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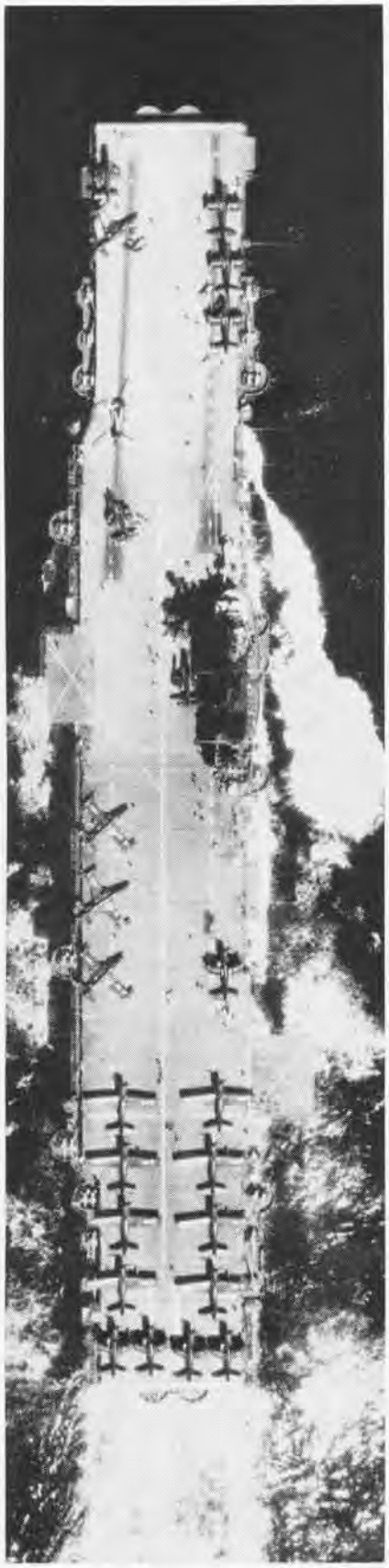

CARIBBEAN CLASSROOM

Built for battle, but shown here fulfilling part of her peace time mission as a floating classroom for Navy pilots is the USS Intrepid. Her most unsedentary syllabus is designed to sharpen the shooting, bombing and rocketry of Fleet pilots. The intensive schooling administered from decks of such mobile giants combines both advanced and refresher training. Top picture is an F2H-2 of VF-44 taxiing up the flight deck and at bottom is a VMA-331 AD during deck launch. Between the two, the queenly Intrepid turns into the wind for flight activity. The setting is the beautiful Caribbean Sea just off the Navy port of Guantanamo Bay.

1776

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1955

THE WASP HAS EIGHT LIVES

THE BIG attack carrier, USS *Wasp,* recently returned from an eight-month cruise in the Far East. It wasn't an ordinary cruise, for with Air Task Group One aboard, the *Wasp* participated in one of the most important international events of this year, the Chinese Nationalist evacuation of the Tachen Islands early in February. With this cruise, CVA-18 has added yet another important chapter to the history of ships by that name. The story of the eight lives of the *Wasp* goes back to the Continental Navy, 1776.

THE WASP has a special heritage. One of the first vessels of the Continental Navy was a small schooner named the *Wasp*. The name was appropriate to her speed and size, for with her eight 24-pound cannon and a crew of about 100 men, she resembled her namesake. In February 1776, she sailed with the first American squadron to put to sea during the Revolution, and with that squadron covered the landing of 200 Marines and 50 sailors on the British island New Providence in the West Indies to capture powder for the American Army.

In contrast, the 33,000-ton *Wasp* of today dwarfs her earliest predecessor. With nearly 80 jet fighters and prop-driven attack planes, she is a mobile air base carrying 3,000 officers and men, capable of tremendous striking power at targets far from U.S. shores.

Skipper of the *Wasp* today is Capt. Robert W. Denbo, but on the cruise, the *Wasp* was commanded by Capt. David J. Welsh. Air Task Group One, commanded by Cdr. Devon M. Hizer, was comprised of the *Sundowners* (VF-111) with swept-wing *Cougars*, the *Black Knights* (VF-151) and the *Sea Lancers* (VF-52), both flying *Panthers*, the *Yellow Devils* (VF-194) and their hard-hitting *Skyraiders*. There were also four detachments: VC-61 and VC-3 with photo and night *Banshees*: and VC-11 and VC-35 flying antisubmarine and night attack *Skyraiders*. A detachment of Helicopter Utility Squadron One was also part of the *Wasp's* air strength.

The *Wasp's* most recent role began last September when she sailed from San Diego to Hawaii for a two-week training period. By early October, she joined the U.S. Seventh Fleet in the Philippine area. The next few weeks were spent integrating operations with other carriers and ships in the South China Sea under command of Com CarDiv-5.

Japan in November, Manila for Christmas, Hong Kong for New Year's Day—thus the cruise went. The *Wasp* was in Japan when everything started to happen. Months of "let's pretend" training began to pay off.

In February, the *Wasp* and Air Task Group One played their part in the Tachen Islands operations. The huge lift of more than 30,000 military and civilian personnel plus 10,000 tons of equipment was the occasion for one of the greatest massings of U.S. naval air might since the days of Task Force 58 in World War II. The role of the U.S. Seventh Fleet, with Task Force 77 as its mainstay, was not only to assist in the pull-out of our Nationalist allies, but also to stand as a watchdog in the East China Sea, should the Communists try to interfere with the evacuation.

Both high-explosive missions were carried out with clockwork precision. More than two weeks of intensive flight operations and surface manuevering by practically all of VAdm. Pride's Seventh Fleet did not go unrecognized. The appreciation of the free world was voiced. Of even more significance was President Eisenhower's message: "Yours was a difficult and delicate assignment. On behalf of a grateful American people—Well Done!"

For the *Wasp*, it all started abruptly. One week remained of a valued two-week upkeep period in Yokosuka, Japan, when the "18 Boat" was suddenly ordered to rejoin the alerted task force north of Formosa. From that day, January 24, the *Wasp* was to stand guard with the fleet for a 24-day period, including one stretch of 18 consecutive days of flight operations. The pilots' dilemma—how to get enough flight time for the month—became a forgotten worry off the busy Tachens. Practically the entire ship's activity was directed toward one goal: launching and landing aircraft.

The *Wasp* and ATG-1 aircraft completed an impressive total of well over 1200 sorties during this turbulent period. A major portion of these were launched as air cover for the main phase of the Tachen Islands operations, February 6-12, and the earlier evacuation of Nationalist civilians from the area. The remaining sorties consisted of training missions flown in preparation for the kick-off of Operation Tachen.

Four—and later, five—big carriers constituted a task force to be respected by even the formidable Chinese Communist military machine. The *Yorktown*, *Kearsarge* and *Essex* had already been on the scene for a few days when the *Wasp* arrived. The powerful 45,000-ton *Midway* eventually joined up after a stepped-up journey from the placid Atlantic. The *Midway's* sorties were not needed over the evacuation force itself, but she was available on short notice.

The *Wasp*, a unit of Task Force 77,

FIRST WASP CARRIER (CV-7) HAD A SHORT BUT GLORIOUS CAREER

THE CVA-18 WAS ONE OF BIG HITTERS IN WW II'S TASK FORCE 58

QUARTERMASTER WATCHES FOR SIGNALS

BULL SESSION IN ARRESTING GEAR SHOP

OF COURSE, IT'S 'FIRST CLASS' MAIL

was temporarily a part of Task Force 76, commanded by RAdm. Lorenzo S. Sabin, USN. RAdm. Sabin directed his entire operation from his amphibious flagship *Estes*, anchored close to the disputed islands themselves.

From the clouded skies overhead, the pilots daily saw scores of ships crowded in close to the small, jagged islands where thousands of troops and uprooted civilians were collecting on the narrow beaches. The gray, low-lying Chinese mainland was not far to the west of them.

Toward the end of the Operation, *Wasp* pilots orbited above as the Tachens shuddered from the explosive charges of demolition experts. Fire swept over the abandoned villages and pontoon bridges leading from the beaches exploded behind the last evacuees. They watched anchor chains of the ships below being washed down, and then saw the ships slowly disperse in the direction of their normal cruising waters. Then the pilots, too, abandoned the lifeless Tachens.

A study of the family tree of the *Wasp* shows that ships of this name have always lived up to it. There has been a *Wasp* in every major American conflict. After the first *Wasp* of Continental Navy fame, two made their mark in the War of 1812 capturing British blockaders. (*Wasp* II appears on page one.) *Wasp* IV, a captured English blockade runner, saw service in the Civil War.

The fifth *Wasp*, a converted yacht employed as a gunboat, saw action in the Spanish-American War. *Wasp* VI was the smallest and probably the most prosaic of the line. She was a motor patrol vessel taken over by the Navy during WW I and later returned to private ownership and final obscurity.

Wasp VII, the first aircraft carrier of that name, went into commission 25 April 1940. One of the great achievements of her brief career was the relief of the long-besieged island of Malta in 1942.

This last Allied base in the Mediterranean, under the strain of constant poundings from the air, had been reduced to an air base without aircraft. Axis raids were becoming increasingly heavy while defending planes grew fewer. Nearest British air bases were beyond fighter range, as Rommel pushed the British Eighth Army back to the gates of Cairo.

To get relief to the island by cargo ship meant risking them to air, undersea and surface attack. Only one way was left to the Allies to relieve Malta: fly the planes in ready to fight as soon as they reached the beleaguered isle.

MEN WORK TO MAINTAIN WASP AIRCRAFT IN BATTLE READINESS

LAST OCTOBER WASP JOINED SEVENTH FLEET IN PHILIPPINES

SLEEK PANTHER JETS OF VF-151 CIRCLE THE BIG WASP PRIOR TO LANDING ABOARD

On 15 April 1942, the USS *Wasp* left Scotland carrying 47 Spitfires and RAF pilots for Malta. She steamed through the Strait of Gibraltar on the night of 20-21 April, past all the Axis agents in Spain and Spanish Morocco into the Mediterranean, then an Axis stronghold.

At daylight on the 22nd, she launched her planes as the Nazi radio blurted a broadcast to let the world know that they knew the *Wasp* was in the Mediterranean and were going to sink her before she could leave.

With the planes at Malta, *Wasp* returned to Scotland and on 3 May returned again on the same errand. Again unmolested, she launched her planes and began her return to Scotland. A Nazi radio broadcast surprised her entire crew when they announced that the *Wasp* had been sunk.

Wasp's daring deeds began reaping their harvest as the commanding officer at Malta sent her and her ship's company a congratulatory message. Prime Minister Winston Churchill sent her one on 11 May which read: "To the Captain and Ship's Company of the USS *Wasp*: Many thanks to you all for the timely help. Who said a wasp couldn't sting twice?"

After her second trip to the Mediterranean, the *Wasp* sailed for the United States and thence to the Pacific. There she fought in the epic battles for the Solomons until she was torpedoed by a Japanese submarine.

Three torpedoes from the Japanese submarine hit the *Wasp* on 15 September 1942. They struck in the vicinity of her ammunition magazines and gasoline tanks, starting serious fires and causing many explosions throughout the ship.

Soon the *Wasp* was ablaze. An hour and 20 minutes after the attack, it became necessary to abandon ship. Because of the expert rescue work by other ships standing by, 90% of the personnel of the stricken ship were saved.

The present *Wasp* is the eighth, and her history has been more exciting than all the rest. A great name in WW II, CVA-18 was commissioned 24 November 1943. She first made the Japanese enemy aware of her presence with a raid on Marcus Island on 19 and 20 May 1944. A few days later, on 23 May, *Wasp* pilots blasted Wake.

EARLY in the next month the *Wasp* was a unit of Task Force 58 enroute the Marianas to isolate the islands with heavy air attacks and aerial combat prior to the assault of Saipan. In support of the campaign, *Wasp* was right in the middle of the Marianas Turkey Shoot and, on the second day of the Battle of the Philippine Sea, had a deck load of planes with those of Task Force 58 as they flew westward more than 300 miles to attack ships of the First Mobile Fleet in full retreat toward Japan. In this attack, Air Group 14 pilots concentrated their attack on the oiler group. They returned after dark aided by searchlights, star shells, and carrier indentification lights.

By fall the spotlight of the American attack moved farther to the west. Again led by carrier air, Central and Southwest Pacific forces converged on the Philippines with assault landings on Palau and Morotai. Leyte was next. Once more the Japanese Fleet came out to do battle and, although the *Wasp* was in the Task Group retiring to Ulithi as the battle opened, she arrived on the scene in time to score heavily on enemy ships limping homeward through San Bernardino Strait.

The scene shifted to Luzon and *Wasp* brought Air Group 81 into battle. For this action, fast carriers

SUPER SERVICE FOR A WASP STINGER

were interposed between the Philippines and the airfields of the South China Coast and the islands of Formosa and Okinawa to cut off any enemy aircraft that might attempt to reinforce units on Luzon. Here the force was subjected to almost nightly attacks as the Japs dropped flares from the skies to illuminate their attacks. *Wasp* gunners did their work well in driving off the Japs. In fact, pilots observing the ship's firepower from the air, said the vessel appeared to be "ringed with fire". That "ring of fire" knocked many a night attacker out of the sky.

In February 1945, the *Wasp* took part in the first carrier strike on Tokyo. She was one of the big hitters as Task Force 58 covered the landing on Iwo Jima with heavy attacks on the Japanese homeland. On Washington's birthday the *Wasp* supported the Marines, then working up the slopes of Mount Surabachi. Three days later, the carriers were back off Tokyo and after giving its airfields and military installations a final going over, steamed southward to hit Okinawa before retiring to Ulithi.

In the middle of March, *Wasp* and other carriers of Task Force 58 were back to blast the way for landings on Okinawa with attacks on the airfields of southern Kyushu and Japanese warships in the Inland Sea at Kure and

Kobe. It was on this cruise, on 18 March 1945, that the Japs finally succeeded in making a direct bomb hit on the *Wasp*. The bomb pierced both flight and hangar decks before exploding. The dead numbered 102, and there were many more injured. However, the *Wasp* stayed in the fight and was ready to launch aircraft in less than an hour after the bomb struck.

Yet in spite of the damage, the *Wasp* rolled up what has often been referred to as the busiest week in flattop history. In these few days, *Wasp* Air Group 86 accounted for 14 enemy planes in the air, destroyed six more on the ground, scored two 500-pound bomb hits on each of two Jap carriers, dumped two 1000-pounders on a Jap battlewagon, put one 1000-pounder where it would do the most good on another Jap battleship, worked over a heavy cruiser with three 500-pound missiles, slapped another 1000-pound bomb into a big cargo ship and heavily strafed "and probably sunk" a large Jap submarine.

The Pacific war was hurtling toward

SHORT CHAT NEAR HANGAR STATUS BOARD

a climax, and the *Wasp* was to be in on the kill. So, in order to prepare her for the home stretch fight, she was returned to Puget Sound Navy Yard, Bremerton, Washington, where the damage caused by the bomb hit was repaired. She returned to the combat area 12 July. On 18 July, she warmed up with an all day strike against bypassed Wake Island.

After a pause at Eniwetok, the *Wasp* joined the rampaging Third Fleet of Adm. W. F. Halsey, Jr., and Task Force 38 of the late VAdm. John S. McCain. In a series of strikes, unique in the almost complete absence of enemy airborne planes, *Wasp* pilots swept down on Yokosuka naval base near Tokyo, at numerous air fields and at hidden manufacturing centers. The war was coming to a close, and the *Wasp* joined in the final drive.

However, before peace was officially declared, the ship had some exciting moments and managed to add a bit more luster to her already shining record. On 9 August, a suicide plane darted down at the carrier, when a *Wasp* pilot, high in the clouds above the ship, picked up the Jap and proceeded to pour a stream of lead into his left wing. The Jap plane blazed and smoked, but continued to roar down on the carrier.

The ship's gunners then took over, concentrating a perfect cone of fire on the diving Jap, and, when it seemed that he could not possibly miss the carrier, his right wing disintegrated, causing him to veer. He crashed into the sea, hard by the starboard bow. A litter of debris fluttered down on the *Wasp's* flight deck.

Then, on 15 August, when the fighting should have been over, two Jap planes snooped in toward the *Wasp*. Adm. Halsey had ordered that such attackers be "shot down in a friendly fashion." So the *Wasp* pilots went to work on them and sent them smoking and blazing into the sea—the last time *Wasp* pilots and gunners were to tangle with the Japanese enemy.

The war was over, and the *Wasp* turned to other tasks. It launched its planes again and again on missions of mercy or patrol. *Wasp* pilots carried food, medicine and other supplies for American POW's originally captured in the Philippines. The prisoners pieced together a sign and affixed it to the roof of one of their hovels. It read: "Men of Bataan-Corregidor Thank Wasp."

As part of Operation *Magic Carpet*, the *Wasp* brought thousands of men from ships and islands. She had space for 5,500 enlisted men and 400 officers over and above her reduced complement. Then in 1947, she was officially retired into mothballs.

She came out of retirement in September 1951 during the Korean hostilities completely overhauled to meet the requirements of the jet age. She was assigned to the Atlantic Fleet and completed one tour of Mediterranean duty with the Sixth Fleet. In October 1953, commanded by Capt. Patrick Henry, the *Wasp* joined the Pacific Fleet.

As one looks at the lives of eight *Wasps* which have played their part since the first years of the Republic, he sees the continuity of power. Times have changed, new weapons have been forged, but the end is the same: freedom and justice for all of mankind.

FULL DRESS INSPECTION OF OFFICERS, MEN AND AIRCRAFT DEMONSTRATES WASP STRENGTH

GRAMPAW PETTIBONE

Hot Tires

An F9F-5 pilot returned to the ship after a scheduled practice strike and landed aboard. The landing was normal in all respects, and the aircraft engaged #2 cross deck pendant. At this point, we'll take up the pilot's statement.

"After disengaging the wire, I was motioned out of the gear by the Fly 2 Director in a normal manner, i.e., a rapid motioning to get me started out of the gear. The throttle was reduced to idle prior to passing over the barricade, and braking commenced just after passing over the barricade. As soon as I applied brakes, I realized that the braking action was very poor. I decelerated very slowly, and was conscious that the brakes were doing very little good in stopping me.

"At this point I reached for the emergency air bottle, and pulled the bottle about 20 feet from the point of collision. Braking improved some but the plane did not come to rest until it struck two F9F-6 aircraft in the after end of the pack forward.

"I wish to state that this accident possibly could have been prevented had I pulled the emergency bottle more expeditiously. However, very little time was available to take action. The collision occurred 185 feet forward of the barricade. The ineffectual braking seemed to be that which would be expected when hydraulic pressure dropped to a low amount and only the pressure developed at the foot brake was available for braking. The wings were folding at the time."

Grampaw Pettibone Says:

Now, let's just hold on a minute, Bub! You can pull a lot of wool over a lot of eyes, but if you pull it hard enough, you can see right through it. According to the record, the skid marks started 12 feet in front of the barricade and continued for 120 feet to where the collision occurred. This whole thing strikes me as a slight malfunction of depth perception. After coming smartly out of the gear, as is expected of everyone from the Group Commander on down, you continued smartly over the barricade.

Now, if you are used to having 185 feet of space between the barricade and the after end of the pack forward to stop in, it is a little disconcerting to look up and see the after end of the pack about 50 feet closer than it oughta be. The natural reaction is to two-block the brakes, which you did. As you said, very little time was available to take action.

That's because you were going a might too fast when you crossed the barricade. Any time you have to reduce throttle to idle and lock the brakes with a 36-knot wind and 130 feet of deck in front of you, Bub, either you're fast or somebody is pulling the deck out from under you.

But what really gets me is the Investigation Board's conclusion as to the primary cause of the accident: "Poor braking action caused by hot tires and semi-liquid tar on the flight deck accompanied by a possible malfunction in the normal braking system."

Why even a Boy Scout knows that it takes friction to get a fire going. I will say one thing about this lad's action. I am sure he THOUGHT his brakes weren't working, and he did get that emergency on. A less cool head might have braced himself and taken his chances on plowing into the pack. But even here there are two schools of thought.

It wasn't too long ago a fella crossed the barricade the same way, and he pulled the emergency air bottle. Only one of his brakes locked and his plane went over the side.

My advice is never let yourself get in a position coming out of the gear where you are forced to lock your brakes in order to stop. Skidding tires on a flight deck in a jet is like trying to stop a car on an icy hill. You have about as much control as a snow ball on top of a hot stove. The trick is to throttle back AFTER you get her rolling, not PRIOR to crossing the barricade, then pump the brakes as necessary to maintain control.

It's nice to have the LSO say, "He looked good when he went by me," but you are still responsible for that airplane up to the time it is chocked and you cut the engine. Speed from then on is a matter of agility, rather than velocity.

MEMO FROM GRAMP:

A pilot who gives a good snow job in the Ready Room sometimes gets caught in his own blizzard.

Five Knots for the Wife

The following AD spin/stall accidents are samples of how NOT to make a landing approach in an airplane. This type of accident has become such a destroyer of aircraft and pilots that it is high time a little more effort be put into stopping it by the man behind the stick.

Case #1: An AD-4B pilot turned base leg at 120 knots, decelerated to 95 knots at the 90 and to 90 knots on the final. At 30 feet altitude on final, he raised the nose, and the plane stalled into the runway shearing off the port wheel and wing tip. The pilot was not injured, but the aircraft sustained Class C damage.

Case #2: An AD-6 pilot was making an approach to the carrier. His downwind leg was too close abeam the ship, a fact he did not recognize until he started the turn at the 180. At this point, he added throttle and commenced a climb. The aircraft stalled and entered the water in a level attitude 90° to the wind line. The pilot was recovered uninjured by helicopter.

Case #3: An AD-6 pilot followed an L-20 on the downwind leg. To avoid overrunning, he lengthened his approach and reduced airspeed. At the 45° position, he began to get low so added a little power and raised the nose slightly to hold his altitude. The aircraft stalled to the left and contacted the ground on the nose and port wing. It spun around and slid backward for 240 feet, burst into flames, and was completely demolished. The pilot escaped, but was seriously burned about the face, arms, and thighs.

Case #4: An AD-4 pilot was commencing an FCLP approach. On the downwind leg, he was too close abeam, but executed a nose high, partial power-on turn at the 180. The aircraft entered a spin to the left and crashed, exploding on impact. The pilot was fatally injured.

Grampaw Pettibone Says:

I'll be a monkey's grampaw if I can figure why pilots refuse to use just a little common sense in making an approach to a landing. It doesn't cost anything to set up the correct pattern and speed on the downwind leg, then make an easy power-on turn into the base and final. But it seems that time is of the essence to some of these lads.

They come charging downwind as though they were going to make a pylon turn at the Cleveland Air Races, haul off the throttle, wrap up into a steep turn with nose high to lose airspeed, and suddenly find themselves settling or spinning. Or they come dragging up the groove in a nose-high attitude and stall out too high.

When you try to salvage a lousy approach, you are just asking for trouble. The trick is to THINK about your approach at the break and make a good one, not wait until you find yourself turning base too close abeam, too fast or too high, too low or too slow. An AD stalls without warning with no power on and wrapped up, so why do it the hard way?

In one 30-day period this year, there were 10 such stall spin accidents in AD's resulting in eight strikes and seven fatalities. You shy lads who have an idea you don't look sharp taking a wave-off on the downwind leg would do well to think how you'll look taking a wave-off on the base leg out of a stall. That extra five knots for the wife and kids is more appreciated than you realize. If you don't have a wife and kids, five knots will get you a ticket to the beer muster at quitting time.

MEMO FROM GRAMP:

A fella who waits for something to happen is usually too late. It's happened.

GCA-ccident

A pilot of an AD-6, in the company of a chase pilot, commenced a hooded GCA approach. He was picked up at 1500 feet and given a heading. The next few minutes were utilized in a discussion of wave-off procedures, and a new heading or two were thrown in until the aircraft arrived on the final. Since the pilot had not been previously instructed to reduce to slow cruise and go over his landing check-off list, he dropped his gear and flaps and reduced power to 20" while attempting to maintain a glide path on final.

He finally settled down on the glide path and at indicated altitude of 200 feet was about to go contact when the GCA controller informed him that he was at GCA minimum and slightly below glide path. At this point the chase pilot called "wave-off," but it was too late. The aircraft struck the ground a quarter of a mile short of the runway and broke into two pieces. The pilot escaped uninjured, but the aircraft was a complete strike.

Grampaw Pettibone Says:

Great balls of fire! This one really takes the cake! It took the combined efforts of two pilots and the entire GCA crew to drive that AD into the deck. A Ground Control Approach is usually a pretty well coordinated operation no matter where you are. But any operation can get fouled up if enough people take enough time to do everything wrong. Here is what happened in this case:

- The pilot was not queried as to whether the approach was to be contact or hooded.
- The pilot did not announce to GCA that he was hooded.
- At no time was he instructed to reduce to slow cruise and go over the landing check-off list.
- He was not ordered to crack the hood at 500 feet to check altitude visually (probably because the final controller didn't know he was hooded.)
- At no time was he told what GCA minimum was or to take over visually when minimum altitude was reached.
- There was no GCA Outside Observer on duty.
- The chase pilot was at 300 feet and slightly ahead of the plane making the approach. (From this vantage point the approach plane began to look suspiciously low about the time it made contact with the ground).
- From one-half mile out GCA control went like this, "You're slightly below glide path one-half mile from end of runway. Zero-Zero-Three is your assigned heading. You're at GCA minimums. You're slightly below glide path. Runway center line is dead ahead. On scope, have you taking a wave-off to the left."

This doesn't leave much doubt as to why the accident occurred, but there's more. It seems the GCA controller had the gain on blip turned high, and the blip was touching the glide path line. On re-enacting this run it was found that with normal gain, the blip did not touch the line, but was under it. It is hard to believe that such a combination of circumstances needed to be lined up in the proper order to cause a crash as practically any one of them, if corrected, could have prevented it. It's a lead pipe cinch that none of these things happened by chance.

Ordinarily, a sharp GCA crew will put confidence into a pilot as soon as he gets on the downwind leg. Everything is like clockwork and, even without practice, a GCA run becomes simple. But when a pilot gets onto the final and has to put his gear and flaps down from memory, you can bet your bottom dollar that it's the practice, if not the rule, to conduct a sloppy operation.

If any of you lads are making a GCA run and are not brought around to the final in accordance with published doctrine, my advice is to go contact, land, and get into a huddle with the GCA Officer. He's a pretty good Joe and would appreciate knowing if and when his crew begins to slip. By doing this you will not only help yourselves, you will also help the Navy GCA to maintain an outstanding performance record.

Curriculum is Enlarged

NRO Schools Get Aviation Courses

Plans are presently underway to include aviation courses in the curricula of Naval Reserve Officer Schools. The action is being taken as a result of the Johnson Board recommendations.

At present, there are 30 to 35 such schools in the country, but future expansion to 60 is being considered. Establishment of NROS's was implemented by BuPers Instruction 1520.33, with three subsequent changes. Facilities are furnished by Naval District Commandants. Meetings are generally held in the evening, although the schedule is governed by student convenience. The instructors are fully qualified, many being college professors, and are on a 48-drill pay status. Students are in a non-pay status.

Courses are scheduled parallel to college semesters, with 20 class meetings each semester.

It is contemplated that courses in aerology, air navigation and aviation engineering will be available in the near future. Additional courses will be offered as demand and requirements dictate. Officers completing the subjects satisfactorily will be credited with appropriate promotion points, which may be in lieu of required correspondence courses, as given in BuPers Inst. 1416.4. It is expected that these college level aviation courses will be assigned academic numbers in the 100 and 200 categories.

Non-pay-drill Reservists, primarily, will benefit from the addition to the training program, although 48 and 12-drill Reservists may attend the schools.

Navy Pilot Flies Sea Dart

Cdr. Weart Checks Out at Convair

Cdr. H. C. Weart, head of the patrol plane branch of Flight Test at NATC Patuxent River, recently became the first Navy pilot to fly Convair's XF2Y-1 *Sea Dart*. The event occurred at the company's San Diego plant where Weart and a team of Navy pilots were visiting.

Powered by twin Westinghouse J-46 jet engines, with a combined thrust of 12,000 pounds, the *Sea Dart's* take-offs and landings on water are effected with a pair of hydro-skis.

LCdrs. R. N. Decallies, E. R. Horrell and Cdr. U. L. Fretwell, were other pilots who checked out in the F2Y.

IFR-IQ?

You clear from Memphis to Monroe, La., a two and one-half hour flight in an SNB, off airways, with a VFR forecast. Halfway, you encounter unavoidable IFR conditions. The weather has closed in behind you, but your destination is still reporting visual conditions. You are flying dead reckoning and cannot reach any radio facility for instruetions. What do you do?

See page 40.

Kisner Award Established

NARTU Memphis Outfits Eligible

NARTU Memphis has established the James B. Kisner Trophy, named in honor of LCdr. Kisner, whose patriotic service exemplifies the ideals of the Naval service, and whose enthusiastic, uninterrupted participation in the Naval Air Reserve has set an outstanding example.

The trophy, to be purchased from the voluntary contributions of VF-791 members, was established to inspire members of the eight Naval Air Reserve Aviation Squadrons based at Memphis to strive for the achievements of LCdr. Kisner, and to afford annual recognition to the squadron whose members most closely equal his record.

The competition, open to all NARTU Memphis squadrons, runs from 1 July through 30 June. The winner will be that squadron which attains the highest percentage of drill attendance versus its authorized allowance, this to be averaged equally with the percent of squadron members cruising with their squadron, versus onboard count at the time of the cruise.

Kisner was severely injured in January 1954 when he crash-landed his burning *Corsair* in a wooded area rather than set it down in an open playground and endanger the children playing there. For this heroic action, he was awarded the Navy and Marine Corps Medal.

He had served as CO of VF-791 from its commissioning in 1946 to the time of the accident. Two years of this time his squadron was in Korea.

First presentation of the trophy will be made this month to this year's winning squadron, who will retain possession until another squadron wins it.

Carrier Pt. Cruz Adopted

Goodwill Gesture by Cub Scouts

To the delight of every man aboard, the esort carrier *Point Cruz* has had the tables turned on them.

In a goodwill gesture, Cub Scout Pack 84 of Lynwood, Calif. adopted the escort carrier as its main project for 1955. The men of the *Point Cruz* are well known for their charities. Probably their biggest project was caring for a Caucasian baby in a Korean orphanage. The baby actually spent a short time aboard the ship before being sent to the U. S. where a Navy couple adopted it. The baby's middle name is Cruz, in honor of the ship.

To show its appreciation for the gesture made by Pack 84 of the Cub Scouts, the ship invited the Cub pack aboard for the day where ice cream and cake were served. Before departing, the boys presented a placque signifying their loyalty to their new project to Capt. F. J. Brush, CO.

The boys will send books, magazines, letters and confections to the carrier's crew members throughout this year.

New Flight Plan Chart

Alameda Idea Proves Very Popular

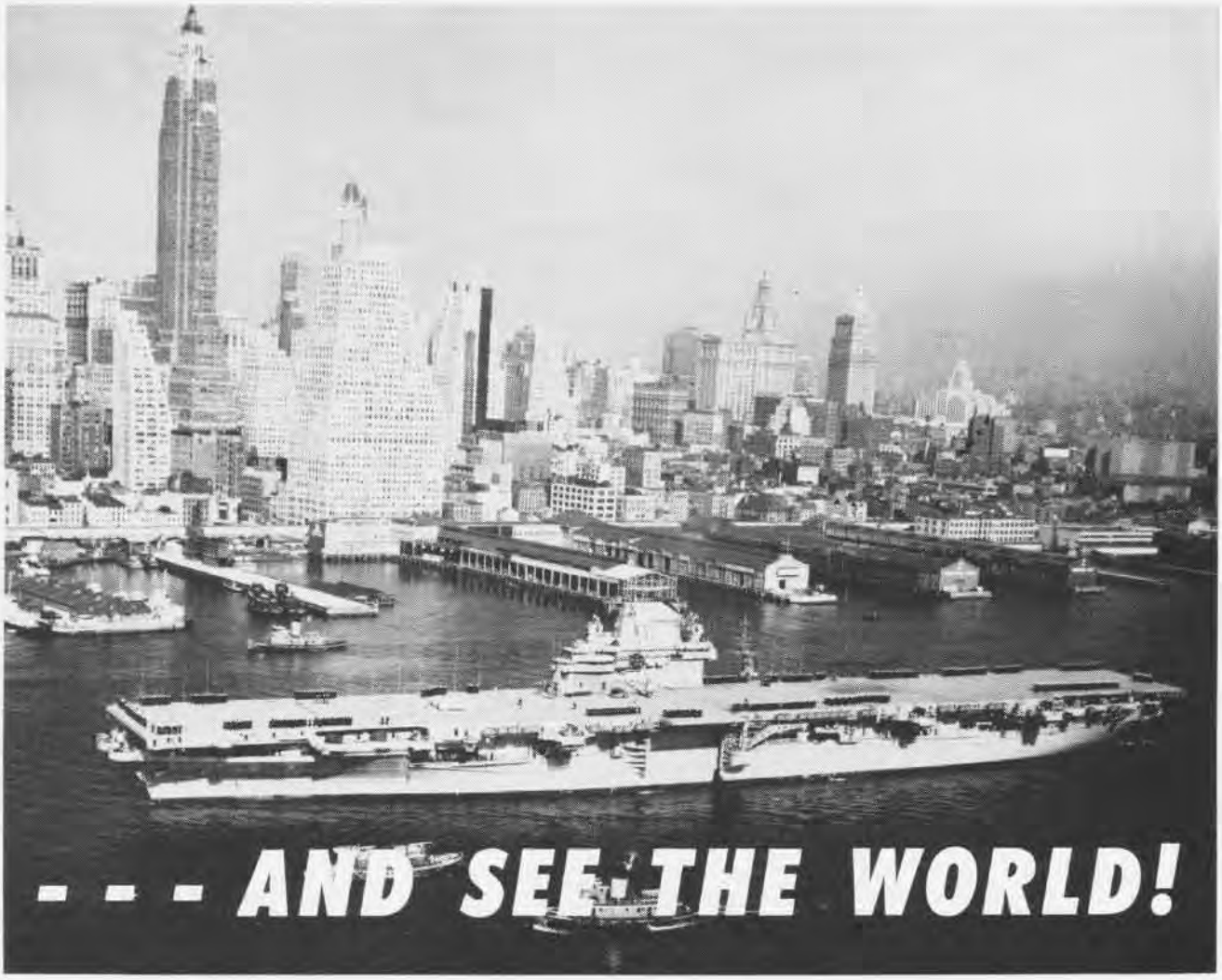
A new instruction chart for filing aircraft clearance, designed and developed by the Assistant Flight Officer, Lt. Carl R. Lambert, at NAS Alameda is receiving favorable comment from West Coast air commands and pilots.

Flight Clearance Officers at the station found that flight plans submitted by pilots were not standardized and usually required some major or minor correction before the plan met the requirements set forth by OpNav Instructions, Flight Service and ARTC. This not only wasted time, effort and efficiency, but made it possible for a serious error, such as altitude or routing, to be overlooked.

After the chart had been worked out by Lt. Lambert, large photographic copies were posted in Flight Planning, Weather and the ready rooms. Almost immediately "sharp" plans began to be submitted for clearance.

Demands for the chart grew, and Alameda began furnishing copies to all the local squadrons and many other Naval Air Commands on the West Coast.

Copies may be obtained by writing to Operations Officer, NAS Alameda.



- - - AND SEE THE WORLD!

IN THE DAYS when President Theodore Roosevelt sent the Great White Fleet around the world, back in 1907, there were no aircraft carriers. We were only at the threshold of the air age. But the diplomatic considerations which prompted that display of power by our fleet still prevail. The continuing presence of the fleet all over the world serves peace.

The President was to write in 1910 his view of what had been accomplished: "The success of the cruise, performed as it was without a single accident, immeasurably raised the prestige, not only of our fleet, but of our nation; and was a distinct help to the cause of international peace." Today the United States Navy has its diplomats in gray far and wide over the seven seas. Our roving ambassadors are still the officers and men of the Fleet. They come now not only from battleships and cruisers, but the latest ships of-the-line, aircraft carriers.

Since World War II, hundreds of thousands of Americans have gone to ports and stations in scores of foreign countries.

They represent the American way of life to other men of good will. The sealanes of the world have become their familiar paths, and thousands of young men have gained an international education by travel with the Navy. On these pages are certain ports of call. In a world seeking peace, the Navy does its part.

THERE *is nothing like a bagpipe, and these sailors visiting Edinburgh Castle are taking their first lessons on Scottish pipes.*

MONUMENT *to man's establishment and preservation of constitutional liberties, the Houses of Parliament on the Thames, London, is a "must."*

★ *In the powerful gray diplomats of the Sixth Fleet, we see the guarantee of small people's independence.*—The Honorable P. Pipinellis, Greek Minister of Foreign Affairs in 1950. ★

GUSTAV *Eiffel used this tower to study basic problems in aeronautical research.*

ONE OF *world's most beautiful cathedrals, Notre Dame is visited often by Navy men.*

THE CAMPANILE *of the cathedral at Pisa is the most famous of several leaning towers.*

SHORTLY *after World War II, men aboard CVA-42, the USS Franklin D. Roosevelt, cruising in the Mediterranean, went ashore at Naples.*

THE GLORY *of ancient Greece is exemplified in the Acropolis, a bastion of liberty and landmark of ideas important to the world.*

NOT FAR *from the palace on the Bosphorus which the first president of Turkey, Mustapha Kemal Ataturk, used for a summer residence, men of the Sixth Fleet disembark for liberty in Istanbul.*

ONE OF *the ancient mosques of Istanbul is a favorite tourist spot for white hats.*

SYMBOLS *of friendship, American and Turkish flags fly on quay of Istanbul harbor.*

★ ★ ★ ★ ★ ★

American sailors are justified in feeling proud of their Navy. But there is no sign of conceit among these mature and perfected men. From the Admiral to the sailor of lowest ranks, everybody has, in the midst of this grandeur, a dignified modesty.

—Capt. Tevfik Inci, Commandant, Naval Base, Izmir, Turkey, 1955

In my own judgment the most important service that I rendered to peace was the voyage of the battle fleet around the world.

—Theodore Roosevelt

★ ★ ★

NARROW, *crowded ways of the old world, such as this one in Jerusalem draw tourists.*

PERHAPS *a sailor has never really travelled until he's had a few hours on camel back.*

HOW MANY *Navy men do you see making a close survey of ancient wonders, the Pyramids?*

SHOES OFF, *slippers on, U.S. sailors go through the Mosque of Mohammed Ali in Cairo, Egypt.*

IN CEYLON, *sailors used to dual-range hydromatic drive, learn something of a reliable, if much slower, form of locomotion, the elephant.*

IN A PORT *of one of our allies "down under," Sydney, Australia, U. S. Navy men visit great national cenotaph with pool of remembrance.*

TIGER BALM *Gardens in Hong Kong proved interesting spot to two men from the Wasp.*

★ ★

Navigation will carry the American flag around the globe itself; and display the thirteen stripes and new constellation at Bengal and Canton, on the Indus and Ganges, on the Whangho and Yang-ti-King; and with commerce will import the wisdom and literature of the East.

Ezra Stiles, President
of Yale, 1783

Our Navy fleet is . . . "a security for such as pass on the seas upon their lawful occasions."

RAdm. Robley D. Evans, USN
Order No. 9, 9 May 1908

★ ★

HAWAII *is something of our own, and Navy men welcome liberty near Diamond Head.*

IN JAPAN, *sailors visit the shrine of the inscrutable Dai Butsu Buddha and thus receive new insight into an age-old religion.*

AGAINST *the majestic, snow-covered peak of Mt. Fujiyama, two photographic Banshees fly to get another view of Japan's great landmark.*

THE PANAMA *Canal, $525,000,000 worth of ditch, saved millions of ship hours during World War II, and it is still part of the Navy beat.*

ONE OF *the great views of the Western Hemisphere, Sugar Loaf Mountain, is seen from Corcovado Mountain near Rio de Janeiro, Brazil.*

★ ★

Our first and constant objective is to avert war. . . . Sea-air power plays an important part in this picture with its mobile and flexible capability for contributing to America's power in the air . . . its wide range of geographical potentiality and its built-in defense.

—Adm. Robert B. Carney, USN

★ ★

BUT AS *one traveler has said, "It's only fun to travel when there is home to come back to," and men of the U. S. Fleet celebrate their return every time their ship comes through the Golden Gate. In this picture, men of the Essex salute the city of San Francisco.*

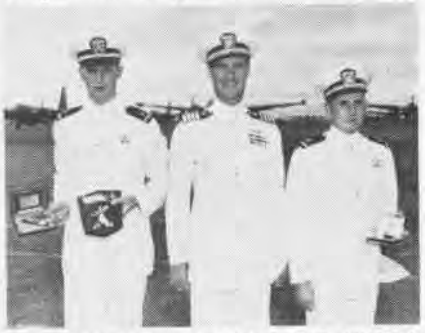
VP-22 Pilots Commended

Klein Wins Hart Memorial Award

Two pilots, both ensigns from VP-22, have been honored at NAS Barber's Point. One received the Silas C. Hart, Jr. Memorial Award, and the other was presented the "Outstanding Naval Air Cadet of 1954" Award.

Ens. Verle W. Klein, a communications officer, was presented the Hart Award for being the most proficient and best qualified trained cadet in instrument flying. The award was founded by Mr. and Mrs. Silas Hart, Sr., after their son, Ltjg. Silas C. Hart, Jr., was killed during an air accident while flying on instruments in 1953.

Ens. Robert G. Calkins, squadron allotment control officer, was selected for the "Outstanding Naval Air Cadet of 1954 Award" by the National Society of the Daughters of the American



KLEIN, RAYSBROOK, CALKINS AND AWARDS

Colonists. Ens. Calkins received the highest, overall proficiency mark of all Naval Aviation Cadets in training during a year's time.

The awards consisted of an appropriate plaque, certificate of merit, as well as engraved chronograph watches for each officer.

Capt. F. G. Raysbrook, ComFAir-Hawaii and CFAW-2, made the awards during an inspection of the squadron.

Quick Action Saves Jet

Burning Plane Saved by Four Men

Three Marines and a civilian employee at MCAS Cherry Point recently saved a jet plane.

A VMF-312 pilot, 2nd Lt. J. F. Tilson, was taking off from the field when the plane's engine started to vibrate severely. With 3,000 feet of runway before him, Tilson begun applying brakes, but the aircraft continued on past the end of the runway before skidding to a halt. The smoking brake mechanism set afire the grass under the jet loaded with 5,000 pounds of fuel.

Capt. E. A. Barnum saw the plane in trouble and taking M/Sgt. John Honce with him, went to it. They were joined by Mr. Lee Atkinson, a civilian employee at the station, and Sgt. H. H. Sherrard of MTG-20. The four managed to bring the fire under control.

Lt. Tilson escaped uninjured, and the plane was saved from further damage.

LT. PECHAL WITH CDRS. SMITH (L), JONES

Navy Nurse Lands on CVA

Arrested Landing Made off Italy

Lt. Lilly M. Pechal, a Navy Flight Nurse serving with VR-24, flew aboard the USS *Randolph* recently to become one of the few women to make an arrested landing aboard a carrier. She did this as a phase of an indoctrination course on the big carrier's medical program.

On her arrival aboard, she was greeted by Cdr. W. L. Jones, the *Randolph's* medical officer, and Cdr. C. D. Smith, the ship's dental officer.

With her indoctrination tour completed, Miss Pechal boarded the TBM *Turkey* and flew from the carrier's deck back to her detachment at Naples, Italy.

Nationwide WAVE Reunion

Miami Beach Scene of '55 Meeting

Waves, active, inactive, and retired, from all parts of the nation will gather at Miami Beach, Fla., 29-31 July, for the annual reunion of the distaff Navy. LCdr. Mary Wood Malone, chairman for the gathering, says response from all Naval Districts indicates that this reunion will be the largest in the history of the organization. Announcements of the reunion have been sent to 17,000.

Headquarters will be the Hotel di Lido, one of the Miami Beach's famed hostelries. For further information, write Mrs. Malone, 893 N. E. 82nd St., Miami 38, Florida.

HOSTERMAN RECEIVES HIS COMMENDATION

Navy Airmen Commended

Prevent Major Damage to Aircraft

Three airmen recently received letters of commendation from the late Capt. A. S. Major, Jr., CO of NAAS Saufley Field. Jerry Hatten and Edwin Geho prevented major damage to an SNJ while D. W. Hosterman averted a wheels-up landing of an AD.

Ed and Jerry were on duty the morning of 18 April when Plane 16's landing gear started to retract as the plane made a 90° turn while taxiing.

They rushed under the wing of the air-craft and held it up until other men could arrive and make the locking pin fast. The captain described it as an outstanding performance of duty.

VMO-6 Korean Duty Lauded

Performed First Night Evacuation

Marine Observation Squadron Six has been awarded the Presidential Unit Citation for the part it played in the Korean campaign from 2 August 1950 to 27 July 1953.

The squadron, first of its kind to go into action, is equipped with the L-17, L-20 and the H05s helicopter to carry out its present mission of guarding the south border of the demilitarized zone established by the UN.

A former pilot of VMO-6, Capt. V. A. Armstrong (now Maj.), is credited with the first successful night evacuation of a casualty via helicopter. He flew a wounded division surgeon to a rear aid station just six days after the unit went into combat. In September of 1950 he also performed the first successful recovery of a downed airman from behind enemy lines when he snatched another helicopter pilot from under Red guns.

VMO-6 is now commanded by Maj. L. A. Miller, who recently logged the 'copter unit's 70,000th airborne hour.

'COPTERS WERE ON PARADE AT ANACOSTIA

LATEST NAVY *model, Sikorsky HSS-1, cuts 56-foot swath as it executes anti-submarine missions. It is expected to replace HO4S-3's as H/K.*

FAITHFUL *old H-5 was first copter used in Korea. Carrying three passengers or two litter cases, it saved many downed American flyers.*

CULMINATING the annual convention of the National Helicopter Society held in Washington, D. C., a helicopter demonstration was staged at NAS ANACOSTIA.

With the cooperation of the Army, Navy, Marines, the Air Force, and the Coast Guard, the Armed Forces' newest and most widely-used helicopters were on display, and open for inspection.

Ranging in size from the two-man Hiller H-23B "mosquito hawk" to the big Piasecki H-21B "work horse," the whirlybirds represented the wide variety of contributions these rotor aircraft have made since the early 1940's. Foremost are their rescue and evacuation missions. Daily tasks include plane guard, scouting, and cargo handling.

THE ARMY *used Bell's H-13 extensively for front reconnaissance and evacuation in Korea.*

Added to these capabilities are mine spotting, mine sweeping, submarine hunting, towing, and even fire fighting.

OTHER *reconnaissance copters, Hiller's H-23B's, were also used by Army for Alaska surveying.*

Among their more impressive accomplishments are the trans-Atlantic flight by two Air Force H-19B's, the world records set by a Sikorsky XH-39—speed 156 mph and altitude 24,521 feet—and the HTL's cold-weather scouting and hauling with the Atka, on the recent expedition to the Antarctic.

ORIGINALLY *designed for Arctic operations, Air Force H-21B is also cargo-assault craft.*

DOMAN'S *YH-31, four litter utility-ambulance type craft, built for the Army, is designed for rugged country or combat area operations.*

THIS *helicopter has been certified for commercial passenger carrying. Military models saw much ferry service at the Panmunjom peace talks.*

"AL" WILLIAMS

AN OLD BOLD PILOT

BY JACK WILLIAMS

AT TOP, *Al Williams starts take-off; bottom, taxiing in after making 1923 world record.*

THERE ARE old pilots, there are bold pilots, but there are no old, bold pilots." That adage, almost as old as powered flight, has been muttered sagely by many an old pilot when advised of some difficulty encountered by a young "hot rock."

But to fly faster, climb faster than any other flier, to test and prove advanced aeronautical and engineering designs, a man must be bold. A handful of aviation pioneers are living proof of the fallacy of that adage, at least, in its reference to themselves. Former Navy chief test pilot, Major Al Williams, USMCR, looks over his peaceful, productive North Carolina farmland and chuckles at the thought of making liars of so many old pilots. He is an old, bold pilot.

Al Williams was born in New York City on July 26, 1896. He earned an A.B. at Fordham University and an LL.B. at Georgetown. But a lifetime of thrills, experience and accomplishments was sandwiched in between the first (in 1915) and the second (in 1926). He learned to fly in the U.S. Navy in 1917 and became a research and test pilot for the Navy in 1919.

Then followed a period in which he developed acrobatics for aerial combat and worked on improvements for standard combat planes. He won the Pulitzer trophy in 1923 and was awarded a DFC in 1929, the same year he was awarded the Trophy of the American Society of Mechanical Engineers.

In 1930, Lt. Williams was released from active duty with the Navy and he embarked on a brilliant career as an educator, a research engineer, and a writer for newspapers, magazines and trade journals. He became the manager of Gulf Oil Corporation's Aviation Department in 1933. In 1935, Al accepted a commission as a major in the Marine Corps Reserve.

His history is contemporaneous with an era of rapid and significant technical advances. It was an era when the top fighters and interceptors carried Navy markings. Spectacular among them were the fabric-covered, fixed-landing gear Curtiss *Hawk* F6C4, the stubby, rugged, retractible-landing gear Grumman F3F biplane, and the F8F Grumman *Bearcat*.

Following WW I, fighter development lagged, and a major stimulus to renewed interest was the Pulitzer International Speed Classic. Inter-service competition was keen, and the Navy constantly stole headlines in one progressive development after another.

IN NOVEMBER 1923, in St. Louis, the largest crowd ever to assemble at

PREPARING *for a jet flight, Maj. Williams discusses latest developments. He says they are so much easier to fly, they are less fun.*

THEN CHIEF *of Bu/Aer, RAdm. Wm. A. Moffett congratulates his future aide and pilot, Lt. Al Williams, on his winning 1923 Pulitzer Trophy.*

SKILLED *and courageous Navy trio, Al Williams, the late Cdr. James Verdin, RAdm. Apollo Soucek get together at 1953 Pioneers' Dinner.*

LT. AL *Williams stands on float of his Navy-built "Mercury" racer. High speed pontoon flutter prevented entry in 1927 Schneider Race.*

an air meet, 250,000 people, watched the most thrilling air race of all time as Lt. Al Williams, flying a 243-mph world record speed, won over such hot pilots as Lt. Harold Brow and Marine Lt. L. H. "Sandy" Sanderson, all of whom outdistanced Army racers.

Brow and Williams fought the most gruelling, diving-speed trials in history, breaking six records in two days, with Lt. Williams establishing the final 266.7 mph, the last American piston-engined World Speed Record, and an American record for eight years.

There were seven entries in the 1923 Pulitzer Race, all from the military services. In order to avoid, as far as possible, any chance of accident, it was decided to pair the contestants and fly the race in heats. Al, scheduled for the second heat in his Navy Curtiss R2C1, was paired with Army Lt. A. Pearson, flying the Verville-Sperry. Pearson failed to start, however, owing to an unbalanced propeller.

While Williams was flashing over the course—a roaring streak of brilliant blue against the colder curtain of the Missouri autumn sky—the contest committee decided to start the third and final heat between Lt. S. W. Callaway in a Navy Wright, Lt. Walter Miller in an Army Curtiss, and Lt. Brow in another Navy Curtiss. As they took off, Williams finished. Earlier, Lt. Sanderson had "walked away" from his competitor, Army Lt. J. D. Corkille, a Navy Wright against an Army Curtiss. Williams was not announced the winner until Brow's time was known.

World-wide interest was attracted to the sleek Navy biplanes, Curtiss R2C1 racers, the most advanced research craft in the world of its day. Other nations bought millions of dollars worth of their Curtiss D-12, 500 hp. inline V-type engines, and copied the streamlined ships, eventually developing the outstanding Schneider Cup winners and European fighters.

Dr. Jerome Hunsaker, Chairman of the NACA, stated in 1946 that ". . . Fairey (later Sir Richard), took the Curtiss engine to England, which stimulated Rolls Royce to redesign their engines. Their work culminated in the *Merlin* engines. The U. S. Navy Schneider Cup airplane was the legitimate grandparent of the *Spitfire* airplane of 1940, and its *Merlin* engine."

Dr. Paul Garber, Curator of Smithsonian's National Air Museum adds: "Dr. Hunsaker's statement is particu-

MONOPLANE *version of "Mercury" seaplane racer didn't make 1929 Schneider because of baffling problems in ignition, cooling, weight.*

CONGRATULATIONS *by Adm. Emery Land (Ret.) and Col. Roscoe Turner after Al's last flight in F3F. Smithsonian has plane on exhibit.*

larly true of the Curtiss engine. Regarding the airframe, however, the *Supermarine* was a low-wing monoplane and the Curtiss Navy racer was a biplane." The Verville-Sperry racer is recognized as the ancestor of modern monoplane retractible undercarriages, by George H. Dowty in a 1935 lecture to the British Royal Aeronautical Society.

Certainly technical research and design by U. S. Military services, instigated by the Thompson and Schneider races of the era, had a far-reaching influence. Their results were sign-posts for design engineers all over the world.

In 1925, the Navy improved the Curtiss (R3C1), in which Williams recorded the first 300 mph. But research had to be applied, since the racing plane of today was recognized by the practical visionaries as the fighter plane of tomorrow. And in Al's opinion the finest fighter developed as a result of this program was the Navy Curtiss *Hawk* F6C4.

GULFHAWK *II in dive-bombing demonstration. Al Williams made thousands of such shows.*

The Navy *Hawk* was a flawless control-balanced fighter, making about 163 mph and climbing 1800 fpm. With this dream ship, Williams performed public air education work similar to that of today's *Blue Angels* and perfected his "vertical dive-bombing" technique which he conceived during the 1923 speed trials.

Few planes have been involved in as much research as this Curtiss series. Williams used the F6C4 in early 1928 to develop "inverted flight." In Technical Note 192, he reported the first comprehensive Navy Inverted Flight Research which involved "inverted G's and accelerations" and overnight caused a revamping of fighter design. Every known and conceivable normal and inverted aerobatic maneuver was tested and recorded, including the first publicly demonstrated Outside Loop, Inverted Tail-Spin, Inverted Falling Leaf and Inverted Snap Barrel Roll. This terminated inverted flight studies begun in 1919 and figured in Williams' award of the DFC in 1929.

With a privately-built Navy Curtiss *Hawk*, called the *Gulfhawk*, Al Williams won international aerobatic trophies and records, even breaking the autogiro take-off record in 1931. With a 600 hp *Jupiter Bliss* radial, the *Hawk* took off in 100 ft., four seconds. In 1934, with a rounded, orange-colored metal fuselage, 1000-hp *Cyclone* and Al's own inverted fuel and oil systems, the *Gulfhawk* climbed 3,000 fpm from the chocks, clocked 190 mph, and flew most of a 30 minute aerobatic routine upside down.

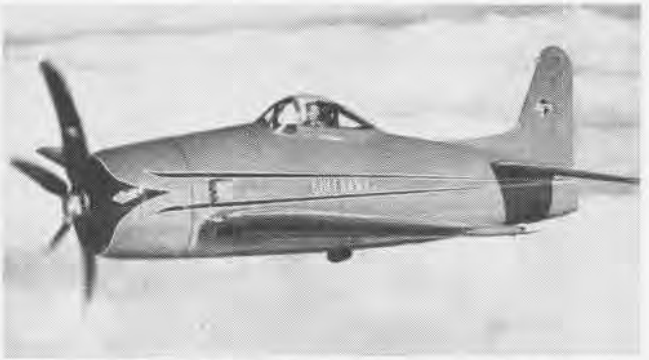
In the middle '30's, the Navy Grumman F3F biplane fighter was the hottest, most maneuverable and fastest-climbing service plane in the world. Desiring a first-line ship for aerobatic and dive-bombing demonstrations to inspire 500,000 "Junior Aviators" and awaken their parents to the dynamics of airpower, Al Williams modified the F3F3 for inverted flight, added larger fin, rudder, and elevator area, 1000 hp., chrome wing struts and special cowling. This custom-F3F4 was *Gulfhawk II*, the last of the biplane fighters, now enshrined in the Smithsonian Institution. She took off in three seconds, 116 foot run, made 270 at sea level.

In Europe and the USA, the F3F *Gulfhawk* stole the show from the world's foremost fighters. At national air shows the Navy and Marine F3F's excelled in all fighter exhibitions, just as their successors made victory inevitable in the Pacific Campaign of WWII.

Coming a bit too late to prove itself in the latter conflict, the Navy F8F Grumman *Bearcat*, nevertheless was the dreamship of the monoplane fighters. Her 10,000 feet in 97.6 seconds was unmatched by jets for years. The *Blue Angels*, headed by Cdr. "Dusty" Rhodes, used F8F's in unequalled piston-engined team aerobatics. This indeed was to be the basic design for the new *Gulfhawk* IV.

Stripped of 1300 lbs. of carrier gear, flashing a glass-like orange finish, the familiar orange and white sunburst wings, the R-2800 engine and a flush wing, the F8F *Gulfhawk* made 455 mph at sea level and 531 at 13,000. With Jatos, she took off in 2.4 seconds, a run of 125 feet, and climbed 5,700 feet in 50 seconds. With only an hour and a half's aerobatic time Al Williams demonstrated the *Bearcat* in Miami, 1949, in what was described as top performance in a fighter.

LT. WILLIAMS *standing beside his 1923 Curtiss racer. This trim Navy plane stimulated a new world-wide trend in research, and in design.*



MODIFIED F8F, *Al Williams' "Gulfhawk IV" gave a dramatic indication of progress when demonstrated at 1948 retirement of F3F Hawk.*

Inspection Light is Unsafe

Fuel Cell Flash Fires Reported

BuAer has advised the major commands that fuel cell inspection lights which were patterned after that reported in the December 1954 issue of NANews are unsafe. Two reports have been received of flash fires resulting from use of similar inspection lights.

A project has been established by BuAer at FairJax to devise an explosion-proof fuel cell inspection light. Devices resulting from this project will be sent to the U. S. Bureau of Mine Safety for examination and approval.

A Hairy Tale of an S2F

Cold Shot Results in Hot Landing

An alert mind and a high degree of pilot skill on the part of Ltjg. George M. Wise of VS-32 saved his crew and plane recently during a catapult shot off the USS *Leyte*.

Wise and his crew, Ens. D. D. Lund, co-pilot, D. E. Nielson, AT3, and T. A. Mewbourn, PH3, were being launched from the carrier in an S2F during night ASW exercises in the North Atlantic. The instant the cat was fired, the port engine of the plane quit. The powerful thrust of the catapult caused the crippled plane to swerve dangerously towards the port catwalk.

As the aircraft staggered off the end of the flight deck, Wise corrected for the violent skid, and the S2F slowly levelled off about 50 feet above the white caps. The maneuver had caused the plane to turn almost 90° left of the carrier's course.

Carefully nursing the plane along on one engine, Wise managed to climb slowly until the plane reached a safe altitude. The *Leyte* then asked if he wanted to attempt to land aboard or try for land 270 miles away. Wise chose the night landing and, after taking one wave-off, successfully landed the plane.

Capt. E. W. Parish, CO of the *Leyte*, observed the entire operation from the bridge and commented, "The competence and self-possession of the pilot and crew paid off."

VS-32 commanded by Cdr. R. E. Brown, has flown 9,728 hours, made over 10,000 FCLP's, 2,705 day and night carrier arrested landings, including the original qualifications in the S2F-type aircraft. The squadron has not suffered from a pilot-caused accident since month of October 1953.

THIS MARTIN 404 FUSELAGE WAS USED IN NORFOLK TO STUDY PROBLEMS IN SURVIVAL

DITCHING PROBLEMS ARE STUDIED

During the past month, tests have been made to study the problems involved in transferring passengers from a ditched airplane into rafts and getting rafts safely clear of the hull.

The Civil Aeronautics Authority purchased from Glenn L. Martin Company a fuselage suitable for conducting the trials. With CNO and BuAer approval, the Navy went ahead with the tests.

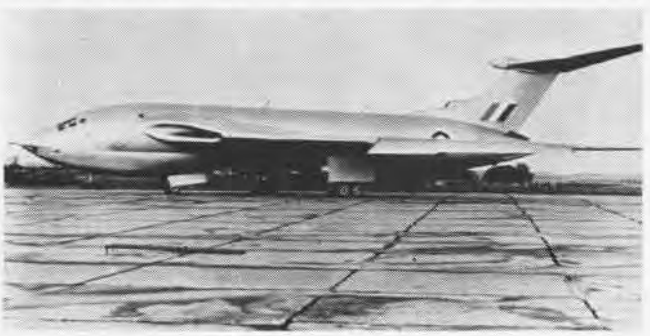
The hull was modified at NAS Norfolk. Buoyancy tanks for flotation were installed; a main cabin door was cut just aft of the last window; raft compartments were put in the wing and just forward of the main cabin; and a camera platform was placed on one of the engine mounts.

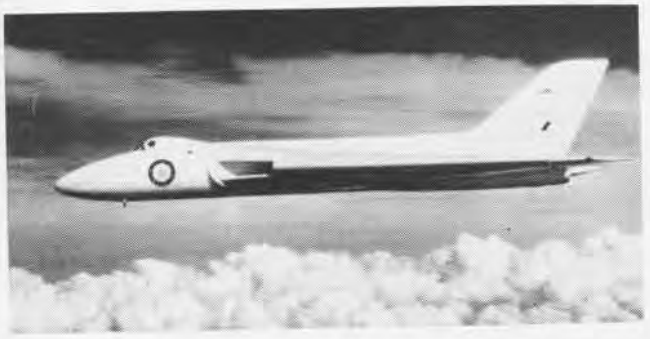
In four test periods at Norfolk, variations in patterns for getting passengers out were scheduled to reveal problems in design and drill. Findings can be used to improve survival means.

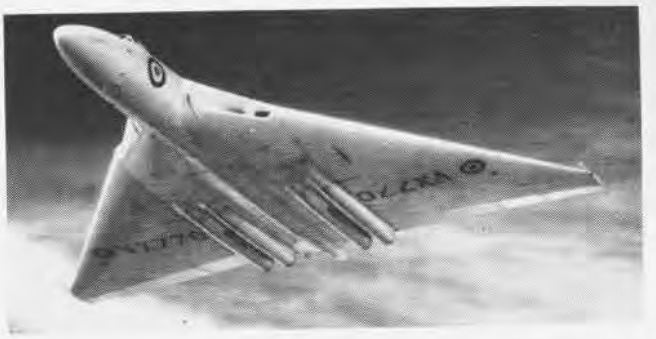
MEN BOARDED THE LIFERAFTS AS PART OF THE TIME-AND-MOTION STUDIES BEING MADE

VICTOR

The Victor has been in priority production for the RAF for some time and extravagant claims have been made for its performance. This Handley-Page bomber displays a crescent wing, mid-mounted on the fuselage. A flying tailplane is mounted on top of a raked fin. There is a definite 'chin' break in the ventral line of the fuselage. One hundred nine feet long and 110 feet wide, the Victor is powered by four Sapphire engines which give it nearly sonic speed. The four engines are housed internally.

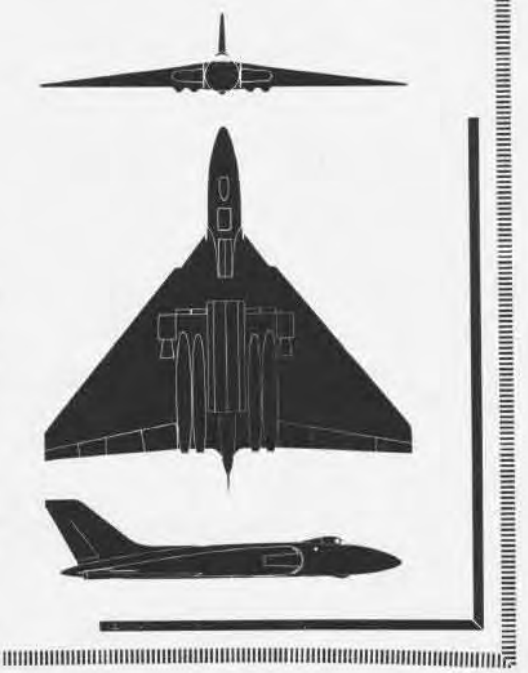






VULCAN

The Vulcan was one of the first true delta-winged bombers to appear. The wing is a triangle with a 'head' formed by the nose and cockpit. The thickness of the 'shoulder' and the intakes in the leading edge wing root, which feed the four internally housed jet engines, also show up readily. The jet exhaust tail pipes break the trailing edge of the wing. The swept fin and rudder show up from the top and side views but are blanked out by the wing from below. The Vulcan bomber is 99 feet wide and 95 feet long.



SPORTING *the new look in carriers, the angled deck, the USS Alameda (CVA-1011 is the pride of its namesake, NAS Alameda. The "carrier" has taken trophies on the West Coast.*

'Pogo' VTO Commemorated

Convair Gives Plaque to Navy Field

On April 19, Cdr. Norris A. Johnson, CO of Brown Field, Chula Vista, Cal., accepted a commemoration plaque from Mr. C. B. Carroll, project engineer, commemorating the initial transition flight of the world's first vertical take-off fighter, Convair's XFY-1 *Pogo* at NAS Brown Field on 2 November 1954.

The XFY-1 made its first transition to complete horizontal flight with J. F. "Skeets" Coleman at the controls. He nosed the plane completely over, darted away from the field, and flew horizontally more than 20 minutes. He then slipped into a vertical attitude and backed down to a landing.

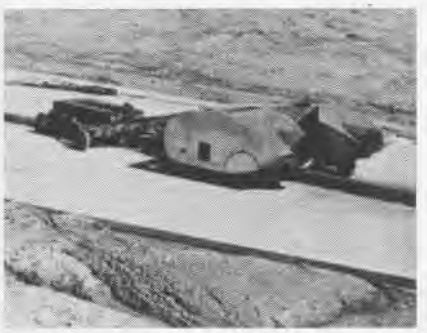
The transition meant that the XFY-1 had become the first fully successful VTO fighter in history.

Presentation of the plaque was made before the officers of Brown Field.

Jet Car Assists in Tests

Probes Arresting Gear Problems

A jet-powered test car is being used by All American Engineering Company at Wilmington, Del., in the development of large capacity airplane arresting gear. Designed under the direction of Joseph C. Terry, BuAer's authority on arresting gear devices, the new equipment is an inexpensive means

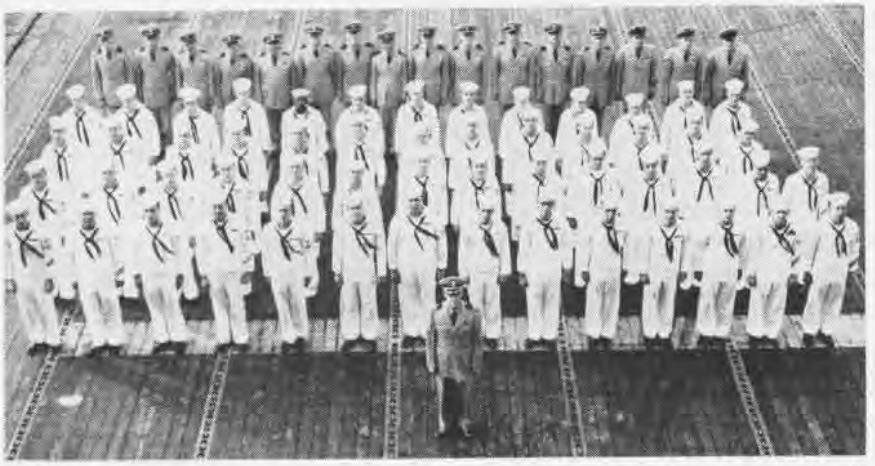


JET CAR IS USED TO PULL HEAVY LOAD

of propelling large masses at high speeds. The project has been underway since early in March.

The jet-car is powered by twin Allison J33-A8 gas turbines with a combined thrust of 10,000 pounds. The car is held captive to a 5,000-foot concrete track and is guided by a structural I-beam. Pushing a dead load ahead of it, the car reaches speeds comparable to that of landing aircraft.

As the car and its dead load near the arresting gear, the car is slowed by a widened section of the I-beam and the dead load, simulating a landing plane, continues into the arresting gear.



VF-114 *personnel stand smartly at attention aboard the USS Kearsarge as Capt. F. G. Raysbrook, ComFAirHawaii, read the citation and presented the squadron with ComAirPac's coveted Annual Aviation Safety Award. Skippered by Cdr. George F. Maxwell and operating under CAG-11, the squadron flew 4,010 hours in 1954 and suffered but one accident, a barrier crash during carquals.*

NAMTD to Train Canadians

Six Report for Course in F2H OFT

One officer and five chief petty officers from the Royal Canadian Navy have reported to NAS Jacksonville for a four-week course with the Naval Air Mobile Training Detachment. The five, all members of the Naval Air Maintenance School aboard HMCS *Shearwater* based near Halifax, N.S., will be taught the operations, physical make-up and maintenance of the F2H-3 Operational Flight Trainer.

This group, the first from Canada to be trained at NAMTD, will upon their return home, instruct other RCN men on the upkeep of the *Banshee*.

The U. S. Navy recently sold the F2H-3 OFT to Canada. It is being readied for shipment to Nova Scotia.

WHILE *shipmates look on, John Kazmar, AGC, releases his 26,000th weather balloon on the day he retired after serving for 26 years.*

New Loran Aids for Jets

System Is Designated as 'Navarho'

Far ranging jet aircraft will receive extremely long-range navigation aid from an experimental radio station to be constructed at Camden, N. Y., according to USAF's Air Research and Development Command.

The new system called Navarho (pronounced "Nav-a-row") is designed to give high flying jet aircraft a homing signal. The Camden station will beam information 2,500 to 3,000 miles in all directions.

A single Navarho station can cover an area bordered by the West Coast of the United States, the Azores in the mid-Atlantic on the east, the Arctic Ocean on the north and the Gulf of Mexico on the south.

The master timing unit for the station will be one of the most accurate in existence with a time stability of one part in one billion for twelve hours.

FLORIDA GOBS ROMP IN CALIFORNIA SNOW

DURING OFF *duty hours while flying photo missions last winter these Florida-based sailors from Det. Love of VJ-62 romped and played in the snow at the famous Laguna Recreation Area.*

TOBOGGAN *rides for the first time are enjoyed by officers as well as enlisted men.*

ICY ROADS *leading to the recreation area stall the bus and VJ-62 sailors get out to push. Snowball fights erupt and the pushing waits.*

WITH THE *snowball fight over, the boys from sunny Florida push the bus up a hill while two private autos await their turn to descend.*

SITUATED *6,500 feet above sea level, the recreation area offers a wide variety of sports.*

THEIR WEEKEND *stay in the Lagunas almost over, sailors choose sides for an old fashioned snow ball fight before departing for Miramar and eventually to Sanford, Fla. and a familiar climate.*

Almost FORGOTTEN EVENTS

EARLY OPEN COCKPIT AIRCRAFT LEFT ALL EQUIPMENT AT ELEMENTS' MERCY

THE NAVY'S FIRST "BIRD DOG"

WHEN THE forerunner of today's radio compass, commonly referred to as a "bird dog," received its first test and was successful, the event was called "an epoch in the development of Naval Aviation." It took place on 6 July 1920.

An F5L flew from Hampton Roads to the USS *Ohio*, 94 miles at sea, with the aid of a radio compass. The plane left from Norfolk without the pilot's knowing the exact location of the ship. He flew directly to it. He made the return trip on pulses generated from Norfolk.

What was once incredible seems no longer strange. Thirty-five years of scientific development in radio direction finding gear and in transmitting facilities have made this pioneering feat commonplace today. The careful work of scientists, engineers and technicians permits naval aircraft to operate freely over the seven seas, guided by radio signals.

THIS IS THE FIRST F5L SEAPLANE BUILT BY NAVAL AIRCRAFT FACTORY

CHANGE *of duties brought these three men together recently aboard the USS Northampton: (l to r) RAdm. Fitzhugh Lee to ComFAirWestPac, VAdm. T. S. Combs, DCNO (Air) and Capt. H. E. Sears, ComCarDiv-14.*

DURING *recent visit of the USS Essex to Bangkok, Thailand, the crew went on sightseeing trips. Lau Boon Rod, HN2, RTN, gives sightseeing tips to McAteer, ADAN, Roode, AA.*

VP-741 Film is Completed

Shows 16,000 Mile Training Cruise

The Navy film "Malta Revisited" (MN-8164), made by Reserve VP-741 on its 16,000 mile European training cruise last year, is now available for distribution from film libraries.

A 27-minute unclassified documentary movie in color, narrated by Robert Montgomery, "Malta Revisited" gives a pictorial account of VP-741's accomplishment of its self-sustaining operation. As the squadron moved from one to another of the seven countries visited, it proved, in the words of Adm. J.H. Cassady, "Our Naval Air Reserve is ready, willing, and able to deploy in strength to distant overseas theaters."

The premiere of "Malta Revisited," held at NAS JACKSONVILLE, at the time of the NARTU Annual Military Inspection, was a colorful event. Of no small interest were the honor guests, representatives of each of the countries visited, and included in the movie.

During WW II, VP-741 was, for a time, based on Malta, hence the title.

DURING *a three-day visit to the Sixth Fleet flagship, USS Coral Sea, Asst. SecDef (AE), F. D. Newbury confers with Capt. D. L. McDonald, Coral Sea CO, and RAdm. D. S. Cornwell, Commander Carrier Division Four.*

PROVIDENCE, *R. I. honors RAdm. John M. Hoskins, ComFAirQuonset, at a dinner where he chats with Sterling Hayden and Alexis Smith. They star in "The Eternal Sea," the story of Adm. Hoskins' naval career.*

AFTER *a brush with death over San Clemente Island, off California Coast, Ltjg. R. E. Calkens and Ens. H. H. Hargrove arrive back aboard the Philippine Sea via 'copter from USS Mt. Olympus. Their AD's collided in mid-air.*

COMMANDING *officer of VX-3 (right), Cdr. H. Russell, greets VAdm. G. Barnard, RN, on his arrival at NAS Atlantic City to visit British officers attached there.*

VADM. *H. M. Martin, ComAirPac, receives card #1 designating him an honorary aircrewman of VC-35 at NAS San Diego. Cdr. J. H. Pennoyer, CO of VC-35 made the presentation.*

CDR. W. R. *McClendon, CO of VF-173, explains capabilities of F]-3 to Wendell Corey at NAS Jacksonville. Corey is playing part of Greenwald in stage version of "Caine Mutiny."*

NAMTC Logs Another First

Drone Taken to 20,000-ft. Altitude

The first operational instrument flight of a NOLO drone aircraft has been successfully demonstrated at NAMTC Pt. Mugu. The aircraft was flown to 20,000 feet, then returned and landed. Only during the landing and take-off was the pilotless aircraft visible to the ground operator.

Safety aircraft were airborne but were not used to control the NOLO during the operation.

After completion of the operation, the GCA unit supplied the ground controller of the pilotless flight with the data necessary to return the NOLO to the field. Visual control of the drone commenced when it was over the end of the runway.

Cdr. S. L. Violett controlled the take-off and landing; LCdr. D. S. Lyons, climbout and return; LCdr. C. N. Adair, GCA information; Lts. J. H. Roop and E. R. Fancher, safety pilots and Mr. C. A. McPheeter supervised the installation of the equipment.

WAIKIKI FORMS BACKGROUND FOR NEPTUNE

Pacific Unit Gets P2V-5F's

VP-22 Flies Jet Modified Neptunes

The P2V-5F *Neptune* has become operational in the Pacific Ocean area. Recently VP-22 received the first of this new series and assigned them regular patrol missions from Oahu, T. H.

Twin jet pods have been added to the wings outboard of the two reciprocating engines that power the *Neptune*. The J-34 engines, the same as those that power the F2H *Banshee* and F3D *Skynight*, weigh about 1,600 pounds each. They will increase the capability of the P2V-5 aircraft to use short fields or fields obstructed by terrain or other obstacles near runways. In case of failure of one of the conventional engines, the jets could be used if necessary to maintain airspeed and altitude.

VP-22, skippered by Cdr. W. H. Game, is nicknamed the *Blue Goose* squadron and is under the control of FAW-2 headed by Capt. F. G. Raysbrook.

Men Fight Forest Fire

48 Men Sacrifice Liberty to Aid

Forty-eight men from various squadrons at NAS Jacksonville recently sacrificed weekend liberty to fight a fire in the Osceola National Forest. The U. S. Forestry Service at Lake City, Fla., put in an urgent call to the OOD at Jacksonville to ask for volunteers to assist in bringing the fire under control.

The men worked eight hours fighting the fire, then spent the rest of the night patrolling fire lines watching for new outbreaks until they were relieved by students from Florida University.

Weekend Warrior NEWS

THAI *visitors. Prime Minister and Mrs. Pibulsonggram were Dallas guests of NAS CO Capt. Sooy and city officials Thornton, Croizman.*

GUEST *inspector of NARTU Anacostia, VAdm. G. Barnard, RN, receives report from LCdr. Oliver. Capt. Barleon is NARTU commanding officer.*

NAS DALLAS—All five of the Dallas-based fighter squadrons have completed their changeover to jets. Veterans of over ten years of flying prop driven fighters, the reserve pilots are now putting *Cougars* through their paces.

11ND, SAN DIEGO—In competition with 81 other units, Naval Reserve Aviation Company 11-11 was adjudged the outstanding nonpay company in the Eleventh Naval District. Cdr. C. R. Douglas is unit's CO.

NAS DENVER—Since the beginning of Denver's participation in the Orientation Flight program, hour-long local flights have been scheduled for 195 Senior Scouts and "Navy Buddies." The flights are a part of a four-hour visit to the station, which also includes a tour, a movie, and a lecture.

NAS NEW YORK—The Floyd Bennett Naval Air Station was host to about 150 editors and publishers of prominent national weekly newspapers during the newsmen's New York conference. As climax to the tour, Marine Weekend Warriors put on an air demonstration with their *Cougars*.

NAS ANACOSTIA—Each month Capt. J. S. Barleon invites a different visiting VIP to conduct the NARTU inspection. First visitor, VAdm G. Barnard, head of British Naval Mission in Washington, pronounced the NARTU an outstanding unit.

NAS SPOKANE — After presenting Adm. Gallery with an official war club of the Nez Perce tribe, Chief White Wolf manipulated his fingers in true Indian "sign" fashion and uttered the words "lee yes poo me yoe hant". Thus Adm. D. V. Gallery was initiated into the Nez Perce tribe as honorary "Chief of the Boatmen" during his visit to Spokane for the Annual Inspection.

SPRINGFIELD, *Ill. military and civilian representatives greet NAS St. Louis CO, Capt. H. K. Edwards, as he arrives to inspect AAU-921.*

CULMINATING *a recruiting drive for dental technicians was an NAS South Weymouth guided tour for 35 Boston student dental hygienists.*

DENVER *Air Explorers embark for aerial tour, as part of Navy's Orientation Flight program.*

Marine Aviators' Training Program

The Marine Corps has announced a new training program for prospective Marine aviators—the Aviation Officer Candidate Course. This 12-week basic indoctrination course at the Marine Corps School, Quantico, will be offered to college graduates.

Previously, all Marine Corps aviators were drawn from the NavCad program or from the ranks of Marine officers on active duty. The new program, intended to supplement the present ones, will result in an increase in directly commissioned Marine aviators, but is in no way an indication of any lowering of standards.

Emphasis placed on the infantry aspect during the basic indoctrination course is intended to familiarize prospective fliers with Marine infantry theories, and is expected to reinforce the air-ground relationship.

Successful graduates of this orientation course will receive Marine Corps Reserve commissions as second lieutenants, and will be ordered to active duty as student aviators. Upon completion of Flight Training, which lasts from 15 to 18 months, they will be obligated to serve a minimum of two years with Marine Corps Aviation.

WITHIN *seconds, NAS New Orleans fire fighters blanket fire with high expansion foam.*

CREWMAN'S *eye view of Miami helicopter rescue shows downed pilot ready to don sling.*

WITH THE *sling securely around his shoulders, Lt. Robert Stiles is ready to be hoisted up.*

'OK, MAC, *now haul me in,' and another air-sea rescue is successfully brought to a close.*

HELICOPTER *rescue, now routine part of training, is demonstrated at New Orleans air show.*

Applications for the Marine Aviation Officer Candidate Course may be made to any of the 21 Officer Procurement Offices located at major cities throughout the country. The first session of the MAOCC will convene at Quantico this fall.

Airline Pilots May Join Pay Units

With the issuance of BuPers Notice 1301, a change in policy concerning attachment of airline pilots to pay units of the Naval Reserve is made known. Formerly, it was the policy of the Chief of Naval Personnel to disapprove airline pilots' requests for attachment to such units on the basis that their availability in the event of national emergency was considered extremely doubtful.

Since 1951, airline pilots have continually been included on Departments of Commerce and Labor lists of essential activities and critical occupations. Revised lists, of 1955, no longer include airline pilots as critical.

Following the removal of this tacit ban, BuPers announces that in the future, airline pilots' applications for assignment to pay billets in organized units of Naval Reserve will be given normal consideration in accordance with instructions currently in effect.

CHIEF *Weekend Warrior (Adm. Gallery) accepts a war club from Nez Perce chieftain.*

Weld Process Saves Money

Salvage of Jet Vanes Hits Jackpot

The O&R department at San Diego is salvaging J-42 jet engine vanes. Approximately $450,000 have already been saved by the new method.

In early 1952, the power plant division experienced excessive operating temperatures on J-42 engines under overhaul. The cause was found to be service operating warping of the turbine vanes.

Since replacements were in short supply, the J-42 overhaul program would be interrupted. To overcome this threat, personnel of the materials laboratory, metal division, production engineering and power plant division worked out a successful straightening method. This method consists of controlled annealing of the vanes prior to mechanically straightening, and then heat-treating them again.

The reworked vanes are reported by O&R, San Diego, to be better than new because the treatment developed stabilizes them against subsequent distortion. The straightening method is not restricted to J-42 engines. It can be used with equal success on J-48 engines. Other stations are free to use the method, and San Diego has already welcomed the opportunity to instruct visiting personnel in the process.

NavCad Twins Graduated

Pair Completes Training in F9F-4

Twin NavCads have completed their flight training and have been designated Naval Aviators at NAAS KINGSVILLE. William M. and Robert G. Barnett stood before RAdm. C. D. Glover, CNAAT, recently and received their wings the day after they had been commissioned ensigns in the Navy.

The Barnett twins' interest in naval aviation was stimulated by an older brother, Lt. James A. Barnett, USNR, who attended the ceremonies. He's a member of AAU-824 and a practicing attorney in Jackson, Miss.

When asked how they liked the NavCad program, the twins said, "We certainly do feel that we have received the finest flight training available anywhere. The instructors were well-qualified and they took a personal interest in each student."

The twins are looking forward to duty with VF-63 aboard a carrier.

ATTACHED *to VC-4, Detachment 50, Ltjg. R. S. Farris is congratulated by shipmates upon completing his 100th angled deck landing aboard the carrier USS Antietam.*

Gannet Attacks Neptune

Huge Bird Smashes Crown Turret

Aerial combat between a P2V *Neptune* based at NAS BRUNSWICK and a huge gannet over the Atlantic resulted in death for the bird and a smashed turret for the *Neptune*.

The aircraft piloted by Ltjg. Robert L. Wolen, was on a routine training hop cruising at 4000 feet off the coast of Maine when crew members sighted the bird. They described it as having a white belly and black wings with a wing spread of about eight to ten feet.

The bird was sighted at twelve o'clock flying just slightly higher than the P2V. As the distance decreased between the two, the bird swooped in for the attack and crashed into the plane.

After the plane returned to NAS BRUNSWICK, the bird's description was given to Prof. C. E. Huntington, Ornithologist of Bowdoin College, who said that the gannet, when mature, has a maximum wingspread of about six feet.

VADM. *A. K. Doyle congratulates plant director Frank Parkhurst and personnel of CNATra Publications and Printing upon an accident-free record for over six years of operation.*

Ex-POW Gets Jet Training

Enrolled in Transitional Course

The first naval officer to be released by the Reds during Operation Little Switch has completed training in VC-3's Transitional Training Unit at NAS MOFFETT FIELD.

Ltjg. S. M. Broomhead of VR-122 was flying an AD *Skyraider* over enemy territory when his plane was hit during a low level bombing attack 30 miles north of the North Korean stronghold of Wonsan in February 1952.

Unable to parachute because of his low altitude, he crash-landed the *Skyraider* on a hillside. Both his ankles were fractured in the crash. Team mates from the USS *Valley Forge* flew protective cover until a helicopter arrived to pick him up. The 'copter crashed when it encountered a severe downdraft.

Broomhead and the two occupants of the helicopter were forced to move from the protection of the crashed plane that night to the crest of the hill where they hid under a camouflaged parachute, and trusted to luck. Their luck didn't hold, for they were found by a Chinese patrol and marched off into captivity, with Broomhead being assisted by two of his captors.

He was held captive for 14 months before being released to UN authorities at Panmunjom on 26 April 1953. He's now flying the F7U-3 *Cutlass*.

Pipefitters Invent Gear

Champlain Drains Removed Fast

Two pipefitters aboard the Sixth Fleet aircraft carrier *Lake Champlain* have devised a special tool for removing plumbing drains that will save the U. S. Government both money and man-hours in the future.

Removing deck drains for cleaning and repair was a time-consuming process on the big carrier, which normally required two men and an average of ten working hours for each drain. A carrier has approximately 450 such drains. Labor costs ran to an estimated $20 each time one had to be removed.

The two men—A. E. Grass, FP3, and R. J. Warnemont, FP3—have designed a simple device consisting of two tongs which will lift the drain up and out in a matter of moments, swiftly and without damage.

The new device is made at a cost of about 30 cents worth of scrap.

BOSTON'S ACORN 1-2 TRAINS AT BERMUDA

LCDR. *Fairweather, ACORN acting CO, reports to Naval Station, Bermuda CO Capt. Leeper. The unit found his words of praise for their appearance and military bearing easy to listen to.*

ACORN *AO Officer, Lt. T. E. Morris is briefed on armament by station AOC Bedenhorn.*

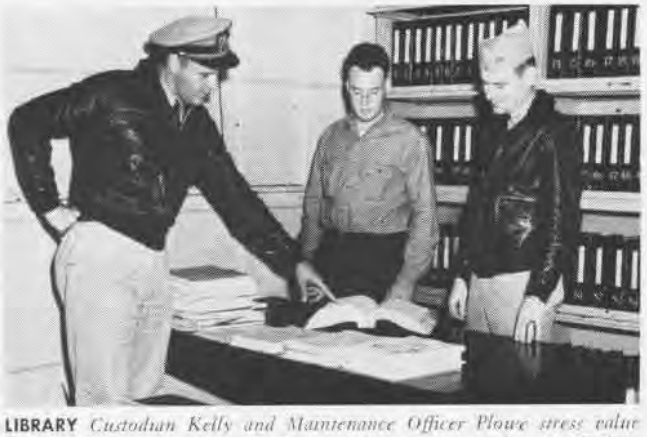
CDR. *E. J. Hagen gives visiting LCdr. Bill Donovan the latest word about budget matters.*

ACORN, CUB, LION, familiar WW II names, denoting Advanced Base Command Groups, currently refer to Naval Reserve ABC Units only. ACORN is the air unit.

In support of their assigned training mission of providing experienced, skilled personnel, available in the event of mobilization, Boston's ACORN 1-2 accomplished the first peace-time overseas ACORN training duty deployment.

Naval Station Bermuda officers paired off with corresponding ACORN members to give the visitors a clear understanding of Advanced Base problems with a realistic basis for solutions to them.

"SOMETIMES *we dig pretty deep for personnel," confides one personnel officer to another.*



LIBRARY *Custodian Kelly and Maintenance Officer Plowe stress value of current, complete AvTech library with opposite number, McCloskey.*

ACORN *CEC Cdrs. Gray and Healey make on-the-spot study of construction plans with Lt. P. R. Jasper, Bermuda NavSta Public Works Officer.*

AIR CREWS GET THOROUGH ASW TRAINING

STUDENTS GET PRE-FLIGHT BRIEFING FROM LCDR. R. L. WOLF (C) BEFORE ASW PATROL

INSIDE the cramped interior of the Grumman S2F-1, it is completely dark except for the faint glow from the radarscope which illuminates the features of the man sitting in front of it. In the weird half-light, his eyes watch intently the instruments before him.

Suddenly he calls to the pilot over the intercom, "Spook, 10 degrees starboard, 10 miles," and the snub-nosed, two-engined plane swings around on a new course, flying low over the water, trying to pinpoint the lurking submarine. When the "Spook's" hiding place is reached, sonobuoys are dropped from the plane in a set pattern, while the man at the radarscope listens intently through his headphones for telltale sounds that will reveal the sub's position. If there's a sub there, they'll find him—and when they do, they're equipped to finish the job.

That man behind the radarscope is the vital link between the pilot and the detection devices aboard this new sub-killer plane. He is a trained specialist who must operate this sensitive electronic gear and then direct the pilot to the submarine's suspected hiding place, often so close that the co-pilot can spot the marauder with his powerful searchlight.

FIRST delivered to VS-26 in February 1954, the S2F-1's are still something new. Now VS-27 and VS-30, both based at Norfolk, are deep in training their men to man them.

Until recently, VS-27 had been flying single-engine Grumman *Guardians*. Then last November, the squadron received the first of the twin-engined aircraft especially built for ASW missions. The S2F can both hunt and kill on its own and requires no partner as the *Guardian* does.

Each S2F-1 carries two crewmen plus pilot and co-pilot. The crewmen have to be checked out on radar, electronic counter measures, magnetic airborne detection, and sonobuoys. These devices are an electrician's nightmare to a layman and require a great deal of skill for operation.

To qualify as aircrewmen, men must take an intensive training course covering a wide range of theoretical and practical instruction. VS-27, commanded by Cdr. W. E. Rouse, revamped its Air Crewmen Training Courses to meet the new demands. Seven instructors, all experienced ASW men, under the direction of Ltjg. W.

LTJG. W. W. DORNBACH (C) GOES OVER A NAVIGATION PROBLEM

RIEMER, AT3, GETS SURVIVAL INSTRUCTION FROM KEIFFER, AT1

B. L. COOK, AL1, (R) EXPLAINS THE OPERATION OF SONOBUOYS

REIMER LISTENS TO RECORDING OF TYPICAL SUBMARINE NOISES

W. Dornbach, training officer, and W. G. Hoyt, ATC, use various techniques in the course: lectures, movies, problems, and demonstrations.

Compressed into three short weeks is a course that is no snap. Survival, communications, recognition, radio procedure, code reception, aircraft familiarization and navigation are just a few of the subjects covered. The student goes far beyond elementary matters in his courses. For example, in radar navigation, the student receives enough instruction to enable him to plot the course of the plane almost as well as the pilot. Survival instruction includes ditching drills, swimming tests and practice in sea survival methods.

Right now the school is training from five to 10 men in each class, and a new class starts every three weeks. After the three-weeks course, the students are far from through. Ahead are 12 practice flights during which they must successfully detect and locate specific objects. VS-27 thus far has trained 23 crews at two men per crew.

Another squadron has also embarked upon an ambitious training program. Recently VS-30 returned to NAS Norfolk after a 30-day deployment at NAS Key West where the squadron played an important part in laying the framework for an intensive anti-submarine training program.

Under the command of Cdr. L. M. Bigelow, VS-30 worked with FAWTU-Lant, HS-1, VX1, ZX-11, the Fleet Sonar School, and the Advanced Underwater Weapons School, in launching the new training syllabus.

To help in the proper calibration and use of delicate equipment, VX-1 assisted VS-30. VX-1 pilots flew with the squadron to provide inflight training and instructions on the latest methods in tracking submarines.

A special course on various torpedoes was provided VS-30 ordnancemen by the Advanced Underwater Weapons school. "Under the rigorous 30-day schedule, pilots and aircrewmen logged over 1,000 day and night hours in the S2F in furthering their proficiency to detect and kill the evasive submarine," Cdr. Bigelow reports.

Pilots were enthusiastic about ASW training at Key West. "We picked up the sub's location about 30 minutes after reaching the target area," a pilot would relate. "All smoke lights were immediately expended and the torpedoes were soon knifing through the water. It was a direct hit!"

As part of their training, pilots became honorary submariners by boarding target submarines furnished by Submarine Squadron One. In this way, 22 pilots learned something about the receiving end of an ASW operation.

In addition to anti-submarine exercises, VS-30 participated in rocket and bomb exercises as well as night flights consisting of searchlight runs on radar targets. There were also electronic countermeasure flights, night bombing and radar navigational flights.

At the request of VS-792, a NARTU Memphis Reserve squadron, a detachment of the Reservists on Annual Training Duty was permitted to participate in the VS-30 exercises at Key West. The results of the joint exercise were beneficial to personnel of both squadrons.

Training pilots and men intensively in ASW tactics is steadily increasing the battle readiness of anti-submarine squadrons now serving in the Atlantic.

TO STUDY SUBMARINERS' PROBLEMS, PILOTS TOOK A CRUISE ON A TARGET SUBMARINE

I TEST-FLEW THE FJ-3 FURY

NAVAL AVIATION NEWS has asked engineering test pilots to give their views on aircraft they have tested. This series is designed to give you an insight into what the test pilot thinks about the new plane. Mr. Bill Ingram, Test Pilot for North American, opens the series.

THE FURIES, the FJ-2 and the FJ-3, have one basic system design differing from most of the other airplanes you may have flown, in that the surface controls, with the exception of the rudder which is conventional, are powered by hydraulic pressure only. The power control system is not to be confused with an hydraulic boost system. In a power control system, the pilot supplies none of the effort required to move the control surface, but merely positions a hydraulic valve at the surface to be moved, with the control stick. Since none of the loads imposed upon the control surface are transmitted back to the control stick, "feel" is supplied in flight by bungees and a bobweight.

There is a basic change in the longitudinal control surface too. The *Fury* has what is popularly known as a flying tail. The stick, when moved, positions the horizontal stabilizer and the elevator is geared to the stabilizer to move a predetermined amount.

The flying tail is necessary because there is a loss of control effectiveness in the transonic region, and larger control surfaces and deflections are needed.

The power control system is needed because, as airplanes become faster, more effort is required to move a control surface. This effort has become so great that it is very difficult for a conventional boost system to supply the force necessary. In fact, the power control system is rapidly becoming the normal system for high speed aircraft.

POWERED *by a J-65-W-4 gas turbine, the FJ-4 Fury is the latest of this noted series to come off production lines at North American. Its Sapphire power plant generates 7,800 pounds thrust.*

If you have not previously flown with power control, you will probably find the first time you fly the *Fury* that the longitudinal control is a little more sensitive than what you are accustomed to. However, this over-control tendency will disappear as you become familiar with the aircraft. Normal take-off is made with full flap and with the trim indicator showing IN for all surface controls. The aircraft flies away nicely, and take-off visibility is good. During cross-wind take-off, the up-wind wing tends to rise rather more than on a straight wing aircraft; however, this is not a problem. The flaps may be retracted soon after take-off with no settling and very little trim change.

The *Fury* has excellent stall characteristics both accelerated and unaccelerated. During wings-level unaccelerated stall, there is ample warning in the form of general airframe buffeting, increasing the intensity up to the point of stall. The stick can be brought back to the aft stop, if handled carefully, and the aircraft will porpoise gently. Recovery is easily made by easing forward on the stick.

The accelerated stall is preceded by

THE STICK *positions the horizontal stabilizer and the elevators are geared to the stabilizer so as to move it a predetermined distance.*

OWING *to its low-speed handling characteristics, the Fury passed its carrier qualifications with flying colors as NATC pilots attested.*

THE CLEAN *slanting lines of the Fury are outlined against a light background as deck crews ready this FJ-3 for carrier qualifications.*

FLAPS *may be retracted soon after take-off with no settling and very little trim change. The Fury has excellent stall characteristics.*

ample warning in the form of buffeting. At high altitude, the buffeting will become objectionable before actual stall is reached. Recovery is easily made by relaxing stick pressure.

The airplane has excellent handling qualities at high speeds. In fact, you will find you are able to climb at speeds that are considered limit or above-limit in some other jet fighters. Stability and control are good, but here is a word of caution. At high speeds and low altitudes, the power control system is very effective, and the structural strength of the airplane can be easily exceeded by rough handling of the controls. In general, when operating at low altitudes and high speed, applications of "G" should be made smoothly.

I have already mentioned the loss of longitudinal control effectiveness in the transonic region. This phenomenon is true of the ailerons also. A reduction of aileron effectiveness is manifested by the phenomenon popularly called wing roll. This is an abrupt lateral trim change which occurs just under sonic speed and is normal. However, acceleration and satisfactory control can be regained after passing through the "wing roll" region.

Remember that in high speed dives, "wing roll" will be encountered twice: once when accelerating through and once when decelerating back during pull-out. Wing roll is a function of Mach and will vary with altitude. At high altitudes, it is less severe and occurs at slightly higher Machs.

The speed brakes may be extended at any airspeed. Extending speed brakes causes a mild pitch-up, but it is easily controlled, and you will probably want to retrim the aircraft. As you would expect, retracting speed brakes causes slight nose heaviness.

The *Furies* have excellent spinning characteristics. It is necessary to force the aircraft to spin. The wings level entry produces an oscillatory, poorly developed spin while an entry from a turn will give a more "normal" spin. Recovery is easily accomplished by neutralizing the controls in both cases.

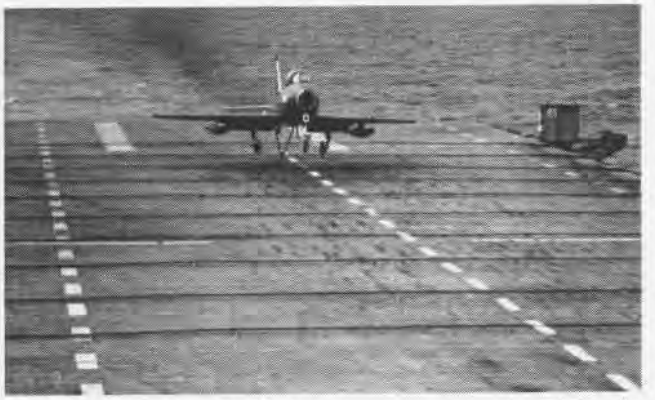
The *Fury* is an exceptionally easy airplane to land, and its low speed handling characteristics are excellent. Good control is maintained, about all axes, down to actual stall. The forward visibility is superior, to most fighters flown by this writer, either for carrier landings or field landings. The position of the speed brakes is a matter of opinion; however, the writer prefers to approach with speed brakes extended.

The flight characteristics are essentially the same for both the FJ-2 and FJ-3. However, the FJ-3 has a decided edge in performance, especially climb and acceleration to maximum speed.

The major difference between the two *Furies* is the power plant. The FJ-2 has a GE J-47 engine, with an official thrust rating of about 6000 lbs; and the FJ-3, the Wright J-65 engine with a thrust rating of about 8000 pounds.

I hope that you "fighter-types" will have as much fun flying the *Fury* series as we have had at North American during design and development.

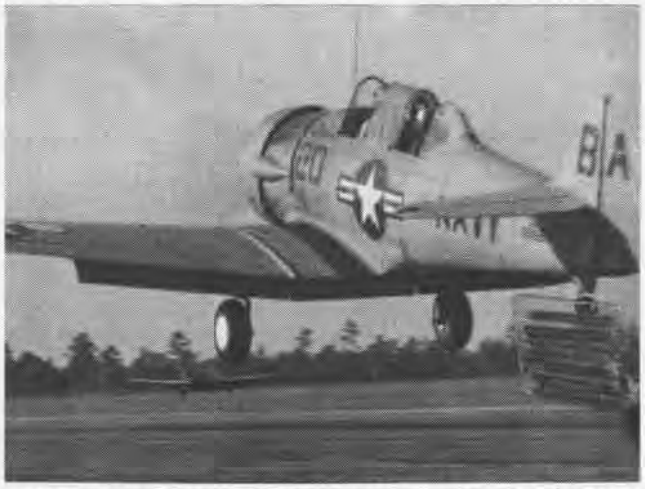
WITH THE *power-on approach and speed brakes extended, less time is consumed by the engine to accelerate to full power on a wave-off.*



INGRAM *found that the FJ-3 had superior forward visibility for either field or carrier landings, take-offs and catapult shots.*

SHOW-HOW SYSTEM LEADS TO ROGER PASSES

DEMO PILOTS OF BARIN FIELD, AUTHOR IS BACK ROW, LEFT



LSO GIVES "CUT" AND ANOTHER "ROGER" PASS IS COMPLETED.

by Lt. B. G. Homan

A LITTLE known but certainly unique group of flight instructors is saving lives and planes at NAAS BARIN FIELD. These pilots fly high and slow. They fly low and slow. Some of them have even been accused of flying more slowly than they drive to work.

These expert instructors are the "Demonstration Pilots" or "DP's" of BTU-3 (Carrier Qualification). Now they ride the back seats of SNJ trainers while students make their first field carrier landings, but when the venerable "Jay" is retired in the near future, the new T-28B will be the classroom.

The DP's mission is to get across to students the know-how of getting aboard a carrier. The first period, FCLP-1, is devoted to slow air work familiarization and stall review. It is done at high altitudes for safety with a specific altitude used as an imaginary carrier deck. Climbing turn stalls (left and right) with wheels and flaps down are practiced. Flying carrier patterns at approach speeds, the instructor shows the student how to recognize an incipient stall and how to recover. Proper wave-off techniques are introduced.

Then, if the student is ready for it, comes FCLP-2 during which the student repeats the previous period *sans* instructor. If all goes well, the instructor again mans the rear cockpit for FCLP-3. This time the altitude averages between 75 and 150 feet of actual height above ground obstructions in the FCLP pattern. Some of the toughest critics in the world, the Landing Signal Officers, are observers. The first two of eight carrier approaches and landings are demonstrated by the "Demo Pilot". Then a minimum of six landings is made by the student.

Now the student has the general idea. Any minor corrections to the acquired technique are transmitted via intercom by the instructor.

Many students have been known to go out on their next hop, FCLP-4 (solo), and fly several "Roger" passes. A "Roger" pass is an approach and landing during which the LSO can figuratively "lie down on the job." The pattern, banks, altitude and air speed are within safe limits from start to finish, with no "coaching" necessary.

DEMO PILOT IS NOW JUST A PASSENGER

The present demonstration program began in October 1952. Prior to that time, the demonstration hop consisted merely of having an LSO demonstrate two or three passes to the student from the front seat of the SNJ trainer with the student doing none of the flying. It was soon realized that it would be better to allow the student to fly the field carrier approaches with the instructor in the rear seat to correct his errors on the spot and indoctrinate him in the proper carrier technique.

IN MAY 1954, the program was further altered to include a high-work demonstration hop. This showed the student how to utilize his slow flight procedures, and in this way he was prepared to make the most of his next period, a solo repeat of the dual hop. It also inculcated the proper methods of recovery from stalls likely to be encountered in the FCLP pattern. This additional period of instruction helped to reduce the number of stall/spin accidents.

Now it is the job of the 12 to 14 "Demo Pilots" on board to fly twice with each student in the training command. It is a tough and exacting job. They jokingly say, "Every one of those kids is out to kill me." But this attitude in itself is a life saver. By guarding against dangerous, inadvertent errors, making the proper instructional corrections, DP's are reducing the accident rate and saving lives and dollars in a hazardous phase of flight training.

ARMY PARATROOPERS TRAINED MCJUNKIN

Army Trains Navy Teacher

Takes Airborne Course at Benning

The Navy's Pre-Flight School landed a one-man task force at the Army's Infantry Center to study airborne techniques.

Ltjg. Russell E. McJunkin, a physical fitness instructor at the U. S. Naval PreFlight School, Pensacola under the command of Capt. B. M. Strean, has just returned from the Airborne School at Fort Benning, Georgia, where he gathered instructional data and got practical experience in the fundamentals of parachuting.

Ltjg. McJunkin was a student in the Army's four-week basic course in parachuting. A member of the Pre-Flight staff for the past seven months he volunteered to attend the Army course before setting up the new parachute training system here.

McJunkin is now responsible for the Pre-Flight School's parachute training program. The training will be made part of the gymnastics course. Twelve hours will be spent in studying parachute techniques. Parachute jumps will be simulated for the men being trained through use of a 12-foot swing landing trainer.

The purpose of the Pre-Flight course will be to increase morale, and to eliminate injuries to pilots who might be forced to make a parachute jump.

BELL'S MASHMAN BRIEFS CAPT. ENGELHART

'Copter Syllabus Extended

HTL-6 Checkout Included in Course

With the arrival of the first two of 24 new HTL-6 Bell helicopters for HTU-1, Ellyson Field, Pensacola, the unit has extended its training syllabus to 30 hours, to allow for additional operational training in the new craft. The class which started in early April is the first group under the new program.

The HTL-6 is an improved version of the HTL-5 now in use. A hydraulic booster mechanism replaces the irreversibles and eliminates feedback to provide smoother control. The elevator connected to the controls provides greater longitudinal stability in forward flight.

An improved rotor blade decreases drag and increases the rate of climb over that of the earlier model. Minor modifications have been made to increase the efficiency of the engine. Additional fuel carrying capacity increases range.

Compressor Blade Cleaner

FASRon-6 Chief Designs New Tool

A tool developed by D. J. Amuchastegui, AMC, of VC-6 is reported to save better than 60% of the normal number of man hours required to clean the compressor blades of the J-34 turbojet engine. Usually 32 man hours were required to do the job, but this has been

BLADE CLEANER IS USED ON J-34 ENGINE

reduced to approximately 12 man hours by use of the new cleaner.

The tool operates on a cam principle which results in the shaft supporting the sander which is padded on both sides and end with a soft sponge rubber. This allows the emery cloth to fit the contour of the compressor blade and also prevents possible damage to the compressor when sanding near the root of the blade. By using a standard air drill as the power unit, the speed at which the sander operates may easily be controlled.

Salvaged material was used to construct the cleaner, so the cost of the tool was negligible. The cleaner has been approved by the BuAer Incentive Awards Committee for optional adoption.

THE FIRST *fleet maintenance inspection of an aircraft at the El Segundo Division, Douglas Aircraft Co., was held recently when representatives of BuAer, ComAirPac, ComAirLant and units under these activities, and service personnel from Patuxent River, met and scrutinized the Navy's biggest carrier based aircraft, the Skywarrior. The 29 men who participated made a three-day tour of the plant and sat in sessions on operation, power plant and assembly of the A3D.*

SQUADRONS RECEIVE NEW P2V-7'S

EVERY INCH *a warrior, the new Neptune is admired by crew members of VP-19 at NAS Alameda. That squadron and VP-18 of NAS Jacksonville are first operational squadrons to get P2V-7.*

THE OPERATIONAL versions of the new P2V-7 *Neptunes* have reached the Fleet. The first of these combination jet and propeller-driven aircraft were accepted by Cdr. John T. Straker, CO of VP-18 based at NAS JACKSONVILLE, and Cdr. Francis P. Cuccias, skipper of VP-19 based at NAS ALAMEDA.

After flight-testing the new aircraft, Cdr. Cuccias said, "The P2V is unquestionably the best of the seven *Neptune* models that have been built." Cdr. Cuccias was basing the comment on 12 years of flying Navy aircraft; he has flown five of the seven *Neptune* models.

The P2V-7 was built after Lockheed sent a team of engineers and test pilots to various squadrons in the Fleet which were using earlier models in order to determine what improvements pilots and crews required.

The new aircraft is powered by twin Westinghouse J-34 jet engines and twin Wright compounded *Cyclone* piston engines. The plane is slightly longer and heavier than its predecessors and contains all the latest electronic gear.

The cockpit has been completely changed to increase pilot comfort. Throttles, jet throttles, mixtures and prop switches as well as the fuel and de-icer panels are now located overhead between the pilot and co-pilot. To improve vision, the windows have been enlarged so that the pilot can look back to see the rudder, or even straight down without effort. The windshield is electrically heated to prevent fog and ice formation. The bomb bays have been enlarged so that the plane can carry a much greater and more varied ordnance load a great improvement.

CAPT. *E. J. S. YOUNG, CO of FAW-11, observes VP-18 acceptance of the P2V-7 Neptune.*

The P2V-7 aircraft is adapted for rocket attack, night torpedo attack, mine laying, mast level bombing and photographic reconnaissance. Using powerful radar and other detection devices, the *Neptune* is well equipped to carry out the various anti-submarine missions it is assigned.

● The Armour Research Foundation has perfected a new high altitude breathing gauge which permits pilots to operate breathing apparatus more efficiently.

CDR. CUCCIAS *accepts the P2V-7 from Pilot Jay Beasley and Bob Keiser of Lockheed.*

VC-61 Flight Hours Topped

Pilot Flies 117.4 Hours One Month

Lt. Harry "Buzz" Henderson was dubbed with the additional nickname of "Raccoon Eyes" by his fellow pilots when he flew over 117 hours during the month of March, more hours in a single month than any pilot in VC-61's six year history. The nickname celebrated the large circles around his eyes made by long use of goggles.

All but 8.9 hours of the total was jet time; none of the time was logged during cross country flights. March was the fattest flying month of his naval career. Halfway through the month, Buzz found he was racking up a large number of flight hours while qualifying for deployment with photo detachment Fox. During the remainder of the month, he made extra efforts to complete the aerial phase of the training.

LT. HENDERSON AND LT. JOHNSON, O-IN-C

Lt. G. M. Johnson, O-in-C of the Detachment, gave Henderson a large cartoon commemorating his achievement.

VF-43 Pilots Win 'E's'

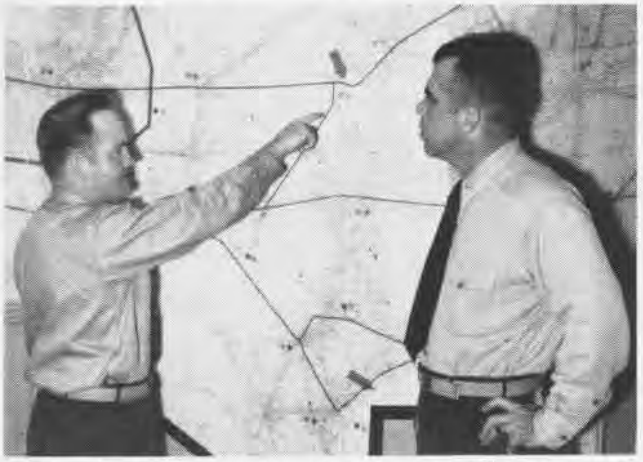
Pace for Eight Set by Ens. Berner

Eight eagle-eyed pilots from VF-43 have been awarded Gunnery "E's" for their accuracy in air-to-air competitive gunnery exercises at Guantanamo Bay. Although their combined averages were not high enough to warrant the awarding of a squadron Dew Jug, it did bring them near the percentage held by VF-22, present holder of the "Jug."

High man of the eight was Ens. William Berner. Cdr. J. R. Dierker, squadron CO, Lts. Robert Elshire and Robert Howard, Ltjgs. Walton Smith, Donald Sommer, Harold Wellman and Ens. Russell Barnhart, were the other seven to receive "E's."

Flying 1,030 hours during its four-week stay at Gitmo, the squadron maintained an outstanding 97% availability.

YOU PICK THE PLANE, VR-31 HAS THE PILOT



PILOTS *who ferry aircraft for VR-31 receive briefing on existing weather conditions along the routes which they are scheduled to fly.*

VR-31's ROAD *liaison officer, LCdr. G. H. Whisler, not only renders special service to ferry pilots at all stops but also ferries planes.*

PICK ANY plane in service with the U. S. Navy today and Transport Squadron 31, based at NAS NORFOLK, can come up with a pilot to fly it. Being checked out in six to eight different types of aircraft is average for most pilots, but in VR-31, the pilots are qualified to fly, on an average 15 different aircraft.

They need to, for it is their mission to ferry aircraft within the continental limits of the U. S. Whether it be the latest jet off an assembly line, a helicopter or a basic trainer, VR-31 has a man who can fly it to its destination. VR-31 does not, however, fly four engine transports of the R5D and R6D variety. Squadrons using these types must ferry their own aircraft.

Forty-five of the 64 pilots of VR-31 are officers and 19 are enlisted men who have been designated aviation pilots. Three of the latter are first class petty officers; the rest, chiefs. An all-enlisted crew from the squadron set a record a year ago when it ferried a P5M-1 *Marlin* seaplane from the Glenn L. Martin Company in Baltimore to San Diego. It was the first non-stop coast-to-coast flight for the P5M.

A chief aviation machinist's mate (AP) is tied with a lieutenant for the squadron's record for being qualified in the largest number of Navy aircraft. Both are qualified in 29. A chief aviation electrician's mate (AP) has the greatest total of flight time in the squadron—over 7,710 hours.

This past year VR-31 averaged 2,632.9 flying hours per month. The squadron flew an average of 501,506 miles a month, or the equivalent of 20 trips around the world. During the same period of time, an average of 218 deliveries was made each month. Pilot experience is attested to by the squadron's outstanding safety record.

Pilots and crew members receive no special Navy schooling prior to their assignment to VR-31, but there are courses conducted within the squadron to check out pilots inexperienced in certain types of aircraft. Fellow pilots acquainted with the planes are instructors.

Ferrying is done on a priority basis. Certain types of aircraft may be in great demand and receive a high priority for transfer. Others designated for routine overhaul are ferried whenever they can be conveniently scheduled.

VR-31 works with VR-32 based at San Diego, and both squadrons are under Fleet Logistics Air Wing, Atlantic Continental. Thus VR-32 has the unique distinction of being the only West Coast squadron under an Atlantic command. West of the Mississippi River, VR-32 has the responsibility for ferry assignments, while VR-31 handles all traffic east of that dividing line. But it is almost routine for crews, arriving in the wrong half of the country, to receive orders from the other squadron.

VR-31's skipper, Comdr. J. H. R. Fehler, USN, who has been in command almost a year and a half, does his share of ferrying. He says, "Our pilots have new experiences all the time with various types of aircraft. But they have the technical knowledge and training to cope with all sorts of problems and invariably come out on top."

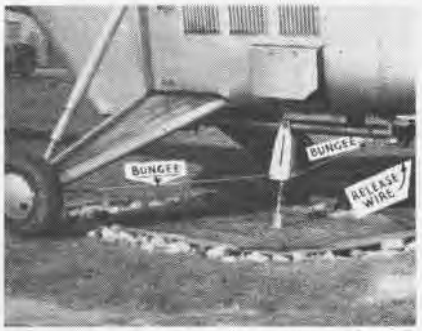
Both VR-31 and VR-32 let nothing deter them from delivering aircraft as efficiently and swiftly as is possible.

THOROUGH *pre-flight check of every plane is important step before take-off for VR-31 men.*

PER DIEM *check for expense incurred while on road is received by D. K. Mitchell, ALC(AP).*

HELICOPTERS 'HARPOONED' TO DECK

THE ROYAL Navy has successfully designed and tested a "harpoon"-type arresting gear. The Admiralty had issued a requirement that ASW helicopter operations are necessary along the North Atlantic trade routes from vessels which are rolling at 20 degrees. The high C. G. in helicopters and the



GRILL LIKE THIS WOULD BE BUILT ON SHIP

relatively narrow landing gear make landing operations hazardous under such conditions.

LCdr. John Sproule approached the landing problem with the idea that helicopters can best be landed at the instant the ship is nearly level, provided there is a positive method of arresting and securing the helicopter.

The harpoon gear which he designed consists of a detachable harpoon secured to the under side of the helicopter fuselage. A grill of steel bars is built into the landing area. Bungee restraining cords attached to the harpoon receptacle and connected to strong points on the helicopter permit some movement of the harpoon after landing or allow the harpoon to slide to one side in case a landing is made outside the grill area. A simple release wire in the cockpit retracts the spring-loaded pin and frees the harpoon for take-off or stowage of the helicopter.

INVENTOR SPROULE AND 'COPTER HARPOON

The arresting gear has been well received because it permits the pilot to judge the best instant to touch down. It gives quick and positive arrestment and is equipped with a simple means of release when the pilot decides that conditions for take-off are exactly right.

• Fledgling pilots at NAAS Whiting Field tallied up another record setting month in March by flying more than 32,000 flight hours. Previous high for the station was 31,616 hours.

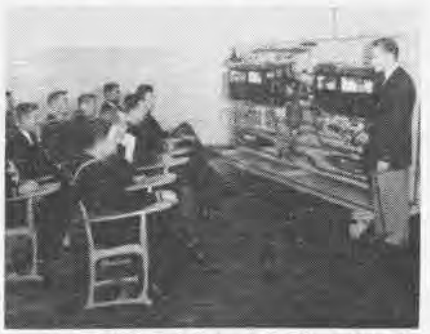
WELCOME *aboard to newly-commissioned VA-216. The new squadron is flying AD's and is currently attached to ATG-4, Moffett Field, CO is LCdr. F. W. Ault, XO is LCdr. R. D. Vanderberg*

First F4D Class Graduates

Douglas Aircraft Teaches Navy Men

The first class of Navy enlisted men completed their final examinations recently to qualify them as instructors for the F4D *Skyray* systems. They did this after four weeks of intensive instructions at the El Segundo plant of Douglas Aircraft.

The 20 men were assigned from NATTC MEMPHIS to learn the intricacies of maintenance and repair of the speedy jet fighter soon to join Fleet Units. They will be sent to naval commands to instruct others in the operation and servicing of the F4D systems.



FUEL SYSTEM IS EXPLAINED BY W. J. YOUNG

Mobile training unit panels of the various systems of the F4D were used at the school to provide the proper technical training. A complete set of panels will be shipped to a naval station on the East Coast and another to the West Coast to assist the instructors.

To aid the new teachers further, about 800 35mm slides will accompany each panel as well as the lecture data.

Refueling Record Claimed

VMF-533 Qualifies 30 in One Day

According to MCAS CHERRY POINT, VMF-533 of MAW-2, may have established a new Marine Corps record when it qualified the entire squadron in air-to-air refueling in one day. Thirty pilots accomplished this technical phase of air operation during training exercises at NAS SANFORD on 30 March.

The exercise was held in conjunction with VC-9. Five F2H-4 *Banshees* were used. Each pilot was required to make four refueling contacts, and return to the base.

During 59 flight hours, a flat tire on one of the jets was the only mishap.

AVIATION ORDNANCE

VX-3 Invention Saves Time

Crew Designed It to Boresight FJ-3's

The aviation ordnance crew of VX-3, based at NAS Atlantic City has put together a home made tool that will save a day of work when boresighting inboard guns on the North American *Fury*.

The new device consists of a straight rod of metal, forty inches in length and a half inch in diameter, with a ⅜ inch female rachet extension welded on one end and ½ inch socket welded on the opposite end. Using this tool saves time by eliminating removal of the blast panel, which is secured to the plane directly in front of the gun by 90 Phillips head screws.

Ordinarily it takes considerable time to mount and dismount the blast panel each time the gun is adjusted. In contrast, all that is required to use the new tool, is to unfasten eight stabilizer nuts forward of the gun's after-chamber, which in turn, allows movement of the gun barrel for making rapid and accurate adjustments. In addition, leaving the blast panel secured to the plane increases safety when firing the guns to test accuracy.

In the method normally used to boresight a gun on the FJ-3, it would take anywhere from one to two days work, depending on how many times the blast panel had to be removed and adjustments made on the gun. With the new method, it takes one man about 20 minutes to boresight a gun on a *Fury*.

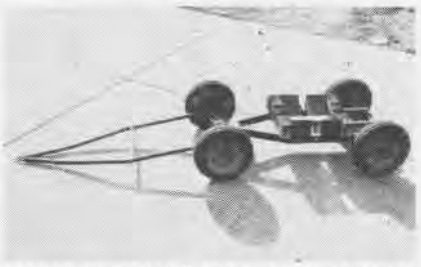
Men of the VX-3 ordnance crew, have already used the time saving tool successfully. It is expected that it will prove very valuable to the Navy in the boresighting of guns on the FJ-3 aircraft.

Bomb Trailer Accessory

NAS Quonset Men Develop Device

Until such a time as there is a special aircraft torpedo trailer, fleet air squadrons using Bomb Trailer Mk 2 to transport and load torpedoes can profit from an idea developed by two Quonset men, K. B. Mears, TMC, and W. E. Fitzgerald, AO1, of FASRon-101. By replacing the standard trailer tongue with

MEARS, FITZGERALD USE MODIFIED TRAILER



TRAILER WITH 76½" TONGUE AND CHOCKS

a longer one, Mears and Fitzgerald have improved the maneuverability of the trailer and reduced the possibility of damage to the torpedo. NAS Quonset has adopted this idea for use in its AUW shops.

In the past, because of the overhang of the torpedo, it was necessary to hook an empty trailer between the towing vehicle and the loaded trailer. To complicate matters further, the torpedo was subject to damage from the tongue when the trailer was hauled over rough terrain.

This problem has now been solved. By substituting a 76½-inch tongue fabricated from scrap pipe for the standard 40-inch tongue, and using wooden chocks fore and aft of the permanent trailer chocks, Mears and Fitzgerald have simplified torpedo handling procedures and reduced repair costs. These two additions do not permanently alter the bomb trailer. The original tongue can be replaced in a matter of minutes.

New Rocket Motor Shown

British Test New Spectre Engine

The de Havilland Engine Co. has lifted the curtain slightly on a new liquid propelled rocket engine called the *Spectre*. Especially designed for high performance interceptor fighters capable of achieving supersonic speeds, the engine can operate in rarified atmospheres beyond the capabilities of the conventional air breathing jet engines.

In 1953, de Havilland announced the development of the *Gyron*. Further experience was gained with the design of the *Super Sprite* assisted-take-off rocket, the first British liquid-propellant rocket engine to pass government test. In its construction, the *Spectre* will combine principles of both these powerful engines.

The new engine will be flight tested this summer after test-bed firings.

Management Guide Ready

Ordnance Manual Outlines Practice

A new Ordnance publication is likely to be a "best seller" if early interest is indicative. Entitled *Management Manual for Ammunition Depots*, it is now being distributed by BuOrd.

Compilation of the work was begun in late April 1954. The committee who compiled it aimed to provide ammunition depots with a clear statement of management goals, a pattern of standards for measuring management effectiveness, and guide to improvement.

The committee has succeeded in not only making the presentation readable, but also a publication attractive enough to merit a place *on*—not *in*—the CO's desk.

Included among the chapters of loose leaf bound OP 2184 are these: *Command Administration, Organization Management*, and *Material Planning and Control*. It is planned to convene a revision committee each summer to correct the manual, keep it up-to-date, and expand it as needed.

AFTER *each of the Davenport brothers, Chas. E. (L.) and Wm. T. won VF-31's "Laneman of the Month" award in March and April, they squared off to decide the boxing winner.*

LETTERS

SIRS:

Naval Aviation News has always been a publication widely read by Naval personnel. This has been well shown recently by the response to the article "Bartu is Reserve Corps of Experts" in the May issue.

This article which describes the BARTU program sponsored by BUAER has been commented on by many persons as being excellent. . . . In a specific case, the effect of this article is evidenced in the Las Cruces-White Sands, New Mexico area where a group of officers requested formation of a BARTU as a result of information received.

May I congratulate you and your staff for the fine work you have done in reporting accurately the information concerning the program and for the interesting approach which it has had for your readers.

N. O. ANDERSON, CAPT.

15 VA-125 Pilots Win E's

El Centro Deployment Successful

Fifteen VA-125 pilots based at NAS MIRAMAR have returned from deployment at NAAS EL CENTRO with E's in bombing, rocketry and strafing. A special E goes to the squadron's maintenance and night check crew who worked day and night to keep the planes flying.

Skippered by Cdr. B. E. Hackett, the squadron, operating as a unit of CAG-12, flew 1038.9 hours in 16 flying days for an average of 64.8 hours per day. Average availability during deployment was 84%.

NEAT *lines of Panthers and Skyraiders attest the might of the USS Kearsarge in Subic Bay, P. I. She has just returned home after her third tour with the Seventh Fleet.*

IFR-IQ?

Yes, what do you do? Let's have some answers. Address them to: Editor, NANews, Op-05A5, Navy Department, Washington 25, D. C.

SIRS:

For the past week, I've been working on a chapter on the helicopter, its history, uses, aerodynamics, etc. Of special interest to me was an article in the NANEWS, August 1951, called *da Vinci Vindicated*, a helicopter roundup story covering just about the same ground as my chapter. It's a fine story and tremendously helpful.

I'm now going to start keeping a file of NANEWS. The annual index is especially valuable. The NEWS is just about the best reference source there is. Can you tell me whether it would be possible for us to buy back issues for the last couple of years?

RICHARD G. FULLER

KLING STUDIOS
CHICAGO, ILLINOIS

Yes, copies of NANews as far back as January 1953 with the exception of August and November 1954 can be obtained. They are available through the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Price is 20 cents each.

LTJG. *Charles I. Garrett, Jr., recuperating in Guantanamo Bay, expresses appreciation for quick 'copter rescue to pilot Ltjg. D. B. Bennie. Garrett ejected from crippled F9F-8.*

★ Pictures in the Al Williams story courtesy of Jack Williams, Elizabeth City, N. C. Photo, P. 17, top, left is Copyrighted.

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Naval Aviation News is now available on subscription for a $2 check or money order made payable to Superintendent of Documents, Government Printing Office, Washington 25, D. C.

● THE COVER

Not Fourth of July fireworks, but Marine Corps rocketeers firing on a night mission during Korean war.

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SQUADRON INSIGNIA

Squadron insignia this month represent three Navy organizations and one Marine squadron. The 'Fleet's service stations,' FASRon-2 and FASRon-11, depict their missions with a wrench carried by a winged arm and a bird respectively. The latter gives a lift to a disabled carrier-based jet. VA-85's winged bomb, superimposed above a layer of clouds, epitomizes the mission of the heavy attack squadron in carrying the war to the enemy. VMIT-20's owl with mortarboard steers a course atop the Marine Corps emblem to show the squadron's mission, the training of pilots in instrument flying.

FASRon-2

FASRon-11

VA-85

VMIT-20

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