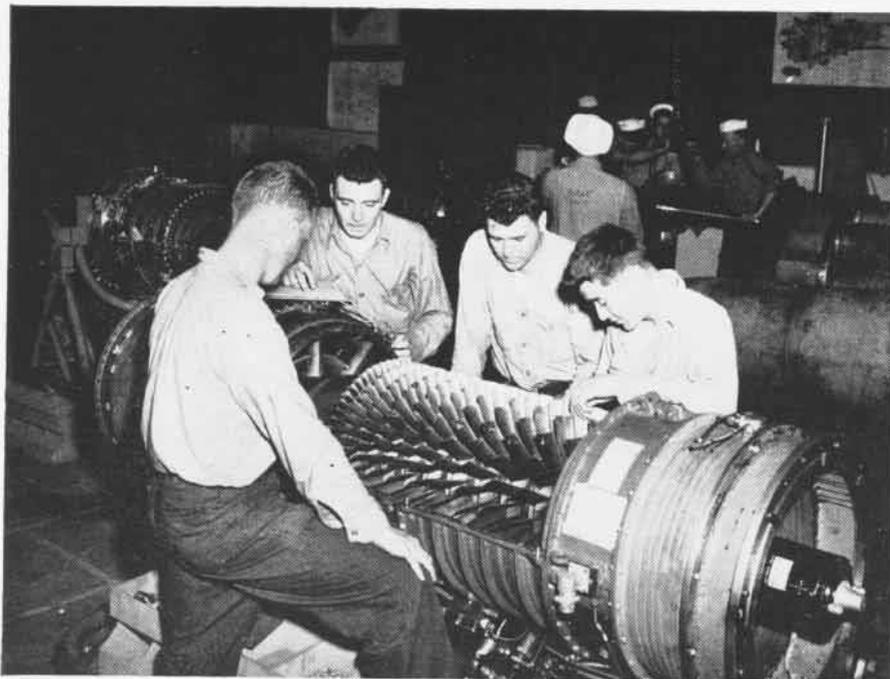


SOMEBODY HAS TO BRING IT BACK; RETRIEVING BOAT FINDS ITS FISH



HOME AGAIN FOR A POST-FIRING EXAMINATION TO SEE HOW IT WORKED

STANDARDIZED MAINTENANCE



INSPECTIONS, THE BACKBONE OF SAFE FLYING, WILL SOON BE STANDARDIZED FOR NAVY, USAF

AIRCRAFT maintenance, that solid and essential core of any long range aeronautics program, has for some time been sharing with other phases of military aviation in progress toward practical cooperation between the services. Standard AN parts and specifications, for example, are an old and sensible story.

Less generally known is the work being done to establish a standard aircraft periodic maintenance inspection system for the Air Force and the Navy. The Periodic Maintenance Practices Panel, established in September 1948 by the Sub-Committee on Supply and Maintenance Requirements of the Munitions Board, is preparing recommendations for such standardization.

The general system now in effect, with the Air Force inspecting aircraft in increments of 25-50 hours and the Navy practice of inspecting in increments of 30-60 hours, is one of the procedures to be standardized. The 25-50 and the 30-60 hour periods now in use will probably be supplanted by the interim inspection in lieu of the 25-30 hour period, and by the major inspection in lieu of the 50-60 hour inspection.

These interim inspections will be sufficiently thorough to assure that the aircraft is in good condition, is functioning properly, and that all required maintenance has been performed. The major inspection will be a complete, searching check of the entire aircraft.

The intermediate and major inspections will be accomplished at the periods specified by the procuring service. This specified period will be the maximum

times permitted to perform the inspection, as determined for the primary use of the aircraft indicated by its type designations. Because of local conditions such as mission, geographical locations, or other circumstances, local commands may shorten the interval.

FREQUENCY and scope of inspection requirements will be based on information received by the Bureau of Aeronautics and the Air Material Command in the form of RUDM's and UR's and other correspondence from service activities. The time limit on different types of aircraft will vary as past experience and engineering records dictate. Each type aircraft will have an individual inspection form, with the time to accomplish the interim and major inspections specified. These times may be below the present 25-30 and 50-60 hour check, or possibly higher.

Standardized maintenance was tested in the Berlin Airlift. The Navy R5D and Air Force C54 aircraft used the same procedure—an intermediate check at each 50 hours of operation up to the 150-hour period, with a major inspection at 200 hours. The maintenance procedure of this combined operation needs no defense; its effectiveness shows on the records of availability.

The Periodic Maintenance Practices Panel, composed of Navy and Air Force representatives, is formulating a maintenance requirement directive, consisting of preflight-postflight inspection, the intermediate inspection, the major inspections, special inspections and an

accessory replacement schedule. The approach has been realistic, eliminating items of inspection which engineering records and experience have proved unnecessary. Items will be added when weaknesses appear in a particular plane.

The results will be a more efficient inspection form issued and controlled by a central agency. It will contain pertinent information for the maintenance activity and will be well within the minimum requirements of safety. The proposed inspection and maintenance requirements form is visualized as an instruction guide for Engineering Officers, correlating pertinent information and requiring that certain minimum maintenance requirements be met. It will not relieve the Commanding Officer of any of his maintenance responsibilities nor imply that where additional precautions are necessary because of local conditions they are not to be included in routine inspections.

IT IS NOT proposed that such forms be distributed to fleet units in volume to be used as mechanics' work sheets, but that the individual organizations adapt the information to their particular problems. The inspection form will be maintained in a current status by the Bureau of Aeronautics and the Air Material Command through issuance of revision pages as necessary.

This form of inspection should eliminate certain weaknesses in the current system. At present, instructions for inspection of naval aircraft are contained in the BUER Manual. The Erection and Maintenance Manual for a specific plane and Technical Directives issued by BUER and by the major commands are used in preparing the various inspection check forms. With these methods the Navy has an overall standardization of maintenance procedure, but the specific check forms vary.

The extreme complexity of modern airplanes and the growth of military aviation to a point where frequent interchange of maintenance ideas by conference methods is no longer feasible are basic reasons for establishing standardized maintenance policies. The ultimate goal is to train maintenance personnel in a universal system so that they can function efficiently in any part of the aeronautical organizations.

The studies conducted by the Periodic Maintenance Practices Panel have been based primarily on the premise that thorough and repetitive visual inspection is the backbone of maintenance, increasing flight safety, and making available the highest possible percentage of aircraft in readiness for flight.



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Repair of Engine Primers

NATB PENSACOLA—An employee at this activity, W. F. Brooks, has devised a method of successfully repairing Parker engine primers, NO. 83-P-735010, used on SNJ and other single engine aircraft, and small two engine primers, NO. 83-P-735025, used on SNJ and JRB aircraft.

Disassembly and cleaning is accomplished in accordance with T.O. AN 03-10-33, Series 401, P4Ca and P4Cb (One, Two, and Four Engine Primers) dated January 20, 1945. Bodies which have the internal lock sheared off and will not lock are placed into the jig and drilled through the sheared lock from the outside, and a 1/16" drill rod installed, forming a new lock. The drill rod is silver soldered on the outside of the primer to secure it and prevent leakage.

This procedure has proved effective at NATB PENSACOLA in reclaiming primers that have excessively worn stops or have the internal lock sheared off and would not lock the piston in "off" position. Prior to the development of this method, submitted under the Beneficial Suggestion Program, the entire body assembly was surveyed.

Activities desiring drawings and/or copies of the NAS PENSACOLA local specification, No. 88-48, dated 6 August 1948, should write that activity.



1000-POUND BOMB CARRIES PLENTY OF LUGGAGE

Bomb Makes Luggage Holder

VMF(N)-533, EDENTON—Engineering department of this squadron developed an idea for carrying luggage when this squadron moved from Ewa, Hawaii, to Edenton, N.C.

Each plane was equipped with a luggage

carrier improvised from salvaged 1,000-pound water-fillable practice bombs. The nose of the bomb was cut off, attached to the body by a hinge, and equipped with a hasp to allow the bomb to be locked. It then was slung on the bomb rack.

This type of luggage carrier was popular because it was easily accessible for loading and unloading gear at overnight stops en route. One pilot, however, will attest that it has certain disadvantages. At one refueling stop an unobserving fuel truck driver removed the bomb filler cap and started filling the bomb with high octane gas before he discovered it was not an external fuel tank.

This squadron's move aboard the CV *Boxer* involved taking personnel and planes, not to mention 170 privately-owned automobiles and eight dogs.

R-2000-9 Engines Improved

VMR-252, CHERRY POINT—Investigation of an RSC engine failure experienced in this squadron's operations disclosed the rather startling condition pictured in the accompanying photo. The assortment of fragments used to be piston skirts.

A few minutes after take-off the pilot noted a slow drop in oil pressure and increase in oil temperature. He immediately returned to the field, executing a normal landing. However, upon shutting down, the engine seized after cooling.

This engine had operated normally for 394 hours. Partial disassembly showed the following:

1. Front scavenger pump screen was choked with metal particles and the pump housing badly scored.

2. Rear scavenger pump screen was completely filled with metal particles, and upon



CONDITION OF PISTON AFTER ENGINE FAILURE

removal of the pump the drive shaft was found to be sheared.

3. Removal of the #8 cylinder showed that all piston skirts in the front bank were broken or damaged.

▲ **BuAer Comment**—The following action has been taken by BuAer to prevent the type of failure reported by VMR-252:

1. High capacity front scavenging oil pumps are being procured for 100% incorporation in R2000-9 and 9A engines at next overhaul after pumps are available.

2. The R2000 spare parts contract has been amended to require that the R2000 (2SD13-G) parts be procured for supporting the R2000-9 and 9A engine overhaul. This will provide an improved type crankcase and cylinders, which will allow an increase of 100 hp. in cruise position.



GREER HYDRAULIC TEST STAND MODIFICATION

Modification Saves Space

NAS MIAMI—Stationkeepers at this base have successfully modified the Greer hydraulic test stand, model HS-100-5 (serial #32G-18) to permit sequence testing of various hydraulic components. Using the modified Greer test stand instead of the larger test bench item #57, stock #BR86-S-70089, which might otherwise be required, has resulted in considerable saving of space.

In the complicated system of valves and manifolds on the Greer hydraulic test stand, no method of testing actuating cylinders was incorporated, making it necessary to use a selector valve to reverse flow.

In the modification, a selector valve was installed permanently on the control panel and was connected to pressure and return lines and to two manifolds with four different size outlets. The cutoff valves on the panel, connected to unused outlets, were safetied together.

This modification simplifies operation of the bench, since only the use of the selector and the desired outlets is required.

▲ **BuAer Comment**—The modification incorporated by NAS Miami is noteworthy. The R86-S-70089 test stand has a much greater capacity than the HS-100-5 test stand and naturally occupies more space. The larger unit is required by those activities servicing the higher capacity hydraulic systems. BuAer does not recommend safety wiring valves as shown in the photograph since this limits the versatility of the test stand.

Idea Speeds Cylinder Repair

SMS-12, EL TORO—A device which gives more speed and accuracy to the job of reaming and installing exhaust inserts in the R-2800-10W engine has been designed by M/Sgt. Charles C. Smith and T/Sgt. James B. Burton of SMS-12.

Heretofore the installation of exhaust inserts has required the services of four to six men for a minimum of four hours; with the new equipment one man can do the job in an hour. This is good news to VWF(N)-513 which was losing a day's flying time on every F6F sent to SMS-12 for cylinder repair.

The device (see photo) measures 43" high and 21" wide; it weighs approximately 65 lbs. The base structure is of welded black pipe, and the cylinder retainer section is constructed of 3/8" boiler plate. The latter section is machined and fitted so that when a cylinder is secured to the side plate, its exhaust port will be directly in line with the tool guide at the top of the unit. It is through this tool guide that the Pratt &



NOW ONE MAN CAN INSTALL EXHAUST INSERTS



ALL HANDS HAD TO HELP IN THE OLD METHOD

Whitney insert driving tool and appropriate reamers are used.

With the former method of clamping the cylinder flange in a CO₂ bottle vise, and guiding the oversized tap by hand, approximately 50% of the cylinders had to be surveyed because of the tap cross threading in the worn cylinder boss. About 25 cylinders have had their exhaust inserts replaced with the new method. Not one of these has been damaged because of cross threading.

The accuracy of the device also will permit, if necessary, two installations of oversized inserts, the first being .050" and the second being .100". The equipment can be used also for insert installation on the cylinders of the R-2800-8W engines used in the F4U-1D.

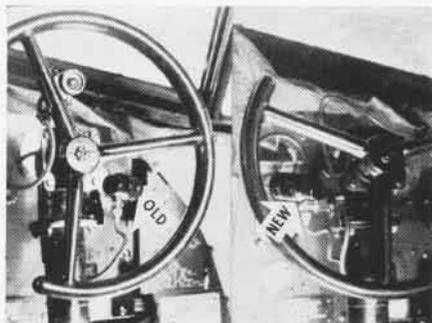
▲ **BuAer Comment**—This seems to be a great improvement over existing procedure. It saves many man-hours and will also effect a saving in the number of cylinders being surveyed.

Light Moves Aids Visibility

VP-40, ATLANTIC—Experiments showed that illumination of the copilot's instrument panel on the PBM-5 and -5S can be increased considerably by a minor modification to the present lighting system.

Present specifications call for a fluorescent light mounted on the starboard side of the copilot's control column. By remounting this light on the port side, the altimeter, airspeed indicator, and gyro horizon are within the direct rays and shine much brighter.

These instruments are invaluable to a



COPILOT'S VISION AIDED BY MOVING OF LIGHT

copilot during a night low altitude attack when the pilot is flying contact and the copilot is on instruments.

▲ **BuAer Comment**—The new location of the spotlight appears to have merit; however, it is believed that under the new arrangement the improved instrument lighting will be gained at the expense of lighting on other equipment. Comments from other operating squadrons flying these aircraft are invited by Electronics Division of BuAer.

Spreader Bar Really Works

NAAS WHITING FIELD—An accident to an SNJ provided the opportunity for testing a newly developed spreader bar when it was barely off the station's designing tables.

Job of the spreader bar is to provide a positive method of locking the SNJ landing gear in the "down" position in the event of damage, or in case there is any doubt as to whether it is locked down.

Designed by LCdr. Ira L. Jones, Operations Officer, the spreader bar was being manufactured by W. B. Wiggins, AMC, when an SNJ inadvertently raised a wheel on the landing roll out, collapsing one side of the landing gear.

Under ordinary conditions it would have been necessary to hoist the damaged aircraft with an aircraft crane to remove it from the landing area, thus causing some delay before the field could be opened for traffic.

Using the new spreader bar for the first time, four men lifted the low wing, and the gear was jacked into the "down" position, towed off the field in short order, without strain, by the shop mule.

The spreader bar consists of a 1 1/2" chrome molybdenum tube, 5'6" long, with a bumper jack attached to one end and sliding inside the tube. The head of the bumper jack is welded to the end of the tube and a padded yoke is welded to each end of the assembly. To prevent the jack from slipping under the strain, and allowing the wheels to collapse, holes are drilled at 3" intervals in the shaft of the jack and a pin is chained to the assembly to be inserted in these holes after the gear is jacked into position.

A 16" handle is provided to increase the leverage on the jack. The spreader has a minimum effective length of 6'6" and a maximum length of 8'6".

MCAS EL TORO—The GCA unit, with completion of the direct contact line with ATC Los Angeles, gives El Toro a 24-hour all-weather air station. It also facilitates a more thorough training in GCA letdowns for all pilots.

SERVICE TEST

INTERIM REPORT DIGEST

This digest covers the 15 May Interim Report of Service Tests, NATC PATUENT, and does not necessarily reflect BUAEH policy.

AD-2 (515 Hours)

Exhaust Stack. A revised exhaust system which incorporated a different type exhaust stack support clamp and stronger support brackets was furnished by contractor and installed. Two brackets failed after 92 hours. *Recommend* that satisfactory exhaust stack support brackets be provided.

Interior Light Control. Investigation of failure of control knob, P/N 3263710, for interior lights showed the following:

Set screws which attach control knob shaft to driver end of flexible coupling had backed out. Two of the four prongs had broken from actuator plate on rheostat control shaft.

To gain access to rheostat assembly for removal of attaching fiber stop nuts, it is necessary to remove the cockpit heat and ventilator control rods and two Cannon plugs to exterior light control console. Total removal time is two men—4.7 hours; total installation time after rework is two men—25 minutes.

As remedial action, the set screws were replaced with drilled head screws which were lock-wired together. Four anchor nut plates were riveted to interior light control rheostat assembly support bracket, P/N 3263231-2.

Recommend that set screws in universal joints be replaced with drilled head screws and lock-wire the screws together. Install four 10x32 anchor nut plates on interior light control rheostat support bracket assembly in place of self-locking nuts now in use.

Oil Cooler. After 424.8 hours, oil cooler developed an internal oil leak. Exact location and nature of leak could not be determined. *Recommend* that oil cooler be returned to contractor for correction.

Surge Valve. Oil leakage occurred around valve stem where it passes through piston head in surge valve assembly, P/N 17598 (oil cooler assembly). Valve stem fits loosely in hole in piston head, and the metal to metal seal provided by soft aluminum washer between piston head and shoulder on the valve stem is inadequate. *Recommend* that by pass and surge protection valve be returned to contractor for correction.

Arrested Landings. Following damage occurred during normal field arrested landings:

1. Skin on top of wing from inboard control bulkhead at station 80.250 to station 30.000 was wrinkled and rivets were pulled from all hat sections.

2. Front spar cap vertical leg cracked horizontally between station 71.758 and station 45.938.

3. Bulkhead assembly, P/N 9259083, pulled away from front spar web.

4. Under wing skin, attached to canted bulkhead at station 71.750, broke diagonally, beginning about eight inches forward of the spar. Break extended inboard toward fuselage as far as first expansion hat section at station 49.938.

Gross weight of plane when damage occurred was less than 13,500 pounds.

F2H-1 (148 Hours)

Nose Landing Gear. During ground check it was found that nose landing gear could not be extended by means of emergency extension system. Compressed air system was checked and air leak found in starboard inboard gun charger. This leak prevented compressor from building up enough pressure in system to extend nose landing gear. *Recommend* that more dependable emergency extension system be provided.

Wrench Assembly. (Emergency fuel pump, fuel inlet plug, P/N R82-MDA-MDT1518) Wrench failed the first time it was used to tighten fuel inlet plug. Failure appeared due to poor weld penetration and to fact that weld had been completely machined away. *Recommend* that satisfactory wrench be provided for removal of emergency fuel pump fuel inlet plug.

Tension Spring. Tension spring, P/N R82-BPD-156714, on nose landing gear centering latch failed. *Recommend* that satisfactory tension spring be provided.

Elevator Trim Tab Shaft. Each of the two coupling nuts of the flexible shaft, P/N 710A-S-53.35, to the elevator trim tabs has two holes to accommodate safety wire. When shaft was removed, it was found that safety wire had cut open both holes in coupling nuts. *Recommend* that satisfactory coupling nuts be provided for this assembly.

Drain Fittings. (Wing fuel cell pump to lower surface) Both drain fittings, P/N 15-58181-2, -1, on two airplanes were found broken. Wing fuel cells bear against the fittings and cause them to fail. As remedial action, fittings were replaced with $\frac{1}{4}$ " tubing (bent 90°) and a rubber grommet was placed in holes in lower skin. *Recommend* that satisfactory drain fittings be provided.

Gear Adrift. A wooden file handle and a standard AN 815-16 fitting were found under port wing panel cell. *Recommend* more rigid inspection during assembly and before delivery of aircraft.

Dust Covers. After 110 hours, all dust

covers on the nose and main landing gear actuators deteriorated so badly that replacement was necessary. A small amount of dirt can cause jamming of landing gear actuators so that even emergency extension is impossible; therefore it is imperative that more durable dust covers be provided. *Recommend* that satisfactory dust covers be provided.

PBM-5A (58 Hours)

Thirty-five test flights have been completed, with 128 runway landings and 14 water landings.

Aircraft was grounded for 60-hour check and replacement of main landing gear up-lock brackets and hydraulic cylinders. Excessive amount of metal work is involved in this replacement. Numerous holes must be drilled in the new parts to accommodate the rivets and bolts.

Hydraulic Reservoirs. Reservoir is located in overhead of the port bomb bay. Filler cap is located on top of port wing and is inaccessible in flight. *Recommend* that provision be made for filling hydraulic reservoir in flight in accordance with Spec. A&H-2b, para. E-13c (d).

Electric Propeller. During a stimulated buoy approach, propellers were shifted into reverse pitch. While propellers were being returned to positive pitch the starboard prop shifted to approximately flat and would not respond to further control. Inspection of motor assembly, P/N 115624-002, showed that the "Reverse pitch" and "common ground" leads in the motor were open circuited. The motor was not disassembled and cause of the trouble was not determined. *Recommend* that failure be investigated.

Landing Gear Up-Lock. While aircraft was on jacks, alighting gear was extended by emergency system. Subsequently, hydraulic lines were bled in accordance with instructions in E&M Handbook. During next flight, after repeated efforts to lock the gear up, it was noted that alighting gear indicator did not indicate the gear to be in locked up position although visual check showed gear to be apparently in retracted position. Post-flight inspection showed that up-lock fittings on both sides were broken and cylinder pins on both sides were bent. *Recommend* investigation.

Instrument Panel Mask. Mask assembly, P/N 1628A12673, conceals outer dial markings of most of the instruments. *Recommend* that satisfactory mask be provided.

P2V-2 (541 Hours)

Tachometer Generator. One of pin contacts in electrical connector socket of tachometer generator, R88-G-1335, broke at its base.

Hydraulic Leak. After 484 landing gear cycles, hydraulic fluid leak developed at movable swing joint of port main landing gear down lock. Investigation showed that "O" ring packing was chafed around its entire circumference.

Magazine Slide Anchor. Magazine slide anchors of three different guns failed aft of rear anchor adjusting and locking nuts after 3940, 4250 and 5240 rounds of 20MM ammunition were fired from the respective guns. Cause undetermined. *Recommend* that

satisfactory magazine slide anchors be provided.

Firing Pins. Eight firing pins failed during accelerated service test of the six forward firing 20MM automatic guns. Three firing pins broke aft of key slot after approximately 6000 rounds of 20MM ammunition were fired. Five firing pins broke at the tip after approximately 2000 rounds were fired. *Recommend* that satisfactory firing pin be provided.

Gun sight. Mk 8 Mod 6 gunsight normally will be mounted at all times during combat flights, as considerable time is required for its installation. Reflector plate is approximately six inches from pilot's face. Aft edge of reflector plate glass is cut on a 60° diagonal which forms a sharp edge that pilot's face might hit. SD-24-#, para. 1229, directs that fixed gunsights shall be so installed that they may be readily used without cockpit interference. *Recommend* that satisfactory installation be provided.

Gun Charger. Auxiliary piston of eight Mk 5 hydraulic gun chargers, Bendix P/N 630527, BUORD P/N 630527, failed during service test of six forward firing 20MM automatic guns. Cause undetermined. *Recommend* that satisfactory hydraulic gun chargers be provided.

Blast Tube. The following damage from firing approximately 7000 rounds of 20MM ammunition from each of the six nose guns: Cracks developed in the No. 6 blast tube assembly; cracks developed in fuselage skin adjacent to blast tube assemblies. Second failure of this type.

Cracked blast tube assembly was welded, fuselage skin was reinforced with new attaching doublers made of heavier gage material, and entire blast tube area was backed up with a reinforcing plate. *Recommend* (1) Manufacture blast tube assemblies of heavier gage material; (2) strengthen fuselage skin adjacent to blast assemblies.

Tail Turret. During routine operation, the 20MM tail turret (Aero 11A) continued past the elevation limit stops and slightly damaged the tail section assembly. Investigation of antiference mechanism showed that the elevation limit links, P/N 483357, had disengaged from limit control shaft, P/N 483362. Elevation limit link, P/N 483357, was lengthened 1/8" at fork ends where it engages the limit control shaft. *Recommend* that satisfactory elevation limit link assembly be provided.

Ejector Stud. The ejector studs, P/N A25849, of two guns failed after 1620 and 2750 rounds of 20MM ammunition were fired from the respective guns. Cause undetermined.

Marker Beacon Antenna. Hydraulic fluid which leaked from forward firing 20MM gun hydraulic chargers and gun charging valve accumulated around the marker beacon receiver. This occurred on two occasions after the nose guns had been fired. Shell covering for the antenna was removed and cleaned. *Recommend* that satisfactory marker beacon antenna installation be provided.

Safety Belt. Metal adjustment loops of the NAF 1201-2 safety belts have large rings which catch on the seat side frame assemblies, P/N 225A84. The NAF 1201-1 type safety belt

does not have the rings on the adjustment loop and is a more desirable installation. *Recommend* that NAF 1201-1 type safety belt be provided for the cockpit seats in lieu of the NAF 1201-2 type.



New Aviation Supply Officer

In an impressive change of command ceremony held on 1 April 1949, RAdm. S. E. McCarty, former Director of Supply, BUAE, head of the Aviation Supply Liaison Division, BUS&A, relieved RAdm. John E. Wood as the Aviation Supply Officer.

RAdm. Wood reports for duty as the Supply Officer in Command of the Naval Supply Center, Pearl Harbor, T. H. He had served as Deputy Supply Officer in Command of ASO-NASD from April 1945 until December 1946 when he assumed command with additional duties as District Supply Officer for the Fourth Naval District.

In accepting the command, RAdm. McCarty stated in part: "I fully realize the magnitude of this organization and its importance to the naval aviation branch and to the Navy as a whole. . . . This organization, which was launched in 1941, has been the pattern for supply for the Navy and the Armed Forces as a whole.

"The success of such an organization is due to intelligent planning and cooperative implementation. The Aviation Supply Office-Naval Aviation Supply Depot are outstanding because the bureaus of the Navy and the military and civilian members have coordinated in making them great. . . . It is my aim to carry on the proven ideas of my predecessor."

ASO Catalog Section 8701C

ASO has recently distributed Catalog Section 8701C, *Aero-products Constant Speed Propellers*, First Edition, February 1949. This is the first catalog section to incorporate interchangeability information as a feature. The interchangeability listing will be revised semi-annually, and stations holding this catalog section should detach the old Interchangeability List and insert the new revision when received.

At the present time, work is in progress to incorporate interchangeability information

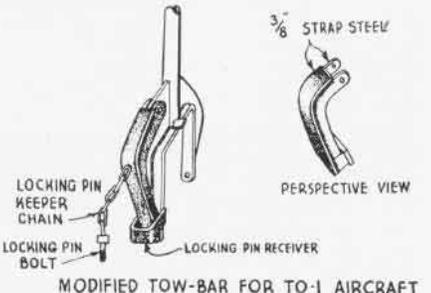
in the Curtiss and Hamilton propeller catalog sections. Field reaction on this new catalog section 8701C, is desired. Address comments to ASO-NASD, Philadelphia 11, Pa., Attn: OinC, Catalog Group.

Requisitioning Raw Metals

On several occasions the inadvertent transposition of the decimal point by activities ordering metals in Classes 44, 46, 47, and 48 has caused unnecessary research by ASO to definitely ascertain the actual quantity of material needed. When requisitions shipment requests, or QSSR's are forwarded to ASO for raw metals, stations should *discontinue* the practice of ordering in decimal quantities.

Dynamometer Kits For Tests

BuAer recently advised that tension dynamometer kits, stock no. R37-NBS-65213, are not standard stock items. These kits were procured for installation as a test device in 800 model F6F aircraft and spares will not be stocked. As the total quantity of dynamometer kits originally procured have already been allocated, ASO will take no action to supply these kits on future material requests.



Idea Strengthens Tow Bar

VMF-311, EL TORO—Sgt. L. E. Nordman of this squadron developed a modified tow bar for TO-1 aircraft which is stronger and less subject to breakage.

Normal use of the tow bar resulted in a material failure of the part connecting to the tow pins on the jet's nose wheel. By adding the parts shown in the accompanying drawing, the tow bar was strengthened and more rapid attachment to the aircraft was permitted. By removing the locking pin from the receiver, the modification swings out and then back into place over the towing pin of the plane.

Jets Change GCA Landings

VMF-311, EL TORO—A modified GCA procedure for the TO-1 jet (*Shooting Star*) has been used satisfactorily during instrument training for squadron pilots.

In general, the pattern remains the same as for other type aircraft, the only noticeable difference being that the landing check-off is not made until the final leg. The landing check is not made as early in the pattern as in conventional aircraft because of the higher fuel consumption at power settings necessary with gear and flaps down.

On the final leg when starting down the glide path, dive flaps and landing gear are put down, the landing flaps are lowered 100%. Air speed is set at 130 mph, power setting 75% and descent at 700 fpm.

LETTERS

SIRS:

In reference to ACL 97-47, section I, pgh. 135, subpg C on logging pilot time, it would be greatly appreciated if you would answer the following questions:

1. On instrument training flights with student pilots, do the instructor pilot, or safety pilot, and student pilot both get credit for instrument time?

2. Where instrument training flights are conducted in actual instrument conditions, who receives credit for instrument time?

3. Do both pilots receive credit for GCA let-downs in actual or simulated conditions?

4. Is it permissible to log instrument time on night flights in contact weather? In multi-engine aircraft, especially the PB4Y-2, it is considered that approximately 75% of the flight is controlled by reference to instruments.

E. H. DAUGHTREY, LT (JG)

ATU-12, CORPUS CHRISTI

¶ CNO Flight Division answers your questions as follows: "1. Only one pilot should get credit for simulated instrument time. 2. Under actual instrument conditions, instrument time may be logged by both pilot and copilot in a manner similar to pilot time (i.e. instrument time equals two times the plane time). 3. No. Only the pilot making the approach. 4. No. Night time as such cannot be logged as instrument time, unless actual instrument conditions are encountered.

"In addition to the above, it is also recommended that the logging of flight time should only be for that portion of the flight which actually is conducted under instrument conditions. The filing of an instrument flight plan does not automatically make the complete flight an instrument flight for flight log purposes."

SIRS:

In your story about the Air Force pilots operating aboard the CVL *Wright* and CV *Leyte*, you state that "previously, Air Force pilots have acted only as observers of naval air operations." As Bathless Groggins might say, "Not keerect."

You will find by checking the records that during the months of August, September, and part of October of 1942 a captain in the Army Air Corps (whose name at present escapes me) was assigned and flew as a pilot in combat status in Air Group 8, which at that time was composed of VS-8, VB-8, VT-6 and VF-72 and operating from the *Hornet* (CV-8) in operations in the south and southwest Pacific.

It all began by his flying his P-40 down from the north end of Oahu, where he was based, and entering the FCLP circle of F4F's at NAS KANEHOE. He liked that sort of flying so well that he requested, and got, a transfer to VF-72. He started as a wing man in the squadron and wound up leading a tactical division during regular carrier operations described above.

I. L. SWOPE, LCDR

A/C MAINTENANCE OFFICER
NAS MIAMI

*The war history filed by VF-72 mentions that a Capt. John Wilkins, USA, "came aboard" on

5 July 1942. Of course, Army planes on carriers were not new, with Doolittle's B-25's taking off the *Hornet* and many P-40's, P-47's and P-51's being ferried on flattops and deck launched or catapulted.



SIRS:

The following editorial in the Naval Air Training Command News Letter may be interesting for your readers to peruse:

"There are two opposing ideologies in this world. No, this does not refer to Communism and Capitalism. It refers to the "Can Do" and the "No Can Do" schools of thought.

"The former, on receipt of a directive or a project, examines it from every angle in order to find ways and means by which it can be accomplished. The latter, with or without examination, seeks to find reasons why it is impossible or impracticable or undesirable to carry out the task.

"It is entirely possible that many of those who belong to the "No Can Do" school are unaware of the fact. They may think they are entirely ready and willing but that they are merely approaching the problem cautiously and from the standpoint of possible difficulties and obstacles.

"Such people need to re-examine their point of view. They are not ready and willing. They are not cooperative and their approach is 180 degrees out of phase. The Navy needs the "Can Do" school of thought. It can do without the other."

PUBLIC INFORMATION OFFICER

NAVY DEPARTMENT

SIRS:

Now that the baseball season is in full swing, *Weekend Willie*, the mechanical mascot of NARTU JAX, wants everyone to know that he got his spring season coaching from Ted Williams, the fence-busting left fielder, and from Johnny Pesky, the classy third baseman of the Boston *Red Sox*. And he submits the picture above to prove it.

Williams and Pesky are Naval Reservists themselves. Ted was a Marine pilot and Johnny a naval operations officer.

LT. (JG) FRANK COGLAN

PUBLIC INFORMATION OFFICER

NARTU JACKSONVILLE



● NARTU SEATTLE—As of 1 April VR-55 pilots averaged 125 syllabus hours per pilot, while VP-ML-62 pilots averaged 104.8 hours for fiscal 1949.

● NARTU MEMPHIS—On its recent training flights to Phoenix and Denver, VR-67 took along as many O-2's as could make it, thus giving morale a new boost.

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● THE COVER

The fish-like body and high elevators of the F9F Panther are nowhere shown better than in this head-on photo by Harold G. Martin, taken with a K-20 aerial camera from a JRF photo plane.

● RECOGNITION QUIZ

Top—DeHavilland *Swallow*, an experimental single jet plane with no elevators and sweptback wings and rudder. Span 39', engine Goblin II with 3650-lb. thrust. Center—The Air Force's new night and all-weather jet, the Northrop XF-89. It carries two men, has 50' span and two turbojet engines.

Lower—Fishlike and slick, the McDonnell F2H is one of the prettiest jets in the air with its aerodynamic smoothness. Main difference from the FH-1 is its straight elevators and gun ports on the bottom of the nose.

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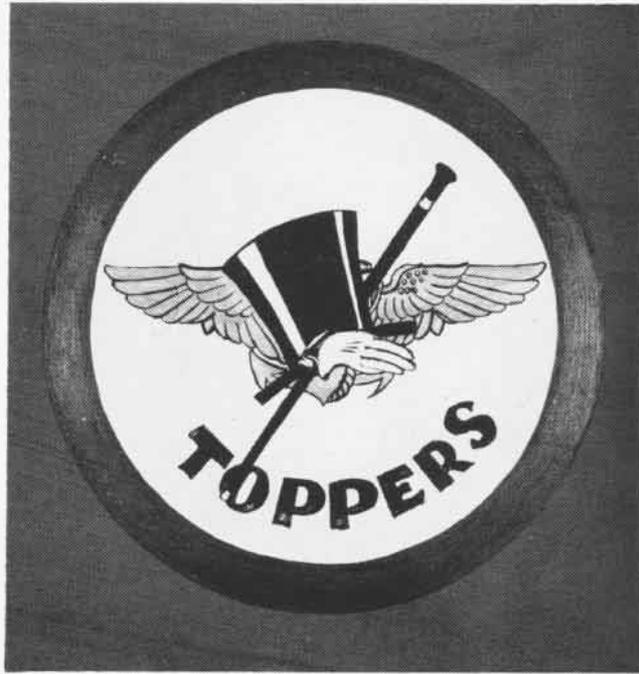
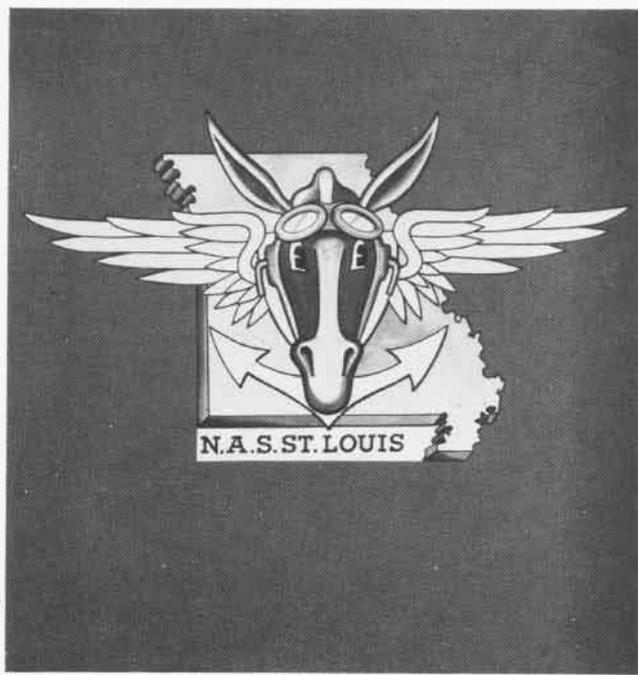
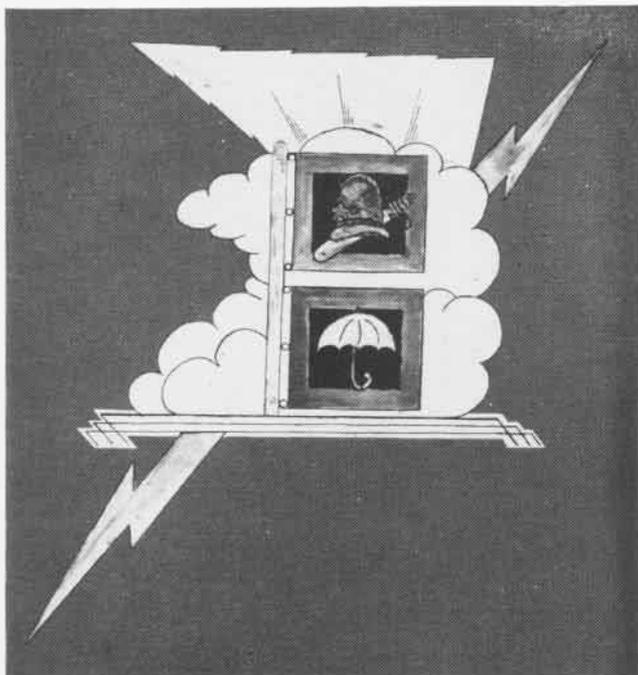


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SQUADRON INSIGNIA

TWO hurricane warning flags depict VP-23's dual mission of patrol and hurricane tracking, the patrolman's hat and club showing the primary mission and the umbrella, thunderhead and lightning the secondary. A Missouri map and mule with goggles spot NAS St. Louis. NAAS Miramar is shown perched on a mesa jutting up out of the coastal fog while the jack-rabbit in the background symbolizes the wildlife population to be found in the vicinity. VF-54L at Los Alamitos emphasizes sophistication with cane, top hat and white gloves in its insigne



SMART AVIATORS READ THE 'NEWS'

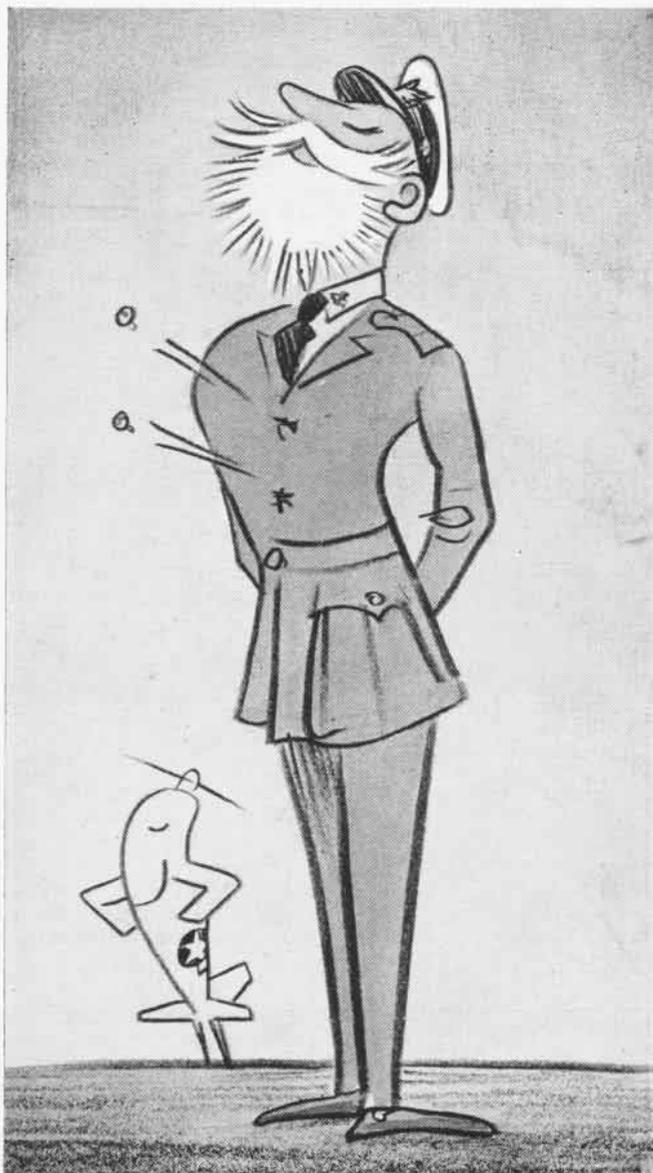
GRAMPAW PETTIBONE SAYS, "Like a lot of other folks, I kinda lost faith in polls after the election. But I'm all for 'em now—ever since the National Research Council's investigators showed how many pilots read my page every single month."

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