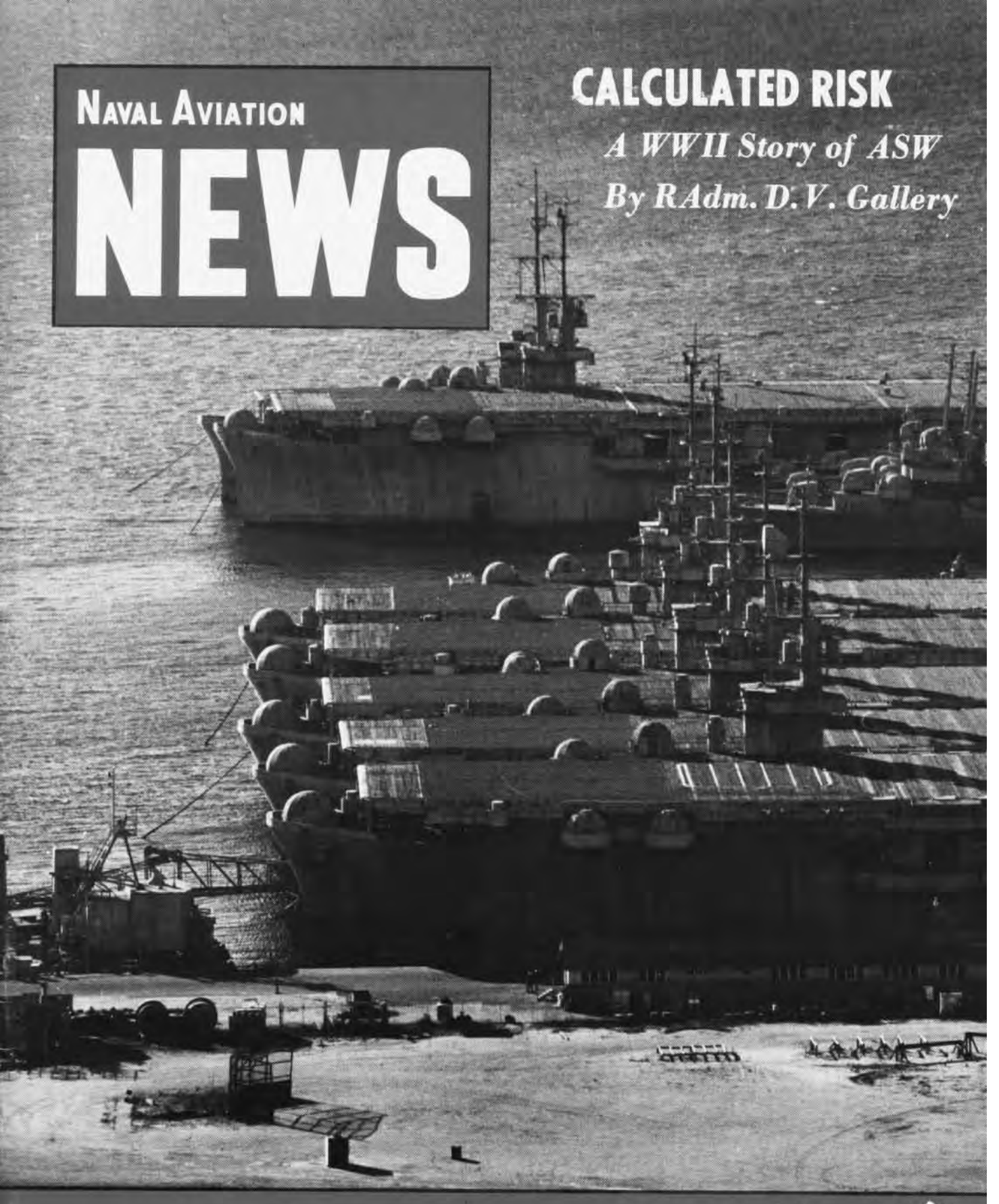
NAVAL AVIATION

NEWS

CALCULATED RISK

A WWII Story of ASW

By RAdm. D. V. Gallery



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FEATURES

THE STAFF

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Cover

The front cover picture of jeep carriers in San Diego by PH1 Robert E. Woods begins this month's lead story. The back cover picture by PHC B. M. Andersen captures the very spirit of an aircraft carrier homecoming.

A DIFFERENT APPROACH

You've seen landing photographs for years — from the catwalks, the superstructure, the center line and the cockpit — and now from the round-down. PHCM Walter M. Cox used a 35mm motor-driven camera with a wide-angle lens to capture the instant the S-2 Tracker grabbed the wire aboard USS Hornet (CVS-12). Chief Cox photographed an entire landing sequence from over the round-down to stop. It is assumed the camera was remotely operated.

NAVAL AVIATION NEWS

Operation Deep Freeze '69 Ends

Last Flight from McMurdo in March

When the last flight from Antarctica left McMurdo Station in March, Operation *Deep Freeze '69* was officially over. The largest station on the continent was the last one to be closed.

In February, Byrd and Brockton Stations were the first to be closed. They were followed by Hallet, Palmer, South Pole and Plateau Stations.

Brockton and Hallet are manned only during the austral summer, but small wintering-over parties remain at the other stations.

RADM. TOWNSEND RECEIVES THE DSM

RAdm. Walker Becomes New Head

Directs Naval Air Systems Command

Rear Admiral Thomas J. Walker relieved Rear Admiral Robert L. Townsend on February 20 as Commander, Naval Air Systems Command.

RAdm. Walker is the third Commander of NavAirSysCom since it was formed in 1966. Prior to assuming his duties, he was the command's Deputy Commander for Plans and Programs as well as Comptroller.

RAdm. Townsend stepped up to the rank of vice admiral to become ComNavAirLant, relieving Vice Admiral Charles T. Booth II upon his retirement.

At the change-of-command ceremonies, Adm. Townsend received the Distinguished Service Medal from Admiral I. J. Galantin, Chief of Naval Material, for his service as Commander of the Naval Air Systems Command.

F-8 Crusader to Test New Wing

Will be Modified for NASA Design

The F-8 *Crusader* has a new role — supporting the design of future aircraft. It has been selected by the National Aeronautics and Space Administration to test a "supercritical wing" designed to reduce or eliminate the shock-induced boundary layer that builds up on a wing as it approaches supersonic speeds.

The new wing is the brain child of Dr. Richard Whitcomb, the man who 18 years ago invented the narrow-waisted "coke bottle" airplane body that helps high-speed jets slip through the sound barrier into supersonic flight.

At present, an airplane nearing the speed of sound encounters buffeting and drag as the flow over the wing becomes supersonic and creates a shock wave on the wing. Normally, subsonic flight operations are kept below the speeds at which such effects take place. For present day subsonic jet transport aircraft, the adverse effects begin to occur at approximately Mach 0.8 (about 530 mph) at a cruising altitude of 35,000 feet.

The new wing should move the shock wave back along the airfoil. It has a flat top with little curvature as opposed to the curved top and sloped rear section of a conventional wing. If its performance, as measured in NASA's Langley Research Center, is fully achieved in flight, the wing could allow highly efficient cruise flight at approximately 660 mph at a cruising altitude of 45,000 feet. It could be similarly effective for subsonic, carrier based jet attack aircraft.

NASA says the supercritical wing should particularly improve the performance and efficiency of jet transports, boosting cruising speeds by 15 percent without the pilot increasing power.

The *Crusader* will be modified for the tests by replacing the basic wing with a supercritical wing which will be shaped to simulate a wing intended for use on a commercial jet transport.

IN FEBRUARY, *North American Rockwell Corporation delivered the first T-2C twin jet Buckeye to the Navy. The T-2C looks like the T-2B but has different engines — GE J-85's. It will be used by CNaBaTra.*

VT-6's Safety Program Pays Off

60,000th Accident-Free Hour is Logged

When Lt. Ronald L. Folse and his student pilot, Ens. Terry W. Beahan, returned January 7 to Sherman Field, NAS Pensacola, after a cross-country instrument flight, they were congratulated by Commander Allen B. Headley, C.O. of Training Squadron Six, for having flown the squadron's 60,000th consecutive, accident-free flight hour.

January 7 marked 1,169 days of accident-free flight for VT-6 which is charged with training pre-helicopter student aviators in all-weather and advanced instrument procedures.

VA-124 Fighter Weapons School

For Pacific Fleet Crusader Squadrons

VA-124, the *Crusader College* at NAS Miramar, recently pioneered a postgraduate course in F-8 weapons for six combat-experienced F-8 pilots, each representing a squadron based at Miramar.

The four-week, 100-hour refresher course was conducted by LCdr. J.S. Hellman with nine Vietnam combat veterans as staff members.

Seventy-five hours of ground training included advanced combat maneuvering, air-to-air tactics, use of the *Sidewinder*, air-to-ground delivery capabilities of the F-8, radar and ECM. The 25-hour flight syllabus consisted of 17 *Crusader* sorties involving eight tactics hops against dissimilar aircraft and six weapons flights with *Sidewinder*/gunnery shoots.

Graduates of the course, equipped with up-to-the-minute coverage of the most recent developments in the *Crusader* weapon systems, will serve their squadrons as weapons training officers.

Commander Harry J. Post is the commanding officer of VA-124.

First Fleet Exercise Held on Coast

Naval Aviation Forces Participate

The First Fleet held its second major exercise this year, *Behavior Pattern*, off the coast of California.

Including four Canadian units, 22 ships and 17 air squadrons participated. Vice Admiral Bernard F. Roeder, Commander First Fleet, aboard his flagship, the guided missile light cruiser, USS *Providence* (CLG-6), commanded the entire exercise. Rear Admiral Fred A. Bardshar, ComCarDiv Seven, commanded the Naval Aviation units from his flagship, the USS *Bon Homme Richard* (CVA-31).

Rear Admiral C. A. Karaberis, Com FAir San Diego, headed the opposing forces.

Air squadrons from San Diego participating in *Behavior Pattern* were Fighter Squadrons 51, 191 and 194; VS-33 and VS-38; HS-4; VC-3 and VC-7; TACRon 13; Dets. 31 and 34 of VFP-63; Dets. 31, 34 and 20 of VAW-111; and Dets. 31 and 34 of HC-1. From NAS Lemoore came Attack Squadrons 22, 94, 192 and 195.

The major parts of the eight-day exercise included: air strikes against land targets, ASW practice, missile launching, shore bombardments, combat air patrol intercepts, communications and logistic support.

THE MARINE CORPS *has accepted delivery of its first AH-1G HueyCobra gunships from Textron's Bell Helicopter Company, Fort Worth, Texas. The new aircraft are scheduled for service at Fort Stewart, Ga., where they will be used in pilot transition training. The helicopter provides a cruise speed of 160 knots and it can attain dive speeds of 190 knots.*

Army Names the Bell JetRanger

Gives it the Indian Title of Kiowa

The U.S. Army OH-58A helicopter will carry the name *Kiowa*, according to officials of Textron's Bell Helicopter Company, Fort Worth, Texas. This is the Army parallel of the Navy's TH-57A, recently designated *SeaRanger*.

The Army has ordered 2,200 of the five-place, turbine-powered aircraft. Delivery will begin this summer and continue through 1972.

In naming the OH-58A *Kiowa*, the Army continues its tradition of naming many of its aircraft after Indian tribes.

GRAMPAW PETTIBONE

STOL

The C-117 was on a local area training hop which was also scheduled to pick up some repair parts at a nearby NAS. Local weather at the NAS was reported as a partial obscuration, scattered clouds at 2,000 feet and visibility two miles in ground fog. Requesting an instrument approach, the flight was cleared for a Tacan number one approach to the field to land straight in on runway ten.

The plane broke out at 650 feet, and the copilot (who was on his Fam II flight in the aircraft) could see the water. (Horizontal visibility through the fog was quite limited.) He advised the pilot that they were contact so that he could continue his letdown. At three miles, a gear down report was made to the tower and, at two miles, a runway was sighted to the left of course.

The pilot then went contact and continued his approach to the sighted runway, while the copilot gave a runway-in-sight report to the tower. The tower cleared them to land but advised that the flight was not in sight.

As the *Gooney Bird* reached short final, the copilot had a strange feeling that this was not the right runway, but by that time they were committed and touched down at 600 feet on a 1,300 foot heliport runway, one mile northwest of the main NAS.

Both pilots were now fully aware that they had goofed but could do little except hang on. The venerable old aircraft rolled off the end of the runway with tires smoking, continued on a rough macadam surface an additional 759 feet and finally stopped on a main automobile road about 100 feet short of the sea wall of the adjacent bay. Appearing cool and collected, the pilot calmly called the tower for taxi down the main tow road to the NAS. The request was politely denied and the flight advised to shut down and stand by for a tow.

Grampaw Pettibone says:

Mutter, mutter, sput, sput! These guys came out smellin' like a rose in spite of themselves: as red as one too, I'll bet. This business of landin' at the wrong airfield has been with us since the days of balin' wire and glue. This case is just one of several I've heard about in the past few months.

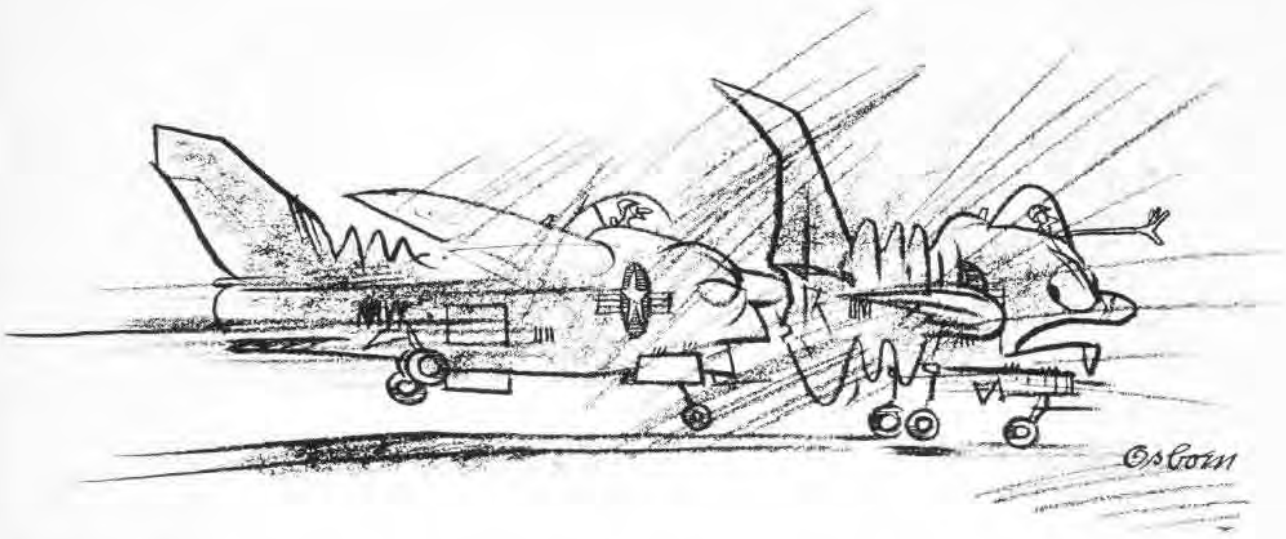
Y' say it can't happen to you, eh? Don't speak too loudly. These things tend to sneak up and grab you when you're not lookin'. "But there were extenuatin' circumstances." Yes, of course, there were. That's the way a good share of our accidents happen.

The pilot pretty well summed it up in his statement: "Low visibility, faulty instruments, inexperienced copilot and command pilot error are considered the causes of this unapproved landing."

Nobody Here but Us Chickens

The Landing Signal Officer was kept pretty busy one dark night with five A-7B *Corsair II's* in the field mirror landing pattern. The planes were methodically following each other around and around the pattern as the pilots prepared for refresher carrier

ILLUSTRATED BY Gibbon



qualifications the next week.

Halfway through the practice, the pilots began reporting that fog was forming at the upwind end of the runway and moving across the field while visibility at the approach end was still seven miles. As the fog thickened and progressed, the tower instructed all aircraft in the pattern to make final landings.

Bantam One, at the 90° position, completed his landing, running into dense fog toward the end of rollout. He stopped at the 10,000-foot point, then turned off and cleared the runway.

Bantam Two, at the 180° position when the word was passed, touched down on speed 1,200 feet down the runway. After passing the 5,000-foot marker, he entered the still advancing fog bank. Unable to see more than a few feet in front of his aircraft, he slowed rapidly to about five knots and steered slightly to the right of center line. He advised the tower of the conditions and reported what he had done.

By this time, Bantam Three, on initial rollout, commenced early braking and notified the tower he intended to take the left side of the runway. He continued braking to a stop as he entered the thickening fog.

Bantam Four was next, somehow unaware of the rapidly deteriorating situation at the far end of the fog-shrouded runway. He touched down on speed at the mirror, on center line, and began normal aerodynamic braking. Hearing that the plane ahead was landing to the left, he steered to the right as he went IFR at the 5,000-foot point. Sighting the now halted Bantam Three at about 50 feet and shooting on past, he began maximum braking, blowing one of his tires in the process. He then steered back toward the left side, knowing that Bantam Two was somewhere ahead in the gloom.

Sure enough, the *Corsair* appeared ahead, but he was unable to maneuver out of the way and collided with the tail section of the slowly moving Bantam Two near the center line with 3,500 feet of runway remaining.

Bantam Two travelled 90 feet and turned 90° right, stopping with the nose off the edge of the runway. The pilot transmitted a collision report to the tower and secured his engine with the fuel master switch as the throttle was ineffective.

Bantam Three skidded broadside for 150 feet, stopping near the center line and heading 120° left of the runway heading. He secured the engine and got out. Luckily, there was no fire because it took the crash crew ten minutes to find the scene in the fog.

Bantam Five landed uneventfully on the other parallel runway and required a "follow me" truck to lead him to the line.

Grampaw Pettibone says:

Well, if that wouldn't frost the punkin' off the vine! It sounds almost like the story of the division of destroyers which followed each other into the fog and ran aground.

Sure, the tower operator led 'em down the primrose path, but they didn't have to follow each other blindly into the goo. It should'a been a simple matter to get everyone on deck safely with two parallel runways available. Instead, they struck two expensive new jets.

There might'a been some excuse if the fog situation were unusual or unexpected, but ol' Gramps remembers the same fog bank. The flight is not complete just 'cause the wheels have touched concrete.

Memo from Gramps

In recent months, I've seen far too many mishaps in which there was a decided lack of communication between the pilot and copilot or NFO. They involved both omissions and commissions of action.

In Fleet operational missions, the crew is usually a team. When the same two people work together and fly together regularly, each should know the weaknesses and shortcomings of the other team member. Based on this knowledge, they should then act accordingly. Blind trust is not in order, but neither is mistrust.

Pilots must have the conviction that "I am my brother's keeper." Tell the other guy what is going on and what you're doing. He's interested, and he does have a "need to know." There is usually a lot more at stake than just two guys and an airplane. Don't forget those back aft.

CALCULATED RISK

The USS *Guadalcanal* (CVE-60) is in the history books as flagship of the jeep carrier hunter-killer group that boarded and captured the German sub U-505. The U-boat is remembered,too, even better than the ship. She is now installed on concrete cradles alongside the Museum of Science and Industry in Chicago, dedicated as a memorial to those men who lost their lives defend-

By Rear Admiral D. V. Gallery, USN, Ret.

ing this country at sea. Over eight million visitors have gone through her.

But the *Guadalcanal* has another claim to fame, which has been eclipsed by the capture of the U-boat. It involved more blood, sweat and tears than the capture, and it probably affected the Battle of the Atlantic at least as much. She is the ship that broke the ice on round-the-clock flight operations in the U.S. Navy back in 1944. She has since been towed to Japan and broken up for scrap.

The purpose of this article is to get this item of Naval Aviation history into the record while there are still people around who took part in it.

The author aboard the U-505. The U-boat was captured on the high seas and taken under tow by Captain Gallery's flagship, USS Guadalcanal, in a maneuver which did not interfere with flight ops. The demise of U-505 was kept a secret from the enemy.

CALCULATED RISK

'... a busy afternoon. We caught the milch cow refueler with one sub alongside and the other standing by.'

In early 1944, carrier flying was still a dawn-to-dusk operation. True, some of the big carriers in the Pacific had a few specially trained night fighter pilots. But they were a small, elite group. Before the war, most carrier pilots had made a few landings on a steady deck with a full moon. But this was always a very special operation. Regular flight operations at night simply were not deemed possible from carriers.

A bench mark on the state of the art in 1944 is that wild night in June right after the Turkey Shoot when Admiral Mitscher gave the order, "Turn on the lights." Two hundred planes got caught out after dark that night. Nearly half of them wound up in the water. In 1944 flying off even the big *Essex*-class carriers was still very much a daytime job.

In January 1944, the *Guadalcanal* shoved off from Norfolk on her first hunter-killer cruise. She was the first of the new Kaiser-class CVE's to appear in the Atlantic. They were a new type of makeshift, assembly line ship, built to minimum merchant ship standards, with flight decks 512 feet x 63 feet. They displaced 11,000 tons and could only make 19 knots. They were just barely good enough to do what they had to do. Flying off these little jeep "spit kits" was a tough way to make a living. Naturally, working hours were sunrise to sunset.

In January '44, U-boats surfaced only at night. Our CVE's of the *Card* and *Bogue* class had taken a heavy toll among them in late '43. U-boat skippers knew now that it was unsafe for them to surface anywhere in the Atlantic in daylight. This meant that our CVE's, which made their kills by catching U-boats on the surface, were nearly out of business. They were keeping the U-boats down all day – but they weren't getting any more kills.

At this time all CVE air groups were doing night bounce drills at fields ashore and were checking out in actual night landings on board the *Charger* in Chesapeake Bay. But in Chesapeake Bay, you are landing on a steady deck, and if an erratic pilot can't make it, you can just send him back to the beach. In the North Atlantic, you've got a heaving deck and the boys *have* to make it – or else. This makes a big difference.

The high command did not see fit to *order* night operations in the Atlantic. No CVE skippers were willing to stick their necks out trying it without orders.

Caught, German U-boats would be bombed by TBM's (above) and strafed by FM's. Operating in less than ideal weather, hunter-killer teams soon forced the enemy to hide by day, prey at night. The 'night owls' came to subs as a rude surprise.

Some CVE's had been dabbling around the edges of night operations. They took the bombs off the planes and put in special fuel tanks. This enabled them to launch at sunset and bring the plane in at dawn. But no one was yet willing to plunge into round-the-clock operation and landing in the dark. So, when the *Guadalcanal* put forth in January '44, the sub-hunting business was pretty slow.

Early in the cruise we got a tip from Tenth Fleet that a U-boat refueling rendezvous was slated to take place in our area on January 16 near sunset, 500 miles west of the Azores. We decided to keep well clear of that area with all our planes on deck until just before the rendezvous time. Then we put up eight TBM's to comb the area until sunset.

We had a busy time that afternoon: Two of my boys caught the milch cow refueler with one sub alongside and another standing by. Diving out of the clouds, they plastered them with depth charges. As the depth charge plumes subsided, the ocean was littered with wreckage, 32 survivors were swimming around in a large pool of oil, and all three subs had disappeared. This was just before sunset and 40 miles from the ship.

It was an overcast day, and I knew there wouldn't be much twilight. So the big idea now was to get our eight planes back aboard before it got dark.

Easier said than done! Each pilot in the air figured it was essential to the war effort for him to fly over the scene of the kill and take a gander. Despite urgent recall messages from the ship, they all flocked over to have a look. By the time we got them back to the ship, the sun had gone down, and it was beginning to get dark.

The first four got aboard OK. But they used up a lot of time because of wave-offs for bad approaches in the gathering dusk. The fifth landed too far to starboard and wound up with both wheels down in the gallery walkway and his tail sticking out into the landing area.

This is the sort of thing that separates the men from the boys – three planes in the air, darkness closing in and a fouled deck. We turned out to be small boys that night! We were a new ship. This was the first time real pressure had been put on us, and we got butterfingered. We simply couldn't clear the landing area. We couldn't get that plane back on deck to drag it forward. We couldn't even heave it overboard. After ten minutes of futile fumbling, it was pitch dark, and the boys in the air were getting low on gas.

The planes that had already landed reported seeing a fourth sub in the area of the kill. You don't like to show bright lights when you think there are U-boats breathing down your neck. But in this case, we had no choice. To have any chance of getting our boys aboard, we *had* to turn on the lights. You might as well go for broke in such a spot, so we lit up like a saloon on a Saturday night.

Then I got on the voice radio and made the following pitch to the boys in the air – "That tail only sticks out about 15 feet into the landing area. If you land just a little bit to the left of the center line, everything will be lovely."

It didn't work. By this time everybody had the jitters. The boys came in too high, too fast and too far to port. Finally one of them took a desperate "cut," hit the deck, bounced high in the air, rolled over on his back, and plunged into the sea to port. The plane guard destroyer fished all three of the crew out of the water unhurt.

But that was enough of that! I had all ships turn on searchlights pointed at the water. We ditched the other two planes and picked up the crews. Then

Successful landings aboard CVE's required skill, determination — and luck. A pitching deck compounded problems of VC pilots.

we blew out the lights and got the hell out of there.

What I had just been through was a miniature preview of Admiral Mitscher's Moment of Truth six months later after the Turkey Shoot. I have always wondered why the feature writers made such a whoop-de-doo over Pete Mitscher's order to turn on the lights — and I'm sure Pete did, too. In a spot like that, you just *have* to turn them on. If you get torpedoed and lose your ship — that's very bad luck. But if you don't turn them on and lose your fliers, you probably won't sleep well the rest of your life. And you won't deserve to.

For the rest of that cruise, we stuck to daylight flying only. Our landing signal officer and the pilots were too shook up by that debacle to try any more night landings. We did a lot of flying but saw no more U-boats. It was quite obvious that at this stage of the Battle of the Atlantic, daylight flying was almost a waste of time — except that it did keep the U-boats down until dark. I determined to have a shot at night operations next cruise.

Meantime, my flight deck crew learned how to clear a crash out of the landing area. Every day we trundled out the wreck that had gone into the walkway and shoved it over the edge of the deck again. Then, while I held a stop watch and cracked a big black whip, the boys would haul it back on deck and drag it clear of the arresting gear. By the time we got back to Norfolk, they were real experts at it and could clear any deck crash in less than four minutes. They were also damn well fed up with that daily chore, and our poor old *Turkey* was so badly battered it wasn't worth repairing. I let our jubilant deck crew give it a decent burial at sea.

For the next cruise, we got a new LSO, Lt. Jarvis R. Jennings, and a new air group, Composite Squadron 58, LCdr. Dick Gould commanding. Before sailing I got them together and told them what I had in mind. As soon as we had a good moon and a reasonable sea, I proposed to start round-the-clock operations. For the first few night landings, the boys would have a nice full moon. As the moon gradually got smaller, I thought they would be able to adapt to the darkness. If it turned out they couldn't — we would call it off. We would use whatever deck lights we found to be necessary.

Jennings and Gould were both gung ho types. They were a bit skeptical, but agreed there wasn't much use going out unless we did fly at night. They would give it a try.

For the first half of the cruise, conditions weren't right for making the breakthrough. When the moon was big enough, the sky was overcast and the sea was rough. We flew dawn to dusk for three weeks in an area where Tenth Fleet said there were plenty of subs. But we didn't find any.

We refueled in Casablanca and came back out to the area near the Azores. April 8, 1944, is a date that is a milestone in Naval Aviation history. That's when we found conditions to our liking and took the plunge into night flying. We had a full moon, a clear sky and a smooth sea. Just before sunset, we launched four *Turkeys*, fully armed, to return about 2230. Although we tried to be matter of fact about it, all of us had stomachs full of butterflies.

It took just three hours for us to hit the jackpot. One of our *Turkeys* spotted a sub fully surfaced, charging his battery, about 30 miles from the task group. He maneuvered down moon from it and, coming in with the sub clearly silhouetted, laid a stack of depth charges across it. The attack did no serious damage but shook the sub up badly and forced him to crash dive.

Now we had the perfect setup for a CVE hunter-killer group — a sure sighting, within easy range, on a sub with a low battery. As long as he stayed submerged, the U-boat could only average four knots. He couldn't stay submerged for more than 24 hours. So he had to surface to recharge his battery within 100 miles, at the most, from the spot where last sighted. It was SOP to simply keep that area covered with planes and nail him when he came up again. I peeled off two DE's for the spot of the sighting, and we kept four planes in the air all night.

The U-boat skipper thought the first sighting was by a shore-based plane which would soon go away. He just couldn't believe he had a CVE on his back at night. He surfaced again

'Day flying off these little jeep "spit kits" was a tough way to make a living. Then we took the plunge into night flying.'

Moonlit silhouette (above left) is demonstrated by U.S. sub. Accidents in the dark (below) were not as frequent as might have been anticipated.

several times during the night. Each time our planes spotted him and drove him down again. Each sighting gave us a fresh fix for our DE's and, about seven next morning, they got sonar contact on him.

But this U-boat skipper knew his business. For seven hours he led us a merry chase. He twisted and squirmed, went deep, released decoys and even sent up oil and junk. We shook him up badly many times but couldn't kill him. Finally, around 2 P.M. (on Easter Sunday), he reached the end of his rope. His battery was flat, the air was foul, and he had been heavily mauled. He surfaced, opened the scuttling valves and abandoned ship. We rescued 45 of the crew including the skipper.

It turned out we had made quite a haul. It was the U-515, one of Hitler's famed U-boats, Oberleutnant Werner Henke, Knight's Cross of the Iron Cross, commanding. He had sunk 27 ships totalling 163,000 tons.

During the hold-down on the 515, we had made a "possible" contact on another sub about 60 miles away. After fishing Henke and his men out of the water, we went after that one. We kept planes in the air again all night and caught him on the surface charging his battery just at the crack of dawn.

Three planes ganged up on him, coming in out of the dark western sky. This time they didn't miss. They plastered him with machine guns, rockets and depth charges, and tore his hull wide open. He sank, leaving only his three lookouts swimming around in the wreckage. By the time we got to the spot an hour later, only one was still alive. Hans Kastrup was his name. He sends me an Easter card each year from Eisen. His sub was the U-68, another ace boat, with 30 ships sunk totalling 200,000 tons.

By this time, one thing was obvious. In three weeks of dawn-to-dusk operations, we had done nothing. In our first two nights of flying, we made two kills. Night flying was here to stay. As the moon got smaller, we kept going and, by the time it was gone, we could get along without it. The boys were landing aboard in pitch darkness as if they had owl blood in their veins. This would soon be SOP for all the Atlantic Fleet CVE's.

No one knows better than I that we had a couple of very lucky breaks. One of them was getting two kills right off the bat. Nothing can give an iffy project a bigger shot in the arm and cure the jitters quicker than immediate spectacular success.

Another lucky break was in the matter of lights. Our regular shielded deck lights were useless. We had to improvise. We were in an area where Tenth Fleet said there was a constant stream of subs going in and out of Biscay. But we used as much light as we thought necessary, whether we could shield it or not. When there was no moon, we lit up like Broadway during landing operations. Had we been torpedoed, I'm afraid I might have had trouble justifying this.

But this is what we military men smugly refer to as a calculated risk, *after we get away with it!* The War

By barge loads, replacement aircraft were delivered to the Guadalcanal in Bermuda. Above are TBM Avengers.

'... a couple of remarkable

College definition of a calculated risk is a shot in the dark that you take when you can't think of anything else to do. If it doesn't work, it is classified as stupidity. When it does – it's a calculated risk.

Another thing that helped a lot was a couple of remarkable rescues. Twice we had planes go in the water at night a long way from the ship. Both times the crews thought they were goners. Expert work by our CIC – and other planes – coached destroyers to the spot and saved them. Several times, planes lost all radio power. Our alert CIC spotted it right away, and we turned a big searchlight straight up in the air to guide the boys home.

If the boys in the air group know that you go all out to help them when they get in trouble, they are a little happier about sticking their necks out themselves as a calculated risk.

Two officers played key roles in this operation. One was the squadron commander, LCdr. Gould. If he had balked and said, "My boys aren't ready for this," I couldn't have forced them into it. I'm sure Dick had some doubts about the job. He knew that for over 20 years, carrier operation had been a dawn-to-dusk business. But he had confidence in his pilots, and they had it in him. He had guts enough to say, "We'll try it," when it would have been easy to say, "No can do." He took his regular turn on the dark nights and showed the other lads how to do it.

The other key man was Lt. J. R. Jennings, my landing signal officer. In those days before the mirror landing system, the LSO drew more water with the pilots than any admiral did. His signals were not advisory. They were direct orders that had to be obeyed. In daylight, a pilot might cheat a little bit, second-guessing the LSO, taking a peek at the deck and using his own judgment at times. But not at night, when he couldn't see the deck. He *had* to rely on the LSO. And the LSO had to be almost a soothsayer to tell whether that tiny light boring in out of the darkness was fast or slow. If it was too slow, the plane would spin in – too fast would mean a bad deck crash. Either could be fatal. So the LSO literally had the lives of each plane crew in his hands when he brought them up the groove. It took more iron nerves, expert judgment and split-second reflexes to be a flag waver at night.

Jennings had them all. He was a lanky six-footer, and the boys called him "Stretch." They used to say he would stretch out from his platform and grab the stick if they started to go wrong. He wore a throat mike so he could talk to the pilots as well as wave flags at them. (No lighted wands in those days!)

Time and again, I heard Stretch talk a jittery pilot out of trouble on a bad approach. The boys would land saying smugly to themselves, "This is easy for a hot shot like me."

I've also been in the ready room when Stretch came down from the flight deck afterwards to tell the boys how they had done that night. Such language!! It almost made me blush. Sometimes it was hard to believe that this angry, roaring man in the ready room was the same one you had heard singing lullabyes on the air only a few moments before. The pilots all loved that big guy, and so did I.

Despite many black landings on a pitching deck that cruise, we had no bad crashes and no injuries. But most of the gray hairs I've got now sprouted during that period.

A fringe benefit from this cruise was a windfall of information for ONI. While the crew of the U-515 was aboard they disclosed a lot of things we were very curious about. But that's a story in itself.

On our next cruise we got a new air group, VC-8, Lt. Norman Hodson commanding. They adapted to night flying just as nicely as VC-58 had. As a result, we brought the U-505 home from that cruise on the end of a tow line. That clinched the argument for flying at night. From then on, round-the-clock operations became SOP for the little CVE's in the Atlantic.

Returned pilots were happy to be aboard – one way or another. The fast work and cooperation of destroyer escorts boosted the confidence of Capt. Gallery's 'night owls.'

Over a year later, when I took command of the *Hancock* out in the Pacific, dawn to dusk was still the routine for the big carriers in Halsey's Third Fleet. Their flight decks had over twice the area of the jeeps, and they could make 35 knots. When I told the boys out there about round-the-clock operations from the jeeps in the Atlantic, they were all skeptical and some regarded it as a damn lie!

There are two final observations to make. In breaking the ice on a brand-new field like this, the initiative almost always has to come from the bottom up. You can't expect the high command to order you to go out and do something when it has been an accepted fact for many years that it can't be done. For the same reason, if you ask permission to try it, the chances are your answer will be, "No." The way you test thin ice is to put your weight on it and see what happens. It isn't good for your ulcers, but sometimes you find the ice is stronger than you thought.

Lastly – and at least as important as anything else – you've got to be lucky. I can't tell you anything about how to do that.

But the *Guadalcanal*, affectionately known by her crew as the "Can Do," always was a lucky ship.

Naval Aviation News is privileged to present Rear Admiral Gallery's account of pioneering night attacks on submarines in World War II. We hope others with a story to tell will follow his example and put it down for the Navy record.

rescues.'

'Jeep' Carriers Still Working in MSTS

By JOC James Johnston

Although most of the escort carriers have been scrapped or mothballed, five, designated AKV's, still play an active role in defense. Their mission has been changed somewhat since they wrote antisubmarine warfare history in World War II, but they still go where the action is. Assigned to the Military Sea Transportation Service, the pioneers of hunter-killer operations in the Atlantic are ferrying aircraft between the West Coast and Vietnam.

May 1, 1964, USNS *Card* was crippled by a Viet Cong charge, placed below the waterline, while she was moored to a Saigon pier. The explosion ripped a 30-foot hole in the ship's hull and sank it in shallow water. *Card* was salvaged and towed to Subic Bay, R.P., for repairs and is now back on the Saigon run.

Escort, or jeep, carriers were built during WW II as a defensive weapon which would give task force commanders more flexibility and additional air power for ASW convoy protection. During the war, however, the smaller carriers operated as offensive carriers in support of amphibious landings and as hunter-killers in the Atlantic. They also were used as training ships for pre-deployment training of combat squadrons. Some jeeps were used to ferry aircraft in the Pacific, providing planes, men and cargo to the Fleet and advance bases.

Of the five jeeps assigned to MSTS – *Card, Breton, Point Cruz, Kula Gulf* and *Core* – *Card* and *Core* were the most active during WW II. They were also among the first commissioned: *Card*, November 8, 1942, and *Core*, December 10, 1942. Built by Seattle-Tacoma Shipbuilding Corporation, Tacoma, Wash., both were assigned to the Atlantic Fleet for ASW operations in the south and central Atlantic. *Breton*, commissioned April 12, 1943, played a major role as an escort carrier in the South Pacific. *Point Cruz* and *Kula Gulf*, of the larger *Commencement Bay*-class, were not commissioned until late in 1945.

After a brief shakedown and training period off the California coast in 1943, *Card* was sent through the Panama Canal and assigned to Commander in Chief, Atlantic Fleet, for duty. The ship left Norfolk in July and on August 1, operating with Task Force 64 out of Casablanca, French Morocco, attacked its first U-boat. Two days later, *Card* planes sank two German submarines and the task force continued operations, attacking eight enemy subs in nine days. During the remainder of the war, *Card* continued to operate between the Azores and North Africa as a hunter-killer with destroyer escorts, compiling an impressive record and garnering three battle stars and a Presidential Unit Citation.

USS *Core* operated in the same vicinity and effectively helped curtail German submarine operations along Allied shipping routes to Africa.

From this area of operations comes Rear Admiral Daniel Gallery's account of night ASW development (pp. 6-13). Like most of the carriers in WW II, the escorts were experimenting. The need to develop night operations was obvious, since U-boat commanders carefully avoided surfacing during daylight. The problems then, without sophisticated radar and guidance systems, were not easy to overcome. *Core's*

IN THIS DECEMBER 1945 PHOTOGRAPH, CVE'S IN TASK UNIT 77.4 BREAK FORMATION TO TAKE CRUISING POSITIONS

deck log frequently notes "night operations cancelled because of bad weather." There were numerous other reasons for halting operations.

In the Pacific, USS *Breton*, commissioned April 12, 1943, performed an entirely different mission, one extremely important to the South Pacific island-hopping campaign. As part of Carrier Transport Squadron, Pacific, *Breton* was principally involved in supplying Fleet units engaged in striking at enemy forces in WestPac. After briefly operating around San Francisco, the carrier's first mission was a run to Pearl Harbor where she loaded 300,888 gallons of fuel destined for Espiritu Santo, New Hebrides. Thus began a busy two years as a supplier, which took *Breton* to Eniwetok, Kwajalein, Okinawa, Guam and the Philippines, to name a few, to deliver fuel and aircraft to the Fleet.

Breton earned battle stars for the capture of Saipan, the Battle of the Philippine Sea, Second Bonins Raid and the Leyte landings.

Point Cruz, commissioned October 16, 1945, functioned as a training ship and aircraft ferry until 1947 when she was decommissioned and placed in the Reserve Fleet at Bremerton. Recommissioned July 26, 1951, *Point Cruz* was assigned to conduct pilot training off the West Coast. After six months, the ships with several DD's were assigned to an ASW task group patrolling the coast of Korea.

Kula Gulf, commissioned May 12, 1945, was only briefly on duty before conversions began for night operations. When white lights were replaced by red lights in areas frequented by pilots and their planes, night operational training began. She joined Escort Carrier Task Group 74.3 at Eniwetok for ferry duty.

All but four CVE's – *Badoeng Strait*, *Mindoro*, *Palau* and *Sicily* – were decommissioned after WW II. Those four remained active until after the Korean War, and some that were placed in reserve status were recalled for the Korean conflict. *Kula Gulf*, mothballed in Boston, was the first of the New England Reserve Fleet recalled.

All of these ships today – some, the pioneers of ASW techniques – are United States Naval Ships, ferrying cargo and aircraft to the war zone. All but one, USNS *Kula Gulf*, are assigned to MSTS Pacific. *Kula Gulf* is an Atlantic ship, operating in the Pacific. One other former escort carrier, *Croatan*, was placed in the Ready Reserve by MSTS in October 1968.

Although designation and status (in service rather than in commission) have changed for the active jeep carriers of yesterday, the mission is like the one carried out more than 20 years ago: Taking airplanes and cargo from supply points to where the action is.

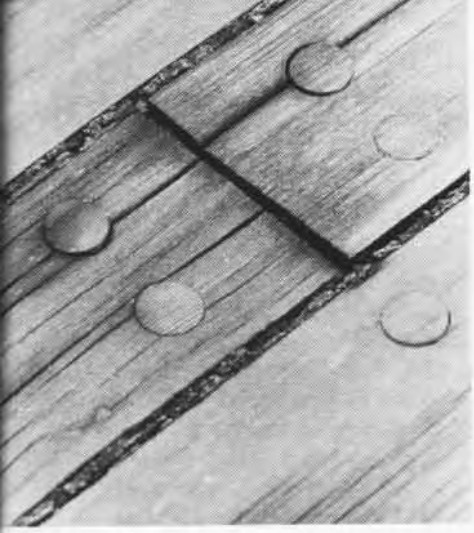
A Photographic Study by PH1 Robert E. Woods

Once a Jeep...

There are nine of them in the Reserve Fleet. These have been redesignated AKV and on paper they are assigned to the MSTS mobilization fleet. But their hull numbers still reflect their CVE status, and they look like jeep carriers.

On May 7, 1959, the classification of 36 escort carriers, designated CVE, CVU and CVHE, was changed to AKV (cargo ship and aircraft ferry). The change marked the end of the escort carrier as a combatant ship.

In the San Diego Reserve Fleet, *Commencement Bay, Cape Gloucester, Rendova, Saidor, Rabaul, Tinian* and *Vella Gulf* muster. Battered by the elements, and some wearing scars from the battles they fought, the escort carriers grow older.



Fifty Years Ago

From the weekly reports of the Director of Naval Aviation for April 1919:

One day at Coco Solo, C.Z., two convoy problems were carried out. In cooperation with aircraft, two submarine chasers acted as destroyers to convoy another sub chaser, designated as a merchant ship, through an area infested with submarines. Actual war conditions were simulated. In both problems, aircraft discovered the submarines before they were in a position to make an attack, and smoke bombs were dropped upon them.

An HS-2L seaplane, No. 2235, was forced because of engine trouble to land at Cedar Island, N.C., and, in trying to take off in a four-foot sea, the starboard sponson was smashed. Its home station, Morehead City, the next day ordered a 40-foot sailer to Cedar Island with carpenters and material to repair the seaplane. Pigeons were released from the sailer every five miles to give its position. A canal, 40 feet long, was dug from the beach inland and the plane floated into it. "A" shears were erected, and the plane was lifted and blocked up so that the carpenters could work on it. Supplies were requested by radio or pigeon and transported by seaplane.

When two HS-2 planes made a reconnaissance flight to the Perlas Islands from Coco Solo, some 115 miles away, they gave the inhabitants their first view of an aircraft of any kind. A courtesy call was made upon the Alcalde who was so overcome by the honor that he showed his appreciation by putting on a red shirt. The object of the flight was to see if it would be practicable to have a refueling station on one of the islands.

While holding a Davis gun target practice, Cape May reported, the recoil charge from the gun split and perforated the entering edge of the upper wing of the plane on which the gun was mounted, piercing the wing spar and splitting the rib. The remarkable part is that it did not cut the aileron wire, and the damage was not noticed until the machine returned from practice.

Chatham pigeons for one week were cut down on training because of weather. Added keenness for the loft and nest were being exhibited by the old birds because the first youngsters of the season were making their appearance. The report continued: "Undoubtedly, the majority of the work for the next two or three years will be performed by birds of this year's breeding, and great care will be taken so that only the physically fit will be raised. Much more efficient work can be expected of birds raised on the station as the dislike for the water always shown by birds raised inland will be, to a great extent, eliminated."

At Coco Solo, C.Z., great difficulty was experienced in training pigeons since training flights took them over the jungle where hawks were numerous. Often pigeons returned days overdue badly torn and wounded by the marauders. One pigeon landed on a sloop at sea in an exhausted condition and was cared for by the master until he was able to fly and return to the loft.

Liberty Twelve Motor, BuNo. 02490, manufactured by Packard, was taken out of HS-2L plane No. 1455 at Key West for its first overhaul after a flying time of 154 hours, 36 minutes.

NAFI Gets Award for Walleye

Contributor to its Fleet Introduction

Captain Justin A. O'Neil, commanding officer of Naval Avionics Facility, Indianapolis, has received an award for the major contribution and significant developments made by NAFI in the successful Fleet introduction of the *Walleye* missile. Rear Admiral T. J. Walker III, Deputy Commander for Plans and Programs for the Naval Air Systems Command, presented the award.

The *Walleye* weapon system was product-designed and engineered and pilot-produced at NAFI.

Walleye, a television-guided glide bomb, carries a TV camera in its nose. The fighter-bomber pilot has a black-and-white TV set in the cockpit to monitor what the bomb camera sees. As his objective appears on the screen, he aligns the camera and locks the weapon on the target. Released, the bomb glides to the bull's-eye, steered by four tailfins moving in response to signals from its camera.

Walleye, which can glide several miles, diminishes the pilots' danger by lessening their exposure to antiaircraft batteries nestled close to the target. Even more important is the fact that *Walleye's* accuracy holds down civilian casualties and reduces the risk of bombing error on selected targets.

VXN-8 Crew Covers Korean Coast

Accumulating Data for Project Magnet

One of Oceanographic Development Squadron Eight's aircraft and its crew have been conducting a two-month airborne geomagnetic survey of the waters off the coast of Korea and the Sea of Japan. The program, *Project Magnet*, is a part of an aerial survey of the world's ocean areas.

The survey aircraft, a C-54 dubbed *Kiwi*, is equipped with a vector airborne magnetometer which measures the intensity and direction of the earth's magnetic field. The data accumulated are used in the making of U.S. government nautical, aeronautical and world isomagnetic charts.

The survey also aids the UN's Economic Commission for the Far East,

ABOVE AND BEYOND

Of the four Medal of Honor winners decorated by President Lyndon B. Johnson in a special ceremony at the White House January 16, two were the first Naval Aviators in the Vietnam conflict to be so honored: Major Stephen W. Pless, USMC, and Lt. Clyde E. Lassen, USN.

The gallant action of Maj. Pless occurred August 19, 1967, in Quang Ngai Province. During an escort mission as a helicopter pilot attached to Marine Observation Squadron Six, Maj. Pless, then a captain, answered an emergency call. Four American soldiers, stranded on a nearby beach, were being overwhelmed by a VC force.

Arriving on the scene, Maj. Pless sighted 40 to 50 enemy soldiers in the open and launched a devastating attack, killing and wounding many of them and driving them back to a tree line. His rocket and machine gun attacks were made at such low levels that the aircraft flew through debris created by explosions from its rockets.

During one of his passes, Maj. Pless saw one of the wounded soldiers raise his arm for assistance. In spite of intense enemy fire, he

MAJOR STEPHEN W. PLESS, USMC

landed his helicopter on the beach between the wounded Americans and the enemy in the tree line.

The citation describes the rescue: "When the wounded men were aboard, Maj. Pless maneuvered the helicopter out to sea. Before it became safely airborne, the overloaded aircraft settled four times into the water. . .[but] he finally got the helicopter aloft.

"Maj. Pless' extraordinary heroism, coupled with his outstanding flying skill prevented the annihilation of the tiny force."

For conspicuous gallantry and intrepidity at the risk of his life above and beyond the call of duty," Lt. Lassen was decorated. He brought two downed fliers out of a North Vietnam jungle.

As a lieutenant (at that time, junior grade) in Helicopter Support Squadron Seven, Det. 104, he launched shortly after midnight June 19, 1968, from the guided missile frigate, USS *Preble*, to fly his helicopter over unknown and hostile terrain to a steep, tree-covered hill in search of the two fighter pilots.

Under intense enemy fire, he initially landed at the base of the hill, but dense foliage prevented the survivors from reaching the helicopter. With the aid of flare illumination, he then successfully hovered between two trees near the survivors' position. The flares, however, were expended, and the aircraft struck a tree and began a sharp descent. After righting the damaged craft, Lassen remained in the area, determined to make another try at a pickup though he was running low on fuel and enemy fire was mounting.

Upon the arrival of additional flares, Lt. Lassen again approached the rice paddy but could not reach the survivors. With 30 minutes of fuel remaining and hostile fire increasing, he made a final attempt by again hovering over the rice paddy. At an altitude of 50 feet, flare illumination was again lost.

In spite of the extreme danger in revealing his position, Lt. Lassen turned on his lights and landed. On this attempt, the survivors were able to make their way to the helo, and he again launched. En route to the coast, Lt. Lassen evaded additional hostile antiaircraft fire and, with fuel for only five minutes of flight remaining, landed safely aboard USS *Jouett* (DLG-29).

LT. LASSEN, USN, RECEIVES AWARD

Preview of the F-14A

The contract for the Navy's new, supersonic, carrier-based F-14A fighter, scheduled for Fleet delivery in 1973, has been awarded to Grumman Aircraft Engineering Corporation.

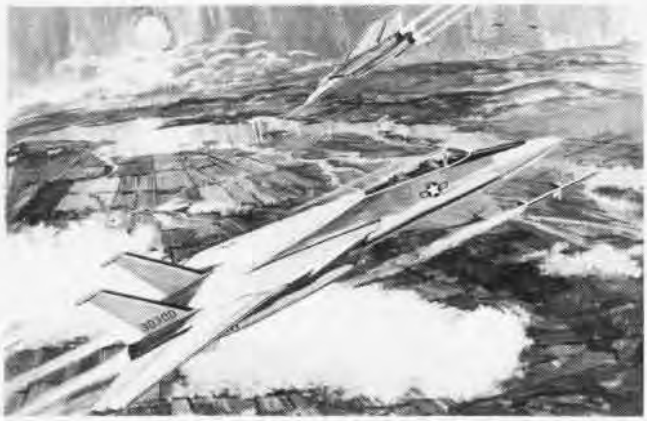
On these pages is an artist's concept and mockup preview of the two-place airplane. Powered by a Pratt & Whitney TF-30-P-401 afterburner turbofan engine, the fighter is designed with an optimized combination of speed, acceleration, maneuverability and radius of action, including a multi-purpose AN/AWG-9 fire control system now under development by the Hughes Aircraft Company. Weapon options, made available through the use of the system, include *Phoenix*, *Sparrow* and *Sidewinder* missiles.

The jet will have a one-piece bubble canopy to give all-round visibility to pilot and missile control officers from a tandem seating arrangement.

Variable sweep wings will allow the proper angle for required maneuvers.

In terms of airframe design, the F-14A will employ advanced construction techniques and titanium to insure strength while saving weight. Its structural strength is designed to withstand speeds exceeding Mach 2.

The F-14A will have a large fuel capacity to give it the range necessary to accompany the Navy's latest strike aircraft on long-range missions without requiring refueling.



NADC JOHNSVILLE:

By JOCS Lee Blair
Naval Air Systems Command

JO1 Perry Brandt
Naval Air Development Center

The gently rolling countryside that makes up one of the nation's wealthiest residential suburbs – Pennsylvania's Bucks County – seems about the least likely spot to house one of the Navy's largest and best equipped research and development facilities. But nonetheless it does, and what transpires within its confines is nothing less than awesome!

For here, on 752 acres of beautifully kept land, is the Naval Air Development Center, Johnsville, the home of many Naval Aviation firsts. Located some 20-odd miles northeast of Philadelphia, it is a unique Navy installation among those facilities engaged in research and development.

Once the first-time visitor to NADC gets used to the sight and sound of A-3B *Skywarriors*, P-3 *Orions* and F-8 *Crusaders* roaring off an 8,500-foot runway in the midst of an otherwise placid Pennsylvania rural area, he begins to sense that something of great significance is happening all around him. "Some things" is more appropriate, and the heavily charged atmosphere reflects this feeling, despite the apparent calm. Unlike most naval activities which generate an atmosphere of hustle and bustle, coupled with methodical military precision, the climate at NADC tends toward that of a university – scholarly, dignified, and purposeful.

What is NADC Johnsville all about? Inside the modest office of the commander, Captain Frank W. Ewald, the story begins to unfold.

"We are a part of the Naval Material Command. As an aeronautical field activity, most of our work is sponsored by the Naval Air Systems Command. Our mission is research, design, development, test and evaluation of aeronautical systems and components, and research and development work in aviation medicine. That takes in quite a bit of territory. I believe it would be safe to say that there isn't a single Navy aircraft flying today that Johnsville didn't have a hand in somewhere along the way."

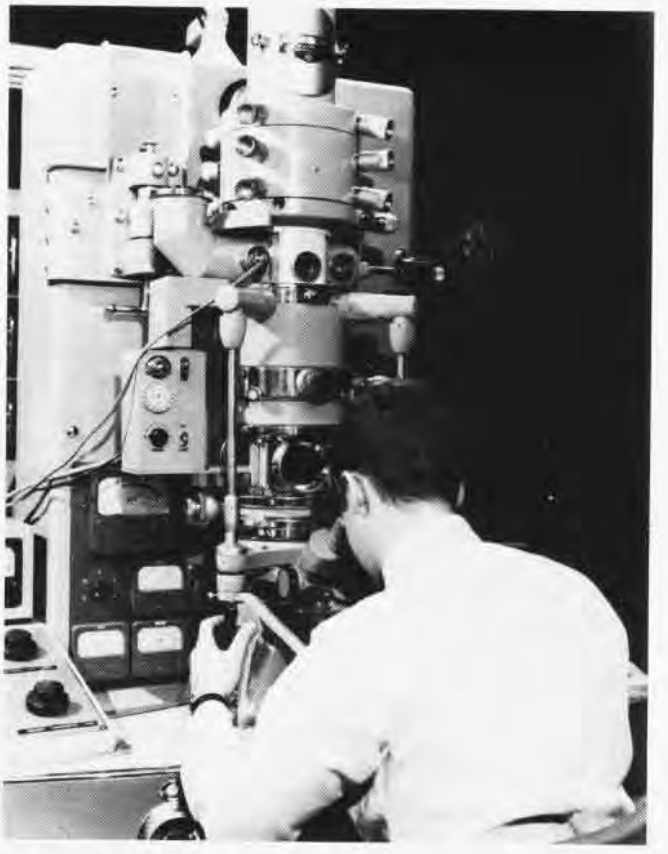
When the structure of NADC is examined, the complexity of the facility's multiple role in Naval Aviation takes on giant proportions. NADC is divided into eight functional departments, each charged with specific responsibilities and tasks. It is significant that at any given time there are approximately 800 separate tasks in progress. The breakdown by departments and the magnitude of the responsibilities with which they are charged challenges and stimulates the imagination.

Aero Electronic Technology – Applied research, development, test and evaluation of aeronautical electronic systems and components in the areas of antisubmarine, antiair, strike and electronic warfare.

Aero Mechanics – Aircraft and missile aerodynamic analysis, targets, special aircraft configurations, missiles, aircraft control systems, ground support equipment, weapons, aircraft instruments and systems, and airborne photographic systems.

Aerospace Medical Research – Basic and applied research into the physiological aspects of acceleration on the human body involving diverse disci-

Key to the Future



THE MAIN complex at NADC Johnsville and the Naval Air Facility cover more than 752 acres. Above, a technician in the Aeronautics Electronic Technology Department uses an electron microscope.

plines of physiology, biochemistry, psychology, physics and aviation medicine.

Systems Analysis and Engineering – Studies and analyses of an operations and systems nature directed toward the creation and evaluation of new and/or improved concepts of naval warfare; development and improvement of weapon systems and equipment. Also performs systems engineering and development of airborne weapon systems; appraises weapon systems effectiveness; develops and maintains a central facility for performance of major machine computations problems.

Aero Structures – Research, development, test and evaluation programs in the field of aerospace structures. The department is responsible for insuring the maximum structural reliability and adequacy of naval aircraft and air-launched missile systems.

Aero Materials – Research, development, test, evaluation and failure analysis in the aerospace materials field and, to a limited degree, in airborne equipment.

Aerospace Crew Equipment – Researches, designs, develops and establishes criteria for air crew safety escape and survival systems and related equipment; conducts bio-engineering of airborne equipment and air crew stations; and analyzes techniques and requirements for environmental and acceleration protection of crewmen.

Naval Air Facility – Maintains and operates facilities and provides services and material to support research, development, test and evaluation operations of NADC Johnsville and other activities and units as designated by the Chief of Naval Operations.

Unlike the other departments, the naval air facility has its own commanding officer, Captain Aubrey R. Seiler, who reports directly to the NADC commander.

"There are times," says Capt. Seiler, "when we have as many as 18 different models of aircraft on the field. A few are used for logistic purposes, but most serve as flying testbeds for new systems and components developed here. While NAF is, in fact, a separate command, we are here to support the center and

its vital work. We find it a difficult, challenging and rewarding assignment."

NAF Johnsville is staffed by 32 officers and 372 enlisted men, 50 of whom are assigned on a temporary additional duty basis to NADC. If one were to resurrect the famous WW II slogan, "Keep 'em Flying," it would perhaps best exemplify the mission of the facility.

Not all departments of NADC are located at Johnsville. In July 1967, three laboratories of the Naval Air Engineering Center, located at the foot of Broad Street in the Philadelphia Navy Yard, became departments of the center. The Aero Materials, Aero Structures and Aerospace Crew Equipment Departments will eventually be moved to Johnsville, probably by 1970.

The history of NADC is as colorful as it is varied. A million square feet of floor space were acquired by the Navy in 1944 from the Brewster Aircraft Corporation. This facility was named the Naval Air Modification Unit. Its primary function was the updating and conversion of naval aircraft prior to delivery to Fleet squadrons engaged in combat operations.

Immediately following WW II, the Navy became increasingly interested in in-house research and development as a tool for meeting future requirements. In August 1947, NAMU was redesignated the Naval Air Development Station, and the facility was expanded significantly with the relocation of several activities engaged in similar work at Johnsville. In August 1949, the station gained its present title and was reorganized along more functional lines.

In 1952, the Aviation Medical Acceleration Laboratory became part of the center, and the Free World's largest human centrifuge became operational. This 10-foot-diameter, sphere-shaped gondola, mounted on one end of a 50-foot tubular steel arm, can, in 6-1/2 seconds, accelerate to exert a force of 40 G's, carry loads up to 1,000 pounds and simulate altitudes up to 100,000 feet, with temperatures ranging from 40 to 110 degrees Fahrenheit. It is driven by a 4,000-hp, direct current, electric motor; its operation has progressed from a simple electric railway controller to a fully programmed, reliable, fail-safe computerized operation.

Man has successfully been able to withstand a force of 31 G's in the NADC centrifuge by wearing a solid metal suit filled with water up to eye level and by breathing through an improvised snorkel device. The "iron maiden," as it is called, acts much in the same manner as our modern pressure suits.

Astronauts for the National Aeronautics and Space Administration's highly successful *Mercury, Gemini* and *Apollo* programs were trained in the centrifuge and, to a man, agreed that the experience gained was "invaluable."

In 1965 the name of the Acceleration Lab was changed to its present name Aerospace Medical Research Department, to reflect its work in human tolerance to hostile environments.

The Aerospace Medical Research and the Aerospace Crew Equipment Departments came into being to develop and conduct research in human behavior and related fields. An exhaustive series of tests was performed on Navy airmen flying missions over Vietnam. These are now being evaluated, and it is hoped that the findings will provide a formula whereby the "stress limitation" of an individual can be predicted.

The center has long been a leader in antisubmarine warfare techniques, one of the most rapidly changing sciences in the world today. Advanced equipment and systems for ASW use are constantly under development as they have been since the establishment of the Antisubmarine Warfare Laboratory in 1958. Underwater sensing devices can be tested and evaluated in a flooded quarry or mine shaft to depths of 1,500 feet.

The Aeronautical Computer Laboratory, which had its beginning as a small engineering team in 1950, has become one of the most advanced analog and digital computational facilities of its type. Until recently, it included the world's largest analog computer.

The Inertial Guidance Laboratory, housed in new, modern buildings not too far distant from the main complex, provides facilities for the evaluation and development of inertial navigation systems, precision gyros and accelerometers. The building was so built as to reduce noise and vibration to an absolute minimum. The test area contains 12 columns that are bonded to the stable bedrock that underlies Johnsville which facilitates the mounting of special inertial component test equipment. A "clean room" provides assembly and disassembly of precision components under closely controlled environments.

The center also maintains an elaborate complex of advanced equipment which includes neutron activation analysis, laser spectrography, electron microscopy and microprobe facilities. Materials engineering includes complete pilot plant facilities for rubber technology, organic coatings for metals, preservation and packaging materials, sandwich construction of airframes, special lubricants, and metallurgical fabrication. The latter includes welding, plating and the analysis of structural failures. For analyzing structural failure, the center uses a machine capable of exerting forces up to five million pounds.

The list of technological advances for Naval Aviation that have come out

of NADC Johnsville is endless. It has been a pioneer in such innovations as low-light television which uses ambient light sources to reveal enemy movements and equipment concentrations under conditions which would appear to the average person as total darkness. It developed a highly effective material (NOMEX) for use in manufacture of protective clothing; a device known as the "jungle penetrator" to rescue downed airmen in locales of dense vegetation; and a host of highly specialized electronic devices for incorporation in ASW, electronic countermeasures, navigation, fire control and guidance systems.

The safety and survivability of Navy airmen has long been the prime concern of the Aerospace Crew Equipment Department. The vast majority of ejection seats, life rafts, exposure suits and other survival equipment used by the Navy today had their beginnings in Johnsville.

Project A-NEW was developed at NADC. It is an advanced system, utilizing a digital computer, which enables the crew to perform its mission with ten times the effectiveness of present ASW systems. The computer can analyze underwater sounds and other sources of information and present the data on TV-like displays. By automating routine jobs, the crew is left free to analyze the data and make its decisions. A-NEW is currently being installed in the Lockheed P-3C *Orion;* a smaller version is scheduled for inclusion in the projected carrier-based ASW aircraft, the S-3A (VSX).

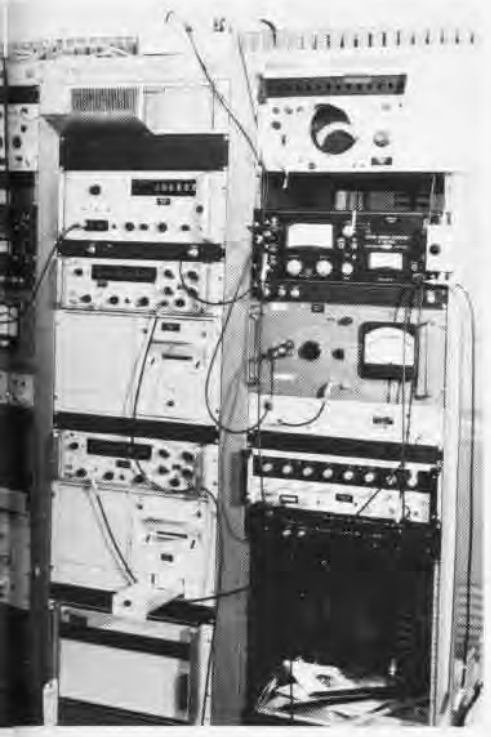
The work of the more than 2,200 civilian and 450 military personnel of the center does not go unrecognized. The most recent NADC employee to be honored was Dr. B. David Polis, head of the biochemistry division. Dr. Polis received the Charles W. and May S. Fleidner Award for his research in relating the amount of stress a man can tolerate in proportion to the level of phosphatidyl glycerol in the blood. Techniques developed by Dr. Polis have potential application for determining levels of stress – combat, acceleration and sleep deprivation.

Other significant contributions to aviation include the training of more than 100 commercial airline pilots in the handling of large transport aircraft under conditions involving clear air turbulence, a project conducted in cooperation with FAA.

To the untrained eye, NADC may appear a vast hodge-podge of independent activity, unrelated and unconcerned with other specialized fields of interest. Actually, however, the entire mechanism is closely meshed within itself and its counterparts in industry. From the NADC commander; his chief staff officer, Captain William L. Hinkle; the technical director, Dr. Harry Krutter; down to the lowest wage board employee, the work of the center is not only important but vital.

"The men and women of NADC are people of vision." says Capt. Ewald. "While we are certainly concerned with contemporary problems confronting Naval Aviation, we must look forward to what lies ahead, anticipating what we will have to face 5, 10, 15, even 20 years from now. We are concerned with the men who will man the aircraft and operate and maintain the systems of tomorrow. We intend to provide them with the very best that our imagination, technology and resources can produce. We are determined that the United States Naval Aviation of the future will be second to none. We have every intention of insuring that this will be the case."

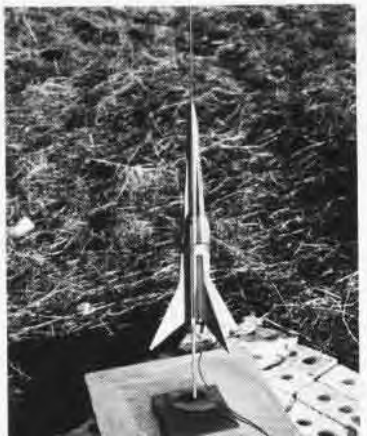
Of that, there is little doubt.



ONE OF the technicians at NADC evaluates sonar components (left). The nose cone of a QT-33 pilotless drone is replaced (center). Above, a systems analyst programs a patchboard to install in an analog computer.

3...2...1...0!

Corpus Christi youngsters watch a model rocket zoom skyward. Cdr. H. L. Piper, C.O. of VT-27, is club advisor. The rockets weigh about three ounces and are powered by solid state rocket engines. A model is shown at right.



Icing Down a New Record

PR1 Richard L. Spaulding leaps from the cargo ramp of an LC-130 Hercules for a 12,500-foot jump over the Ross Ice Shelf to establish a new antarctic altitude parachute record. Spaulding is a member of the VXE-6 para-rescue team.

Worldwide Effort

While recruiters comb U.S. campuses for aviation candidates, pilots of HAL-3, Det. 7, in Binh Thuy, Vietnam, have their own campaign: FLY NAVY on a bullet-riddled helo blade.

Endless Pattern of Navy Men . . .

Then, up there in the officer ranks, someone doesn't fit the pattern – but she belongs there. Ens. Linda Pontius is the first Wave to be assigned to VT-24. She is the assistant personnel officer and feels "quite alone" at times like this.

INTREPID IS HOME

By Ens. Toby Marquez and PHC B. M. Andersen

THE RESERVE FAMILY

From coast to coast, the "Navy way" is a tradition for many Naval Air Reserve families. At NAS South Weymouth, the family of ADCM Alfred C. Jorgensen II is typical. His father spent 30 years in the Navy as a chief boatswain's mate and his son, Alfred III, is now an NAOC. And if that isn't enough, his daughter is married to a Navy lieutenant.

When the newest member of a NAS Twin Cities husband-wife team, YN2 Linda Schmidtz, joined the Naval Air Reserve through the special Wave rating program, her reasons were simple. Her husband, PO1 Marvin is a member of HS-61E1, and she felt she should "contribute something."

NAS Twin Cities has another family combination, a father-daughter duo. They are Lt. Orland Kreitlow, station aircraft maintenance officer, and his daughter, Audrey, a member of the Navy Nurse Corps Candidate program.

NAS Kingsville and VT-21 boast a third generation Naval Aviator. When Ltjg. John M. Nisbit finished his flight training with VT-21, his uncle, Commander William C. Oerhle, USNR, pinned on the Wings of Gold. Cdr. Oerhle is exec of VP-66 at NAS Willow Grove. The new Naval Aviator's grandfather, William C. Dodson, was designated Naval Aviator #1138 in 1918.

And NARTU Washington, D.C., has a father-son combination. YNC Robert M. Brooker and his son, PN2 Alex, do the administrative work for VR-62A1.

THE HUSBAND-WIFE *team of Marvin and Linda Schmidtz participates in Naval Air Reserve drills at NAS Twin Cities, Minn.*

CAPTAIN *Mac A. Graham, C.O. of NAS South Weymouth, congratulates newly appointed NAOC Alfred C. Jorgensen III, son of the station's leading chief. ADCM and Mrs. A. C. Jorgensen II witnessed the ceremony.*

THIRD *generation Naval Aviator Ltjg. Nisbit is presented his wings by Cdr. Oerhle (above); Washington, D. C., also has a father-son team, members of VR-62A1 (right).*

A FATHER-DAUGHTER *combination is represented by Lt. Orland Kreitlow, NAS Twin Cities, as he swears his daughter, Audrey, into the U.S. Navy Nurse Corps.*

ON PATROL

with the Fleet Air Wings

Safety Milestones Announced

One winter morning, a VP-1 aircraft manned by Crew 12, commanded by Lt. J. V. DeThomas, took off from Sangley Point, R.P., on a tactical flight over the South China Sea. Two hours after takeoff, the squadron's 75,000th accident-free flight hour was logged. The record period began in the spring of 1961 when VP-1 was deployed to Kodiak, Alaska.

A few weeks earlier, VP-49, stationed at NAS Patuxent River, Md., completed 60,000 accident-free hours. This, too, occurred in the Far East while the squadron was deployed in Operation *Market Time*. Cdr. Richard S. Zeisel, the squadron C.O., made the milestone flight.

VP-49 is the first Atlantic Coast P-3 squadron to have deployed twice to WestPac. Shortly after their return stateside, the squadron passed its 61,000th accident-free hour, and Commander Zeisel was relieved by Commander R. E. Blandine as commanding officer of the squadron.

After His Own Counsel

It wasn't just another re-enlistment ceremony at Jacksonville. There were the usual activities: the signing of the contract, the raising of hands, the administering of the oath, but this one was different. It was held in the office of VP-45's executive officer, Commander R. A. Mason, because it had special significance.

Reason? The man re-enlisting was a man who has spent hours talking with shipmates on the many advantages of remaining in the Navy. So now Chief Aviation Electrician's Mate Edward C. Kneller, VP-45 Career Counselor, was signing up for the fourth time. His 16-year program has included service with HS-3, VAW-11, Naval Missile Center, Point Mugu, Calif., VA-35, NATTC Jacksonville and VP-45.

Chief Kneller's latest enlistment will carry him to the 20-year mark, but he has no plans to retire then.

VP-40 Sets NATOPS Mark

According to ComNavAirPac NATOPS evaluators, VP-40, now stationed at NAS Moffett Field, is the only patrol squadron on the West Coast to have made so high a score in its transition to the P-3 *Orion*.

Under the command of Commander George A. Surovik, the squadron undertook intense training of crew members. When the examination results were announced, it was clear that the training had paid off: A total of 92% of all air crew members passed the exams.

The inflight checks, which tested each crewman's ability to work with the P-3 systems and emergency procedures, demonstrated the same results – a superior squadron.

Elated by such a record, the squadron was ready for deployment to MCAS Iwakuni. After the last few training flights, the eight *Orions* left in sections of three, three and two. The surface shipment went out without incident, and the families settled down to the long six-month wait for their men to come back.

Blue Sharks Re-enlist

Eight *Blue Sharks* of VP-6, stationed at NAS Barber's Point, recently gathered round the squadron mascot and re-enlisted. The eight, representing 88 years of service, shipped over for another 34 years. Commander James C. Loberger, VP-6 C.O., administered the oath to AOC Patrick E. Bostic, AEC Leo G. Rosenberg, AMSC's Gary D. Wright and Duane J. Zaleski, AE1 William E. Argo, AT1 Gerald R. Rauscher, AMS2 Orey Bishop and ATN3 Michele B. Marbrey.

"Sub-Conscious," the squadron mascot, recently completed 13 years of service in VP-6. He was once a live shark in tropical Hawaiian waters.

IN A 'PRODUCTION LINE' *ceremony, eight Blue Sharks, members of Patrol Squadron Six, reenlisted and were sworn in by Cdr. Loberger. They received a total VRB of $12,000.*

Tanned Tigers

In February, VP-8, home-based at NAS Patuxent River, enjoyed an all-expense trip to the Pearl of the Antilles, Puerto Rico, when the *Tigers* took part in Operation *Springboard* to flex their ASW muscles in the Caribbean. The *Tigers* were led by Commander Troy E. Todd.

ASW School in Erin

Late last year, VP-9 welcomed the opportunity to maintain ASW readiness by attending the Joint Antisubmarine School at Londonderry, Northern Ireland. The institution is run by the British, and other NATO countries are regularly invited to take part.

More recently, 19 members of VP-6 enjoyed the same three weeks of training which involves classroom instruction as well as air/sea ASW operations. Also participating was a second group of Navy men from VP-10, based in Brunswick, Maine, as well as units of the Royal Navy, RAF and the Royal Netherlands Navy.

Thank You, Teachers

Two officers of VP-17, now at Barber's Point, were praised in more than 30 "thank you" letters from two sixth grade classes of Green Gables Elementary School, Palo Alto, Calif., for their instruction.

Lt. Henry Becker and Ltjg. Dan L. Baldwin, both TACCO's, took time while they were at NAS Moffett Field to teach basic geography and navigation to combined classes of 60.

They began with a general explanation of the earth's surface, general winds and the various time systems. The officers alternated in explaining the many steps involved in making a high-altitude, celestial navigation flight from Palo Alto to Hawaii.

New Zealand Crews Return

Three Royal New Zealand Air Force crews, flying the first P-3B aircraft ever sold to a foreign country, returned in February for a ten-day visit at NAS Moffett Field where they had received their *Orion* sub-hunter training. The detachment immediately began participating in antisubmarine exercises with U.S. Navy patrol squadrons.

RED DARTER *lieutenants (left to right) J. D. Compton, J. R. Gorman, R. E. F. Harti, Robert E. Croci and Wilbur F. Bice are congratulated by Patrol Squadron 45's commanding officer, Commander William H. Saunders, immediately upon putting on the insignia of their new rank.*

VP-49 Completes 25th Year

Patrol Squadron 49, based at NAS Patuxent River, reached another milestone in February when it completed its 25th anniversary year.

Commissioned as VP-19 February 1, 1944, its designation was changed several times – to VPB-19, again VP-19, VP-MS-9 – becoming VP-49 on September 1, 1948.

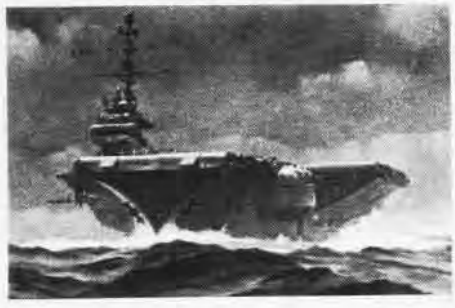
The squadron carries out its ASW missions with an approximate complement of 60 officers and 300 enlisted men. Included in this number are eight 11-man air crews, each consisting of four officers and seven enlisted antisubmarine sensor operators. The squadron flies the P-3 *Orion*.

VP-49's activities have included participation in Operation *Crossroads* (the Bikini bomb tests), a flawless performance during the 1962 quarantine of Cuba, and participation in operations during the various flights of *Mercury*, *Gemini* and *Apollo* programs.

VP-49's insignia represents the squadron's mission and her area of operation. The clouds and blue background stand for the sky and the sea, the natural environment of the P-3. The sun and stars on dark blue quadrants of the shield symbolize the night and day capabilities of the squadron's aircraft and men.

The upper right quadrant of the shield portrays, from top to bottom, VP-49's ASW mission (trident), the water which hides the adversary and the submarine itself.

The lower left quadrant depicts the electronic detection capabilities of the P-3 (orbiting electrons) and the high speed with which the P-3 can transit to its operational area (lightning bolt).



at Sea with the Carriers

PACIFIC FLEET

Constellation (CVA-64)

Imagine a stack of messages three miles high! That was the volume handled by CVA-64's communications officers and radiomen during her recent eight-month deployment to the Gulf of Tonkin. The 471,000 messages may well be a new record for deployed carriers, according to Commander K. D. Wiecking, communications officer. He also said that, as flagship for Commander Task Force 77, *Constellation* originated 50,000 of the total.

During the same deployment, *Connie* and CVW-14 launched aircraft for 6,574 combat sorties and 4,489 support missions. When the bombing halt came November 1, *Constellation* was part of history in the making. Commander Kenneth E. Enny, CAW-14, made the Navy's last bombing mission over North Vietnam. *Constellation* and CVW-14 were also the first to launch bombing strikes against North Vietnam in August 1964.

Oriskany (CVA-34)

Five North Atlantic Treaty Organization officers took a close look at naval operations aboard CVA-34 during First Fleet operations recently.

On the cruise along the California coast, the officers observed flight operations and were given briefings on attack carrier operations.

Colonel Phillippus A. C. Benjamins, Netherlands Air Force; Group Captain Denys L. Heywood, RAF; Colonel Fritz Schroeder, West German Air

HAPPINESS *for this Chief Petty Officer, who has just returned from WestPac aboard Constellation, is a reunion with his family.*

Force; Colonel Alberto M. Dettrino, Italian Air Force; and Major Louis E. Coupez, Belgian Army, are currently stationed at Offutt AFB, Nebr.

A short time later, 21 members of the Canadian and U.S. Permanent Joint Board on Defense toured the ship as guests of Captain Jack S. Kenyon, C.O. The group was headed by Ambassador Arnold D. P. Heeney, acting Canadian chairman, and Joseph W. Scott, State Department director for relations with Canada, the U.S. chairman. The other members of the Board represent the Canadian Ministry of External Affairs, the U.S. State Department, and Canadian and U.S. armed forces.

Oriskany, fresh from a nine-month overhaul at the Hunter's Point Naval Shipyard, was undergoing training exercises with the First Fleet in preparation for her next Vietnam deployment.

And her air wing, CVW-19, was well prepared, having just returned from Operation *Blue Tail*, a two-week weapons deployment to NAAS Fallon, Nev. Pilots sharpened their skills in all categories of day and night attack and fighter operations as they flew 1,500 bombing, rocket and machine gun sorties.

Lt. K. T. Sanger, VA-192, was designated *Top Gun* for proficiency in all weapons, and Ltjg. S. S. Spencer, VA-23 won the William Tell award for rocket delivery. The *Golden Dragons* of VA-192 earned the Air Wing Weapons Trophy.

Helicopter operations during the deployment involved a simulated SAR effort which terminated with the recovery of all "downed" pilots.

Blue Tail ended with coordinated practice strikes against NAS China Lake and Nellis AFB.

Hancock (CVA-19)

Captain Newton P. Foss relieved Captain Howard E. Greer as commanding officer in a change-of-command ceremony aboard the carrier in the South China Sea. Captain Foss came to *Hancock* from the staff of ComNavAirPac; Captain Greer's next assignment is as Chief of Staff to ComNavAirPac.

Hornet (CVS-12)

Ltjg. Robert A. Engle of VAW-111 made the 108,000th arrested landing on *Hornet* in an E-1B *Tracer* while the ASW carrier was on station in the Gulf of Tonkin. Flagship of Rear Admiral Eugene G. Fairfax, ComASWGruFive, CVS-12 is scheduled to return to her home port in May.

Captain Jackson A. Stockton, skipper of CVS-12, recently cut the ribbon across the entrance to *Hornet's* new soda fountain and lounge. The modern facility has two soft ice cream machines, a large popcorn machine, a hot fudge warmer and the necessary soft drink dispensers. The adjacent lounge seats 70 men.

VADM. *William F. Bringle, Com7thFlt (left), is welcomed aboard CVA-19 by RAdm. George S. Morrison, ComCarDivNine. Adm. Bringle was aboard to observe operations.*

CAPTAIN *Jack S. Kenyon, commanding officer of Oriskany (left), and Group Captain Denys L. Heywood, RAF, observe an unrep with the USS Sacramento from the bridge of CVA-34. Capt. Heywood and four other NATO officers were aboard to observe Fleet exercises.*

Kitty Hawk (CVA-63)

When LCdr. Ronald Hinkel, VF-114, put his F-4 *Phantom* down on the deck after a flight over South Vietnam, he made the carrier's 88,000th landing. His RIO was Ltjg. Joseph Sarnecky.

Ticonderoga (CVA-14)

When *Tico* left the West Coast on her current WestPac deployment, she had *Corsair II* and *Crusader* squadrons aboard – the first time these squadrons have served together on an aircraft

ABOARD USS ELDORADO, A CREWMAN OF HC-4, DET. 36, WAITS BY A UH-2B FOR THE MORNING FLIGHT TO DA NANG

carrier. Led by Commander Charles W. Cates, CVW-16 includes VA-25, VA-87, VF-111, VF-162 and a detachment from VFP-63.

Captain Richard E. Fowler is the commanding officer of *Ticonderoga*.

Kearsarge (CVS-33)

Captain Creighton W. Cook turned over command of CVS-33 to Captain Leonard M. Nearman while the carrier was moored at Long Beach.

In preparation for her next WestPac deployment, *Kearsarge* recently participated in several First Fleet ASW exercises.

Ranger (CVA-61)

When AT2 Dale A. Radford of *Ranger's* aircraft intermediate maintenance department decided to re-enlist, he discovered that the decision was worth $10,000 and 34 weeks of training at the Aviation Electronics Technician Class B School in Memphis when *Ranger* returns from WestPac. The $10,000 the Attack Squadron 65 man received is the largest amount possible under the VRB program.

ATLANTIC FLEET

Saratoga (CVA-60)

Aboard the *Saratoga*, Seaman John R. Anderegg was awarded the Navy's Silver Star, the nation's third highest award, for gallantry in action off the coast of Vietnam.

Anderegg was serving aboard the *Swift* boat PCF-19 off the DMZ in the South China Sea when she took two direct hits from enemy rockets. Five of the eight crewman were killed instantly. Although severely wounded and temporarily blinded in one eye, Anderegg managed to help the two other survivors into a life raft, row it away from the rapidly sinking boat and signal a rescue craft. Later, one of the survivors died in his arms. Anderegg is credited with saving the life of the officer-in-charge.

INDEPENDENCE *C.O., Captain Matthews, presents the Golden Hook to Cdr. Lenox.*

F. D. Roosevelt (CVA-42)

One of the major objectives of the year-long overhaul of the *FDR* was realized with the installation of a new 85,000-pound aircraft elevator. To increase handling speed and efficiency, it is located on the starboard side of the ship abreast of the island structure. *Roosevelt* had been the only attack carrier still equipped with the old elevator system.

Powered by a Westinghouse hydraulic engine, the elevator is 56 feet long, 44 feet wide, and it can move 74,000 pounds at a speed of 135 feet per minute. It takes only five seconds to carry its load from the hangar bay to the flight deck, a distance of 26 feet, six inches. After use, it takes ten

seconds for the 4,590 gallons of fire-and-explosive-resistant hydraulic fluid to regenerate.

In February, the *Roosevelt* left Drydock #8, the largest in the Norfolk Naval Shipyard. It was the first time afloat for the carrier in over three months. Her overhaul will be completed early this summer.

Independence (CVA-62)

For the sixth time out of nine competitive periods, the *Jolly Rogers* of VF-84 captured the Golden Hook of Air Wing Seven.

The Golden Hook is given the squadron in the air wing that demonstrates the most professional technique in landing aboard *Independence*. Captain H. S. Matthews, Jr., CVA-62 C.O., in making the award said that VF-84's excellence did not end with carrier landings but extended to all phases of flight in the *Phantom*.

There was still another award. Commander J. B. Morin, CAW-7, presented the "World War I Flying Ace" award. Modeled after "Snoopy," the Red Baron hunter of comic strip fame, this award normally goes to the squadron demonstrating the best over-all performance during a given period. In this case, however, it went to an individual, Commander Corky Lenox, VF-84's commanding officer, who was the number one pilot in the air wing in carrier landing proficiency for the nine-month cruise in the Med.

Shangri La (CVA-38)

USS *Shangri La* has recorded her 100,000th arrested landing since the ship's recommissioning in 1955. LCdr. Fred Duffield, maintenance officer for VA-72, made the milestone arrest.

Noted editor-author Hanson Baldwin visited *Shangri La* while the ship conducted flight operations on station in the Mediterranean. The military editor of the *New York Times* and author of numerous military histories was welcomed aboard by Rear Admiral Ernest W. Dobie, Jr., Commander Cruiser-Destroyer Flotilla Ten, and Captain W. S. Nelson, the carrier's commanding officer.

Boxer (LPH-4)

On her *Carib 3-68* cruise, *Boxer* recorded her 84,000th helo landing. It was made by LCdr. J. McRee and LCdr. G. B. Griffin. The *Boxer* is skippered by Captain R. F. Hunt.

Intrepid (CVS-11)

When CVS-11 returned to Norfolk from an eight-month deployment to Vietnam, she had travelled 90,000 miles while circling the globe, rounding both the capes and crossing the equator three times. In 106 days on Yankee Station, CVSG-10 pounded the enemy with an average of 139,000 pounds of ordnance each day and recorded 5,812 combat sorties and 1,533 support flights.

America (CVA-66)

Before *America* entered the Portsmouth Naval Shipyard for extensive repairs, she conducted carquals for eight squadrons, flying six different types of aircraft. Ninety-eight pilots completed 1,434 arrested landings during the underway period. The squadrons were VF-121, VF-101, RVAH-3, VA-35, VA-42, VA-174, CAEW-12 and VRC-40.

A group from NATC Patuxent River was also aboard to conduct carrier suitability trials on three types of aircraft.

Wasp (CVS-18)

Captain S. M. Cooley's CVS was the scene of a change-of-command ceremony when Rear Admiral Frank B. Stone relieved Rear Admiral Thomas R. McClellan as Commander, Carrier Division Four. The ceremony took place while *Wasp* was tied up at Quonset Point, R.I.

AB3 GARY C. BOWMAN *gives the traditional thumbs up sign for "ready to go," as he scrambles out from under an aircraft about to be launched from America (below). At right, America refuels the USS Strong (DD-758), the carrier's plane guard during a recent carqual period.*

at Sea with the Carriers

A report on the squadron officers who remain on the ship yet play a role important to successful missions and pilot safety.

ON TOP OF THINGS

By PHC Al Smith

"This job gives me a feeling of accomplishment, of direct involvement, that I don't think I could have in any other job in the Navy," says Ltjg. Larry F. Lightner, Air Intelligence Officer for Attack Squadron 36. "I'm the only officer in the squadron not directly connected with flying or maintaining aircraft. I'm more or less independent, that is," and he laughs, "as independent as a lieutenant (junior grade) can be."

The light-green bulkheads of the aircraft carrier *Intrepid's* air intelligence debriefing room are obscured by charts of Vietnam, charts bristling with multicolored pins and grease-penciled marks indicating targets, antiaircraft sites and navigational information. The 32-cup coffeepot is nearly hidden by a large pile of Southeast Asia charts. Filling a mug, an enlisted photo intelligenceman asks, "How about a cup of coffee, Mr. Lightner?"

The young Texan replies, "No, thank you." His thoughts drift to Dallas where he majored in real estate at Southern Methodist University. He was working toward his master's degree when he made a significant decision: He would join the Navy.

It all started with people standing around with their hands in their pockets, complaining about the war, he reflects. If his country was in it, then he wanted to be in it also. But how? And in what capacity? A friend had told him about the air intelligence program, a job where young officers are required to make important decisions, where they are on top of things, where they know what is going on. That is why Ltjg. Lightner is aboard *Intrepid* now, waiting for pilots to return from their early morning missions to report to him the success of their strikes.

The deck begins to shake as the carrier picks up speed. Lightner's mind returns to the business at hand. He rearranges the little piles of forms and straightens the row of colored pencils on his 3x5-foot table.

A pilot enters, sits down at the debriefing table and stretches his legs, a luxury not possible in the small cockpit of his A-4C *Skyhawk*.

During the debriefing, Ltjg. Lightner asks him the necessary questions to determine the significant events on the mission. Did the radio work right? Did everyone use the planned procedures? Did the pilot see any trawlers at sea or anything unusual on the ground?

"How did things go?" the debriefer asks.

"Everything on schedule," reports the pilot. "FAC (forward air control) gave me a large troop concentration."

"How many hits did you get?" Ltjg. Lightner questions.

"FAC reported all bombs on target," the pilot answers, "75 percent damage, two large secondary explosions. My wingman also reported the secondaries."

Questions continue. What method of attack was used? What was the angle of dive and from what altitude? The information gathered at the debriefing is later fed into a computer where the statistical results of several interviews are compiled to assist in planning future attacks which will be more effective and insure greater safety.

During the debriefing, four more pilots enter the room. They appear tired. "Any antiaircraft fire?" Lightner asks.

"Section leader said 'Yes'," a pilot answers. "I think he said about 40 tracers went by the canopy."

"I'll check with him," Ltjg. Lightner says. "Any other sign of tracers or flak?"

"No," the pilot hesitates, ". . .wait a minute. . .yes. I saw muzzle flashes about 300 meters north." Ltjg. Lightner pinpoints the spot on the chart and marks it with a colored pencil. "About here?" he asks.

More pilots come in, their young faces lined with early maturity. They are dressed in olive-drab and camouflaged flight suits, bandy-legged in their tight-fitting G suits.

Ltjg. Lightner continues to fill out the report, asking what radio frequencies were used, the code names of the Navy and Air Force controllers the pilots talked to and the hours logged in flight. Another pilot sits down with Lightner and the process continues, all day and into the night, as long as the strike planes are flying.

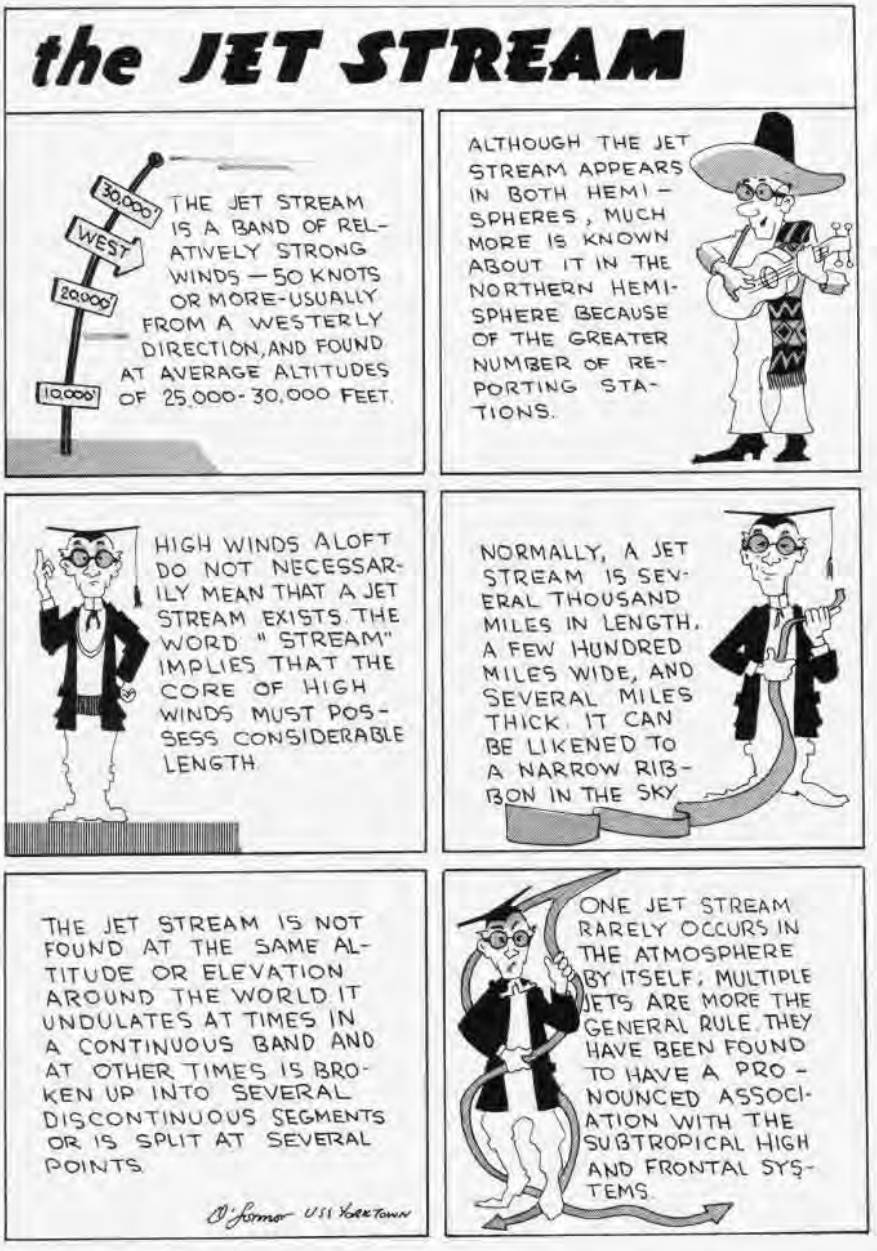
The debriefing information will be concentrated into a daily Operations Report which later will be combined into a Weekly Report, providing high-level planners with a valuable over-all picture.

During these long hours, Ltjg. Lightner will aim at accuracy and thoroughness. Present and future operations depend upon his skill and the skill of other squadron air intelligence officers throughout the area of the Vietnam conflict.

Later, at dinner in the wardroom, Lightner may have a few moments to think of his wife, Winnett, and Kristin, the two-month-old daughter he has not yet seen. He may have time to reminisce about his 16 weeks at the Basic Naval Aviation Orientation School at Pensacola or lifelong friends met during 26 weeks at the Air Force Air Intelligence School in Denver.

Most likely, though, he will be organizing his thoughts for the evening briefing in the squadron ready room. He will have to report on the general situation and effectiveness of the recent strikes. If the pilots are flying over a new area, it is essential that he brief them thoroughly on the geography. He also gives them detailed instruction in escape and evasion tactics.

The Air Intelligence Officer skips dessert; it is time for the evening briefing. His job demands the best of him and he does his job well. Lightner is on top of things.



NAMTD-1047 Trains for TA-4F's

Skyhawks Designed to Replace F-9's

When the first TA-4F's begin arriving at NAS Kingsville in June, trained maintenance crews will be on hand to greet them, thanks to Naval Air Maintenance Training Detachment 1047.

The addition of the TA-4F's to the training syllabus at Kingsville made expansion the order of the day for the NAMTD. The detachment received movies, textbooks, trainers and other training aids needed to acquaint the students with the *Skyhawk's* fuel systems, landing gear and electronic controls. Classrooms were remodeled and in some cases enlarged, and 16 new instructors reported for duty.

Classes in the *Cougar* are continuing as the F-9 is not scheduled for phase out until the early 1970's.

New Type Unit is Commissioned

Will Fly Counter-insurgency 'Bronco'

At NAS North Island January 3, commissioning ceremonies for the first squadron of its type were held. Vice Admiral Allen M. Shinn, Commander, Naval Air Force, Pacific Fleet, was the principal speaker.

Commissioned was Light Attack Squadron Four, a squadron which will fly aircraft specifically developed for counter-insurgency warfare. Called the *Bronco*, the twin-turboprop aircraft has been combat-proved in Vietnam by U.S. Air Force and Marine pilots.

North American Rockwell is the manufacturer of the light attack aircraft, designated OV-10A. With the new squadron, the Navy has a highly versatile fixed-wing aircraft which can fly slowly enough for observation and air drop activities and fast enough for attack.

Commander Gilbert L. Winans is the commanding officer of VA(L)-4.

Sea King Conducts Icing Trials

Ice Deflector Design Primary Goal

For the fourth consecutive winter, an SH-3D *Sea King* helicopter, belonging to NATC Patuxent River, has undergone icing tests in Ottawa, Canada, in an attempt to develop suitable ice deflectors to prevent ice, snow and slush ingestion in its engines.

Ice detector/icing rate meter systems were also evaluated. The detectors are designed to warn the pilot of icing conditions and can be programmed to initiate de-icing and anti-icing measures.

The helicopter's mission capacity will be substantially increased with the development of the de-icing systems.

The Canadian Navy conducted simultaneous tests for a rotor blade ice protection system on another SH-3.

AN SH-3D HOVERS IN ICING SPRAY RIG

Miss America Visits America. After the familiar words, "Now stand by for a word from the Captain," crew members of the USS *America* (CVA-66) were surprised to hear, instead of the captain, the voice of Judi Ford, *Miss America 1969.*

During the day of tours and receptions aboard *America* (now being overhauled at Portsmouth, Va.), Miss Ford interviewed six enlisted men to select a man to escort her for an evening of dining and dancing. Although Miss Ford said she'd "like to take all six with her," she finally decided on PT3 Joseph Denault.

'SOCK IT TO 'EM!' Glynn County, home of Sea Island Chowder, the Marshes of Glynn, and Christ Church, has still another addition to its long list of credits, thanks to Navy Glynco. It now boasts the one and only known soccer team on the southeast coast composed entirely of Navy personnel.

Working against tremendous odds, but as spirited as the original Minutemen, Glynco's Bluejackets and Leathernecks have made the British Isles' favorite sport their own. And they aren't half bad either.

The home team, under the leadership of Marine Capt. Kevin Rick, player-manager, recently nailed down second slot in the southeastern Military League. Included in the competition are such formidable teams as those from McDill, Robins, Eglin and Maxwell Air Force Bases. (Most of these include on their rosters British exchange officers who are old pro's compared with their Yankee teammates.)

In 1966 when the Glynco team was organized, it took a real beating, but now it has earned the respect of soccer teams throughout the southeast. Its fame has spread to England, and some Royal Navy ships have requested special games when they learn that Glynco is within a hundred-mile radius of their scheduled stops.

PERSONAL GLIMPSES

Editor's Corner

Since soccer is a year-round game, it is a popular sport at Navy Glynco. "It's a rough game," Mr. Tom Green, civilian director of Special Services, says, "but, unlike football, the little man stands just as good a chance on the field as the big bruiser."

First Man to unicycle around the world, is Lt. John E. Mander who circled the geographic South Pole during a stop-over at the U.S. Amundsen-Scott Pole Station, Antarctica.

Lt. Mander is a pilot of one of the five ski-equipped LC-130 *Hercules* operated by Antarctic Development Squadron Six (VXE-6).

In addition to the Pole, Lt. Mander has unicycled in all kinds of weather conditions and temperatures at such varied Antarctic locations as Byrd, Hallet, McMurdo Stations and Williams Field.

ANIMAL CORNER. And now it's turtles! Every winter for the past seven years, NS Roosevelt Roads has sent an amphibious aircraft to Costa Rica to take on a payload of several thousand baby turtles.

Operation Green Turtle, as the project is known, is Navy's part of a conservation scheme to renew the once vast nesting of the green sea turtle in the Caribbean.

The Navy airlifts the turtles from the Caribbean's largest turtle nesting beach at Tortuguero, Costa Rica, to governments throughout the Caribbean for release on their beaches.

Several hundred years ago, green turtles abounded on most Caribbean beaches. The turtles provided a valuable source of protein to the coastal inhabitants. But within the last 100 years, nesting beaches have dwindled one by one.

This year, turtles were distributed in the vicinity of Belize, British Honduras; Conzumel Island, off the Yucatan Peninsula; Trinidad; the Island of Grenada; Barbados; Grand Cayman and Great Inagua Islands and Puerto Rico.

SIGNS OF THE TIMES. *Dependents of USS Intrepid crewmen hold up their banner to welcome Navy's oldest combat carrier upon its return from its most recent cruise to Vietnam.*

LETTERS

We are Honored

I was very pleased to have a chance to see the October and November issues of *Naval Aviation News* and appreciate your kindness in forwarding them to me.

I have fond recollections of working on the dummy, which you so generously remembered. I think you are miracle workers to produce such full issues with your small staff. The stories are lively, the photographs excellent, and it's a fine publication.

My very best to you and your splendid journalistic crew.

Andrew Heiskell
TIME Inc.
Chairman of the Board

¶As was reported on page 8 of the November 1968 issue, Mr. Heiskell and Donald Burke of *Time-Life*, in 1943, "created the format and working dummy of *Naval Aviation News*," the very format we still use 26 years later.

Query on WW I Series

I have been reading with interest your recent articles on Naval Aviation's role in WW I. My father was a WW I pilot in the Air Service of the Army Signal Corps, but did not see action.

Are you considering publishing these articles under one cover, either hard or soft bound? I know my father and many of his contemporaries in the Order of Daedalians, many of whom were Naval Aviators, would like to purchase a copy.

Dennis A. Cavagnaro
Major, USMC

¶Yes, plans are underway to publish these articles under one cover. Once these plans are complete, we will be announcing the publication date and price to our readers.

Who's on First?

I enjoyed the recent article published in the January issue concerning VP-24's flight over the North Pole, p. 31, and the comments concerning "areas which had never been investigated" and the feasibility of "year-around, low-level operations" in the Arctic Ocean area.

In fairness to the achievement by VP-24, I hope they will exercise caution in asserting any claims without first consulting VXN-8, Project *Birdseye*.

Project *Birdseye* has been flying the North Pole, monthly, year-around and low level (200-2,000 feet) for the past five years.

John B. Dana, Commander

MINIATURIZED *UHF telemetry modules for use with missiles and space satellites have been perfected by the Naval Weapons Center Corona Laboratories, Corona, Calif., and are now ready for industrial production. The Corona research complex is the Navy's chief laboratory in the design and development of new equipment. According to present schedules, all telemetry for the Department of Defense is due to be shifted from VHF to UHF January 1, 1970.*

Footnote to History

I read with great interest your article on Air Group 17 in the February issue. The last paragraph was of particular, personal interest to me: "In Hawaii, *VF-17 was replaced by F6F-equipped VF-18;* and on November 11, all the hard work and training made its first pay-off with CAG-17's initial strike against the Japanese base on Rabaul."

The most dramatic part of this paragraph, which I have italicized, was glossed over. You may like to know a little about VF-18. It was commissioned the middle of July 1943. It was while we were en route to Pearl Harbor on the USS *Bunker Hill* that we were told that we were the replacement squadron for VF-17. So, only four months from the time VF-18 was commissioned, it participated in its first combat mission. How does Rabaul strike you for a first mission?

Sam L. Silber
Former C. O., VF-18

P.S. Thanks for the article entitled "1,000 Aviators Come of Age." I am one of that group and never did know exactly what was being done with the results of all those examinations.

Approved Comparison

On behalf of Link Group, Singer-General Precision, Inc., I wish to thank *Naval Aviation News* and JOC John D. Burlage for the superb article on the A-7A flight/tactics simulator (*NANews*, January 1969, pp. 6-12). We're very proud of our trainer and find its analogy with Rolls-Royce a welcome compliment.

From a journalistic point of view, the seven-page spread deserves praise for its thoroughness, lucidity and graphic layout. A fine job.

W. D. Turner
Vice President and
General Manager

Does Anyone Know?

Just for the record, I would like to know the history of the tie-cutting ceremony for Naval Aviators when they solo.

P. H. Tench
VT-1 PAO
NAS Saufley Field

'Gross Error'

On page 32, *Naval Aviation News*, January 1969, three Navy Nurse Corps officers are pictured aboard the *Tripoli*. The caption for this picture reads, "*Wave* nurses . . ," which is a gross error. . . .There is no such thing as a *Wave* nurse.

Ruth M. Coffman, Cdr.
U.S. Navy Nurse Corps

¶In spite of the fact that there have been regular M.D.'s in the *Waves* as well as technical women in medical fields, such as speech and occupational therapy, our error was unintentional. Thank you for setting us straight.

SQUADRON INSIGNIA

RVAW-110

Carrier Airborne Early Warning Squadron 110 is the prep school for West Coast VAW squadrons. Its mission is to prepare Naval Aviators, Naval Flight Officers and enlisted crew members for duty with one of the six VAW squadrons at NAS North Island. It is the only West Coast squadron which offers complete training in the E-2A and E-1B. Personnel train for all squadron billets with the subjects ranging from power plants and airframes to electrical and electronics systems. Its 13 aircraft are used for on-the-job training of flight crew members, and the effects of its flight simulators are so realistic that it's not hard for the Naval Aviators and Flight Officers to believe they are in flight. Pictured here are a few phases of the many training programs. Commander John R. Eckstein is commanding officer of the training squadron.

★ ★ ★

NAVAL AVIATION
NEWS

'They Also Serve'

A carrier comes home and this young lady, in a silent, patriotic demonstration, searches for a familiar face on Intrepid's deck as the carrier ties up in Norfolk after an eight-month deployment in the Western Pacific. This familiar scene is repeated again and again on both coasts.