NAVAL AVIATION NEWS

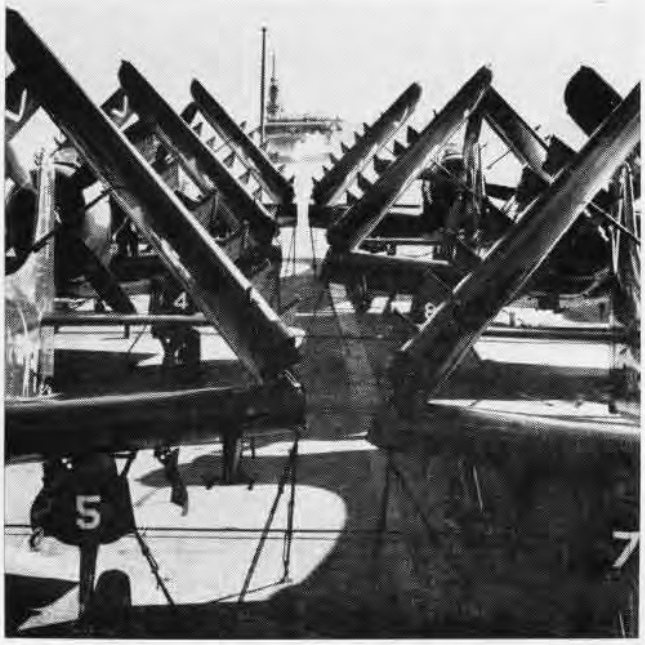
APRIL 1955

NavAer No. 00-75R-3

Five AD Skyraiders from VA-115 which operates from the Kearsarge are shown on China Coast patrol.

AIR POWER FOR THE SEVENTH FLEET

Aircraft wings frame the USS Wasp as she steams in formation aft of the Kearsarge.



A formation of F9F-6 Cougar jets flies high over the Midway and her destroyers.

FIRST NAVY OFFICER POW EXCHANGED IN 'LITTLE SWITCH,' LT. BROOMHEAD, GETS INSTRUCTIONS FOR MAIDEN CUTLASS FLIGHT.

SUPERSONIC CHECK-OUT

'Cougar College' teaches traits of delta and swept wing jet aircraft

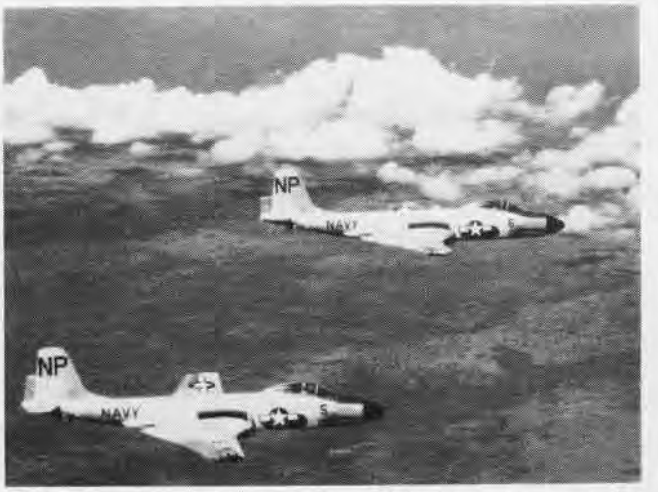
COUGAR COLLEGE, *Cutlass Classroom, Fury Finishing School*—call it what you like!—Composite Squadron Three's Project *Check Out* is a fighter pilot's dream come true. VC-3 is offering to some lucky pilots a chance to fly all the latest swept and delta wing jets the Navy will soon have operating off the flight decks of its carriers.

It is carrier aviation of the future. In the classrooms and hangars of VC-3, and in its supersonic aircraft, the basis is being laid for operating procedures and techniques that naval aviators will be using for the next ten years.

Some time ago, the Navy realized that many prospective commanding officers and executive officers of squadrons being assigned the new "faster-than-sound" aircraft had been in command of an LMD (large mahogany desk) for the past two or three years. They had been tooling around the sky in venerable SNJ's and SNB's at a snappy 140 knots.

Even if the prospective skipper had been in one of the early jet outfits, he could not be familiar with the problems involved in swept and delta-wing "boom machines" that travel close to, and past the sound barrier in level flight. A lot of water has passed under the bridge since the early days of jet flying when it was necessary to plunge a jet straight down from 40,000 feet, with the throttle two-blocked to join the select group logging supersonic speeds.

A FLIGHT *of F7U-3 Cutlasses from the Transitional Training Unit is a pattern of beauty over the sea, as planes form a design for attack.*



THESE *all-weather Banshees are from night interceptor teams that provided the jet umbrella over Task Force 77 in seas around Korea.*

ASKING a squadron leader to scramble blindly along the involved road of transition from the familiar prop planes to jet flying at the same time he must provide leadership, places a heavy burden on these commanding officers who need every advantage in the critical stages of training of a squadron. The planes of today are too fast, and too complex to allow for any uncertainty occasioned by unfamiliarity.

An answer has been found to this very evident and growing need of the senior squadron aviators for jet indoctrination. Project *Check-Out*, recently organized and put into operation at NAS MOFFETT FIELD by the Commanding Officer VC-3, at the direction of Commander Air Force, Pacific Fleet, is that answer. And it's a dramatic one.

A Transitional Training Unit (TransTUPac), *Check-Out* has as its primary mission the maintenance of strong flight leadership by senior squadron officers. This is accomplished by thorough indoctrination in the new type aircraft. Prospective commanding officers and other senior members of a squadron about to receive a new type plane will be ordered to VC-3 for six weeks on a space-available basis. There they are given a complete understanding of the capabilities and limitations of the particular type jet they will be operating. Familiarization with the latest operational techniques and thinking in each phase of the aircraft employment is assured. Methods of dissemination of the comprehensive knowledge gained of operational and technical aspects of jet flight are emphasized. No stone is left unturned in the endeavor to give that marginal advantage that makes the difference between a mediocre outfit and an aggressive top flight squadron.

In short, VC-3's Project *Check-Out* is proving the age-old adage, "Knowledge is power." This unit is providing the tool for effective leadership through knowledge of the aircraft being flown.

While the main emphasis is on training senior pilots, there are many other phases of operation that must be completely mastered by a squadron receiving a new type of aircraft. After actual usage data have been compiled, and man-hour studies made, there is complete dissemination of

PROJECT *'Check-Out' students spend 150 hours over handbooks and tests, in lectures and trainers, learning about the Navy's new jets.*

COUGAR *College OinC, LCdr. Bud Sickel, conducts engine performance class. Small classes allow more concentrated effort and attention.*

WEARING *the Nan Peter and three stars of VC-3, these supersonic FJ-3's are training pilots for fast jet squadrons with the Fleet.*

VARIETY *show takes to the air. In a composite flight of VC-3 jets, the FJ-3 Fury leads two Cougars, two Cutlasses and the F2H Banshee.*

maintenance and logistical information to the ground crews responsible for the new plane. The enlisted maintenance men who go through the eight weeks' course in the transitional training unit are chosen for their efficiency in their particular rates. They will form the nucleus of trained men in their new squadrons.

Another phase of transitional training to be emphasized is in electronics. While the flight designers have been thinking years ahead in terms of swept and delta wings, more powerful engines, and boundary layer control, the electronic geniuses have maintained the pace in the production of electronic equipment of superior design and operation. At *Cougar College*, electronics rated enlisted men are guided in the operation and maintenance techniques to make the new pieces of electronic gear produce results for which they were designed.

How well VC-3's skipper, Cdr. James D. Ramage, planned Project *Check-Out* is already becoming evident. To whip the program into shape, he selected LCdr. H. G. (Bud) Sickel, a former Patuxent River test pilot, and a recent Air Force exchange pilot. Bud Sickel has almost 1,500 hours of jet background in practically every operational type flown by the Navy and the Air Force.

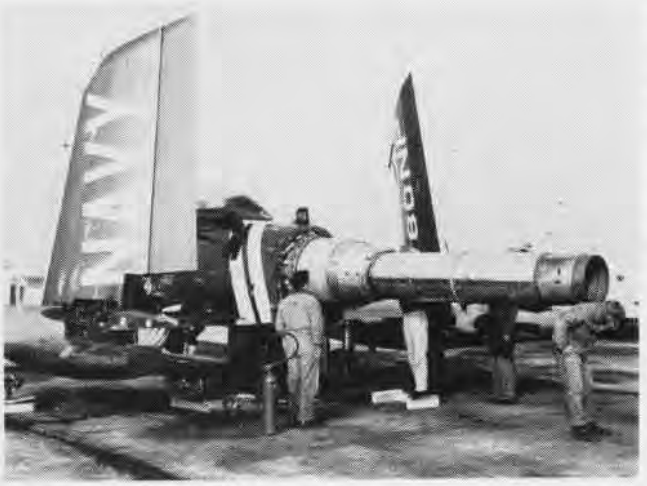
First swept wing jet to arrive at the VC-3 unit was Grumman's carrier-proven F9F-6. The *Cougar* had a head start in the program since a number of pilots were already familiar with its flight characteristics and the enlisted men available to form line crews were familiar with its maintenance techniques.

The executive officer of VC-3, Cdr. R.W. (Duke) Windsor, greatly assisted the *Cougars'* integration into the training program. His background as a former Pax River tester, and ex-skipper of VF-24, the Navy's first swept-wing squadron, could not be improved upon for the present task.

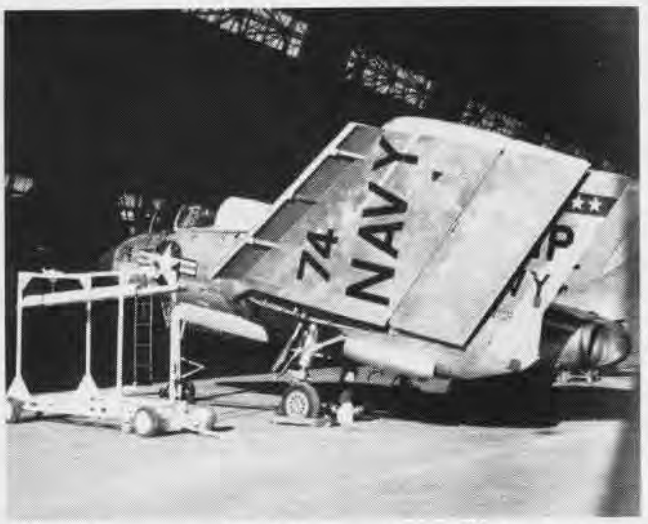
Instructors in the *Cougar College* section of the transitional training unit, Lts. Bill Neubauer, Stu Madison and Archie Lane, have been busying themselves accomplishing the project's secondary mission, that of checking out VC-3 pilots in swept-wing aircraft, in preparation for the still better planes that will soon come from the testing center.

UNDER COUGAR'S *nose, swept wing Furies and Cutlasses stand on flight line, ready for another day of Transitional Training flights.*

LT. DON *Shelton, F7U-3 Cutlass instructor, gives trainer checkout to two students going through first session of VC-3's TransTUPac*



IN EARLY *morning chill, VC-3 maintenance crew member warms his ears near hot tail pipe of an FJ-3 Fury on turn-up line at NAS Moffett*



MORNING, *noon or night, Cutlasses are kept in 'Up' status by hard working mechs led by men like Chief Tommy Thomsen and P. I. Suk.*

IMPORTANT *part of maintenance is drop test of landing gear. Here, crewman watches indicator as landing gear goes up on new FJ-3 Fury.*

training program offered at the Naval Aviation Test Center, Patuxent River. (When the last bug has been worked out of a new plane at NATC, and the new type aircraft is ready for delivery to the operating squadrons of the Fleet, then the eight weeks' highly concentrated course in flight and maintenance gets under way at the Center.)

By mid-September these men had finished the course and, back at Moffett, laid out a complete flight syllabus. The three pilots, who were slated to be headmasters in the *Fury Finishing School* have nothing but praise for the *Fury*, both as a high mach performer and as an easy, stable handling aircraft in the carrier landing pattern. The addition of a tailhook assembly for carrier operation did not detract from the plane's high level of performance.

While the *Cougars, Cutlasses,* and the *Furies* are the first of the new beauties to be flown at the *Cougar College of Supersonic Knowledge,* soon to follow are the jets of the future. These are the ones that have been tantalizing pilots from recent photographs in magazines and newspapers.

VC-3 expects that late spring of '55 should see the operational use of McDonnell's all-purpose jet, the F3H *Demon,* which, with its futuristic design, has been likened to something out of the Buck Rogers era.

Not far behind the high nosed *Demon* will come "Heineman's Hot Rod," Douglas' radically new A4D, the *Skyhawk.* This pint-sized power house, capable of flying coast-to-coast, non-stop, as well as of carrying the A-bomb, is so tiny that it can be stored aboard carriers in large numbers, although its swept wings do not fold.

Following on the heels of the *Mighty Midget,* comes another Douglas product, the F4D, on its way to VC-3. This carrier-based beauty is still the holder of the world's three-kilometer course speed record. With the arrival of the bat-winged *Skyray,* VC-3 will again train teams of interceptors whose task it is to provide protection for the Fleet. This time the interceptor teams will be flying these all-weather F4D's, capable of supersonic speeds at level flight, and of climbing from the deck of their carrier to 40,000 feet or more, in less than five minutes, to carry out their assigned mission of intercepting enemy aircraft who are on the prowl.

THE COUGARS' use in the program is divided. They are serving as the indoctrinational type plane for swept wing flying, and as chase planes for the later types such as the *Cutlass* and the *Fury.*

The F7U-3 program also got off to a flying start, well ahead of schedule. Prior to transfer to the training unit in September, Project *Cutlass* had been operating successfully for several months at NAS MIRAMAR.

In a matter of days after ferrying their twin jet *Cutlasses* from Miramar to Moffett, Lts. Don Shelton, Walt Schirra and Burt Shepherd were in business.

Before the first formal *Cutlass* class was convened in late November for four VF-122 pilots, a squadron class was formed, and the transitional training program got underway within the squadron. "Afterburner throttle benders" of the squadron, after their first familiarization hops in the 700-mph fighter were all enthusiastic about the F7U's.

In preparation for the FJ-3 participation in *Check-Out,* Lts. Bob Baldwin, Bill Fraser and Don McCracken, together with 40 chosen enlisted men went through the accelerated

In the months intervening before the delivery of these ultra streamlined jet interceptors, the pilots who will man the first F4D teams will keep their hands in as instructors in transitional training, and when the first planes arrive, they will be able to become operationally qualified with a minimum of time and effort.

By the beginning of next year, Grumman's entry into the level supersonic field, the F9F-9 *Tiger*, will, if present schedule is followed, wing its way from Patuxent to Project *Check-Out* to take its place in VC-3's stable of new jets, which ultimately will total six of each kind.

Based as it is upon the fundamental idea of giving the latest word in swept wing and delta wing aviation while pointing out the capabilities and limitations of each new type, Project *Check-Out* crams full hours of work into each of the six weeks for the pilot trainees. One hundred fifty hours of ground school include instruction in such subjects as high mach and maneuvering characteristics, high altitude and high speed tactics, high altitude gunnery and the most up-to-date procedures for flame-out, as well as for carrier landing techniques for these advanced types of speedy jets.

To give those unfamiliar with advanced-type jet flying an understanding of characteristics they will encounter to a greater degree as they move into a type like the F7U-3, the flight program begins with three transitional rides in the TV-2, a tandem seat jet trainer. From there, after pouring over handbooks and texts, spending hours in lecture rooms and in trainers, each pilot climbs into the cockpit of one of the new jets for about 50 hours of in-type training.

Although there is not time for these senior students to reach a "red hot" proficiency in the operation of the high speed after-burners, the student pilots have an opportunity to sharpen their skills again as they proceed through the carefully planned stages of training that return them to the high state of flying efficiency required by today's faster-than-sound jets.

Under the watchful eye of the instructors riding chase on them in either the same type plane, or in a *Cougar*, the students progress through familiarization, navigation, cruise control, type instruments, night flying, camera gunnery, basic tactics, concluding with field carrier landing practice.

Realizing that it is no easy job to get a supersonic jet slowed down and into a landing pattern to come aboard in a good carrier landing pass, the Unit has put particular emphasis on field carrier landing practice. While there is no actual carrier work, the pilots make their FCLP's at Crow's Landing, a part of the Fallon complex.

Transitional Training Unit, Pacific, has gone to great lengths to assure that the crews who will keep the new jets in an "up" status are given every possible aid in reaching maximum proficiency. During their eight weeks' stay at Moffett, every minute is packed with instruction ranging from theoretical discussions on technical subjects to actual participation in checks and overhauls of the new types. Aircraft and engine manufacturers, also, are cooperating in every way possible to make the school a success.

Two classes have graduated from Project *Check-Out*, and the third one is underway. Cdr. Ramage said recently, "We expect *Check-Out* to pay off in safer flying records, and in higher performance jet squadrons. That is our primary aim."

LCDR. J. W. *Eash of VF-122 is ready for first Cutlass flight of his transitional course.*

CURIOUS *mess cook looks new plane over as maintenance crew turns to, on the F]-3 Fury.*

FROM 200 *feet above, torpedo-shaped F2H-3 with its miniature folded wings appears odd.*

BIG NUMBER *One hangar at Moffett is VC-3's 'Stable of Jets.' Only the Fury is missing from line-up of F7U-3, F9F-6, F2H-3, and TV-2.*

GRAMPAW PETTIBONE

It Can't Happen to Me!

Here is one of those accidents which might have been assessed "cause unknown" except for one detail. The pilot escaped. The setting is familar . . . a dark night, over water, and no horizon. This is how the pilot tells it:

"On the night of the accident I was launched from the ship at 1800 with three other *Banshees* for a routine CAP

flight. Upon completing the flight we returned to the force and let down through broken clouds at 5500 feet. The section ahead of us broke downwind, and we broke shortly thereafter. I had seen the ship clearly as we passed down the port beam.

"After the section leader broke, I lowered my hook and continued on for about 10 or 15 seconds and broke at an airspeed of 210 knots at 1500 feet, brakes out, at about 80% power. I immediately commenced a descending 180 degree turn, half on instruments and half visually by reference to the ships and other aircraft. I rolled out of my turn on a heading approaching the ship, which was then four miles ahead.

"At this point my instruments indicated 500 feet straight and level at an airspeed of 180 knots, decreasing. At this time I lowered my landing gear and added about 5% power. I had determined to lower my gear and flaps on the upwind leg in order to get squared away as early as possible, and as there were three other planes ahead of me, I anticipated no trouble in picking up a good interval.

"My console lights (illuminating the gear indicators) were out, and as I

would have to check this by flashlight, I also wanted to do this as soon as possible. I broke out my flashlight at this time, and the gear indicated down and locked. I remember thinking that in a moment I should lower the flaps. I then looked at the ship ahead and tried to estimate my relative position to its course. I also looked at the three planes in line ahead.

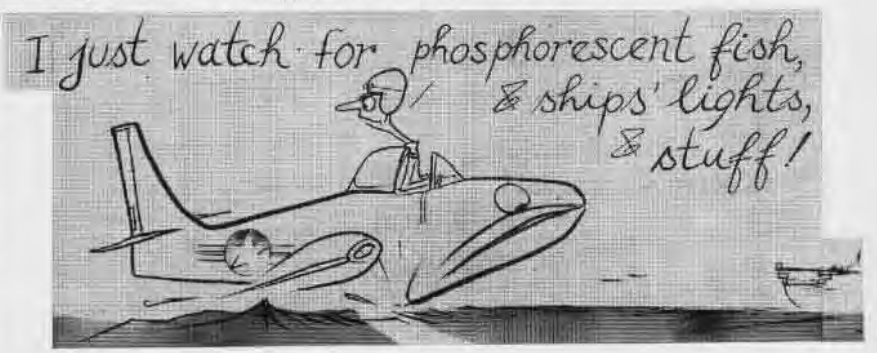
"At this moment I had a sudden feeling that I was getting low. I added full power and came back on the stick and had no more than checked my wings level when I felt the thud of my landing gear striking the water. I was immediately back out of the water but felt a thrust loss and saw my RPM decreasing. I knew immediately that I had flamed out and that I would have to ditch.

"I pulled my speed brakes in, dropped my flaps, checked my shoulder harness, and put out a short transmission that I was ditching. I held a slight nose high attitude on the gyro horizon and, as I felt what I took to be the tail hook striking the water, I remembered I had not jettisoned my canopy, which I did just as the aircraft dug in the water and spray came over the cockpit. I did not consider the deceleration unduly hard, although there was an uncomfortable lurch to the right at the last moment.

"I pulled myself out of the cockpit and found myself standing up with the plane right side up and fuselage apparently intact. I could not tell if the wings were still there due to darkness. As I stepped out of the cockpit with my chute still on, the plane sank from under me. I was picked up about 15 minutes later by a destroyer.

"Looking back on the period between the time I broke downwind and the moment before I hit the water, I am painfully aware that I had fallen into the old trap of failing to establish an instrument scan under instrument conditions, instead, relying on the half instrument—half visual system of orientation that is so often fatal. I was fully aware of the hazards of this procedure and had flown around carriers enough at night to know that you must fly by instruments under no-horizon conditions, sparing only an occasional glance at the ship. I have seen other pilots fly into the water under similar circumstances, but had adopted the old belief that "it can't happen to me."

"I consider my failure to establish a proper instrument scan immediately after the break and before I commenced my downwind turn to be the primary cause of the accident."



Grampaw Pettibone Says:

Now, this is what is called getting the word straight from the horse's mouth. You lads who sit back and think such a thing can't happen to you would do well to change your thinking habits.

The pilots who disappear during night carrier operations are not just proficiency pilots out logging a little night time. They are trained in night FCLP's and night flying and are usually at a maximum stage of proficiency in flying the visual-instrument system necessary for night carrier operations. If it can happen to one of them it can happen to anyone else who gets lulled into a sense of security from over confidence.

Those of you who still aren't convinced, do me a favor, will you? The next time you go out on a black night with no horizon and persist in telling yourselves, "It can't happen to me," qualify it slightly by adding "if I watch my attitude, altitude and airspeed." The only thing you'll prove by flying into the water is that you are a bold pilot and we already know that or you wouldn't be out there.

Dear Grampaw Pettibone:

The official record will no doubt confirm the accuracy of my tale but, just in case it lacks a moral, what do you make of this version?

Dilbert, cleverly disguised as a Commander, and his cousin Filbert approached a JRB from the rear (probably because it was the shortest distance from the base operations), entered the plane and proceeded to start the engines. Noting that the line crewman did not come out to attend the plane, Dil instructed Fil to be ready to depart the rear door for the nearest fire bottle in the event of engine fire. There was no fire and still no line crewman, so Dil asked for and received clearance to taxi out for take-off.

After taxiing about a foot and a half, while carefully checking the area ahead, a loud noise and strong vibration in the vicinity of Dil's engine caused him to shut down immediately and secure the cockpit. You can imagine his surprise when he stepped outside and discovered an old beat-up fire bottle tangled up with a bent and battered propellor.

Cousin Fil swears to it that Dil's

last words as he headed for the woods were, "Doggone it! When I get in a hurry, even three stripes don't keep me out of trouble! You go thataway, Fil, and I'll meet you after dark."

So help me, Gramp, that's what Cousin Fil said he said.

Regards,

CDR USN

Grampaw Pettibone Says:

Teh! Teh! I'm afraid I can't say much for anyone who goes around leaving fire bottles in front of airplanes, especially with Dilbert on the loose. Of course, it might have helped considerably if one of the pilots had kinda scrutinized the outside of the plane, as is the SOP. But that's the way it goes. You can fly heads-up for years and stay out of trouble, then one day you get impatient and take a short cut.

Now, the odds are umpteen thousand to one that you'll never taxi into a fire bottle, but there is one GOOD way to make sure you won't and that is to take a look first. It is practically an impossibility if you follow the rules and wait for a taxi director. But it seems that no matter what the odds or the disguise, Dilbert always finds a way.

Incidentally, we heard that Dil stumbled into a gas pit and broke his nose while fleeing the scene of the crime, which only goes to prove that when you find yourself in a hurry, you can blunder from one thing into another.

Dear Grampaw Pettibone:

See if you can top this one. Another pilot and I prepared to take off in an SNB-6 the other day. After religiously going over the check-off list, waiting for 20 minutes for an airways clearance while drawing gas on number one tank, a routine takeoff was made. At about 75 feet with gear retracted both engines quit simultaneously. The airspeed indicated 90 knots. The nose was pulled up, the gear lever slapped into the down position and a normal, but somewhat sloppy landing was effected prior to reaching the end of the runway. Gear locking and runway touching had been simultaneous.

Upon checking the tanks later, traces of water were found in the gas.

Very truly yours,

CDR USNR-R

Grampaw Pettibone Says:

Bub, that's what I call getting a close shave without the benefit of a razor. But since it wasn't pilot error and you didn't have an accident, about all I can say is you gotta watch those sloppy landings. Anyway, we're mightly glad your reflexes were well oiled that day.

A less cool head might have looked over at the co-pilot and said, "Egad, Ridley, no engines!" About that time he'd have had no wheels, probably no runway, and surely no alibi. This is sometimes known as raising the landing gear too soon on take-off or not clearing the engines properly after idling for too long a period of time.

In either case, it doesn't get many sumps drained, and that is the best way I know of to find water in the gas.

UNDERSTATEMENT OF THE YEAR:

The aircraft landed hard between number two and three barriers.

MEMO FROM GRAMP:

Stretching a glide on dead stick is like shaking hands with a consumptive undertaker. It's the coughin' that gets you.

TEST PILOTS LIKE CARRIER TRIALS OF FJ-3

CAMERA STOPS NEW FURY JUST BEFORE IT BECOMES AIRBORNE

CARRIER Evaluation Test pilots of NATC's Flight Test Division expressed their gratification at the results of carrier evaluation trials of the new *Fury*. Catapult take-offs under varying weights established that its take-off minimums compared well with other new jets, and that it handled well in approaches.

The new fighter was flown during the tests by Maj. J. E. Felton and LCdr. F. T. Stevens aboard the *Coral Sea*, off Norfolk, Virginia. The plane was powered by a J-65, and reportedly demonstrated outstanding performance compared to other fighters without afterburner added.

As in some other recent carrier-based planes, the FJ-3 is equipped with the "A-frame" tailhook, which permits versatility of design, facilitates installation, and prevents a tailhook swivelling action in the air.

A new design in the drop tanks used during these tests promises desirable aerodynamic improvements. Note the horizontal stabilizer with dual vertical fins.

The FJ-3 is now in production at North American Aviation, and will give additional striking power to the Fleet.

GOOD LANDING CHARACTERISTICS: NOTE THE A-FRAME TAILHOOK

TEST PILOTS WERE DELIGHTED WITH EASE OF FURY LANDINGS

OBJECTIVE: NAVY WINGS

PREFLIGHT SCHOOL AT PENSACOLA GIVES RUGGED TRAINING TO START FLEDGLING NAVAL AVIATORS ON WAY

AN OLD adage informs us that you have to learn to crawl before you can walk. The same idea is paraphrased in the Navy's flight training program; only here you have to learn to do several things before you can fly. Most of them are learned initially in Pre-Flight School at Pensacola, Florida.

Take the case of Naval Aviation Cadet J. J. (Jakie) Janzen of Dallas, Oregon, pictured on these pages. Janzen has a foot on the first rung of the ladder that will eventually lead him to a commission in the U. S. Navy complete with a pair of gold wings to wear and a pair of swept wings to fly.

Janzen, like several hundred shipmates in the Pre-Flight School are there because they have their eyes on the sky. Naturally they find the route to the flight line via the classroom and the athletic field somewhat galling, but the splat of SNJ propellers over their heads all day and every day is a constant reminder that they're getting closer to their reserved seat in a Navy plane. They are going to be better and safer flight students and competent Naval Officers for having detoured slightly from a direct path to the cockpit by way of the textbooks.

Commanded by Captain B. M. Strean and located aboard the Main Station at Pensacola, the Pre-Flight School has a two-fold mission. First it is an officer candidate school for naval aviation. Secondly, it is designed to fit student aviators mentally, physically and psychologically for actual flight training and future service as leaders in naval aviation.

The students at the school fall within three general classifications in the matter of origin. The largest category includes those who have enrolled from civilian sources—young men with a minimum of two years of college. The second group are enlisted men who have served with the Fleet. This is the category into which Cadet Janzen falls. Before entry into Pensacola Janzen was a Pfc. in the Marine Corps. The third source of students is from commissioned officers either from the Fleet or from NROTC, ROC or OCS.

Pre-Flight training is divided into three departments—Academic, Physical Fitness-Survival and Military. Each is an equally important phase of the curriculum, requiring a passing grade. The first week, reserved for indoctrination, is followed by 15 weeks of concentrated ground training.

For Cadet Janzen the strict discipline and regimentation are nothing new. The Marine Corps is traditionally a stern and thorough teacher and the lessons learned are not easily forgotten. Here Janzen has substantial edge on his shipmates most of whom have had no military training. A young, independent American lad, with a sturdy body and an alert mind, accustomed to thinking for himself is likely to get a minor shock the first time a Marine

MANY EVENING HOURS ARE SPENT BONING FOR THE MORROW

JANZEN AND CLASSMATE GET POINTERS ON WORLD NAVIGATION

DRILL AND MANUAL OF ARMS IS ROUTINE IN A CADET'S DAY

POST-CLASS JAVA MUSTER IS RELAXING BEFORE EVENING MEAL

NO COMPLAINTS ON THE GOOD NAVY CHOW

sergeant starts barking orders, adding that he wants them accomplished "on the double." But to give orders one must first learn to take them.

Officer indoctrination is covered in 215 hours in the Military and Academic departments of the school.

Formal instruction includes Aerology, Engineering, Naval Orientation, Navigation, and Principles of Flight. The cadet has to hit the books hard and regularly. Here he gets a helping hand. One of the courses taught concurrently is one in Reading Improvement. This teaches the Cadet to increase his speed of reading and at the same time increase the percentage of information assimilated. Individual assistance is always readily available.

Navy flying requires good coordination, fast reflexes, and teamwork. Keen minds and agile bodies are expected in NavCads. But to bring such physical characteristics to a degree of near perfection, and to instill a spirit of sportsmanship and fair play in the Cadets, is the object of the Physical Fitness-Survival Department.

Routine administration, discipline, and military proficiency of each Cadet are handled by the Military Department, manned entirely by Marine Corps personnel. Cadets are taught the manual of arms, sword technique, and scores of other military intricacies.

Successful completion of this first tough course, Pre-Flight Training, gives the cadet confidence. He is now ready for the big adventure, actual flight training. And he is well on his way toward the main objective—Navy wings.

SURVIVAL DISPLAY SHOWS HOW TO STAY ALIVE IN ANY CLIME

INSTRUCTOR EXPLAINS PROPER OPERATION OF RAFT TO CADETS

GRUNT AND GROAN IS PART OF TRAINING

MAIL CALL IS IMPORTANT PART OF DAY

JANZEN STUDIES ANATOMY OF A CYCLONE

RECREATION ROOM OFFERS OPPORTUNITY FOR SOME RELAXATION

FOUR MEN TO A ROOM GIVES CHANCE FOR COLLECTIVE STUDY

SOON PRE-FLIGHT GRADUATES WILL START THEIR FLIGHT TRAINING IN NEW NORTH AMERICAN T-28B TRAINER REPLACING SNJ'S

HELENA 'COPTER RECOVERED CHINESE STYLE

THE PLANK OPERATION REQUIRED REAL LINGUISTIC VIRTUOSITY

AT LONG LAST, THE HELICOPTER IS NOSED ONTO M-BOAT RAMP

IT HAPPENED late in January. The vest-pocket war in the Tachen Islands was showing signs of developing into something bigger. The Commander, Seventh Fleet, had flown to Taipei that morning to confer with U. S. and Chinese officials. Now he wished to return to his flagship, USS *Helena*.

Ltjg. Robert K. (Dutch) Schulz, flying the *Helena's* helicopter, nicknamed the "Last Chance Taxi" by Seventh Fleet pilots, had just reported "dry feet" condition to the cruiser. Interpreted, that means he had crossed over the shoreline of northern Formosa. Dutch picked up the Tansui river as a guide to Taipei and the waiting Admiral, making a mental note of a flat little island in the middle of this tidal river as a nice landing spot.

A timely observation, for at that moment the engine quit! Using autorotation, Dutch set the aircraft down in the center of the island. "Last Chance Taxi" needed a "last chance sampan"—or something.

When Dutch failed to raise the ship by radio—the surrounding hills probably blanked his transmission—he fired distress rockets. No response. It was the day before the Chinese New Year and everybody—but everybody—was shooting off firecrackers or rockets.

In no time at all, 30 Chinese had waded across the mud flats to the island—it was low tide—and gathered about the aircraft. Fearing the curiosity of the people would lead to damage, Dutch waved his Very pistol in the air and motioned the people to go ashore—which they did "like ducks," he said, "with me following along in the rear."

Chinese police were waiting for the congregation by the time it reached the river bank. Playing a modified version of charades, Schulz explained what had happened and that he needed to telephone Taipei. Getting the idea, the police drove him into the town of Tansui where he called the Civil Air Transport Office at Taipei Airport and notified the Admiral. Shortly thereafter the Chinese Army sent MP's to guard the Navy aircraft against all possible looters.

CHINESE HELP USN MEN LAY 'DRIVEWAY'

WORKING PARTY MAKES 'COPTER SECURE

THE FOLLOWING day the *Helena* moored alongside the wharf of Keelung. Lt. Perry Delaney, OinC of the helicopter unit, and his four mechs, G. J. Grant, AD1, R. E. Sickles, AM2, J. R. Woolridge, AD3, and W. McDermott, ATAN, set out for Tansui. On inspecting the aircraft, the crew not only found steel shavings in the oil system, but also determined that sufficient pressure could not be maintained. Hence any thought of flying the helicopter off was abandoned.

The plane was sitting on the highest point of the island—elevation: three feet—in mud up to its hub caps and about 70 yards from the low-tide water line. It was obvious that it must be lifted by boat to a wharf where a fast engine change could be made. The new engine had already been ordered flown from NAF OPPAMA, Japan.

Salvage operations were slow in starting. A joint Sino-U. S. Navy effort was the only way to recover the craft. However, like Americans, the Chinese love to celebrate the coming of the New Year, so most of their facilities were shut down. A rapid recovery of the *Helena's* helicopter appeared remote.

Fortunately, Capt. Alfred Kilmartin, ALUSNA TAIPEI, took a firm grip on the project and his energy—and many telephone calls—started things. A 25-hand working party was assigned by the Chinese Naval Station at Tansui. Heavy planks (for laying a "driveway" to push the copter to the beach) were provided by the Chinese Naval Supply Depot. *Helena's* Chief Boatswain, M. E. Hurley and F. M. Mann, BM1, arrived with heavy lines and needed shovels.

Everything clicked but the matter of obtaining a suitable boat. There were no LCM's at Tansui. The USS *Henrico* (APA-45) turned out to be the life-saver. Several days later she arrived at Keelung and promptly went to a point off Tansui. The following morning one of her LCM's was at the site of the helicopter, awaiting orders.

Meanwhile the process of pushing the helicopter down to the beach was painfully slow. Planks were laid lengthwise under each wheel. Then a group of 50 Chinese and Americans with the high-priced assistance of Cdr. Paul B. Ryan, XO of the *Helena*, would push and haul the whirleybird the length of the planks. This took time.

The Americans had to learn that "Lai!" meant "All together!," "Ting John!" meant "Stop!" and "How how!" meant "Good, good!" This was helpful until the Chinese workers started repeating the commands given by the Americans. Then it appeared that all hands assumed they were boatswain mates in charge. Naturally some confusion resulted. The 'copter would slide off the side of a plank, sink a wheel into eight inches of river mud and necessitate a Herculean effort to lift its wheel back on the track. Eventually, however, with everyone "How How!-ing" the helicopter was rolled into the M-boat.

It was now 1700, 29 January, and the next high tide was at 0200; so the crew retired to their "patio" on the beach to eat sandwiches and bananas. On schedule the M-boat retracted at high tide and proceeded to the Chinese Naval Station two miles away. Capts. S. H. Lee and T. Yang had everything ready to receive the boat and accommodate the 15 USN people. The following day Lts. W. L. Feng and C. Y. Lui magically produced a crane barge.

Meanwhile, the new engine was trucked from Taipei to Tansui and the 'copter crew was in business. With the assistance of James M. Spahr, AD3, from the HU-1 detachment in Japan, the crew installed the engine in three hours, a real accomplishment.

At this point, Dutch thought his troubles were over. It was not to be. Driving back to Taipei—it was early

HELICOPTER IS EASED INTO THE M BOAT

Sunday morning by this time—he saw a new Buick wrapped around a tree. He stopped, rushed over and found a Chinese with a crushed arm and broken leg. Efforts to flag down passing Chinese motorists were futile, so putting the injured man in his own car, Schulz drove him to the police station in the nearest town. (Schulz has since learned that in China the rescuer of the victim of an accident immediately becomes responsible for caring for him.)

CRANE LIFTS HELICOPTER TO THE WHARF

Again arm waving was necessary to explain the situation, but Ltjg. Schulz was not coming through loud and clear. The police thought he was deeply involved. Finally, Schulz waved his arms in desperation and told the police he'd be back later with an interpreter. By the time Dutch returned, the injured man had recovered enough to tell the police the actual story.

But to get back to the helicopter, the crew completed the repairs the next day and, while Chinese civilians watched admiringly, Lt. Delaney lifted her off the ground and flew it to Taipei for a final check. On Monday Helicopter 24 was back aboard fully operational.

The whole-hearted cooperation of the Chinese Nationalist Navy saved a valuable helicopter. However, take it from Dutch, avoid at all costs a forced landing in the middle of a Formosan river during a New Year's Eve celebration, even if you speak Chinese fluently!

NEW ENGINE INSTALLED, LT. DELANEY TAKES THE CONTROLS

HELICOPTER CREW AND PILOTS WAIT FOR COMING OF HIGH TIDE

NEW UNOFFICIAL CLIMB RECORDS MADE

NAVY JET pilot, LCdr. William J. Manby of VF-33, was only a blur in the eyes of awe-stricken onlookers when he unofficially shattered the world's record to 10,000 feet in 73.2 seconds while flying an FJ-3 *Fury* on January 28 at NAS OCEANA.

AFTER RECORD CLIMB, THE BROAD SMILE

A British pilot flying a *Meteor* jet officially set the world's record on Aug. 31, 1951 when he climbed to 3,000 meters (9,843 feet) in 75.5 seconds.

Only two days before Manby's climb, another jet pilot, LCdr. R. H. Moore of NAS MIRAMAR, Calif., soared to a new Navy record with a mark of 83 seconds in another FJ-3. The previous record was set in 1946 by a Grumman F8F propeller-driven fighter. It climbed to 10,000 feet in 97.8 seconds.

The 34-year-old Manby said he was not shooting for a world record, but had aimed only to better the California mark.

"The plane did all the work. I just rode along," he remarked. "When I nosed upward at a 45-50° angle, the *Fury* was clocked at about 410 knots."

It was at this point in his "zoom" climb that Manby felt the most "G's", VF-33 pilots were told.

The climb record was made on his fourth run. On the third try, to cut the West Coast record, he had made the 10,000-foot climb in 78.4 seconds.

According to Navy observers, on his first three attempts, the landing gear retracted too slowly and this apparently slowed the plane down by the drag it created. On his record fourth try, the gear worked satisfactorily.

Time for the new mark began the instant his plane started rolling down the Oceana runway and ended at 10,000 feet where he was clocked by Cdr.

FURY AND PILOT AFTER HISTORIC FLIGHT

John E. Lacouture, Commander of Air Group Six, who was also flying a *Fury* at that altitude.

Weather conditions for the flight were considered highly favorable. The thermometer read 22 degrees, and the wind broke north-north east at four to five knots.

On all four attempts, LCdr. Manby estimated that he used up about 3,500 feet of runway. He took 13 seconds to leave the ground in his final and record climb which was unofficial because only squadron members participated.

Fellow pilots were waiting in the control tower to congratulate him following his fourth climb. Two of them had clocked him with stop watches at the start, relayed the time to Cdr. Lacouture, and then stopped the watches when Lacouture called in that Manby had reached 10,000 feet.

Manby's record has been outdistanced by two civilian test pilots. On February 13, Chester V. Braun, pilot for McDonnell, flew an F3H-1N *Demon* to an altitude of 10,000 feet in 71 seconds. Ten days later on February 23, Douglas test pilot Robert O. Rahn, flying a Navy F4D *Skyray* reached the same altitude in the amazing time of 56 seconds.

Everyone Welcomes Sailors

Randolph is Feted by Spaniards

Officers and men of the USS *Randolph* received a special invitation recently from a small town in Spain.

As the big carrier lay at anchor in the ancient harbor of Valencia, the Mayor of Guadasuar, along with many residents of the town, came out to the ship to present the Commanding Officer, Capt James R. Lee, a hand-painted plaque.

The plaque was inscribed with the words "Presented by the friends of the United States in Guadasuar to the Captain, officers and men of the carrier Randolph as a souvenir of the ship's visit to the Valencian port in January 1955." The Mayor also extended an invitation to a group of enlisted men and officers to participate the following day in a soccer game and other festivities during the annual athletic celebration

TOWNSMEN ENJOYED THE AMERICANS' VISIT

at Guadasuar, an important occasion.

It was the first time American servicemen had set foot upon the streets of this typical Spanish town, and the reception they received was that of a returning hero. Crowds lined the streets as the bus carrying the bluejackets arrived at the small city square. Young and old ventured from their homes to welcome the "Americanos."

At the entrance of the stadium, the Spanish and American flags flew side by side, except that the Stars and Stripes flew a bit higher. The small stadium, crowded to capacity, witnessed a humorous but well played match, as the sailors bowed 3-1 to the more experienced Spanish squad.

That evening many toasts to both countries were proposed over the dinner table, followed by a dance in the open city square, center of the town.

OPERATION *of the Davis barrier is shown to French naval officers Capt. C. H. J. E. Cugne and Cdr. R. M. Behic by Capt. F. A. Brandley, Hornet, CO, as Capt. C. M. Dalton, Chief of Staff, Fleet Training Group, looks on.*

FULLY *qualified in both jets and props, RAdm. W. V. Davis, Jr., is strapped into the cockpit of a Banshee by C. R. Dennstedt, AD3. Adm. Davis recently took command of CarDivONE.*

New Route Charts Ready

Made by Coast and Geodetic Unit

New route charts 2213 and 2216 have been published, according to RAdm. R. F. A. Studds, Director of the Coast and Geodetic Survey, Department of Commerce.

Chart 2213 covers the route between New York and Kansas City; and chart 2216 extends from St. Louis to San Francisco. The charts are a little more than one foot in width between the neat lines which provide coverage of a strip approximately 400 statute miles wide. The length varies depending on area coverage requirements and to provide continuity with other charts of the series.

Aeronautical information includes airfields, radio beacons and broadcasting stations, radar beacons, radio range stations, and very high-frequency radio direction finders. Prohibited and restricted areas and air defense identification zones are shown. Obstructions over 1,300 feet in height and lines of equal magnetic declination are included on the aeronautical overprints.

LCOL. *T. J. O'Connor, CO of VMF(N)-513, inspects a portable rectifier used as a power source for checking electronics gear in F3D-2 aircraft. The system was ingeniously designed by CWO E. A. Marx (r).*

FAGU Stars in Movie Role

Crews Shooting New Gunnery Film

Two new "thriller" films, in which Fleet Air Gunnery Unit, El Centro, plays the major role, have been completed. The two air-to-air gunnery

IUNGERICH, HARRIS, MOLS AND CORNELIUS

movies will be ready for distribution to Naval commands within a few weeks.

Grant Harris of the Jam Handy Organization was the general bossman over the two productions and Mr. Pierre Mols, the photographer. A specially adapted P4Y2 was the camera platform, it was piloted by LCdr. George Cornelius of VJ-61.

The air-to-air gunnery pattern was flown for the film by a four-plane division headed by LCdr. "Red Dog" Davis. His assistants were Lt. "Blackey" Blackman, and Ltjg's. Bruce Ashley and "Red" Issacks.

Marine Capt. Steve Iungerich of the Naval Photographic Office, acted as a technical advisor for the productions.

Ark Royal Commissioned

Ceremonies Conducted February 22

The *Ark Royal*, Britain's newest aircraft carrier, was commissioned by the Royal Navy on February 22. Three days later she left for her final sea trials.

Displacing 36,800 tons with a full load of 46,000 tons, the *Ark Royal* is one of the largest carriers ever built for the Royal Navy. Her keel was laid 11 years ago, but construction was delayed so that all the very latest ideas could be incorporated in her design.

Among the new features are the steam catapult, angled deck and the mirrored landing system. It is the first British carrier to incorporate deck edge elevators in design.

The *Ark Royal* and her sister ship HMS *Eagle*, can steam at over 30 knots.

MARINE *Capt. Jefferson A. Davis is one of four brothers serving in the Armed Forces. His great great grand-uncle was the wartime President of the Confederate States.*

Tower Frequency Switch

Third Frequency is Still Unused

The CAA is implementing the second of three VHF frequencies set aside for non-airline civil aviation. Nineteen towers were considered for the switch to 122.7 in March. The first towers to switch to 122.7 were Chicago, New York and Los Angeles International.

Towers being considered for the change are, Baltimore Friendship, Philadelphia International, Ft. Worth, New Orleans (Moisant), Chicago (O'Hare), Kansas City, Mo., Santa Monica, Seattle (Seattle-Tacoma), Newark, Boston (Logan), Buffalo, Covington, Ky. (Greater Cincinnati), Akron (Akron-Canton), Louisville (Standiford), Detroit (both Willow Run and Wayne Major), Long Beach and San Francisco or Oakland.

The change is being considered to relieve further the work-load on 122.5.

Bell Obtains HTL-6 Order

Twenty-Four for Use in Training

Bell Aircraft and the Navy have signed a contract for 24 HTL-6's, including kits and spare parts. This represents the largest single order for the Bell 47G-model helicopter in almost two years, according to a company announcement.

All the new HTL-6's are destined for service with the training command, but some may be utilized for other work. The Navy's last order for HTL-type craft from Bell was completed in 1952 when the company delivered the last of 39 helicopters.

All 24 of the HTL-6's will be delivered on skid landing gear with a portion of them provided with kits for flotation gear. Every helicopter will be equipped with the new hydraulic boost control.

AN F9F-6 *Cougar pilot is given the 'launch' signal by the carrier's catapult officer as a Sikorsky helicopter hovers in the background on plane guard. The Cougar, which packs four 20-mm weapons in the nose, can be adapted to carrying externally mounted bombs, rockets or napalm.*

STINGERS FOR THE MIGHTY SEVENTH FLEET

Firepower is an armada's most potent weapon offensively and defensively. The armament of the powerful Seventh Fleet spearheaded by firepower of carrier-based aircraft includes everything from the cal. .30 BAR of Marine detachments and dual-purpose five-inch 38's to the big rifles of the larger ships. Aboard the carriers are the smaller weapons, the three-inch 50 cal. automatic AA guns and the lethal 20-mm's of the fighters.

The fighter aircraft is essentially a gun platform on which aerial weapons are carried and fired. From the time a plane is readied for flight until it is catapulted or launched each step is necessary to a successful mission.

From the plane handler to the catapult officer, each one has an important job. Pilot briefings, aerology, flight deck control, ordnance personnel and the fueling detail are all part of the program which puts fighters in the air.

Various tasks performed aboard the carriers are supplemented by the escorting vessels with their protective, concentrated anti-aircraft fire. Ships, large and small, make up the might of the Fleet and share in the Navy's attack mission.

DECK EDGE *elevators move fighter planes efficiently during all re-spotting operations.*

PRIOR *to take-off of carrier aircraft, two aerographers release balloon for wind test.*

LAST *minute briefing for VF pilots gives information necessary for success of mission.*

A VITALLY *important phase of efficient carrier operations is the respotting of the flight deck after combat aircraft have been retrieved.*

FUELING *of a Grumman Panther jet is a step in assuring the accomplishment of the fighter aircraft's mission. Wing tanks extend plane's range.*

ORDNANCE *personnel load 20-mm magazines for a Banshee jet. Four gun ports in the nose constitute the destructive firepower of this F2H.*

ANTI-AIRCRAFT *defense for carriers is supplemented by the vessel's wicked twin 3-inch 50 cal. and 5-inch 38 dual-purpose deck weapons.*

TWO INTERESTED *onlookers are given instruction in the operation of the heavy cal. .50 machine gun by a member of carrier's Marine unit.*

CREW TRAINING *in the use of small arms is conducted by members of a Marine Detachment serving aboard a carrier in the South China Sea.*

MONTEREY LOGS 100,000th LANDING

CADET WELCOMED BY RADM. HARRIS AND CO

A MILESTONE in Naval aviation was logged recently when the USS *Monterey's* LSO, Ltjg. H. B. "Buzz" Moore, gave a "roger" and a "cut" to Naval Aviation Cadet Dow W. Dickinson as he piloted a Texan trainer aboard for the 100,000th arrested landing on that carrier.

Dickinson was qualifying for his Navy wings, and this was his fourth of six required landings. All but 12,000 of the 100,000 landings have been made since the *Monterey* was deployed to Pensacola as a training vessel for Navy and Marine aviators in 1951.

The landing made by Dickinson set off a series of celebrations aboard the light carrier whose war record displays hundreds of victory symbols and 12 gold battle stars for WW II action in the Pacific.

RAdm. Dale Harris, CNABATRA, was the first to congratulate Cadet Dickinson. Then Capt. H. T. Utter, *Monterey* CO, shook his hand and offered his congratulations. Among those who witnessed the landing was RAdm. Jose E. Rodriguez Galderon, Chief of Naval Operations of Cuba, aboard for a day's cruise.

Crew members shared in providing, then in consuming, a huge cake baked aboard the *Monterey* especially for the occasion. The cake, in the shape of a carrier, was supported by a miniature wooden frame, constructed by damage controlman Herbert Murphy. The bakers were Robert Shorten and Weldon Peoples. H. H. Cruz, SN, painted the frame and tiny signal flags spelling out the 100,000th landing.

Praising the teamwork of the carrier and the Pensacola aviation training unit which made the landing possible, Capt. Utter said, "This 100,000th landing is a tribute to those aboard and ashore who pitched in to make our flight operations a precision affair. The combined efforts of these men produce outstanding efficiency of operations, an excellent landing safety record, and pilots well qualified to spearhead the nation's offensive and defensive efforts."

Since her return to active duty as a training vessel from the mothballed Fleet, the *Monterey* has logged many an enviable record. She has qualified almost 9,000 basic and 3,500 advanced training students on her decks. She holds two Fleet records for the top number of landings in a single day, 799 on May 25, 1954, and in one week, 1,632, April 12-16, 1954.

Fifty businessmen from Meridian, Miss., aboard for an orientation cruise, as guests of training command, also witnessed the event.

RAF Official Visits Hancock

Atcherly on Two-Day Tour of Ship

Operations aboard U. S. aircraft carriers were explained extensively to Vice Marshal R. L. R. Atcherly of the Royal Air Force during a recent unofficial visit aboard the USS *Hancock*. The Vice Marshall and his party were special guests of Capt. W. S. Butts, Commanding Officer.

The high-ranking British air officer visited the carrier while on a tour of American military and naval facilities on the West Coast. The Vice Marshal's party came aboard before the *Hancock* got underway for the operating area.

After two days aboard the *Hancock*, the Vice Marshal went to North Island via airlift to continue his tour.

Marine *2nd Lt. H. J. Oehl is last of four brothers to serve with VMF-232. Brothers William, Robert and Charles were recalled to active duty when Korean War began.*

Army Praises VJ-62 Work

Maps Greenland Ice for Engineers

VJ-62 has received a letter of appreciation from the U.S. Army's Corps of Engineers. The letter was written after the squadron's Detachment H had completed a photographic study for the Army Engineers in Greenland.

A part of the letter follows: "During the summer of 1954 the Snow, Ice and Permafrost Research Establishment, Corps of Engineers, U.S. Army, undertook a comprehensive program of field research in Greenland. In past years work had been hampered by lack of aerial photographs of sufficient quality for use in determination of snow and ice features. This year the Office of the Chief of Naval Operations authorized the services of Squadron VJ-62, Detachment H, to photograph the area.

"The photography resulting from this mission is the best our scientists have had to work with and will be of value to department of the Army Research in this area for years to come."

Commanded by Cdr. J. A. Goodwin, the squadron is based at Sanford, Fla.

A DE HAVILLAND *amphibious Beaver makes a perfect three-point landing at Toronto, Canada. The new airplane is reported to carry a higher payload, have a greater range and better performance than any plane of its type. At gross weight and in zero wind, the Beaver is airborne in 900 feet. Nose wheels are anti-shimmy type with twin contact tires to insure safe landings.*

ARRIVING *at Honolulu to undergo the syllabus at FAWTUPAC, three French Naval Aviation pilots are met by Capt. and Mrs. W. I. Martin; (l. to r.) Ltjg. D. Unguran, Mrs. Martin, Ltjg. J. M. Lemoyne, Capt. Martin and E. C. Lighty.*

High Altitude Studies Made

42 Labs and Observatories at Work

By ski, car, bus, aerial cableway, and train, scientists throughout the world are climbing mountains to at least 42 high-altitude research laboratories and observatories, according to Dr. Serge A. Korff, cosmic ray expert at NYU.

Dr. Korff has just edited a 100-page report which describes every known high-altitude research station with the exception of those behind the Iron Curtain.

The Research Division of NYU's Engineering college published the study for the Joint Commission on High Altitude Research Stations, an agency of the International Union of Biological Sciences and the International Council of Scientific Unions. Financial assistance was given by UNESCO and the U.S. National Science Foundation.

Cosmic rays, radio astronomy, meteorology, astrophysics, botany, terrestrial magnetism, and solar radiation are a few of the fields which benefit greatly from research at high altitudes.

Career Makes Full Cycle

Pilot Back Where He Started From

From NavCad to Weekend Warrior is the cycle that is the basis of the Navy's pilot training program. Ltjg. Frank Damiani, the first NavCad to be enlisted at NAS NIAGARA FALLS has just completed that cycle.

Lt. Damiani enlisted in August 1950 and was sent to NAS PENSACOLA. After winning his wings, Damiani was assigned to a fighter squadron and later to an all-weather interceptor outfit. In the course of his four years as a Navy pilot, he flew six different types of fighter planes. These included the *Hellcat, Bearcat* and *Corsair* prop planes, and the *Panther, Banshee* and *Skyknight* jets.

Now a civilian and a student at the University of Buffalo, Damiani has become a member of VF-851, and will be making his monthly training flights from NAS NIAGARA FALLS. At present, VF-851 pilots are training in F2H's.

Heads-Up Action Saves P2V

Gramp Pettibone Says 'Well Done'

E. O. Nelsen, ADC, of VP-4, talked a P2V crew out of trouble recently, and sagacious Grampaw Pettibone is as pleased as the squadron's CO, Cdr. L. D. Davis. For his quick thinking and heads-up action, Grampaw passes along a pat on the back and "Well Done" to Nelsen and the crew of plane number seven.

Crew Seven of VP-4 was on a routine training exercise from NAS BARBER'S POINT, when it was discovered that the nose wheel wouldn't lock owing to a failure in the main hydraulic system. The crew, which included Lt. C. D. Robinson, pilot, Ltjg. G. E. Yeager, co-pilot, and E. L. Martin, AD2, plane captain, tried to repair the damage in flight.

GRAMPAW PETTIBONE WAS PLEASED ALSO

Martin hacked his way through the incasement housing the hydraulic mechanism with a fire axe. He and Yeager tried to force the wheel down with the barrel of one of the plane's 50-caliber guns. Their efforts were fruitless, and the pilot contacted the air station by radio and requested assistance. The squadron's hydraulic chief, L. E. Gunter, AMC, offered several suggestions, but the crew couldn't regain hydraulic pressure.

Nelsen, hearing of the trouble rushed to the control tower and offered his services, for he had been in a similar situation before. He insisted that the pressure could be regained if the hand pump was worked. After half an hour, a minimum pressure began to show on the gauge and the wheel was lowered and locked.

Nelsen, Gunter and Crew Seven were commended by Capt. F. G. Raysbrook, ComFAirWing-2 for their action.

Army Gets Canadian Otter

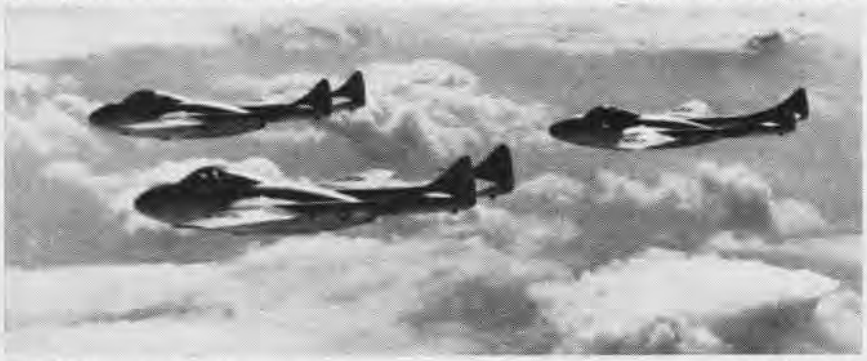
Second de Havilland Plane in Use

The U. S. Army has placed an order for a substantial number of de Havilland DHC-3's *Otter* aircraft to be built in Toronto, Canada.

The order was placed after extensive evaluation exercises by the Army's field forces last summer. The Canadian *Beaver*, the *Otter's* predecessor with the Army, has been in service in Korea and elsewhere throughout the world for some time.

The *Otter*, like the *Beaver*, is especially designed for special purposes of utility transport in undeveloped regions. The plane can be equipped with wheels, floats or skis.

Equipped to carry 11 passengers or a payload of 2,400 lbs, the *Otter* is powered by a P&W *Wasp* engine of 600 hp.



THE RAF *logged a notable event in training history when the first contingent of RAF cadets completed the syllabus of advanced flight instruction in the de Havilland Vampire trainer. Until that time, the cadets had been trained in piston-engine type aircraft and converted to jets at a later stage of training. All RAF pilots will now earn their wings in the trainer.*

USAF'S VOODOO

The F101-A Voodoo has remarkable weight-carrying abilities. A twin jet, long-range fighter capable of bomber escort, it is distinctive in appearance. It is 67 feet long with a span of 39 feet supporting a 35° swept-back wing. The wing with its two distinct tapers appears much too small for the fuselage.

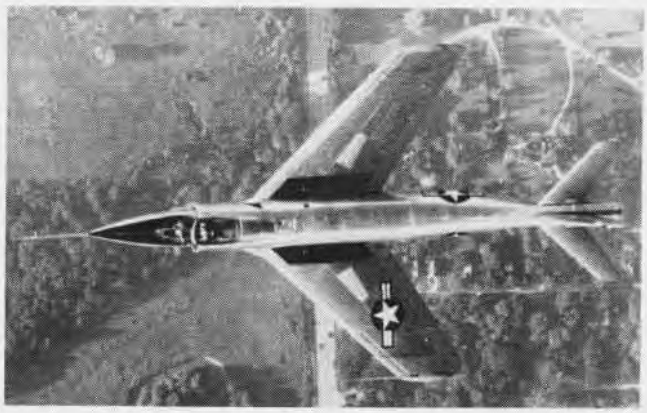
Voodoo performance is secret, but it is in the supersonic class. It is scheduled to be assigned to the Strategic Air Command.

The tailplane of the Voodoo is distinguished by a swept horizontal tail surface set very high on the vertical stabilizer which has a flat top.

NAVY'S DEMON

The F3H's primary mission is to destroy enemy aircraft. This single-place, swept-wing, jet-propelled, supersonic fighter is designed for land or carrier operations.

In terms of recognition, it has a length of 59 feet and a wing span of 35 feet with a 45° sweepback. The very sharp nose and rounded sweep to the underside of the fuselage are outstanding recognition features. The empennage appears to have been an afterthought as if it were tacked on simply as an extension to the fuselage. Large air intakes are located on the side of the fuselage under the cockpit canopy.



Almost FORGOTTEN EVENTS

ABOVE IS FIRST OF TWO ORIGINAL VOUGHT CORSAIRS ORDERED IN 1926

RECORD-BREAKING CORSAIR

APRIL 1927 was a record-breaking month for the then new Vought *Corsair*, the O2U-1. Powered by a 425-hp P&W *Wasp* engine, the observation plane won three world records in this month. In May it made another.

On 14 April, Lt. G. R. Henderson took off from NAS ANACOSTIA and climbed to 22,178 feet, carrying 1,102.31 pounds of useful load. This was good enough to crack the record for Class C-2 seaplanes, which had been 20,200 feet, established by an Italian, A. Passaleva.

With an equal load, on 23 April, Lt. S. W. Callaway boosted the 100 kilometer speed record for this class seaplane to 147.263 mph. A French pilot had placed the record at 126.309 mph the previous year.

Using the same plane, and just a week later, Lt. James D. Barner covered 500 kilometers at a speed of 136.023 mph. This broke another Italian-held record.

THIS IS SECOND OF ORIGINAL TWO ORDERED, ONE LAND AND ONE SEAPLANE

Angels Move to Pensacola

July 1 is Goal for Home Port Change

LCdr. R. L. "Zeke" Cormier and his precision flight demonstration team, the *Blue Angels*, will pack their gear about July 1 and move, lock, stock and barrel to the new master jet station, Forrest P. Sherman Field, at Pensacola. The switch is being made because of the jet aircraft congestion around their former home, NAS CORPUS CHRISTI, and as an economy measure.

The *Blue Angels* played to their biggest audience last year during a televised showing of their flying skill on the Dave Garroway show. It was estimated that 54 million viewers watched the spectacle.

The team recently changed from the F9F *Panther* to the newer F9F-8 *Cougar*.

Japan Gets 22 Navy Planes

NAF Oppama Trains Local Mechs

The U. S. Navy has delivered 22 aircraft to the Japanese Maritime Self-Defense Force at ceremonies held recently in Yokosuka, Japan. Included in the transfer were 12 SNJ training planes and 10 TBM aircraft converted for anti-submarine patrolling.

VR-23 pilots are training Japanese pilots to fly the TMB's. While the pilots are continuing their flight training at NAS ATSUGI, Japanese mechanics are being taught the ins-and-outs of SNJ and TBM maintenance by officers and men of FASRON-11 at NAF OPPAMA.

The aircraft had received a complete overhaul before being turned over to the Japanese. Six of the SNJ's have been moved to the AFB at Kisarazu, and the other 16 will be moved as soon as the work at Oppama is completed.

The final operational test flights of the planes are being supervised by a detachment of U. S. Navy personnel at Kisarazu. The planes will be based at JMSDF's Air Unit at Kenoya City.

ADAMS SHOWS TANSUKE GREASE METHOD

Pilot Qualifies as OOD

VC-62's Warren Takes Conn of CV

Lt. L. C. Warren of VC-62 has earned a novel distinction among Naval aviators. According to information from ComFairJax, he was the only pilot to qualify as OOD aboard the USS *Coral Sea* (CVA-43) during 1954.

During a tour with one of VC-62's detachments aboard the carrier in the Mediterranean, Warren found time between being detachment photo officer, administrative officer and personnel officer, to stand one bridge watch every day underway and a quarterdeck watch every other day in port. In his "spare" time, he crammed in studies of the technical information that a ship's OOD must know.

He qualified as OOD-Underway and took daily turns in conning the ship back to the U. S. Capt. H. E. Sears, CO of the *Coral Sea* during the cruise and now ComCarDiv 14, recognized Warren's accomplishment with a letter of commendation.

Warren's commanding officer, Cdr. Don Dietz, VC-62, presented the letter.

GROUND PILOT CONTROLS HTK-1 INFLIGHT

HTK-1 Remotely Controlled

Kaman Testing 'Drone' for ONR

A remotely controlled Kaman HTK-1 helicopter is undergoing evaluation for ONR at Kaman's Bloomfield plant. The "drone" helicopter, designed and built by Kaman, can be flown by an operator of a ground control station.

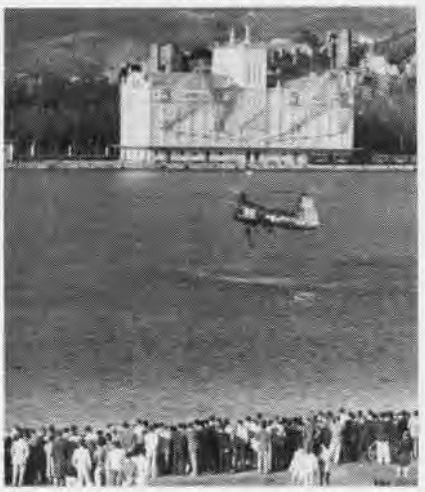
The drone, which has been flying for over a year, has been subjected to take-offs, landings, backward, forward and hovering flights in over 100 hours of operation. Although the remote-control unit is similar to that used in fixed wing aircraft, the complexities of the helicopter posed problems.

In addition to developing the remote-control system, it was necessary for Kaman engineers to develop a suitable small automatic pilot and miniature gear boxes to be used with the system.

All flights have been made within visual flight range of the ground operator with a safety pilot aboard to take control of the drone in emergencies.

Spanish See Rescue Method

Northampton HUP-2 Makes Pickup



HUP-2 MAKES PICK-UP IN MALAGA HARBOR

Curious Spanish citizens from the city of Malaga, Spain, turned out recently to witness an air-sea rescue demonstration performed by a helicopter from the USS *Northampton* (CLC-1), flagship of the powerful Sixth Fleet in the Mediterranean.

The *Northampton* put into Malaga Harbor during the post-Christmas holidays and the demonstration was made to give the Spaniards a look at how air-sea rescues are made. A man from the command ship jumped into the harbor and was picked up by an HUP-2.

Milestone Logged by VP-10

First Squadron to Receive P2V-5F

In mid-December last year, two crews from VP-10 landed at Keflavik, Iceland after completing a 9,000 mile round trip from Keflavik to Burbank, Calif., and return. On the trip to Burbank, the crews flew P2V-5's and returned with replacement P2V-5F's, the first to join a Fleet unit.

Sporting the "new look", the P2V-5F is the latest operational version of the famed *Neptune* patrol bomber. The aircraft's two R-3350 reciprocating engines have been augmented by twin J-34 jets to give the *Neptune* more power during take-offs and high speed runs.

VP-10 MECHS CHECK P2V-5F JET ENGINE

At Burbank, the crews spent a week familiarizing themselves with the new plane before starting the 4,500 mile leg of their journey back to Iceland.

While these two crews were stateside, the remainder of VP-10's personnel continued their arduous task of patrol missions over the "blue nose" country. With essential flight crewmen and qualified ground personnel aboard, VP-10 aircraft have visited principal cities in England, Scotland, Ireland, Denmark, Germany, Holland and Norway.

In order to meet scheduled requirements, aircraft fly a patrol on the way to Europe and one on return. Cdr. R. J. Fleming commands the squadron.

Trainer Paid Dividends

Two Flameouts in Plane During Hop

Lt. John S. Oswalt is one Navy pilot who is thankful for the time he spent in training in the jet operational flight trainer at NAS Miramar.

The VR-32 ferry pilot was on a routine ferry hop from Norfolk, Va., to Phoenix, Ariz., in an F9F-5 *Panther* on December 21st when he fell victim to jet gremlins and suffered two flameouts during the trip.

He had about 40 hours of jet time behind him when the flameouts occurred, but he executed successful air-starts in both instances. He had just completed the jet course in November.

He attributes the safe completion of his trip to the simulated flame-out training he received in the trainer.

Weekend Warrior NEWS

AIRMAN *Teague signals LCdr. Staley "Ready to roll" as VR-791 flies to support the fleet.*

Reserves Fill Connie Gap

The true meaning of "Ready Reserve" has again been pointed up. When the services of Reserve transportation squadrons and Reserve planes were needed, they were ready.

VR-1's *Super Connies* were grounded for changes in equipment, and the Atlantic Fleet needed replacement transports at once. There was a hurried call to Washington and another to Naval Air Reserve Headquarters at Glenview requesting five R5D's.

At Naval Air Stations New York, Minneapolis, Glenview, Willow Grove and Denver, maintenance crews went into action. Within 48 hours, all aircraft had been delivered to Patuxent.

Reserve cooperation did not end here. CincLantFlt was advised that Reserve transport squadrons could be made available during their annual training duty periods. The offer was immediately accepted.

At the time, Olathe's VR-882 had just reported aboard NAS San Diego for duty with VR-5. Just after gear had been unpacked, a priority dispatch ordered the squadron to proceed immediately to the Atlantic Coast. The next morning found three R5D's, 24 officers and 63 men of VR-882 airborne and enroute to Norfolk and duty at the air station.

VR-731, Grosse Ile, scheduled for duty at NAS Dallas, was advised of the East Coast need. The squadron reversed its plans, and three R4D-8's, complete with crews and support personnel, landed at Patuxent.

VR-791 from Memphis, went to Norfolk to lend support to the FlogWing operation. "This support markedly aided FlogWingLant in meeting vital requirements during a period of reduced capability. Well Done." So read the commendatory messages of ComFlogWingLant to the three Units at the end of each active duty period.

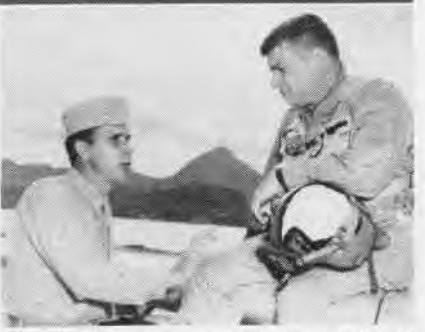
SEATTLE'S *Mayor's proxy presents Washington apples to Honolulu mayor's representative.*

On Global Weekend Warrior List

Very little persuasion was needed to get volunteers among members of Seattle's VR-892 for a navigational training flight to NAS Barber's Point.

Not the least of the flight load was a box of prize Washington State Delicious apples, a gift of Seattle's mayor to the mayor of Honolulu.

Thirty-six hours of flight time gave the airmen time for their navigation refresher training. These activities, as well as those engaged in during their 36 hours in Honolulu were well covered by Seattle news representatives who went along on the flight as guests of the squadron and special reporters.



MARINE *Majors M. M. Sekardi and Gerald Fink traded Piper Cubs for Panthers for good.*

They Choose the Military

In the between-war years, 12 Marine pilots, headed by Maj. Gerald Fink, toured the Midwest as a "flying circus." All were members of the Marine Corps Air Reserve, NAS Glenview.

The opening of the Korean War found the aerial acrobats playing the Rice Paddy Circuit to unappreciative Communist audiences. Shot down behind enemy lines, Fink was POW for more than two years.

Today two of the circus, Majors Fink and M. M. Sekardi, serve as MCAS Kaneohe. As they fly with MAG-13, they now play to a much wider circuit, and for much higher stakes than they did in flying circus days.

WV-2 SUPER *Constellation plane seems radar palace to two Honolulu Naval Air Reservists.*

SHAPELY *Miami crewmen of jeep carrier share attention with Cougar in King Orange Parade.*

Florida Reservists Star on TV

NARTU MIAMI appeared on nation wide television twice in one month. In Miami's King Orange Parade, the Navy float was an F9F-6, flying atop a deck of clouds. The *Cougar* jet was towed by a "carrier" manned by an eye-catching feminine crew, which included "Miss Miami of 1954."

A few days later, the Unit demonstrated a simulated air sea rescue for the Dave Garroway show "Today."

To begin the rescue demonstration, an F9F-6 made a low-level pass before the TV cameras. In the next instant, Lt. Bob Stiles, NavCad procurement officer, was seen in the water. Hovering over the downed pilot was a NARTU helicopter, flown by Lt. Ken Bebb, recruiting officer for NARTU.

After the pickup, the rescued pilot was "walked" by the 'copter to the beach for an interview with Dave Garroway. The entire rescue operation was repeated twice for television coverage on a coast-to-coast scale.

RESCUED *pilot is "walked" ashore by NARTU's HUP-2 for interview on TV with Garroway.*

Best Two Out of 42

For their all-round excellence in performance in 1954, Marine Air Reserve Squadrons VMF-236 and MACS-21 have been judged this year's best squadrons in the Marine Air Reserve and are the winners of the coveted Ridder Trophy.

Drill attendance, combat readiness, administrative and engineering ability were the criteria by which these South Weymouth and Denver squadrons successfully won their awards.

Fine Record Wins Pat on Back

"NAS Los ALAMITOS has probably established a Navy-wide record," said Cdr. H. J. P. Foley, of ASO PHILADELPHIA. Speaking informally to Cdr. W. F. Dellman, station Supply and Fiscal Officer, Foley termed the record of Air-

THREE *big wheels line up when Norfolk Eagle Scout Fred Blum tours NARTU working area.*

craft-on-Ground "almost unbelievable."

Only three planes of their total 125 have been AOG in the nine-month period from May 1954 to Feb. 1955, an average far below the five to ten percent of planes down at other stations.

Handling of AOG's as priority business is responsible for their record, according to Cdr. Dellman. Dispatches and phone calls requisition material; air pickups are arranged; items may be borrowed, or suitable repairs made, or substitutes acquired. Every short cut possible is used that will contribute to good maintenance of aircraft.

The Maintenance Department had so many never-used bright red and white metal AOG tags, originally designed for use on their aircraft status board, that they used them for Christmas tree decorations last December!

LOVELY *emcee made NavCad recruiting program no chore for officers Robertson, Tutwiler.*

They Push NavCad Recruiting

NAS BIRMINGHAM claims that it doesn't lose a single opportunity to place Naval Air Reserve before the public. Through NAS efforts, colorful displays turned Birmingham and Montgomery, Ala., theater lobbies into recruiting stations during the week "The Bridges of Toko-Ri" was shown.

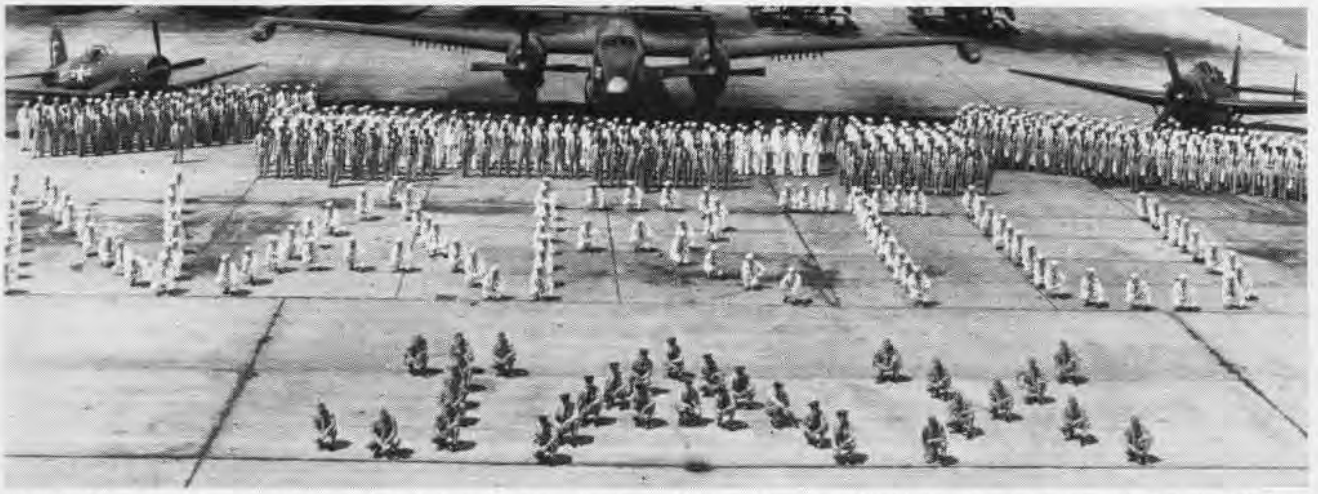
Lt. John Robertson, now on duty at the air station, was one of the Navy pilots who flew in the picture. He made several TV and stage appearances on recruiting programs with LCdr. W. S. Tutwiler, NavCad recruiting officer.

Station Roundup

● NAS SOUTH WEYMOUTH—Answering an urgent appeal for O-positive blood donations, 26 officers and men of the station went to Massachusetts General Hospital in the hope of saving the life of a leukemia-stricken patient. Six reported immediately, and 20 others, led by Capt. L. S. Melson, CO, soon followed. The patient is the father-in-law of Cdr. E. A. Kraft, USNR, Wing Staff Commander, Naval Air Station, Glenview, Ill.

● NAS DALLAS—Nine NAS DALLAS sailors are undertaking work for credit on their degrees at the Dallas College branch of Southern Methodist University. Ranging from commander to third class, they are enrolled in classes from engineering to theology.

● NAS NEW ORLEANS—Under-SecNav T. S. Gates, Jr., boarded a Navy helicopter for an aerial tour of the new Alvin Callender Naval Air Station now under construction at New Orleans. This inspection, made with Capt. W. C. Johnson, CO, NAS NEW ORLEANS, and prospective CO of Callender Field, was one phase of a tour the Secretary was making of naval installations throughout Southern states.



NARTU JAX *is spelled out by Jacksonville Naval and Marine Air Reserves. Almost 1,000 strong, they recently stood CNARESTRA's Annual Military Inspection. Highlight of occasion was the premier of documentary film made by VP-741 on its 16,000-mile reserve training cruise.*

BIG DOINGS AT NARTU JAX INSPECTION

RADM. GALLERY *and UnderSecNav Gates are flanked by Jacksonville notables, C. E. Bennett, W. L. Jones, W. S. Johnson, J. E. Kavanaugh.*

'MALTA REVISITED' *premier guests include naval and air attaches and heads of missions from all countries that VP-741 reservists visited.*

VISITORS *from north of the border, Toronto's 400 Squadron Pipe Band, smartly step out to the rhythm and weird music of their bagpipes. These Canadian Weekend Warriors proudly wear their official Royal Canadian Air Force tartan, which was especially designed for them.*

CDR. LACOUTURE (CAG-6) SHOWS SON FURY

VF-33 Host to Families

Family Day Proves a Great Success

The officers and men of VF-33 held an open house recently to give their families and guests a close look at how a fighter squadron operates. Based at NAS OCEANA, the squadron is in the process of switching from the Grumman F9F-6 *Cougar* to the North American FJ-3 *Fury*.

LCdr. W. J. Manby, Jr., acting CO, kicked off the day's activities with a welcoming address and then shop spaces and shop displays were opened. Included in the displays were the aircraft cannon and a jet engine of the VF-33 ordnance and power plants shops. Also on display was the aviation safety equipment carried by a jet fighter.

VF-33 pilots continued flight operations with the FJ-3 and the F9F-6 to allow the guests to see these aircraft in flight.

Lunch and a premier showing of *The Bridges of Toko-Ri* climaxed day.

Favor Repaid Navy Pilot

He is Guest of Mexico's SecNav

Lt. "Dixie" Willson, navigation instructor at Navy's Pre-Flight School, Pensacola, is appreciating more than ever the value of knowing fluently another language. His knowledge of Spanish brought him a holiday on a VIP basis. He and Mrs. Willson spent Christmas below the border as guests of Gen. Rodolfo Taboada, Mexico's Secretary of Marine.

When he was a pre-flight student in 1949 he gave assistance to five Mexican students who had difficulty in their courses because of the language barrier.

Then last year, during the visit of Mexican Gen. Rodolfo Taboada to this country, Willson acted as official interpreter. A chance conversation between Mrs. Willson and the General at an official dinner concerned the relative beauty of Hawaii, Mrs. Willson's home, and Acapulco. The General offered to invite the Willsons to Mexico to decide for themselves.

After 12 days as guests of the General, Lt. and Mrs. Willson find it more difficult than ever to answer the query, "Is Hawaii nicer than Acapulco?"

Special Awards Announced

Eight Carriers Receive Citations

Eight aircraft carriers, one helicopter squadron and two Marine fighter outfits are recipients of the coveted Presidential Unit Citation or the Navy Unit Commendation by the Secretary of the Navy.

Helicopter Squadron One, and Marine Fighter Squadrons 214 and 323 received the Presidential Unit Citation for Korean War operations during various periods between 3 July 1950 and 27 July 1953.

The aircraft carriers, USS *Badoeng Strait, Bon Homme Richard, Essex, Leyte, Princeton, Sicily* and *Valley Forge,* have been awarded the Navy Unit Commendation for action against enemy aggressor forces in the Korean Campaign for the same periods.

BUPERS will issue individual authorizations to all eligible personnel without any action required on their part.

NAS MOFFETT *Field holds open house, playing host to 2500 Boy Scouts. Here seven cubs give an F-86 aerial camera the once-over.*

Civilian Work Paid Off

Made Three Grades in One Jump

When L. Coats of Waco, Tex., was discharged from the Navy seven years ago, he was a seaman first class. Since then, through his civilian employment, he has gained seven years of practical experience in aviation metalsmith work.

Upon the basis of this experience, when he enlisted in the Naval Air Reserve, Dallas, recently, he was promoted from seaman first, to Aviation Metalsmith First Class, in accordance with provisions of Recruiting Service Instruction 266.1

NAS DALLAS claims that he is the only man on record there ever to be promoted so many rates at one time.

BAYONET *totin' Marines from the 2nd MarDiv hit the "aggressors" at Onslow Beach, N. C., as AD-4 Skyraiders zoom overhead in tactical close air-support. The mock landings at Onslow Beach culminate weeks of rigorous amphibious training at Vieques Island in the Caribbean Sea.*

HU-1 RETIRES OLD VETERAN UP-43

BRILLIANT CAREER FOR UP-43 BEGAN UNDER DESIGNATION AS UR-37 AT NAS LAKEHURST

THE LONG and brilliant career of UP-43 has come to an end. Having served its time, this ageing veteran is being retired from the Navy after six years of faithful service.

UP-43 was one of the first Sikorsky HO3S-1's accepted by the Navy back in 1949. She was assigned to NAS LAKEHURST shortly after acceptance and served there with the O&R department. Later she was transferred to HU-2, also at Lakehurst, where her number was changed to UR-37.

In April 1951 she was sent to the Navy's new helicopter training unit, HTU-1, at Ellyson Field in Florida. Here she contributed to the training of many of the Navy's helicopter pilots.

UP-43 flew with HTU-1 for one year, then was ferried across country to join HU-1 at Ream Field where quite a few of her former students renewed an old acquaintanceship. Six months later she was sent to O&R at NAS SAN DIEGO for a face-lifting. This job took two months, then back she went to Ream.

Her transfer to the Western Pacific gave UP-43 the opportunity of serving the Pacific Fleet, which she did with distinction. There she served aboard the USS *New Jersey*, aircraft carriers *Boxer, Kearsarge, Yorktown, Oriskany, Wasp* and *Essex* and finally LST-799. In between cruises she operated from HU-1's Detachment One at NAS OPPAMA and, from time to time, was flown most of the length and breadth of Japan.

On the completion of her Far East cruise, UP-43 was loaded aboard the USS *Bremerton* for a final trip home before retirement. On her final flight, UP-43 was piloted from Long Beach to Ream Field, by Ltjg. C. R. Smith and helicrewman R. T. Reynolds AE3, (pictured) both of HU-1.

The record of UP-43 was marred only once during her entire career—a brief encounter with a high tension line from which she emerged slightly scratched but the victor.

UP-43'S LAST FLIGHT ENDED AT ALF REAM

IFR-IQ?

What are the fuel reserve requirements for a jet on an instrument flight plan?

Answer on Page 40

Nautical Mile Is Changed

Bowditch Loses Race by 4.1 Feet

Poor old Nat Bowditch is probably turning over in his grave. After some 160 years of accepting the nautical mile of 6080.2 feet as a standard distance of navigation, scientists have corrected it.

At the request of the International Standards Association, the Navy's Hydrographic Office arranged a meeting of the Armed Forces last year to discuss the problem.

This resulted in a decision to alter the prescribed 6080.2 feet to 6076.10333 feet or the 1852-meter standard used by all nations other than the United States and Britain.

HUP-2 Stars in New Role

Picks up Gunnery Target Sleeve

Lts. E. C. Moore and T. A. Graham of HU-1's detachment aboard the USS *Oriskany*, have performed a few novel feats in an HUP-2 helicopter. The two pilots have been utilizing their HUP-2's as a retriever for gunnery target sleeves shot down by the ship's gunners.

Using a grappling hook with 100 feet of line, the two pilots retrieved seven sleeves in one morning's operation. The line was not hooked to the helicopter in any way but held by R. L. Essner, AD3, helicrewman, during the pick-ups. This was done so that in the event the weight became too great, the gear could be jettisoned without damage to the aircraft.

Under ideal visibility and swell conditions, the sleeves can be picked up and put on deck within five minutes. CO of *Oriskany* is Capt. L. C. Simpler.

ORISKANY'S HUP-2 PLAYS RETRIEVER ROLE

IN-FLIGHT CREW CHANGE IS DEMONSTRATED

WITH ITS GUIDE LINES TRAILING, BUCKET NEARS THE BLIMP

TEST PERSONNEL ARE HELPED INTO THE CAR AT END OF RIDE

THERE's a new way to re-man blimps. Goodyear Aircraft Corporation recently showed BuAer how it could be done in flight. Three Goodyear men were the guinea pigs.

The Navy's XZSG-4 and the USS *Tarawa* co-starred in the undertaking. Three Goodyear flight test engineers were hoisted from the deck of the carrier to the car of the blimp without mishap. One deck observer said, "The operation was almost as smooth as oriental silk and although frequent gusts of wind hampered us, it came off without a hitch."

Navy personnel were introduced to the ZSG-class airship as far back as 1938 when it made its appearance. Modified versions of the same airship carried the anti-submarine war successfully to Hitler's wolf packs in WW II.

Designed to carry a crew of eight, the XZSG-4 is equipped with an in-flight refueling device, the hoisting gear of which is used in the personnel transfer system. Since there is no space in the ZSG-class ship to carry relief crews, the hoist meets the problem. An entire crew, fresh from relaxing aboard ship, could be hoisted in two operations to man the airship, and the relieved crew returned to the ship.

Adopted as a wartime measure, in-flight re-fueling, reprovisioning and re-manning allows the blimp to cruise for extended periods. Cruising could go unhampered but for major maintenance.

The re-manning vehicle or bucket carries four men during the transfer, and communications with the blimp while the hoist is in operation are carried on via sound-powered telephones. In the event of an emergency just as the bucket is leaving the deck, any one of the men being transferred can disconnect it from the cable automatically. Dual controls allow either the winch operator in the blimp or the men in the bucket to control the speed of rise and descent.

RE-MANNING BUCKET READIED FOR FLIGHT

BLIMP PICK-UP WAS MADE AT ABOUT 30 KTS.

During the recent demonstration, the blimp, powered by P&W R-1340 engines, cruised at about 30 knots and the pick-up was made at about 300 feet. The total time lapse from deck to blimp for the demonstration crew was between one and one-half to two minutes.

The winch which controls the rise and descent of the bucket is capable of lifting well over 1,200 pounds, and the estimated weight of the bucket plus the four men is 960 pounds. The first successful pick-up was made during a dummy run at NAS LAKEHURST. Afterwards, two dummy runs were made aboard the carrier in preparation for the final live pick-up.

A wicker-type basket is being considered as a replacement for the basket now in use. Canvas-covered, the re-manning vehicle weighs about 250 pounds and is equipped with a shock absorbing air bag, which completely encircles the bottom of the basket. This safety device would cushion landing.

AERO MEDICAL MEN STUDY FLIGHT EQUIPMENT

OPERATOR IN BLISTER NEAR CEILING IS READY TO OPERATE THE CENTRIFUGE PLATFORM

MAN'S CONQUEST of space at still higher speed and altitudes was the recurring theme of the 26th annual convention of the Aero Medical Association last month in Washington, D. C. Doctors, scientists, designers and safety engineers from all over the country, some 1100 of them, were on hand to hear the results of special projects.

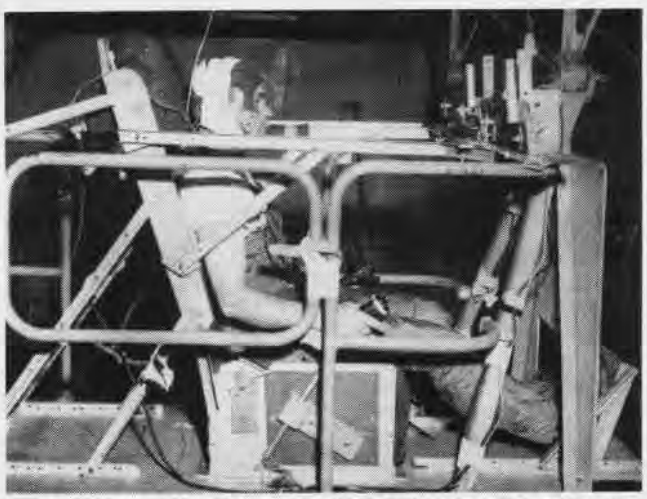
Delegates to the convention represented the military services, the aeronautical industry, the civilian aviation authorities, and overseas aeronautical organizations. Flight surgeons, CAA medical examiners, aircraft designers, scientists, particularly in the fields of physics and physiology, and technological experts, were among the professions represented.

Dr. John F. Fulton, Sterling Professor of the History of Medicine, Yale University, opened the conference on 21 March, appropriately with an address on "Louis Bauer and the Rise of Aviation Medicine." Dr. Bauer was the founder and first president of the Association, and the lecture Dr. Fulton gave inaugurated the Louis H. Bauer lectures which will be an annual feature of the conference. The guest of honor and principal speaker at the banquet the evening of March 23 was the Hon. Stuart Symington, U. S. Senator from Missouri.

"THE NECESSITY for providing for the human factor in aircraft operation to a greater or lesser degree inevitably influences decisions on the design of equipment to be used by the occupants," one scientist pointed out. And this point was made clear again and again. For example, Dr. John J. Welsh of American Airlines spoke on "The Medical Problems of Airline Flight Personnel." Three Canadian doctors—J. Preston-Thomas, J. Miller and J. Henry—presented a paper on "Human Tolerance of Multi-Stage Rocket Acceleration Curves." Immediately after them, Dr. Fred A. Hitchcock, professor of Physiology at Ohio State discussed "The Boiling of Blood and Body Fluids at Extremely High Altitudes."

Mr. Fred R. Brown of the Aeronautical Medical Laboratory, Philadelphia, and William L. Lovejoy of BUAER described current developments in improving the informational presentations for the Navy pilot. A plan of the latest aircraft panel was shown the delegates. It was pointed out that where the art of instrumentation and the pilot's information requirements allow, display size is being reduced. "Thus, the rate of climb indicator, the turn and slip indicator, the accelerometer and certain of the engine instruments have been reduced to the two-inch size."

HUNTER TESTS EFFECT OF SUPINE POSITION ON G TOLERANCE



ON PLATFORM, MAJ. HAVILAND TESTS FULL PRESSURE HALF SUIT

New instrumentation with lighting appropriate to the display includes a directional-horizon indicator showing aircraft altitude and correction; the angle-of-attack indicator which presents data concerning a parameter not given on the old panel; the counter-pointer altimeter designed to reduce reading errors frequently reported with the standard three-pointer altimeter; the airspeed-mach number indicator showing both speed notations on one instrument; the radio altimeter indicator having a single scale range to 20,000; and the distance-bearing indicator, a highly accurate dead reckoning device giving navigation data which is not dependent upon external radio signals.

Lt. David H. Lewis (MC) from the Aviation Medical Acceleration Laboratory, NADC Johnsville, reported the findings on a project set up to test and evaluate anti-blackout equipment. Four experienced centrifuge subjects participated: Maj. G. P. Haviland, USAF, G. B. Pidcock, HMC, Howard N. Hunter, head of the Engineering Division, and Dr. Lewis himself.

Four methods of G protection were studied: (1) Straining, what pilots call "fighting against the G"; (2) the z-2 suit, the standard Navy anti-blackout suit; (3) the full pressure half-suits, and (4) a bag type "suit" similar to those used in animal investigations in the laboratory. The half-suit differs from the standard z-2 suit in that instead of bladders that pull the cloth of the suit tight against the legs to exert pressure, the entire leg itself is exposed to the air pressure directly and, instead of a bladder pushing against the lower abdomen, the entire abdomen is pressurized.

Each subject was whirled in the centrifuge and signalled when he lost peripheral vision. If the subject did not lose peripheral vision at the end of 30 seconds, the operator stopped the centrifuge and that run was over.

Results indicated that straining produces a variable increase in G tolerance, depending mostly on the degree of straining. In the four subjects who were relaxed and did not try to strain while wearing G-suits, the full pressure half-suit yielded no more protection than the z-2 suit. The bag suits gave protection similar to the z-2 suit. The order of magnitude of protection was 1-1.5 G for straining, 1-2 G for the z-2, full pressure and bag-type suits.

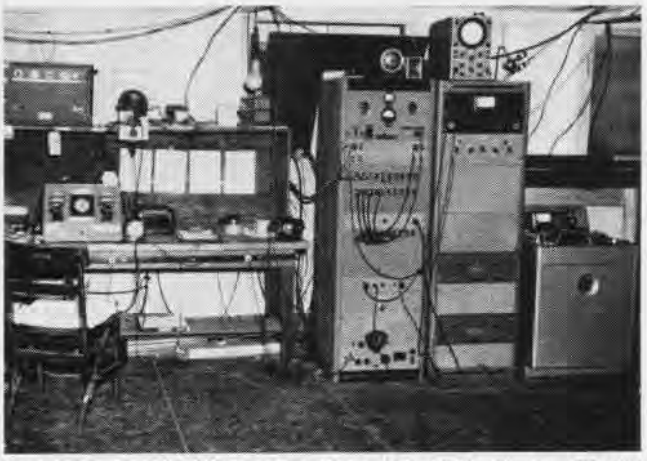
One of the most interesting projects reported was that conducted at the Aero Medical Laboratory at Wright Patterson AF Base, Ohio, to determine "the human factors in long range flight." Responsible for the project and participating in it were Mr. Charles A. Dempsey, industrial designer, Captains Neil R. Burch, Jack E. Steele and Theodore H. Greiner, and First Lieutenants Dean Chiles, Darrel Warren, and Norman E. Schmitt.

An experiment was set up to determine the problems associated with the confinement of a man in a fighter aircraft cockpit for 56 continuous hours. The test facility consisted of a grounded F-84 airplane and an observer control station housing all the necessary instrumentation. The four subjects varied in stature, weight, age and military experience, but were generally representative of the Air Forces population.

The 56-hour test period was scheduled thus: first a period of low performance followed by a period of high performance, then one of low performance again. Bio-electrical measurements were recorded throughout the period, and the subject regularly reported his comfort. He was questioned at intervals to determine his state of consciousness.

Everything was done to make the subject as comfortable as possible. Space in the cockpit limited the selection of food from a variety of fruit and vegetable juices to 12 eight-ounce cans. Several kinds of candy were also on hand. It is interesting to note that although the total amount of food available in the cockpit was only one half the normal 5,000-calorie requirement for the whole period, no subject consumed all that was provided for him.

AF OFFICER IS SHOWN AFTER 40 CONTINUOUS HOURS IN COCKPIT



INTERCOM SYSTEM AND RECORDING GEAR USED IN AF PROJECT

At the end of the 56-hour period, two of the subjects flew 15 minutes of basic instruments under the hood and then shot three ILS approaches. Both accomplished this well within AF flight safety requirements.

Among the observations and conclusions were these: Current jet aircraft cockpits are habitable for 56 hours, and the present standard personal equipment is satisfactory for such a period. Hearing losses ranged from 35 to 50 db, but recovery was complete within the next four days.

The Air-Navy G suit and experimental dynamic cushion provided substantial protection against the effects of compression fatigue and stagnations of blood circulation in the lower extremities. Lowest level of alertness appeared during the last four hours of the high performance period of endurance test.

WHITING ADDS LANDING APPROACH TRAINER

NAAS WHITING *Field's Special Devices Instructor, Mr. Don Mair, briefs N/C D. C. Fitzgerald before he enters the LAT for a "flight."*

NAVCAD *Fitzgerald, the first student pilot to receive instructions in the use of new trainer, enters the cockpit for a short "hop."*

ANOTHER important milestone in the training of future Naval Aviators was passed recently at NAAS WHITING FIELD when NavCad D. C. Fitzgerald of class 1-E completed a flight in the station's new Landing Approach Trainer.

Before he became the first naval aviation cadet to "fly" the LAT, Fitzgerald was given a pre-flight briefing on its operation by Mr. Don Mair, Whiting Field special devices instructor.

Designed to give a student who has had no previous flying experience a clear understanding of how a landing approach looks to the man in the cockpit, the LAT is actually a re-vamped Cycloramics (simulated flight) trainer. A beam of light is projected on a translucent screen simulating a runway to which the approach is to be made.

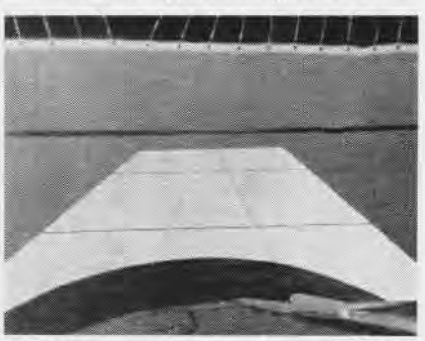
THE IMAGE *flattens out on the final approach and it gives the illusion of an actual landing.*

"Flying" the trainer is done in much the same manner as in a Link trainer. A movable crab controls the projected runway image to give the illusion of the aircraft turning from its base leg to the final approach to the field for a landing.

The crab controls the projected light beam during the trainer's turns and adjusts it to the relative height of the trainer as well. Thus as the trainer descends, the runway image flattens out, giving the same type of view that a pilot sees in making a landing approach in a real plane.

A product of the combined efforts of numerous engineers and designers, the trainer was developed by the University of Illinois. Results from their extensive experiments showed that after using the trainer, flight students with no other experience achieved a good landing technique in less than half the number of actual approaches it took students who had not used the trainer.

While making fewer approaches, the students also made only one fourth as many errors as did the other students. This was one reason the Navy decided to adopt the LAT for its flight syllabus at Whiting.



ON FINAL FLIGHT *student sees the field as it would be on actual approach to the runway.*

At first the trainer will be used at Whiting on an experimental basis with only part of each weekly class using it. Later on, flight grades will be compared in order to measure the trainer's effectiveness.

Charity Donation by VP-49

Crew Pitches in and Gives $1,000

Owing to the generosity of officers and men of VP-49, Bermuda's only Children's Hospital was the recipient of a $1,000 gift.

R. H. Baldwin, ADC, found out that the hospital was in need of funds to carry on its charity work. A fund was started in June and by the end of the month, the money had been collected.

Consultations between the squadron and hospital representatives were held to determine which pieces of equipment were needed most.

On December 23, Cdr. J. M. Arbuckle, CO, presented to the hospital on behalf of his squadron, a nine-cubic foot refrigerator, winter clothing to outfit completely each of 17 children, two wheel chairs, an adjustable training chair, a special work table for handicapped children, and a small radio.

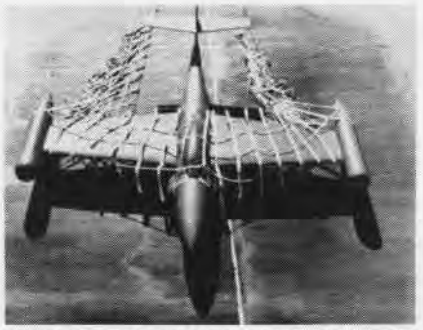
A $90 reserve fund towards the purchase of any necessary physiotherapy equipment topped the generous gift.

USN Transfers Re-opened

90% of Applicants to be Accepted

Former naval aviation cadets who were appointed Ensign between 1 July 1953 and 31 December 1953 are eligible to apply for transfer to the Regular Navy. Applications will be accepted from 1 April 1955 to 30 June 1955.

According to the Personnel Distribution Control Branch of Naval Operations, it is anticipated that some 90% of the applications will be accepted.



MINIATURE SCORPION HELD BY NYLON NET

Model Jets Test Barriers

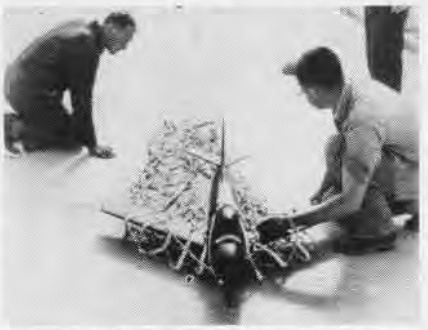
Small Planes Have 110-Knot Speed

Miniature, non-flying jet fighters, one-tenth the size of the F-86 *Sabre* and F-89 *Scorpion*, yet capable of "ground speeds" of 110 knots, have been constructed by All American Engineering Co., Wilmington, Del., to test the ability of nylon nets to halt safely full-size jets that run out of runway.

The nylon barrier used in the tests, like the pint-sized jets, is also constructed to one-tenth scale. The full-size barrier, dubbed "the rabbit catcher," will resemble a huge tennis net, and will stretch across the end of the runway. This is not dissimilar to nets which have been used on Navy carriers since the introduction of jet aircraft.

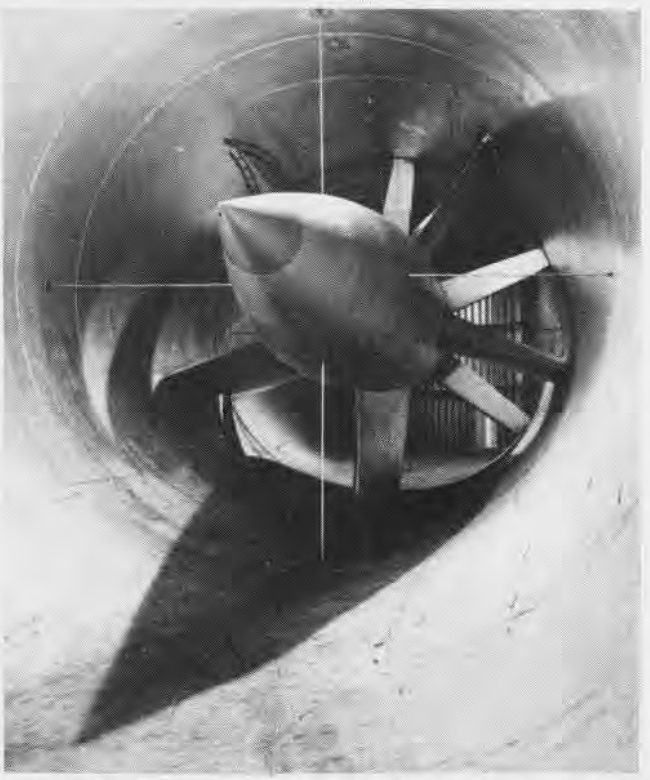
Jet pilots who need more runway than is available—either through overshooting, inability to become airborne, or any other emergency condition—will plow into the net, stretch it forward in front of them, and come to a halt, without sustaining any damage either to the plane or the barrier.

In the dynamic scale model trials, the "jets" are shot forward from a specially designed catapult to simulate actual landing speeds as they race into the barrier. The tests, conducted at a fraction of the cost required for trials with full-size planes, are expected to eliminate any bugs the system may have before the large net is tested.



TECHNICIANS WORK WITH SABRE MODEL

All American Engineering, which developed such a safety device a decade ago, is working under an AF contract to design, fabricate and test a practical barrier for high speed jet airplanes.



PATTERN FOR POWER *might well be the title of this photographic study of the giant 20-foot laminated spruce propeller which provides the 200-mile-an-hour wind to operate Chance Vought Aircraft's new low-speed wind tunnel. The 1500-hp. electric motor which drives the propeller is completely housed in a plywood fairing, 32 feet from blunt nose to pointed trailing tip. At left, Bob Snoddy, tunnel operator, inspects the fan installation. Behind him are turning vanes to divert the wind around the corner of the rectangular tunnel. Above, one sees the rear view of the propeller and the motor housing. Both the propeller and the housing were built by CVA's model shop craftsmen.*

HITS AND ERRORS

BEARCAT *came a cropper as a result of poor brakes which caused it to slew off and run into a truck parked too close to runway.*

FOR SOME reason not clear to statisticians, aircraft and automobiles have long displayed a marked incompatibility. At least, there is evidence from a large and constantly growing file of ground accidents in which various aircraft and assorted ground vehicles have battered each other with results as unprofitable as they are unpredictable.

With the causes appearing to be about equally divided between the "loose nut at the wheel" category and the "poor connection between stick and throttle" group, the ground craft versus aircraft battle continues.

Statements on the subject of taxi-ground accidents are too often regarded by both airplane and auto drivers as not applicable to themselves personally. "It would never happen to me" is too often the undercurrent of thought. But folly it is, and the pictures on these two pages offer convincing proof of typical hazards and their expensive results.

There are several tips on taxiing any pilot is wise to heed. Don't simply wag your head in amazement over these unusual mishaps. Use your head. The very mark of the professional aviator is his alert, calculated taxi procedure. Remember, the two "i's" in taxiing should be your own.

Here are certain tips. Never taxi without prior clearance. Check your brake action before you start. It's not chicken to use the taxi director. Follow his signals. If you are in doubt or at a strange field, stop and request additional instructions of the plane director. At all times taxi slowly with minimum power necessary. During operations at night, extra caution is mandatory.

Ground personnel have their responsibilities. The taxi directors should know standard aircraft signals and when to use them, making sure at all times the pilot can SEE the signals. For all ground personnel, it is a good rule not to rush, and when you are in doubt, stop.

Accidents on the ground are expensive in terms of money. Fortunately, it is machinery rather than people that bear the brunt. Yet there is always a chance that you may pay with your life for a blunder. The statisticians have the records, but what makes up those records in terms of safety for man and machine begins and ends with YOU. So let's play ball and make a record: safe runs, no hits, no errors.

'OOPS! *I was looking at something else!' SNJ tripped over contractor's truck as he concentrated on the movements of other planes.*

OVER-CROWDED *parking lot occurred when this R4Q jumped the chocks during engine turn-up and battered five unoffending cars nearby.*

MY ACHING *back! NC5 mobile starter protrudes from wingroot of Neptune which settled from landing gear malfunction at starting.*

THE PLANE *director didn't show up, so . . . the pilot of this OY proceeded to taxi to another place, except there was this tractor.*

EXCESSIVE *taxi speed caused Panther to swerve off runway after travelling 180 feet braking and smashed the left wing on tractor.*

'I THOUGHT *I could park it myself', so blundering Banshee bumps bowser when pilot declined services of the local plane director.*

ARMY *car stopped in taxiway to ask directions. At the same time pilot of SNJ failed to zig-zag to the clear area just a few feet away.*

CLEARED *to taxi down runway to take-off position, pilot of AF-2W locked tailwheel and hit vehicles parked in middle of the runway.*

Helicopter Power Steering

Hydraulic Boost Control in 47G's

Bell Aircraft Corporation has announced that "power steering" will become standard equipment in the new 47G model utility helicopter. Hydraulic boost control provides muscles for the job of piloting the craft and will result in smoother operation and higher maneuverability, according to the announcement.

The Navy has under consideration a new version of the HTL type helicopter, the HTL-6, which will incorporate this new boost control.

CAA-certified, the system is so designed that the pilot can easily control manually if the unit fails while the helicopter is in flight.

MCAS El Toro Wheel Watch

Light Replaces Old Paddle Signal

At MCAS EL TORO, the old landing signal paddle has been put aside for a newer more modern method of warning pilots that their wheels are not down and locked.

The new device is a battery-powered hand type signal light with a red lens and a white lens. The wheels watch flashes a red light at the pilot if the wheels are up on the final approach and a white light if they appear to be down and locked.

The signalman is located in a clearly marked, portable shelter at the approach end of the runway. During a two-hour watch he observes every plane making a final approach to a

DEMONSTRATION OF THE NEW AND THE OLD

landing and gives the pilot the proper signal. The light is used on an average of every five minutes during the day.

The high regard in which pilots hold the wheel watch is shown in the comment of one who lost a wheel after touchdown. He asked the wheel watch, "Could you see if the wheel spindle nut was in place when I came by you?"

DESIGNED FOR HIGH CRUISING SPEEDS, THE XV-3 SPORTS THE TILTING ROTOR DESIGN

BELL DEMONSTRATES TWO NEW DESIGNS

BELL Aircraft Co. has unveiled the XV-3 Convertiplane and the jet vertical riser, two new planes of unique design. The jet vertical riser is the first of its kind and the Convertiplane sports the tilting-rotor design.

The weird-looking Convertiplane was shown at Bell's Fort Worth plant recently and it features combination rotor-propellers mounted near the tips of stubby fixed wings. During take-offs and landings, the rotor-propeller acts as helicopter rotors and tilts forward for conventional cruising and high speed flight.

The VTOL (vertical take-off and landing) jet riser uses twin jets to provide thrust for vertical operation and horizontal flight. The VTOL can take off and land without need for a runway.

PLANE ASCENDS AND LANDS VERTICALLY

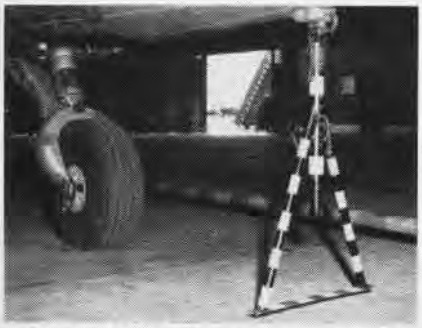
Unlike the "tail sitter" type aircraft, the new VTOL takes off and lands in a normal horizontal position, thus eliminating the need for special ground-handling equipment and crews.

Two Fairchild J-44 turbojet engines, each delivering about 1,000 pounds of thrust, can be rotated through 90° from a vertical position for take-off and landing to a horizontal position for forward flight. With this exception, the Bell VTOL performs like a conventional fixed-wing airplane.

The test vehicle weighs about 2,000 pounds, is 21 feet long and has a wing span of 26 feet. It incorporates a glider fuselage, a commercial light plane wing and a helicopter landing gear. It carries only the pilot.

For take-off and low speed flights, compressed air is ejected from nozzles at the wing tips and the tail of the aircraft to provide pitch, yaw and roll control. When sufficient forward speed has been attained, flight control is provided by conventional control surfaces, ailerons, rudders and elevators.

Bell Aircraft Company built this country's first jet, the P-59 *Airocomet*.



AN ADJUSTABLE *tail support has been designed at NAAS Corry Field to increase safety of men engaged in removing or installing R4D-8 tail wheel ground safety support.*

Jet Deflector Is Developed

Aircraft Stall Speed Reduced 20%

A new aeronautical technique—jet deflection—has been successfully tested by the British. The deflector was installed on a Gloster *Meteor* and has been subjected to extensive tests for a year.

The new system is designed to reduce the take-off and landing speeds of jet aircraft. By deflecting the exhaust downward, it provides a component of vertical lift as well as forward thrust.

The deflectors were developed and built by the National Gas Turbine Establishment, and were installed by the Westland Aircraft Ltd. They are located mid-way along the jet pipes, so that thrust passes through the plane's center of gravity. When 60% of the thrust available from the *Meteor's* twin jets is used, the stalling speed is reduced by as much as 20 per cent.

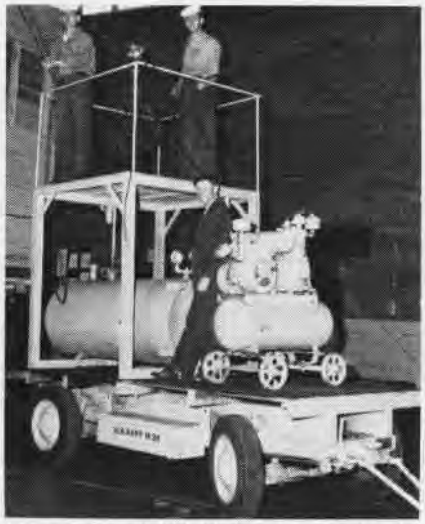
CPO Makes Two Gimmicks

Two Devices Aid Maintenance Men

J. J. McCarter, CPO, an "idea man" at NAS HUTCHINSON, has come up with two new instruments, built from scrap, which will lighten the work load for the Maintenance gang at the air station. The first device is a kill-frost spray rig. The second involves the installation of emergency tie-down plates for aircraft on concrete parking ramps.

McCarter came up with the kill-frost spray rig to meet the needs of the maintenance crew. The trailer which supports the equipment is an old, four-wheeled bomb cart which is towed by a mechanical mule.

The tank was recovered from scrap yards at the station, and surplus material furnished the rest of the gear. A



MC CARTER SHOWS KILL-FROST SPRAY RIG

gas engine compressor furnishes the power for the rig. Pressurized defrosting fluid is forced through a flexible hose at 25 psi.

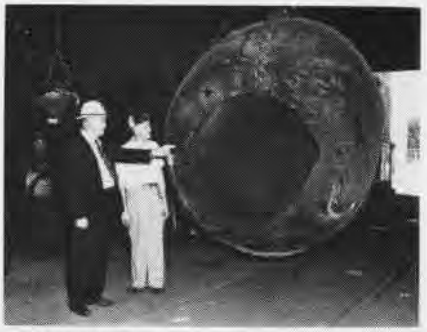
An emergency tie-down plate was McCarter's second idea. Such plates became necessary when the station received more pool aircraft than available tie-downs would accommodate.

The costly project of cutting holes in the concrete was abandoned because it weakens the ramp and is time-consuming. Instead, McCarter cut a steel plate and attached a "D" ring to it. He then set the plate into the parking ramp concrete by use of a "Ramset gun."

Station maintenance tested the tie-downs with a 200-lb. vertical pull and found that they would hold. Capt. H. E. Irons, CO, gave the nod and production was begun. Over 300 of the tie-downs have been installed at a cost of about $1.50 each, including labor and material.

Aircraft can be taxied over them without fear of damage to tires, and they can be removed easily by shearing the steel nails at the concrete level.

P4Y UTILIZES NEW AIRCRAFT TIE-DOWN



WEIGHING *16 tons each, the first of two hawsepipes for the Saratoga, has been cast at the Norfolk Naval Shipyard. The pipes are 28 feet long and 4 feet in diameter.*

It Didn't Get Them Down

Technicians Solve 'Nutty' Problem

A stubborn little nut in a J-65 jet engine was well on its way to becoming a champion wrench-breaker in the shop of FASRON-6 at NAS JACKSONVILLE until two of the shop's technicians designed and built a three-piece wrench that quickly tamed it.

When the first J-65 jet engine arrived for "C" overhaul, the technicians found they had a difficult task. The hardest, most time-consuming part of servicing was loosening the "turbine rotor rear shaft attaching nut." This nut had to be removed before the engine could be overhauled.

An all-out effort by an entire five-man crew was necessary to free this little nut. When the next engine was turned in, the crew had a still harder time.

Wrench after wrench was tried, only to break without even disturbing the little nut. Three days and 14 broken wrenches later, William H. Wilson, AD1, and Henry H. Mason, AM1, decided to build something that would really work.

They shaped three pieces of metal that could be assembled into a very formidable wrench. It consisted of a flat rectangular piece of tool steel with a hexagon hole cut in the center, a round piece of tool steel with a hexagon projection on each end, and an eight-foot piece of galvanized pipe. The two pieces of tool steel were heat treated to strengthen them.

When Wilson inserted the wrench in the nut, Mason and the other three members of the crew grabbed hold of the pipe to apply the necessary leverage. In less than 15 minutes, the nut was loose. The breaker had been beaten.

AVIATION ORDNANCE

'Burning Glass' Problems

Illuminated Sight Gasket Affected

Recent reports from California testify to the validity of the claims of local Chambers of Commerce as to the warmth of old Sol, but the same sun has, in that area of the country, given a slight headache to BuOrd.

A design change in the illuminated sight Mk 20 Mod 4 allowed a neoprene gasket at the bottom of the lens system to assume an exposed and vulnerable position. The excellent optics in the sight take the light which is produced from a lamp behind a small reticle plate, expand it, and send it out in parallel rays to be bounced off the reflector plate.

Unfortunately, this optical system makes an excellent "burning glass" when the rays of the sun fall directly on the large objective lens of the sight, focussing these rays in the vicinity of the exposed neoprene gasket at the bottom of the optical system. On a clear summer day, portions of this gasket which fall in the area of principal focus are raised to a temperature well above that at which neoprene can remain neoprene. Products of burning and decomposition then condense on the glass surfaces, and impair the normal operation of the sight.

Sights in which this phenomenon has occurred present a dim and blurred reticle pattern, with the degree of dimness and blur dependent upon the deposits on the glass surfaces in the illuminated sight.

The removal of this gasket may only be done by disassembly of the optical system. This is impractical in the field. In addition, a sight which contains the exposed neoprene gasket may be fogged on the next sunny day after cleaning. In order to correct the situation, new parts had to be designed and made which could withstand the temperatures involved. These new parts had to be incorporated in the present production lines as well as installed in those sights which had been manufactured with the offending gasket.

A sufficient number of substitute sights (Mk 20 Mod 4) are not available at present, but when sufficient stocks of newly-manufactured and reworked sights are built up—say in two or three months—suitable instructions will be sent out concerning replacement. Until that time, precautions should be taken to prevent direct sunlight from entering the lens system.

Some enterprising activities have devised covers of a soft opaque material, such as felt, to be placed over the optics of the sight when it is not in use. Activities may also avail themselves of a large bag termed a "cover, protective, stock no. 1942-C-4016," to drape over and envelop the entire unit. Any procedure to block the sun is heartily endorsed as an interim measure while the manufacturing activity is frantically trying to catch up.

Pilots are to be discouraged from panicking and departing forthwith from aircraft in flight at any puffs of smoke issuing from an installed illuminated sight since the neoprene gasket is the only readily burnable item in the unit and is relatively tiny and incapable of producing an extensive fire.

Ordnance Test Panel Ready

VS-36 Man Develops New Device

An ordnance testing panel that will save many man-hours of work for air anti-submarine squadrons has been designed and built by Dale H. Rosch, AO3. It is now in use.

The inventor claims the panel can be used to test any piece of ordnance gear used on the AF and S2F airplanes, equipment ranging from a small movie camera to a large 300-lb. retro launcher.

ROSCH IS SHOWN WITH PANEL IN SHOP

Rosch got tired of carrying bulky and heavy ordnance gear from the repair shop to the airplane, only to find the piece needed another adjustment which could be made only in the shop. This wasted motion is now eliminated by use of the test panel.

Mk 26 Converter Failure

New Design Begins at Number 196

Fleet and service commands have reported repeated instances of breakdown of converter Mk 26, a major component of the target designation system Mk 5 Mod 1, as a result of failure of the miniature ball bearings in the servo motor gear boxes. There are 25 gear boxes in each converter, each gear box containing at least six such bearings.

The use of the miniature ball bearings has been recognized as a design weakness and starting with Serial Number 196 all units were delivered with bronze sleeve bearings (bushings) instead of ball bearings.

BuOrd is issuing OrdAlt 3501 to modify in the field all converters (Serial 1 to 195) which are fitted with the ball bearings. In the event of casualty and pending delivery of the formal OrdAlt to the fleet, preliminary copies together with the replacement sleeve bearings and spacers, are available upon request.

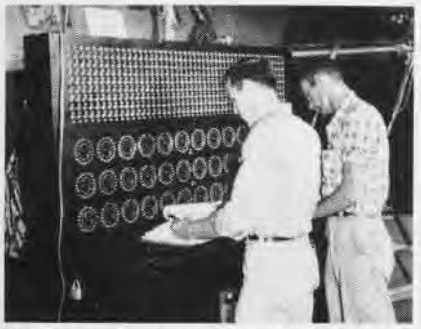
Work Orders Streamlined

Cherry Pt. Inaugurates New System

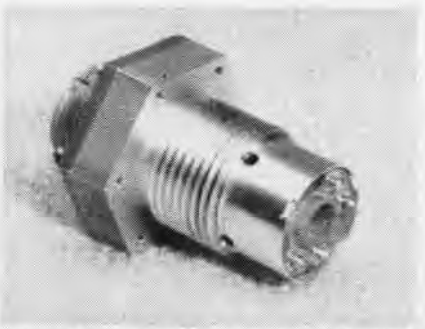
The Overhaul and Repair department at MCAS Cherry Point has been added to the list of air stations that have instituted a mechanized production control system. By using addressograph equipment to produce work orders mechanically, O&R personnel expect to save time and labor, eliminate errors and make additional information available to management.

BuAer sponsored the new system which has proved its worth at O&R departments at NAS San Diego and NAS Quonset Point. When a plane is accepted for overhaul and repair, a punched card is issued which lists all parts and repairs for that particular plane. Any work performed on the plane is transferred to a master card which remains with the aircraft until all repairs have been made.

BuAer is planning to install the system at all O&R departments of the Navy within the very near future.



EXPERTS CHECK REGULUS WIRING DIAGRAMS



LIQUID LEVEL SWITCH IS USED IN MISSILES

FULLY LOADED BANSHEE PROVES EASY TASK

Test Panel for Missile

Intricate System Checks the Regulus

A compact panel with 423 lights and 641 switch positions has been developed to check electrical circuit continuity in the Navy-Chance Vought guided missile *Regulus*.

The maze of electrical circuits in the *Regulus* is thoroughly checked against improper wiring or accidental shorts before the missile is released to the Navy. While the *Regulus* is being checked, up to 90 cables connect the panel to various points in the missile.

The panel has six miles of wire in its interior despite its small size. Among the circuits of the missile tested are the telemetering circuit, command control, starting, fuel system, tracking, auto-pilot, throttle control, landing gear and all the guidance systems.

Minute Fuel Switch Control

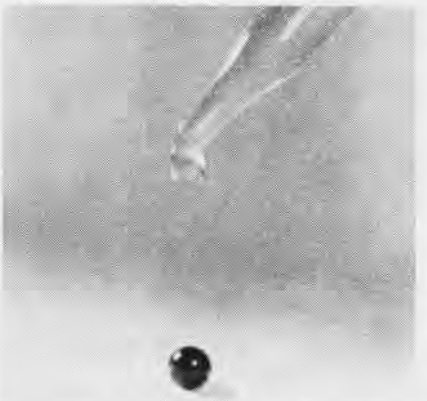
Resistors Help in Fuel Management

A pinpoint-size resistor that is 10 times more sensitive to temperature change than any metallic conductor is helping to solve the critical problem of fuel managed and center-of-gravity control in newest guided missiles.

Called a thermistor, it is being produced by Minneapolis-Honeywell Regulator Company. It is being used to sequence the flow of fuel from tanks to maintain constant center of gravity in high-thrust jet types of missiles, to close automatically refueling valves in B-47's, and to provide low-level fuel warning in other aircraft.

Use of the tiny fuel-detecting elements helps solve the problem of maintaining a missile on course despite its constantly changing fuel load and increasing Mach number. This is accomplished, by mounting the thermistor in fuel tanks or fuel lines where it detects the presence or absence of the liquid according to its minute temperature changes.

Systems may be designed to accept an override signal so sequencing can be altered during acceleration or to compensate for changes in missile configuration during flight.



THERMISTOR IS SMALLER THAN WATER DROP

Thermistors are available from pinpoint size upwards, in various resistance values, and in bead, disc, washer, rod, flake and printed patterns. This makes it possible to design liquid level and temperature sensing equipment for a variety of other aircraft applications including level indication of oil, water, hydraulic fluid, alcohol, anti-detonation injection fluid and de-icing fluid.

TINY RESISTOR IS A GREAT DETECTOR

New Crash Crane in Use

Rig has a 35-Ton Lifting Capacity

A mobile crane with a 35-ton lifting capacity has been introduced at NAS JACKSONVILLE. Designated the MB-1, the crash crane put on a demonstration of its capabilities by lifting a fully loaded F2H *Banshee*. It can move to the scene of a crash at 30 mph.

Built by the LeTourneau-Westinghouse Company in cooperation with BUAER, the new rig is designed especially to aid rescue and clear runways in air crashes. A 500-hp engine furnishes power, and eight-foot tires permit the crane to retrieve a plane from terrain which bogs down older crash vehicles.

The 45-ton MB-1 features a remote-operated electric hoisting rig which permits precision lifting control by a crash supervisor outside the vehicle's cab.

Additional units are now in production and will eventually be assigned to Naval Air Stations throughout world.

Engine Thrust Is Boosted

British Olympus 101 Hits 11,000

A new British jet engine, the *Olympus 101*, successfully tested under static conditions, has achieved 11,000 pounds thrust at full bore according to the Society of British Aircraft Constructors.

This was done without the use of an afterburner. The 150-hour test program included five hours running at maximum take-off power, 87 hours at cruising conditions, and 10 hours at speeds varying from idling to full power. Combat strain was simulated on the new jet by running it at higher than take-off power for a short time.

The Olympus will power the British Avro *Vulcan* delta wing RAF bomber.

LETTERS

SIRS:

Unless my memory fails me, it was VP-40, NAS SAN DIEGO, who were first assigned the P5M Marlins for the West Coast. (Feb. '55—Cover, 40).

In view of its past excellent record in Philippines "initiating" the aircraft, it seems that the squadron deserves its due credit in print.

R.D.H., AL2

¶ Very happy to give VP-40 a big pat on the back for its excellent work in the Philippines. However, the Aircraft Programs Branch of CNO advises us that VP-47 had the P5M-2's in January and that you should take another look at VP-40's P5M-1's, which had not been replaced by P5M-2's at that time.

SIRS:

In the March issue of NANews, you printed a squadron insigne designated as that of VS–23. I'm sure you will find that VS–32 has that insigne, and that VS–23 has an entirely different one.

C. B. CURTIS, CDR.

¶ You are right. The numbers were transposed.

Taking Care of Our Own

Man Flown to Bedside of Sick Wife

Harold C. Fly, BM2, stationed aboard the seaplane tender USS *Onslow* operating off Honolulu, was notified of the critical illness of his wife, 2,300 miles away in Los Angeles. The chain of events that followed had Fly on his way home in a matter of a few hours.

The *Onslow* requested assistance from Ships' Control at Pearl Harbor. Ship's Control immediately called NAS BARBER'S POINT and asked for a helicopter pickup. Within 15 minutes after they were alerted, F. E. Peters, AO1 (AP), pilot of the HUP-2, and L. M. Wallen, AD1, his helicrewman, were on their way to rendezvous with the *Onslow* about 30 miles away.

Fly was hoisted aboard the 'copter and returned to NAS BARBER'S POINT. Three hours after Fly had been notified of his wife's illness, he had a set of priority flight orders in his hands and was on a MATS plane bound for home.

IFR-IQ?

According to the All Weather Flight School, the answer is:
Enough fuel to reach an alternate plus 25 minutes.

Ref: OPNAV 3720.2

VF-112 Assists Air Force

Fly Cougars in Scramble Watch

VF-112 assigned to the USS *Kearsarge* recently spent ten days at Clark AF Base in the Philippines and partially relieved an F-86 Air Force squadron in standing "scramble" duty for the protection of the Philippines.

This period ashore was in line with ComSeventhFlt's policy of permitting fighter squadrons to move to a shore base and operate while the Fleet is in port or operating in the immediate area. This enables pilots to keep up their proficiency in weapons and general airmanship while deployed in the Far East.

VF-112 carried out a heavy schedule in air-to-air gunnery, strafing, type instruments, night flying and combat air patrol for the fleet. The hours flown during the ten-day period equalled the total hours for the preceding two months.

Cdr. G. S. Morrison is skipper.

NAVY FILMS

Navy No.	Title
MN-7901	Radar Set AN/APS-42, Operation
MH-8128A	Skyknight
MA-8204A	Strategic and Tactical Objectives of the Soviet Union
MA-8204B	Which Way for the Germans
MN-9233M	Aerial Reconnaissance Camera—The Rapidine Shutter
MN-9301	Safety In Aircraft Line Operations
MN-9301	Jet Assisted Take-off

Film libraries at air stations and centers furnish films needed by aviation activities.

CONTENTS

● SUBSCRIPTIONS

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

● THE COVER

A Cutlass of VC-3 shows a fiery tail as it cuts in the afterburner. This night photograph was taken by Lee Plante, PH3, squadron photographer.

● THE STAFF

Cdr. Bart J. Slattery, Jr.
Head, Aviation Periodicals Office

LCdr. William A. Kinsley
Editor

Izetta Winter Robb
Managing Editor

Lt. Moriece Gleason
H. C. Varner, JOC
Associate Editors

Cdr. Samuel G. Parsons
Contributing Editor

Doris E. Ingalls
Editorial Assistant

James M. Springer
Art Director

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

Published monthly by Chief of Naval Operations and Bureau of Aeronautics to disseminate safety, training, maintenance, and technical data. Address communications to Naval Aviation News, Op-O5A5, Navy Department, Washington 25, D. C. Office located in room 5E573 Pentagon Building. Phones are extensions 73685 and 73515. Op-O5A5 also publishes quarterly Naval Aviation Confidential Bulletin.

SQUADRON INSIGNIA

Birds, bees and fish take wing with the welcome approach of spring. Approved insignia featured here lead off with the attacking owl of VC-35 denoting its mission during the hours of darkness. A hornet stings, and returns to sting again. So do the Banshees of VF-44, although their stingers are on the other end. The gold-winged shark, circled by a buzz-saw, symbolizes carrier-based, destructive potential of VF-93. It zooms upward from its natural habitat seeking enemy targets. FASRon-106 is proud to use the national symbol of freedom in its insigne. Tools show the "keep 'em flying" mission.

VC-35

VF-44

VF-93

FASRon-106

NAVAL AVIATION NEWS

Knifing through Oahu's skies, these Banshees of VC-3 seem suspended by imagination as they fly in a vertical bank. The routine environment of these all-weather fighters is darkness. For them 'the dark is light enough.' Let NAVAL AVIATION NEWS shed light for you on aviation development. Send a two-dollar check for one year to the address below. Do it today.

Superintendent of Documents
Government Printing Office
Washington 25, D. C.