

NAVAL AVIATION

NEWS

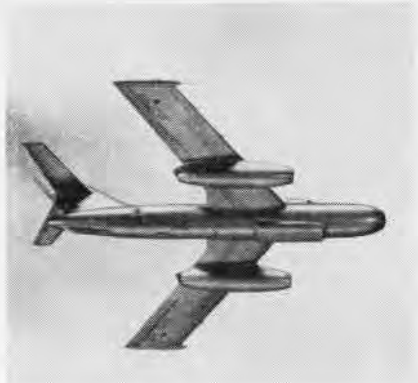


37th Year of Publication

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RUSSIAN ALL-WEATHER FIGHTER

The sleek Flashlight is a Soviet swept wing, twin jet, dual placed, all-weather fighter which gives the appearance of being an effective interceptor. The wing, swept at 40° , is very angular in appearance. It is reminiscent of the old German World War II ME-262.

The swept-wing is mid-mounted on the fuselage with a slight 'droop' or cathedral. The straight inboard section or fairing on the after trailing edge of the wing shows up well.

Underslung nacelles, a large, round, solid nose, and a large, swept, vertical stabilizer are distinctive characteristics.

The horizontal stabilizer is raked and mounted half way up the vertical tail. Small wing tip pods and an under fuselage fairing beneath the tail round out the recognition features of this new Soviet fighter.





PHOTO INTERPRETATION

IT WAS LIKE trying to destroy a three-headed monster by lopping off one head at a time. The monster had the faculty of immediately growing another head in just a little different place on his body. Constant attack on Communist Korean rail facilities was imperative to prevent a build-up of front line areas. But planes of CTF-77 would blast a rail line, or several lines in one day, and the next day new rails would be in use, winding around the bomb craters of yesterday's attacks.

Photographic planes scoured North Korea with their lenses, on varied missions, to assess damage, search for new targets, and indulge in plain nosiness. One mission assigned was to study

mining activities which had been reported. The planes returned, films were processed and studied by Photo Interpretation officers. Bingo! Here was a target, a juicy one, that preceded mines in importance. The discovery of an important rail facility, locomotive repair shops, freight yards, and a roundhouse was immediately reported to the Commander, Task Force 77.

Additional surveillance photography was ordered. Three other, equally important railroad facilities were discovered in other areas far north in North Korea. Photo Interpretation officers studied the pictures and determined when the enemy yards were most active. On their judgment, ComTF-77 ordered a four-carrier strike.

ALL FOUR facilities were destroyed in one day. The railroad yard pictured was assigned to Air Group Seven, aboard the *Bon Homme Richard*. There were about 14 locomotives in the yard when the strike was made. Comparison of the before and after pictures clearly tell the story, much better than could be related by an aerial observer. This head of the monster would take some time to grow again.

Much of the credit for this successful operation was given to LCdr. R. C. Bartol, PI officer aboard the *Bon Homme Richard*. He didn't drop any bombs, but his knowledge and skill guided them to the vital target. Lt. C. D. Cullison also had an important part in the four-star operation. He was PI officer on the staff of ComCarDiv-1, who was also ComTF-77. Both these officers are now on the staff of the Photo Interpretation Center, Naval Receiving Station, Washington, D. C. And this is the story of that unique and highly respected installation.

When President Eisenhower suggested in the interest of peace that the United States and Russia make aerial sur-



THE NORTH Korean railroad facility looked like this before Air Group Seven planes dropped their bombs. See the results in next picture.

rine Corps be sent to England to increase the scope of the study. On his return to the United States in the summer of 1941, he pressed for the establishment of a Navy school to train officer personnel in photographic interpretation.

A short time later, CNO authorized the establishment of a PI School under BUAER, to be located at NAS Anacostia. The following January, the initial class of 28 Naval and Marine officers convened.

Realization of the value of photographic interpretation snow-balled rapidly. As interpreters became available, PI units were formed either as a part of a photo group or an intelligence center assigned to an area command. These units varied in size from 30 to 100 officers and were designated variously as Interpretation Squadrons, Advanced Intelligence Centers and PI Field Units.

By the end of 1942, the School had moved into the new Photographic Science Laboratory. The training quota had been increased to 500. By June, 1943, a unit had been formed at the PI School to make special publications available to officers in the field. That November, SecNav es-



POST STRIKE damage assessment determined that area was destroyed. About 14 locomotives were in yard and shops when strike was made.

veys of one another's country, the vast possibilities of such an operation were lost on many Americans. The broad capabilities of the art of photographic interpretation are still a deep dark secret for most people.

As recently as the spring of 1941, the U.S. Navy had no photo interpretation capability and almost as little interest. At that time, however, VAdm. R. L. Ghormley, then U.S. Naval Attache in London, was observing the British effort to extricate itself from the difficult position which required military information about a continent from which they had been driven. The British had improvised a system of extracting detailed military information from photographs taken over enemy-held territory.

Adm. Ghormley requested that an officer from BUAER be sent to England to observe the system. LCdr. (now Capt.) R. S. Quackenbush, Jr. was assigned and, after observations, saw the importance to the British of PI work and the need for a similar organization in the U.S. Navy. He recommended that other officers from the Navy and Ma-

tablished the PIC as an activity of DCNO(Air)'s Air Intelligence Group, and the following January, supervision of the Center was transferred to CNO, Division of Naval Intelligence. Its primary functions were: To maintain the school for training photographic interpreters; to operate a terrain model workshop for manufacturing such models; and to maintain a pool of trained photo-interpreters to serve the Fleet.

A total of 831 officers had completed the basic PI course by the end of WW II. At that point military leaders sat back and took an over-all look at results. They decided that photographic interpretation was responsible for a large part of our success. It was estimated that as much as 85% of all intelligence developed in the Pacific came from aerial photography. Virtually every commander recommended that photo intelligence organizations not only be retained for the post-war Navy, but be further developed to a point of maximum potential.

Beginning in 1946, some ex-Naval PI's were hired as



WITH STEREO METER you measure height of hills almost as accurately as with rod and chain.



STARTING from basic grid, like graph paper, coordinate lines of area involved are drawn.



USING RECTIFIER, technician can correct errors in photo which is not exactly vertical.

civilians for training, research, and operational duties. A complement of 58 civilians had been authorized. One such civilian is Steve Johnson.

During WW II, he was a PI officer in the Aleutians. At that time, PI officers were just tolerated, just as there is always an allergy to every new service. But in Steve's case, an opportunity came, back in those harrowing days of 1942, to create a happy reversal of the toleration attitude.

Into Kiska harbor, then held by Japan, came a supply ship. It was promptly bombed by U.S. planes, and to keep it from sinking, the Japanese hauled it onto the beach.

Steve kept track of the operation through photographs. A short time later, photos showed Steve that apparently a sister ship of the beached vessel had anchored in the harbor. Bombers gave it a working over, but it didn't sink. Then Steve gave a second, third and fourth look at the pictures. "Eureka," he may have shouted. The enemy had patched the beached hulk and anchored it out in the harbor.

Very minor differences in the sister ship enabled Steve to determine that it was the undamaged ship on the beach,

and the Kiska defenders were blithely unloading much needed supplies, while wasted bombs were endeavoring to sink the useless hulk. Steve convinced the Chief of Staff of the truth of his discovery and the second ship was bombed.

Despite the apparent desirability of maintaining an interpretation center, it appeared, early in the post-war period, that the activities of PIC would have to be curtailed, if not eliminated. However, BUAER, appeared capable of financing PIC, so the center was placed under the control of BUAER in October, 1946.

During the same month, SecNav disestablished the Photographic Intelligence Center and established the Photo Interpretation Center under the technical control of DCNO (Air). Seven years later, the PIC was made a separate command. Intelligence functions are assigned to ONI, administrative control is handled by the Potomac River Naval Command, and PIC is under management control of BUAER. And so, Cdr. David S. Butler, present CO of PIC, has four bosses, three of whom write fitness reports on him. And you think you have troubles with your boss!



TERRAIN MODELS, built to scale, are painted realistically as one of finishing touches.



AN AERIAL camera is a trifle more complex than a Brownie, and lots bigger and heavier.



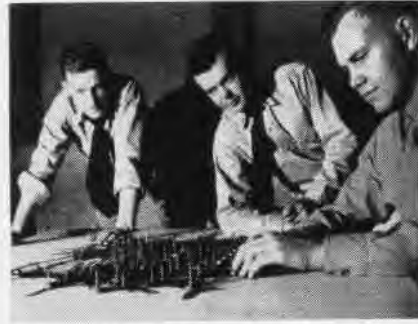
BY USING an overhead projector, it is easy to trace map detail from an aerial negative.



CUTTING OUT a contour is one of the opening steps in the preparation of a terrain model.



GEOGRAPHIC coordinate lines are carefully plotted on the basic grid for a scale map.



THE SLOTTED template system is used in establishing controls for making mosaic or map.



THIS DETAILED overlay of an airfield is the product of the interpreter's study of photos.



WHILE MAKING a controlled mosaic, accurate sections of photos are squeezed down on board.



TECHNICIANS are establishing photogrammetric controls on photos used in making a mosaic.

BY NOW the center had expanded to four departments—Training, Evaluation, Production, Technical Services. Only the Training Department bore much resemblance to the organization of the wartime Photo Intelligence Center, and of course this resemblance was only a surface matter. The original three-week course in photo interpretation was expanded to six weeks, and later, to eight weeks.

The current training program, which includes separate courses in tactical, strategic, and metrical photo interpretation as well as radar interpretation, covers a period of some 40 weeks. Maj. Theodore O. Meyer, an Army Officer (all services are represented at PIC) is the Training Officer. He tells another interesting yarn of how photos were used in WW II.

His battalion was assigned the job of capturing a German village, occupied by a strong Nazi force. Aerial photographs were taken of the village. Each squad was given a print of one of the pictures with its assigned route clearly marked on it. A squad was assigned to each house. As a result of complete surprise and exact planning, the German force was caught with its suspenders down, shaving, brushing teeth, etc., and not a shot was fired in capturing the entire village.

PIC has changed from a training center to a combined training-production organization, closely allied to ONI, with the vast majority of personnel devoted to production. Of the current center complement of approximately 300, exclusive of students, about 25 are directly involved with training. The emphasis is on training, however. As recently as four years ago, virtually all training was devoted to aerial photographs. Now an ever-increasing share of the training program is pointed toward the radar scope photog-

raphy. This shift in emphasis has increased the complexity of training because a man must be a trained photo interpreter before he can move into radar work.

An interpreter, with a background in architecture, geology, geography, forestry, or one of several engineering specialties, must have the ability to see stereoscopically (that is, to see in the third dimension using two aerial photographs taken consecutively, through a stereoscope).

The underlying "gimmick" to photo interpretation is the way our eyes work. Because of the separation of our eyes, each eye sees a different view of the object in focus. It is this characteristic which permits us to see in three dimensions. Buildings, trees and mountains appear to rise up from the photo.

The cover picture shows an interpreter studying two aerial photo negatives with a pocket stereoscope. Once this interpreter has mastered the trick of viewing in the third dimension—normally he would use photo prints rather than negatives—the quality of interpretation he can achieve on his own is based on his background and his native intelligence. He can determine the relative heights and lengths of objects, he can make observations about industrial, urban, military, and natural patterns. He can determine probable communication networks. For this, he needs many "tools"—equipment, techniques, and keys. For example, he will learn to report accurately the length of an airstrip, or determine the size of planes on it.

The scale of the usual aerial photograph will vary from 1/5000 to 1/40,000. That is, an inch on the photo is equal to 5000 to 40,000 inches on the ground. The scale of the photo can be determined by comparing the photo detail to a map, or by finding an object on it, the length

of which is known. A Cadillac on a photo of a scale of 1/10,000 is only about .02 inch in length. Or he may apply a formula which requires information on the altitude at which the photo was taken, and the focal length (distance from lens to film) of the taking camera.

A stereometer may be used to determine the height of things. The exact height of the sea wall at Inchon is an example of a requirement for such information. This piece of equipment makes use of "parallax," the apparent displacement or movement of an object when viewed from two different places. (Hold a pencil about a foot away from your face, look at it with one eye, then the other.)

The interpreter will learn to compare photos taken at different times, offering information on the progress of the construction of a building, or the camouflaging of a military position. He will be taught the techniques of analysis so that he can describe the state of a military defensive position, the weapons present, the personnel manning the position, the area it is planned to defend, the camouflaged areas, and even the level of discipline and morale. He will learn how to analyze an industrial plant so that he can make a flow diagram of materials through the plant, locate the vulnerable equipment, make damage assessments and estimate production.

Once a photo interpreter is trained he may be assigned to an aircraft squadron, a ship, a command staff, an intelligence center, or to a photo interpreter pool. It may be to any number of special billets or to further training in radar. He may be assigned to PIC for a tour of duty.

Depending on his assignment, he may prepare or assist in preparing photo interpretation intelligence reports, maps, terrain models or mosaics or target studies made from photographs of an important strategic area.

If his assignment is to PIC, he may be named as an instructor in the Training Department, but more likely he will be placed in the Technical Services, Evaluation, or another staff billet in another department.

The Technical Services Department is the beginning and the end of most photo interpretation products of PIC. Its staff searches the many aerial film libraries in Washington,

locating and ordering the film required for a given project.

Another division of the department maintains a large reference library and performs search in conjunction with the film search teams for documentary material for a given project. The photo lab makes prints and processes the requisitioned film when it arrives at the Center. Still another unit obtains maps for the project. When the work is completed, the final product is returned to the Technical Services for layout, artwork, reproduction, etc.

After collection, the raw material is passed to the Production Department. Interpreters are given photos, ground information, documents and maps as a basis for reports. Rectified photos, corrected for tip, tilt or distortion, are made into controlled mosaics. Terrain model personnel are given necessary information to construct models. And so emerges the detailed photo interpretation report.

These reports are used for fleet operations and planning. Similar work is performed in the fleet by photo interpreters aboard ship, or by larger groups ashore. Close liaison between the PIC and the fleet assures that reports prepared for Navy use around the world meet high standards.

The Evaluation Department performs research and development work on all aspects of photo interpretation, lets contracts to and supervises progress of non-government agencies. It prepares reference material, photo interpretation keys, manuals and technical reports for service-wide distribution. It tests or evaluates new equipment or techniques and makes recommendations for purchasing.

Almost daily, high priority requests come to PIC from the very top levels of the Government. That they are handled efficiently and expeditiously is attested to by a Commendation received last year, signed by Adm. A. W. Radford, Chairman, Joint Chiefs of Staff, which reads, in part: ". . . the Naval PIC has been called upon to provide information required by the highest level of the Government as a matter of urgency. In each instance the response . . . has been highly satisfactory and has met all of the requirements in a timely manner. The Commanding Officer, PIC, is to be congratulated on this excellence, as representative of the effectiveness . . . of his Command."



FLOOR'S EYE view of a photo interpreter using a stereoscope to study aerial negatives. Ordinarily, photo prints would be used.



THE PLOTTER used for making maps utilizes red and green lights and glasses with red and green lenses to give photostereoptic detail.



GRAMPAW PETTIBONE

And Away We Vertigo

Shortly after take-off while climbing through haze at 7000 feet, the number three man of an F9F-5 flight observed the number two aircraft fall off on its left wing. When asked whether he was in trouble, the pilot replied that he had vertigo.

At 6000 feet and 375 knots while following the first aircraft down, the wingman felt a violent vibration and was thrown into a tight nose-down spiral to the left. When stick movement had no effect on the attitude of the airplane, the pilot ejected, hitting the ground almost immediately after his chute opened.

The pilot who reported vertigo trouble broke out of the haze in an inverted left spiral. Recovering at 2000 feet, he observed the second plane strike the water in a 90-degree dive and the pilot make a parachute landing shortly thereafter.



Grampaw Pettibone Says:

Just who is saying who? Reminds me of the time the village character was in the corner grocery store explaining



to some of his cronies how his sidekick had lost his finger in the new electric meatgrinder—"Shucks, fellas, all he did was stick his finger in here thisaway and press on the switch like this-s-s-s-s . . ."

Sometimes it's not what you do, but the way that you do it. Apparently, the wingman attempted to follow the first aircraft through extreme maneuvers resulting from vertigo and unsuspectingly became a victim himself. In the absence of any conclusive information to the contrary, it appears that he flew into the jet



stream of the aircraft ahead while following it down. This would explain the vibration experienced and lack of aileron and rudder control. The pilot's low experience level in the operation of jet aircraft—this was his second jet hop—was such that he failed to correctly analyze the situation in time to prevent the accident.

Incidentally, the emergency "D" ring, which insures the arming of the F9F ejection seat, needs to be pulled only in the event that the canopy fails to jettison when the pre-ejection lever is actuated. This pilot pulled the "D" ring as a precautionary measure—requiring a second or two that could have cost him his life. Best we do first things first!

And about that haze—a great deal of discretion must be used in scheduling pilots for initial familiarization flights in jet aircraft during periods of reduced visibility. In this particular case, the pilot was on two weeks annual training duty. While the brief active duty period required that training be expedited, there is a point beyond which the returns are not commensurate with the hazards involved.

Fatal Folly

After completing their assigned mission, the pilots of two AD-4's were requested to make low level passes on a task force for the benefit of AA crews.

For half an hour they made runs on the various ships, giving free acrobatic demonstrations at the end of each pass.

On what became his final run, one pilot flew past at an estimated altitude of 100 feet, pulled up slightly, and began a slow roll at 200 feet. While he was on his back, the nose of the aircraft dropped and the pilot attempted to recover in a split S. Altitude was insufficient for recovery. The Skyraider struck the water in a 45° dive angle, and exploded as an exciting climax of the exhibition.



Grampaw Pettibone Says:

The pilot paid with his life for participation in this unscheduled airshow—and that's too stiff an entry fee.

Compliance with existing directives would have prevented this needless fatality. Paragraph 64e of OPNAV Instruction 3710.7 specifies that no acrobatic maneuver shall be conducted where, during the course of the maneuver, the entry, follow through or completion will be below an altitude of 1500 feet above the surface of the water, the ground or highest projection thereof; or, when the horizontal visibility in all directions is less than 3 miles; or within 3000 feet of an overcast or overhead clouds.

This young lad was long on confidence and short on judgment, but he still might have been saved from his own recklessness if, during the 30-minute period of similar acrobatics which preceded the crash, an alert ship or task force commander had recognized the potential danger and called a halt to the demonstration.

Aviation commanders at the local level might well enlist the aid of their shipboard counterparts in reporting obvious flight violations. While this would get some pilots up to their necks in trouble, it might save a few necks in the process.

As for the pilots themselves, they must



be so thoroughly indoctrinated that if they're tempted to engage in such shenanigans, they'll automatically realize that it just ain't fair to the insurance writers.

Dilemma Department

A NavCad piloting an AD-1 took off on a scheduled dive bombing, rocket, and strafing flight. Upon attempting to reset power for climbout to the rendezvous area, he discovered that movement of the throttle produced no corresponding movement of manifold pressure indications. His power settings were 2450 RPM and 45" manifold pressure—and he was stuck with them. Upon notifying his Flight Instructor of this situation, he was told to return to base. The instructor further advised the NavCad to advance his RPM to 2600. This was done and gave a manifold pressure of 48".

The instructor accompanied the student back to the field and radioed for a familiarization officer to man the portable radio equipment at the end of the duty runway. Since there was no qualified familiarization officer immediately available, the portable was manned by a pilot with about 1500 hours in the AD type. This officer called the NavCad who was orbiting at 3,000 feet with an airspeed 250 knots and told him that he would have only one approach and to make it a good one. He added that while he was there to help, the NavCad was flying the plane. He also told him that he would have to cut his ignition after passing the 180 and use his dive brakes to slow the plane down.

The Flight Instructor coached the student to the 180 degree position at 2,000 feet and turned control over to the acting familiarization officer. The NavCad reported passing the 180, gear down, and ready to cut switch, but was told to wait until about the 90 degree position. At about the "ninety" he was told to cut engine, extend dive brakes, and slow the plane to 130 knots.

Between the 60 and the 45 degree position the NavCad reported airspeed 130 knots. The plane appeared to be slowing too rapidly and he was instructed to pull up his dive brakes and get his nose over. Just past the 45 degree position he reported 100 knots and was told again to get the nose of the plane down to pick up speed.



The AD was settling rapidly and the familiarization officer felt that the torque effect might be fatal if he instructed the student to switch his engine back on. A few seconds later the plane hit the highway in a landing attitude just outside the airfield boundary. It then bounced through the perimeter fence, across a drainage ditch, rolled up to the runway threshold, and stopped 106 yards down the runway. The initial touchdown spot had been just about 1,000 feet short of the runway.

The pilot was uninjured, but the AD-1 suffered substantial damage.



Grampaw Pettibone Says:

Well, fellows, who takes the rap for this one? The NavCad was trying to follow instructions; the instructor and the acting familiarization officer were both trying to be helpful. Radio communications were apparently excellent. Although the plane was being operated at maximum continuous power settings, there was no great rush required to solve the problem—as long as cylinder head temperatures remained within limits. The accident board reports that a qualified familiarization officer could have arrived on the scene in a maximum of 15 minutes.

On the error side, maintenance personnel started the chain of events. Bolt, washers, and castellated nut, which were missing from the manifold pressure regulator throttle rod end bearing, were all recovered from the oil cooler cowling. The plane had been flown 1.7 hours since check.

Had a qualified familiarization officer been available immediately or had the decision been made to await his arrival, it is probable that he would have advised a regular approach, utilizing dive brakes, landing gear and flaps to control airspeed until the plane reached a position over or just short of the runway before cutting

power. Although a safe power-off landing may be made from 2,000 feet at the 180 degree position, an approach using available power requires a good deal less skill and judgment.

Then there's the pilot. Although still a student, he had 378 hours of flight time with 93 recent hours in the AD-1. He had handled two earlier emergency situations very well.

The Accident Board, while noting all the other contributory causes, concluded "that the primary cause of this accident was pilot error in that the pilot did not plan his approach in such a manner that a safe landing could be made. Further, he did not attempt to think and plan for himself, but relied on the Acting Familiarization Officer to do it for him."

H'mmmmm. After reading, this I was just about to call for my armor and sword and rush to this lad's defense. In fact I conjured up an interesting picture of a NavCad telling his instructor and the Acting Familiarization Officer, "Thank-you for your kind advice, Gentlemen, but I'm going to do this my way."

Since then I've ben doing some thinking about this particular case . . . and some reading, and I find the following in Change 4 to OpNav Instruction 3710.7, "General Flight and Operating Instructions for Naval Aircraft":

"The pilot in command is responsible for the safe and orderly conduct of the flight. His responsibility and authority exist from the time he enters his aircraft preparatory to flight until he leaves it upon completion of the flight."

"The authority and responsibility of the pilot in command of a naval aircraft flight are independent of his rank and seniority in relation to other persons participating in the flight insofar as operation of the aircraft is concerned. . . ."

There are some exceptions to the latter statement, but none that would apply to this case.

In short, it looks like you can accept advice at any time, but if it happens to be "bum dope"—brother, watch out!

HUP Pilot Rescues Three Pick-up Made After 20 Minutes

After launching on a normal run, Lt. K. R. Hinrichson, *Hornet* HUP pilot, was notified of a downed plane about 30 miles from the ship. According to CIC, the ditched plane, but not the survivors, had been spotted. After several minutes of searching, Hinrichson and his crewmen saw planes making low passes. Approaching the vicinity they saw smoke-lights, a green dye-marker, and the three survivors, clinging to a small, inflated life-raft.

Telling of the rescue, hindered by the 10-foot waves and a gusty, 30-knot wind, Hinrichson relates: "The first pick-up was accomplished quickly. The second took a little more time. Watching the R.P.M. and manifold pressure I decided that we could pick up the third man. We had difficulty catching and staying with him because



GRINNING SURVIVORS ABOARD THE HORNET

the raft, lightened of two of its anchors, was bouncing around a great deal. Time spent over the survivors was approximately two minutes, making an elapsed time of 20 minutes from notification of crash to having survivors in the helicopter."

Escorting *Skyriders* directed him back to the ship. Before long, the survivors (left to right in picture) P. E. Castritsis, HM2, W. R. Godwin, AL1, and Ltjg. J. A. Papadakis were back on the *Hornet's* flight deck, dripping but happy.

Milestone at Whiting Field First Cadet Soloes in T-34 Mentor

Another date in the history of training Naval Aviation Cadets was recorded at NAAS WHITING FIELD on November 15 when Victor G. Horn from Eaton, Ohio, became the first NavCad to fly solo in the T-34 *Mentor*, the Navy's new primary trainer, manufactured by Beech Aircraft Company.

CNO Requires Photographs

Aviation Officers in the 1300 and 1500 categories are required to submit a recent photograph to the Office of the Chief of Naval Operations (Op-54).

The picture, 2½ x 3½ inches, should reveal the full face. No hat should be worn.

Name, serial number and date of exposure should be printed on the back.

After nine dual flights with his instructor, Cadet Horn soloed in the T-34 in just half the time it would have taken in the SNJ *Texan*, the primary trainer used here since 1947. NavCad Horn's instructor was 1st Lt. A. M. Echols, USMC.

Training in the T-34 began at Whiting Field October 31 when the first class of student pilots began primary stage in the new plane.



THE GENERAL MESS AREA WAS INSPECTED

Adm. Arnold at Key West Meets with Food Service Committee

RAdm. R. J. Arnold, BuSandA, visited NAS KEY WEST to meet with the Food Service Advisory Committee of the National Security Industrial Association.

Cdr. W. R. Finn, the station Supply Officer, acted as escort for the admiral and his party during the inspection of the station's new aviation warehouse.

Before leaving Key West, the admiral and his party inspected the station's general mess and galley while a meal was being prepared.

IFR-IQ?

What light signal indicates a restriction of Visual Flight Rule operations in a control zone during daylight hours?

Answer on Page 40

Noted Inventor Retires Credited with Variable Pitch Prop

The man who invented the variable pitch propellers has retired from Civil Service rolls at NAS ALAMEDA. He is Alex Altieri, propeller mechanic employed in the O & R Department, shown here with Capt. L. E. French, CO of the station.

During WWI, Alex was employed as a mechanic in the Philadelphia Naval Shipyard working on the famous old Liberty aircraft engines. It was here that he began experimenting with the idea of a variable pitch propeller. After many years of painstaking work, he finally came up with a satisfactory working model. In 1932, he obtained a patent on his device, making one of the greatest aviation advances of the era.

The variable pitch propeller practically revolutionized the aircraft in-



INVENTOR DISCUSSES PROP IMPROVEMENTS

dustry, as it made possible a faster rate of climb, and greatly increased efficiency of operation of aircraft taking off, landing, and cruising.

Bendix Light Amplifier Will Open New Scientific Fields

Bendix Aviation Corp. will produce on a commercial basis a new development that amplifies light electronically thousands of times. Mr. L. D. Kiley, a Bendix division general manager, said that the amplifier will have an important impact on many processes which are basic to science and industry and show possibilities for the future.

The new device, called *Lumicon*, amplifies light 40,000 to 50,000 times. The unit consists of a detector or image orthicon tube, connected through amplifiers and cables to a monitor unit similar to a standard TV picture tube. A "light tunnel" containing a fluoroscopic screen is added to the detector for X-ray purposes.



DR. THOMAS DOOLEY wears the cap of one of his young Viet Nam refugees down at the loading zone in Haiphong, a port on the "Red River."



BAKER, AB3, says "Good Night" to his boys on one of our ships where they came to have a party and to learn something more of Americans.

THEY OPENED FREEDOM'S DOOR

EVERY single day was exciting!" That's how Dr. Thomas Dooley, Navy Medical Corps lieutenant, describes his assignment of mercy in Haiphong, Viet Nam, where he with his assistant, Aviation Boatswain's Mate Norman Baker, treated 600,000 refugees fleeing to freedom from behind the Bamboo Curtain.

It is a story that is going to be described in detail these coming weeks—in book, magazine condensation and movies, and on TV. It is a fascinating and challenging record of service put down by a man who can say, "I was there! This is what I saw, and this is what I tried to do."

The condensation of the book, *Deliver Us from Evil*, appears in the April issue of the Readers' Digest at the same time that the book is being published by Farrar, Straus and Cudahy.

In speaking of the title, Dr. Dooley in a personal interview with *Naval Aviation News* said, "One night a group of children came in with their hands tied behind their backs, pulled up by a rope around their necks, and with chopsticks sticking out of their ears. The Communists had torn asun-

der their ears and punctured their eardrums. Why? The children had been caught saying their prayers.

"The Communists objected to the 'Our Father' for two reasons. One is the passage, 'Give us this day our daily bread.' In Viet Nam, nobody is supposed to ask God for his daily bread. You get it free from the State of the North Red Viet Nam.

"The second expression they hated was the one I have used for the title of my book—'Deliver us from evil.' But there is no evil in North Viet Nam, the Communists say. It is the quintessence of happiness. So that these children never again would be able to



AMID SQUALOR that is part of mass refugee movements, this child looks up anxiously.

hear the 'treasonous words' of the 'Our Father,' the Communists jammed chopsticks through their eardrums."

It is clear to anyone talking with Dr. Dooley that he speaks with deeply sincere feeling. He is quick to point out that it was religious conviction that drove the north Vietnamese to leave. They knew little of political considerations, but their earnest religious beliefs made it impossible for them to remain where they could not worship freely. It made them pilgrims for the same reasons that had impelled men and women in other centuries in other lands to leave for alien shores.

Dr. Dooley discovered in one of the centers of conflict between the free and Communist worlds the true meaning of his own personal, political philosophy. It is his conviction that if men and women everywhere in the free world knew what is at stake, the reluctance to sacrifice and the petty conflicts which too often divide us could be overcome.

Young, intense, determined and dedicated, Dr. Dooley is bringing in a series of lectures to audiences all over the country fresh insight into the tremendous stakes involved in Indochina.



FREEDOM OF WORSHIP was the cause that sent hundreds of thousands of north Viet Nam to seek new homes in the south. Here they participate in a special Mass held near their tent camp.

FROM SEPTEMBER 1954 to May 1955, Dr. Dooley was stationed in a narrow, neutral crescent formed between Haiphong and Hanoi. This was to become smaller at regular intervals. According to the Geneva Conference agreement made in July 1954 between France and Viet Minh, the Communist government of north Viet Nam, people who wished to go to south Viet Nam were to be permitted to do so.

Dr. Dooley was behind the Bamboo Curtain as a member of a Navy medical team processing refugees before they were taken to south Viet Nam.

The neutral area in which the Navy medical team operated was set up behind the Bamboo Curtain by special permission. Although no military personnel of a foreign land were to be in the neutral zone, special immunity was given for the Navy medical team of 18 men. However, after the first two months, all but two were withdrawn.

The Communist government of north Viet Nam who had promised to let those emigrate who wanted to, did not live up to the agreement; but despite all the obstacles the Reds set up, hundreds of thousands managed to get away in an operation known as "Passage to Freedom."

There weren't enough ships and planes to get them out, so France asked the United States for help. Evacuation began on 16 August 1954 with the loading of the first refugees on the USS *Menard*. In addition to vessels

from the Amphibious Force, Western Pacific, MSTs vessels were used. A total of 113 U. S. vessels were involved at one time or another.

But before the ships could take them to freedom, the refugees had to be approved by the Navy medical team. Once they were approved for emigration, they were given special tags. The team that did this processing consisted of Dr. Dooley and Baker, AB3.

During the last two years of WW II Dooley was a Pharmacist's Mate, Second Class. His father thought that time spent in the Navy as a hospital corpsman would cure his son of wanting to be a doctor, but when Dooley mustered out, he was more determined than ever to go to medical school. After pre-medical courses at Notre Dame and the Sorbonne in Paris, he entered St. Louis University Medical School and received his degree in 1953.

A little over a year later, a jaygee faced thousands of patients, many of them in desperate need of surgery. There was much to be learned that had never been mentioned in medical school. No one had dreamed back in St. Louis that one young medic would face, a year after he was graduated, human physical need on a gigantic scale.

That Dr. Dooley met the challenge magnificently is attested by the fact that he was given the Navy Legion of Merit and the highest decoration it is possible for the Viet Nam government to confer. The Viet Nam honor was

personally presented to Dr. Dooley by President Diem in a special ceremony.

But the story of Dr. Dooley is also the story of his devoted assistant, Baker. Baker proved to be the gifted Jack-of-all-trades so indispensable in an extended emergency. Dooley vows he could do anything. "The finest sailor I have ever met" is the way the doctor puts it, and he has met thousands of enlisted men.

Baker was still in his teens when he came to work in Haiphong. He might easily have been transferred out, but he chose to stay with Dooley. Two were really not enough to do the job, but there were only two to do their



MME. VU THI Ngai supervises distribution of sweaters from University of Notre Dame.

particular job and they did it. There wasn't enough of anything, yet they made-do and sent into freedom the thousands that went through their camp.

Baker turned out to be a combination of engineer, medical assistant, general exec and an ever faithful Friday. One of the things he kept running was a machine that manufactured potable water.

"Baker could make that machine run on anything," Dr. Dooley says. "It ran on gasoline when we had gasoline. Then it ran on kerosene. Afterwards Baker ran it on a mixture of beer, saki, and some other alcoholic beverage.

"He repaired the machine with everything he could get his hands on. He would suck water out of the rice paddies, run it through a filter, add chlorine and lime, then put it into huge rubber storage tanks we constructed.

"When the Reds slashed one of our rubber storage tanks, Baker went out on a hot, 110° summer day and shoveled up the melting asphalt off the road

and vulcanized the water tank. He produced a gallon of water per day per refugee—some days 15,000 gallons!"

Baker's ingenuity kept the few mechanisms and machines at the camp in working order. What he could do for a water tank, he could do for a jeep, and he did it efficiently.

"Baker somehow or other managed to keep my jeep going. The Communists would overturn it in a rice paddy. I'd come out the next morning, and there would be the jeep sitting knee-deep in a rice paddy, all the wheels up, the motor covered with mud. In two hours, Baker would have it running. I would say, 'Baker, how did you do it?'"

"He would answer, 'Doc, there's no use bothering you with details. You're not a mechanical man!'"

Out of the daily, frustrating conflict with the Communists, the steady flow of needy refugees, the incessant problems of a shrinking neutral zone—it was never more than ten miles long and a few miles wide—the desperate need for every kind of equipment and all the elemental needs of life, there came into being a living illustration



DR. DOOLEY, a mandarin at his right hand, holds sick call, as usual, out of doors.

of the power of faith and devotion of two men, inspired by idealism and backed up by hard, unending work.

The medical mission was established to prevent the spread of epidemic diseases from the refugees to the American personnel on the ships that were to take them to south Viet Nam and to administer within the realm of practicability medical aid to the refugees in Haiphong. Assigned to RAdm. L. S. Sabin's Task Force 90, Dr. Dooley was TAD'ed from Japan to Indochina on a mission that lasted 10 months.

From dawn to dusk in the refugee camp, Dr. Dooley held sick call. As many as 15,000 people a day came into

camp. In all, Dr. Dooley checked some 600,000 refugees.

The principal Navy job was inoculation against small pox, cholera, and DDT-ing them to prevent louse-borne disease. No one with leprosy was permitted to go on. And, of course, any person with a contagious disease was not allowed aboard ship. These were held in camp until they were cured or suffered death.

Haiphong was a good distance from the coast. The American ships that were to take the refugees to freedom were four and a half hours away, in the Gulf of Tonkin. So the Vietnamese were sent down on small French craft, three and a half hours down the river and an hour out to sea where they were transferred to American ships. In all, it took them two days and three nights to make the trip to Saigon and freedom.

In the neutral crescent, a camp of 125 tents was set up. They were the 60-man Army tents, and each tent had to hold 180 refugees. The Vietnamese emigrants stayed about seven days and then they were sent on their way.

As soon as the camp had been built, Dr. Dooley started holding sick call from dawn to dusk. He had to hold it out-of-doors, for the people were so apprehensive as a result of Red propaganda they would not go inside an enclosure. But seeing the doctor and getting to know him, they learned to love him and trust his judgment.

"The Communists didn't dare do anything to me, because they would have had a hundred thousand very angry people facing them," Dr. Dooley says. "So the Communists tolerated me—they were forced to."

"We had no deck for our tents. The monsoon rains made the tent camp a quagmire, and everything would get very messy. So Baker found an abandoned airstrip a few miles away covered with Marston matting.

"It was a real find for Baker. He proceeded to take about 1000 refugees up one afternoon, and they literally picked the landing mat up, rolled up the airfield, so to speak, and carried back huge pieces of metal. Then they found a bombed-out building and took bricks off, built brick legs around my tent and the hospital tents, suspended the matting across them, and we had a deck."

Thus by a series of maneuvers within the confines of the small and continually diminishing neutral zone, the resolute Baker reinforced the medical and administrative work of Dr. Dooley.

And overseas in the United States, still other allies were creating by their generosity a pool of urgently needed supplies. In his student days, Dooley had received letters from various pharmaceutical firms telling him that they would gladly supply him with samples he might distribute in his practice when he launched on his active career as a physician in some urban center.



FROM HAIPHONG, a city behind the Bamboo Curtain, refugees embarked on small boats that took them down river to the Gulf of Tonkin and out to sea where American and French ships waited.

Dr. Dooley remembered those letters. "I had no medicines when I was in Indochina. Medicines for people of north Vietnam simply weren't within the Navy allotment. So I wrote all the large, major pharmaceutical companies. In the letter I said, 'Dear Sirs: My name is Dooley and all the time I was in medical school you sent me samples. You said, "Dooley, when you get to be a rich physician" — they thought I was going to be a civilian—"give our soap to your patients." Here is where I am. Here is my story. Here are my people.'

"I told them about the atrocities, about the valor of these people. And then I said, 'Now, please send me 10,000 bars of soap.' And I wrote other companies asking for a thousand

crunch the feet of the youth and say, 'Go ahead to liberty. Go on! Leave.'"

This would happen just about half a mile from the camp. The tortured refugee would drag into camp. In treating the first ones who came, the doctor didn't amputate. He had no instruments. But these all developed gas gangrene so from that point on, the doctor disarticulated the limbs until he had instruments.

Thousands of people living in primitive conditions present tremendous problems in logistics. Food for the refugees came in by American and French shipment from the Foreign Operations Administration. Six hundred grams of rice per refugee per day totalled 50 or 60 tons a week.

But always there was a crying need



DOOLEY TRIES to coax young refugee to drink a Coca Cola at party aboard the USS Baldock.



HARRIS, HMT, member of team in earliest months, sprays ground to keep down flies.



MAIN GALLEY of refugees was their own pot in which they prepared their rice rations.

bottles of this, a thousand units of that. And every single one of those firms sent me the medicines I needed.

"Instead of 10,000 bars of soap, I received 100,000. One company sent me 5,000 bottles of medicine. A surgical instrument company sent me a huge case of instruments. An artificial limb company sent me a box of artificial legs for children who had had their feet crushed by the Reds. Five thousand disposable penicillin cartridges came. They didn't ask questions—they just sent them—and I vowed when I came back to thank every one of them." And Dr. Dooley is making good that vow.

The most common surgery he had to do in those months at Haiphong was to amputate feet. According to Dr. Dooley, "The Communists would form a circle around the feet of any boy or girl who tried to escape. Then they would take the butts of guns and

for other things, and often these were obtained on the cumshaw basis. Once in a while, Dr. Dooley went out for a night on an American ship in the Gulf of Tonkin. While there, he would give a lecture to ship's company on Indochina, tell them of the history and importance of Indochina, and describe the special problems he was meeting.

In turn, he gained a few essential supplies—say, 60 barrels of oil, five barrels of gasoline, and some medicine. Back he went to his station to use up the new supplies in meeting the immediate needs of the refugees.

Dr. Dooley and Baker decided because of the importance of "face" in the Orient that they would be very military. "I always wore my necktie when I took care of the refugees," Dr. Dooley said, "and Baker always wore his cap and dungarees. He never wore extra gear, and he saluted me. He saluted me every time I turned around,



AMERICAN sailors prove fine ambassadors for this country when they met Vietnamese.



CORPSMAN dusts refugees with DDT before they board small craft for trip to ship.

to let the people know we were a military organization. At work, we were never anything but Dr. Dooley, sir, and Baker in a very proper Navy way.

"And Baker helped me constantly. I would get all shook up about these people and our medical inadequacies. You cure a child of malaria today and he dies because of yaws tomorrow. Baker pulled me out of the depths. He'd say, 'Now, Doc, don't get all shook up about it. Sit down and have a phenobarbital.'"

Dr. Dooley had native helpers, many of them children whose parents had hopefully sent them down the road to hunt out "the American doctor" known as far north as the foothills of the Himalayas. The parents tried to follow the children soon, but often their

were the ones to direct the people to line up for inoculations. These same mandarins ordered the people to brush their teeth and carry out the doctor's medical orders.

But there were still other steps Dr. Dooley took to counteract the enemy's propaganda which pictured Americans as cannibals capable of roasting a Vietnamese baby on a spit over a fire. Many of the refugees came into camp fearfully, half thinking that when they were inoculated it was bacteriological warfare.

Children who had to stay at the camp awaiting the arrival of their parents were Dr. Dooley's best representatives. Regularly he sent groups of them down to the American ship for a party. There they had ice cream, cook-

whose mouths open up. And the children would say they had. We always had the sailors open up the landing boats where possible, so that these poor kids would know that the Americans did not take the refugees out to sea, open up the mouth of the ship and drop the refugees into the water. The refugees thus found out that they had nothing to fear from the LSM's."

The children were Baker's boys. They were the ones Baker had sitting on his shoulders all day long. Dr. Dooley called them "Little Bakers." Baker who had been sent in as an interpreter—he spoke French because he lived in the French Canadian area of New Hampshire—did almost everything but interpret.

There was never anything he



YAWS, the disease on this child's head, is the plague of all north Viet Nam country.



TYPICAL Vietnamese mandarin proved helpful in running the camp. He gave the orders.



SANITATION had to be taught. Young girl uses boiling water to clean her chopsticks.

way was barred. In general, the Communists didn't let anyone but little children and elderly people go south. Eighty-five per cent of the emigrants were the very young and the old.

These children, so many of them alone, did all kinds of work, handed out rice rations, made bandages, ran errands, and it was the youngsters who buried the dead.

The American doctor called anyone a "trained nurse" who would regularly wash her hands. He trained these helpers to give inoculations. The nurse would take a large syringe, and then give one inoculation after another, merely dipping the needle in a bowl of alcohol or merthiolate between injections.

The camp was administered through the mandarins. This was done, according to Dr. Dooley, to avoid the charge of imperialism by his giving of orders. The mandarins gave the orders and

ies, candies, sat on the shoulders of sailors, and had a wonderful time.

Then the children came back to camp. As other children arrived, they'd ask the ones already there, "Who is that?"

"The American doctor."

"We heard about him. He eats children."

Then the young ambassadors always came right back, "Oh, no! He's a nice guy. We went out to the ship—it belonged to him. It was his ship and his sailors were there."

"The children were tremendous," Dr. Dooley said. "They were actually converted to blessing an American. Whenever there was fear, trepidation in camp—and there was real apprehension—they would say, 'You are all wrong. We went down and saw his ship and his sailors. We know.'"

Dr. Dooley went on, "The refugees would ask if they had seen the ship

wouldn't try. Baker didn't follow the motto, "Don't volunteer." According to Dr. Dooley, Baker volunteered again and again beyond the call of duty.

This past February, Dr. Dooley told RAdm. L. S. Sabin, then Commandant of the Potomac River Naval Command, but Commander of Task Force 90 during the Passage to Freedom, that he had been thankful to have Baker to help him. Dr. Dooley said, "I thought I was fooling you by not sending Baker back. You know, sir, I speak not only French, but also Vietnamese."

RAdm. Sabin, "Oh, I knew you spoke French, but you wanted Baker, so we gave you Baker."

And Baker was the right kind of gift. The team of Dooley and Baker represented the free world in Viet Nam and played a significant role in a poignant drama of our time, the Passage to Freedom. ★ ★ ★

HERE'S A \$64,000 QUESTION



HOLD THAT LINE! THE BIG AJ-2 SAVAGE HAS NARROWLY MISSED GOING INTO THE SEA



ACCIDENT OCCURRED DURING RESPOTTING



AJ-2 HOLDS IN PRECARIOUS POSITION

IT ISN'T the easiest thing in the world to handle a 50,000-pound aircraft that has landed in what is plainly "an embarrassing position" with the right main landing gear in the starboard catwalk. Fortunately this doesn't happen often, but when it does, it requires ingenuity to get the aircraft back on the deck or the cost comes high.

Capt. James H. Flatley, skipper of the USS *Champlain* which is now operating in the Mediterranean, sent in pictures on this page and wrote: "We are not proud of the fact that a series of unfortunate events—one of which was extremely high and gusty winds—nearly lost us this expensive airplane.

"We are, however," he continues, "proud of the fact that the ship's company managed to get the AJ back up onto the flight deck without any damage whatsoever attributed to retrieving it. The aircraft was flown off the ship a week later with minor repairs."

The Lake Champlain officers and men who worked on getting the aircraft back went at the job carefully. Every precaution was taken to retrieve the valuable plane without further damage. That they were successful in this undertaking is a tribute to their skill and planning.

What would you do to get this AJ-2 off the hook?

Capt. Flatley asks the question, and he's ready with the answer on page 40. But before you turn to find out what the *Lake Champlain* ship's company did to get this aircraft righted and ready to go, see if you have some idea as to how it was accomplished.

CPO Wins British Medal Rescue Work Brings Babbitt DSM

A. K. Babbitt ADC(AP), attached to NAS WHIDBEY ISLAND, has received the British Distinguished Service Medal for rescue work as a helicopter pilot

while attached to a British aircraft carrier during 1951.

Mr. K. Bumstead, British Consul General of Seattle, made the presentation during a station personnel inspection.

Babbitt served aboard HMS *Glory* from May to September 1951, and then aboard the HMAS *Sydney* from September to November of the same year. It was during this service with the British and Australians that Babbitt was engaged in rescue operations in the Yellow Sea. He received the Navy Cross for the same operation for his heroic actions.

The commanding general at Fort Sam Houston commended Babbitt in 1954 for his gallant efforts in saving 30 persons from flooded areas in Texas. He flew a 'copter 10½ hours a day without relief during the operation.

Navy/MC Seek NavCads Services Looks to Ranks for Quota

The Navy and Marine Corps are looking for qualified enlisted men to apply for flight training. A recent Navy/Marine Corps announcement invited enlisted men, who are at least 18 years of age but less than 25, to apply for the 18-month course as Naval Aviation Cadets.

If an applicant is to be selected for this specialized training, he must be unmarried and agree to remain single until commissioned. Applicants under 21 must have parental consent.

Educational requirements are separated into two categories: two years of college at an accredited institution; or one year of college or service accredited equivalent, plus a GCT of 120 and a Pattern Analysis of 116 for Marine corps personnel. Educational requirements for Navy enlisted men are the same but they must have a combined GCT-ARI score of 120 and a Mechanical Ability score of not less than 58.

If the individual successfully completes the flight training course he will be appointed an ensign in the Naval Reserve or second lieutenant in the Marine Corps Reserve. For those who integrate into the regular Navy or Marine Corps, appointments will be made with the same date of rank as held in reserve status.

Full details of the program are contained in MarCorps Memorandum 105-55, and BUPERS Instruction 1120.20A.

Marine Flight Training Is Designed for Undergraduates

The Marine Corps has announced a new flying program for college undergraduates to be known as the Platoon Leaders Class (Aviation).

Candidates will participate in the program while attending college and are guaranteed flight training as officers immediately upon graduation. No Marine Corps training takes place during the college year, however.

College-time training will consist of six-week indoctrination sessions during two summer vacations from school. These will be held at Marine Corps School, Quantico, Virginia.

Immediately after graduation from college, members will be commissioned as second lieutenants in the Marine Corps Reserve. At this time they will be designated student aviators and immediately begin the 15- to 18-month Flight School at the NAS PENSACOLA.

Upon completion of flight training, assignment will be as a pilot in one of the three Marine aircraft wings or other aviation units. All training and assignments will be for flying. No nonflying applications will be accepted for this program.

Unlimited quotas have been set. Applicants must be college undergraduates majoring in fields other than art, music, theology, medicine and dentistry. They must be of good moral character, of commissioned officer caliber, and physically and mentally qualified for aviation duty. Candidates must be at least 17 years of age. They must be less than 26 on July 1 of the year in which they will graduate from college. There are no restrictions on marriage.

Information may be obtained from Marine recruiting stations, reserve units, and Marine Corps Headquarters, Washington 25, D. C.

Berkeley Wind Research Tunnel is Built for Mach 6 Speed

The University of California, located at Berkeley, has a new supersonic wind tunnel at its engineering field station in Richmond, Calif. Capable of testing speeds up to Mach 6, the tunnel is 200 feet long, and three feet in diameter.

Planned and financed by ONR, NACA, Office of Scientific Research and ARDC, the project is claimed as the largest of its kind in the world.



THESE THREE types of jet aircraft are now operating from the USS Forrestal. On number one catapult (right) is a F2H3 Banshee from VF-41. On the line is an FJ3 Fury from VF-21 and on the port catapult is an F7U3M Cutlass from VA-86. All these planes belong to ATG-181.



THIS DUTCH-MADE Fokker S-14 jet trainer is being demonstrated to U.S. Navy and Air Force pilots by the Fairchild Engine and Airplane Mfg. Co. Powered by a Rolls Royce Derwent Mk. 8 engine, with 3470 lb. thrust at 14,550 rpm, it has take-off weight of 11,800 lb. S-14 has range of 520 nautical miles at 508 kt. Pilots who have flown it describe it as very stable, easy to fly and land. A large canopy gives all around visibility both during flight and while taxiing.



MEMBERS of the San Diego chapter of the American Institute of Electrical Engineers pose for an informal picture aboard the USS Bon Homme Richard. These 75 men were representatives of Convair and Ryan Aeronautical Company. They were guests of the ship's CO, Captain Lamar P. Carver.



FATHER (LEFT) WAS AVIATION PIONEER

Followed in Dad's Steps Marine Son also in Marine Aviation

"You might say I am just continuing where my father left off," says Msgr. Eli J. Lloyd, a naval observer (radar) of VMC-1 of Marine Aircraft Group 13 at NAS KANEHOE.

A pioneer in Marine aviation, Sgt. Lloyd's father died on active duty in 1932. The Lloyds have served a combined total of 41 years.

"Dad was a Chief Marine Gunner in Nicaragua when I was just a kid," Lloyd recalls. "My first plane ride was in the open cockpit of an old O2U-1 while I sat on my Dad's knee. It was quite a thrill to fly over jungle wilds."

The thrill of that first plane ride in 1931 sold the younger Lloyd on a career in Marine aviation. When he finished high school 10 years later, he joined the Marines and has been with them ever since.

During WW II, he trained with the RAF in England in night fighters. In Korea, the veteran sergeant completed 70 night missions in *Tigercats*.

"Despite the amazing advance made in aviation since my father's day," Lloyd says, "we basically do the same type flying that he did 25 years ago. Our mission is just about the same."

Patuxent Graduates 21 Ceremonies for Test Pilot Training

RAAdm. C. H. Duerfeldt, COMNATC, presented diplomas to 21 Naval pilots and civilian engineers recently at NAS PATUXENT RIVER after they had completed a tough six-month grind at the Test Pilot Training School.

The complete course was finished by 14 Navy and Marine Corps pilots and one representative of Westinghouse. They were Lt. R. S. Blake, LCdr. W. L. Cranney, Lt. C. F. Demmler, Maj. R. C. Gray, Maj. L. R. Jillsky, Lt. H. C. Joines, Capt. J. G.

Martz, Lt. R. S. McMahon, Cdr. J. L. Morrissey, Lt. R. E. Moseley, Mr. R. E. Nupp, LCdr. G. G. O'Rourke, Lt. W. M. Russell, LCdr. G. E. Rutledge, Lt. J. T. Simons and Lt. R. L. Trout.

Six men completed the academic course. They were Mr. D. L. Brown, Service Test civilian engineer; Lt. F. J. Gist, Cdr. E. F. Hayes, Mr. H. Lewis, Flight Test civilian engineer; Lt. J. W. Nance and Mr. J. P. Rinella, a civilian engineer with Flight Test.



NAVY SECRETARY Charles S. Thomas attends *NarCad* mess at NAAS Whiting Field, Milton, Fla. during a tour of the station. With him are VAdm. A. K. Doyle, Chief of Naval Air Training and young *NarCad* D. L. Teague.



PILOTS and aircrewmembers of VS-27 are sporting a new look in their protective helmets. The design was a result of a squadron contest sponsored after Navy directive removed ban.



WHEN IGen. C. F. Sebitt, ComMar (Air) arrived at MCAS El Toro to inspect tactical units, he was welcomed by MGen. C. C. Jerome, CG, FMFAairPac, and M. L. Dawson, CG, MAW-3.



AIDE, MICK AND GENERAL MONTGOMERY

Scouts 'Command' MCAS In Observance of Anniversary

Cub and Boy Scouts took over MCAS CHERRY POINT and key scout personnel assumed key jobs, even that of the commanding general. The hour-long affair was arranged in honor of the 46th Anniversary of the Boy Scouts.

First Class Scout Steve Mick assumed the job of commanding general and Cub Scout R. Frederickson acted as his aide. Normally the position of CG MCAS Cherry Pt. is filled by BGen. E. A. Montgomery.

Highlight of the station tour was a visit with the famed *Checkerboard Squadron*, VMF-312. LCol H. A. Harwood commands this organization, which gained fame in the Korean War.

Sailor Aids AF General B-26 Guided in by Air Controller

An alert control tower operator on duty at NAS ALAMEDA won personal thanks from an Air Force General recently by guiding his B-26 to a safe landing in a driving rainstorm.

The drama unfolded for F. R. Slaughter, AC2, as the B-26 pilot, BGen. L. W. Sweetser, an AF reserve officer on two weeks active duty was approaching Hamilton AFB from Long Beach. Over the Golden Gate at 1500 feet, the general's plane ran into a blinding rainstorm. He saw the air field at Alameda, but was unfamiliar with the runway layout and couldn't establish contact because of the difference in radio frequencies.

Slaughter spotted the low flying plane and sensing the pilot's trouble, switched to all-frequency broadcast and was able to guide him in.

The General congratulated Slaughter on his quick thinking and said he was about to turn back for Long Beach when the radio contact was made.



DURING SEVENTH week of the course, civilian counselors such as Mr. C. C. Meyer advise students on the opportunities for future training.



CDR. A. E. Simmons is Director of Training. School's motto is "The best training to the most men in the least time at minimum cost."

FROM RECRUITS TO AIRMEN

NEAR THE University of Oklahoma at Norman, is still another great institute of learning, the Navy's Airman Preparatory School, Class (P). It is the only one of its kind in the Naval Establishment.

The unique job of "Airman Prep" is to transform apprentices into qualified airmen. This tremendous job is the responsibility of the Naval Air Technical Training Center.

Since reactivation of the school in January 1952, over 46,000 men have been trained in the fundamentals of Naval aviation. In 1955 alone, 14,246 students completed training there. Each week, over 300 future airmen pour into the center by plane, train and bus to begin the Airman course.

The eight-week course covers the many technical fields of Naval Aviation. This not only prepares the student for his future role in the Navy but also qualifies him for advancement to the rate of Airman.

Students assigned to the airman school are selected when they complete their recruit training at San Diego, Cal., Bainbridge, Md., or Great Lakes, Ill. For purposes of classification, a battery of tests is given each recruit at the recruit training center. Scores on these tests are made a permanent part of the man's service record and play an important part in his selection for assignment to service schools, job assignments, etc. To qualify for selection to Airman Prep, they must have

an aggregate score of 105 on their GCT (General Classification Test) and ARI (Arithmetic Test), or a combined score of 105 on their ARI and MECH (Mechanical Test).

Also, in order to attend the school, the recruit must have 24 months obligated service from date of entry into the school.

Every Monday throughout the year, excepting holiday periods, a new class convenes. The first day of school is devoted to indoctrination of the students. The Commanding Officer, Capt. Lloyd W. Parrish, explains the broad purpose of the school and mentions the policies which directly concern them during their eight weeks of training.

The student finds that his prepara-



INSTRUCTOR in electronics, C. J. Yeager, ATC, explains to intent students the part electronics plays in the field of guided missiles.



STUDENTS receive standard cockpit check-out during the aircraft familiarization phase of the school from Instructor Warren Seib, ABl.



USE OF Omega photo enlarger is clearly demonstrated by C. E. Ames, PH1, to two students.

tory training covers a large variety of subjects. Since most of the rates are technical, 40 syllabus hours are devoted to mathematics in general, and 36 hours to theory and application in basic physics.

One of the main phases of instruction is the Rate Shop course. There, the student spends three hours in each aviation specialty. He learns something of the work done by the Aviation Boatswain's Mate, Aviation Electrician, Aerographer, Aviation Electronics Technician, Aviation Structural Mechanic (Metalsmith), Aviation Machinist's Mate (Mechanic), Aviation Ordnanceman, Photographer's Mate, Parachute Rigger, Aviation Storekeeper, Training Device Technician, and Air Controlman. This knowledge enables him to choose the ad-

vanced school which he likes most and for which he is best fitted.

There are many other phases of Training; for example, fire-fighting procedures, survival on land and sea, aircraft familiarization, the proper use of hand tools, qualification in the use of firearms, and many other skills vital to the education of young men who



IN LAY-OUT phase of the course, H. L. Rowe, AMC, assists student in marking drawing.

have chosen aviation as a career in the Navy.

In the fire-fighting phase, students are checked out on all types of equipment and participate in actual demonstrations of fire-fighting techniques in extinguishing plane crash type fires. They are also drilled in rescue procedures.

Twenty hours of instruction are devoted to survival, and the proper use

of survival equipment. Lectures cover all phases of the subject from first aid to survival in atomic warfare.

In the Aircraft Familiarization phase, each student is given a check-out in both propeller driven and jet type aircraft. Detailed lectures are given on seaplanes and land-based planes, aircraft carriers, and duties of a plane captain. Simulated flight deck operations are carried out, with students actually starting planes, directing and spotting them. After 41 hours of instruction in aircraft familiarization, each man is prepared for advancement to the rate of Airman.

In order to determine the student's capabilities in manual and manipula-



IN ELECTRICIAN rate shop, students get check-out on the gyro stabilized fluxgate compass.

tive skill, 74 hours of classroom instruction and shop work are devoted to the use of hand tools used in aviation. Under the supervision of experienced and skilled instructors, the student, with the aid of blueprints and schematic drawings, is allowed to undertake several projects which are graded upon completion.

Thirteen hours are devoted to the operation and maintenance of ordnance equipment. Nomenclature and field stripping is taught with the use of the 50-caliber machine gun, 30-caliber M1 rifle, 45-caliber pistol, and carbine. Students are then taken to the station firing range and taught how to handle and fire these weapons.

The trainees at Norman are given as much individual attention as possible. An experienced Chief Petty Officer or First Class Petty Officer, chosen for his leadership ability and trained in Military Psychology, is assigned each section of 15 to 30 students. He acts as an advisor to the men in his section during their entire stay at Norman. It is his job to know



INSTRUCTOR O. H. Deitchler, PR1, in the parachute rigging shop shows James Sprint, AA, and D. D. Humphrey, AA, the right way to pack a parachute. Later their special skill may save lives.

each man, his background and problems, and help him in every possible way. Serious problems beyond the jurisdiction of the advisor are referred to the commanding officer, chaplain, or other specially qualified personnel.

Training students in military matter is not neglected. Company commanders and their assistants constantly supervise marching and close order drill, personal appearance, conduct, and instruct their men in military etiquette, sentry duties and fire watches.

A careful screening program for selection of potential naval aviation cadets and other officer candidate programs continuously operates within the school organization. Even though standards are extremely high, a gratifying number of airman students have successfully qualified as Naval Aviation Cadets at Pensacola, Florida.

During the seventh week, each student is interviewed by an experienced civilian counselor. At this time the student indicates his final choice of three advanced schools in order of preference. Here the successful student, who has passed with good marks, is rewarded for his studies. Usually



ORDNANCE rate shop students learn how to operate and maintain a 20mm aircraft gun.

he gets his first choice. In a few rare cases he may be assigned to his second or third preference.

Upon completing the course at Norman, the students are assigned to duty throughout the Navy, the majority going to advanced schools, Class "A". But some go directly to the fleet, or to shore stations, according to the needs of the service.

Despite the accelerated training, the student has frequent opportunity to participate in the many forms of recreation in the area, including the station theater, an 18-hole golf course, a golf driving range, tennis courts, skating rink, hobby shop, swimming



IN THE AIRCRAFT familiarization phase of the school, students are shown how to remove the tail section of an airplane. Instructor Seib uses a jet-powered TV-2 trainer to demonstrate his talk.

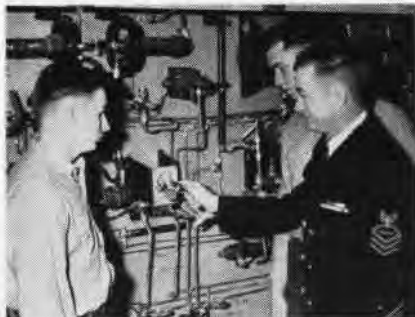
pools, and an outstanding library. Organized athletics in a great variety of sports continue throughout the year with student companies competing against one another for the championship. Benefits of family influence is by no means ignored. The CO writes a personal letter to the parents of each student to inform them of the health, welfare and future of their son.

Character building for these young men is not neglected. In addition to

disaster, is the Navy Relief Society administered by the chaplain. This organization, supported entirely by donations, makes loans or outright gifts of money to Navy and Marine Corps personnel faced with an emergency.

Furnished or unfurnished housing for married enlisted men is available. Married students may move into comfortably furnished apartments on board the station.

When the student is graduated from the Navy's Airman Preparatory School, Class (P), he has important basic training that will benefit him and the Navy throughout his career. The knowledge he has gained when it is combined with advanced training and fleet experience will qualify him for promotion and enable him to perform his duties as a trained petty officer and technician.



LANDING GEAR and flap system is studied in Aviation Structural Mechanic Rate Shop.

regular religious services for all faiths, the chaplains hold enlightening discussions on such subjects as "Religion in the Service," "Sexual Morality," "Marriage—For Better or Worse," and "Making Life Worth While."

Always standing behind the Navy man, to assist him in emergency or



N. L. CAMERON, ADI, AD rate shop instructor, points out and explains jet engine parts.



HIS DAY BEGINS *the afternoon before. Plane Captain Roark checks daily flight schedule.*



AS PART *of detailed pre-flight examination, polished strut on landing gear is inspected.*



EOARK, ADI, *trains his "second mech" as they examine fuel control unit on the P2V jet pod.*

THIS MAN GOES LOOKING FOR TROUBLE

HIS THUMBS-UP signal to his plane commander means, "Take her up, sir, she's ready to go!"

When a plane captain gives the OK sign, his skipper can be sure that the airplane has been checked, serviced, and is ready for the flight. It has successfully passed the thorough, complete and exhaustive check that this skilled machinist has given all its operational and structural parts. From rocker box drain to hydraulic strut, from wing tank to tail turret, it's all a part of the plane captain's job.

This pre-flight check, this section-by-section inspection, precedes every scheduled flight, and is made, usually, two hours prior to flight time. Assisted at times by another mechanic, or "second mech," the plane captain uses a standard Navy check-off sheet, which includes a comprehensive listing of aircraft parts that must be operative during flight. He initials item by item as he is satisfied that all specifications have been met.

During this check, the plane captain makes sure that the gas and oil load will be sufficient for the coming-up operation. He inspects survival gear and first aid equipment. Aware that loose gear becomes hazardous gear in flight, he ascertains that there is no gear adrift in his airplane; everything is secured in its proper place. From nose turret to tailhook, the Navy plane captain's job is an exacting one.

It is not difficult to see why the

Navy has established high qualifications for, and requires thorough training of all prospective plane captains. On them is placed a tremendous responsibility. The plane captain of an aircraft like the jet-boosted P2V-5F *Neptune* patrol plane has in his custody a complex aircraft valued at well over a million dollars. But greater still is his responsibility for the lives of the 11 men who fly with him in that plane. The lives of his flight officers, and of his flying shipmates are all dependent upon the absolute accuracy of his inspection of the plane and his approval of it for the flight.

Such a plane captain is James Roark,



JUST BEFORE *flight time, Plane Captain Roark and Plane Commander Claude make final check.*

ADI, who is attached to VP-6, based at NAS BARBER'S POINT. Flying in the Hawaiian area, this squadron, like all other VP squadrons, discharges first, its primary mission of patrol of the sea lanes. Additionally, it conducts training flights involving aerial reconnaissance, anti-submarine warfare, and mining operations. When called upon, these long-range *Neptunes* also assist in air-sea search and rescue.

The diversified mission of the P2V makes it impossible for one man to be comprehensively checked-out in all its phases of operation. For this reason, plane captain Roark isn't concerned with the working intricacies of the electronic technician's equipment, or the radioman's gear. Nor is he expected to supervise the ordnanceman and his 20mm cannons. He is concerned, however, with the loading, positioning, and securing of all the gear utilized by these specialists. Once it's aboard his airplane, the equipment itself becomes his responsibility.

While airborne, the plane captain's flight quarters are at a panel station directly behind the plane commander, who is usually a lieutenant or senior. Like a flight engineer, Roark is primarily concerned with the constant and dependable performance of the aircraft's reciprocating and jet engines. In flight, he is also responsible for switching fuel tanks and for computing fuel consumption charts.

Following each flight, the plane cap-



JIM ROARK has checked his own plane. Now he lends a hand at cleaning corrosion from compressor blades of jet engine on another plane.



LT. M. L. CLAUDE, Plane Commander, and Plane Captain Roark are backed up by their Neptune No. 6, and by its "Flying Team" crew members.

tain once again has an inspection and servicing job to perform. A post-flight report must be made. If the plane commander has reported an aircraft discrepancy during flight, Roark must investigate and remedy it during this post-flight check. It is at this time that the plane captain makes his FUR reports—simplified reports made right on the line, or on the check block, of failure, or of unsatisfactory performance of aircraft parts (NA-News, February 1956).

The task of maintaining present day Navy aircraft is far from a one man responsibility. The leading chiefs in the line shack and power plants shop authorize needed materials and provide experienced guidance in solving the difficulties involved in the more complex repair jobs. And the squadron

maintenance crews stand ready to assist when their help is needed.

When the day's flying is over, when the post-check has been made, and his aircraft is again considered ready for duty, the plane captain's work is not yet finished. Not only must he have an aircraft ready, he must also have an informed crew standing ready. At all times he must be aware of squadron operating schedules. Each afternoon Roark checks the daily-issued flight schedule to guarantee that he, his crew, and his twin-engine patrol plane will be ready to fulfill assigned squadron flight commitments.

Though his aircraft and crew may be secured from flight quarters, he still has work to do. It is his job to guide and help train other mechs endeavoring to learn the plane captain's

"trade." Or, there's always work to be done by mechs on engines.

The plane captain must not only be a skilled mechanic, he must also be a leader. Responsible directly to the plane commander, he represents the enlisted crewmembers, and in turn passes the skipper's word. Of the enlisted men who assist the plane commander in forming a "flying team," the plane captain, by the very nature of his job, stands closest to the aircraft skipper.

Primarily a skilled machinist's mate, usually a petty officer, and always a leader, a Navy plane captain must be, and is, trusted by those whose lives depend upon him. Few jobs give a sailor more responsibility, greater independence, or keener pride in accomplishment of his assigned missions.



AFTER EACH flight, the plane captain must make a post-flight safety check. Here he traces an oil leak near the rocker box drain sump.



JAVA BREAK is the time to learn what's new on the line. There's no better source than these seasoned aviation chief machinist's mates.

THEY WENT NORTH FOR THE WINTER



ONE OF VP-18'S NEPTUNES PREPARES FOR TAKE-OFF ON MISSION

CREW FOUR IS BRIEFED BEFORE BOARDING PLANE FOR PATROL

ONE DAY LAST summer, Cdr. John T. Straker, CO of VP-18, dropped a verbal bomb-shell among the personnel of his squadron. "Men, you're going to spend the winter in Iceland." After a mental explosion in the mind of each man, the implications began to sink in. Iceland!

An Iceland arrival by August 10 was the target date, so VP-18 packed its 220 men, 50 officers and 12 P2V-7's and left sunny Florida for what many of them envisioned as the frozen wastes of the Polar Region.

"Few of us will ever forget our first look at Iceland. Why, there isn't a tree or blade of grass anywhere," was the comment. "The whole place is just a field of rocks and mud. And there, stuck out on a flat, barren peninsula, 30 miles from the nearest large town, was Keflavik International Airport, our home for the next five months." This the new arrivals saw in a glance after breaking out of the overcast on an actual GCA landing.

From the runway to the Navy hangar stretches a long thin taxiway, sloping downhill. Each crew had the same thought: "What will this strip be like when there is ice on it?"

They were greeted by a happy group of Navy men, members of VP-26, the squadron they were relieving, and who soon would be homeward bound. When the men got out of their planes, they found that it wasn't *really* cold, only 50 degrees or so. This was the Ice-

landic fall. The weather in the fall is supposed to be pretty good, they were told, but the winters, look out! They looked up again at the dark, foreboding clouds, 300 feet above, the drizzle coming down, and wondered how it could get worse. They found out later.

Little by little, the squadron learned why they were there and what they were supposed to do. It was their job to fly patrols out of Keflavik every day to observe shipping, search for possible submarines, and other related tasks.

And fly patrols they did, under some of the most challenging conditions you could find anywhere in the

world. During the months of August and September, supposedly good months for weather, nearly 80% of all the landings at Keflavik were on actual instruments. Many of the pilots made more GCA approaches in two months than they had made in the previous two years. The job of patrols is no respecter of hours, days, or holidays, so every day, seven days a week, seven or eight hours a day, two or three planes carried alert observers over the icy waters.

If the weather was good, they flew. If the weather was bad, they flew. In the month of October, the squadron averaged over 90 hours per plane. There were days when they had the air space all to themselves—nothing else—including the birds, bugged from the ground. There were days when the commercial airlines and MATS planes couldn't get into Keflavik to land because of the weather. VP-18 landed. When the weather got so bad that *no one* could land, the planes landed at their alternate after the patrols were finished. Their alternate was Prestwick, Scotland, 746 miles away.

As the days of flying wore on into weeks, it got steadily colder, and with the passage of each day, there was less and less daylight. In December, the sun rose at 1020 and set at 1420, only four hours of daylight. In November, the snow and ice came. Keflavik turned overnight from a mass of mud and rocks to a slick table of heavy



'WHIFFY' STRAKER WAITS AT JAX FOR DAD

snow and solid ice. High winds most of the time didn't help either.

Those days of icy runways, high winds and poor weather were the days when the pilots needed to know that their planes were in good condition. The maintenance men, working night and day, did the job. Rarely was there a day when, if needed, all 12 planes could not be flown. For over 60 consecutive days not a plane was grounded because of lack of parts. The availability of aircraft record for over four months was an astounding 92%. And it was done with only one hangar which would accommodate only two planes at a time.

The squadron set no records in number of hours flown in one month, as have some of their predecessors in Iceland, but they got the job done under harrowing conditions. And VP-18 was given the mark of 'outstanding' for each of the five months of operation. They are now back in Jacksonville, and, as one of the men put it in retrospect, "... it wasn't really so bad after all, was it?"

T-28C Trainer Delivered Navy Accepts a Modified Version



TAILHOOK FITS T-28C FOR CARRIER USE

A modified version of the T-28B, the T-28C North American trainer, was delivered to the Navy recently, two weeks ahead of schedule. Twenty-four hours after it came off the assembly line, company test pilot Bill Ingram flew the trainer. Acceptance pilot, M. C. Blythe, ALC(AP) also flew it.

The "C's" major changes include an arresting hook, barrier gear and a propeller of smaller diameter to improve carrier suitability.

Powered by a Wright R-1820-86 engine, the low wing trainer was the first such plane designed and built after WW II. Its top speed of 346 mph puts it in a speed class well above some World War II fighter aircraft.

ATU-206 is Good Neighbor Mr. Hinson Returns Plane Fairing



BEVERIDGE CARRIED LETTER TO MR. HINSON

A civilian employee at the O&R Department, NAS PENSACOLA, is the proud possessor of a letter from Cdr. R. A. Beveridge, O-in-C ATU-206, expressing the Navy's thanks for having such "a good neighbor."

Mr. Hinson, a retired chief petty officer, runs a 56 acre farm at Pleasant Grove, Pensacola. He found a plane fairing on his farm recently and returned it to ATU-206, thinking that it came from one of the unit's jets.

Cdr. Beveridge's letter stated that the fairing was from an AD Skyraider, possibly one that was enroute to Sherman Field for refueling. There are no Skyraiders presently based in the Pensacola area.

The letter, concluded, "Unexplained air tragedies are often solved from the evidence disclosed by a small piece of the stricken craft even though the

key part was found miles from the crash site. Fortunately, there was no crash in this instance in which the bolts holding the fairing to the landing strut failed. . . . The failed portion of the fairing, will be turned over to Navy Engineers for study and possible rework."

Vieques Site for Landing Navy and Marine Units Take Part

First of four Atlantic Fleet amphibious training exercises got under way in January with Navy and Marine units participating.

The exercises were conducted in the Caribbean Sea around the Roosevelt Roads-Vieques, Puerto Rico, area, as will be the others. The training exercises are under the supervision of VAdm. F. G. Fahrion, Commander Amphibious Force, Atlantic. LGen. A. H. Noble will head the Marine training groups.

Designated by short titles, such as Lantraex 1-56, the naval aspects of each operation will be directed by RAdm. W. F. Petersen, Commander Amphibious Group Two.

The exercises will have Marine training groups of regimental combat-team Marine aircraft group size, operating in conjunction with supporting naval ships and aircraft.

Each exercise will include a period of training ashore for Marine elements and the amphibious assault.



SPORTING THE NAVY'S new paint scheme, an AJ-2 Savage, hits the final leg of an angled deck landing aboard the USS Yorktown as an AD-5N awaits its turn for take-off. The Yorktown recently ended a week's underway training in qualifying pilots from VC-35, VC-11 and CVG-4.

FAW-2 Learns Electronics Serves 'Hi-Fi' on Navy Bread Pans

Sailors who stand watches at FAW-2's base radio, Barber's Point, NAS OAHU, T. H., have been delving into some of the practical applications of electronic theory. Taking advantage of midwatch slack hours, John W. King, CRM, of Springfield, Ill., has instigated several "do-it-yourself" electronic projects.

According to Chief King, the boys started out with simple progressive radio kits which consisted of 15 different unassembled sets. The program was expanded to include the repairing of standard broadcast radios.

It was when the boys ordered and assembled Heathkit preamplifiers that the "bread pan hi-fi" came into being. Says King: "At first we needed some kind of chassis on which to build the



HI-FI TRIO: MILANO, RUSH AND BRITTAIN

basic power amplifier unit. What better would serve the bill than a 90 cent Navy Exchange bread pan?" It's users testify that it really works!

More recent endeavors have included electronic timers and code oscillators. As for the future, King is planning for some new projects.

MAG-35'S Mileage Makers Just One Accident in Two Years

MCAS Cherry Point's MAG-35 commanded by Col. R. D. Hughes, has flown 36,000 hours and has suffered but one accident in the two years that it took to compile the record. This single accident did not involve the loss of life. Three crew members of the plane were slightly injured.

The Group's log books began to look like that of a travel agent before these flights were completed. Training flights have been made to Kodiak, Panama Canal Zone, Turkey and the Mediterranean via England. Flod assistance

was extended to the New England area as well as to Tampico. Helicopters were transported to Thule to help find shipping lanes through Arctic ice floes. Classified cargo was air-lifted to the atomic weapons maneuvers at Desert Rock.

In addition, flights were made to Port Lyautey, Guantanamo Bay, and to San Juan, in the Caribbean.

The majority of the 3rd MAW was transported to El Toro, during that unit's change of duty station.

Britisher at VMF-122 Takes Instrument Refresher Course

LCdr. Leonard A. Jeyes, a British Royal Navy exchange officer attached to VMF-122, MAG-32, is taking an instrument refresher course at MCAS CHERRY POINT, N. C.

During WW II, Jeyes served aboard



CPL. KISSINGER INSTRUCTS LCDR. JEYES

merchant aircraft carriers, sailing between the British Isles and Halifax, Nova Scotia. From the carriers, he flew *Swordfishes*, British anti-submarine bi-planes.

Commissioned in March, 1943 and the holder of several campaign medals, Jeyes was a RAF jet instructor at Little Rissington, England.

Airships Used in Surveys Expedite Los Angeles Census Work

Two survey teams took to the air over Los Angeles recently, demonstrating again the versatility of the giant airships stationed at NARTU SANTA ANA. Washington officials applaud Capt. L. A. MacCubbin, Commanding Officer, as a result of a census survey of the Los Angeles area by an assigned team from the Census Bureau.

Dr. Robert W. Burgess, Director of the Bureau of Census in Washington, headed the team which conducted the re-familiarization flight in a NARTU

Blimp, piloted by Cdr. E. L. McCartney, Santa Ana Exec. Mr. Wilbur E. McCann, Manager, Research Department, L.A. Chamber of Commerce, stated that the airship flight was most effective in giving the Washingtonians a better picture of the area.

The Los Angeles County Road Commission was carried aloft by one of the airships based at NARTU, MCAS SANTA ANA. Piloted by McCartney, the team, headed by Mr. J. A. Blickensderfer, Traffic and Lighting Division Engineer, gained invaluable camera plots of existing traffic conditions and topographical conditions of proposed routes in the area.

Education Program on CVA Similar to NAS 'Flatley High'

Capt. J. H. "Jimmy" Flatley, CO of the USS *Lake Champlain*, is apparently carrying on his efforts to offer



MEN WORKED DAYS AND STUDIED NIGHTS

men under his command an education program that seems hard to beat.

The ship's Information and Education section and high school instructor team (rear in photo) consists of 15 men and they have given examinations to 388 men (sixth group in photo) for high school diplomas and certificates. The ship had 490 men (seventh group in photo) enrolled in special classes, who took their finals before February.

During November, 494 men were advanced in rating. Included in these were four CPO's, 20 PO1's, 135 PO2's and 277 PO3's (first five groups in photo—forward to aft).

During the captain's tour of duty at NAS NORFOLK as CO, he was responsible for over 1,800 men receiving high school diplomas or certificates. His program at NAS NORFOLK was called "Flatley High."

The "Champ" is now assigned and operating as part of the Sixth Fleet.

THIS HOP WAS NOT ROUTINE



FLIGHT INSTRUCTOR Lt.(jg) A. A. Armstrong successfully landed an SNB without elevator control. NavCad Peter Huhn (l) and Lt. (jg) Jean-Paul Wauters, French Navy (r) made landing with him.

NO PARTICULAR attention was paid by the rest of the duty section in the tower as the air controlman on the voice radio heard the calm voice of a pilot calling the station.

"Navy Hutchinson Tower, this is Pearl One-Four, over."

The tower operator answered, "Pearl One-Four, this is Navy Hutchinson Tower. Over." All routine. Flying conditions that day were excellent with a clear sky, visibility unlimited.

Again the calm voice of the pilot was heard. "Navy Hutchinson Tower, this is Pearl One-Four. I've lost elevator control. Request instructions."

With these words, the routine of an ordinary day of training operations at NAS HUTCHINSON, Kansas stopped abruptly. The alarm spread through the station: an SNB *Navigator* training plane with an instructor and two students aboard was in trouble, ten miles south of the field, at 5000 feet, with no elevator control.

This once-in-ten-thousand occurrence was a tough spot to be in. Ltjg. A. A. Armstrong, who only two months before had completed flight training and had received his wings at NAS HUTCHINSON, was the man in this spot. A good student, he had been retained as an instructor.

What had started out as a routine

training flight had developed into something far different. The pre-flight check-off had been gone through in triplicate. Armstrong had checked the plane himself; so had his two students, Ltjg. Jean-Paul Wauters, French naval flier, and NavCad Peter Huhn, who was flying as an observer.

The 0855 take-off, with Wauters at the controls, had been normal enough. Armstrong was flying as co-pilot. The trouble started while Wauters was putting the plane through a Charlie pattern. At 5000 feet Wauters pushed the control column forward. No response. He pulled back on the wheel. Still no response. He glanced quickly at Armstrong to see if he had noticed the lack of reaction by the plane.

The *Navigator's* 105-knot speed eliminated the possibility of a near stall. Taking the controls himself, Lt. Armstrong realized the trouble when he failed to get any wheel resistance.

In rapid succession these things were done: Armstrong ordered Cadet Huhn to bring parachutes forward for possible use; he corrected the plane's altitude by giving the engines more power and lowering the wing flaps five degrees; the tower was called for instructions, and while awaiting word, he circled the area in a slow, easy climb.

It was a help to discover that the

trim tabs on the elevators could still be operated for slight correction. And so while Lt. Wauters worked the throttles, Lt. Armstrong handled both the tabs and ailerons.

Another Navy flier in the area, LCdr. Sam Staats, had overheard Armstrong's first radio transmission. Bringing his own aircraft to within 20 feet of the SNB, he made a visual check to see if he could spot any signs of damage. He could see none.

Meanwhile at the air station, the trouble alarm had set into motion the well rehearsed teams. Fire fighters, crash crews, ambulances and doctors stood by. Other aircraft were ordered out of the flight area, and flight activity from the base was brought to a stand-still. Capt. Hayes E. Irons, station CO, spoke to pilot Armstrong, leaving the decision to him of whether to jump, crash land or attempt a normal landing.

Lt. Armstrong's decision was not long in coming—he would attempt a normal landing, without elevators.

At 6000 feet, the landing gear was lowered. Armstrong reported ready for the approach, and the three men ran through the "before landing check-off list." At 4000 feet, the pilot lowered wing flaps about fifteen degrees. At 3000 he turned for the final approach. About a quarter of a mile out, Wauters again took over the throttles as Armstrong eased the SNB earthward.

THE ANXIOUS group of observers on the ground grew tense as the distance between runway and plane became less and less. Just short of touching down, Lt. Armstrong cut to flare out his plane. He missed the flare out and the ship bounced. A second time the plane touched, and a second time she bounced. As the pilot quickly changed the trim tabs, she bounced a third time, appearing on the verge of nosing into the runway. But as the trim tabs eased the tail down, she held.

Safely down at last, Instructor Armstrong logged the SNB in at 1015. Only an hour and ten minutes had elapsed since taking off on the "Routine Training Flight." It had been a training flight, but not a routine one!

Weekend Warrior NEWS



ALL HANDS of VF-851 rated an 'outstanding appearance' from their CO at personnel inspection during training cruise at Niagara Falls.



FLYING JETS for the first time on a training cruise, VF-851 pilots put their Banshees through such formations as this right echelon.

VF-851 Trains in Joint Exercise

Officers and men of VF-851, Niagara Falls, are convinced their training duty this fiscal year was the most satisfactory they've ever had.

For one thing, this was the first cruise since the squadron went into jets, and all of VF-851 like their *Banshees*.

In addition, two day's training with a *Banshee* fleet squadron, VF-76, under the "Buddy Squadron Program" brought to the reserve squadron the latest fleet advancements in training and in squadron administration.

Highlight of the training was the "Special Exercise," a simulated bombing attack of two New York State cities by 18 *Banshees*. All targets were hit on low-level runs by the F2H-2's, but they were greatly hampered by eight F-86 interceptors from the 47th Fighter Interceptor Squadron. This was a planned interception (but a surprise to the attacking *Banshees*), monitored and directed by the 32nd Air Defense Warning Net.

This joining of a Naval Reserve and a Navy Fleet squadron, an Air Force Interceptor squadron, and an Air Defense Radar Net was a worthwhile experience that afforded much information to all who participated.

DOD Reserve Award is Established

To give recognition to organizations that render outstanding cooperation and support to the Reserve Components of the Armed Forces, the De-



LT. C. BUSH shows steep turn as he and Lt. Bill Mayo appeared on Columbus, Ohio telecast.



RADM W. K. Romoser, ACNO (Reserve) holds new DOD Reserve award, white insignia on blue.

fense Department has established a Reserve Award. Consisting of a pennant for display purposes and a signed citation, the award is given to deserving civilian employers who have been nominated by Naval reservists.

Factors to be considered by the nominating reservists are: the granting of leave for annual training duty in addition to regular vacation leave; non-discriminatory policies and procedures on hiring, promotion, and transfer of reservists; offering and making facilities available to reservists; supporting the Armed Forces Reserve Program in company publications, exhibits and advertising; and other special acts or services which aid reservists in meeting reserve obligations.

Individual reservists are authorized and encouraged to make nominations for this award to the Secretary of the Navy, in accordance with provisions in OPNAV INSTRUCT. 5061.1.

Navy Summer Schools To Open

When spring comes, summer recruit training is not far behind. In a few short weeks, accelerated rate training programs will get underway at Naval Air Stations and Naval Air Reserve Training Units all over the country. (NANews, June, 1955).

Under such programs as that at NAS SOUTH WEYMOUTH, depicted on the facing page, young Americans, after recruit training, are given training in a specialized field that will fit them for expert, and specialized service in the Naval Air Reserve program.



SPENDING TIME in the metal shop at NAS South Weymouth, three Naval Air Reservists learn the fundamentals of aviation metalsmith rate.



'EVERYTHING BELONGS in its place, especially on jet aircraft' says instructor Wood, ADI, to his two recruit students, Penney and Fallon.



STANDING READY with a CO₂ firebottle is a job that must be done every time a plane warms up. This recruit is taking his turn at it.



JET TAIL pipe section frames two Naval Air Reserve Recruits who train under the watchful eye of expert aviation machinist Wood.



THERE'S NEVER an end to the things a man can learn about electronics after he gets started in that field. These two have made that start.



THESE TWO students in Accelerated Training will earn a rate in photography. Here, they learn the rudiments of dark room procedures.



SGT. SEARCY is congratulated upon his sixth reenlistment by Mrs. Dottie Barrick, his partner in winning \$25,000 on a TV program.



WHILE HIS parents proudly watched, Eagle Scout Charles Dickens was sworn into the Naval Air Reserve by Capt. Fowler, CO NARTU Norfolk.

Like Father, Like Son

There is still a Chadwick in ZP-951, Lighter-Than-Air Squadron based at MCAF SANTA ANA, Calif.

Cdr. Noel Chadwick, who had been commanding officer of ZP-951, was due to retire early in 1956. But before his retirement, he swore his son Brooks Chadwick into ZP-951 as a Seaman Recruit.

Brooks is not only following the Navy tradition of his father, but is starting out in the same branch in which his father spent most of his Naval career. Cdr. Chadwick is one of the old hands in LTA circles. He flew in the first giant rigid airships, before the advent of the smaller blimps.

From Recruit to PO1 in Six Years

Six years ago J. C. Kornaker en-

listed as a recruit in the NAS NIAGARA FALLS Weekend Warrior program. Today he is an Aviation Metalsmith first class, holding the distinction of being the first squadron bluejacket at NAS NIAGARA FALLS to advance from recruit to first class petty officer in the absolute minimum time required by the Navy.

Weekend Warriors can advance from recruit to PO1 in 75 months—if they pass all of the rating exams and have the necessary time in rate. Upon his accomplishment of that goal, Petty Officer Kornaker, a member of VF-851, was cited for his military and academic achievements during the squadron's latest drill meeting both by Capt. H. R. Browning, Commanding Officer, NAS NIAGARA FALLS, and by VF-851 skipper, Cdr. M. C. Thrash.

Sergeant Gets \$25,000, Goes for 30

Before the eyes of thousands of television watchers, Marine Technical Sergeant Daniel T. Searcy, standing on a television stage in New York, held up his right hand as he reenlisted in the Marine Corps for the sixth time.

Already in the limelight, Sgt. Searcy and his partner, a Chicago housewife, had just won \$25,000 for naming a tune on a television program.

The Sergeant was sworn in by Maj. W. C. Noren, USMC, his former commanding officer in Korea. Sgt. Searcy's son Warren, also a Marine, assisted in the ceremony.

Sgt. Searcy is currently serving with the Marine Air Reserve Training Command, NAS GLENVIEW, Illinois.



FIVE FORMER Alabama schoolmates had a happy reunion when Miss Lili Gentle, now of Hollywood, visited NAS Birmingham Weekend Warriors.



MEN FROM NAS Grosse Ile were escorts for the 40 bus loads of underprivileged children who were taken to the Detroit Shriners' Circus.

LET'S LOOK AT THE RECORD



OUTSTANDING STUDENTS AND MRS. IRWIN

Flight Students Honored DAR Presentations Made to Four

Awards to the four outstanding flight students in the Naval Air Advanced Training Command during the fiscal year 1955 were presented by Mrs. Felix Irwin, state regent of the Texas Society of the Daughters of American Revolution during ceremonies at NAS CORPUS CHRISTI.

Winners of the DAR award were: Ltjgs. Edgar D. Mitchell, (multi-engine, land); Robert O. Angle (jet); Edwin L. Rahn, USCG (multi-engine, sea); and 1st Lt. Roy Downs (single engine prop, land). Each received a gold engraved wrist watch.

To qualify for the award, which will be given annually, a student must be designated a U.S. Naval Aviator during the fiscal year for which the award is given. Student officers and aviation cadets are eligible. The awards will be bestowed during each annual inspection of the naval air station.

VMJ Pilots Fly High Time 555 Hours Logged During October

The Flying Leathernecks have done it again. Pilots from Cherry Point's VMJ-2, a unit of 2nd MAW, recorded an impressive 555 hours flight time during October with a 205% utilization of aircraft.

This percentage is based on each plane in the squadron flying at least 30 hours each month. During August the squadron hit 10%, September 119% and the October record broke all existing squadron tallies for the flying photographers.

Squadron CO, LCol. T. J. Cushman,

attributes success of VMJ-2 to an excellent engineering and maintenance section, a closely supervised pilot training program, an active safety officer and hard-working crews.



ATU-206'S 50th graduating student, former *NavCad* D. E. Broadstreet, is congratulated by Cdr. Doner, Asst. O-in-C, as father watches.

VMIT-21's Safety Record Unit's Deactivation Ends Career

The log books of Marine Aircraft Instrument Training Squadron-21 were closed recently, and the unit deactivated, thus ending an unmarred safety record. Since the unit was established in 1952, six SNB's have flown the equivalent of 75 round-the-world flights and logged 277 impressive 11,866 hours—each one accident free.

During this period, the MCAS Miami unit, processed 335 pilots

through the flight syllabus which gave each student 31 hours of instruction. An additional 513 pilots attended 33 hours of lectures and six Link trainers were used for 4,664 hours of training.



ALLEN L. Mitchell, AM3, was selected as "Airman of the Month" at Kirtland AFB recently. He competed with AF Personnel for honor.

FAWTUPac Has Safe Record 3,000,000 Accident-Free Air Miles

FAWTUPac, Detachment B, was recently awarded, for the second consecutive quarter, the ComAirPac Quarterly Aviation Safety Award. The award, signed by VAdm. H. M. Martin, ComAirPac, was in recognition of 4,024 hours flown by the Detachment during the third quarter of 1955.

The last accident recorded by the Detachment was a minor taxi accident last March. Since that time, approximately 11,300 accident free hours have been logged. This figure, translated into miles travelled, is equal to over three million miles of accident-free hours or well over seven round trips to the moon.



HELICOPTERS of Marine Experimental Squadron One demonstrate the feasibility of in-flight refueling before contractors and representatives of BuAer at MCAS Quantico, Va. The system uses the probe-drogue technique developed for the refueling of carrier-based jet aircraft.



VOUGHT O2U CORSAIR BIPLANE SUCH AS THAT FLOWN BY GEN. SCHILT IN NICARAGUA

MEMORIES OF A MARINE MSGT.

NICARAGUAN bandit-chasing and a heroic aerial rescue of 30 years ago are treasured personal memories of MSgt. Frank J. Bernau, leading chief of VMC-1, based at MCAS KANEHOE BAY.

Bernau, an aviation mechanic in revolution-torn Nicaragua in 1927-29, worked on the plane in which LGen. Christian F. Schilt, now Assistant Commandant (Air) of the Marine Corps, won the Medal of Honor. Then a young first lieutenant, Schilt made ten daring landings on an improvised airfield at Quilali, to evacuate 18 Marines seriously wounded in fighting against the bandit leader, Sandino. Lt. Schilt was forced to carry the wounded men on the wings of his open-cockpit O2U Corsair biplane.

Sgt. Bernau recalls that the besieged Marine Patrol at Quilali "was in bad

shape" before the arrival of Lt. Schilt's plane. Relief by ground forces was several days away, and immediate aid was desperately needed for the wounded.

"They tore down and burned some of the buildings in the town," Bernau says, "to make a landing strip barely long enough for that old O2U of Lt. Schilt's to land on. Even then, Marines had to grab the wings of the crate and drag their feet in order to stop her in time."

Later on, Bernau and a crew of mechanics overhauled Schilt's plane at a repair center in Managua.

During his two-year tour in the Central American country, Sgt. Bernau flew supply and observation missions in OLH amphibians. His unit supplied all the Leathernecks patrolling the Nicaraguan jungles attempting to bring Sandino in. Frequently, the planes landed on inland rivers to bring out wounded. At other times, they dropped in mail, ammunition and food.

"In those days," Bernau recalls, "the photog and I would line up the left wing over the 'target area,' then push everything out the open bay of the ship. Breakable articles had it rough."

Budgetary limitation kept Leatherneck aviation small, Sgt. Bernau recalls. "Before 1929, there were less than 100 pilots in the Marine Corps, and in Nicaragua, we never had more than 20. There were about 200 enlisted personnel there at the same time. We have more pilots than that in this squadron at the present time."



MSGT. FRANK BERNAU HAS MANY MEMORIES

Camera Mount Developed Employs Ingenious Locking Mount

A new heavy-duty, lightweight camera mount designed for precision adjustment of elevation and azimuth has been developed by Gordon Enterprises, North Hollywood, Calif.

An ingenious locking method allows the camera to be removed for service and later placed in its exact former position without disturbing the boresighting.

Designated the 80GE, the mount will take heavy cameras, bulky photo-instrumentation and date-recording cameras. First units of the mount are being shipped to NACA for use with aircraft and wind tunnels.

Radio 'Ham' at Atsugi On Lookout for New 'Rag Chewers'

Albert "Pappy" Yetter, ALC, operates KA2NA amateur radio station and MARS station AD1BO at NAS Atsugi, Japan, under authority of the area commander. The 55-year old Chief has been a radio "ham" for 26 years, and says: "I've never operated as good a station as KA2NA."

Atsugi's station operates on 1000 watts power, and can receive and transmit anywhere in the world. The walls of Yetter's radio shack are covered with QSL cards from the four corners of the earth, sent in by operators he has contacted. Right now he is trying to contact Operation Deepfreeze in the Antarctic and has high hopes of success.

"Pappy" takes his hobby seriously: "Knowing that there is always the possibility, at any time of the day or night, that we may be of service to a person, a family or a nation keeps us on our toes."



PAPPY CHEWS RAG WITH CHICAGO 'HAM'

TIGHT SQUEEZE FOR THE BOXER



LINE HANDLERS WATCH AS BOXER INCHES HER WAY INTO DOCK

HAVE YOU ever tried to parallel-park a large sedan in a narrow alley in Boston, Philadelphia or Tokyo? If so, you have some idea of the problems involved in inching a 27,000-ton aircraft carrier safely into a dry dock.

When the USS *Boxer* entered dry dock at Yokosuka for hull cleaning and painting, the operation required the coordinated efforts of hundreds of personnel.

Tugs maneuvered the huge ship across the sill of the dry-dock, then the docking officer took over. Ltjg. James Sullivan, docking officer for the U.S. Naval Ship Repair Facility is responsible for seeing the ship safely berthed. A hawser is slipped through the ship's "bull nose" and a windlass slowly pulls the ship into the dock. Taut breast lines keep the vessel in the center.

Once the ship is positioned over the blocks especially arranged for her hull, in accordance with the docking plan, a caisson seals the dry dock from the harbor, and the water is pumped out, an operation which takes about five hours for dry dock five.

Nearby is dry dock six, believed to be the largest in the world. It can easily accommodate large attack carriers of the *Forrestal* class.

The Facility at Yokosuka has dry-docked over 1,000 vessels from destroyer escorts to carriers like the USS *Boxer*.



HANDLERS MOVE ONE OF BREAST LINES INTO NEXT POSITION



GIANT BOXER LOOMS ABOVE DRAINED, YOKOSUKA DRYDOCK



CO, CDR. CUCCIAS, PRESENTS THE CHECK

VP-19 Adopts Orphanage Support Given to Japanese Home

Soon after the arrival at Iwakuni, Japan, of VP-19 commanded by Cdr. F. P. Cuccias, the squadron decided to adopt a local orphanage. The Children's Home at nearby Tsuda was chosen to receive assistance for its 14 underprivileged children, ranging in age from three to 14 years.

Support by squadron personnel has been excellent. In the brief time since the arrival of VP-19, over \$900.00 has been contributed to the home.

The home plans to use the money for installation of electricity and other facilities. Expansion will enable the home to accommodate 25 children.

Japanese to Get Neptunes USN CPO'S Train Japanese PO'S

Eight U.S. Navy Chief Petty Officers, each a specialist, are training 62 Japanese naval petty officers in the maintenance of the P2V-7 *Neptune*. Under the Mutual Defense Assistance Program, a number of the planes are going to be turned over to the new naval air arm of the Japanese Maritime Self Defense Force.

The instructors are temporarily attached to FASRON-120 at NAS Iwakuni during this phase of training.



CAPT. C. L. Smith took pleasure in pinning 1st Lt. bars on his wife Marilyn, during promotion ceremonies at El Toro. Mrs. Smith is a station engineering squadron adjutant.

Supply System Changed 'Single Manager' Plan Introduced

Defense Secretary Charles E. Wilson has announced the inauguration of the "single manager plan . . . to promote increased economies in the utilization of manpower, material and services."

The plan, made after three years of study, assigns full responsibility for supply management of a specified commodity or service to a single military department secretary. It thus places the authority for the three basic supply functions—requirements, purchasing and distribution—under one specially designated person.

The "single manager" concept has been partially applied. The Navy Secretary is responsible for petroleum, oil and lubricants, medical and dental supplies, and MSTs. The Army Secretary is responsible for subsistence for all the services; the Air Force Secretary, for photographic supplies and MATS.

VR-24 Man Designs Tool Speeds Plane Handling Operations

Sonni M. Auguletto, AB2, section leader of one of VR-24's cargo handling crews, has developed a new tool to facilitate the handling of "weber" seats installed in the R7V *Constellation* and R6D *Loadmaster* aircraft.

These planes, passing through the Logistic Terminal in Port Lyautey, French Morocco, are allotted only two hours ground time there. Difficulty in working the leg brace clamps used to fasten the seats to the plane's deck alone took over one hour and more than one half of the available manpower.

Augie's tool, called the "Sonni-um stick" by its users, was developed after



AUGULETTO AND NYE EXHIBIT INVENTION

many hours of off-work experimentation. Actual construction of the gadget was handled by Charles H. Nye, AM1, of the Air Frames Division.

The use of this tool permits installation or removal of seats in a shorter time and with less men, and minimizes damage to the seats.

Last of Non-Aviation LSO'S Turns in Paddles After 12 Years

Cdr. Paul R. Wilson recently turned in his paddles at NARTU ANACOSTA, D.C. to devote full time to other aviation duties. Back in 1943, because of the shortage of qualified aviators, a few non-aviator aviation ground officers were selected for LSO training and duty. Cdr. Wilson was one of those chosen.

He was trained as an LSO at NAS JACKSONVILLE and NAS MIAMI. After a year of service in Miami as a Senior Landing Signal Officer, where he trained and qualified large numbers of Navy pilots in FCLP hops, Wilson was assigned to sea duty.

Since late 1945, when he returned to civilian status, Wilson has been a member of the NARTU at Anacosta. Cdr. Wilson is proud to report that during the entire twelve years of his LSO work, not one individual whom he signalled in has suffered any injury.



CAPT. JAMES P. Monroe, Chief of Naval Air Basic Training Command, congratulates his son, NavCad Jack Monroe, aboard the Saipan after the cadet made his varqual landing.



JUNE ALLYSON had very little trouble talking LCdr. J. F. Lloyd, ComAirPac PIO, out of his personal model of the F8U *Crusader*. She was on location to film "It Happened One Night."

Gadget Speeds Reference Usage Data on Gun Parts is Useful

BUORD has accumulated usage data concerning life of various parts of 20mm Aircraft Gun Mk 12 and Feed Mechanism Mk 7. Reference to the replacement schedule during routine maintenance is constant.

B. J. Crenshaw, AO1, attached to Armament Test Section, NATC PATUXENT has therefore designed a board which makes checking easy. The board also is used to train ordnance personnel.

Navy Buys New Jet Trainer Built with Boundary Layer Control

The Navy is now buying the Lockheed T2V-1 *Seastar* as an advanced jet trainer. The aircraft has two significant innovations. It is the first operational aircraft to employ boundary layer control as standard equipment and it is the first Lockheed plane to carry a tail hook.

With BLC, small jets of air from a compressor working off the main power plant, blow air at approximately 1290 feet per minute over the control surfaces of the wing. As an airfoil slows to a stall, a burble of air creeps forward from aft the trailing edge of the wing until it ruins the airflow of the wing and the aircraft stalls. The jets of air in BLC blow the burble off the control surfaces, delaying the stall, enabling the aircraft to take off and land at lower speeds and in smaller areas.

Recognition features, to differentiate the *Seastar* from its predecessor, are the carrier operations hook, an elevated rear instructor's seat, beefed-up fuselage, slightly different air intakes forward of the wing, and a larger rudder area.



LCDR. FRED McConnell, at controls of new Bell HU-1 helicopter, and Army pilot Capt. H. E. Gill check records with E. E. Kennedy, Navy engineer after altitude test flight.



ADM. ROBERT F. Hickey, Commander Fleet Air Alameda, turns over custody of a P2V-7 Neptune to Capt. Takahide Aoi, of the Japanese Maritime Self-Defense Force and OMC of Japanese trainees at NAS Alameda.



ARTIST ILLUSTRATES THE 'BUDDY' SYSTEM

'Buddy' Refueling System External Package Being Developed

An inflight refueling system to transfer jet fuel from one fighter's tanks to another is being developed for the U. S. Navy. The plan would considerably extend the combat radius of a carrier-based plane.

This "buddy" concept calls for a standard fighter to transfer several hundred gallons of fuel in flight to another to extend its range. After replenishing the fighter's tanks, the "tanker" plane then would return to its carrier or land base, and the receiver would continue on to the target with its bomb load. It is planned that all



VF-43'S LTJG. Peter Conrad leans out of the cockpit of his F9F-8 Cougar for cues from Lt. Kenneth Colman during filming of movie sequence to train future jet pilots.

carrier-based aircraft will eventually be equipped with the system.

With the minor modification being developed, the carrier commander will have a long range striking force without any reduction in the number of available reserve fighters aboard.

Certified for Instruments Sikorsky HSS Declared Qualified

The Sikorsky HSS, the Navy's anti-submarine warfare helicopter, is the first rotary-wing aircraft to be considered qualified by the Navy for standard instrument flight under the same rules that apply to fixed-wing aircraft.

LCdr. William Casey, chief of rotary wing service test at Naval Air Test Center, Patuxent River, is the first Navy pilot to be given a qualification rating. Other pilots are to be issued helicopter instrument ratings as part of a helicopter instrument flight evaluation project at the center.

The pilots are evaluating the HSS in blind flying on airway radio beams, instrument let-down, radar-controlled approach, and all other standard instrument flight procedures.

The HSS, now being delivered to ASW squadrons of both the Atlantic and Pacific fleets, is considered by the Navy to be the first helicopter to meet all the qualifications necessary for instrument flight. These specifications—aircraft stability, flight instruments and communications systems—make the HSS as safe and dependable in blind flight as single-engine, fixed-wing aircraft fully equipped for instrument flight.

In addition, the Sikorsky HSS is equipped with auto-stabilization equipment which increases the ease of flying on instruments, formerly very difficult.



ADM. THOMAS Barrows, MSTC West Pacific, congratulates M. C. Freeman, YN1, on his enlistment. The command paced all others at Yokosuka with 55% reenlistments in '55.



SUB GEAR AWAITS LOADING ON AF C-124

Sub Rescue Gear Readied Airlift Equipment Proves Effective

Realizing that time can mean life or death in a rescue operation, Capt. E. B. Fluckey, Commander Submarine Group, Western Pacific, began working last November on a method of speeding up transportation of men and critical equipment to any accident scene. The system is designed so that rescue operations begin in Yokosuka, Japan, minutes after the emergency call is received at the headquarters.

The system was tested for the first time in January, and through constant drill this airlift rescue method has proved itself effective. The under-sea rescue equipment is stored at Fleet Activities, Yokosuka, loaded on trailers and ready to be flown to any accident scene at a moment's notice. Experiment showed that the load could be handled by five *Flying Boxcars* and two *Globemasters*.

This joint airborne operation of the Navy and Air Force, with its specially designed equipment, does not replace the Navy's submarine rescue vessel, the ASR. But it makes it possible to fly rescue gear into areas that an ASR might take several days or more to reach.



BRITAIN'S new version of the Vampire trainer has dorsal fins and improved cockpit vision. It incorporates a blind flying panel and full provision for twin ejector seats.

DOD Request Affects Navy Overseas Housing for Personnel

A new military public works authorization bill has been submitted to Congress by the Department of Defense. The proposed bill amounts to over two billion dollars and includes the construction of 3,740 housing units in the U. S. and overseas.

Of the units requested, the Navy would receive 65 new units at NAF PORT LYAUTEY, 112 at the Naval Station, Guantanamo Bay and 217 units at other undisclosed locations.



WHEN NO CRANE was available to hoist a 1250-lb. pedestal for "Storm Detector" radar to top of 125 ft. tower at Barksdale AFB, an Army 'copter from Ft. Hood, Tex. took care of it.

Chief Saves Navy Dollars Receives Praise for Work in VS-30

Clarence E. Murphy, AMC has been commended for his outstanding work while heading the Air Frames Division for VS-30. While in the squadron, Murphy invented a nosewheel jack for the S2F *Sentinel*. It makes a simple matter of changing the wheel of the tricycle geared sub hunter. The chief has also invented a tool for changing hydraulic seals in the planes.

Murphy is working on another tool which he calls the bullet guide. Its purpose is to simplify the tricky task of aligning holes in the landing gear actuator on the aircraft.

The Norfolk chief has previously been noted for his suggestions to conserve and salvage equipment which have saved the Navy money. According to Squadron CO, Cdr. H. M. Pugh, the Air Frames' grade of 98.1 was largely due to the work of Murphy.



LOCKHEED'S new Navy jet trainer, the T2V-1 Seastar, is scheduled for delivery next fall. The trainer will be powered by either a J-33-P-22 or a J-48-P-8 turbojet engine. Landing speed for the new plane is about 97 knots.

VF-102 Leaves Key West Returns Home to NAS Cecil Field

The Diamond Back Squadron recently bid *adieu* to Key West and returned to home port at NAS CECIL FIELD, Jacksonville. There the Diamond Backs will wind up training in field carrier landing practice and special weapons delivery work preparatory to going aboard the *Randolph* for a cruise to the West Indies.

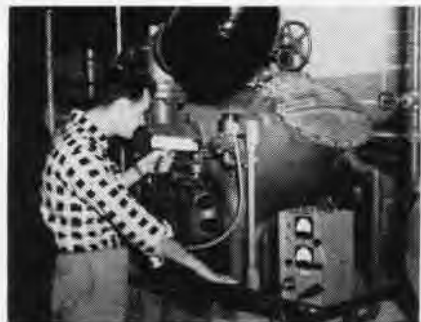
The squadron set new records while at Key West. In the 17 flying days there, they flew 529 hours. The previous squadron averaged only 364 hours for a like period of time. The squadron flew a total of 220 flights, and of the 17 pilots who were qualified, 10 were graded excellent, three outstanding and two received Navy "E's."

VF-102 CO, Cdr. Regan says: "I'm very proud of my pilots . . . but I want to say that the 'round the clock effort put out by our maintenance personnel was outstanding."



HIGH MORALE at ZX-11, NAS Key West, Fla. was shown by recent reenlistments: (L to r) F. A. Alvarez, YN1, F. R. Gonzales, YN1, R. E. Barnard, YN2, are sworn in for six-year bitches by Capt. James H. Cruse, squadron CO.

ARTIFICIAL STRATOSPHERE AT SEA LEVEL



GOLDSBOROUGH checks this 75-ton refrigeration unit with an electronic leak detector.



GEORGE LINK, electrician, is making final wiring changes on inverter to be tested.



MR. FULTON uses one knob to adjust pressure to simulate altitude up to 70,000 feet.

THE EASTERN end of the Naval Air Test Center, Patuxent River, Maryland, is washed by waters of Chesapeake Bay. The landing strip is only 36 feet above sea level, but less than a quarter of a mile from the Bay, the altitude in the Stratosphere Chambers of the Electronics Test Division is above 50,000 feet.

The four chambers, the largest of which has an area of 64 cubic feet, provide an environmental atmosphere for testing aircraft electrical and electronic equipment at simulated altitudes and extreme temperatures. Each chamber has its own control panel, vacuum pump and refrigeration units. The newest chamber, installed in 1953, cost \$82,000.

Mr. John Fulton, a laboratory mechanic supervisor, has been in charge since 1943 when the first chamber was installed. He and his crew of four men operate the chambers and compile the reports. It takes them anywhere from two hours to two months to complete a project depending upon the test specifications.

In conjunction with the Department of the Air Force, BUAER draws up the test requirements. These vary according to the types of equipment, but basically the object is the same—to assure the pilot that his equipment, even nine miles up, is impervious to the severe changes in pressure and temperature.

When a plane takes off from sea level, it rises through the Troposphere where the temperature gradually decreases to -67° F. at an altitude of approximately 36,000 feet. At this height, the temperature becomes reasonably stable. It is the job of Mr.

Fulton and his technicians to create these conditions even more extremely than does Nature herself, and they can do it with the greatest of ease.

The control panels have all the necessary knobs to effect a chamber temperature from 84° below zero to 185° above zero, Fahrenheit, and a pressure range from sea level up to an altitude of 70,000 feet.

When a new device arrives, the technicians make sure it is in operating condition. They then place the device in one of the chambers and wire it into position as if in actual use in an airplane. When the necessary meters, scopes, and other measuring instruments are connected, the door is closed and the test begins.

The huge refrigeration units are energized. Within an hour, the thermometer inside the chamber reads a frigid 80° below zero. The temperature is then raised to 65° below zero, Fahrenheit, and in this icy climate, the device under test is expected to warm up and operate in a specified length of time.

The technician turns another switch



MARK BRADBURN records data from instruments, which will be used in BuAer report.

on the control panel, and a vacuum pump starts. The pressure begins to decrease and in five minutes, there is a simulated Stratosphere equal to an altitude of 50,000 feet. The operator is busy taking readings to determine whether the equipment is still in good condition and operating according to requirements.

The temperature is then raised to 185° F. and kept at this point for two hours. Despite this tropical heat wave, the device must function in keeping with the specifications. When the temperature is reduced, the equipment is allowed to cool and then is inspected for heat deterioration after removal from the chamber.

A RECORD of the test data is sent to BUAER. If it meets all of the requirements, the job of the stratosphere crew is done and the equipment is ready for installation in an airplane.

The longest test Mr. Fulton recalls required two months. However, this was not for day and night testing. Some of the equipment requires technicians to watch round the clock. The men go on eight-hour shifts, changing the dial settings and taking readings which determine the quality of the equipment being tested.

These facilities at the Naval Air Test Center make it possible to test equipment more quickly and inexpensively than if the first test had to be made under airborne conditions.

• During the period 21 October-15 December, the USS *Saipan* recorded 4,448 accident-free landings during carquals for fledgling pilots from NAS PENSACOLA. This record betters the old one of 1,081 landings set last April, May.

PATROLS ARE THEIR BUSINESS

PLANES, pilots and aircrewmembers of VP-28 do a big job in their P2V-5 *Neptunes*. They do not travel in the delta-wing set, but they belong to the elite in patrol circles. Their task of surveillance and weather patrol is never done.

Arriving in Japan in early January 1955, the *Hawaiian Warriors* — the



EACH CREWMAN IS A TRAINED SPECIALIST

squadron has been frequently based in Hawaii—participated in a number of special exercises conducted by Far East commands. Tactical operations were under the operational control of Commander Fleet Air Wing Six. VP-28 was led by Cdr. J. J. Hinman III.

Daily surveillance flights were flown over the Sea of Japan and the Yellow Sea. During a three and one half months period, only one such mission was cancelled.

With a total of 3680 hours flown while in the forward area, VP-28 established a perfect operational record by fulfilling all tactical commitments. No squadron aircraft were involved in accidents, it was reported.

The patrol unit had to be capable of providing search information covering large sea areas. It was prepared to defend itself in the event of attack while engaged in its primary mission



EQUIPMENT IS REPAIRED DURING FLIGHT

of patrol, all-weather ASW and mining reconnaissance operations.

Training exercises keep VP-28 in readiness for its secondary missions: search and rescue, photographic reconnaissance, electronic screening, and attacks on enemy shipping and land targets.

The complex operations the patrol squadron was expected to carry out were made possible by special electronic equipment. This meant that each member of VP-28 flight crew was a highly trained technician.

During its overseas tour, a typical flying day for a flight crew began at 0800. The day's work would take the crew to the outer reaches of the Far East defense perimeter. Before the day ended they would travel approximately 2000 miles in 12 or more hours.



PILOTS ARE ALSO SKILLED NAVIGATORS

Before its pilots flew the *Neptunes*, they manned the controls of the *Privateers*. In the Korean war, the squadron was deployed at Guam with detachments on Okinawa. Later they were in Japan and maintained day and night vigil over north Korea and along the China Coast.

Now, once again at NAS BARBER'S POINT, the *Hawaiian Warriors* are skippered by Cdr. R. W. Long.

Prop Blades Nickel-Coated Helps Against Stone, Debris, Spray

"Armor coating" aircraft propeller blades with a thin layer of nickel has proved an effective method of reducing damage from stones, debris, or water spray, according to representatives of Hamilton Standard of United Aircraft Corporation. The development has been effective in reducing propeller maintenance costs in more than 2,500,000 hours of commercial and military operations.

The revolutionary coating process, developed after years of experimentation, superimposes several thousandths of an inch of nickel on either solid aluminum or hollow steel blades. In three years of service-testing and operation experience, it has considerably reduced abrasion and erosion damage to the blades used on commercial Boeing Strato-cruisers, USAF Fairchild C-119 *Flying Boxcars*, and Navy Martin P5M flying boats and Grumman UF-1 amphibian aircraft.

The nickel-coating process first proved its success in protecting the aluminum blades of UF flying-boats from the eroding effect of water spray, although bonding techniques are still being improved to prevent peeling of the nickel coat from the aluminum. Adapted with changes in the bonding agent to hollow steel blades, it substantially reduced the damage caused by stones and debris to hollow steel blades used on a test quantity of C-119's operating from rough forward airstrips in Korea and other Far East areas. Since that time, C-119B's and C-119C's for the Air Force, and R4Q-1 versions of the same airplane for the Marine Corps, have been scheduled for retro-fit with the plated blades.

The development also is seeing foreign service on the Lockheed *Neptune* patrol bombers being delivered for the use of the Royal Canadian Air Force.

VP-45's Sustained Flight P5M Remains Aloft for 21.5 Hours

VP-45's Ltjg. A. L. Raithel has led his crew to what is believed to be a new unofficial endurance flight record for the P5M-1 seaplane. The crew kept the big Martin Marlin aloft for 21.5 hours.

Because of the heat of the Caribbean area, the plane was hangered all day before the flight to keep the fuel cool. After a pre-flight run-up, the tanks were topped off to provide maximum fuel capacity.

The pre-flight planning included consideration of the drag factor of the plane. This factor along with the basic weight determined the power settings used during the flight. On the basis of these figures, an hourly schedule of power settings and fuel consumption was drawn up.

Take-off was accomplished with the



DENHOLM EXTENDED CREW A WELL DONE

aid of JATO, thus cutting the time required for full power settings during the time the heavy plane was getting airborne.

Other members of the flight crew were Ltjgs. R. T. Chase, C. B. Caldwell, Ens. J. M. Barry, J. N. Lovric, AD2, L. M. Gailey, AM1, E. H. Barnes, AT1, W. P. Bruns, AE2, C. L. Butler, AT2, and S. R. Frimodig, AT3. Cdr. W. J. Denholm commands the Marlin seaplane squadron.

VF-94 CarQuals on Lex Squadron Logs in 'First' Records

While qualifying for their Yorktown cruise, VF-94 has been setting records on board the Lexington. Flying the squadron's 14 Cougars are 19 pilots, and servicing the aircraft are 115 enlisted men.

Cdr. J. E. Kennedy made the first jet launching on the Lex since she came out of mothballs and was reconverted. The first jet qualifier was Cdr.

C. H. Gates; LCdr. W. W. Alldredge completed the first jet arrested landing.

Not all the records were made on the Lex, however, Ltjg. G. C. Daane brought his jet to the Yorktown deck to make the 49,000th recovery aboard that ship since 1952. Lt. Daane was flying an F9F-8 Cougar at the time.

Lakehurst HUP-2's on CVA Will Support Air Group Training



DETACHMENT 42 OF HELICOPTER UNIT TWO

Two HUP-2's from NAS LAKEHURST are riding the new carrier USS Forrestal for three months during its shakedown cruise in the Caribbean.

The 'copters from HU-2 went aboard the Forrestal in January. The aircraft and men are assigned to Detachment 42, which is composed of the two HUP-2's, four pilots, and nine helicrewmen. Normally, a carrier helicopter unit consists of one bird, two pilots and five helicrewmen.

Lt. Al Dean commands the outfit. Other pilots are Lts. R. O'Neil and A. Dalla Betta, and Ens. Bragg. E. Stump, ADC, is the crew-chief for the detachment.

The detachment will perform the many tasks a helicopter unit is generally called upon to do in support of the carrier and embarked air group.

Fifth Big CVA Authorized Unnamed Carrier to be Built in N.J.

Congress has authorized the construction of the fifth Forrestal-class carrier. It will be built at the New York Shipbuilding Corp., Camden, N. J., one of the Navy's leading yards for the construction of large combatant ships.

Designated the CVA-63, the ship has yet to be named. Of the four already authorized, only the Forrestal is in commission. The Saratoga has been launched and the other two are still in construction stage.



THIS TWIN-JET Vampire is being produced at Christchurch, England. De Havilland Co. claims it to be the most powerful all-weather fighter in use aboard British carriers.

ANG Lauds a Navy Diver Sailor Assists while on Leave

A Navy diver attached to ATU-206 has been presented with a commendation by the Air National Guard for his assistance in recovering the body of a pilot from Onondaga Lake in New York.

Gregory H. Charles, BM2, was on leave in Syracuse when he heard that the 138th Fighter Interceptor Squadron (ANG) was having trouble locating the body of one of its pilots who had crashed into the lake.

Charles volunteered his aid after other divers had worked for two days without success. He worked side by side with other men in severe, cold weather and extremely tiresome conditions until the pilot's body was found.

The commendation was awarded to Charles by his CO, Cdr. R. A. Beveridge, and was witnessed by the 900 officers and men attached to ATU-206 at Sherman Field, NAS PENSACOLA.

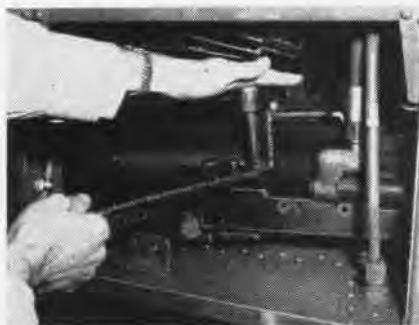


VADM. T. S. COMBS, DCNO(Air) and his deputy, RAdm. W. L. Rees, pose with winners of 20 and 30 year pins after awards were made in the admiral's office. Adm. Combs, Mr. J. M. Delaney, Harriet D. Hines, Mr. F. M. Utler, Dixie Burks, Mr. H. I. Rotbrock (30 year pin) and Adm. Rees are pictured (l. to r.).



AVIATION ORDNANCE

ORDNANCE GEAR SAVES TIME



20MM GAS CYLINDER BREAKING TOOL USED

AVIATION ordnancemen at NAS CHASE FIELD, Beeville, Texas, have come up with two inventions that should prove useful to every ship and shore installation. Both devices concern 20mm. automatic guns, M-3. One speeds maintenance, and the other improves stowage.

During post-flight procedures on 20mm. automatic guns M-3, a tool is sometimes needed to break loose the gas cylinder at the rear. The Ordnance Division has designed a tool which operates uniquely.

The tool consists of a handle section, manufactured of strap iron $\frac{1}{4}$ " thick by 1" wide by 17" long, with a fork-cut piece of strap iron hinged to the handle section. A $\frac{1}{2}$ " diameter by 4" length of round steel stock is installed through a $\frac{1}{2}$ " hole drilled in the handle and welded.

Breaking the gas cylinder sleeve is simplified with the tool by making it unnecessary to remove the M-3 feed mechanism AN-M2 when the tool is placed on a gun. A $\frac{1}{2}$ " diameter pin fits in the forward gun trunnion block hole; the forked iron strap rests on the gas cylinder sleeve just forward of the gas cylinder sleeve yoke. A 10-pound pressure applied to the handle in the rear direction of the gun will break free a frozen gas cylinder sleeve for inspection and oiling. This tool is reversible and can be used on left or right gun installations.

The tool was manufactured by Ivan

E. Gray, AM1, of the Chase Field Metal Shop.

The second invention expedites stowage of spare parts for the 20mm. automatic guns. In the past, a kit of spare parts has been made available in the supply system for squadrons maintaining 20mm. automatic guns. The number of kits allowed depended on



LUND SHOWS HOW RACK SHELVES PULL OUT

the number of guns maintained by the squadron Ordnance Department.

The kits are $6\frac{1}{2}$ " high, $27\frac{1}{2}$ " long and 12" wide. They have a tray two inches deep in the top section of the box. These kits have presented quite a stowage problem on board ship, in squadrons, and in station armories. They must be compactly stowed, and yet it must be practicable to withdraw needed spare parts to maintain 20mm. automatic guns.

The Chase Field Ordnance Division has come up with plans for a stowage rack. It is a rack 38" high by 27" deep by 32" wide, with three sliding drawer frames.

Each drawer, supported on plumbing pipe material rollers, can be pulled out in two directions for access to kits. Stops prevent the drawers from being pulled out too far. The rack frame supports are manufactured of $1\frac{1}{2}$ " angle iron.

The plans for the rack were drawn up by J. T. Coe, AOC, and A. G. Lund, AO2. Additional ideas were then incorporated by Gray, who then manufactured the stowage rack.

Not a Hazard to Ordnance Effect of Supersonic Boom Studied

Sonic booms in the vicinity of ordnance installation have raised the question as to whether certain high explosives might be set off sympathetically by shock waves.

Tests thus far indicate that a shock wave created in a supersonic dive with pull-out at 10,000 feet will reach the earth with startling effect, but with practically no destructive energy. A fighter flying at supersonic speed at an altitude of 300 feet will produce about two-tenths of a pound over-pressure at the surface. This is enough to break a thin glass window pane, but exposed ammunition and explosives will not be set off.

Existing altitude limitations in flying regulations are sufficient to guard against damage resulting directly from sonic boom. OpNav Instruction 3710.7 requires strict control of the production of sonic booms by operational commanders and prohibits their indiscriminate development.

CNO plans to tighten the restrictions on flying at supersonic speeds in the vicinity of habitable areas by applying a distance limitation as well as an altitude limitation.

BuAer's New Responsibility Administers Aviation Fire Control

The Chief of Naval Operations with the approval of the Secretary of the Navy has consolidated the administration and management of aviation fire control under the direction of the Chief of the Bureau of Aeronautics.

For maximum efficiency, economy and logistics, the Chief of BUAER is assigned cognizance of and responsibility for over-all system designs and integration of aviation fire control components.

The Chief of the Bureau of Ordnance is responsible for advising the Chief of BUAER as to the weapons for aircraft and the furnishing of ballistic data to be incorporated in aircraft fire control systems.

BUAER Instruction 8200.2 of January 1956 amplifies instructions concerning this transfer of authority.

● U.S. aircraft engine builders have delivered 85,000 jet engines since WW II. Adm. DeWitt C. Ramsey, President, Aircraft Industries Association announced recently.

Busy Chief at NAS Oahu Rates New Navy Job Code Number

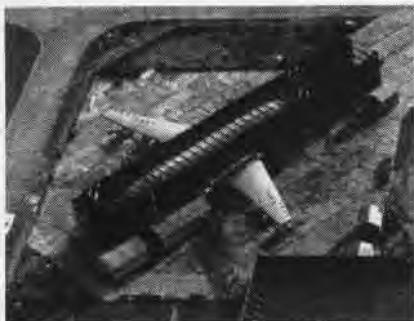
"Sometimes a few extra hours in the day would help," says Victor Wickman, ADC, one of the busiest chiefs in Hawaii. Stationed at NAS BARBER'S POINT, Oahu, T. H., since 1953, Wickman is assigned to FAW-2 and works at Air Plot. Though his military duties are time-consuming and of an important nature, the chief still has a job after hours.

As superintendent for the Protestant Sunday School, he has made it the largest in the Navy. The chief is also Awards Chairman for Cub Scout Pack 121 and a council member of the Barber Point Youth Center.

What does Wickman do with his spare moments? He wants to take Hawaiian guitar lessons soon. It's something he's always wanted to do.

Trial Pressure Tank Test For Planes Up to Comet 4 Size

De Havilland has added an important phase to the structural testing equipment at Hatfield, England. The water tank for testing pressurized fuselages had its first trial late in 1955.



HATFIELD WATER TANK VIEWED FROM AIR

The principle of water-tank pressure testing is relatively simple. Because water is virtually incompressible and therefore does not store energy, failure of a container owing to water pressure remains localized and its origin can be traced easily.

Water for such pressure tests is stored in an adjacent reservoir with a capacity of 330,000 gallons. The tank itself holds 290,000 gallons.

Pressure applied to the hull of the plane being tested is accomplished by 8½ hp electric motors.

Tests carried on by the British are designed to determine metal fatigue failure, not for material static strength.

VR-24 TRAINING POPULAR



DURING 'FINAL EXAMINATION,' STUDENTS DONNED MASKS FAST IN GAS-FILLED ROOM

THE TRAINING program of VR-24 under the direction of LCDrs. J. M. Naureckas and A. W. Jones reached an all-time high during the month of January in numbers and interest.

Four hundred and eighty officers and men of the unit attended lectures, movies and drills covering every subject from first aid to R5D maintenance. The total hours of attendance were 5,002. It entailed much work on the part of Information and Education section but showed the spirit of VR-24.



USE OF VARIOUS SURVIVAL GEAR SHOWN

Special drills were held to insure proficiency in the use of gas masks. H. A. Mountz, ADC, instructed nearly 200 men and made trips with them through the gas chamber. Tear gas is a harmless, but efficient, teacher of the effectiveness of gas. There were also special drills in the use of firearms to improve their gunnery skills.

The first aid had an expert instructor, Capt. J. O. M. Thatcher, the station's senior medical officer, showed the Navymen the proper use of medical supplies and the care and treatment of sick and injured.

The R5D Ground School familiarizes the VR-24 men with *Skymaster* systems. The squadron has the distinction of being the only Air Transport squadron in commission with facilities for teaching visually the complex Douglas aircraft.

Once the ground training program was under way, the men attended enthusiastically. It gave them an opportunity to brush up on subjects which should prove valuable to them in the future as Navy men or civilians.

Final tally for the month indicated that each man received an average of 10.4 hours of instruction.



PROPELLER DISTRIBUTOR VALVE STUDIED

LETTERS

SIRS:

Not having seen a challenge in your excellent magazine for some time, I thought you may like to publish this one. I am quite sure that this is not the best record, but I do feel it is enough to start the ball rolling.

This is the challenge: Who has landed (excluding helicopters) on the most carriers? The following is the list of carriers that I have landed on: *Sable, Ranger, Kasaan Bay, Tripoli, Siboney, Palau, Block Island, Kula Gulf, Saipan, Wright, Ticonderoga, Bon Homme Richard, Shangri-La, Philippine Sea, Kearsarge, Tarawa, Wasp, Leyte, Antietam, Franklin D. Roosevelt, Midway, and Coral Sea* (22 in all).

All landings were made without an accident. All were arrested landings (no helicopter).

In accomplishing these landings, I was a member of VF-2, VF-20, and VR-22 (COD). All landings were made by me, none as a passenger.

WILLIAM A. DOYLE, JR., LT.

SIRS:

Thank you for your prompt attention to our request for copies of Mr. Stein's engine story "Power Panorama" in the February issue of the *News*.

This is an excellent presentation of engines, and we will find it useful in acquainting our people with the elements of modern aircraft power plants.

ARTHUR LOWERY

Wyman-Gordon Co.,
Worcester, Mass.



CDR. S. R. HOLM (R) Ticonderoga Air Officer, gives orders for ski-enthusiast Cdr. C. M. Melborn of VC-12, to catapult. The skis were donned after the first snowfall on the French Riviera in 27 years.

CAPT. FLATLEY'S ANSWER

(See page 14)

First of all the plane was completely de-fueled and rotated about its lateral axis until the nose wheel rested on deck. Then the landing gear and nose wheel oleos were deflated all around. This just brought the jack-pad over the starboard catwalk. The regular AJ wing-jack was used, with shoring used to build up the base for the starboard gear and the jack. Finally the starboard main wheels resting on shoring were flush with the flight deck, and the plane was towed onto the deck.

New Announcing System Designed for Flight Deck Use

A new type of announcing system has been installed on the flight deck of the USS *Forrestal*. It is used both for voice announcements and alarm signals.

The system was designed and installed to give a uniform sound level of approximately 110 decibels over the entire flight deck, with characteristics for maximum voice intelligibility. To accomplish this it was necessary to design a system never before used on carriers. Many high-powered loudspeakers were placed around the edge of the flight deck. These compound horn type speakers are only 6 inches high and are mounted on the edge of the deck where it causes no interference to aircraft and personnel.

Tests made on the *Forrestal* indicate that this system gives the best flight deck sound coverage ever provided on a carrier.

IFR-IQ?

According to OPNAV ATC Procedures Section, the answer is: "The rotating airport beacon will be operated."

Ref: ONC PCAT, Para. 3.230.

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● COVER

A photo interpreter peers at you through a stereoscope. See feature beginning on page one.

● STORY CREDITS

"They Went North for the Winter" (p. 22) was written by Ltjg. C. S. Epstein. R. N. Dews, JO1, wrote the plane captain story on p. 20; D. B. Hays, PH3, took the pictures.

● SUBSCRIPTIONS

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SKYRAY WITH FULL HEAD OF STEAM

A Douglas F4D Skyray leaps into the element it was designed for, propelled by the powerful steam catapult at NAS Patuxent River and the thrust given

the speedy fighter by its Pratt and Whitney J-57 engine. Fiery blast of the afterburner is apparent in these pictures. The F4D is at the Naval Test Center.



NAVAL AVIATION

NEWS

One of the most important ingredients of life is faith. There is the faith a man has in his God, in his country, and in himself. The cornerstone of our American heritage is the freedom we have to give expression to that faith. This is also the eternal message which the Cross echoes down through the corridors of time. — Adm. E. B. Harp, Jr., Chief of Chaplains.

