NAVAL AVIATION NEWS

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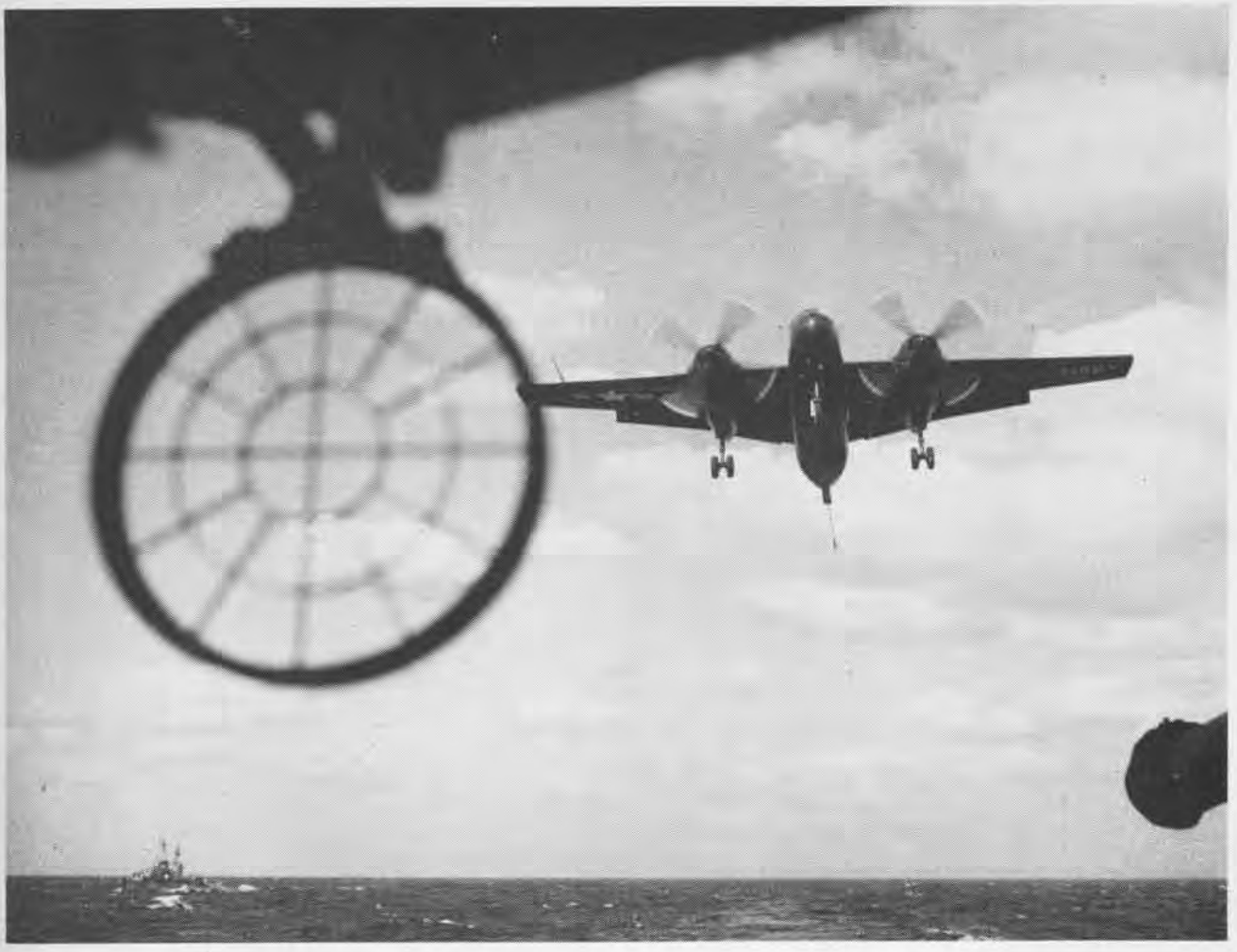
A LOOK AT THE NEW TIGERJET

Newest of Grumman's famous "cat" series is being produced for the Navy. A large order for the swept wing jets has been placed. The F9F-9 Tigercat is powered by a Sapphire J-65 engine and flies at supersonic speeds in level flight. It is the Navy's first fighter jet aircraft with the "coke bottle" fuselage design.



VC-6'S HEAVYWEIGHT CHAMPION

WHEN AN 18-ton airplane drops onto a carrier deck in the western Pacific, the situation is unique in more ways than one.

The AJ-2 *Savage* is itself an unusual carrier-type aircraft. It is also the Navy's all-weather atomic bomber, ready to strike powerfully from the flattops of the Pacific Fleet.

No wonder curiosity soars when the *Savages* fly aboard. Powered by three engines—two conventional and one jet—and carrying a crew of three, the *Savage* is capable of accurate long-range, high altitude delivery of atomic weapons. The aircraft and the squadron which operates it, represent Uncle Sam's readiness to strike back quickly and effectively if the United States or its allies should be attacked in the Far East. A mighty sentinel, it should be a deterrent to war.

In the Atlantic Fleet, other squadrons possess the capabilities which VC-6 alone has in the Pacific. Composite Squadrons Five, Seven, Eight and Nine operate from carriers and bases off America's other coast as part of its airborne protection.

VC-6, based at NAS SAN DIEGO, is proud of its airplane. The men who fly the AJ know that, regardless of its size and weight, it performs well and handles easily, even in carrier landings. Cdr. Ralph Thudium has described flying it aboard in these words, "Just like driving a Cadillac into the driveway. It's just as easy as that!"

Though the *Savage* goes aboard easily so far as the pilot is concerned, its weight produces heavy stresses on the flight deck as the AJ's 37,000-pound hulk drops aboard at approximately 95 knots.

PERCHED *on carrier's deck-edge elevator, AJ is ready to be taken below. Vertical stabilizer folds to clear the hangar deck overhead.*

MIDWAY-CLASS carriers were built to handle the AJ, but other attack carriers in both fleets had to be "beefed up" to absorb the *Savage's* landing impact. The AJ can take off after a normal deck run or be catapult-launched.

Though unusual in many ways, this tailhook A-bomber folds its wings for carrier stowage just like any other carrier plane. Because of its height, however, the vertical fin and rudder must also be folded before the plane can be taken below on the deck-edge elevator.

There was a day when the *Savage* was unfamiliar to carrier crews and its great size presented problems in shipboard handling. Today, however, the AJ has carved its niche in shipboard life and fits comfortably into the carrier routine with regular air groups. Now, with its recently acquired in-flight refueling capability, the AJ can extend the range of the carrier's smaller planes with the probe and drogue system.

VC-6 has been referred to as "AirPac's Sunday Punch." Long before this title was earned, members of the squadron wore an insignia which symbolically implied the same thing. The Greek letter *Omega*, a triton and a fleur-de-lis, mounted on a shield-shaped patch, indicate that VC-6 is the "ultimate in sea power." The insignia is worn with tremendous pride because the members of VC-6 have an uncommon responsibility in both attack and fleet support.

The three-man crew of the AJ consists of a pilot, a bombardier-navigator and a third crewman.

THE PILOT, who is the plane commander, sits in the left seat where he drives the plane with a "yoke" and controls the three engines with throttles mounted on a center console. Old carrier pilots who thought that no plane would ever go aboard ship with anything but a stick and left-hand throttles are universally amazed at the ease with which they adapt themselves to the unique AJ cock-pit arrangement.

The bombardier-navigator, or "three-headed monster" as he is referred to in heavy attack circles, could easily utilize three heads and four arms in the performance of his many in-flight duties. Occupying the right seat, he must operate a radar set, a bombing system, several radios, and perform radar, celestial and dead reckoning navigation. Most bombardier-navigators are naval aviators, but a few are aviation ground officers who have flight orders.

TWO TURNIN' *and one burnin', the Savage looks almost like a seaplane. Combination of props, jet engine gives a high performance.*

The third crewman's responsibilities are also diversified. He assists both the pilot and the bombardier in their work, performs the duties of radioman, keeps a lookout for intercepting aircraft and makes in-flight adjustments and repairs to the plane's equipment. A few of the squadron's third crewmen are qualified bombardier-navigators and frequently serve as in-flight instructors.

VC-6 is a big squadron any way you look at it, but from a personnel point of view it is really surprising. In order to operate and maintain a complex aircraft, rotate personnel to and from the Far East and train new personnel to replace those going to shore duty, many officers and men are required. Almost every aviation rate and several surface rates

WITH THE *"Sunday Punch" aboard, the Midway is an even more potent weapon. Large as carrier is, AJs still look big, but land easily.*

are included in the squadron's allowance. Even a quartermaster can find a home in VC-6.

"Versatile" is a good description of the crews that maintain and fly the *Savage*. They must thoroughly understand two types of engines, a complicated bombing system and numerous electronic, electric and hydraulic systems. Though operating mostly at shore bases, they must be prepared to "go aboard" on short notice and continue their duties underway.

The squadron utilizes every type of pilot from brand new ensigns to veterans with three-volume log books. When a pilot reports to the squadron, he is placed in training as a plane commander or bombardier-navigator on the basis of his rank, experience and background.

Cdr. Ronald F. Stultz, commanding officer of VC-6, explains that pilots with both single and multi-engine experience are valuable to the squadron. "Officers with varied backgrounds give us a well-rounded outfit", he says. "By exchanging trade secrets, they improve their individual proficiencies and the squadron's general capability. By mixing up carrier and patrol pilots who have flown both conventional and jet aircraft, we manage to lick our training problems."

In an aircraft which has both jet and reciprocating engines, the range and equipment of a patrol plane, and the capability of operating from a ship or a land base, a lot of good heads

CDR. R. F. *Stultz, VC-6 CO, briefs squadron pilots. Some have multi-, some single-engine backgrounds, making outfit well-rounded.*

have to get together to come up with the right answers. In VC-6, talent and teamwork are effectively used.

After a short exposure to the squadron's "working atmosphere," patrol plane pilots who had never seen the stern of a carrier have driven the AJ aboard like veterans.

To understand what a squadron like VC-6 means to the striking force of the Navy, let's look at a routine training mission from beginning to end.

When the crew is assigned its mission, the plane commander directs preparations to take the plane from its base to the carrier from which it will operate. After landing aboard, the crew is briefed on its target. The plane commander and bombardier-navigator then plan their attack and make the necessary shipboard preparations. By the time scheduled for launching they have completed their route

SAVAGE *can take off after a normal deck run, or be catapult launched. Squadron mechanics have to be versatile, with two engine types.*

preparation and target study and have supervised the loading of their aircraft.

The AJ is poised on a catapult when the crew climbs aboard. The pilot starts the reciprocating engines and checks them out. Just before launch time he fires up the jet. The flight deck crews cover their ears to protect them from the piercing screams of the jet which wails over the roar of the props as they are turned up at full power.

The huge aircraft, weighing almost half again as much as it did when it arrived aboard, is shot into the sky, carrying in its cavernous bomb bay the power to wreak more destruction than could be dealt by the carrier's entire air group with conventional weapons. Alone the AJ ascends to the stratosphere on its deadly mission. In the words of LCdr. Henry Timm, "With two turnin' and one burnin',

SQUADRON *ordnance men begin loading small bombs on AJ. This long-range plane can carry an A-bomb, has a complicated bombing system.*

CLEARER *view of folding vertical stabilizer and rudder. Even with this adaptation, it is apparent that the A[is a tight fit for the cavernous hangar deck of the Midway. It is also apparent that deck-edge elevator is necessary to handle the A[s on this class carrier.*

she climbs like a homesick angel headed for heaven."

From its floating base, the *Savage* wings its way across a broad expanse of ocean to seek its target. The bombardier-navigator, extensively trained in target identification, stabilizes his cross-hairs on his aim point, far below. But when his weapon is released, his job is not done. Hundreds of miles away, a minute airstrip awaits him in the ocean wilderness and it has been steadily changing its position.

The third crewman scans the skies for interceptors which will have been stirred up by the *Savage's* presence as the pilot sets the course back to the new position of the ship.

The trip home is a long and dangerous one, but when the ship is in sight and signal "Charlie" is received, the crew returns aboard knowing it has delivered a telling blow for national defense. These men know that their "heavyweight champion" can carry them to an objective—and get them back. Constant training, positive maintenance, attention to details and grim determination are their strength.

Yes, it was just a training mission, but it could be real and devastating. If the need arises, the *Savage* is ready.

by Frank J. Shaw, LCdr.

VIEW *of Savage making an arrested landing aboard the USS Yorktown, while operating with Task Force 77 in the Far East China Sea Patrol.*

POWERFUL *A[taking off from Yorktown. The big plane handles very easily, its landings compared to "driving a Cadillac into a driveway."*

DART IS A NEW HIGH SPEED AERIAL TARGET

DART PICKUP IS ACCOMPLISHED BY FAST FLYING MC DONNELL F2H BANSHEE. PILOT THEN STARTS 30° CLIMB TO LIFT THE TARGET

THE DEVELOPMENT of a new high speed aerial tow target has been revealed by the Naval Ordnance Test Station at Inyokern, California.

Heretofore targets were towed at speeds of from 165 to 185 mph. The new cruciform design allows *Dart* targets to be towed at speeds in excess of 400 knots.

The nylon tow cable is snatched from the ground by a jet which immediately begins a 30° climb. Drag arcs the line so that the *Dart* is lifted without striking the earth.

It is chiefly made of plywood, with metal nose ballast and four faired radar reflectors. It weighs 145 pounds and measures 14 feet in length. In action, the target travels far below the tow plane, and the tow plane is out of the line of fire of stern attacks.

The new *Dart* target has been under test and evaluation for the past two years at the China Lake installation.

MISSILE-SHAPED DART IS BEING MADE READY FOR SNATCH BY FAIRJAX ORDNANCE PERSONNEL ASSISTING IN THE FLORIDA TEST

GRAMPAW PETTIBONE

Faith, Hope and—Crash!

An F9F-6 pilot was returning to the field after completing a flight to test the fuel control and complete the aircraft acceptance check. After making a high speed let-down from 40,000 feet to 15,000 feet, he noticed that the RPM was dropping off with the throttle in a fixed position.

The pilot called the tower, stated his condition and declared a deferred emergency. At approximately 10,000 feet, the RPM dropped off to idle so the pilot called for an emergency landing and prepared to make a flame-out approach. At this point we take up the statement of the pilot.

"I hit my initial point over the runway at 8,000 feet, dropped my wheels and flaps, slowed to 165 knots, and followed the prescribed flame-out procedure for the F9F-6. I was in good shape, until I hit the 90° position in the pattern at which time I thought I was going to overshoot the runway.

"I adjusted my turn and then turned back to the runway, but I lost too much altitude in the turn and saw I wasn't going to make it. I pulled up my gear and flaps to give me a little more distance to clear the road, cars and gate house. I pulled the throttle around the horn and turned off the switches. I could not tell exactly when I was going to hit the ground as the sun was setting, and it hit me right in the eyes blinding me. The plane came to a stop about a thousand feet short of the runway."

Grampaw Pettibone Says:

Now let's just hold on a minute, bub. I'm not so sure you weren't hit right in the eyes before you took off. It's a lead pipe cinch you were short something, and it wasn't just the runway.

The Board assessed the primary cause of this accident as failure of the fuel control unit, but you and I know it isn't so. In the first place, there is no indication in the accident report that you knew what the specific purpose of the flight was. Had you known, you would probably have switched from primary fuel system to emergency at the first sign of a drop in RPM, and this accident would never have occurred.

On the previous flight, the test pilot reported that the fuel control stayed at 85% after he had made his let-down. A mech turned up the plane to determine the cause of the trouble. He ran the throttle full forward and received only 85% RPM. He then switched from primary to emergency fuel system and the RPM advanced to 101.5%. Switching back to primary, he ran the engine up six times, each time getting 100%, so the aircraft was put back in the "up" condition for your flight.

Son, maybe you thought that what you didn't know wouldn't hurt you. This reminds me of one day on the farm. The farmer said, "You gotta know more than the mule to drive it." There's more truth than poetry to that bit of sagacity, and it's just as applicable to aviation.

What really gets me is how a pilot so obviously inexperienced (516 total hours—72 in type) will take it upon himself to test flight a piece of equipment that has a discrepancy record a mile long and not even bother to find out what to do in case it fails. (Pass me that other Empirin bottle, Andy, I just finished the old one.)

If that young fella hasn't put his hip out of joint from kicking himself in the posterior, I'll bet a plugged nickel he'll divert some of that energy into the proper channels on his next test flight. It's a mighty hard way to have to learn, but we are glad he came out of it as well as he did. Faith and hope are all right on a blind date, but in aviation, LOOK OUT!

Dear Grampaw:

As part of our fighter squadron safety program, the pilots of this unit are urged to "chit" their brothers, should they give evidence of an unsafe or hairy flight procedure, whether it be through misfeasance, malfeasance, or nonfeasance. These chits are then read at Kangaroo Kourt and an appropriate fine is levied by the Judge.

Knowing of your unending interest in flight safety, and having seen poems printed in your column from time to time, I am enclosing one of our recent chits. The incident took place during night FCLP at Cecil Field. The "accused," whose name is not mentioned, was behind the "accuser" in the pattern.

Your Honor, just listen and you shall hear
Of a hairy tale that will bring you fear.
The night was black and the clouds were low,
When out of the gloom came "Cut-out" Joe.

"Check right!" a quavering voice came through
'Twas heard by all on Channel Two.
All heads turned right including mine
A reflex dive and just in time!

Across my bow with nary a zoom
Went "Cut-out" Joe like a witch on a broom.
Did I get shook? I'll put you right,
I did not get a "cut" that night.

To think that guy would cut out a friend
Just pains my heart and hurts my end.
I got in bad with the parachute riggers,
For the holes in the chute were not from chiggers.

Honorable Judge, a charge is in line,
I give you the culprit so now levy the fine.
When flights get that hairy, especially at night,
We young bucks all turn grey from fright.

Yours for safer flying,
———, LCDR, USN

Grampaw Pettibone Says:

Throw the book at him, Judge!

Plan Your Scan

After a routine pre-flight inspection, a pilot of an H04S-3S departed on a formation tactics flight. Thirty-five minutes later and at an altitude of 900 feet, a sudden loss of power was experienced, followed by a surge, and the engine cut out completely.

The pilot put the helicopter into autorotation and instructed the co-pilot to change gas selector, put mixture into auto-rich and use the primer in order to restart the engine. Re-start was unsuccessful, and the pilot was forced to land in a plowed field where the helicopter sustained "C" damage owing to the fact that the main rotor struck the tail cone.

The fuel gages indicated the same amount of fuel as on take-off, 278 pounds in the rear tank and 300 pounds in the forward tank. The forward tank was empty. The needle was stuck in the 300-pound position.

Grampaw Pettibone Says:

I must say you lads were really cooking without gas. It seems that a couple sets of eyeballs were stuck too—only they were stuck in the 270 position. The prize statement of the accident report was where the pilot said, "All instruments were reading normal when take-off was made. At this time the co-pilot made a check of the gas gages and noted the needles both depressed with the fuel quantity test switch." I'll bet a peso he wishes he could retract that statement.

If the needle on the forward tank had dropped below 300 pounds when the fuel quantity test switch was actuated, it wasn't about to climb back up to 300 pounds and stick there since there couldn't have been more than 200 pounds in the tank to start with. How else could they run out of fuel in 35 minutes of normal formation flying? As a matter of fact 200 pounds at normal fuel consumption would allow about one hour of flight.

It appears to me that some one else is stuck for a share of this accident too, the man who didn't refuel the aircraft before the flight.

But let's assume that there were 300 pounds in each tank. There is a simple system called "scanning" that has been adopted by aviators who never have accidents. They go on the theory that there is only one thing that will keep an aircraft in the air, and that is POWER. By planning a scanning system where at periodic intervals they can, in a second or two, tell that the power gages are reading normal, they can sit back and enjoy each flight without worrying about something unexpected happening. Number one on the list of gages is the fuel gage.

It wouldn't take a POOR scanner longer than 20 minutes to figure that the needle on the gage was stuck, especially if the fuel consumption was 600 pounds an hour. Like the old saying, "It's better to have scanned and lost than never to have scanned at all."

I'm afraid I can't say much for the air start procedure either. He should have put the mixture in idle cut-off, instead of auto-rich, and we might never have heard about this incident. While I'm at it, I'll toss a bouquet of dandelions to the investigating board. They made no mention of either the air start procedure or the low quantity of fuel in the forward tank. As a matter of fact they blamed the accident on the poor old fuel gage needle.

If such a finding is to prevent a recurrence of this sort of thing, my advice is to dispense with fuel gages and use "dip sticks". When not being used for measuring fuel, they can be used for plotting navigation, marking places in radio facilities charts, and slapping pilots on the wrist, when they forget to lower landing gear.

Dear Grampaw:

I would like to know why the check-off lists in all the airplanes aren't arranged the way pilots go over them.

All the pilots I have talked with and flown with go over the check-off list prior to the break at the ship or field. Usually we get every item except hook, wheels, flaps, and prop. In some planes these items are not at the bottom of the list. Someone certainly must have considered putting these items at the bottom of the list; therefore, I would like to know if you think the above procedure is forming a bad habit.

Respectfully,

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Lt. USN

Grampaw Pettibone Says:

Son, you brought up my favorite subject! There are many schools of thought on check-off lists. Some pilots prefer to have the wheels, flaps, and prop first and some prefer to have them last. But in the end it doesn't really make any difference as you have to go over the entire list and make certain each item is completed before turning final. If you go over the check-off list and get all items except three or four prior to the break, then complete those items from MEMORY, you have formed a bad habit. There has been many a wave-off and delay in operations around the carrier due to no hook. I might add that there have been a few no-hook landings too, but then we get off on a tangent.

There is one system that isn't surefire, but it seems rather popular with most pilots. It's called the "Four to go" system. If you have four items to complete after the break, you tell yourself "Four to go" and complete each item as you progress along the landing pattern. Of course, with this system you could conceivably do three and think of the fourth after you land. It would go something like this:

Dilbert said, as he clenched his fist,
"Dad-burn it, I went over the check-off list!
When I hit the break I had four to go,
Mixture rich and prop full low.
Flaps down half, how nice she feels,
And here I am without my wheels!"

THE NAVY HAS SPENT $37,000,000 ON NAMTC AND EVENTUALLY THE INSTALLATION WILL HAVE A VALUE OF $75,000,000

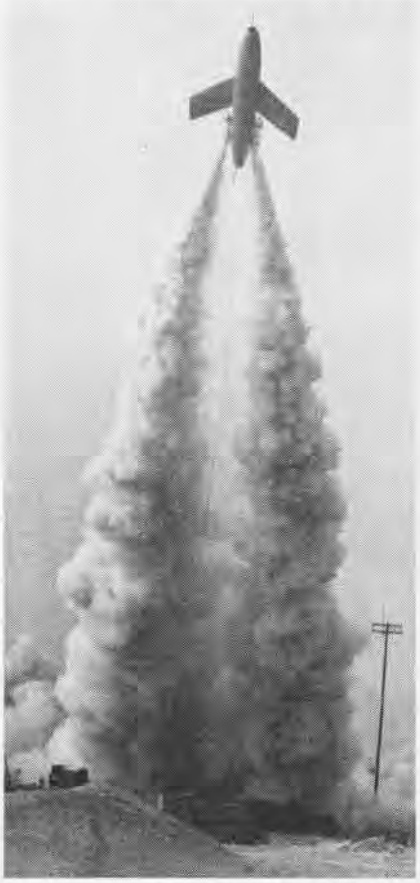
POINT MUGU, PROVING GROUND OF THE FUTURE

AERIAL weapons of tomorrow are flying today at Point Mugu. At the southern tip of Santa Clara River mouth, approximately 55 miles north of metropolitan Los Angeles, there is visible evidence that the push-button fantasies of the science fiction writers are beginning to come within the reach of man's technical ability.

At the Naval Air Missile Test Center (NAMTC), the experts pass judgment on the guided missile products of the Bureau of Aeronautics. This is the place where such new devices as Ryan's remote-controlled *Firebee* jet target drone, or Chance Vought's *Regulus*, or the Sperry *Sparrow*, are rigorously flight-tested.

The year 1944 is likely to be remembered as the year when something new and deadly in aerial warfare was introduced. It was then that the German V-1 weapons blasted England in WW II and thunderously announced to the world the coming of missile warfare. Those guided missiles touched off what amounted to a technological revolution in aviation and modified substantially the design of offensive airpower.

It is on this expanding technical frontier of aviation that NAMTC is shouldering its share of the fight for qualitative air supremacy. Its mission is to test and evaluate guided missiles and their components for the Bureau.



ROCKET ASSIST SENDS REGULUS SKYWARD

NAMTC Point Mugu is BUAER's over-water guided missile test range. It parallels the USAF Missile Test Center at Cocoa, Fla., and the Army's White Sands Proving Ground in New Mexico.

The test center was originally planned during WW II when the Navy realized that the weapons then under development would require extensive areas of land and water for proving grounds. Accordingly CNO, upon the recommendation of the Chief of BUAER, appointed an informal board of officers to determine the requirements of such an installation, then select the site.

After an exhaustive survey of the coastal areas of the United States and the Caribbean, the board selected Point Mugu as an ideal location for missile test work. The board's proposal was adopted, and on 1 October 1946, the Naval Air Missile Test Center was established.

A significant factor in the choice of the site was the proximity of the Channel Islands, which stretch majestically against the western horizon off Point Mugu. Several of these islands are equipped with radar, optical and photographic tracking devices, insuring a continuous and accurate record of a

missile's course once it has been launched from Point Mugu. The island tracking facilities are also utilized by guided missile launching ships such as the Norton Sound.

Outguard of the group, and most important to the work of NAMTC, is San Nicolas, a barren, windswept island of sandstone lying more than 50 miles off the mainland. "San Nick"—as it is called by those who serve there—was formally commissioned as a part of NAMTC in December 1946.

In the years following the establishment of the NAMTC, the area has grown from a few huts scattered on the beach to a modern city covering more than a thousand acres. The Point Mugu of today is a far cry from the quiet lagoon and Indian village that greeted the eyes of the famed California explorer, Juan Rodriquez Cabrillo, some 400 years ago. The friendly Chumash Indians living there at the time promptly dubbed the site of his landing "Mugu," which in their language meant "place of landing."

Today, the "place of landing" could perhaps be more appropriately described as a "place of take-off." Cabrillo's quiet beach is now seared, day after day, by great blasts of flame and smoke as the *Regulus* and other guided missiles streak seaward from NAMTC's launching pads.

Missiles take many forms. Each is designed for a specific mission that would fall into one of the following categories: air-to-air, air-to-surface, air-to-underwater, surface-to-air, and surface-to-surface.

No matter what their shape or mission, they all have one thing in common: they are very complex and, at present, expensive. Special telemetering equipment must be designed, so that the results of a brief missile flight can be recorded and interpreted.

The launching of a guided missile at Point Mugu is, understandably, a major operation. Before an actual firing can take place, hundreds of details must be checked and double-checked. The malfunction of a single two-dollar vacuum tube could bring about the loss of an entire missile.

Responsibility for the test and evaluation of guided missiles and their components is that of NAMTC's Test and Evaluation Facility, which is composed of five technical departments. These departments—Missile Test, Component Test, Range Instrumentation, Technical Information and Technical Service—are staffed with both military and civilian engineers and technicians. All of the departments are directly involved in, and responsible for, the testing activities of the Center.

Actual flight testing of guided missiles and pilotless target aircraft—such as Ryan's KDA-1 *Firebee*—is conducted by one or another of the three missile divisions of the Missile Test Department. The *Firebee* flight test program, to cite an example, is under the cognizance of Missile Division III, commanded by Cdr. R. M. Hayler. The NAMTC project officer on the *Firebee* program is Lt. George Miller.

The *Firebee* flight test program at NAMTC is currently in what is known as a "Phase A" Program. This consists of a joint Navy-Ryan evaluation of the *Firebee's* remote control equipment, performance characteristics, flotation capabilities and over-all suitability for Navy use as a target drone. A group of Ryan engineering personnel is assigned to Missile Division III to assist the Navy in this evaluation. A number of the high-speed pilotless jet target drones have been successfully air-launched and recovered from the sea off Point Mugu.

NAMTC's nerve center insofar as missile operations are concerned is the Flight Test Control area. Here can be found the instruments used for the final checkout of the missile on the launching platform; firing sequence timers; instruments that record the data pouring in from tracking stations; computers and analysers used in reducing the mass of data down to the exact performance characteristics desired; and special destructor controls to blow the missile to pieces in case it edges outside the limits of the range.

In a specially designed room at Point Mugu, a huge $3,000,000 electronic marvel that can perform approximately six million mathematical operations in five minutes running time is used by NAMTC personnel to work out equations and problems that would take an average mathematician at least four years to complete. Developed by the Raytheon Corporation of Waltham, Mass., the device checks itself ten times for accuracy before producing an answer.

RAYTHEON DIGITAL ANALOG COMPUTER PERFORMS COMPUTATIONS

MISSILE REGULUS SOARS FROM THE DECK OF USS NORTON SOUND

Largely owing to its unique mission, NAMTC is an unusual military installation in that the proportion of civilian personnel to military is so high. Specialists for the most part, this closely-knit team bears the primary responsibility for the success or failure of the Center's test work.

In view of the growing significance of the guided missile as a prime factor in national defense, it is to these men and their colleagues at Air Force and Army missile test centers that the missile designers and the production men of the future must look for ultimate guidance in planning their programs.

ADM. CLARKE BOARDS TV-2 FOR A FLIGHT

Adm. Clarke Solos in Jet

FAWTUPAC Instigates New Course

RAdm. R. S. Clarke, ComFAir Hawaii, recently completed a two-day jet transition course to become the first officer of flag rank to achieve this distinction at NAS Barber's Point.

Described as "a real eye opener", the course was instigated by FAWTUPAC's CO, Capt. W. I. Martin, to give senior officers of the Navy insight into the operational problems of jet aircraft.

The course, similar to that which is offered to all FAWTUPAC students includes indoctrination in the theory of jets and operation of the J-33 turbo-jet engine, various aspects of jet fuel, hydraulics, oxygen and other systems.

The Admiral holds a valid special instrument rating and has over 25 years of accident-free flying time.

Spare Time Flying Club

Kaneohe Marines Become Pilots

Fifteen normally ground-bound enlisted Marines have formed a group known as the Iki Manu Flying Club, and are hot on the trail of private pilot licenses. Ranging in rank from TSgt. to Pfc., the group originally contributed $50 each toward the purchase of a 1939 *Taylorcraft* which they now own.

The membership is limited to 15, but when a man is transferred, a new member may join. The ancient aircraft is the means by which all are learning to fly, and monthly dues go toward its upkeep and maintenance.

The men take their lessons half a stone's throw from the main gate of MCAS Kaneohe Bay, where the Kailau Sky Ranch flying field is located and from which the community-owned plane is operated. Marvin Killingbeck, civilian representative for Westinghouse in Hawaii, and advisor to jet squadrons at the station, is director and chief instructor for the group.

Officers of the club are TSgt. Rex R. Gillock, president; SSgt. Jack W. Smith, vice-president; and SSgt. Patrick E. Tennyson, Secretary-treasurer. Gillock is an aircraft maintenance chief, while the other two are engine mechanics. None, however, boasted any flight time until the club was formed except Smith, who holds a private license.

First man to solo under the auspices of the Iki Manu club was Sgt. B. Bob Ogden, also an engine mechanic.

THE AIRCRAFT *spotting system is explained to SecNav Charles S. Thomas aboard the USS Coral Sea which is operating with the Sixth Fleet in the Mediterranean. Flight deck control personnel with Mr. Thomas are (from L to r) T. L. Mallard, SA; F. S. Hurst, AN; J. T. Ferranti, ADC; and R. A. Durrett, ADJ. V.Adm. T. S. Combs commands Sixth Fleet; Capt. D. L. McDonald, the Coral Sea.*

FLASHING *a prize winning smile, Tina Berg accepts crew's $1200 donation to charity from Capt. J. H. Mills, Jr., CO of the Boxer, at ceremonies held aboard the CVA at Alameda.*

VF-191 Sets AirPac High

Squadron Deployed to NAAS Fallon

VF-191 has set a new ComAirPac gunnery record at the Navy's desert installation, NAAS Fallon, according to a ComAirPac release.

Of the 29 pilots participating, 20 had never made firing runs in the F9F-6 *Cougar* before. A squadron qualification average of 34% was realized. The Navy record is held by VF-81 with a squadron average of 42.9%.

Flying 1,008 sorties for a total of 1,052 hours on air-to-air gunnery, the squadron flew for 17 days, averaging 62 hours per day. The 23 *Cougars* expended 101,000 rounds of practice ammunition. Aircraft availability consistently remained above 90%.

Nine members of the squadron scored 40% or above. Paced by LCdr. "Slim" Graning, VF-191 XO, high of 67%, Ltjg. Harry Jevas came through with 52%; Cdr. "Butch" Voris, CO, had 49%. Voris was followed by two AF exchange pilots, Capts. Miles Taylor and Mo Weber, both with 44%. Lt. Bill Armstrong scored 42%, Ltjg. Dean Chaix 41%, and Ltjgs. Robin McGlohn and Bud Meadows 40%.

In order for a pilot to fire a qualifying score, he had to fire 100 of the 200 rounds of ammo loaded in his guns.

• Anti-Submarine Squadron 20, based at NAAS Brown Field has received the first S2F *Sentinel* to be assigned as replacement for the Grumman-built AF *Guardian* ASW airplane.

• *Contributions of the Military Engineer to Sea Power* is theme of exhibition open to the public at the Truxtun-Decatur Naval Museum located at 1610 H St. NW, Washington, D.C.

TWO *F7U-3's flank the last four of VC-3's famed F4U-5N Corsairs as the old standby is readied for pasturing. The F4U-5N was used as a night 'heckler' in the Korean War.*

Mark Flight Gear Properly

Name, Rank, Unit Insigne, Only

Got any flight clothing? How is it marked? Paragraph 26245 of BuSandA Manual concerning "Marking" says: "The name, rank and squadron insigne of the individual (who receives flight clothing from pools) may be placed on articles of flight clothing. However, such markings will be placed on separate material and sewed or stamped on it in such a manner that it may be removed without damaging or defacing the clothing. Markings other than name, rank, and squadron insigne are not authorized."

If you are one of those to whom flight clothing is issued, remember the rule. If you must mark it, do not mark directly on the garment, but do so on a separate piece of material sewed or otherwise attached to the garment.

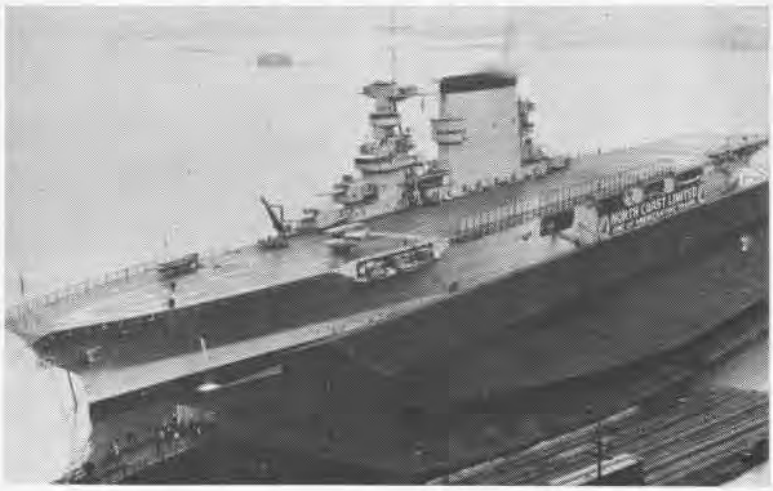
In the interest of economy and conservation, marking instructions should be followed. Flight clothing properly marked can be cleaned, repaired and returned to clothing pools for re-issue.

IFR-IQ?

When on an IFR clearance on airways, if an altitude of "500 on top" is assigned, is it necessary to maintain a visibility of at least three miles?

Answer on Page 32

Almost FORGOTTEN EVENTS



PUBLIC RELATIONS—1929 STYLE

The USS *Lexington* cast off her lines and made preparations for sea as hundreds of grateful citizens stood on the dock and bid the huge vessel *bon voyage*.

The date was January 17, 1930 and the port was Tacoma, Washington. The "Lex" and her crew had just completed a special mission without which the Yule trees of Tacoma would have been dark at Christmas. She had been furnishing—free—electrical power to that city for the past thirty days and had delivered a total of over four and a quarter million kilowatt hours.

The dry summer of 1929 had affected many parts of the nation, but the great Northwest was the hardest hit for there had been no water to produce hydroelectric power to meet Tacoma's needs.

The *Lexington* had begun generating electric power for Tacoma at 2206 on 17 December. Prior to that time she had been standing by after overhaul at Puget Sound Naval Shipyard awaiting orders to Tacoma.

She went a little further in cementing good relations with Tacoma citizens by throwing a Christmas Party for about 125 children. The crew pitched in and donated $500 to help defray the cost, and each child received clothing, toys, candy, nuts and fruit. Santa arrived via an OZU down the forward elevator with Lt. H. C. Carlson at the controls.

The Tacoma Chamber of Commerce gave a ball for the crew that was a "ball" long remembered.

New Plane Contract Let

McDonnell to Build Navy Attack Jet

McDonnell Aircraft has been awarded a contract in excess of $37,000,000 for the development of an advanced experimental type all-weather fighter-attack jet for the Navy.

Currently the company is producing the F3H-2N *Demon* for the Navy, and this jet, powered by a J-40 engine, has been undergoing carrier qualification tests and evaluation.

McDonnell also builds the Air Force's new F-101 *Voodoo*, a long range attack aircraft. The *Voodoo* is powered by two P&W J-57 jet engines each of which produces 10,000 pounds thrust.

VR-22 HUNTS WALRUS NEAR NORTH POLE

—by J. J. Brazan, JO1

IT WASN'T *like shooting fish in a barrel to level down on these walrus from a bobbing boat, on a rough arctic sea. Nimrods of the North who brought in the bacon for the Resolute Bay Eskimos are J. J. Benton, W. M. Foster, guide Joseph Valois, K. K. Bailey, and L. E. Marsh, Jr.*

SOME ODD sidelights on arctic life not included in the operations schedule were encountered by the VR-22 crewmen who participated in the Beaufort Sea Expedition at the top of the world.

When the 31 Navy airmen were not flying ice reconnaissance in their two R5D's, they found themselves engaging in some very unorthodox activities. Squadron men went hunting for walrus, sat in on an arctic jam session, listened to an old Eskimo woman make music on her version of a violin, and had their pictures taken by an amateur Eskimo photographer.

Based at the Canadian military establishment at remote Resolute Bay on the southern tip of Cornwallis Island, the Navy men were quite close to an Eskimo camp of about 20 people who were living in their tent "summer houses". This camp was "off limits" to military personnel unless accompanied by a Royal Canadian Mountie.

The walrus hunt came about one day when the Eskimos' supply of meat was low. Since Eskimos depend on wild game as their main source of food in the arctic, the Canadian government usually forbids hunting to all but the natives. In this case, an exception was made, provided that the day's kill be turned over to the Arctic inhabitants.

In a borrowed boat, the hunting party tracked down the herd of walrus, and the airmen blasted away. Ten

The excellent pictures which accompany this article were taken by an amateur photographer, Lt. W. H. Gallenbeck, squadron navigator.

IN HER *Canadian finery, this Eskimo matriarch of 83 years mixes ancient ways with modern.*

HUSKY *and friend Leroy Selby. Sled dogs are the most precious possession an Eskimo has.*

NAVIGATOR-*photographer Gallenbeck poses with whale jawbone about 700 years old.*

walrus, averaging 1,500 pounds each were shot and turned over to the Eskimos to whom skinning and quartering a walrus was no problem. So adept are they with their sharp knives that they can skin one in less than 15 minutes.

These natives of the far north have plenty of rhythm and upon occasion entertain themselves with singing and dancing. At the request of a Royal Mounted Policeman, they gave a "command performance" for several Navy airmen who visited their camp. Providing the "music" for the show was an old Eskimo woman who had constructed her own musical instrument from old packing crates and odd pieces of baling wire. Although the woman had never seen a violin in her life, her instrument was very similar to one.

Navy men who sat in on the arctic jam session said it sounded like nothing they had ever heard before. The Eskimos really whooped it up in unison with the music and stomped their feet or clapped their hands whenever the fancy struck them.

One pilot said the show sounded like Grand Ol' Opry and the Lone Ranger coming across a single radio station at the same time.

Eskimos measure their wealth by the dogs they own, and take great pride in their endurance and intelligence. During arctic winters on the trail, the dogs are usually given an eight-inch piece of dried walrus meat at a feeding. Although the meat is tougher than old shoe leather, the dogs have no trouble in getting it down. The fact that it takes three days for them to digest it thoroughly simplifies the feeding.

Not untouched by modern civilization are these inhabitants of the north polar region. In many ways they live halfway between their primitive world and that of 20th century conveniences. The results are sometimes startling.

During one visit to their camp, an American took along his camera and began snapping pictures of the folk. Some of them looked puzzled and he attempted to show by sign language what he was doing. One Eskimo apparently didn't need the lesson. He got his own camera out from his nearby tent and proceeded to shoot some pictures of VR-22 personnel—presumably for his personal photographic album!

PARKA-CLAD *VR-22 OinC Cdr. R. M. Wallace wears part of cold weather survival gear issued.*

SPECIAL *wing covers being positioned into place against the high arctic wind were a part of the winterizing given the R5D's in preparation for the polar weather. Made from experimental plastic cloth, the covers prevented formation of ice while the airplanes were on the ground.*

TYPICAL *arctic family wears fur lined skin boots (mukluks) in summer as well as winter.*

LITTLE *Eskimo fellow is going to have fresh walrus meat for supper. Care to join him?*

BANSHEE SPANS CONTINENT NON-STOP

VARNER SHOWS VF-34 GROUND CREWMAN ROUTE OF PHENOMENAL FEAT IN F2H BANSHEE

ENS. DUANE L. Varner of VF-34 stepped from the cockpit of his F2H-2 *Banshee* recently one of the most astounded men in Naval Aviation. McDonnell officials were just as astounded when they heard of his feat.

He had flown from Los Alamitos, Calif., to Cecil Field, Fla., non-stop in a *Banshee*. This is amazing when one realizes that the combat range of the speedy jet is from 775 to 1,250 miles, depending on its armament. From Los Alamitos to Cecil Field is a distance of nearly 1,900 miles.

Varner was on a routine weekend familiarization flight to the West Coast city and had no intention of attempting a non-stop hop when he filed his flight plan for the return trip.

The youthful pilot—he's 24—completed flight training just a little over a year ago. He had contemplated making a stop at Shreveport, La., for refueling; but when he contacted Dallas for a ground check on his speed and inquired about the weather, he was told that conditions were nearly perfect. He abandoned his original plans and continued non-stop to Jacksonville.

A careful check of the officer's take-off time from California and his arrival time at Jacksonville verified the flyer's claim. He was airborne at the Los Alamitos airport at 4:46 EST and three hours, 58 minutes later, landed the twin engine jet at his home port.

The unscheduled cross country flight closely parallels the record-breaking flight of three Navy pilots flying the famous Gruman *Cougars* last spring. LCdr. F. X. Brady, then XO of Oceana-based VF-21, led two of his squadron mates in a three-hour-44-minute dash from San Diego to Floyd Bennett.

These three planes were refueled enroute by an AJ *Savage* over Hutchinson, Kans. The flight was not recorded as an official record-breaker because no official timing of the incident was made.

CROSSING Tallahassee at an altitude of 48,000 feet, Varner shut off one engine and throttled back on the other to conserve fuel and increase his margin of safety. He landed at Jax with 600 pounds of fuel aboard.

One theory is that he hit some terrific "jet streams" during his flight which carried him beyond the normal speed and range of the *Banshee* and assisted him substantially on the flight.

Ironically, his father, Mr. Lloyd E. Varner of Los Angeles, works for the Douglas Aircraft Corporation which builds the Navy's sound barrier cracker, the F4D *Skyray* supersonic jet fighter.

Brazilians Train at Jax

Read About School in NANews

Flying, down in Rio, as in the U. S., requires Aviation Ground Officers. Two Brazilian Navy lieutenants are now in training at NATTC JACKSONVILLE for duty as AGO's back home. Ltjg. Roberto Arieira and Lt. Luis Sanchez, both of Rio de Janeiro, are studying at the Training Center under the Mutual Defense Assistance Program.

No stranger to the U. S. Navy, having served aboard the USS *Huntington*, Lt. Sanchez speaks English that is only slightly accented. He explained he learned the language through schooling, newspapers, motion pictures, and on his tour aboard the *Huntington*.

"I read in *Naval Aviation News* about the school," he told interviewers. "I hope others of my fellow officers in the Brazilian Navy may take advantage

LCDR. BOBBITT WELCOMES NEW STUDENTS

of the opportunities offered by this school and take back to Brazil the knowledge of U. S. Naval Aviation."

SCOUTS SEE INSIDE OF NAVY COUGAR JET

Scouts Visit NAS Atsugi

Cubs Get Check-Out on Latest Jets

Cub Scout Pack #3, Yokohama, Japan, were guests of ComFAirJap recently where they were given the inside dope on the latest Navy jets in the Fleet.

The scouting program in the Far East has gained momentum over the past eight years through the efforts of such men as ChBosn R. E. Walker, USCG, who was instrumental in forming Troop #1 at the Yokosuka Naval Base, Japan, after WW II.

Japanese Boy Scouts and sons of American servicemen stationed in the Far East meet regularly and continue their program under the very same roof.

Helicopter Saves Seaman

Pickup Made in South China Sea

Five minutes after a seaman was swept from the decks of the heavy cruiser USS *Helena* (CA-75), a helicopter from the USS *Yorktown* (CVA-10) deposited him aboard his ship.

L. C. Manry, SN, was swept from the decks of the *Helena* in the wake of typhoon Pamela. The "man overboard" word was passed and a fellow crewmember threw Manry a life ring. Being a good swimmer, Manry fought his way to the ring and released the dye marker to give his rescuers a point to aim for.

Lt. W. A. Myers commanded the rescue boat. After Manry had been picked up, he was hoisted from the boat by the *Yorktown's* helicopter, piloted by Ltjg. K. H. Hartley, and deposited aboard the *Helena*. Manry was uninjured, and his main concern was the life-boat crewmen who were tossing and pitching in the rough South China Sea.

By skillfully maneuvering the boat, Coxswain Roy Culpepper was able to bring it alongside the cruiser for a successful recovery. Other members of the rescue boat were: C. W. Heady, FN; D. F. Slover, QMSN; and R. G. Crews, SN.

The *Helena*, commanded by Capt. F. M. Adamson, serves as flagship of Commander Seventh Fleet, VAdm. A. M. Pride.

CVA in Model Plane Meet

Coral Sea Meets With Spanish Fans

During a recent visit by units of the powerful Sixth Fleet to the Port of Valencia, Spain, model airplane enthusiasts got together for an exchange of ideas and a show of models.

The *Coral Sea* Knucklebusters, the ship's model club, and the Agrupacion Levantina Aeromodelismo (ALA) of Valencia held their meeting at the local airport. The affair involved some 40 contestants and numerous spectators.

The major part of the flying was done by control line type aircraft. The carrier's sailors took top honors in stunt flying while the Spanish entrants excelled in formation and team racing.

A sleek jet model, entered by the director of the National Model Airplane School in Valencia, flew. It was considered the most outstanding model.

Many scale models were entered but the one that caught the eye was a replica of the old Ford Trimotor transport.

Versatile HUP in Action

Unusual Pictures Show Capabilities

Top picture illustrates the ease with which a hoist rescue can be made. Below is a dramatic shot of spot landing on a submarine, made during training maneuvers off HU-1 off San Diego, Cal.

USNR to USN Bids Invited

Ex-NAVCAD Deadline 31 December

Each officer who is designated Naval Aviator at the completion of flight training in the Naval Aviation Cadet program has one opportunity to apply for integration into the regular Navy. This opportunity occurs between one year and 18 months after graduation.

Ensigns who were commissioned between 1 January and 30 June 1953 could apply for a regular commission until 31 December 1954. Applications forwarded before that date will be acted on in BuPers in February and the results of the selection will be made known sometime in March 1955. Details of eligibility and application procedures will be found in BuPers Instruction 1120.14.

Each year the Navy accepts 300 career naval aviators from the Naval Reserve to keep the aviation personnel of the regular establishment at its full allowed strength. This is in addition to the 300 pilots who annually are trained after graduation from the Naval Academy or the Navy's ROTC program in civilian colleges.

The pilots who are integrated into the regular establishment of the Navy will have the same opportunities as the other career officers from Annapolis and the NROTC. It is expected they will be sent to the Line School during their first or second tour of shore duty. These officers will also be eligible for assignment to Navy post-graduate schools.

Navy Man Gets AF Award

AF General Makes Presentation

For the first time since the "Airman of the Month" program was initiated at the Air Force Special Weapons Center, Kirtland AF Base, a Navy aviation structural mechanic walked away with the top honor.

He's Gordon S. Stevens, AM3, an Albuquerque-born sailor with less than three years' service.

BGen. W. M. Canterbury, Commanding General of the base, made the presentation of the certificate and awarded Stevens several gifts from local merchants. Stevens also appeared on television shows and was guest of honor at a local Chamber of Commerce luncheon.

The "Airman of the Month" program was launched by the base as an incentive for the lower three pay grades.

VERTICAL TAKE OFF

When the Navy's XFY-1 "taxied" straight into the air from the parking mat at the Naval Auxiliary Air Station at Brown Field and arced gracefully over into level flight, a new concept in fighter aircraft was launched.

Here is a fighter plane that can haul itself into the air by its 5,500-hp turboprop bootstraps from an airport about as large as a tennis court. From its helicopter-like take-off, it transitions quickly into horizontal flight and darts away to reach speeds expected to exceed any other propeller-driven fighter being used today.

The *Pogo*, as the XFY-1 is nicknamed by Convair, was built as a result of a Navy design competition which was won by the Convair Division of General Dynamics and the Lockheed Aviation Corporation. Lockheed has built and is currently testing the XFV-1. The purpose of the VTO design was to develop a convoy fighter—one that could be launched from a platform on a merchant ship.

Fabrication of the unbelievable Convair delta wing fighter actually started in February 1952. While the building of a plane that could rise vertically, develop lift on the airfoils and transition into level flight was aerodynamically feasible, it was imperative that engine and propeller development parallel airframe evolution to make the blueprints a reality.

The engine of the XFY-1 is designated the YT40-A-14. It was developed by Allison Division of General Motors especially for the *Pogo* from the Allison T-40 turboprop. The development of the YT40-A-14 meant turning a conventional turboprop engine into one that could deliver its full quota of power in either a vertical or horizontal position.

The constant speed of the twin turbines is converted into pulling power through a specially designed Curtis-Wright turbo-electric propeller. An electrically actuated control mechanism varies the pitch of the hollow steel propeller blades to keep the speed and temperature of the jet turbines within the narrow allowable limits. Contra-rotation of the concentric twin propellers minimizes the effect of engine torque.

The vertical position of the XFY-1 posed some new problems for cockpit configuration and pilot positioning. The pilot must be able to reach his controls and read his in-

AND AWA-AA-A-A-AY WE GO!

struments with the plane in either a vertical or horizontal position. The engineers came up with a pilot's seat mounted in gimbals. When the plane is standing on its tail, the seat is at an angle approximately 45° from parallel with the ground. The pilot, using a button on the stick, eases the seat into straight-up position in level flight.

J. F. "Skeets" Coleman, a lieutenant colonel in the Marine Corps Reserve, is engineering test pilot for the XFY-1. Most of his time has been spent learning to fly an airplane without a handbook and for which he had to make up the rules as he went along.

BEFORE he could attempt to fly the plane, Coleman had to discover two new (to him) sensations—vertical take-off and high speed flight with jet power. To accomplish this he flew six types of Navy helicopters and several types of Navy jet fighters. After this indoctrination, he learned to fly the XFY-1 in a vertical engine test stand built on the Convair seaplane ramp at San Diego. The stand contained an almost complete *Pogo* fuselage that could lift itself five feet off the deck under the pilot's control.

Then came the vertical "taxi" tests. The XFY-1 was tethered in a complicated set of wires, lines and sheaves in the airship hangar at Moffett Field. A total of 280 captive flights were made in the tethering rig. Satisfied with the stability and handling characteristics of the aircraft Convair took it to Brown Field at Chula Vista, California. Here free flights were undertaken. A total of 70 ascents were made and, on each successive flight, Coleman edged it a little more toward the horizontal. It was then decided that the plane was ready for the ultimate test.

That test is history now. It marked another milestone in the science of aviation. Coleman lifted the craft from the deck, hovered for a minute to assure himself that engine performance was satisfactory and then spurted upward into a graceful curve that brought plane and pilot to level flight at a little over one hundred feet. Seconds later the unconventional fighter was out of sight.

Twenty minutes later the pilot brought the aircraft back to the field, slipped into vertical attitude and backed down to a gentle landing.

On a second flight, two days later, the capabilities of the convoy fighter were even more dramatically demonstrated. Take-off was approximately the same. This time, however, Coleman made two passes low over the field at better than 250 mph; a mere hint at the ultimate capabilities of the bizarre looking fighter. On the third pass the plane converted easily to the 90° attitude and then spiralled effortlessly to nearly 1,000 feet, hung there motionless for a moment and descended in a broad arc to drag the field at less than 50 feet and finally touch down on the spot from which it had risen shortly before. Return to earth is a gentle procedure, the average impact on the caster-like gear being between one-tenth and three-tenths of one "G".

Even back on the concrete, *Pogo* is a problem. New handling equipment, including a pilot's ladder, had to be designed. The plane is easily towed on its casters, and a cart has been constructed to alter the position of the plane from tail-down to conventional position for ease of maintenance or to move it over longer distances.

MEANWHILE research and development on the XFV-1, the Navy Lockheed sweptwing version of the VTO was going forward at Edwards AF Base at Muroc, Calif. With the same end in view, the problem was tackled by Lockheed from another angle. Fitted with a temporary but conventional landing gear, the yet unnamed Lockheed version using the same engine was flown from a runway and passed its horizontal flight tests before vertical take-off was attempted. Some idea of the capabilities of both fighters can be gleaned from the fact that the XFV-1 can climb to 35,000 feet in six minutes.

The XFY-1 and the XFV-1 are radical departures from what today we know as fighter speed aircraft. They open up whole new fields of study in military aviation. One thing is sure—the Navy's unrelenting search for new weapons to guarantee its control of the seas and the air above and the water below has again been rewarded, this time in a spectacular way.

Lt. M. C. *Pinkepank and H. M. Palmer, ADC, hold awards that were presented to them for being the outstanding pilot and enlisted man in VF-44. Squadron makes awards yearly.*

GCA Made without Radio

Thompson Leads Reimer to Landing

Ltjg. Ted Thompson and Ens. C. E. Reimer of VA-15 made a GCA let-down at Cecil Field recently that nearly re-enacted the case of the pilot who was talked down to a carrier landing while blinded.

Reimer and Thompson had been on a practice bombing exercise with six other squadron pilots in AD-6 *Skyraiders* over Florida's Ocala National Forest. When they turned towards home, they found that a cold front had moved in and closed all local airfields.

Visibility was low. There was a ceiling of 400 feet, and Reimer's radio was out. After a quick look at the situation, Thompson radioed Cecil's control tower that he would lead Reimer down after the other six had landed.

Cecil Field's GCA unit had been operating in a training status for about a year and it did not have an approved let-down until recently. The unit had never guided a plane in when the field was below VFR minimums. However, the unit brought Thompson and Reimer in to landings in tandem.

LARGEST *of tandem-rotored helicopters—the US Air Force's YH-16 Transporter—made its first altitude flight when the 42-place, 15-ton aircraft was flown at speeds exceeding 130 mph at altitudes between 3,000 and 4,000.*

Rescue is SOP for 'Copters

Crash Aid Interrupts Ferry Flight

If you're a pilot, ferrying a helicopter, a rescue mission may be SOP any day, anywhere you happen to be.

"LCdr. Rossi? This is the El Paso International Airport manager. A TV-2 jet trainer crashed 16 miles west of here —two Navy pilots injured—in a sand dune—we can't possibly reach them from the ground in time for rescue."

VR-32 ferry pilot LCdr. J. E. Rossi hung up the phone and rubbed the sleep from his eyes. His plane captain, Chief C. E. Hoff, awoke with a start. The two men had slept only a short time in their motel room outside El Paso, Texas, after an eight hour HO3S-1 ferry hop from home base San Diego, enroute to NAAS GLYNCO, Ga.

A 60-mph cruising speed and a very low ceiling had resulted in many stop-overs in the 2,500 mile journey. Now their much needed rest had been interrupted.

"Let's go, Chief. We've got another rescue job."

Minutes later, pilot Rossi flew away from the desert crash scene with the injured men aboard the helicopter. Exactly 42 minutes after the crash occurred, the two injured pilots were delivered to the Biggs AF Base hospital, thanks to Rossi and Hoff.

Blue Angels to Fly F9F-8

New Cougar Readied for '55 Show

LT. SCOTT DELIVERS LOG BOOKS TO SONNER

The Navy's famous precision flying team, the *Blue Angels*, will soon be flying the Grumman F9F-8 *Cougar* in place of the older model F9F *Panther jet*.

For a short time in 1953, the team was fortunate enough to fly another model of the sweptwing fighter, the F9F-6 *Cougar*, in demonstrations throughout the country. Circumstances prevented their continued use in formation flying at that time.

Lt. Dale Scott of VR-31 made the first delivery of the J48-P8 powered *Cougar* to Lt. Harry Sonner, Maintenance Officer of the flight demonstration team, at NAS NORFOLK. LCdr. R. L. "Zeke" Cormier, leader of the *Blue Angels*, calls it "one of the best fighters I have ever flown."

Classed in the "over 600 mph" class, the *Cougar's* powerplant generates more than 7,000 pounds thrust at "full-bore."

F4D DOUGLAS *Skyray (foreground) and A4D Douglas Skyhawk just before being put through demonstration flights for newsmen and visitors from East Coast and California at NOTS Inyokern.*

VX-3 TRIES OUT THE NEW COUGAR ON MIDWAY

VX-3, based at NAS ATLANTIC CITY, recently conducted the first carrier operations of the Grumman F9F-8 *Cougar* aboard the USS *Midway*.

Although the operations were primarily concerned with project evaluations, interest centered on how the new *Cougar* compared with its predecessors, the F9F-6 and F9F-7.

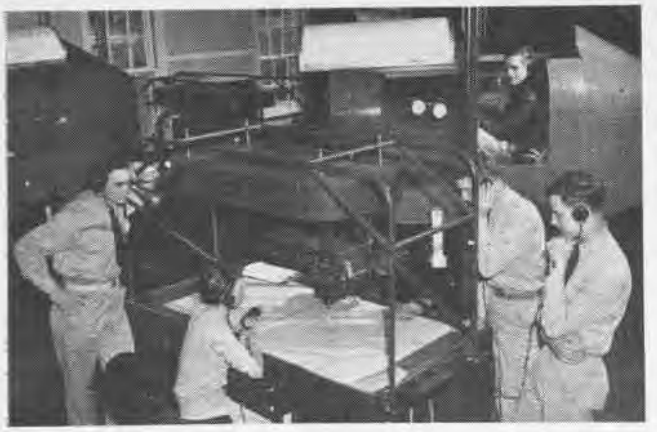
The F9F-8 follows the same design except for fixed leading edge slats, larger wing area and the flying tail. The P&W J48-P-8 boosts thrust by several hundred pounds.

Ltjg. R. C. Munn made the first catapult take-off; Lt. W. S. Stewart III, the first arrested landing. During a five-day period, 13 pilots made 129 arrested landings in 10 aircraft without a single mishap during the *Midway* tour.

DECK CREW *assists Naval Air Development Squadron Three by re-spotting a new F9F-8 Cougar on the flight deck of carrier Midway (CVA-41) during squadron's carrier-qualifications cruise.*

WHILE *on board the Midway, Capt. Hogel, commanding officer of carrier discusses air operations with Cdr. H. Russell, skipper of VX-3.*

UNDER *the fuselage of an F2H-4 aboard the USS Midway, VX-3 members, W. B. Baker, G. B. McNulty, and Joseph E. Thudeau, change a tire.*



LINK TRAINERS KEEP DESK PILOTS SHARP

FLEDGLING *naval aviators are first introduced to the Link during Pensacola days as NavCads, will use the device frequently, as pilots.*

Flying instruments in the Washington area is an accomplishment. When one flies regularly, as in an operational unit, his proficiency is kept high. But sooner or later, administrative duty must be done, and then Naval officers have the problem of retaining their instrument skills.

One way the Navy has made sure that pilots based in the Washington area can do this, is to place Link trainers in various points in the Capital city, so that officers need go no great distance to keep their instrument flight ability. Piloting their Links, officers can keep as proficient as the day they graduated from an instrument school.

Up until November, a competent group of instrument instructors was available to Washington-based aviators, but personnel reductions at NAS Anacostia, where the training units have been located, forced a discontinuance of the service. So the most practical way for pilots in administrative jobs to retain their instrument proficiency is to take advantage of the Link trainer organization.

Headed by Lt. S. Edelman, this group of 19 men and women is responsible for meeting the instrument training requirements of over 800 Capital-based pilots. The organization, attached to the operations department of NAS Anacostia, is led by hard-working W. R. Stillwell, TDC.

The most logical starting point in keeping the officers ready is to concentrate on Washington holding and approach procedures. So that is where the syllabus leads off. Procedures, designed especially for Washington by various controlling facilities, are complex. Heavy traffic makes this inevitable, and to weave through the complexities, even with the help of Washington Approach Control, takes a really sharp pilot.

L. K. HALL, *TD2, goes over problem which LCdr. F. J. Joyce will solve while under hood.*

THEN *Hall, acting as Approach Control, gives clearance. Crab (front) records flight path.*

Any pilot will agree that an alert mind and thorough knowledge of the area being flown is a "must" if one is to keep out of trouble. It is too easy to become confused, while flying in a turbulent overcast, and traffic exigencies require a controlling agency to direct a sudden change of flight clearance.

There are Link trainers at three central locations in Washington. Nucleus of the operation is at the Main Navy building, 19th and Constitution Avenue, where the program is administered and scheduled. Two trainers at this point serve BuAer, the Naval Observatory, George Washington University, and other aviators assigned to miscellaneous duties in the area.

Aviators in the office of CNO, and in other activities on the Virginia side of the Potomac find three Links in the Pentagon, supervised by R. E. Hoch, TD2. It is here that a well-known civilian, Mr. James T. Pyle, special assistant to Assistant SecNav(Air), recently acquired the foundation instruction leading to his Standard instrument rating.

Still another trainer is located at NAS Anacostia for pilots assigned there, the Naval Research Laboratory, Naval Hydrographic Office, and the Naval Gun Factory. Here A. J. Albenze, TDAN, keeps 'em flying.

In charge of scheduling is J. H. Arthur, TD1, with whom pilots check, upon reporting to the Washington area, for Link instrument instruction.

Most of the flyboys are pretty good in the Link, such as the one whose nickname was "Ski." He started each session by getting under the hood, timing planned headings and turns so that the "crab", a little inked wheel on the instructor's table which records the track flown, would inscribe his nickname. Such pilots do not need the entire syllabus, and may not need more than two or three hops. But others need more work. Every experienced pilot knows his own capabilities and deficiencies, although he may not admit to the latter.

A Washington Link legend of years ago relates how a pilot inadvertently

allowed his trainer to get into a spin. The instructor told him to recover, he was nearing the ground, but the unfortunate man was thoroughly confused. Finally, in exasperation the instructor shouted: "You're going to crash." Hypnotized by the reality of the simulated flight, the student yanked back the hood, bailed over the side of the trainer, and broke a leg on the floor four feet below.

At the present time, the Link syllabus consists of the following periods:

Automatic Direction Finding hop which includes an orientation, time distance check, tracking to an assigned bearing, holding, and completion of a standard ADF approach.

Omni hop, if the pilot requests it. This includes an orientation, time distance check, tracking to an assigned radial, holding, and completion of a standard Omni approach.

Low Frequency Range Review hop, which includes beam-bracketing, orientation procedures, holding, standard and straight-in approaches, and missed approach procedures.

A *Washington Area* lecture to acquaint pilots, new in the area, with the various departure and arrival procedures, and to explain the functions of the various clearing authorities.

Departures and Arrivals hop, in which pilots practice the procedures covered in the Area lecture.

A final *Round Robin* hop. Several routes similar to the check routes flown by the Anacostia Instrument Check Board are available. The pilot is assigned one of these upon the completion of the previous session, and he plans it prior to flying the round robin. Troubles of all types may occur in the flight, and the student must prepare to meet communications or engine failure, change of flight route, etc.

FLIGHTS may be scheduled at the rate of two a week. Instruction is not based on a specific number of periods, but rather on the student's rate of progress, with the specific objective of bringing the pilot to a degree of proficiency where he can pass an instrument renewal check.

Pilots newly arriving in the area may request two familiarization flights in the Links to prepare themselves, should they encounter instrument conditions before VFR orientation flights. Flight logs, publications, charts and necessary navigational equipment are available in the trainer rooms for pilots wishing to plan extended flights. Daily weather reports and new information pertaining to flights are posted.

Upon completion of Link instruction, pilots are given a "closed book" examination covering all aspects of instrument flight. A minimum grade of 3.25 for a standard rating, or 3.75 for a special must be attained before pilots are eligible for an instrument check by NAS ANACOSTIA Instrument Check Board.

Of course, not all pilots, whose primary duty consists mainly of paperwork, take advantage of the Link trainer setup. Some whiz through the written examination and ask for a check with the confidence bred of several thousand flying hours under their belts, or their familiarity with the Washington area. Many have no trouble, but a few really "goof."

Like not being able to see a tree because of the forest, fine points of instrument flying are sometimes overlooked. For example, when making an approach, the controlling agency gives the pilot an altimeter setting. If, being out of practice, he is forced to concentrate too fully on his attitude instruments and range procedures, he may neglect such a simple thing as setting his altimeter. This could lead to a potential landing 300 feet below the terrain. Another common failing of those who cannot or do not constantly practice instrument flight, is a distrust of their instruments. This leads to an almost overpowering urge to "sneak a peek" past the edge of the hood, with possibly disastrous results occurring.

Owing to tight scheduling and maximum utilization of the Link trainers, a normal working day does not provide sufficient time for more than very minor adjustments to the trainers and major maintenance is out of the question. M. M. Armintrout, TD1, a very capable Linkman is head of the night check crew. On a floating basis, they work each night wherever they are needed most, with all major maintenance work being accomplished on weekends.

All in all, the Link organization in the Washington area accomplishes an extremely difficult mission. It makes available to desk-bound aviators a means of keeping their minds and reflexes agile enough to fly under almost any weather condition.

Without the benefit of Link trainer hours and instructional assistance, the plight of these fliers could be woeful indeed. Group One pilots might be in for some "disciplinary action" when a birthday rolled around, and they were found lacking an instrument rating. Touch base on OpNavInst. 3720.2.

R. E. HOCH, *TD2, turns dial which simulates wind shift, drift, for pilot flying the Link.*

ADJUSTMENTS *are made by R. E. Hoch, TD2, while L. K. Hull, TD2, works with Link pilot.*

J. H. ARTHUR, *TD1 (foreground), and W. E. Ross, TDAN, record and schedule Link hours.*

EXPLORER SCOUTS TEST NAVY LIFE

WHENEVER a scout meets the Navy, you can be sure that some fine new friends will be the result. Naval Air Stations at Floyd Bennett, Brooklyn and at Alameda, Calif. can bear witness to that fact.

Bright and early one morning, 1,000 New York Explorer scouts swarmed aboard NAS FLOYD BENNETT for a day "on active duty" in the Navy.

From 0900 until almost midnight

IT'S THEIR TURN NOW FOR THE R5D FLIGHT

the boys were kept so busy being "indoctrinated" that they had no time even for a deep breath. During both morning and afternoon, the teen-agers were given drill and formation training (not so popular) with sessions in skeet shooting, in archery, and in seamanship.

They also got a look at a Link trainer, saw movies of naval air and sea WW II victories, and were taken on a tour of the Coast Guard installation on the base.

By all odds, the most popular activity was flying. Four R5D's were in action all day, taking the youths for a 20-minute turn around the city. Among the entire 1,000 scouts, there was not a single case of air sickness. Probably the most impressive thing about the flight was the opportunity to go "up forward" to the cockpit and chat with the pilots and crew.

As always, Navy chow in the crew's mess, featuring baked chicken with all the trimmings for dinner, was a close second in scout appeal.

Capt. W. M. Ryon, CO, and his staff were on hand to welcome the Explorers aboard, and also to review them after formal retreat ceremonies.

A dance, with 600 Girl Scouts as guests, wound up the day's activities.

'DIG (IN) THAT NAVY CHOW,' SAYS SCOUT

Out on the West Coast, NAS ALAMEDA made 90 enthusiastic new Navy friends recently when a group of Explorer scouts held a two-day encampment aboard the station. These scouts, billeted in a surplus barracks during their stay, followed a Navy "Plan of the Day," including morning and evening colors, sweep-down, and early chow.

Welcoming the Explorers aboard in the name of the CO Capt. L. E. French, was Cdr. R. F. Farrington, executive officer of the station.

Encampment highlights included cruises in crash boats, aerial tours over the Bay area in a Navy transport plane, individual "flights" in a Link trainer, a tour through a *Mars* seaplane and finally, a flight demonstration of the versatility of a Navy helicopter.

CO Decorates T. H. Waddill

Texas Sailor Awarded Navy Cross

During personnel inspection aboard NAS DALLAS, witnessed by all hands, T. H. Waddill, HM3, was decorated with the Navy Cross by Capt. D. A. Sooy, commanding officer.

Waddill enlisted in the Navy in November 1951. He was sent to Seoul, Korea, in January 1953 as a medical corpsman with a Marine rifle company.

EXTRAORDINARY HEROISM AGAINST ENEMY

A few days subsequent to arrival in the battle zone, his unit, fortified in a bunker, was the target of a vicious Chinese attack. At the end of the battle, after the Reds had overrun the bunker, only the hospitalman and four of the Marine riflemen were survivors out of the 40 who had been occupying the fortification before the attack.

The citation stated: "Waddill displayed extraordinary heroism in action against enemy aggressor forces in Korea on the night of 26-27 March 1954. On one occasion, he unhesitatingly shielded several wounded men with his own body to protect them from extremely close range hostile small-arms fire." The citation further stated that Waddill saved the lives of three of the survivors despite the fact that he himself was severely wounded.

Though taken captive, Waddill was released in Operation Little Switch after spending 28 days in captivity.

New ABC Trainer Unveiled

FAETULANT to Schedule Equipment

A new mobile trainer has been delivered to ComAirLant for test and evaluation. Developed to indoctrinate Fleet air units in defense against atomic, biological and chemical warfare, the trainer was constructed by the Navy's Special Devices Center.

FAETULANT will schedule the unit for its round of shows from NAS BRUNSWICK to NAS KEY WEST. The trainer permits demonstration of all the latest ABC warfare detection gear as well as instruction on individual protective measures.

ABC teams at each facility will be given ample instructions before the trainer is moved on to the next base.

ON THEIR *overnight "Flight of the Week," Saufley cadets visit Gov. White of Mississippi. Each week, 300 Saufley NavCads vie for top honors in overall training. Best 16 win the overnight liberty flight to Jackson, Miss.*

LCdr. Kisner Given Award

Navy-Marine Corps Medal Received

At the annual NARTU inspection in Memphis, LCdr. J. B. Kisner, former CO of Reserve squadron VF-791, was presented the Navy and Marine Corps Medal.

The Navy flier received the medal for heroic conduct when his *Corsair*, flying near Atlanta, experienced engine failure and crashed.

As related in April '54 NANEWS, Cdr. Kisner fought the plane clear of homes and an occupied children's playground, finally landing in a wooded area where the craft burst into flames. Badly injured and pinned in the burning cockpit, he ordered rescuers to abandon efforts to extricate him, believing the aircraft would explode at any moment and endanger the lives of others.

The pilot's order was ignored by the rescuers, and he was hauled out of the burning plane. Though he was severely burned, he was still alive.

VF-34 Meets New Target

Lt. Schulden Tows Dart to 25,000

Fighter Squadron 34 participated in a demonstration of the new *Dart* target recently when Lt. J. E. Puccini, Ltjg. W. L. Hansen and Ens. D. D. Tuno made firing runs on the high speed air-to-air gunnery target.

Lt. W. G. Schulden picked the target up and towed it to an elevation of 25,000 feet in a *Banshee* where the trio made runs on it. Commanded by Cdr. F. H. O'Brien, VF-34 was the first Jacksonville squadron to utilize the new *Dart* on a gunnery hop.

Cdr. O'Brien expressed the sentiments of the entire squadron when he said: "This is the first opportunity we've had for real high speed gunnery."

THE TWO *spotted Axis deer in the foreground are responsible for smiles on the faces of Cdr. T. F. Schneider and Lt. J. R. E. LeTourneau. They are attached to FAWTUPAC Barbers Point and got the deer on Lanai Island.*

'NOW, FELLOWS, THIS MAKES THE SHIP GO.'

VF-91 Entertains AF Pilots

16 Officers Briefed on CVA Hornet

Sixteen Air Force officers from the 40th Fighter Group, 35th Fighter Interceptor Wing based at Yokota Air Base, were guests of VF-91 recently aboard the USS *Hornet*, CVA-12, commanded by Capt. F. A. Brandley.

Led by Maj. M. J. King, AF officers were briefed on life aboard a carrier by Cdr. E. M. Volz, CO of VF-91. Touring the ready room, combat information center and catapult room, and checking the differences between Air Force and Navy jet fighter type aircraft, the AF officers were given first hand glimpses of *Panthers*, *Cougars* and *Banshees*.

Cdr. J. G. Hedrick, CAG-9, explained combat readiness, night missions, landing and take-off operations to the Air Force pilots.

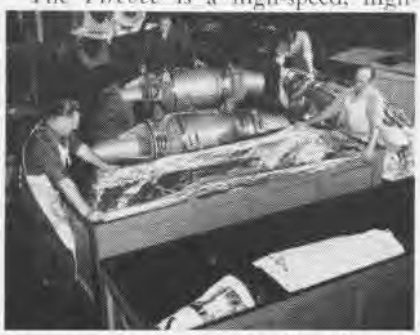
New Turbojet for Firebee

Fairchild J44 Weight Mere 300 lbs.

A new 1,000-lb. thrust turbojet engine has been developed and will be used in the Navy's *Firebee* target drones. The engine weighs 300 lbs., is 22 inches in diameter and 72 inches long. The first of the new J44-R-20 turbojets has been shipped to the Ryan Aeronautical Company, builders of the *Firebee*.

The *Firebee* is a high-speed, high-altitude, electronically controlled pilotless plane, which the Navy used for ground-to-air, and ship-to-air gunnery training. It is also used to test other defensive weapons.

Through refinement in its internal design, an increase in the engine's thrust and a lowering of fuel consumption has been achieved. Thrust augmentation tests on inhabited aircraft, featuring the J-44, are now in progress at the Fairchild plant.



FOIL PROTECTS THE J-44 IN SHIPMENT

ENS. AITCHESON WITH HIS RECORD BANNER

VF-192 Pilot Hits 71.5

PacFlt Entrant in Shootin' Match

The photograph of Ens. G. A. Aitcheson of VF-192 represents the only claim entered by any ComAirPac squadron for "Shootin' Honors." NANEWS Shootin' Match competition is open to all fighter squadrons, east or west.

Aitcheson's high score is not a record; that honor is held by Ltjg. "Shootin' Sam" Martin in VF-22. He has a phenomenal 80.7%.

We publish this picture to prove that the only shooting squadron isn't located on the East Coast within ComAirLant's domain. Claims haven't been coming in as heavy as expected, and the rules for participating are simple. See your back issues of NANEWS for the word. The February 1954 (p. 21) and October 1954 (p. 11) issues list a complete set of rules.

Aitcheson was flying an F9F-5 *Panther* when he put 73 of 102 rounds into the sleeve at Fallon. The banner is still there in the hangar as a challenge —a NANEWS challenge, we hope.

We have about six "jugs" all painted up, real purty, just waitin' to paint in some names of individuals. So why don't you fellers knuckle down and shoot some scores? You may make a record and win a coveted "dew jug." We'd like to bring some jugs out west.

Navy New Orleans is Host

Navy League's 'Day with the Navy'

As climax to their "Day with the Navy," the Navy League of Greater New Orleans went aboard the Naval Air Station for a tour, followed by a reception.

October 27 was the day chosen by the League for the local chapter to show its new members the installations of the Navy in the New Orleans area.

After the morning of inspections which included the Algiers Naval Station and the Surface Reserve Unit Training Center, the group arrived at the Air Station for a complete tour, guided by Capt. W. C. Jonson. Two events adding interest were the returning of a Willow Grove reserve squadron from a gunnery mission over the Gulf, and the station helicopters simulating rescue missions on the field.

Bringing the day's activities to a close was the reception, where the Navy League members were joined by the senior officers of the commands of the area. During the reception, RAdm. John Higgins, Com 8, commissioned a new Reserve PubInfo Unit.

VF-13 'Steals' a Cougar

Grumman Visitors Plane 'Accepted'

Bill Cochran, Grumman engineering service test pilot, was on a lecture tour of Naval air stations recently when he almost had his plane "stolen" by mechanics of VF-13. It all started when he landed at Cecil Field and taxied his *Cougar* into the flight line of the squadron and reported to the CO, Cdr. L. E. "Blood" Doner.

He had lunch and then gave the squadron pilots a familiarization lecture on the F9F-8 *Cougar*. The squadron was in the process of changing over.

After the lecture he went out to the flight line to secure his plane for the night but couldn't find it. He scouted the squadron area and found that VF-13 mechs were getting it ready for acceptance. The jet's tail had even been painted a light blue and dotted with 13 large white stars. The nose section had been vividly painted and a large squadron number and insignia had been added.

Cochran flew the *Cougar* back to the Grumman plant at Bethpage with all its trimmings. On this flight he set an unofficial speed record of one hour 54 minutes for the 1,200 miles at 635 mph.

MARINE *2nd Lts. L. J. Godby and Floyd Zoek aid Piolani Motta, dubbed 'Miss Fury,' in draping lei around nose of first FJ-2 Fury received by the Red Devils at Kaneohe Bay.*

VP-5 Members in Icy Swim

Squadron Men Train to Save Life

Members of VP-5 are spending a lot of time in the icy waters of the North Atlantic these days—learning to live.

Instruction in survival is an important phase of each day's activities for the *Mad Dogs* of VP-5. Each member of every plane crew must learn to use his survival gear.

The squadron is home-based at NAS JACKSONVILLE, but is now flying anti-submarine and ice patrols around in the Arctic near such places as Narsarssuak, Thule, Sondrestrom and Goose Bay.

Oddly enough, the most popular parts of this training—believe it or not—are the regular swimming sessions in the icy waters of Newfoundland. Aircrewmen don their "Poopy" suits, which are especially designed to protect the wearer against extreme weather conditions, then they jump into the freezing water.

THE BROAD *smile on the face of Ltjg. T. H. Hunter, Jr. of VA-195 stems from his just-completed rocket-firing flight that netted him a perfect score of "bullseyes" at NAAS Fallon.*

89 Men Pass Examination

VJ-62 Hits High in Competition

Of the 159 men who competed in the Navy-wide fleet competitive examinations in VJ-62, 85% of those who passed were rated.

One hundred and four actually passed the examination, but owing to quota limitations, 15 were not rated. Breaking these figures down to a percentage basis, the squadron came up with a commendable .65443 average attaining passing marks and a .55974 average for actual promotions.

About one-fourth of the squadron's personnel will be rated by BUPERS as a result of the examination.

Sixty-four airmen will be upped to third class petty officer, while the second class petty officer category saw 16 men reaching the goal. Nine second class petty officers are on their way to eventual CPO ratings.

Within the past six months, 47 enlisted men of VJ-62 have been awarded Good Conduct medals. In this squadron with an average allowance of 400, over 10% of the men have attained the 3.5 or better average in conduct necessary to qualify for the medal.

Of the 47 awards made to the squadron men, 37 were the first award, six were second awards, two were the third, and two men were presented bronze stars in lieu of fourth medal.

VR-1 Trains Wave Medics

Four in Two Weeks Training Course

VR-1 has given in-flight training to the first contingent of Wave flight corpsmen.

Four Waves, Lulu R. Johnston, HM2, Frances B. Keys, HM3, Sarah McMahon, HM3, and Carmen M. Mercardo, HM3, received two weeks training in the practical application of previous ground training.

They are being trained as Aviation Medical Technicians to serve as assistants to flight surgeons in dispensaries and care for dependents on transoceanic flights. The Naval School of Aviation Medicine is giving the course.

During the training phase, the Waves were given lectures in ditching, survival and swimming. They were briefed on air evacuation on a flight to Gitmo, and as a final check-out in the course were given a hospital flight back to Pensacola where they will complete their studies in aerial medical care.

ATSUGI FESTIVAL GAINS FUNDS FOR CHARITY

YOUNG *and old, Japanese and American, gather around Showland when announcer yells, "Hurry, hurry, the big show is about to start."*

AT GRAND *opening, RAdm. J. M. Carson, Commander Fleet Air, Japan opens the Atsugi Fall Festival by cutting ribbon across entrance.*

NAS Atsugi presented its 1954 Charity Fall Festival recently and raised some $33,000 to "help those who can't help themselves." The money was given to American and Japanese charities in the Far East.

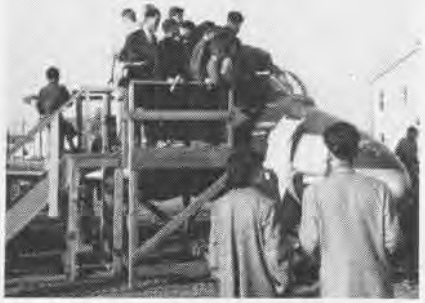
Under the direction of RAdm. J. M. Carson, Commander Fleet Air, Japan, the Festival was first given. This is its second successive year. Over 67 booths and tests were set up on the Festival grounds for three days. Two parachute drops were rigged for those who like to have their fun at high altitudes.

A jet air show displaying precision flights brought "ohs" and "ahs" from the throng, particularly from the Japanese civilian guests.

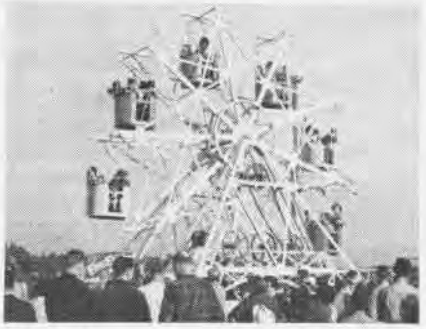
Continuous music was presented by service bands. Navy, Marines, Seabees and Japanese civilians at Atsugi transformed the parade ground into a "Coney Island" bright with colors.

AERIAL *view of the Fall Festival from a helicopter shows part of the Atsugi Midway, and a small number of the 50,000 guests who came to visit and play during the gala three-day affair.*

LUCKY *sailor is pleased to have smiling convoy of Japanese movie starlets.*



BOYS *all the world over get a thrill from inspecting the modern jet Banshee.*



JAPANESE *and American kids enjoy their ride on Ferris Wheel at Atsugi Show.*

DEEP FREEZE IN DEAD HEAT OUT IN ARIZONA

THIS SEAPLANE HANGAR AT LITCHFIELD PARK IS 400 MILES FROM PACIFIC OCEAN

HAVE YOU been through Litchfield Park recently? More and more pilots, other than those on the ferry-run, are becoming acquainted with this desert-bound Naval Air Facility.

There are still "acres of aircraft" as Litchfield Park was described in the April 1948 issue of NANEWS, but there is also a great growth in importance and an expansion of mission. Now the CO is a four-striper, Capt. A. G. Dibrell, Jr.

In July 1954, RAdm. Apollo Soucek, Chief of BUAER commended the base in these words, "The vital and important part played by Naval Air Facility, Litchfield Park, in processing reserve stock aircraft in support of the Korean effort is well recognized. The ready, willing and able attitude of personnel concerned has again been demonstrated in adjusting themselves to the aircraft modification programs. This includes the modification of numerous aircraft of various types, with minimum use of 'time out of service' in fulfilling urgent Fleet requirements."

Two months later, NAS LITCHFIELD PARK was executing a special modification. Grumman Aircraft Corporation had sent 60 of its technicians to work side-by-side with the base's personnel in the modification of S2F aircraft in "sea-plane" hangars 400 miles from the nearest salt water. A "can't-do" attitude at this station would be pure heresy.

At the time of the Korean policing action, over 2,000 aircraft were parked in this rust and corrosion-free parking area. This "peak" is again being realized after a four-year restocking period.

During the last six months of the year, a healthy increase in the receipt of aircraft for storage—about 200 per month—hints that future demands on the present storage area, which is limited to 4,000 planes, might be greater than anticipated.

Many a Navy pilot has left his favorite prop-job "at pasture" in this grass-free storage lot. The highly-trained pilots of the two *Constitutions* put the large ships down with great gentleness when they were scheduled for their long sun-bath.

VC-61 at Miramar printed in the station newspaper a eulogy to its last F4U, which concluded: "The old *Corsair* had a rendezvous to keep at its Valhalla—Litchfield Park. She was the last of the best." More than 30 different types and 49 configurations of aircraft are stored.

Other changes on the credit side of the ledger have been realized during this grand experiment in preservation. The yearly maintenance cost per plane has been considerably reduced. In the words of an insurance specialist who toured the installation, "The nation is buying military preparedness with the maintenance of these stored aircraft at an insurance rate of three-tenths of one percent of the value of the aircraft." The savings of thousands of dollars each year at this base alone has done much not only for the purchase-power of new aircraft, but for providing funds for aeronautical research as well.

Physical changes within this fenced parking area are also apparent. There are now two large and modern hangars to provide a "production-line" aspect to the modification work being done. It is proposed to extend the 6,000 foot runway by a 2,500 foot extension to take care of the increasing jet traffic. Permanent barracks now house the enlisted men, and the Dallas-hut and frame structures of the Air Facility's "temporary" days are being gradually replaced.

Although the base still suffers from periodic "growing pains", it celebrated

AIRCRAFT ACCIDENT BOARD MEMBERS INSPECT AD WHICH CRASHED IN NORTH ARIZONA

CAPT. DIBRELL GIVES PIN TO MISS DAMMAN

last year an important anniversary with the presentation by the Commanding Officer of the first "ten-year-service" pins to five civilian employees, among them Miss Mary Jean Damman, who "hired on" in July of 1944 after the small military complement had organized the base as a receiving unit in October of 1943. It's been a growing facility ever since.

This desert base prides itself on "operating" as well as "preserving." Many of the supplies needed are transported 400 miles from the coast by logistics flights. Air evacuation of patients to coastal hospitals, as well as air-transfer of an average of 20 prisoners per month who have "hit for the desert" only to be picked up or to turn themselves in, are routine duties.

The ferry stops at this field have also increased. An average of 34 ferry pilots and seven other transient pilots touch down at Litchfield every day of the year. Also taken in stride are the demands of the Reserve Training Units; as many as 111 training planes have been refueled during the normal daily routine.

The three-Officer Accident Board also wins honors for itself in the mileage accumulated during the investigation of crashes reported in neighboring states and "south of the border." In fact, ten collateral duties assigned to an officer are not in the least unusual at this busy base.

The chief compensation, however, is the weather which provides 360 days of "flying" per year in a hot, dry climate with the lowest humidity recorded in the United States, and with a record-temperature inside stored aircraft of 195° F. The saying is that the only reason the houses in Arizona have roofs is to hold TV antennas—not to keep out the rain. Just remember to be sure to take your sun-tan lotion with you.

HELL HATH ITS FURY-NAVY, ITS FJ-4

LANDING GEAR OF THE FJ-4 IS EXTENDED FOR LANDING AFTER A 59-MINUTE FLIGHT

THE LATEST addition to carrier might, the FJ-4 *Fury*, has completed its first test flight successfully.

Piloted by Engineering Test Pilot Dick Wenzell, the FJ-4 was airborne for almost an hour.

This new *Fury* is a direct descendant of the famous FJ-1, the first all-jet fighter to be qualified for carrier duty. It follows the FJ-2 and FJ-3 off North American's production lines at Columbus, Ohio.

Aerodynamic characteristics are similar to its predecessors in the FJ series, as well as to the Korea-famed F-86 *Sabre Jet* which holds a 14 to one kill ratio over the Russian *Mig*.

Flying faster than its three predecessors, the FJ-4 is powered by a Curtiss-Wright J-65-W4 *Sapphire* engine which delivers 7,800 pounds thrust. It has a high rate of climb with a service ceiling above 45,000 feet. It may serve the Navy as an interceptor, or as a carrier of special externally stored weapons.

Configuration of the new craft follows the familiar lines of earlier FJ series models, including the 35° swept-back wings. It has hydraulically operated irreversible controls with artificial feel for the ailerons and the flying tail.

Wings fold for carrier storage, and the aircraft features a mechanically drooped thin wing leading edge and aileron flaps to improve low speed characteristics during carrier approaches. A dorsal fairing aft of the canopy has been added to the fuselage configuration. This fairing leads to the thin tail.

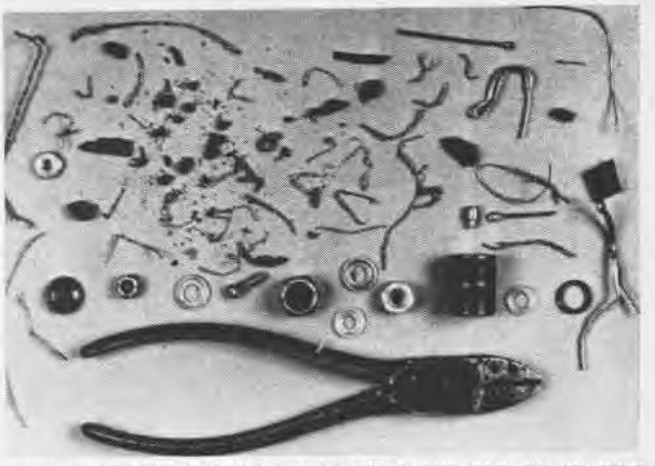
Armament for this new single-seat carrier-based jet is four 20-mm cannon mounted in the nose section. With a gross take-off weight of 19,000 pounds, the FJ-4 flies over 600 knots.

It is equipped with a hydraulically retractable tricycle landing gear, with single disc, hydraulic brakes. Landing gear shock struts are air and oil.

The model shown here is the first of two prototypes now being built by North American Aviation. They will be followed by a number of production models which are scheduled for delivery to the Navy sometime this year or during 1956.

WITH TEST PILOT DICK WENZELL AT THE CONTROLS, THE FJ-4 IS PREPARED FOR FLIGHT

CLOTH BLEW THROUGH COMPRESSOR CAUSING ENGINE TO FREEZE



ITEMS WERE FOUND IN ENGINE CHAMBER AND TAIL OF AN F9F-2

CARELESSNESS SPELLS COSTLINESS TODAY

NEW YEAR'S resolutions are now in order, and BUAER engine experts are ready to recommend another. They want a resolution against carelessness, the kind that is running up bills for engine repair.

One problem the Navy faces today is how to keep "foreign objects" out of gas turbine engines. Carelessness of the kind that leaves old rags, pieces of gear, and all manner of foreign material where jets can suck them in is costing the Navy money.

Here are a few of the things that caused the damage in the last month: a cardboard container, two tie rod assemblies, an AN-3 bolt, a rag, a starter cable, part of a life jacket, a white hat, a watch, a pencil, an anchor nut from an air duct, handles from an intake cover, an air intake screen. And the list goes on and on.

Turbines are sensitive, their blades suffering when anything gets in the way. They are so delicate that unless extreme caution is exerted, they must undergo constant repair.

Unfortunately not only are maintenance costs rising, but the number of engines requiring overhaul is increasing. For example, the repair bill during July 1954 was more than three times that required in October 1953. This may be largely the effect of increased numbers of jet engines in use.

What is the cause for the large amount of foreign object damage? On the whole, it is simply downright carelessness.

It is carelessness when some one throws a dirty rag away, allowing it to blow across a runway.

It is carelessness when, in clipping safety wire and cotter pins, a maintenance man lets loose pieces fall.

It is carelessness during installation or repair when a nut is not properly torqued, a washer is dropped and forgotten, a lock washer tab is accidentally broken and left.

It is carelessness when tools or small bits of metal are carelessly left to be picked up by an engine.

It is carelessness when men leave flight gear adrift—knee pads, clip boards and life jackets. All these have damaged jet engines. And this kind of carelessness is happening every day.

How to combat damage caused by carelessness is a tough nut to crack. Protective inlet duct screens are a great help, but they were designed basically to keep people out, not small pieces, and it has happened that the screens themselves were sucked into the engine.

Inlet duct covers are another shield, especially useful in stony areas and poor parking locations, but they must be removed before the engine is started. Otherwise, they land in the turbines and damage repair costs go up before the plane does. Incidentally, it is surprising how few engines are damaged by stones, considering some of the areas Naval aircraft are operated from.

Remember this, a gas turbine engine acts as a powerful vacuum cleaner. Given half a chance, it will draw almost anything into its compressor.

Therefore, wherever there's a gas turbine, the motto should be "Keep It Clean." Nothing must be left around to be picked up by this expensive vacuum cleaner. If nothing is dropped into the engine, nothing left loose inside, and nothing left near to be sucked into the compressor, no damage.

Most aircraft parts are made of magnesium and aluminum alloys. Since magnetic sweepers will not pick up these materials, this leaves a lot to do by hand, by use of hand brooms and by measures of general pick-up. Personnel have much to do, that, except for carelessness, would not have to be done.

GOOD housekeeping is the only answer. Maintenance personnel must be meticulous when they are working on engines or aircraft. In fact, whenever they are working on any kind of aircraft that piece of safety wire, or cotterpin or rivet from an old *Corsair* may bounce over to a jet nearby. A bolt, nut or washer dropped and disregarded may be picked up by the propeller or slipstream and delivered to a jet aircraft parked nearby. Then it becomes a "foreign object" in a damaged gas turbine engine.

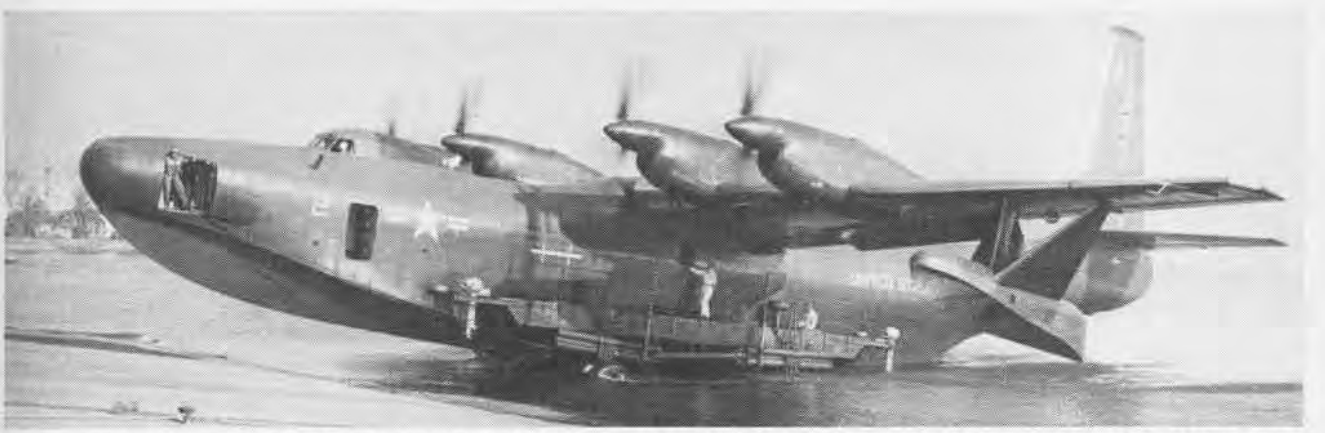
Everyone can help. A piece of paper may have a metal paper clip on it, a crumpled empty cigarette package a penny change, a rag, needing nothing additional, may contain a pin, a tack or buttons. All these may be some distance from the runway, taxiway or operating areas, but a stiff wind may blow them to that area to be picked up to damage substantially another engine.

CONVAIR R3Y DEMONSTRATES CAPABILITIES

LEATHERNECKS OF MARINE RECRUIT DEPOT, SAN DIEGO, DEBARK FROM CONVAIR TRADEWIND IN TROOP-CARRYING DEMONSTRATION

CONTRA-ROTATING PROPS PULL TRADEWIND UP IN STEEP CLIMB

R3Y PULLS UP RAMP UNDER POWER OF ITS TURBOPROP ENGINES



CRADLE FOR BEACHING OR LAUNCHING HAS FOUR PROPELLING 25-HP OUTBOARD ENGINES FOR INDEPENDENT WATER MANEUVERING

'NEW LOOK' IN CHERRY POINT TOWER

THE NEW control console recently installed in the Cherry Point Control Tower is the result of over a year of intensive labor, which has been described by LCol. G. W. Martin, communications officer, as being "beyond the call of duty."

The system, designed and built by MSgt. C. R. Sewell and the men of operations radio shop of the station communication department, was planned to facilitate aircraft operations from Cherry Point by streamlining the ground-to-air control communications and simplifying to a large degree the required maintenance.

The construction and installation of the three control consoles and the associated component, the equipment panel, were done at a cost to the government of less than $300 while, it is estimated, duplication by private industry would have run into the thousands of dollars.

The consoles are used to handle the control communication frequencies of flight control, instrument approach control, and ground control.

The flight control console incorporates the receiver speakers and volume controls for each channel, transmitter selector switches, a special voice modulation control, and microphone circuits to the transmitters and crash crew bull horns. Other features include a local time clock, duty runway indicator, and aerological instruments indicating wind direction and velocity and altimeter setting.

The approach control and the ground control consoles are similar, including many of the same circuits.

The equipment panel, an integral component of the system, is the housing for the remote control circuits and the line amplifiers, made necessary by the fact that the transmitters and receivers of radio station NKT are approximately 3,000 yards from the control tower.

A "patch" panel makes it possible to by-pass various system elements during maintenance or repair without shutting down the tower.

The equipment panel also contains three tape recorders which are in constant operation to make a permanent record of all transmission which take place on flight and approach control channels. The recordings are used to help discover the cause of flight accidents and to establish liability in the event of violation of flight safety regulations.

"MSgt. Sewell and his assistants deserve highest credit for their outstanding work," says LCol. Martin.

MSgt. Sewell says of his project, "We think this will eliminate about 80% of the maintenance headaches we had before on the tower communications set-up, and be of all-round benefit to aircraft operations at Cherry Point."

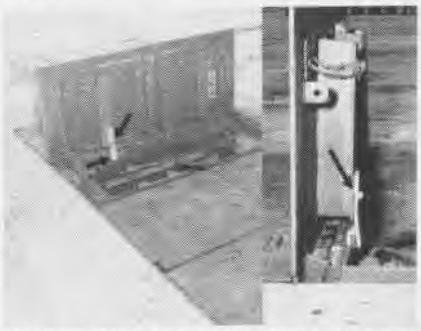
AN AD-6 *from VA-95 is catapulted from the deck of the USS Hornet as another awaits its turn on the slings. Twenty-three were "shot" from the carrier's deck as she lay alongside a wharf at Yokosuka, Japan. Foul weather had prevented the carrier launching the Skyraiders before she entered the harbor. VA-95 pilots flew the planes to NAS Atsugi to continue flight training.*

Valve Pit Safety Design

A beneficial suggestion submitted by George C. Carr of NAS NORFOLK has been approved by the Bureau of Aeronautics Committee on Awards for optional adoption by other activities.

Mr. Carr submitted a plan for a safety lock to hold the door to the seaplane apron fueling and valve pit when work is going on. In the past, two civilian employees in the maintenance division were hospitalized as a result of pit doors falling on them as they were servicing pit equipment. One of the employees received two permanently injured and disfigured fingers as a result of trying to catch a door to avoid a head injury.

When installed, the pit door safety lock holds the doors in an open position while the equipment in the pit is being either used or serviced. Securing the pit door eliminates many hazards, such as fire (caused by sparks igniting gasoline vapor), damage to service equipment and injury to workers.



SECURING PIT DOOR IS SAFETY MEASURE

NAS Jax Picked for Site

Funds have been released for a $3,500,000 helicopter repair facility, which will be a part of the O&R Department, NAS JACKSONVILLE, selected because of its strategic location.

The Florida station was chosen to house the new Navy helicopter facility, according to Capt. W. T. Hines, O&R officer, NAS JAX, because of its central location within the area of East Coast helicopter activity. Long range ferrying of 'copters is time-consuming, and it is more economical to place the overhaul base to good advantage for short hauls in moving the aircraft from user to repair and back again.

Construction of the new helicopter repair facility, which will take at least a year, will probably get under way within the next few months.

Foreign Material Removed

Minute bits of metal which wedge in out-of-the-way places in the Chance Vought guided missile *Regulus* during assembly are removed in a unique "roll-over" jig which permits rotating the missile shell.

Small pieces collect in corners where vacuum cleaning will not remove them. Before the engine is installed in the cigar-shaped *Regulus*, two rotation rings are mounted on the nose and tail sections.

A small power drill motor is all that is needed to turn the missile over slowly in the jig, like a turkey on a spit. The bits of metal fall out of their hiding

A 'ROLL-OVER' JIG DISLODGES PIECES

places and are collected, about a handful being taken from each unfinished missile in this manner.

Engineers are working on a vibration machine for installation inside the missile shell which will assist in dislodging effectively the bits while the shell is rotating in the jig.

Supersonic Rain Is Studied

Supersonic jets flying through rain often are marked with pits and abrasions when they return to base. This fact prompted Convair to set up last year a laboratory on a Navy firing range near San Diego to analyze the raindrop effect.

Scientists fired test pellets of aircraft materials from a 20-mm cannon through a "rainstorm" produced by sprinklers in order to approximate supersonic flights. Engineers found that when a soft metal was fired, it showed erosion after one flight; harder metals were marked after repeated flights.

But the significant discovery was that at 1,520 mph, a raindrop smashed into a plane with the force of 70,000 psi. Therefore it is possible a jet canopy could be punctured by rain and a pressurized cabin burst at very high altitudes.

AIRCRAFT WEIGHED ON GIANT SCALE

CUTLASS STANDS ON NEWLY-COMPLETED $75,000 SCALE SUNK IN FLOOR OF CVA HANGAR

A DUAL-PURPOSE scale installed in Chance Vought Aircraft's missile hangar can weigh a 90,000-pound airplane or can be used to plot shifts in a plane's center of gravity owing to fuel consumption.

Plane-weighing scales have been in use for some time, but CVA's $75,000 Dallas, Texas, installation is believed to be one of the first used for CG studies.

Built in the shape of a "T", it comprises two 30-ton motor truck scales linked together. The two main landing gear wheels of the *Cutlass* or *Regulus* stand on the crossbar of the "T", a floating concrete slab 10'x34'. Below this is a five-foot pit with the weighing mechanism.

The nose wheel of the plane or missile rests on the vertical part of the "T", which is divided into four sections. Each of the sections can be lowered or raised five feet, so the plane's position can be changed to simulate almost any flight attitude of climb or dive. This part of the scale is located in a pit 20' deep, 34' long and 10' wide.

Beside this pit is a smaller pit which houses the measuring instruments and the two men who operate the scale. Their "house" is equipped with lights, water, pressure ventilation and a fire warning and extinguishing system. They have communication with those above ground by sound-powered telephone.

The scale will weigh anything from 10 pounds to 90,000 pounds and any plane with a wheelbase from 6' to 50'. It is accurate to within $\frac{1}{10}$ of one percent and can do the weighing job, usually an hour's task, in 15 minutes.

The scales can be used to determine the shift of center of gravity as a plane's fuel is consumed. Hydraulic elevators change the plane's nose level to simulate dive, climb or level flight for such CG studies.

By using the new scale, engineers will be able to determine accurate CG characteristics of an experimental plane or missile on the ground, rather than having to estimate them on paper or wait to compute data after first flights.

Two AD's Assigned VR-22

The Carrier Transport Division of VR-22 was assigned two AD's for operation with the *Intrepid* during October. The *Skyraiders* have been modified to carry a pilot, crewman and four passengers.

With the installation of "higher energy" wire rope arresting gear on many carriers, $1\frac{3}{8}$" diameter instead of the $\frac{7}{8}$" wire, it was found that the margin of safety for many of our aircraft was considerably reduced. Tailhooks, such as on the *Turkeys* used by the VR-22 Carrier Division, were designed for wires of approximately one inch.

Necessary modifications are being made to tailhooks on AD-4's, F9F-4 and -5's, and F2H-2's which were also designed for the lighter arresting wires, so there will be an adequate margin of safety when they operate from carriers with the heavier "jet" arresting gear, a necessary factor for safety.

LETTERS

SIRS:

Please scratch out "another first" for the USS *Lake Champlain* as stated in the October issue, p. 22.

I believe records will grant the honor of having the first civilian pilot to qualify in carrier landings and take-offs to the USS *Ranger*. Further, the USS *Monterey* had several civilian contract pilots make landings and take-offs during 1952, 1953, and early 1954.

The late Mr. Richard H. Burroughs, Chance Vought test pilot, made eight take-offs and landings in an FG-1D aboard the *Ranger* in the early summer of 1946 in preparation for the XF5U and XF4U-5 test work.

B. C. BELL, LCDR.

SIRS:

I noticed on the cover of the October 1954 edition of NANEWS, LSO bringing in a plane. My question is: If the plane hits the ramp and dumps gas about the deck, what is the LSO going to do with the cigarette he has in his mouth?

W. J. MCCAW, LT.

[Swallow it—mebbe?

VADM. *F. W. McMahon, ComAirLant, is welcomed aboard the USS Currituck (AV-7) by the ship's CO, Capt. J. B. Vredenburgh, prior to the presentation of Battle Efficiency Award for AVP/AV class ships, which Currituck won.*

IFR-IQ?

According to the All Weather Flight School, the answer is "yes". Ref: Flight Information Manual, Vol. 7, Part I, page 55.

"Idea Man" Scores Again

Chief Earl A. Hamilton, VP-19's "idea man", has come up with another device guaranteed to make life less hectic for his compatriots in the Alameda-based unit and all those who fiddle with things electronic in Navy P2V *Neptunes*.

This time it's a new electronic configuration for the recording of audio signals in the *Neptune*.

Only last year Hamilton, an aviation electronics technician, discovered and corrected a design fault in the P2V-5 bomb release system.

Chief Hamilton's latest "invention" was born when the standard wire recording arrangement for the P2V-5's proved inadequate to meet VP-19's operational requirements during their recent tour in the Far East.

After discussing the problem with the operators and spending many flight hours in a personal check of the system, Chief Hamilton submitted his solution—a new recording system that he had designed and drawn with the aid of his shipmates. The new configuration allows an operator to select and record audio signal within the aircraft whether the signal be ICS, RCM, NCM, radio or sonobuoy receiver.

Hamilton's latest "idea" jelled into official reality when an aircraft technical bulletin was issued containing his modifications almost in entirety.

A BEAUTY *on the bridge, Lee Ann Merriwether, Miss America of 1955, paused during a recent visit to the USS Randolph, CVA-15. The big carrier was in the Portsmouth, Va. shipyard for repairs after Hurricane Edna's attack.*

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● THE COVER

Convair's XFY-1 climbs away from NAAS Brown Field in a vertical take-off. Successful transitions to and from level flight followed.

● THE STAFF

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SQUADRON INSIGNIA

The "Grim Reapers" of VF-101 head this month's display of approved insignia. Winged symbol of death holds scythe ready to mow down potential enemies. Lion and sword represent strength of VA-145, while lightning represents a swift attack at day or night. Encompassing attack of CAG-3 is symbolized by the hand issuing from top of grey cloud, and the speed and power is denoted by colored flashes from each finger tip. Explosive power of VF-104 is revealed by the background of an atomic explosion. Readiness and rapid launching characteristics symbolized by missile poised for launching in bow.

VF-101

VA-145

CAG-3

VF-104

NAVAL AVIATION NEWS

DAWN of a new year sees naval airmen in almost every section of the world. News headlines are made by these guardians of freedom, as well as by new techniques and equipment which enable them to do their job. Start the year right by keeping in the know. For one year of NAVAL AVIATION NEWS, send two dollars to:

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