NAVAL AVIATION

NEWS

RESTRICTED

Training Films

Pilots' Vertigo

NavAer 00-75R-3

RESTRICTED

MARCH 1950

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CAMERAMEN GET INTO MANY WEIRD POSITIONS: HERE IS ONE WORKING UNDERWATER WITH WATERPROOFED MITCHELL CAMERA PHOTOGRAPHING DIVER

CAMERA CREWS TRAVEL FAR AND WIDE IN MAKING OF TRAINING FILMS

CLOSEUP OF 20 MM GUN AND OPERATOR REQUIRES REMOVAL OF BARREL

THE 'EYES' HAVE IT

Training Films Were Mass Education Medium In World War II Proving One Picture Is Worth A Thousand Words

IF YOU'RE the kind who prefers sitting through a training film to listening to a live instructor because it's easier to sleep in a darkened room, stop here.

But if you're not among the living dead, you've had many an opportunity to benefit by the easy-learn system represented by motion pictures.

That old Chinese proverb, "One picture is worth a thousand words," applies with as much force now as it did many years ago. Modern educational methods, by making use of both the auditory and visual senses, have made it possible to train persons in literally thousands of subjects. Motion pictures are the most refined type of visual-aural education.

World War II with its millions to train with a minimum of teaching personnel gave training film production its initial shot in the arm. Both the Army and Navy set up organizations to supervise production of and make training films. The Navy, with its highly technical mode of operation, set up a vast variety of schools which demanded films.

Starting from scratch in 1941, the Navy's training film organization grew to a point where it produced 423 films in 1944 involving half a million feet of 35 mm and a quarter million feet of 16 mm finished negatives from which prints were made.

The potency of this method cannot be equaled. Films save time and money. They pool the talents of experts in many fields and make them available to every sailor and officer.

Under the guidance of the Deputy Chief of Naval Operations for Air and the Chief of the Bureau of Aeronautics, this program has become a continuing activity. Films remain the top training *aid*—no films are complete teachers in themselves—and every bureau of the Navy has plans far into the future for motion pictures to train tomorrow's fighting men.

H. S. SOUTHGATE, WRITER; F. S. KEZIAH, ARTIST, ON STORY BOARD

LIND, NYBY, FEDERLE, MILLER CONSTRUCT SET ON NPC SOUND STAGE

Film Board Of Review Is Controlling Body Which Decides Film Production

MANY NAVAL vessels are the size of destroyers or smaller. Although they may rate a doctor, the current shortage of M.D.'s precludes their presence afloat. As a result, Chiefs and First Class Pharmacists Mates have to hold down the jobs.

The Bureau of Medicine and Surgery has a specialized job of indoctrination to give these men. No amount of jaw gymnastics by an instructor could do the job unless he actually took his trainees aboard ship, and that's expensive. To fill this gap, BUMED is busy pushing the making of films to show just what problems a corpsman on independent duty has to cope with.

Likewise DCNO (Air) takes aviation mechanics into the intricate workings of jet engines, ordnancemen into the maintenance and installation of aircraft guns and aviators through the vagaries of weather and instrument flight.

Marines learn the principles of amphibious warfare and the operation of myriad new weapons.

PHOTO CENTER'S EQUIPMENT IS COMPLETE; HERE IS SET IN ACTION

Surface and Air Naval Reserve recruiting is aided by films depicting the activities of civilian minute men.

Radio technicians find out how to maintain and operate their electronics gear in Arctic cold and jungle heat.

Whether it be the throttleman in his hot engine room or the Wave Yeoman at her desk, films are aimed their way.

How do these motion pictures happen to be made? Who asks for them and who makes the decision to have them made? Then who actually makes them?

Let's take a typical example of need and deed. Through correspondence and conferences the training division of DCNO (Air) discovers that a vital jet aircraft operational safety measure is the use of ejection seats. Pilots are already in squadrons flying planes with the kick-in-the-pants seats and many more in flight training will soon be flying them. Operation of these life savers was developed at the Naval Air Material Center and other places. Sending instructors to squadrons and training commands would be cumbersome and would require constant replacement.

A training film, in the view of DCNO (Air), would fill the bill.

BOARD DETERMINES PRODUCTION

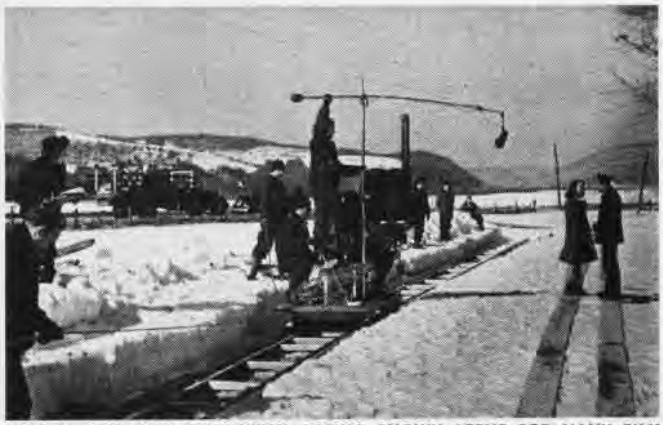
Now once a month there is a meeting of the Navy Film Production Board of Review in the Pentagon. Its chairman is the Director of Naval Photography, currently Capt. Frank Bruner, a naval aviator and former skipper of the Navy's Photographic School at Pensacola. Other members of the board includes representatives of the Executive Office of the Secretary, CNO's Operational Readiness, CNO Naval Reserve, Bureau of Naval Personnel, the Bureau of Aeronautics (Capt. J. H. McElroy, Director of the Photographic Division), and the bureau requesting a film. The Naval Photographic Center representative sits in as a non-voting member. He is Cdr. L. W. Parrish, C.O. of NPC.

DCNO (Air) makes a production request through normal channels. As must be done by any other bureau, SecNav, the Marine Corps or CNO, a production outline must accompany the request. At meeting time the board members peruse the request and fire questions at the representative. He must be completely briefed on the proposed job and prepared to defend it.

In making a decision the board must consider the need for the film, funds available and production facilities available.

Once it is decided that a film is to be made the wheels start turning. The board's decision also states what form the film is to take. There are five categories. First there is the planned and written motion picture, a complete production with sound effects, continuity, commentary and car-

TRAINING FILM ON DEACTIVATING MINES TOOK CAMERA CREW TO SEA



HERE IS FILM STAR GENE KELLY ACTING SNOWY SCENE FOR NAVY FILM

toons, done for the camera. Then there is the photographic report which is a sequence of events photographed during operations. Because an operation is performed but once careful planning is demanded. Shown alone it is educational only in that it allows more personnel to witness an operation than can participate conveniently and economically. Public Relations films are made to inform personnel and attract recruits. A Filmagraph is a series of frames. It is based on still pictures, art or photographs, and is a substitute for animation. Finally there is the slide film.

WHO MAKES THE FILM?

After the board kicks off, the Bureau of Aeronautics receives the ball. With BuAer calling the signals, NPC, as an activity of the bureau, carries the ball.

NPC is a production outfit in itself. Despite its size and equipment equal to a Hollywood movie lot, it cannot handle all of the work to be done. A decision has to be made whether NPC or an independent contractor is to do the job.

Regardless of who finally does the job, NPC is responsible for determining treatment, setting educational standards, and supervising all production.

Technical advisers are furnished by the requesting bureau.

The Motion Picture department at NPC is a big outfit. At its head is LCdr. W. R. Cronenwett, whose staff includes supervisors, writers, artists, cameramen, soundmen and all other technicians needed for making motion pictures. J. W. Evans heads the supervisors, artists and writers, assisted by Dr. E. R. Bryan, while actual movie production is under LCdr. L. Yaconelli.

When a decision is forthcoming that a picture is to be made by an outside firm, it may be done by any one of dozens of small producers. Although the whole movie industry pitched into making training films during the war, it was found that the most ideally-suited contractor for peacetime was not the colossal studio but the smaller operator who specializes in non-entertainment types of films. Most of them make educational films for industrial use.

Typical among them are Jam-Handy in Detroit, Wilding in Chicago, Audio Productions in New York, De Frenes in Philadelphia and Eddie Albert in Los Angeles. Eddie Albert is the movie star who, as a Naval Reserve officer, participated in the Makin landings as a small boat officer and later produced training films at the Navy's west coast office.

A major consideration that is always in the minds of review board members is the possible joint use of training films. Any project which can be used by either or both of the other armed forces receives extra consideration. Films dealing with trades and medicine are especially suitable.

Another offshoot of training film production is adaptation for use by eight foreign countries—Brazil, Chile, Columbia, Cuba, Mexico, Peru, Turkey and Venezuela. Translators adapt appropriate films into the language needed.

Navy training films have gained a wide reputation. At the end of the war some 2,500 films were reviewed by educators who chose 700 of them as suitable for civilian use. They are available through the U.S. Office of Education. Educators considered these films to be technically accurate, professionally produced and educationally sound.

When completed and ready for use in the classroom, prints go to three distribution agencies. For all of the Navy outside of aviation, BuPers does the job. For naval aviation, DCNO (Air) distributes films while the Marines handle their own.

Now let's follow a film from idea to the classroom.

NAS LAKEHURST WAS SCENE FOR A LIGHTER-THAN-AIR TRAINING FILM

SCENE FOR 'THE NAVAL AVIATOR' WAS SHOT AT NAS CORPUS CHRISTI

NEWSOME, GALLAHAN SEND 8 SOUND TRACKS

HILL, LODOVICHETTI, BLAINE BLEND SOUNDS

IT WINDS UP HERE WHERE HOFEN RECORDS

Project Supervisors Must Know Movie Making From Idea To Final Editing

CHAPERONING any motion picture from idea to finished product is a fine art. It is a skilled profession which is learned only from many years of actual practice.

These chaperons in the Navy are called Project Supervisors. In the civilian industry, their nearest counterparts are producers. They are the men with the purse strings in their hands whose word is final on most matters.

At the Naval Photographic Center are 12 supervisors. Their work takes them far and wide in search of background material, locations for shooting and properties.

Most of these 12 men are old hands in the business, and most of them are Naval Reservists who worked in the greatly expanded program of the war years. Typical is Don Cameron of Los Angeles. Cameron was a screen play writer for MGM for six years before the war and Paramount since the war. His work placed him in intimate contact with the production of movies from story to final cutting and editing.

Once the Film Board of Review approves the production outline of a project it is assigned to one of the supervisors. If the work is to be done outside of NPC, he must first negotiate a contract to have a script written. The contractor's writer must be furnished with all necessary educational material for writing his script and, if necessary, travel to naval activities where he can find additional story material.

If a film is to be produced at NPC, the story contract is eliminated and a Navy writer does the job.

After the script is written, it must be approved. It is studied for educational and script specifications by the Training Films division at NPC while the Technical Adviser approves for the requesting authority. With this dual approval, the machinery moves into high gear.

Next comes the preparation of an action outline and finally the master script. This master script in no way resembles a play or screenplay. It is a compilation of all elements which go into the making of a film. Not only are the actors' lines and actions detailed but all set construction, properties, and lighting details are set down. Even camera, sound and stage crews are named.

With the master script prepared BUAER steps back into the picture to let a contract for production. This is eliminated, of course, if the film is to be made by NPC.

SUPERVISOR'S LIFE IS A FULL ONE

During all this preparation the supervisor is guiding, prodding and cajoling. If a supervisor had only one project underway at a time, life would be comparatively serene. But with each man saddled with many projects his day is crammed with activity and he has much travel to perform.

The actual shooting of a motion picture takes a small portion of the entire production. Stage space and technical crews come high. That's why planning in minute detail pays off when the cameras start grinding away.

After each day's shooting a hurry-up print is made, and the next morning the director and supervisor take a quick look at what they did the day before.

After the shooting is completed, countless hours are spent looking at roughly assembled positive prints. Run with them are sound tracks, if any, made at the time of shooting.

AMERICAN FILM PRODUCERS SHOT F8F CONTROL FILM AT NORFOLK

LIFE FOR NAVY CAMERAMAN IS SOMETIMES CRAMPED AS IN THIS PLANE

TIMMONS, CHIEF WRITER; EVANS, PRODUCTION HEAD; BRYAN, SUPERVISOR

CLASSROOM SCENE REPEATED MANY TIMES EACH DAY IN NAVY SCHOOLS

Next commentary, music and sound effects are assembled, mixed and coordinated with action. This is known as editing through interlock.

With all the photographic and sound elements on one piece of film, there is a final acceptance screening. This print is called the composite print. All that remains after acceptance is the production of prints for distribution.

TRAINING FILM DIVISION STARTED IN 1941

Although the Navy has been making motion pictures since the first World War no coordinated effort was made to have training films made by a separate section or branch of the Bureau of Aeronautics until early in 1941.

Lt. (now Capt.) R. S. Quackenbush, apprised of the need for training films by CNO, called an old friend, Louis deRochemont, originator of the March of Time. He asked if the movie man could recommend somebody to set up an organization. Thomas Orchard, associate producer of the documentary newsreel, was hastily recalled from a Florida vacation and as a Lt. (jg) became the first head of the Training Films section which was commissioned 17 May.

Orchard evaluated the entire program and set up principles to guide the making of films.

In a memorandum, Orchard stated that the "training film program of the Bureau of Aeronautics is in a state of confusion." He added criticism and suggestions.

The memo soon reached the desk of Cdr. (now RAdm.) A. K. Doyle, an impressive Irishman, who steamed into the photographic section demanding to know who in blazes Orchard was anyway. The newly commissioned Lt. (jg) USNR took a deep breath and sold his bill of goods about a single coordinated authority for training films. Cdr. Doyle gave his blessing and left.

WARTIME SPEEDED ACTIVITY

Lt. Quackenbush, Lt. A. D. Fraser, his assistant, and Orchard made an all-out effort to obtain skilled personnel to staff their outfit. With the actual entrance of the U.S. into the war, the branch became a scene of feverish activity. At the end of its first year, the unit had made 48 motion pictures and 253 slide films and distributed 16,773 prints of those films. In 1943, the unit became a BuAer branch.

Although direction of the Navy's whole training film program remained in Washington, it was found that a branch in Hollywood would be of great help because of the work being done by the big studios. As a result the Naval Photographic Services Depot, Hollywood, was set up. This depot, with a complement of writers, supervisors, cameramen and soundmen, coordinated the work of all contractors who worked on Navy motion pictures. Such film capital notables as Bob Taylor, Tyrone Power, Eddie Albert and Vaughn Paul were connected with its work.

The Navy leads all government film producing activities in the number of international film awards won.

In 1947, the Navy won a Gold Medal for the motion picture THE A-B-C- OF G; in 1948, it won the First Prize Medal, a Silver Award for the picture NAVAL PHOTOGRAPHY IN SCIENCE; and in 1949, it won a Gold Award for the picture ENDODONTIA (ROOT CANAL THERAPY), and an Honorable Mention for the film PERIODONTIA.

They were won in the 8th, 9th, and 10th International Exhibitions of Cinematographic Art, held yearly in Venice, Italy.

All of the four prize winning training films, except THE A-B-C OF G, were produced by DeFrenes and Company, of Philadelphia, under full supervision of NPC personnel.

Present activity of the Training Film Division of NPC is geared to peacetime needs. Cdr. Parrish, skipper of NPC, is anxious to emphasize that training films are made for every branch of the service.

Commander Parrish states, "Sometimes the fleet personnel think that their voices are not heard in matters relating to making the films. I want to assure them that their ideas are wanted by their cognizant bureaus."

LCDR. CRONENWETT AND FILM EDITOR R. B. SEWTER EXAMINE POSITIVE

GRAMPAW PETTIBONE

High Altitude Errors

In the statement below the pilot of an F9F-2 gives a clear account of two mistakes which led to a forced landing. I wish that every pilot involved in an accident would give us such an honest, intelligent report:

"While on a project flight in an F9F-2, at about 38,000 feet over Baltimore, I experienced a flameout which eventually led to a dead-stick, forced landing at Andrews Air Force Base, Maryland. The flameout was self induced, as explained below, and I was fully responsible for the entire incident, which resulted finally in ruining the wheels, tires and brakes of the main landing gear.

"The purpose of the flight was to climb to 40,000 feet where I was to take readings of four pressure and four temperature gages installed in the plane for checking the generator. This was the first of the project flights to go to 40,000, and was my first flight of any kind above 35,000 feet. (I took a pressure chamber checkout to 43,000′ in July 1949).

"After about 40 minutes of climbing I had reached only about 37,500 and the plane was barely climbing. Power at full throttle had dropped off to about 94.5%. (We had just recently started using JP-3 fuel and this power drop-off, while using the 'normal' fuel system, is characteristic). It appeared that the plane never was going to reach 40,000′ as things were going.

"Then and there I decided that I must shift to the 'Emergency' fuel system to get 100% power so I could continue the climb. This decision was sound, but my technique in making the shift was faulty, in that I neglected to retract the throttle before flicking the fuel system selector switch from 'Normal' to 'Emergency'. This resulted in immediate drowning of the fire and total engine failure.

At the time, the airplane was at about 38,000′, and the cockpit altimeter showed cockpit pressure about 25,000′. As soon as the switch was thrown the engine stopped quite suddenly, and immediately the cockpit depressurized to the pressure of the plane's altitude. All noise ceased as the engine and pressure system quit, and the oxygen system automatically started forcing oxygen into my face under pressure.

"Under the influence of these various things happening simultaneously I became panicky, and my first thought was that I would not be able to get oxygen, and so had only a few seconds to act. I therefore put the flaps down and started to dive, thinking that I should try to get down to an altitude where oxygen wouldn't be so vital. By the time I got to 30,000′ I had gotten over the initial feeling of panic, and had determined that my oxygen system was OK, so I started thinking about an air start.

"I had in my knee pad, on a card, the

air start procedure, so I started going through that. After the first try with no result, I tried again. (All this time I was headed for Patuxent, which I had fixed under some scattered clouds ahead in the distance). After the second air start try with no success, I was at about 25,000′, south of Annapolis, and I noticed then on my card that the air start should be below 16,000′, so I knocked off and waited.

"About this time I began to entertain my first doubts about being able to get into Patuxent with no power. Andrews AFB was in sight fairly close to starboard, so I called Patuxent tower on VHF and told them I was in trouble with no power and might have to go into Andrews. Before Patuxent tower was able to complete its answering transmission my radio quit. That indicated battery failure, which was to be expected by now, so I gave up all hope of gliding to Patuxent, and virtually all hope of an air start, and headed for Andrews.

"At 16,000′ I resumed the air start efforts, but after two unsuccessful tries gave up at about 10,000′, and started to concentrate on landing at Andrews.

I was over the field at 8,000′, headed southwest. I made one very wide turn losing altitude rapidly and decided to shoot for the SSE runway, between the tower and the hangars. (It turned out to be about 170° mag. and the duty runway was on the western half of the field, about 220° mag.) I came on my downwind leg paralleling the runway I had chosen, about three miles wide of it, descending from about 4,000′ to about 2,000′.

"I turned into my base leg at about 2,000′, having successfully locked down my wheels, and still working on the flaps. My greatest fear was that I might misjudge my speed and altitude in such a way that on my final approach I would find myself without enough of either to make it, so for that reason I deliberately stayed high and fast on my base. My second great fear was that some other traffic might be making a final (I had no radio) at the same time to the same runway, so I was doing a lot of rubbernecking on the base and final; therefore I didn't do much on the final to adjust my speed and rate of descent. I was over the end of the runway at about 170 kts and 100′.

"I pushed the plane down onto the runway, but couldn't hold her there and she bounced off. I pushed her down again and she stayed, with about half of the 6,000′ runway gone. I made a conscious effort to stay off the brakes as long as I could (later I came to the conclusion that I must have tapped them right after landing). When I started working the brakes, they seemed to have no effect. With the grass coming up ahead I pulled the emergency brake handle. This too seemed to have no effect and I rolled (it turned out that I was actually sliding and only the nose wheel was rolling) about 20 feet into the grass at the end of the runway.

"I was surrounded almost immediately by fire and crash trucks. When I got out I found that I had been spitting smoke and fire all the way down the runway, and the white concrete runway showed two black tire marks down the entire last half, caused by my brakes having been locked since right after touching down. Inspection of the plane revealed that the wheels, tires, and brakes on both main gear had been scraped so that each unit looked somewhat like a capital D.

"Further inspection showed that the generator brushes had completely crumbled (probably before my emergency commenced), and that the battery was dead. No other damage was sustained. By that night the Navy crew brought up from Patuxent had the plane ready to go and it was flown back by me the next day."

Dear Grampaw Pettibone:

I was delighted to read in the January issue that at least one squadron is practicing the exercises laid down for their benefit in USF-52. I would like to invite your attention to the training exercise on page 15-10 of this publication, since your article, "How About the Tab," sounded as if Old Grampaw had just come up with a brand new idea and particularly since you invited comment. I wrote up this exercise back in 1946 on the basis of an incident that occurred off Okinawa. Here's a brief account of the case in point:

The pilot was killed, the co-pilot knocked unconscious, and the elevator cables of a PBM were carried away by enemy fire. The plane immediately started diving but the navigator, despite being badly injured, had the presence of mind to crawl forward and roll back

on the elevator tab just before the plane reached the water. Although not even qualified as a PP1P, he managed to fly the plane back to base and make a tab landing in the rough waters of Kerama Retto.

CDR, USN

Grampaw Pettibone says:

Thanks for bringing this exercise to my attention and for the interesting story that led to its being written. You'll be glad to know that a number of other multi-engine pilots called and wrote to say that they had practiced simulated tab landings and felt that a safe landing could have been made in the PV-2 using the elevator tab in place of the yoke.

Dear Grampaw Pettibone,

I believe the following tale will be of interest:

Loaded 4 magnetrons (that's a mighty important tube to radar gadgeteers) into the nose compartment of a JRB to take to Quonset the other day. Conditions were contact after taking off on the #1 runway. I leaned over a bit so I could read that magnetic compass with the thought in mind of correcting the gyro accordingly. Was I surprised as thoughts of Corrigan, etc. flashed about like lights of a pin-ball machine in my mind? 190°—wow! A quick glance at the shore lines assured me that my heading had to be near 035° or as the gyro said, 040°, but not so, said the compass: it's 190°.

You've guessed by now the moral of this bit of modulation but anyway, here goes. I didn't check the compass on the ground—I set the gyro by bird sense, I guess, and I plumb forgot about those powerful magnets in the magnetrons so close to that compass.

Upon stopping at Chincoteague, the compass read 220°. Upon removal of magnetrons, it swung to 280° and upon reloading in after part of the JRB, no change was noted. Only had 4 passengers so they didn't ruin W. & B.

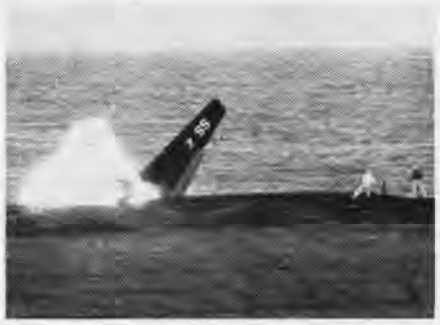
LCDR, USN

P. S. On this same trip, the question of cross feed "on" or "off" at take-off arose. Seems like someone out California way say he's seen an order about "off," but we can't find it hereabouts. What's the dope?

Grampaw Pettibone says:

Thank you for this story. We've had several reports of similar compass troubles in the JRB when magnetic material is loaded in the nose compartment, including one case where a Beechcraft was forced down some 300 miles off course as a result of this error.

The latest dope on the cross-feed is that it should be OFF at all times except in an emergency. This was covered in a revision to the pilot's handbook dated 29 July 1948, but apparently there are still a lot of uncorrected books still out in circulation.



TBM Flies into CVB Ramp

The TBM pictured above was piloted by a Lieutenant Commander with 5400 hours of flight experience. The approach appeared normal in every respect until the plane was in the "groove." About 100 feet astern of the carrier, the pilot apparently eased throttle and began to settle rapidly. He was given frantic "come-on" signals by the LSO which he did not or could not answer. The plane settled and hit the ramp on its engine in a nose high right bank. The engine broke off and the plane and engine fell to the fantail enveloped in flames.

Grampaw Pettibone says:

Since the pilot did not survive this accident, we have no way of knowing whether he was having some engine difficulty or whether he simply made the critical error of easing throttle in the groove.

This picture should serve as a warning to all pilots not to ease throttle in the groove except in response to a fast signal from the LSO.

VFR Cloud Jockey

The pilot of an F4U took off from a field in Alabama in a routine ferry flight to Dallas, Texas. He was on a VRF clearance, but encountered adverse weather about 30 minutes after take-off. Here's what the pilot had to say:

"I was informed that there were scattered showers in the area and was directed to circumnavigate the showers and areas of low ceilings.

"Immediately after take-off I climbed to approximately 1500-1800 feet and leveled off below a layer of broken clouds. After passing Selma, Alabama, the layer of broken clouds above me became 4-5 tenths broken. There was another layer of thin broken to overcast at about 7,000'.

"When I began to see showers ahead, I elected to go over them since I could still maintain contact with the ground.

"After leveling off at 6,000', I flew around to the north of one large build-up, then back on course. There were several heavy clouds ahead of me, the tops of which I was unable to see because of the stratified layer above me. With clouds on both sides, I waited for an opening to alter course again in order to go back down to 1500'.

"I flew almost up to the cloud directly in front of me without seeing space between clouds. At that point I went into a steep left turn in an attempt to fly out the way I had come in. Before completing the turn I flew into a cloud. The turbulence was light, so I came out of my turn on a heading of about 150 degrees. After holding that heading for a few minutes, the rain increased and turbulence became severe.

"The aircraft was being thrown up and down through several thousand feet. It became very difficult to maintain attitude and airspeed. I was losing airspeed with the nose down and was gaining altitude at the same time.

"The airspeed reading went down to 120 knots and then to 100 and finally down to 80 knots, which I believed to be an incorrect reading. I started to turn to the heading I had been trying to hold, when I felt the airplane stall and begin to spin. I placed the controls with the spin, after one turn tried a recovery by full positive reversal of elevator and rudder. The rotation did not stop with full opposite rudder held in, and I felt almost no pressure on the elevator.

"The altimeter was reading approximately 4,000' and unwinding very rapidly. I opened the canopy, unbuckled my straps and tried to go out the right side of the cockpit. The force straightened me upright, but I pulled myself down and made another try at it. That time I went out the right side very low but was dragged backwards and to the left leaving the cockpit almost at the top.

"When I thought I was clear I pulled the rip-cord, the chute opened quickly without fouling. The rain was very heavy and at times I think I was gaining altitude in the chute. I drifted down out of the cloud. I could not see where the aircraft had crashed, because of low visibility. Close to the ground I was able to stop the oscillation and slip away from some trees. I landed very easily in an open field.

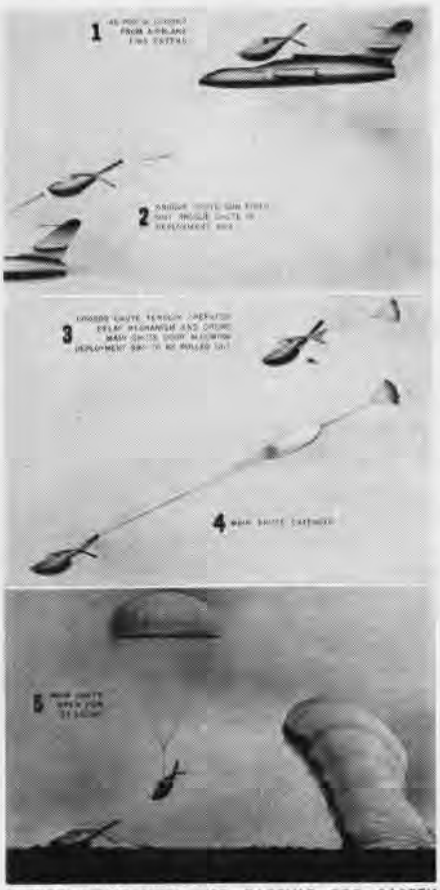
"After making my way to a farm house, I reported the accident to Flight Service by telephone."

Grampaw Pettibone says:

Regulations for the ferrying of naval aircraft specify that such flights will be under VFR conditions. This fellow should have turned around long before he got so far down that one way canyon of clouds.

When the accident board got through writing up this crash about the only kind things they had to say concerning the pilot was that "under the existing circumstances the pilot bailed out at the right time."

PILOT CAPSULE FOR NEW JETS



FUTURE PILOT WILL USE CAPSULE FOR SAFETY

TODAY'S Navy jet pilot saves his life in an emergency by use of his pilot ejection seat. The seat is fired out of the plane by a 37 mm cannon shell, and the pilot rides his personal parachute to safety.

Tomorrow's pilot probably will rely on an ejectible capsule because his plane will be going higher and faster than today's jets. Bureau of Aeronautics is working on various forms of capsules to permit pilots and crew members to escape. One such form of escape is illustrated in the accompanying photograph.

The entire cockpit is shaped into a streamlined capsule and clamped to the fuselage of the plane so it will not disturb the air flow. When an emergency arises, the pilot simply actuates a lever which will do everything from then on automatically and permit a safe escape and descent to earth.

When the lever is pulled, a propulsion device releases clamps holding the capsule to the plane and spreads fins to prevent the capsule from tumbling. The capsule is propelled up and away from the fuselage, and a small drogue parachute is deployed to stabilize the container as it slows down and the fins are less effective.

At lower speeds a large parachute is deployed and the capsule reaches the ground or sea in a rate approximating that of an ordinary parachute jump. If it lands in the water, the capsule acts as a boat and has sufficient stability to float. In the Arctic, it would protect the pilot from the elements. Survival provisions will be built into the capsule in case he comes down in an uninhabited or ocean area.

During descent, the capsule is pressurized and insulated from the cold upper atmosphere. Should the pilot make a water ditching in his plane, the pilot could pull the lever and release the capsule, which would float away from the plane.

Realism Reaches The Movies

Ream Classroom Sees Seaman Faint

NAAS REAM FIELD—Classroom instructors seldom get a chance to put into practice what they are preaching — at least not right in the classroom.

An exception came when a doctor was lecturing an audience on shock treatment. Concluding the lecture, he showed them a short film in which the victim of shock was given a shot of morphine.

The callous camera came quite close so the audience could see the skin being pinched up, then the hypo needle rammed in and slowly eased forward.

There was a thud in the midst of the audience. Investigation disclosed that a seaman had taken the realistic shot too literally and passed out. So the survivors got a first hand demonstration on the treatment of shock.

Navy Pilot Wins A Trophy

British Test Pilot School Gives Cup

One of the British Empire's most coveted aviation trophies, the McKenna trophy, was awarded in December to LCdr. Joe Smith, USN, who finished first in the class at the Empire Test Pilot's School at Farnborough, England.

It marked the first time in history that an American had taken the trophy away from the British. Presentation was made at a dinner by Adm. Mackintosh. Winner of the trophy the previous year was LCdr. Jack Elliott of the Royal Navy.

The average hours a student for pure test flying at the School has been 120, plus sound instruction from the technical staff. All pilots were brought up to the green ticket standard, the highest instrument rating category. Each made at least 15 glider flights. Another U.S. Navy pilot, LCdr. G. T. Weems, also completed the course of training.

JAX AIR CHIEF SUCCEEDS ADM. DURGIN IN D. C.

Adm. Cassady Air Head

Succeeds Adm. Durgin as DCNO

VAdm. John H. Cassady, whose Navy assignments have included several tours of duty in Washington, D. C., is the new Deputy Chief of Naval Operations (Air), succeeding VAdm. Calvin T. Durgin, who became Commander of the First Task Fleet in the Pacific.

Adm. Cassady most recently was head of Fleet Air at Jacksonville, following Adm. Durgin in that post also. He previously had been head of the Aviation Training division in the Navy department during the war and later was Assistant Deputy Chief of Naval Operations (Air). He also was with naval communications in Washington as far back as 1924.

Sure Cure For Catapulting

Marines Get Foolproof Check Idea

VMF-323, EL TORO—Pilots of this squadron have dreamed up a seemingly foolproof system of signaling from pilot to catapult officer prior to being launched.

It is believed the new system will reduce possibility of premature catapult shots. The proposed technique involves use of 25′ of 3/8″ manila line, one end of which is looped around the neck of the catapult officer in the form of a noose and the other end being held in the hand of the pilot who is about to be "shot."

After the pilot has given the #2 turnup, his signal that he is ready to go is the dropping of his end of the line. It is felt that the catapult officer would insure, without a doubt, that the plane in position would not be shot until this signal is completed.

Evolution of this technique is not to be construed as casting any reflection on the catapult methods used by the U.S.S. *Boxer*, but is just an idea to stir up wardroom arguments among the pilots.

VMF's Exchange Cruise Sites

Set New Pattern for Maneuvers

The Marine Air Reserves are slated to set a new pattern for two-weeks annual training during next summer's maneuvers on the west coast.

According to present plans, Marine Air Reserve squadrons from stations east of the Mississippi will undergo training maneuvers at MCAS EL TORO, while those based west of the Mississippi will go to MCAS CHERRY POINT.

Special air lifts will handle the moving of Reservists to Cherry Point and El Toro, while pilots will fly such planes as are assigned for the maneuvers.

Carrying out of the plans, of course, particularly in regard to the special air lifts, will be dependent upon sufficient funds being appropriated for the Naval Air Reserve in the fiscal 1951 budget.

Photo Planes Deliver Fast

Six Hours Sees Photos All Finished

VMP-254, EL TORO—Shortly before it was decommissioned, some fast service in photography was delivered by this squadron when it was engaged in *Operation Miki.*

Lt. Robert N. Welch and M/Sgt. William J. Loselebenwere launched from a carrier in F4U-5P's at 0830. Three hours later they were back with their negatives and in three more hours the prints had been developed (two sets of prints, plus the negatives), delivered, and a TBM that made the drop back to its base.

The only difficulty arose when three of the six photo cans dropped fell into the ocean. The squadron feels that definite studies should be made to improve present methods of photo drop, unaltered since World War I.

NAS CORPUS CHRISTI—The biggest single package ever received by the local port arrived recently from Pearl Harbor, a PBM operational flight trainer. The box was 35' x 19' x 14½' and weighed 35,000 pounds.

Three sisters *of the Dominican order, who also were actually sisters, visited NAS San Diego recently from Michigan and Florida to see how naval aviation worked. They visited the Carrier Rendova sick bay under guidance of Father C. M. Adams, the ship's chaplain and later toured the air station's jet area.*

VIP'S VISIT PACIFIC ISLANDS

WEARING NATIVE HATS AND CLUTCHING FANS, CONGRESSIONAL PARTY POSES AFTER LIKIEP VISIT

VR-23, KWAJALEIN—A party of Congressmen and government officials made the loop tour of Navy-administered islands of the Pacific during November via VP-23 *Mariner,* to see how U.S. government of the islands was progressing.

The tour left Kwajalein on 12 November when Lt. C. C. O'Hearn flew the party to Likiep where they went ashore to view demonstrations of native ability and receive gifts of native handicraft. In the accompanying photo, they are holding some of the souvenirs.

The tour party then visited Majuro, Kusaie, Ponape, Truk, Guam, Yap, Koror, Angaur, Saipan, Tinian and Rota island, all in the squadron PBM-5A flown by O'Hearn with CAP Aulick as co-pilot and E. A. (Pappy) Perez, AD1 (AP) as navigator. A second *Mariner* accompanied the party to carry the cargo and baggage. It was flown by Lt. (jg) Pefley and Ens. Shaver as co-pilot.

In the photograph, left to right: Rep. Edward Jenison, Illinois, a Naval Reserve who was in Aviation Training division during the war; Capt. C. C. Gill, CO of NAS KWAJALEIN and governor of the Marshalls; Rep. William Lemke, North Dakota; Rep. John E. Miles, New Mexico, chairman of the committee; Rep. Fred L. Crawford, Michigan; Rep. George P. Miller, Calif.; Rep. Jay Lefevre, New York; Delegate Joseph F. Farrington, Hawaii; Erwin Silverman, Interior Dept. Rear row, Cdr. Hastings, exec of the NAS; LCdr. Andrews, civil administrator of Kwajalein, and Capt. P. G. Hale, Op-22.

Marines End Pacific Flight

Interservice Cooperation 'Works Out'

MATS, PACIFIC—When the Berlin Airlift was over and Navy squadrons returned to their normal duties, it was a signal for VMR-352 to cease its trans-Pacific flying and resume flying for the Marine Corps.

A parade of 1275 officers and men of the Navy and Air Force was held at Hickam AFB in honor of the Marines who had just finished a year of flying for MATS to fill the gap when Navy and AF planes went to Berlin.

When they took over the job, VMR-352 stepped in at a time of critical plane and air crew shortage. Navy, Air Force and Marine crews all combined to fly the 15 Marine R5D's delivered to MATS.

While on the job, VMR-352 flew 1093 days of flight time and covered 86 million passenger miles. More than 1400 air evacuation patients were flown from Guam to Hickam and 2,150 from Hickam to Fairfield-Suisun AFB, Calif.

Marine planes were maintained both at the VMR-352 ramps at NAS BARBER'S POINT and in the VR-8 nose docks at at Hickam. Marines shared this job with VR-8 maintenance men and with 50 mechanics from the AF 1500th Air Transport Group. In addition, experienced VMR-352 maintenance men were instructors at the MATS C-54 school at Hickam, attended by Navy, Air Force and Marine men.

VP-2 Wins Local Rat Race

Bold Frontal Attack Routs Rodents

VP-2, PACIFIC—Since rats like to include wire installations in their diet, an attempted invasion of rodents in VP-2 aircraft threatened to ground the planes.

First rat guards, similar to those used by ships, were put on the tie down lines to discourage the unwanted intruders. However, this method was only partially successful, so it was supplemented by a more practical combination of aerosol sprays and rodent watches.

The combined attack repulsed the rats so completely that they have not even returned to the fray for more.

NEPTUNES FROM VP-4 FLY OVER GLACIAL VALLEY NEAR MT. McKINLEY, HIGHEST IN NORTH AMERICA

VP-4 Knows Alaskan Terrain

Long Flights Cover Arctic Wasteland

VP-4, ALASKA—Anyone want the $1 guided tour of Alaska? VP-4's pilots are qualified to give it, thanks to Alaskan familiarization flights which have covered the entire mainland and coast.

People in Adak, Attu, Fairbanks, Anchorage, Nome, Point Barrow, Juneau, Gustavus and on the lonely islands of the Bering Sea are accustomed to seeing the *Neptunes* flying over and most crews have had RON's at these places.

It is interesting to note that patrols of this unit cover an area almost as large as the whole United States. If a map on the Alaska-Aleutian area is super-imposed on one of the U.S., the southern tip of Alaska would fall on Florida, Attu in the Aleutians would hit near San Francisco and Point Barrow would be on the Canadian border.

The accompanying photo of *Neptunes* flying past Mt. McKinley, highest mountain peak in North America, was taken during a flight from Anchorage to Fairbanks. For Alaska, the day was exceptionally clear. At the controls of the lead plane was LCdr. W. H. Game, exec of VP-4, and in SC-1 Cdr. H. D. Hilton, skipper.

More than 60 percent of the squadron personnel have been above the Arctic circle and are entitled to be called *Blue Noses*. For some crews, this is the third tour in Alaska.

Ten Men—Four Years in Air

Airship Jr. Officers Float to Record

When 10 pilots all of the rank of Lt. or under boast of a total of 36,850 hours, or more than four years in the air, an eyebrow might be raised.

But that's really the case in Airship Squadron One at NAF WEEKSVILLE, N. C. Carrier pilots might sneer that their own flight time is more strenuous but nobody can fly a blimp hands off either.

The pilots are: Lt. (jg) P. M. Jackson, 8,200 hours; Lt. W. J. Gunther, 4,900 hours; Lt. C. R. Roof, 4,500 hours; Lt. J. F. Todd, 3,350 hours; Lt. M. A. Holzrichter, 3,000 hours; Lt. (jg) H. L. Lewis, 2,675 hours; Lt. (jg) G. K. Wolfes, 2,650; Lt. (jg) A. D. Gordon, 2,600 hours; Lt. G. L. Lane, 2,525 hours; Lt. E. M. Babb, 2,450 hours.

Looking *like some sort of an insect, the new* F2H-2 *Banshee is shown here with its wings folded. The "2" version differs from the "1" by having tip tanks to give it more range. The non-droppable tanks put the Banshee in the class of an escort fighter for the Navy.*

Marines Routed For Once

Ants in Pants Force Unusual Retreat

The Marines ceased fire and their line broke in confusion. They retreated, rifles leveled, but the evasive enemy presented no target. Officers shouted orders and corpsmen came on the double to treat casualties.

Then the ranks reformed, and, advancing with flame and gunpowder, the Leathernecks recaptured the position and settled down to steady sniping once more.

Operation Anthill was touched off at the Marine's Camp Matthews rifle range near Del Mar, when 1st Lt. Henry Waryek jumped from a sitting position in the firing line, shouting and waving his rifle wildly.

He had unknowingly taken his firing position atop the home of a colony of red ants. They had resentfully taken the offensive, established a beachhead on the luckless lieutenant, and were spreading out.

While Waryek was dislodging the stinging insects, range officers poured kerosene and gunpowder over the anthill and struck a match to the mixture.

The resulting cloud of black smoke forced the rest of the Marines on the line to cease firing temporarily until the air cleared and the ants gave up.

Lt. Waryek is a fighter pilot with the First Marine Aircraft Wing, based at MCAS EL TORO.

Storm Trackers Win Praise

Hurricane Warners Do Good Job

Recognition of the valuable work done by Aircraft Development Squadron 4, VP-23 and the Hurricane Weather Central Miami during the 1949 hurricane season was given recently with the following letter of commendation:

"On the termination of the hurricane season the Chief of Naval Operations desires to command all officers and men of the Hurricane Warning Service for their outstanding performance of duty in successfully locating and tracking continuously seven destructive hurricanes and five tropical storms during this hurricane season. The effective methods of tracking permitted timely and adequate advisories and warnings to be issued, with the result that only two lives were lost and public and private property damage was greatly reduced as a result of the vital services rendered.

"Performance of duty by Aircraft Development Squadron 4, VP-23 and the Hurricane Weather Central Miami was particularly outstanding and reflects the high standard of training and enthusiasm of personnel in carrying out this important mission in the highest traditions of the Navy."

The Mariner and the Sponges

MARINER ANCHORS WHILE SPONGES ARE GATHERED AT AILINGLAPLAP

THE SPONGES ARE CAREFULLY LIFTED ABOARD THE PBM VIA BUCKETS

VR-23, KWAJALEIN—Another Martin "first" has been established with the aid of a PBM-5A, the *Missionary,* attached to Air Transport Squadron 23 Detachment at Kwajalein Atoll in the Marshall Islands.

This "first" involved transferring sponges via airlift for transplanting and reseeding. According to M. W. de Laubenfels, Professor of Zoology from the University of Hawaii, such a project had never before been tried.

The professor was on loan from the university to the Pacific Science Board, which was formed by agreement between the Navy and the National Research Council. His assignment was with SIM (Scientific Investigation of Micronesia) and, in the Marshall Islands area, was concerned with advancement in production of the sponge.

Four atolls were assigned to his inspection, including Ailinglaplap, Majuro, Ebon, and Likiep. He found that:

- At Ailinglaplap, the sponge business was well along, with several thousand sponges ready for sale. The conditions for sponge growing were excellent and there was plenty of sponge stock.
- At Majuro, there was a slight amount of stock and growing conditions were favorable.
- Ebon Atoll had excellent growing conditions, but there was little stock.
- Likiep Atoll had unfavorable conditions for growing.

It was therefore decided to transplant sponge slips from Ailinglaplap to Ebon.

THE PROFESSOR AND HIS MARSHALLESE AIDES

SO IT WAS that, after two days of preparation, the *Missionary* with pilot Lt. (jg) C. C. O'Hearn, copilot Lt. L. F. Smith and navigator Ens. Ray Womedlorf of VR-23 departed Kwajalein and proceeded to Ailinglaplap to pick up the sponges.

In the after station were nine wooden barrels (pickle barrel size), half filled with sea water to keep the wood wet and swelled to prevent leaking. These barrels were to be used in transferring the sponges. It became apparent immediately that they would be a weight and balance headache, but Lt. (jg) O'Hearn worked out the problem.

After landing at Ailinglaplap, the *Missionary* was taxied to within several hundred yards of the sponge beds, where it anchored, and the professor's party disembarked.

The professor's boat, furnished by Marshallese natives at Ailinglaplap, was propelled into the sponge bed. There, the party pulled up about five wires loaded with sponges. These wires were anchored by small 8" cube blocks and were kept upright by being attached to bottles floating on the water.

While the gathering was going on, the crew emptied the barrels and filled them with local water so that the temperature variation might be controlled, and there would be no abrupt change.

When the professor and his party pulled up alongside the PBM, buckets were lowered over the side. One stringer of sponges at a time was placed in the bucket and then transferred to the barrels in the after section.

About 40 full grown sponges, making a total of some 500 slips for transplanting, were transferred.

UPON ARRIVAL at Ebon, the plane was backed to within 200 feet of the beach.

Natives swam out to the plane in pairs. As each barrel was lifted over the side into the water, they swam with it toward the shore and then pushed it down the shore line about a half mile to the sponge beds. Thus the sponges never left the water during the transfer.

"Mission accomplished," the PBM was loaded up with limes, bananas and cocoanuts, which grow profusely at Ebon, and on the return trip to Kwajalein doubled as a flying banana boat.

NATIVE CLEANS ONE OF THE TRANSFER BARRELS

Handy Andy's Of The Fleet

Cdr. Egbert, CO of VU-10, and his executive officer, LCdr. J. N. Fitzgerald, talk to drone pilot Lt. (jg) O'Donnell

Pilot Braun and hoist operator, C. W. Clampitt, demonstrate rescue technique with R. J. Arnold as the model getting a lift

A TBM WITH a red-and-yellow tail droned along in the blue Cuban skies. Behind the plane, at the end of 7,000 feet of eighth-inch steel cable was a white target sleeve. Gunners of the CV *Leyte* far below in the Caribbean sea were blazing away at the sleeve in practice firing.

Closer and closer the bursts crept to the laboring *Turkey*. Finally one of the shells burst so near that shrapnel pierced the tow plane. Enough was enough. Lt. B. R. Drum, the pilot, picked up his microphone and radioed the ship:

"I wish to remind you, I am *pulling* this target, not *pushing* it!"

That's the kind of thing that happens to utility squadron pilots as they carry out their jobs—the hundred-and-one tasks tossed their way from ships, submarines, air station and "visiting firemen." VU-10 down at sunny Guantanamo, Cuba, the only operational squadron in the Caribbean, gets them all. Its operations are typical of the three other *Handy Andy* squadrons—VU-4 at Chincoteague, VU-3 at El Toro and VU-7 at Miramar. Target-towing and gunnery drones seem to make the best sea stories, however.

Yaskinsky battles slipstream to adjust the engine on a KDR drone at the VU-10 hangar

There is the time Lt. R. Sullivan and Lt. K. L. Jones were flying a pilotless drone for a certain flattop. The ship was having considerable difficulties in finding the range on the drone and requested the plane commander to fly the craft closer to the carrier.

Still the firing missed its target. After repeatedly sending the drone closer and closer, Lt. Sullivan finally came out with the radio message that is the gem of all utility squadron squelches: "Hold your fire and clear the flight deck! I will now land the drone aboard your ship so you can beat it to death with swabs!"

The utility squadron boys have to be jacks-of-all-trades because of the many jobs that get shoved at them. They fly the little red TDD drones and the larger TD2C Culvers, the men who handle them being known as "model airplane enthusiasts." To help fleet gunnery sharpen its radar and visual sighting practice, they hop off in F7F, F8F or JD-1 control planes and by radio send the bigger F6F target drones flying past the ships. They tow target sleeves and banners for the gunners to pepper.

Aerial photography comes under VU 10's list of jobs, pictures of bomb and shell hits on Vieques and other "target" islands near Guantanamo. Their helicopter pilots do search and rescue work for the fleet. Just the other day they went out to hunt two Venezuelan pilots, blood brothers, who had collided in mid-air over the interior of Cuba while flying F-47's south. When the helicopter pilot, Lt. (jg) J. F. Braun, arrived the Cuban police already had thrown the two pilots into separate jails. The original word was they were USAF fighters.

Another job assigned VU-10 is radar and radar countermeasure exercises with the fleet, not to mention just plain utility flying of VIP's hither and yon. During the Christmas season, Cdr. Gordon R. Egbert and his 40 officers and 283 men were enjoying a brief lull before the *Portrex* winter fleet exercises started, at which time 16-hour-a-day work descended on them.

SO IT CAN be seen that with so many different jobs to do, a utility squadron needs a heterogenous collection of pilots, mechs and planes. VU-10 has F6F's, F7F's, F8F's, TBM's, PBY-5A's, SNB's, JD-1's and TD2C's. The job of LCdr. W. J. Slone maintenance officer, and his successor, LCdr. C. E. Van Bibber, well can be imagined.

VU-10 has its share of men who saw the war from close hand. The skipper started the war with VP-81, patrolling between Key West and Panama for submarines. He was the squadron's exec at Bougainville in *Black Cats* later. That was the time the squadron confounded the Japs by laying vari-colored float lights on the water to spoil their torpedo track lights and save two U.S. destroyers at Kula Gulf.

Elliott, Moser, Phillips hoist *Bat* glider under PBY wing for gunnery use by the fleet

Cdr. Egbert had VPB-111 at Palawan when its *Privateers* patrolled the China sea from the Celebes, Borneo, Singapore to Formosa. His executive officer at VU-10, LCdr. J. N. Fitzgerald, is a good man for a *Handy-Andy* squadron with his varied career which included two and a half years on the DD *Patterson* in the Solomons, service in VF-98, 100 and 93 late in the war, and electronics instructor at Ottumwa and Pensacola. Besides this, he holds a union card as a linotype operator from high school days and is a dyed-in-the-wool radio ham.

ANOTHER man-with-a-record with Utron 10 is LCdr. William G. Esders, its personnel officer. A chief AP with VT-3 at the battle of Midway, he was one of two pilots who got back alive from his squadron. Flying a TBD, Esders got a hit on the Jap carrier *Soryu*. He flew TBF's with VOC-2 at Okinawa. Capt. Oscar Pederson, skipper of NAS GUANTANAMO now, was his air group commander on the *Yorktown* at Midway.

LCdr. Van Bibber was with Patwing 10 in the Philippines at the war's start and at one time flew 31 Dutch civilians and crewmen in his PBY to Java to escape the Jap advance. Robert E. Klunder, AL1, won two DFC's and three Air Medals in dive bombers.

VU-10 has one detachment, stationed at NAS BOCA CHICA under Lt. (jg) Phillip C. Dahlby. The squadron has been at Guantanamo since April, 1945, since that area has large maneuvers each winter and McCalla field is a crossroads for air traffic up and down the Caribbean island chain. McCalla field, incidentally, was named after Capt. Bowman H. McCalla, captain of the cruiser *Marblehead* which helped capture Guantanamo from the Spaniards back in 1898. The airfield was built in 1937, although seaplanes used Hicacal beach and Fisherman's beach early in the '20's.

This past summer saw the addition of two HO3S-1 helicopters to the squadron. The addition of these "egg-beaters" proved to be one of the most important additions to the utility team in recent years. They provide a security patrol for NOB Gtmo, they spot gunfire for ships, do search and rescue, plane guard duty for carriers operating around Guantanamo, and emergency transport for personnel.

An excellent example of the use of the helicopter for emergencies is portrayed in the case of Mrs. C. J. Oliver, wife of a chief AP in VU-10. A pinwheel was sent to carry her from Santiago to Guantanamo naval hospital after she became seriously ill.

One of the search and rescue missions was the picking up of a pilot from the Cuban salt flats. At another time a line was passed to the recreation sail boat which was aground on a reef, thus enabling other vessels to pull the disabled craft into deep water.

UTRON 10's work is not always routine. One of the situations which brought several grey hairs to many heads arose when a target drone was launched to give gunnery practice to the CV *Philippine Sea*. The flattop promptly shot away the drone's antenna on the second pass, divorcing the guidance of the mother plane.

After several unsuccessful attempts to retain control of the runaway drone, the chase plane was ordered to shoot it down. The chaser was unable to follow the fantastic gyrations of the runaway. When finally in firing position, he discovered that he now was over land and because of safety precautions was unable to fire.

After 45 minutes of hair-raising dives and rolls around mountains and over towns, the drone crashed into the mountains 100 miles north of the *Philippine Sea*.

W. T. Sneddon, ADC, prepares his plane for a tow hop; reels hold steel cable of target

On still another occasion, a pilot flew a routine radio-controlled glider hop with interesting results. The first firing run was a port run. On release of the *Bat*, it turned inboard and struck the starboard engine nacelle of the JD-1, penetrating the skin and striking the wheel. Fortunately, there was no damage to the wheel, although the glider wing came close to the brake hydraulic line. The JD still retained control of the *Bat*, however, and it made a successful run. VU-10 uses the *Bats* as straight glider targets, the radar scanner in the nose being removed so it will not "home" on the ship firing at it.

Besides helping the fleet on every hand, VU-10 also performs services for Reserve squadrons which pay a call to Guantanamo Bay. They may fly down from Miami, Norfolk or Atlanta for a week-end navigation hop, or they may come in aboard a carrier for their two-weeks active duty. VU-10 flies drones and its "rag draggers" tow targets to help the "week-end warriors" sharpen up their fighting technique.

Right now, Lt. D. E. James, the

Christmas scene? Short sleeves the style as LCdr. Esders buys a Christmas tree from ship service for two bucks

Lt. Raines, LCdr. Van Bibber and LCdr. Esders look at a certain magazine in the cartoon-decked wardroom of VU-10

Photo School To Get Fort

Barrancas Unit to House Lensmen

NATTU PENSACOLA—After being housed in a barn-like building for many years, the Navy's photography school expects to move into its new home at Fort Barrancas by April 1950.

Upon completion of modification work on the building formerly held by the Army, the photo school will have a modern and up-to-date set-up. It will provide messing and administrative facilities under the same roof for the aviation photographer's mate school, photobrapher's mate school and the motion picture camera school.

During the war the Army had Fort Barrancas, site of an ancient Spanish fort, but it recently was turned over to the Navy.

Midair Crash Chews Tail

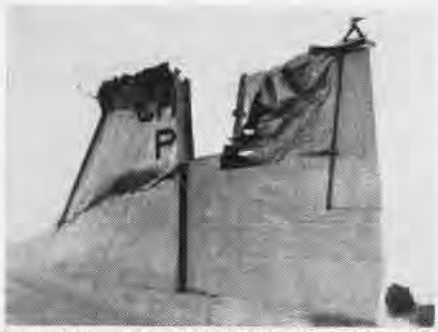
R4D Flies Despite Fighter's 'Bite'

MCAS CHERRY POINT—How much tail can an R4D lose and still fly? One answer to that question can be found in the accompanying photo.

An F4U-4 from VMF-112 and the R4D collided in midair at 8,000 feet near this station. The F4U was on a GCI hop and was acting as "bogey," while the transport was on a photo hop and had a *Banshee* jet flying wing on it.

After the impact, the R4D pilot said his plane was not difficult to fly, although airspeed fell from 155 knots to 115 and there was vibration in the rudder pedals. Besides the chewed-up vertical stabilizer and rudder, the R4D sustained minor damage when pieces cut by the fighter prop pierced the elevators.

A 180-degree slow turn was made with the transport and the landing made without incident except that a little more



WITH THIS MUCH TAIL GONE, R4D STILL FLEW

brake than usual on the left wheel was used to slow down. The photographer, M/Sgt. Harvey Scheetz, still flies without flight pay and likes it. He was lying on the floor of the R4D with rope and chute on, taking color pictures of the *Banshee,* flown by Capt. H. L. Daniels of VMF-112.

Helicopter Saves Boatswain

Fuel Hose Knocks Man Off Midway

Few men who have watched a carrier refuel would care to be dunked in the ocean between it and the other ship, but Robert L. Beasley, BM2, had such an experience and was saved three minutes later by the rescue helicopter.

Beasley was swept into the mid-Atlantic during fueling operations on the CVB *Midway* when a parted hose knocked him overboard. The helicopter, piloted by Lt. J. S. Cole with Chief Aviation Machinist's mate F. Chimarusti as crewman, swooped to the spot and hoisted the man out of the water.

NAAS CORRY FIELD—Helicopters are put to many jobs foreign to naval aviation, one of the more recent being to find a hunter lost in the swamps around Pascagoula river.

The party of four hunters left Keesler AFB but got separated in the woods. After he had spent the night in the woods, one of them was located at a trapper's cabin and followed helicopter two miles to a clearing where the plane could land. The other men found their own way out or were found by rescue parties.

NACA Picks BuAer Leaders

Selects Workers for Its Subcommittee

Thirty-two employes and officers of Bureau of Aeronautics have been appointed members of technical subcommittees of the National Advisory Committee for Aeronautics.

The committee itself has as its Navy members, RAdm. T. C. Lonnquest, Assistant Chief of BUAER, and VAdm. John Dale Price, VCNO.

New appointments to subcommittees were: Ralph L. Greel, subcommittee on aircraft structures; Charles J. Daniels, seaplanes; Cdr. Donald J. Hardy, aircraft loads; Capt. Robert S. Hatcher, aerodynamics; Cdr. C. E. Houston, helicopters; Cdr. James F. Parker, aircraft structures; John P. Wamser, aircraft loads.

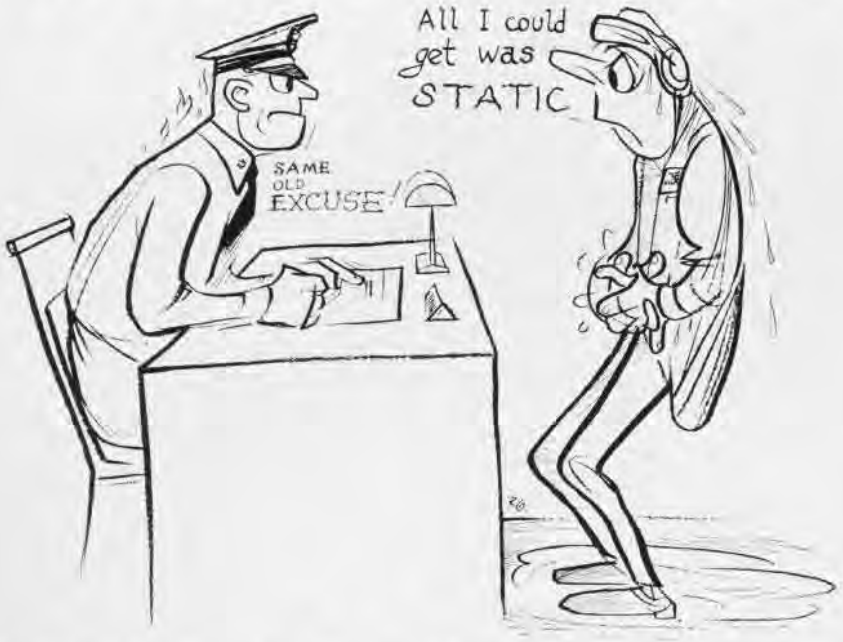
Reappointments were: Parker M. Bartlett, internal flow and icing; LCdr. A. H. Clancy, heat-resisting materials; Capt. E. M. Condra, power plants; Cdr. R. E. Doll, aircraft construction; Capt. Walter S. Diehl, stability and control, aerodynamics, fluid mechanics, vibration and flutter and upper atmosphere; Gerald L. Desmond, propellers; Ivan H. Driggs, propellers, propulsion systems analysis; Robert W. Pinnes, compressors; Cdr. G. A. Hatton, operating problems; Cdr. R. J. Hoyle, aircraft fuel; Gerald G. Kayten, stability and control.

W. P. LaFaye, combustion; F. W. S. Locke, seaplanes; William H. Miller, high speed aerodynamics; LCdr. Leo W. Mullane, lubrication; N. E. Promisel, heat-resisting materials; Oscar Seidman, high-speed aerodynamics; Cdr. S. S. Sherby, high-speed aerodynamics; Charles W. Shubart, aircraft fire prevention; Cdr. Frank K. Slason, turbines; H. C. Sontag, icing problems; James E. Sullivan, aircraft structural materials; Raymond A. Young, aircraft loads, Ralph Zirkind, upper atmosphere.

From OpNav, Capt. H. M. Orville was reappointed to the subcommittees on meteorological problems and upper atmosphere.

A familiar *landmark for generations of Naval Aviators was the old seaplane control tower at Pensacola. What became of it? Some digging by the NANews staff revealed that the 238.5 ft. structure had seen its best days. As a result NAS recommended its survey in October of 1946. In March of 1947, at the ripe old age of 29 years, the tower was torn down. After and before views are shown above. In the days when primary flight training was done in seaplanes, students rode the elevator for duty in the greenhouse.*

HOW IS YOUR WIRELESS?



One of the fastest ways to lose friends and wreck fitness reports is to enter a busy control zone on an IFR plan with a defective radio. The airspace is quite likely to be crowded with commercial transports, and you can imagine the reaction of the other pilots when they hear the controller trying in vain to give directions to a plane that is flying in the same "soup."

Most pilots know enough to high-tail it out of a congested area when this occurs, but they usually learn to their distress and amazement that they would have been far better off if they had never entered it in the first place. Usually they assure one and all that the radio was clear as a bell at the last check point, but that excuse has been worn mighty thin.

In just about half of the bail-outs, ditchings, and emergency landings that occur as a result of being lost, the pilots report some type of radio difficulty as a contributing cause. Quite often they have been aware of this trouble for some time and yet continued their flights, and in some instances knowingly took off with a receiver or direction finder out of commission.

The cases below indicate that it is far better to make sure that all the available radio equipment is working properly prior to take-off, and that it pays to land and wait for repairs rather than to push on with defective gear.

Case #1.

Pilot departed Barin Field, Florida for cross country flight to Knoxville, Tenn. in an F6F. He reported over Birmingham radio at 1616 and over Chattanooga radio range at 1648. Shortly after leaving Chattanooga the pilot attempted to tune his receiver to intercept the west beam of the Knoxville range. Upon manipulating the knob, the pilot noticed an immediate loss of radio reception.

Attempts to locate a loose connection or pulled jack were not successful. The pilot has flown this route many times before and despite the prevailing haze considered himself sufficiently familiar with the area to proceed using dead reckoning navigation and land marks along the route. He failed to sight Knoxville at the expiration of his estimated time enroute, and decided to reverse course and try to get back to Chattanooga.

He flew reciprocal headings and corresponding times on the way back. By this time it was dark and he was unable to orient himself by reference to landmarks. When he failed to locate Chattanooga after a square search, he bailed out at an altitude of 3500 feet. The pilot was uninjured, but the F6F was a total loss.

Case #2.

Instrument flight instructor took off from Barber's Point with two students in an SNB-2. The weather at Oahu was broken overcast, 4000-7000 feet, with strong northeasterly winds. After 2 hours and 55 minutes of flight the plane was at 6000 feet about 10 miles southeast of the island of Kauai with the shoreline in sight.

The instructor directed the student under the hood to take up a heading of 090 in order to land at Barber's Point at approximately 1200. Climbs, glides, and level speed changes were practiced enroute. When Oahu was not sighted, the instructor attempted to orientate himself by use of the automatic direction finder, but found this inoperative. The range station signals were indistinct but usable.

Upon crossing a leg of the radio range, the pilot judged his position to be on the southwest leg of the Honolulu range, reasoning that the strong northeasterly winds had blown him off course. Actually he was crossing the north leg of the range, so he turned in a direction which took him away from the island of Oahu.

When the beam faded he reversed his course and instituted emergency voice procedures. His fuel was exhausted at 1252 and the SNB was ditched 50 miles north of Oahu. All personnel were rescued.

Case #3.

Student pilot engaged in his first hour of FCLP in a TBM was observed to be flying the entire pattern at an unsafe airspeed. The LSO attempted to call the pilot during his first approach to warn him that he was flying too close to stalling speed.

After a wave off, visual signals were given the pilot that he was too slow and to use more power. The pilot proceeded on the up-wind leg of the pattern at which time he was again warned by radio that he was too slow. He spun in on the turn from the up-wind leg and was killed when the TBM hit the ground at an 80 degree angle.

The student who had flown the plane during the previous hour reported that the radio receiver was out and that he had passed this word to the other midshipman while they were exchanging places in the cockpit.

NOTE HIGH TAIL, LONG FISH-LIKE BODY; FOUR TURBOPROP ENGINES POWER CONSOLIDATED XP5Y-1 SEAPLANE

SILHOUETTE XP5Y-1 SHOWS SLIM LINES

WORLD'S FLYING BOATS

THIS COMPILATION, the second half of a presentation on flying boats, includes a selection of current and future heavy types of four engines or more. It is in the field of heavy flying boats that some of the more spectacular results have been achieved. To the flying boat must go the credit of establishing and maintaining the world's overseas airways.

Beginning with the construction of the *America* in 1914 and the Curtiss NC's in 1919, flying boats have, until just recently, been larger than their landplane contemporaries. With their postwar ascendancy, accelerated by wartime requirements, the size of landplanes has steadily increased to the point of exceeding the world's largest operational flying boat (Martin *Mars* JRM).

Yet the possibilities of flying boats seem by no means exhausted. Still heavier types are contemplated with diminishing shortcomings, as compared with the limitations suffered by landplanes, such as strength of landing gear, surfaces of airports and so forth.

At this point some mention should be made of the Hughes *Hercules*, largest flying boat in the world, which appeared in 1945. This 400,000 pound all-wood behemoth (three times that of the *Mars*) powered by eight *Wasp-Major* engines made its only flight on 2 November 1947. The aircraft was designed to carry a payload equivalent of a 60-ton tank with full complement of armor and men, or 750 soldiers fully equipped.

It appears that an aircraft of this size is a considerable jump from our present operational flying boats and, presuming effectiveness, a little ahead of the world's available handling facilities.

ENGLISH SHORT SOLENT AIRCRAFT GREW OUT OF WARTIME SUNDERLAND

JRM MARS—The *Mars* was designed by Glenn L. Martin and originally built as an experimental patrol bomber with the designation XPB2M-1. It was subsequently modified as a cargo transport with reinforced floors, larger hatches and loading equipment and re-designated XPB2M-1R. In December, 1943, the plane made its first service flight as a naval transport, flying from Patuxent River to Natal, Brazil, a distance of 3,790 nautical miles non-stop with a take-off weight of 148,000 pounds.

The JRM-1 is the production development of the XPB2M-1R. In terms of recognition, the principal external changes in the JRM-1 include the substitution of a single fin and rudder for the former twin-ruddered tail and the lengthening of both the bow and the rear step by about four feet. The first JRM-1 was delivered to the Navy in 1945 and the fourth in 1946. A fifth aircraft, the JRM-2 with an improved power plant, completed the Navy's order.

The JRM-2 has a high wing spanning 200 feet, an all-metal hull and four Wright R-4360 engines rated at 3,000 hp each. Cruising speed is 133 knots at 10,000 feet. Normally designed to carry 138 fully-equipped men or 100 litters plus 10 attendants, the *Caroline Mars* during March of 1949 carried a record-breaking passenger load of 263 plus six crew members between San Diego and Alameda, Cal.

XP5Y-1—The Navy's first turboprop patrol plane designed and built by Consolidated Vultee Aircraft Corporation now is being readied for installation of its power plants. Ground runs with a test turboprop unit mounted alternately in all four engine nacelles have been completed with satisfactory results.

The XP5Y-1 was in final assembly position during April of 1949, but to date actual flight tests have been delayed because of difficulties which arose during the development of its power plant, the Allison T-40-4. This turboprop power plant is a dual unit comprising two Allison T-38's connected by extension shafts to a common gear box through which two contra-rotating three-bladed propellers are driven.

The combined power of the dual T-40-4 is expected to be around 5,500 hp. Both power units drive both propellers and both propellers operate when either of the two power units is declutched. Powered by four of these T-40-4's the XP5Y-1 which is expected to have a top speed of 345 knots, is due to begin taxi tests in San Diego bay early this spring.

TEN TURBOPROP ENGINES DRIVE THIS ENGLISH PRINCESS SEAPLANE

FRENCH S.E. 1210 IS A SMALL SCALE MODEL OF PLANNED S.E. 1200

The rakish designed XP5Y-1 features a high length-beam ratio hull which reduces flight drag while improving water landing characteristics. Radar equipment is carried in the plastic nose section while the bulge at the tip of the vertical fin houses the antenna. Located on either side of the bow are the radar-operated remote turret installations. This huge 130,000-pound flying boat has a wing span of 146 feet and is 130 feet long. A transport version is planned.

SR-45 PRINCESS—For years Great Britain has flown flying boats over her Empire routes. Current indications are that the British will continue to support future flying boat designs for these operations. A common argument is that above a certain weight category, of about 150,000 pounds, the flying boat's shortcomings, as compared with the landplane, diminish. On the whole, it is held, still heavier flying boats are superior to landplanes as a commercial proposition for long distance operations.

In line with this reasoning the British firm Saunders-Roe Ltd. (Saro) began construction in May 1946 of three 315,000 pound, gross weight, long-range civil flying boats. These aircraft are designated SR-45, *Princess* class, and when completed they will almost certainly be a serious challenge to anything of equal size and power in the landplane class.

The *Princess* is powered by 10 Bristol *Proteus* turboprop engines, rated at 3,750 hp each, in six nacelles. The outboard engines are single units while the two in-board nacelles on each wing contain coupled units driving counter-rotating propellers. Designed cruising speed is estimated to be 330 knots at 40,000 feet over a range of 4,785 nautical miles.

The pressurized hull is of figure-eight cross section with accommodations for 85 to 105 passengers on two decks. Measuring 148 feet in length, the hull is said to be the largest metal structure ever built for an aircraft.

Recent reports indicate that Saunders-Roe is also considering design studies for a six-engined jet propelled long-range flying boat. Incorporated in these designs is equipment to take full advantage of flight refuelling.

SHORT SOLENT 2—The *Solent* is the civil version of the *Seaford* flying boat, which in turn, was a development of the well-known wartime *Sunderland*. From a recognition point of view, the *Solent* closely resembles the *Sunderland* and *Seaford*, having the longer hull and dorsal fin of the latter.

The *Solent* has an all-metal hull with two decks which are divided into watertight compartments. A maximum of 80 passengers can be accommodated, but the British Overseas Airways Corporation requirements are for 34 day passengers. Four Bristol *Hercules* 637 engines are fitted with a rating of 1,690 hp each. The *Solent* 2 has an estimated cruising speed of 175 knots at 10,000 feet and a gross weight of 78,600 pounds. The wing is 112.8 feet in span with fixed floats attached outboard of the engine nacelles.

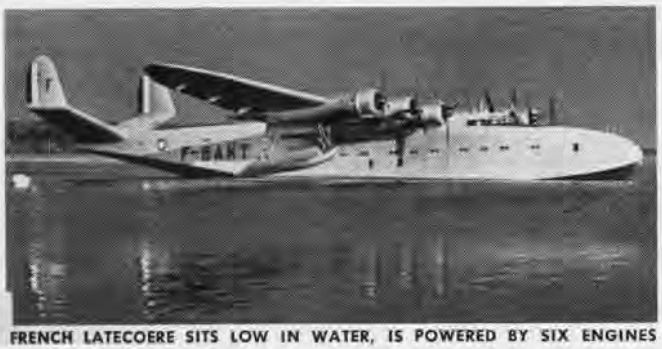
LATECOERE 631. The basic design of the Lat. 631 all metal flying boat dates from 1938 when the first prototype was ordered by the French Air Ministry. This large 165,000-pound aircraft, gross weight, was intended for trans-Atlantic service with accommodations for 40 passengers.

Construction was interrupted in 1939 but it was resumed a year later during the German occupation and the prototype flew for the first time in November 1941. Production actually got underway after the war with the first delivery to Air France. The Lat. 631 for over a year made regular flights on the Antilles line, between France and the West Indies, but following the loss of one of these aircraft on 1 August 1948, Air France ceased operations on this line.

A private company, the Societe D'Exploitation du Materiel Aeronautique Francais, SEMAF, was founded at the beginning of 1949 to operate these flying boats as freight carriers. As a cargo version, it will carry 44,000 pounds for a distance of 1,550 nautical miles at a 165-knot crusing speed. Six Wright *Cyclone* R-2600 engines rated at 1,900 hp. each are installed in a very thick wing section. This necessitates propellers of a larger diameter than are usually fitted to these engines. The Lat. 631 has a 188.5 foot span and wing floats which retract into the outboard engine nacelles.

SUD-EST S.E.1210—The French S.E.1210 is a flying scale model approximately one-third the size of the projected 280,000-pound S.E.1200 flying boat. Designed to accommodate 125 passengers, the S.E.1200 will be fitted with eight *Arsenal* 24 H type engines each developing 2,400 hp. Provision is also made in the design for the alternative installation of eight British Armstrong Siddeley *Python* turboprop engines each developing 4,500 hp. The projected S.E.1200 will have a wing span of 200 feet and an estimated cruising speed, with turboprops, of 290 knots.

The scale model S.E.1210 made its initial flight on 9 June 1948 and it is now being used to obtain aerodynamic data for the larger flying boat. Featuring a long slender hull of wooden construction the S.E.1210 is powered by four 300 hp. Renault in-line air-cooled engines. The wing span of the smaller is 68.5 feet and it cruises at 160 K.



FRENCH LATECOERE SITS LOW IN WATER, IS POWERED BY SIX ENGINES

FAMILIAR HIGH TAIL AND THICK BODY FEATURE THE MARTIN PLANES

YULE PARTIES FETE MANY KIDS

MEXICAN ORPHANS SWAP CHILI FOR TURKEY AS SAN DIEGO ENLISTED MEN ACT AT THEIR HOSTS

CHRISTMAS parties are held at every naval air station and ship, but several of those held the past Yuletide were unusual enough to be newsworthy.

Out on Guam, VMF-218 found out the children in the village of Merizo were in for a lean Christmas because of the destructive typhoon which had just swept the island. Voluntary contributions from officers and men of the squadron, led by LCol. H. Brent, Jr., and Lt. R. King, Jr., remedied the situation successfully.

Down at Saufley Field, Fla., enlisted men contributed $1,200 to finance a party for 94 underprivileged children from Pensacola. They managed the whole affair, collecting the money, picking the proper gifts and taking care of the kids while they were guests of the station.

Seventy orphan children from Tijuana, Mexico, ranging from 3 to 12 years in age, were guests of the enlisted men at NAS SAN DIEGO. Turkey, toys and movies helped make the day a big event in their lives.

Two enlisted sailors of Mexican descent acted as interpreters, assisting A. W. Cole, Red Cross representative for the station, who was coordinator for the party. A station bus picked up the children in Tijuana and brought them to North Island where they saw Santa arrive by helicopter with his bag of toys.

Also at San Diego, the seaplane tender *Pine Island* had a Christmas party where Santa arrived by parachute. Only the parachute was attached to the ship's boat deck crane, which remained unobserved by seated youngsters.

It was the first at-home Christmas for the *Pine Island* since it was commissioned in 1945. It spent that first year in war-torn Tokyo harbor. Its 1946 Christmas was a somber and cold one at the edge of the Antarctic ice pack. The holiday season of 1947 and 1948 were spent at Tsingtao, China.

Reserve PIO's Get The Word

Attend Flight Cruise at Pensacola

Reserve PIO's, 96 in number, whose names would make a *Who's Who* in the newspaper, advertising and public relations fields, attended a two weeks seminar at NAS PENSACOLA in January.

Objective of the gathering was to acquaint conferees with latest plans and policies of the Navy and in turn receive their recommendations.

Adm. Forrest P. Sherman, CNO, emphasized that public relations is a two-way street; that Navy men need to know what is in the mind of the public.

Among the civilian speakers were Philip G. Reed, general manager, International News Service; Milton Fairman, director of public relations, the Borden Co.; and Martin Somers, foreign editor for the Saturday Evening Post.

Navy speakers were VAdm. J. W. Reeves, RAdm. E. W. Litch, RAdm. A. K. Doyle, and Capt. H. E. Sears, acting chief of public relations.

Many of those who took the two weeks active duty gave up summer vacations to attend on a voluntary basis.

Ass't SecNav for Air John F. Floberg stated that cooperation in word and deed is the spirit of the defense team: "The Navy will be judged by what it is and what it does in conformity with the basic framework of the National Security Act."

BuAer Exhibit Tours South

New Features Tell Aviation's Story

The Navy's eight-truck recruiting and public relations exhibit is touring the deep south these days, showing residents there some things about the surface Navy and naval aviation.

Three of the vans contain aviation exhibits, including a stripped-down FH-1 *Phantom* jet with plexiglas sides revealing its inner workings. During a six-months tour of the middle west, the exhibit covered 5,000 miles.

The tour of the south started January 9 and winds up 26 April in Washington, D. C. New exhibits installed for the southern trip included a new armament exhibit with a cutaway of a 20

RADM. PRIDE, VERVILLE INSPECT FH-1 EXHIBIT

mm. wing gun installation which will operate with dummy ammunition.

Three recordings describing the workings of the *Phantom* were installed in this exhibit to give viewers the story on the plane. Cdr. M. W. Mason, LCdr. Wm. Bryson and Alfred Verville coordinated the exhibit.

During March the exhibit will visit Beaumont, Austin, Waco, Palestine and Tyler, Texas; Shreveport, La.; Vicksburg and Greenville, Miss.; and Florence, Ala. In April it will visit Huntsville, Ala.; Chattanooga and Knoxville, Tenn.; Asheville, Charlotte and Greensboro, N. C.

● NAS ATLANTA—Luke Greene, city editor of the *Atlanta Constitution* accompanied CVLG-57 on its cruise aboard the *Cabot*. His coverage of the cruise and his analysis of the various activities was outstanding and gave naval aviation a big boost.

At the end of day's flying, *Sea Fury* of 805 Squadron is lowered by lift to hangar deck. On extreme right is *Firefly* fighter plane

Pilots gather in ready room after day's exercise while batsman shows them deck landing films and criticizes operating technique

Australians Get a CV

EARLIER this year the Royal Australian Navy received its first aircraft carrier, the HMAS *Sydney*, and this fall her air group completed its first deck landings.

The Air Carrier Group made 500 landings with its *Sea Furies* and *Fireflies* without mishap. Because the Australian Navy does not have an oversupply of experienced carrier pilots, the Royal Navy loaned it a number of pilots. In 805 squadron there were 12 pilots, four on two-year loan from the British. They fly Hawker *Sea Fury* aircraft, touted as the world's fastest piston plane. One flew from London to Rome in two hours, which is fair country flying—887 miles.

The second squadron aboard was 816, consisting of 12 Fairey *Firefly* two-man strike aircraft equipped for dive-bombing, rocket firing, depth charge attacks and minelaying. Of the squadron's 12 pilots, one is a New Zealander, two are Australians and the rest from the Royal Navy on loan.

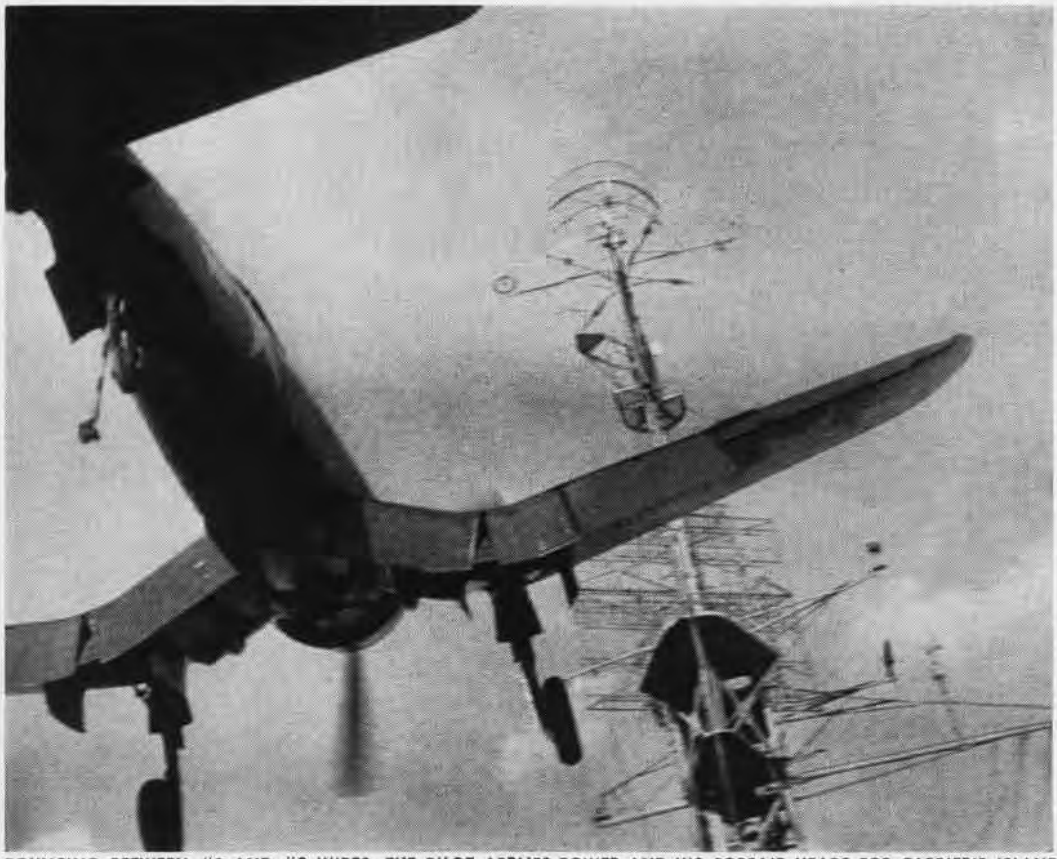
HMAS *Sydney* is a 19,000-ton carrier, built in Britain during the war as HMS *Terrible*. Her length is 695 feet, beam 80 feet and speed 25 knots. Her peacetime complement is 1100 men.

Flagship of the Australian Navy, she was turned over by the British in December 1948. She is the third RAN ship to bear the name *Sydney*. The first was a light cruiser which sank the German raider *Emden* in the Indian ocean in the first world war. In the second world war, the second HMAS *Sydney* sank the crack Italian cruiser *Bartolomeo Colleoni* in the Mediterranean. She was lost later in an engagement with the German raider *Kormoran* in the Indian ocean.

A couple of bewhiskered British pilots loaned to Australian Navy to help train their men

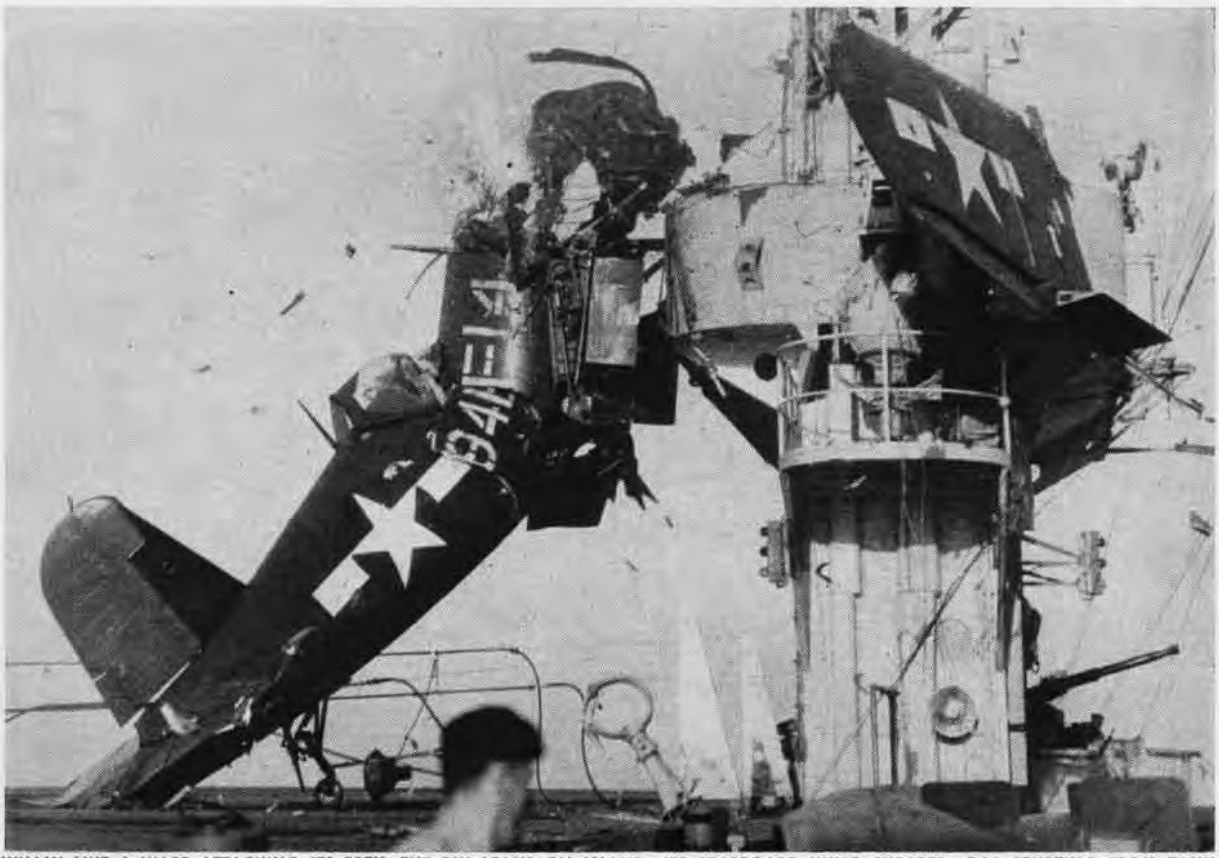
Sea Fury about to touch down on the deck after picking up arrester wire. British claim this plane is world's fastest prop job

HMAS Sydney turns into the wind so her planes can land and take-off; carrier is first one in Australia's Navy, weighs 19,000 tons



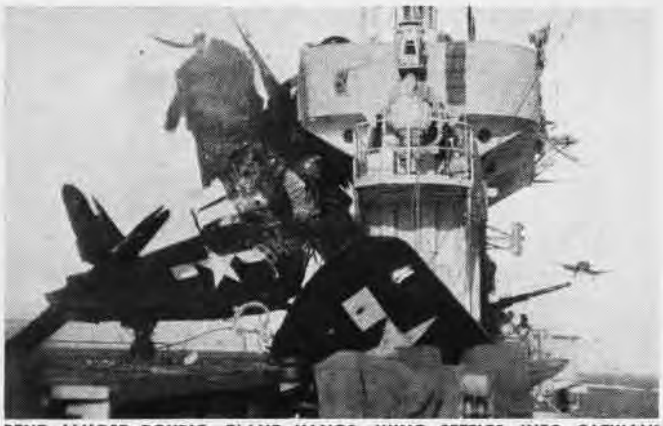
BOUNCING BETWEEN #1 AND #2 WIRES, THE PILOT APPLIES POWER AND HIS CORSAIR HEADS FOR CARRIER'S ISLAND

HOW LUCKY CAN YOU BE?

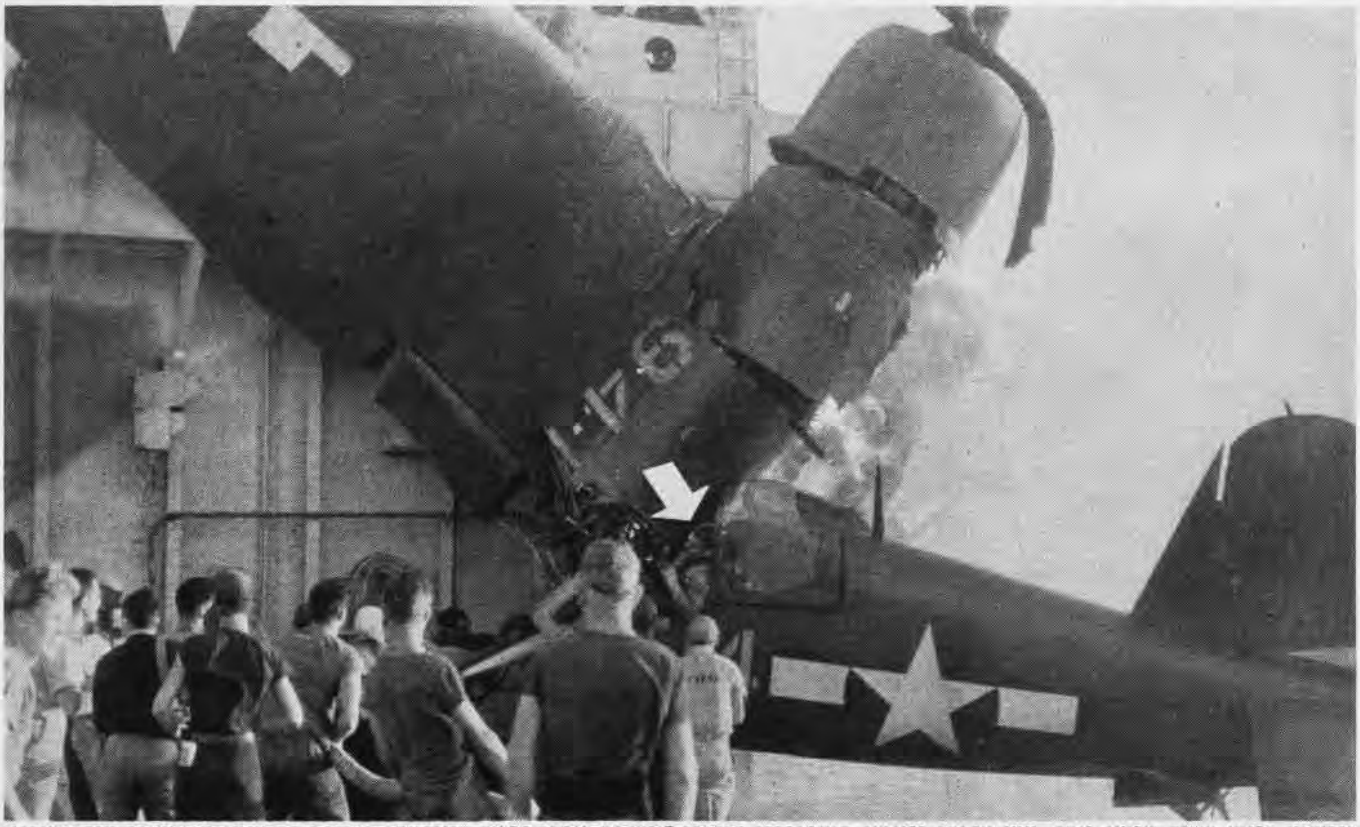


WHAM! LIKE A WASP ATTACKING ITS PREY, THE F4U LEANS ON ISLAND, ITS STARBOARD WING SHEARED, GAS SPURTING FROM TANK

DEBRIS FLYING, PLANE WHEEL HOOKS ONTO BRIDGE: GAS FLAMES UP



BENT ALMOST DOUBLE, PLANE HANGS: WING SETTLES INTO CATWALK



FLIGHT DECK CREWMEN RUSH TO RESCUE PINIONED PILOT FROM COCKPIT BEFORE SPREADING FLAMES REACH HIM: FIVE SHIP'S CREW WERE INJURED

THE WAR'S *most spectacular carrier crash pictures show an F4U from VBF-94, piloted by Lt. (jg) John H. Laney, ramming the island of the CVE Prince William. Laney landed in slight right turn, bounced between #1 and #2 wires, then applied power, trying to clear the flight deck. He crashed into the island with his right wing, throwing the fuselage against it and pinning himself inside. He sustained third degree burns and five crewmen were injured, including the talker on the bridge, who tripped. The accident, during carrier landing qualifications, was attributed 100% to pilot error. Once pilots get the cut from the LSO, they should obey this order and land aboard.*

FIRE FIGHTERS FLOOD FLAMING PLANE WITH SPRAY TO SAVE LANEY; PLANE SAGS TO THE DECK

MARINE HAS 5 CRASH LANDINGS

MCAS CHERRY POINT—Five crash landings in as many years, through no fault of his own. That is the rather odd flying record of Marine M/Sgt. L. L. Truex. And he still is around to tell about them!

His first one happened at MCAS EL TORO back in September 1944. Flying an early F4U and fresh out of flight school, Truex hit the runway for a normal landing only to have the left landing gear collapse. The plane cartwheeled off the runway. When the dust finally settled, the fuselage was broken aft of the cockpit and the plane was a complete washout. Truex walked away from that one unscathed.

His second crash also was a freak accident. Flying a predawn bombing strike against the Japanese from Yontan airstrip on Okinawa, Truex again sheared off the left landing gear of a *Corsair*. He hit an illegally-parked vehicle while taking off in the dark, but managed to keep the plane airborne and returned to the field for a crash landing. Again the plane slid off the runway, and again Truex walked away unhurt. This second plane also was a complete wreck.

Accident #3 a few weeks later was the first of his three water landings. It occurred while he was on a strike mission to bomb Kyushu, Japan. At 1,200 feet, with two belly tanks on his fighter-bomber, the engine stopped. He jettisoned the gasoline-filled external belly tanks, landed in the water and waited 26 hours in seas too heavy for the rescue plane to pick him up. Finally a Navy PBY *Catalina* swooped in to rescue him. Ever since then Truex has loved PBY *Catalinas*.

For the next three years Sgt. Truex flew routine missions at El Toro and Cherry Point. He figured the jinx had abandoned him when suddenly within a period of weeks double havoc struck. Through no fault of his own, he was forced to make two more water landings in the stormy Atlantic.

The first occurred while taking off the *Franklin D. Roosevelt*. Because of loss of power, Truex went down into the drink again. He was promptly picked up by a rescue helicopter in a matter of minutes.

Truex's latest water landing was the roughest by far. It occurred during a flight from the CV *Leyte*, en route to the Mediterranean. When the engine of his *Corsair* cut completely out, Truex turned into the wind and set down in a calm sea. Perhaps it was the fact that he forgot to jettison his belly tanks, perhaps it was the uncommon jinx again, but the plane plunged into the water at a rather steep glide angle that almost cost Truex his life. He sustained a broken leg and back injuries. It was only the quick action of the rescue helicopter pilot from the ship that saved him from drowning.

Truex says he expects to be flying again in a few months. "But no more water landings," he asserts, "In my case, practice does not make perfect."

GCA Coaches 7-Mile Taxi

Corpus Mariner Saved in Fog

NAS CORPUS CHRISTI—Something new has been tried with GCA.

A PBM returned from a training flight to Coco Solo. Fog closed in so fast it could not make it to the seaplane landing area of the station and had to sit down in the bay about seven miles from the beaching area.

Darkness fell shortly, adding to the complications of rough water and pea soup fog. Help was requested from the GCA unit to guide it in to the ramp. With the use of hydraulic jacks, the GCA trailer was tilted enough to pick up the surface objects on the radar scope and guide the *Mariner* to land.

Gas Saver Idea Worth $$$

Each Pilot's Fuel Usage Is Charted

VF-113—Other squadrons may be interested in borrowing an idea developed by VF-113 to encourage pilots to save on gasoline.

When the Baker allotment began to lean out, the squadron developed a fuel consumption chart. It depicts hourly fuel usage by each pilot, aircraft flown and type flight. Each pilot is charged for the amount of gas used to refill his plane after a flight averaged against the time flown and the results are entered on the chart according to the type flight.

Not only has the chart proved profitable in dollars and cents, but it has installed a highly competitive spirit within, as well as between tactical divisions, with the squadron becoming extremely economy conscious.

Following establishment of the system, a drop in fuel consumption averaging eight to 10 gallons an hour for each pilot was noticed. This drop was due to more detailed planning of flights and careful comparison of time and fuel consumption between tactical divisions. The comparison allowed the divisions to arrive at the most desirable power settings to complete their flights.

NAVY AIDS IN ALEUTIAN STUDY

NAS SEATTLE—The Bering Strait, rather than the Aleutian Islands, probably was the stepping stone by which Asiatic civilization moved into Alaska, in the opinion of T. P. Bank, Jr., University of Michigan botanical anthropologist who returned recently on a VR-5 plane from a Navy-sponsored expedition to the Arctic.

"It seems likely that the Asian migration came across the Bering Strait, drifted down the coast, and part of it moved eastward along the Aleutians," he said on his return.

BANKS TALK TO CDRS. CREIGHTON AND GERDON

On a project financed by the Office of Naval Research, Bank and his wife, who also is an anthropologist, collected Aleutian plants which had been neglected by American science, gathered data on Aleutian people through excavation of ancient village sites, and did research on plants and animals—especially such resources as were used for foods, medicines and poisons. This information will be turned over to naval and military authorities.

Indicating the early men moved from the Alaska mainland out along the Aleutians, Bank said, is the fact that ancient village sites now being unearthed are buried much deeper on the eastern end of the chain than on the western islands. This would indicate they were covered by succeeding villages before the western groups were.

By flying over the entire chain, Bank and his wife, accompanied by a Navy research team, discovered at least 15 ancient village sites, detecting them from the air by the markedly different vegetation and colors on the old sites.

Bank became interested in the Aleutians while serving with the Navy there during World War II days.

AIR ELECTRONICS TRAINING

TAKE THE "Why" out of electronics "mystery." Replace it with a big "A" for accomplishment. The result is "Mastery."

That is the formula for operation of the Aviation Electronics Officers School at the Naval Air Technical Training Center, Memphis. It is the basis of a new system of training recently launched.

A brand new curriculum for the Aviation Electronics Officers course requiring only 30 weeks for completion was introduced with the new year. It was formerly 52 weeks, longest of any school in NATTC.

The new course is intended to prepare naval aviators for duty as electronics officers in aircraft squadrons and FASRons. Introduction in mathematics and electronics theory has been reduced to a minimum. Emphasis has been placed

INST. PURDY SHOWS LEMOTE TRIODE TUBE

on practical work by the trainee in maintaining airborne equipment.

It isn't an engineer's course. What is needed is a graduate who can organize and supervise the electronics personnel of his squadron. No background of mathematics, physics or electronics theory is required for entrance to the course. The first class of the supercharged school setup will graduate in August of this year. Classes will convene every four weeks and 100 officers will be under training at all times. Preference will be given to Lt.'s and Lt. (jg)'s.

The Aviation Electronics Officers School offers a streamlined and strictly modern course. It is organized to assure the students knowledge of the practical applications of airborne electronics equipment.

Students learn the problems of maintenance personnel by getting down to the brass tacks, copper wire, and radio and radar gear with which their future charges will work and live. For instance, the first 18 weeks are spent in shops and laboratories where the student officers build from scratch two radio receivers and two transmitters.

MRS. MARIE BLAD KNOWS COFFEE HELPS HUBBY LT. (JG) BLAD STUDY: RALPH, JR. ASSISTS

HILL, ULMER AND FOOTE WORK ON ART-13 SET

This technical education is the basis for later study of the fundamentals of electronics. Theory—taught with a minimum of mathematics—is thus readily assimilated. Any impression of mystery is soon dispelled.

As science is tied to practical work, the student comes to realize that symbols on a piece of paper don't stand alone. They represent the regular equipment of a plane with which every pilot must be familiar.

Training on the maintenance line teaches the student to trouble-shoot, adjust, repair and maintain airborne electronics gears as well as power components. Flight proficiency is not permitted to lag. Four hours of flying each week, integrated with classroom work, keep the pilots's hand in the business.

This course was designed for the everyday aviator. The old curriculum turned out officers trained on a semi-engineering level. Now they are qualified as squadron electronics officers without an advanced engineering course.

MCLAIN AND FERRIN DEMONSTRATE MICROWAVES

COMPUTER HELPS MAKE PLANES

A GIANT computer, which engineers suspect can do about anything except eat and sleep, imitates an airplane in flight at the Chance Vought Aircraft plant at Dallas. It does its tricks even before the airplane is built.

The computer, lent by the Navy's research section for use by CVAC, is operated by electronics. When engineers describe the process, it seems simple. They admit, however, that it takes years for an operator to learn how to interpret the answers the machine comes up with.

Once the mathematical components of the airplane have been plugged into the computer, the machine records the rate of climb of the airplane to any height. On paper, the airplane-to-be can be made to turn at any angle, dive or fly full speed ahead.

The machine, a series of cabinets filled with relays, amplifiers and other instruments, is being used in experiments by Vought's engineers. They say that as soon as they have adapted the machine to operations it will bring about a great economy.

For example, a new model airplane is not as maneuverable as desired. The engineers may decide the problem can be solved by changing the size and shape of the rudder.

Previously, engineers could have designed a proposed rudder and production workers would have incorporated it into an experimental airplane. If it did not produce exactly the expected results when tested, another rudder would have to be built. That would mean a further delay.

The computer adds to an electronic "airplane" a mythical rudder of any size or shape without expending shop labor or material. Phases of a flight test can be simulated in a short time on the computer and, if the rudder does not produce results, other variations can be used until the correct answer is found.

Engineers emphasized that the machine will not eliminate the necessity of flight tests but point out that it will reduce the actual flying time, supplement the information and check it for accuracy.

Shell Uncovered At Mobile

Pensacola Crew Disposes Missile

Bomb disposal became a highly technical science in World War II, but shades of WW I came to light recently when ordnancemen at NAS PENSACOLA were recipients of an emergency call from Mobile, Ala.

Seems that a cleaning party at Fort Morgan, an old Spanish fort, uncovered a shell in the sand.

Investigation by the emergency crew revealed the missile to be a 1600-pounder of WW I vintage. Lt. O. J. Lawther and his squad rendered the shell harmless and took it home to be destroyed.

One of *many squadrons decommissioned in the recent naval aviation cuts was VF-18. Home port of this outfit was NAS Jacksonville, and it had seen duty on board the USS Midway and USS Philippine Sea. Front, L to R: Lt. (jg) R. B. Williams, Jr., Lt. (jg) F. C. Brtek, LCdr. W. C. Smith, LCdr. S. T. Corneliussen (C.O.), Lt. R. H. Veach, Lt. (jg) G. H. Lee, Ens. D. B. Mawba; Back, L to R: Lt. (jg) J. R. Wiggins, Lt. (jg) W. H. Robinson, Lt. (jg) D. Howard, Ens. R. E. Hunter, Jr., Lt. (jg) J. J. Sigafoos, Ens. E. L. Miles, Ens. R. J. Frainier, Lt. (jg) R. J. Smith. The squadron was attached to CAG-8.*

Miss Jet Pilot *of 1950, elected to that honor by Leathernecks at MCAS El Toro, is lovely Paula Doretti of Anaheim, Cal. They voted her the girl they would like most as co-pilot in a single-seater jet. She's aboard a TO-1.*

Panama Planes Sink a PBM

Surveyed Plane Used As Target

VP-44, PANAMA—Chances for Navy pilots to bomb and strafe actual aircraft these days are few and far between, so this squadron got some unusual practice when a surveyed O&R PBM was made available.

The *Mariner* was towed to the gunnery area near Cristobal. Two PBM-5's from VP-44 joined the bombing circle with two other planes. Each had six 350-pound depth bombs with Km 230 hydrostatic fuze set to go off at 25′. Each pilot made one run, dropping two bombs spaced 70′ apart.

Several pilots obtained "straddles" without apparent effect on the target, which seemed to rise upon the crest of the explosion swell and ride the violent waves without damage.

Major damage finally was inflicted when a PBM from VP-40 inadvertently dropped four bombs in one run. The resulting blast tore off a wing tip float and the plane settled slowly and sank.

Fighter Pilots To Rescue

Three Persons Adrift 5 Days Saved

VF-111, PACIFIC—Two pilots from this squadron played an important part in the rescue of two men and a woman who had been adrift in their cabin cruiser for five days.

Lt. P. I. Culbertson and Midn. R. E. Killingsworth, who were on a routine flight off La Jolla, noticed a small boat in distress. As they approached the boat for a low pass, they noticed frantic waving of a red shirt and blanket.

North Island tower was notified and soon a Coast Guard boat was on its way to the rescue. The trio had had nothing to eat for several days but were otherwise in good condition after the event.

BTU-2 Plane Repair Speeded

Planes Taxi To Repair Hangar

A parking line a mile long presents problems. At NAAS CORRY FIELD, Pensacola, 425 daily flights by 126 SNJ's of BTU-2 keep the maintenance personnel hopping.

In many instances a downed aircraft would have something very minor wrong with it. Different colored flags were tied to antennas by plane captains as signals to the various trouble shooting crews. Time was lost in travel.

Now that all has been solved by a new system. No longer do the trouble shooters go out to the plane on the line. If a pilot wishes to down a plane, he taxis to a reserve place on the parking line in front of the engineering hangar.

There the pilot discusses the trouble with the specialist concerned and heads for the yellow sheet. Often repairs are completed before he signs it.

Chief Talks Way to Medal

Shovel, Cross Adorn VF-151's 'Hero'

VF-151—Recipient of a new kind of medal recently was Chief A. B. Bevier of this squadron, who had won renown for his telling of tall stories.

LCdr. J. L. Naftzger, the exec, pinned the medal on him. Something dreamed up by the metal shop, the award consisted of a small shovel from which was hung on two chains a large cross. The inscription on the cross read, "For Esteemed Effort in Scuttlebutt."

The accompanying citation to Bevier stated that he had been a cabin boy on Admiral Dewey's flagship at the Battle of Manila Bay. "This office has singled you out for this award because of your vast knowledge of naval affairs, and your adaptability to enter into conversation on any subject and not be at a loss for words." It was signed by "Tall Stories, Chief of the Office of Rumors and Scuttlebutt."

PROWESS WITH LIP WINS BEVIER FANCY CROSS

VF-43 EAGLE-EYED GUNNERS ON DECK OF MIDWAY IN MEDITERRANEAN AFTER THEIR RECORD SHOOT

VF-43 Gunners Claim Mark

20 Percent Hits Made in Fleet Shoot

VF-43, ATLANTIC — This squadron established what it believes to be a new fleet gunnery record for fighter aircraft when it ran up a hit percentage of 20.2 during the recent Atlantic Fleet competitive exercises.

The squadron, commanded by LCdr. C. B. Connally, blasted out a total of 567 hits out of 2800 rounds fired in their F4U-4's on 12 December at NAS JACKSONVILLE.

Of the 14 pilots required to fire in the exercise, 12 qualified for the Navy "E" that day. The award, given for aerial gunnery, requires the pilot to get better than 15% hits. One other pilot previously had qualified, giving the squadron 13 "E" pilots.

All gunnery runs made that day were at 15,000′ and the tow plane speed was 180 knots true. Six of the sharpshooters were ensigns recently reported from the training command.

Pilots in the accompanying picture were: left to right, front: Lt. (jg) E. C. Olson, Ens. R. E. Dobelstein, Ens. C. P. Moore, Ens. L. D. Nicholls, Lt. (jg) J. F. Hill. Back row, Ens. J. E. May, Ens. J. H. Wachtel, Lt. P. O. Harwell, Lt. H. G. Cleland, Jr., LCdr. Connally, Lt. H. R. Cheuvront, Ens. C. C. Carter, Ens. J. H. Pickering.

Lt. Cheuvront figured in another gunnery mark (NANEWS June 1947) when he made an 87% average in one exercise with VF-1-A, putting 174 out of 200 rounds in the banner.

Navy Rescues Dunked Cop

Survival Lessons Benefit Ex-Marine

Survival lessons learned during the war and prompt action of a Navy rescue crew combined to save the life of David Stanton, a Los Angeles policeman.

Stanton, a former Marine, ditched his private plane five miles off Seal Beach. He took off his trousers, knotted them at the cuffs and inflated them.

Meanwhile, an alarm was sounded at the net depot where the duty chief, BMC Russell, and an enginer, MMC Hansen were standing by the duty AVR boat. Five minutes later, with her alert crew aboard, the boat was underway. A half hour later the lone swimmer was located by five F4U's from NAS LOS ALAMITOS.

On return to the station Stanton was given first aid treatment in the sick bay and by the time his wife arrived was in shape to go home.

Shipyards Convert Carriers

Flattops Handling Bigger Plane Load

Naval shipyards which will convert the five *Essex-class* carriers to handle heavier planes or for antisubmarine warfare have been announced.

The *Kearsarge* will be converted this spring at the Puget Sound Naval Shipyard at Bremerton, Wash. The *Leyte* will be converted for heavier-type planes at Portsmouth, Va. Work already is underway at the *Essex, Wasp* and *Oriskany*. The light carrier *Cabot* will go to the Philadelphia shipyard for conversion to ASW duty.

The *Oriskany* and *Wasp* are being converted at Brooklyn Naval Shipyard and the *Essex* at Bremerton Shipyard.

Sky the Limit on NAR Cruise

RAdm. McQuiston discusses first cruise for Reserve aerologists with Capt. Wickes, Cdr. Lieurance and St. Louis CO Brandley

Tour of McDonnell Aircraft plant was a cruise feature—here weathermen Hosey, Truitt, Bodwell, and Slaven examine a *Banshee*

EIGHTY-SEVEN Naval Air Reserve weathermen went to NAS ST. LOUIS last January for the first national two-weeks training cruise for Reserve aerologists and got the works.

Just as they were arriving from all over the country via Reserve airlift, the weather whipped up its own brand of key-to-the-city, red-carpet welcome. This was in the form of a local tornado, which struck some ten miles from the station and was followed by rain, sleet and snow with temperatures nosediving from 67° to 10°.

Then Cdr. Newton A. Lieurance, officer-in-charge of the cruise, took over. The action-packed program he produced for the Reserve weathermen made them wonder if the tornado were still raging.

The first three days were crammed with symposiums and lectures on everything from upper-strata research to atmospheric pollution. All this was part of the 30th anniversary convention of the American Meteorological Society, which was being held in St. Louis proper. Not only were the Reservists on cruise invited to the AMS meetings but some 50 other Naval Air Reserve aerologists living in the vicinity were also able to attend.

This participation was made possible through arrangements made by Captain Howard T. Orville, head of the Naval Aerological Service and outgoing president of the American Meteorological Society.

Feature of this phase of the cruise was a demonstration of the *Skyhook*, a plastic balloon for upper atmosphere soundings, which was released at the naval air station. On this occasion, it reached a height of 102,000 feet.

Then the Reservists got the latest word on the military aspects of aerology. This part of the training was given at the NAS by both civilian and naval experts. Developments in atomic warfare and their effect on meteorology, hurricane and typhoon aircraft reconnaissance, guided missiles and the weather, development of meteorological instruments and Fleet application of weather, were only a few of the subjects covered.

Rear Admiral I. M. McQuiston, coordinator for Naval Air Reserve for DCNO(Air), flew down from Washington to give the weathermen a vital picture of the whole Air Reserve program and its many activities.

Of the 87 aerologists on the cruise, 77 were Volunteers and 7 were members of the Organized Reserve. Their civilian occupations are heavily weighted on the scientific and professional sides.

Twenty of the group are meteorologists at Weather Bureau offices throughout the country. Representatives from the weather bureau at Washington, D.C. were: Cdr. Lieurance; LCdr. R. F. Decker; LCdr. R. H. Mar-

Naval Reservists Lieurance, Canfield, Cunningham and McGregor (seated) check facsimile map which shows weather all over nation

Reserve aerologists Truitt, Reed, Walters, and Hosey study Wiresonde, a new gadget to measure temperature and humidity

Cruisers Cunningham, Rice, Stein, White, King, Hosey (front); and Hammond, Gleiter, Stout, McGee, Hoblet, Auman, Breuklander

Hernaon, Dewhurst, Cox, Aull, Walthers, Illingworth, Cramer; Schafer, Frank, Pearson, Lockhart, Smedley, Stone, Hord, D'Ooge

tin; LCdr. E. M. Russell; LCdr. P. P. Starke; Lt. W. B. Foster; Lt. T. P. Gleiter; Lt. J. J. Keyser; Lt. A. J. Steele; Lt. (jg) G. E. Auman; Lt. (jg) David Smedley; and Ens. R. R. Dickson (who gave a talk on 5-day forecasting).

Cdr. J. C. Ballard, who conducted the laboratory sessions of the group, is officer-in-charge of the weather bureau, airport station, Atlanta. Western weather bureau "cruisers" were LCdr. R. F. Greene of Seattle and Lt. J. N. Hosey of Cheyenne. Eastern W. B. representatives included: Captain C. J. McGregor and Lt. A. E. Tancreto (WS-83 NAS FLOYD BENNETT) of New York; LCdr. R. L. Frost of Wilmington; Lt. N. L. Canfield of Boston; and Lt. D. F. Taylor (WS-82, NAS NEW ORLEANS) of New Orleans.

Other practicing meteorologists on the cruise included: Lt. O. P. Cramer of the Forest Fire Protection Service, U. S. Forest Service, Portland; Lt. R. A. Harmen, a member of VAU 12-8, Eureka; Lt. L. W. Jolliff, chief civilian instructor of meteorology at Chanute Air Force Base and a member of Naval Reserve Research Unit 9-2; Ens. A. D. Pearson, meteorologist with Pan American Airways, via whose planes he was flown from Honolulu for the cruise; and Lt. (jg) J. L. Sanders of the Quartermaster Board, Camp Lee. Two other varieties of aerologists were represented by Lt. (jg) G. E. Stout, hydrometeorologist with the Illinois State Water Survey and a member of NRRU 9-2, and Lt. S. D. Thayer, micrometeorologist with the Army Chemical Corps and a member of VOSU 5-4.

The only Volunteer Aviation Unit especially set up for Reserve aerologists, VAU W-5 (Aerology), Washington, D. C., had 12 members on hand at St. Louis. In addition to Cdr. Lieurance, CO of the unit, and the aforementioned D. C. weather experts who also belong to the group, LCdr. M. E. Cox and Lt. (jg) C. O. Alexis were present.

The Wing Staffs at NAS DALLAS, NAS LOS ALAMITOS and NARTU MEMPHIS were represented by Lt. W. J. Grace III, an engineer, Lt. R. P. Stemler, a research chemist, and Lt. H. K. Walters, Jr., a chemist at TVA.

Lt. B. J. Walthers of AVUA-2 Milwaukee, Lt. (jg) D. K. Smith of VAU 12-5 and Lt. (jg) R. A. Schafer of VAU 13-3 were other unit members who were on the cruise.

Typical of the seven Wave aerologists aboard were Lt. R. J. Smith, an associated volunteer at NARTU ANACOSTIA, and Lt. (jg) M. W. Rice who is with NACA at Langley Air Force Base.

The training cruise was under the general direction of Captain Orville. Designed particularly to bring Reserve aerologists up-to-date on new developments, the course was the culmination of more than a year's preparation. Lt. George L. Hammond, also of the Navy Department, worked out most of the details.

Local arrangements were effectively handled by LCdr. Bart J. Slattery, PIO, and Lt. (jg) Howard K. Hickman, aerology officer, of NAS ST. LOUIS.

Comments on the course have been so favorable, that a similar course, to be given by Fleet aerologists is now being planned for aerology students at the Navy post-graduate school at Monterey California.

Captain Orville looks into the theodolite to see Skyhook balloon flight at the NAS

Reserve Cruises with Fleet Units in 1949

CV Unit Carrier Cruises

Number of cruises	18
Total naval aviators participating	646
Total G/S officers participating	266
Total enlisted personnel participating	2301
Total naval aviators qualified or refreshed in carrier operations	578
Total number of carrier landings	6166
Average number of carrier landings per pilot	10.7
Total number of syllabus hours flown	19,977.7
Average number of syllabus hours flown per pilot	31.0

VP Squadron Cruises

Number of cruises	9
Total naval aviators participating	206
Total G/S officers participating	72
Total enlisted personnel participating	551
Total number syllabus hours flown	8,997.8
Average number syllabus hours flown per pilot	45.3
Bases used	NAS QUONSET, NAS JACKSONVILLE, NAS NORFOLK, and NAS GUANTANAMO

VR Squadron Cruises with F. L. S. W.

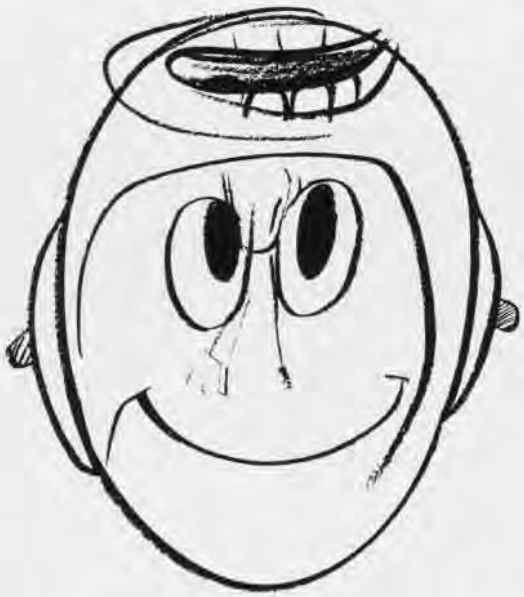
Number of cruises	7
Total naval aviators participating	81
Total G/S officers participating	32
Total enlisted personnel participating	218
Total number syllabus hours flown	4,872.6
Average number syllabus hours flown per pilot	60.2
Bases used	NAS MOFFETT and NAS PATUXENT

FASRon Cruises

Number of cruises	9
Total naval aviators participating	42
Total G/S officers participating	70
Total enlisted personnel participating	602
Total number flight hours flown	1,276.8
Average number flight hours flown per pilot	30.4
Ships and bases used	USS *Cabot*, USS *Saipan*, NAS QUONSET, NAS NORFOLK and NAS GUANTANAMO

● NAS MINNEAPOLIS—VP-811 and VP-812 made their second annual midwinter training flight to San Juan and return, chalking up approximately 2,500 miles of patrol over water on the five-day training maneuver.

VERTIGO SENSE



VERTIGO SENSE

(This is a condensation of the new aviation training booklet just off the press—*Vertigo Sense.* Your publications officer can get complete copies by ordering NavAer 00-80Q-33.)

VERTIGO seems to be easy on the many and rough on the few, just like mumps. Little boys with mumps may not have to miss a day in the sandpile, but some big ones never quite get over it. One school of pilots laugh off vertigo as a comic ailment that happens to people who are naturally scared stiff in airplanes, while another group maintains it's like getting hit over the head with a horse.

The word itself is as hard to define as the beginning and end of a wrestler's neck. One reason you hear so much nonsense about vertigo in airplanes is that certain pilots use it to explain everything from falling hair to athlete's foot.

To people who stay on the ground, the word means "dizziness or swimming of the head."

The only real connection between ground and aerial vertigo is the confusion involved in both. A poor old lady with spells is bothered, naturally enough; and the pilot with vertigo in an airplane may not know which end is up. . . . Dilbert feeding the wrong gas tank or turning on the de-icer boots 100 feet over Death Valley would fit the definition. The word means a particular kind of confusion in the air.

A fighter pilot was flying a thousand feet above a 6,000-foot overcast of

broken clouds about 30 miles from home base. Spotting a hole, he dove through on contact at a steep angle, working his speed up to about 200 knots. He came out of the overcast at about 900 feet in a left bank. For some reason, he thought he was in a right bank and when he tried to correct he made the left bank worse. His instruments told him he was wrong and he was able to level off in time.

The difference between the feeling and the fact spelled vertigo. *The pilot felt as if he were in one attitude; actually he was in another. Vertigo is that kind of aerial confusion.*

Another pilot, flying wing on a dark night, followed his leader through sev-

eral very smooth turns without even knowing it. When the leader straightened out, the wingman was sure the leader was in a bank. Actually his own plane was flying along tilted. Vertigo again.

A third fellow, on instrument instruction under the hood, first made some turns and then was directed to fly straight and level. But he kept on making turns. He though he'd straightened out. They were in a diving spiral before the instructor could take over. There's also the case of a fellow riding through the clouds with the automatic pilot set at straight and level and having the sensation of dropping. And the pilot who followed the star one dark night and felt that all the stars were swinging around.

The frame of Wanda Laflem, sensation from Joplin, Mo., is a superb product and so is yours. So even is Dilbert's—bunion, brain and all. But that body was constructed for use on the ground, not for acrobatics in the air.

The gadgets of the body that inform a fellow which way is up, that he's registering "Tilt" or swiveling one way or the other, are nicely developed for life on the ground, not balloons. The most important of these, of course, is the eye. He knows he's leaning mostly because he gets a visual OK from a building he believes is straight, from a tree, or from the horizon.

Muscle sense and the mechanisms of the inner ear are giving him useful information. In the dark he can't check it with his eye, but he doesn't fall flat on his face. So these body gadgets help

each other out, cover up for each other, *on the ground.*

Reasonably safe flying in the early days was pretty much dependent on how well a pilot could see the horizon. Something about his other balance-attitude mechanisms went haywire when he couldn't get the visual OK. Suddenly all this changed. Airplanes began flying through the overcast, in storms, and at night. Many of them did it safely. Pilots made instrument approaches. As the birds put it, they needed a Private Eye.

The Private Eye is by Sperry, not Dashiell Hammett. Not until the gyro was perfected could pilots fly on an even keel through the overcast or other conditions of near-zero visibility. The gyro-horizon and the other instruments equal

the pilot's Private Eye. *And pilots who don't trust them in airplanes may be tagged for keeps by vertigo.*

The pilot who wound up his dive in a left bank when he thought he was tilted to the right was a victim of sense confusion. Not until he checked with the Private Eye did he know the real attitude of his plane. The instruments in modern airplanes are designed to make up for the deficiencies of the human body. No pilot can get along without them because his own equipment is just not good enough. If it were, people would never get vertigo.

Dilbert is about as much a natural flyer as a mouse. Since he can't see and could get no visual OK, Dilbert was trying to rely on the two other factors which control the seat of his pants: muscle sense and the balance attitude mechanisms within the inner ear. They misled him just as they will mislead any human being in the air.

The thing called muscle sense, which is merely the effect of gravity and inertia on the human muscles, doesn't rate much attention. In any kind of rough air there are so many conflicting tugs on the muscles that nobody would put any trust in their messages.

It's the hairy little faker inside Dilberts' head (and yours) that interests the doctors. They say two things about him:

1. He should never be allowed to control any pilot's actions in an aircraft.
2. He'll try.

In the medical books he's called the "otolith." Oto is full of little hairs, each with a tiny crystal on top as a kind of calcium crown. When Dilbert or anybody else is upright on the ground, the force of "G", due to gravity, holds each hair upright too; and Oto communicates this interesting fact to the brain, which probably pretends not to hear.

But Oto reveals a repulsive character

in the air. He was the one who told Dilbert the plane was straight and level when the Private Eye said "Tilt". Two factors, the centrifugal force of the turn and "G", combined to hold Oto's hairs upright with relation to Dilbert's head. Oto said nothing right about the real attitude of the aircraft.

The Otolith is one fat reason why nobody is a natural in the air. His specialty is aerial confusion.

Another set of jokers within the inner ear, the semi-circular canals, are full of aviation fakery. Highly respected gadgets on the ground, they can go looping aloft. Like the otolith, these canals are lined with little hairs responsive to changes in the direction of the liquid floating around them. Cued by movements of the head, the liquid diverts the hairs which send turning messages to the brain.

When the semi-circular canals are given the air treatment—up-and-down, turn-around, bank-level off, dive-recover—their liquid can be agitated like a gin fizz. In that state the hairs will tell the brain anything, even the old one about the two seagulls and the Yale-Harvard boat race.

So the pilot ending a maneuver, more or less abruptly, rolling out of a turn, will have the feeling of still being in the turn, mostly because his semi-circular canals are transmitting conflicting information to his brain.

So the physical causes of vertigo help

to explain aerial confusion. Let's admit the thing is tougher than we think. Modern flying licks us.

Let's face it, the human body is a weak sister in the air. Alone and unassisted, it's just not good enough for modern flying. But the human mind is. That's one reason why the 5,000-hour pilot is less subject to aerial confusion than the fellow just reporting to instrument squadron. His intelligence, interpreting his experience, keeps telling him the oldest aviation truth: being in the air is a whale of a lot different from being on the ground.

The smart gent is on the look-out for phoney body sensations. He knows violent maneuvers will scramble the works of the inner ear and that Oto and the canals will start telling him stories. Five thousand hours have convinced him that even his eyes will do him dirt, especially at night, when the stars can swing around or the lights seem to "split". *He checks with his instruments immediately for the right word.*

But the smartest act of his mind is putting complete trust in the Private Eye, regardless of what aerial sensations the body shoots up to the brain. "I always rely on the Private Eye," says the savvy pilot and that faith pays off. Vertigo can visit the sharpest pilot in the fleet, but its effects can be minimized by reliance on the instruments, no matter how loud Oto and his friends howl for recognition.

Every tot needs his mama and every pilot needs his instruments. If he's to meet and beat vertigo, he must believe what the instruments say. He's got to believe in them the way he used to believe in Santa Claus. And they will not let him down by turning out to be only Papa, complete with whiskers.

SIX A.M. MUSTER STARTS THE DAY FOR THESE OUTLYING FIELD CREWS

JEEP CREWS ARE GIVEN FINAL CHECK BEFORE STARTING FOR THE FIELD

'Early Birds' Save Pilots

NAAS CORRY FIELD—There are a lot of jobs in naval aviation not so glamorous as the pilot's nor so soft as a "chairborne admiral's." There are the "little men" who make things work and good examples in this class are the fellows who muster at 0600 to operate the outlying fields near this training base.

The tasks of this division are numerous but most important in keeping the planes in correct flight pattern and preventing accidents and possible collisions. After early morning muster they check their equipment, gas their jeeps and get chow. Then they head out into the boondocks to their assigned fields.

These stations are scattered throughout the northwestern part of Florida and southern Alabama, some 40 miles away. After arriving on station, they are then ready for the normal routine of keeping tab on all aircraft and warning them of any approaching dangers.

Anyone not connected with aviation would consider this a simple assignment since each plane has a pilot in it and should be able to take off and land safely. But that is not the situation. Every plane has a blind spot where the pilot cannot see, and even the most experienced flier sometimes forgets about lowering his wheels—hence, the necessity for tower operators and outlying field details.

During September, they gave wave-offs to 14 planes approaching to land with wheels up, for example. Four got wave-offs so they wouldn't land on top of another plane. Six approached the same runway from opposite directions and 10 tried to land when a plane was on the runway out of commission. Of these figures, it can safely be said that at least 50% of these planes would have completed their approach, resulting in accidents and personnel injuries.

When figuring the cost of planes and human lives, these accidents would have run into thousands of dollars. Besides aiding the planes in making safe landings, they were also called on to fight fire, give first aid, and make minor adjustments to disabled planes. Many lives have been saved because of the quick thinking and action of members of the outlying field details. Since there are no shelters available, these men must put up with mosquitoes in the heat of summer and cold rains in the winter.

MANY times when planes crash, they are the first ones to help the pilot even though it means wading through swamps. The pilots have learned to appreciate their ground benefactors and have placed untold amounts of faith in them.

When finally all planes have returned to their home bases and the word has been passed to secure, usually around 1600, they gather up their equipment and head for home, arriving well after most of their shipmates have secured.

As has been said, their job is not one of the most desirable, but if they are asked by anyone if they would like to be transferred to another duty, the answer is an emphatic "No sir!"

JEEPS ARE GASSED, ACETYLENE BOTTLES AND STRETCHERS ARE LOADED

VIGILANT DUTY CREW FIRES FLARES TO WARN PILOT WHEELS ARE 'UP'

REVISED PAMPHLET TELLS OF AID FOR TROOPS

Support Plane 'Bible' Out

New Sense Pamphlet On Close Air

Newest addition to the Navy's stable of *Sense* pamphlets to train aviators is a revised edition of *Support Aircraft Sense* bringing up to date the technique of pouring lead down the enemy's throat.

The new book replaces one put out during the war when the Japanese were the main targets. Written in the readable style of other *Sense* pamphlets, it points out some things pilots should know about close air support, recognizing friendly aircraft and friendly troops on the ground.

The order number of the new pamphlet is NAVAER 00-80Q-34.

11,000 Hours, Still Student

Coleman Soloed at 15, in Tri-Motor

NAS CORPUS CHRISTI—A man with flight hours rivaling that of any other naval aviator is Lt. F. H. Coleman, a student in the All Weather Fight School here. He has 11,000 hours in almost every type of Navy plane.

Coleman soloed at 15 while still in high school. From then until 1932 he made his living by hopping passengers in an ancient Ford trimotor transport. Passengers paid 50¢ apiece for a flight around the field at Hartford, Conn.

In 1932 he enlisted in the Navy and started flying as a third class aviation pilot. He became an ensign in 1942 and was attached to a PB4Y squadron at Tinian. After the fall of Iwo Jima he was personal pilot to RAdm Greer, ComAirSoPac, and VAdm. Calhoun, ComSoPac.

Coleman is presently stationed at NAS MIAMI in charge of the instrument program for the organized reserves. This is Coleman's second tour in AWFS, his first being finished in March 1947 when it was called IFS.

NAVY CEASES FLIGHT TO ADAK

VR-5, SEATTLE—In amazingly normal style—for the Aleutians—VR-5 made its last flight from Adak on 6 December. It went like this:

Aerology reported winds of 40 to 65 knots. The runway was coated with four inches of melting snow, and glaze ice and blasting winds necessitated a lifeline between terminal and aircraft for enplaning passengers.

Even island old-timers were skeptical as to the feasibility of the R5D's departure. Base transportation officer had refused a jeep for a last minute errand on the grounds it was too dangerous for a vehicle to venture on the icy roads.

Base operations officer held up delivery of the last consignment of officer messenger mail since he felt that nothing in the way of a flight operation could possibly be effected in the prevailing weather.

However, a surprise was in store for those not thoroughly familiar with operations of a group used to the most adverse weather conditions in the world. When the R5D took off it marked the finale of six years of operations by VR-5 to Adak without a single passenger fatality and injury. The squadron bequeathed an enviable record of safety to MATS which will henceforth serve Davis AFB and NOB ADAK.

8 PILOTS 'SURVIVE' IN ALASKA

EIGHT naval aviators from sunny San Diego buried themselves in snowbanks for protection against the Arctic cold and managed to survive exposure in winter-gripped Alaska.

It was all part of the cold weather survival course given at Marks Field, an Air Force base near Nome. The pilots, attached to the squadrons of Carrier Air Group Five at North Island, were the first contingent of naval personnel to undergo the rugged indoctrination this year.

During the week-long unified course, the survival students were exposed to the freezing elements for 48 continuous hours. They wore only the clothes they would normally have had on, had they actually been forced down in the area.

The pilots spent the first day on a desolate open stretch of beach. There, they set up protective shelters, made from pieces of driftwood, topped with discarded parachute material.

On the second day of exposure, the party moved further inland and sought warmth by burrowing snow caves in the soft snow. After crawling inside these individual caves, they plugged up the entrances, cut small air vents and lighted candles. This caused the temperature inside the caves to rise as high as 60 degrees without melting the walls.

Because of the short periods of daylight during the Alaskan winters, they spent as many as 14 hours in the tiny dens.

Using only standard survival equipment, food and rations, and remembering what they had been taught, the pilots went through the trial like a breeze. Of course, they were lucky in one way—the temperature was quite mild. Most of the time it was only about 12 degrees below zero.

Their main gripe had to do with the warm but clumsy mittens which they had to remove in order to use their hands.

The expedition into the elements was the final test of the unified course, which included lectures and movies on polar existence.

The eight squadron officers were: LCdr. Howard J. Boystun, cold weather officer in VF-52; Ens. Norman L. Dunbar, VF-52; Ens. R. D. Brannen, VF-52; Ens. Carl C. Neidlinger VF-52; Ens. Herbert A. Riebeling, VF-53; LCdr. Norman D. Hodson, CO of VA-55; Ens. William R. O'Connell, VA-55; and Ens. James R. Pavelle, VA-55.

In California, *NAS Los Alamitos' Skyrocket float won laurels in Tournament of Roses Parade and in Florida, NAS Miami's Marine Color Guard joined in 'Saluting Pan America'*

PLEXIGLAS HATCH MAKES ASW SEARCH EASIER

Plexiglas Hatch Is Popular

VP-5, PANAMA—Antisubmarine patrol requires the full use of all possible lookout stations during the entire patrol, a fact which works hardships when you are flying in the cold North Atlantic.

The lookout stations are relatively comfortable providing the heaters work. At the camera hatch on the P2V-2, no such comfort is possible. Visual sighting was possible only by removing the metal cover which comprised part of the skin of the plane. This allowed the cold wind to rush in.

Two thin-blooded CPO's devised a plexiglas cover for the camera hatch. Made from scrap, the cost was negligible. Held in place by four dzus fasteners, it fitted tightly over the hatch opening. It would be removed quickly, if necessary, but there was no apparent reason for rapid removal, since it was found that photos were not made fuzzy if taken with the plexiglas in place.

As a result of this simple device, the camera hatch lookout station has become the most popular place in the plane when on an ASW patrol.

Spline Lap Tool Saves Time

NAS ALAMEDA—A spline lapping tool to aid in reinstallation of propeller hubs has proved of great value here.

Usually, difficulty is encountered when installing hubs because of nicks in the splines. Previously, these nicks were removed by small electrically-driven grinding wheels and small stones, a long tedious task.

The new tool works faster and more efficiently. It permits 16 splines to be smoothed in union. The tool is lowered into the end of the hub and shuttled to cause a lapping compound in the splines to smooth into a fish that relieves all possibility of undue stress.

M.I.T. Builds Flight Simulator

When "George," the automatic pilot, came into being, he took over some of the work of his flesh-and-blood counterpart.

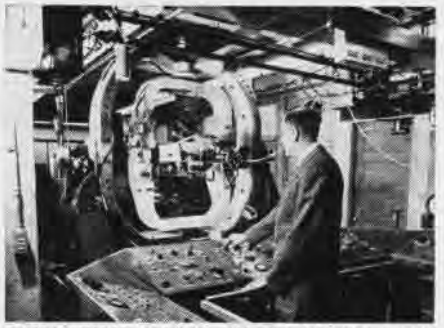
When he teamed with the "Look! No Hands!" automatic landing system, his human master lost more prestige.

Now George, completely out of hand, has eliminated both his master and the airplane. He conducts flight tests without a pilot or an airplane.

This imaginary pilot-aircraft combination is the brainchild of engineers at the Massachusetts Institute of Technology. It was done under contract for the Navy's Bureau of Ordnance.

Heart of the gadget is the electronic calculating machine, a number of models of which have been the Navy's pets for some years. Now a gimbal system has been superimposed on one of them which can simulate any position or condition of flight. Gimbals are the rings within rings which allow whatever they hold to move through any axis, such as a ship's gyroscope. In the M.I.T. machine, the gimbals position a hypothetical, electrical model of aircraft or guided missile.

Of course, the machine won't work without some information fed into it to begin



GIMBAL TABLE ORIENTS MISSILE CONTROL WORK

with. This information comes from actual tests of scale models in wind tunnels. Designs are set up electrically, and changes can be made in the configuration of parts of the simulated plane.

Eliminating a great many full scale tests saves time and money. Weight, velocity, altitude, wing span and other characteristics are set on computer dials, and the answer is forthcoming in a matter of seconds.

Dr. Albert C. Hall is director of M.I.T.'s dynamic analysis and control laboratory in which the simulator was built.

Rack for Crews Tool Boxes

NARTU SEATTLE—To provide adequate stowage and security for crew's tool boxes, the welding shop has designed a rack that meets both requirements.

Strongly constructed with tubular steel, the rack has short pieces of chain attached to the tool box. It may be placed along any bulkhead in the hangar area that is convenient for the particular crew.

A tool to *adjust tension and position of spring fasteners on aircraft cowling has been developed at NAS Alameda. Tool is light, small and versatile. It eliminates cracking and scratching of surfaces while in use.*

FUEL TANK RACK HOLDS DROPPABLE LIFE RAFT

Helicopter Drops Life Raft

VMX-1, QUANTICO—This squadron has developed a quick-release external sling for the Mk VII life raft for HO3S-1 helicopters.

The device consists of a web sling with four quick fit friction "V" rings. The web sling is tacked to the raft cover, which in turn is tacked to the raft. The four friction V rings snap in the jettisonable fuel tank racks (S-1 type bomb racks).

The slack then is taken up by tightening the loose ends of webbing, and the raft is held firmly against the plane. A static line, consisting of a three-foot piece of parachute shroud line, secures to the forward, port, center section jack point. Release is made by the pilot raising the red cover marked "tank jettison" and closing the switch.

Drops were made at altitudes of 10 to 100 feet. It was found that the raft never was fully inflated on striking the water, as it takes from 17 to 19 seconds to inflate fully. Because of this, it was found drops should be made 10 to 20 feet upwind of persons in the water to eliminate any danger of dropping a partially-inflated raft on them. It also was found advisable to pack the raft with the sea anchor in such a position as to cause it to fall in the water and hold the raft from drifting after inflation.

Seattle Gets Two Timesavers

• NARTU SEATTLE—J. G. Edmondson, AD2, recently designed and built an assembly which makes it possible to save two hours per aircraft in giving gun charging valves two-hour checks in the "safe" position.

The assembly consists of a gun charging cylinder, mounting bracket for gun charging valves and three flexible lines to simulate installation in an aircraft—all mounted on a hydraulic test stand. After testing valves using this system, it is simply a matter of replacing valves in aircraft that are down for checks or malfunctioning valves. After the valve is installed, the equipment is activated with hand pumps to spot connection leaks.

A miniature bomb rack has been developed by B. C. Hufnagel, AO2, which is adaptable to any medium or heavy bomber for internal reloading, especially PV or PBY aircraft. It is a double bay rack fired by two bomb releases (type AN-A-2A left position) which are wired to the two bomb positions desired in the bomb bay of the aircraft, thus allowing the firing of a stick of two miniature bombs through the intervalometer for antisubmarine straddle bombing practice. This rack is easily installed in the camera hatch of the PV and in the tunnel hatch of the PBY.

Technical Trouble Shooters

DYCKMAN AND CARPENTER FIX ARRESTING HOOK

TECHNICIAN BOSWORTH, FOURTH FROM LEFT, IS ONE OF THE BOYS ABOARD THE PRINCETON

AFLOAT or ashore, wherever there is a new Navy plane or some complicated equipment, there is likely to be a "Field Service Technician." He's the "know how" man sent out by the manufacturer to make the introductions to new designs smooth.

Field Service Technicians are a highly-selected group of men who have extensive technical knowledge and long experience in the operation and maintenance of aircraft, and their record of service to the naval aeronautical organization indicates that their selection by the various contractors has not be haphazard. In short, they're top-notchers.

Before a technician is assigned to naval operating activities, he receives complete indoctrination at the contractor's plant. He also receives instruction in supply and logistics problems associated with spare parts, delivery schedules, allowance lists, publications and every bit of information that he may need. Only then is he ready to assist in the challenging job of maintaining a high percentage of aircraft available for flight.

Just to make sure that the technician has the last word on new developments, he is periodically called back by the contractor to the home plant to attend a refresher course in maintenance, study pending aircraft and engine changes, learn new fixes for use in the field, and practice short cuts in installation.

In the field, the technician is quick to don overalls when the need arises, but his primary mission is to make sure that naval maintenance personnel are adept at the mechanics of new aircraft.

The number of field service technicians in a particular area is based on the number of assigned aircraft and, of course, on the newness or complexity of the equipment. Budget limitations are also a determining factor.

Technicians are on the job at Naval Air Test Center, Patuxent River, Md., where they assist in maintaining the aircraft undergoing test and help to decide what changes must be made. A deficiency caught in time while the aircraft is still in production is money in the bank for Navy. At the same time, data on spare parts usage gathered during the tests are valuable information for the Provisioning Board which determines the number of spare parts to be procured.

The Bureau of Aeronautics has received letters from commanding officers of naval aircraft activities expressing enthusiastic approval of the untiring assistance and unfailing cooperation of these representatives of naval contractors. It does not overstate the case at all to point out that without such assistance, the improved operational availability of naval aircraft would not be possible.

In the war years, the Field Service Representatives were highly commended for their service at home and abroad, and some of them were decorated for their excellent performance. In recognition of the great service rendered by the "know how" men, the Chief of the Bureau of Aeronautics has awarded a Certificate of Appreciation to those technicians assigned to naval aviation activities during World War II. To them, BUAER says, "Well done."

P&W SERVICE TECHNICIANS NEWTON AND PAGE WORK ON JET ENGINE

ORSI STANDS BY PLANE PACKAGED AND READY FOR OVERSEAS SHIPMENT

BORESIGHTING SYSTEM PAYS OFF

NARTU SEATTLE — The ordnance department has worked out a new system for speeding up boresighting FG-1D and TBM aircraft by about 50%.

Under this system, a new boresight template has been permanently installed in the hangar. This template is mounted on top of the island structure in the center of the hangar. The spot for the aircraft is across the hangar bay next to the hangar door. This set-up allows for three-point boresighting since the tail of the FG-1D has to be raised only about five inches, and that of the TBM hardly at all, to align these aircraft with the template.

Now the space required for boresighting inside the hangar no longer conflicts with the work of the engineering department or with the movement of aircraft. This saves time and tempers.

The template measurements were arrived at by boresighting each type of aircraft on the old measurements, as found in the Erection and Maintenance Manuals, at the specified distances and by transferring the points of boresight to the new template by means of correctly boresighted aircraft. Both the FG-1D and TBM boresight patterns are on the new template, which is at a fixed distance of 108′ from the front trunnion post of the aircraft.

The template is a plywood structure, painted a slate black. Datum lines and center line are painted in white. Boresight points for datum points, guns, gun camera and sights are spotted on the board by electric lights (conventional Christmas tree lights). The following color code is used: datum point —white; gun bore—green; gun camera—red; and gun sight—blue.

Each type aircraft pattern is separately wired on the back of the template, so that at the throw of the switch a change from one pattern to another may be accomplished.

In the upper right hand corner of the board, frosted glass name plates, backed with white lights, are being installed. These will be wired into the corresponding circuits to designate the boresight pattern illuminated on the template.

Water Spray Eliminates Dirt

NAS ALAMEDA—Operation of spray equipment to clean large vent stacks over the station paint and dope shops has saved manhours and eliminated a disagreeable, unhealthy job.

The task formerly was accomplished by suspending a bosun's chair inside the stack where masked workmen would scrape and wash away grease and dirt. Now, by use of high pressure water at 1500 pounds pressure and restricted nozzles, all paint, grease and other dirt are removed by the simple process of lowering the hose down the stack to be cleaned.

This method eliminates necessity of dismantling and reinstalling stacks normally too small to admit entrance of workmen.

Special *nylon floats installed on this three-ton HRP-1 permit it to set down easily on water, swamp, ice or tundra for rescue. Designed by Cdr. Frank A. Erickson of the Coast Guard's helicopter unit at Elizabeth City, N. C., the floats neatly fold around the wheels until needed. The pilot pulls a cord, releasing CO_2 from a cylinder and inflating the floats in 90 seconds. Inset photo shows how the floats fold compactly around the wheels when they are not in use.*

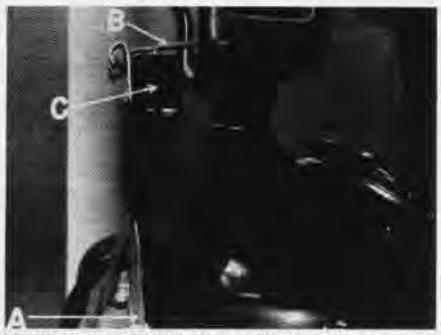
ARROW POINTS TO THE TECH DATA CARD CASE

New Tech Data Memory Aid

NAS ST. LOUIS—To keep personnel up-to-date on all technical publications, the electronics division has revised an old idea with a new twist. This "aid-to-memory" consists of a 3" by 5" plastic and aluminum card case hinged to the test bench, which folds under the shelf when not in use.

Contained in the case and clearly visible through a plexiglas front, is a card containing a list of titles of publications for the specific piece of equipment concerned.

The holders are installed at each mock-up position and have proven to be of great help in the dissemination of technical data.



ELECTRIC SWITCH TELLS WHEN PHONE IS BUSY

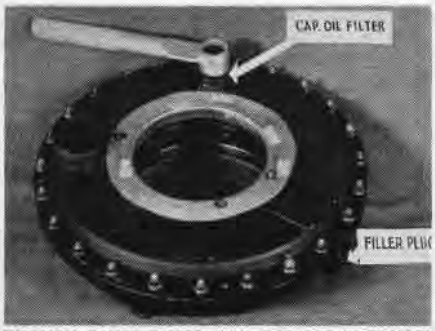
Red Light Signals Phoning

VMF-214, EL TORO—Economy cut the number of telephone extensions available, causing confusion which this squadron finally found a way to lick.

One extension was available for squadron administrative business with separate phones in the CO's office and squadron administrative office. Numerous instances of interrupted conversations occurred.

An indicating light system was installed on both phones by T/Sgt. W. D. Swift, squadron electrician, to prevent mutual interruptions by persons using different telephones on the same office extension.

When the "skipper's" receiver is lifted, a red light comes on over the telephone in the squadron office, and vice versa. Total cost of material was less than $1.75 and well worth it in smoother execution of telephone traffic. In the accompanying photo, "A" indicates the installation bracket, "B," the micro switch actuating lever and "C" the switch which lights the warning bulb.



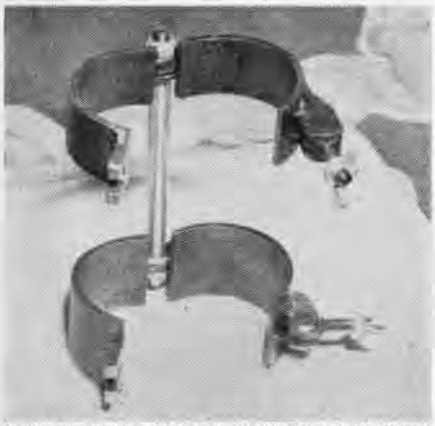
WRENCH TAKES FILTER CAP OFF F8F PROPELLER

Wrench Removes Bad Caps

NAS ALAMEDA—A special wrench for removal of filters and filler nut regulators has been used here on F8F and AD aircraft propellers.

Formerly, an open-end wrench or box wrench was used to remove the cap on oil filters of regulators, an unsatisfactory method because the wrench had a tendency to slip off because of the narrow head of the filler cap.

Also, many regulators have damaged filter caps which make it almost impossible to remove the cap unless a Stillson wrench were used. The new wrench results in the automatic scrapping of these caps. Operating squadrons will find this wrench very adaptable because it is easily stored in any side tool kit for periodical use.



SNJ TAIL WHEEL OLEO CLAMPS HELP SWIVELING

Towing SNJ Raises Problem

NAF LITCHFIELD PARK — This Station figured out a way to lick tail wheel troubles encountered when it towed in the 237 stored SNJ's for annual maintenance checks.

The tail wheel shock strut hydraulic packings proved vulnerable to deterioration, a generous percentage of struts being found flat and unservicable. When towed, the SNJ's struts would not trail properly, remaining parallel to the longitudinal axis of the fuselage. Towing resulted in damaged tires and bent shock struts.

To prevent damage, those struts which would not sustain sufficient inflation to permit towing were replaced prior to moving the plane. This policy proved inefficient since it necessitated moving repair crews and equipment to remote areas.

A compression link was developed to correct the difficulty. The unit consists of a steel shaft separating two quick-attaching clamps. When closed, these clamps have an inside diameter slightly less than the outside diameter of the shock strut piston. The tail of the plane was raised, the tail also manually extended and clamps installed around the piston, with wing nuts locked hand-tight. The unit carries weight and extends the tail wheel so it will swivel.

Two Ideas Aid Work on F9F

SMS-15, EDENTON—Two ideas to speed up the work on F9F-2 jet engines worked out by this service squadron may be of interest to other maintenance units.

It was found that the new engine stands 85 PWA 6020 supplied for the J-42 jet engine can be modified slightly to accommodate this engine. The lower attaching lug, normally used to secure the engine to the aircraft, is used instead of adapter plate #6110. This will save about a man-hour on each engine change.

A tail stand made by this squadron for the *Panther* has worked well when the tail is removed. The stand is of welded tube construction with adjustable upright support arms incorporating a roller bearing on each side for easy rotation of the adjusting screw to facilitate alignment of the tail section for reinstallation.

Emergency Start for Jets

In an extreme emergency, the slipstream of a reciprocating engine type aircraft can be used to start a turbojet engine. This procedure has been successfully employed in several recent cases.

Since this type of start exposes the turbojet engine to possible damage, the following restrictions should be observed in its use:

1. Use it only as an extreme emergency procedure.

2. Be absolutely certain the area to be used is free of loose foreign articles which would be picked up by the propeller slipstream. This can be done by turning up the reciprocating engine two or three minutes prior to moving the jet aircraft into position.

3. Utilize the "air start" procedure for starting the turbojet.

4. Do not instigate the start until the required RPM (windmilling RPM) for an "air start" has been obtained. This is an absolute *must* to avoid a "hot start" with the attendant possibility of severe damage to the engine. You must have proper RPM before initiating the start.

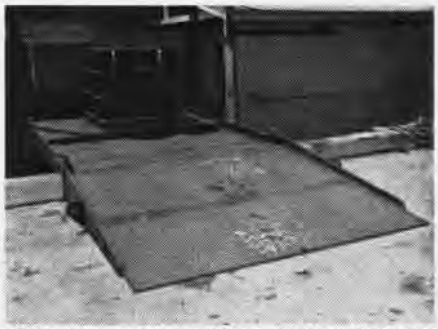
5. Exercise extreme caution in throttle movement until the engine has passed the "critical range" and is a self-sustaining stabilized RPM.

Again it should be pointed out that this procedure to be used only in an extreme emergency. The above instructions, as well as any others pertaining to the type of equipment used and location involved, should be followed to avoid serious engine damage.

GCA BOX SCORE

Actual instrument landings with GCA set an all-time record during December when 476 planes were saved by radar. The box score follows:

December Instrument Approaches	8,580
Instrument Landings	476
Total Instrument Approaches	288,118
Total Instrument Landings	11,740



RAMP, LIFT TRUCKS REPLACE CRANE AT BARGE

Loading Ramp Saves Hours

NAS ALAMEDA—A loading ramp which saves about 6,000 man-hours a year and eliminates the accident hazard that always accompanies loading and unloading with hoists, slings and hand trucks, was developed by Alvin C. Davis, public works employee.

He has designed a ramp that eliminates necessity of using a railroad crane, an operator, a pilot and six riggers and completes the job in about a third the time formerly used. The ramp is adjustable to various heights of the dock and barges, as well as the rise and fall of tides.

One fork lift moves the pallets from their position on the barge to the accessible transfer platform of the ramp where the shore side fork picks it up from the opposite side of the platform, placing the pallets in a selected storage area or on a truck.

CLAMPS ON TOW BAR HOLD CHOCKS WHILE TOW

Tow Bar Carries Own Chocks

NPG, DAHLGREN—An idea for carrying aircraft chocks while towing a plane has been developed into a workable piece of equipment by D. E. Sloan, AN, attached to the air facility here.

Holding lugs are made from ¼" boiler plate and welded to the sides of the towing bars. Two of the holding lugs are welded to the outside of the tow bar, spaced according to the size chock used for the narrowest aircraft wheel. The third lug is welded on the inner side of the tow bar, spaced equidistant between the outside holding lugs.

In use, the chock, slipped between the lugs, is readily handy to chock the plane when parked. No damage is sustained by the plane such as is encountered in placing the chocks on the wing. Numerous chocks could be carried on each set of tow bars.

VA-135, ATLANTIC—On 1 December, this squadron completed a year and four days of completely accident-free operation, flying 6,065 hours. Of this 295 hours was carrier-based, with 139 landings on the flight deck.

SERVICE Test INTERIM REPORT DIGEST

This digest covers the 15 January Interim Report of Service Test, NATC Patuxent and does not necessarily reflect BUAER *policy.*

F2H-1 (279 Hours)

Fuel Cells. Inspection of the fuel filters and the fuel cells revealed no foreign matter or deterioration. All the AB-F-58 "special fuel" has been used; further operations will be conducted with AN-F-58 "referee" fuel.

Landing Gear Actuator. The pilot placed the landing gear control in the UP position after take-off. The indicator showed that the main landing gear was retracted, but that the nose landing gear had remained in an intermediate position. The following sequence of events took place before the nose gear was extended to the down-locked position:

1. The landing gear control was moved to the DOWN position, but the nose gear indicator remained in the intermediate position.
2. An attempt to "free-fall" the nose gear was unsuccessful.
3. After re-engagement of the nose gear actuator, the nose gear could not be retracted.

After several attempts, the nose gear was finally extended by the normal system.

A bench test of the nose gear actuator assembly revealed an internal short circuit of the electric motor; however, the nose gear circuit breaker remained closed during the attempts to operate the gear. *Recommend* that a satisfactory nose landing gear actuator assembly be provided.

Cobustion Chamber Liner. During replacement of the fuel nozzles on the engine, an inspection of the combustion chamber liner revealed cracks in the inner and outer burners downstream of the combustor windows as follows:

1. Ten cracks in the outer cylinder of the outer burner.
2. Four cracks in the inner cylinder of the outer burner.
3. Thirteen cracks in the inner cylinder of the inner burner.

The cracks were between the spot-welds that attach the fourth connectors to the third section burners. This engine has been operated 64 hours on AN-F-58 fuel. A similar failure was reported 9 December 1949. *Recommend* that the cause of the failure of the combustion chamber liner be investigated and corrected.

F9F-2 (335 Hours)

Fuel Nozzle Assembly. Inspection of fuel nozzles of the J42-P-4 engine during a check at 180 hours revealed excessive carbon deposits on nozzles No. 6 and No. 1. This set of nozzles had been operated 60 hours with AN-F-58 fuel. Carbon deposits on fuel nozzles had been previously reported on 30 November 1949.

J42-P-4Engine. Following a major inspection at 180 hours, the engine was reassembled and reinstalled in the airplane. After a normal start and apparently normal operation for approximately two minutes, a hot area was noted in the exhaust flame pattern and the engine was immediately shut down.

Subsequent investigation revealed a failure of the lower cylindrical of the No. 8 combustion chamber liner directly downstream of the igniter and a failure of the nozzle vanes. Damage to the turbine blades was negligible. A test of the No. 8 igniter revealed that the spark plug and fuel solenoid valve were operating satisfactorily.

It is believed that the difficulty was caused by the failure of the igniter fuel nozzle to function properly. No. 8 igniter, No. 8 combustion chamber assembly, and six nozzle vanes were replaced. The igniter was turned over to the P&W service representative for investigation. *Recommendation:* Investigation and correction of the cause for this failure.

AD-4 (170 Hours)

Engine Section. The engine rear section, which was sent to the Wright Aeronautical Corporation for a complete check in an attempt to discover the cause of excessive oil in the intake system, was returned on 4 January 1950. No discrepancies were reported as a result of this investigation, and the rear section is being reinstalled.

Audio Frequency Transformer. The beacon AFC failed to lock when the function control knob was placed in the beacon position. Investigation disclosed a short circuit in the assembly winding of the audio frequency transformer, T401. The DC resistance to the secondary winding (measured between pin 3 and pin 4 on the AFT) was less than one ohm as compared to a normal resistance of 4,000 ohms.

Recommendations:

1. Provide a satisfactory audio frequency transformer unit.
2. Return the defective audio frequency transformer unit to the contractor for investigation and corrective action.

AS-238/APS-19A Tilt Potentiometer. The antenna tilt control failed. Investigation disclosed broken windings in the tilt potentiometer assembly. A rough spot on the wiper arm, which was apparently caused by arcing, wore through the windings and caused them to fail. *Recommendation:* Provide a satisfactory tilt potentiometer assembly.

AM-1 (164 Hours)

Test Delay. The test has been delayed because of recurrent failures of spark plugs and rivets on the elevators. A set of R37S-1 spark plugs, which had been installed in the engine for test, were unsatisfactory after 76 hours and were replaced with a set of RB19R-2 plugs. The cause of the failure of the rivets on the elevators has not been determined. Both elevators are being replaced.

Elevator Assemblies. Twenty rivets in the aftermost row of rivets in the trailing edge of the elevators failed. Loose rivets were replaced with 5/32" brazier head Cherry rivets. *Recommend* that the cause for the rivet failures be investigated and corrected; that all elevators of operating aircraft be inspected for security of the rivets.

Oil Cooler Assembly. An oil leak developed in the core of the starboard oil cooler assembly after 144 hours. *Recommend* returning the oil cooler to the contractor for investigation and corrective action.

Link Ejection Chute Deflectors. When the guns are fired, the ejected links catch and break the pigtails of rockets loaded on stations No. 6 and No. 7 on Mk 9 Mod 3 launchers. GLM FCR-115 was incorporated on all AM-1 aircraft in order to correct this condition when Mk 9 Mod 2 rocket launchers were used. However, when the Mk 9 Mod 2 launchers were replaced by Mod 3 launchers, this condition was again encountered and investigated. *Recommendation:* Install redesigned link ejection chute deflectors.

Header Assembly. After 144 hours of operation, the header assembly on cylinder 7A was found to have been broken at the port flange. *Recommend* that the contractor comply with the specification for exhaust systems.

Honing Stone Gets New Use

NARTU SEATTLE—The electronics shop personnel find that the honing stone (R86-JH-2608-1) in the Jack & Heintz maintenance kit for JH4 and JH5 starters can be recut for use as a commutator for all radio dynamotor high and low voltage sections.

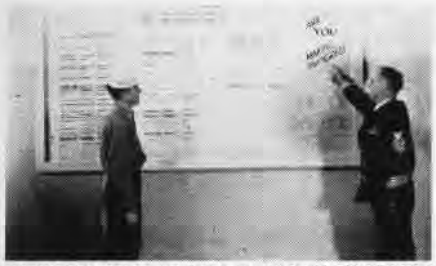
Proper preventive maintenance by use of the stone cleans up the commutator for required low brush resistance and reduction of radio noise. It also offers time-saving features over sandpaper methods and eliminates the need for the commutator turning on the lathe.

Rocket Flares Aid in ASW

VC-25, SAN DIEGO—Use of an aircraft rocket flare in antisubmarine warfare is being experimented with by this ASW squadron, using the 3.5" rocket Mk 6.

In principle, this flare is merely a forward-firing rocket with a parachute flare located in the head which is designed to illuminate an area directly ahead of the launching plane at such a distance as to permit a lethal attack from the plane without a change of course.

Preliminary evaluation of this flare indicates that it may prove quite valuable in hunting submarines at night, using aircraft whose configuration precludes use of airborne searchlights. VC-25 flies TBM-3E's and is commanded by LCdr. J. G. Williams.



MAN'S PROGRESS UP LADDER SHOWN BY RECORD

Chart Shows Man's Record

NAS SAN DIEGO—A neat system for encouraging enlisted men to pass their tests for advancement in rating has been designed by FAETUPac.

A chart showing the amount of work completed by each man is posted on the bulletin board. It promotes interest in advancement and introduces the element of competition and personal pride. As one man completes a practical factor and it is recorded on the chart, it becomes an incentive for others trying for the same rate to keep up the pace.

For the year 1949, a total of 191 completed practical factors, 75% of the men taking fleet examinations in October came through with flying colors.

VF-111 Claims Gunnery Mark

VF-111, PACIFIC—The 9.7% gunnery score of VF-62 in claiming the Atlantic Fleet's gunnery record brings to the fore the record of this squadron in firing 14.08% in official competition last August.

Firing 20 mm guns at 15,000 feet in F8F-2's, VF-111 used the Mk 6 gunsight and fired in accordance with the Joint Training and Competition Manual. Actual percentage, according to rounds fired, was 14.42%. Highest individual score was made by Lt. (jg) J. L. Griffin who racked up a sizzling 40%. Seven pilots, including the skipper, LCdr. D. R. Flynn, fired outstanding scores.

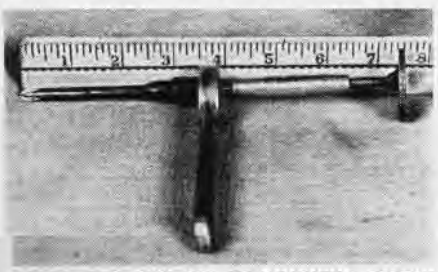
Worthy of note is the fact there were no jams or misfires. Credit for this goes to the ordnance gang of the squadron and particularly A. F. Stoneham, AO2, who devised a modification of the link chute which completely eliminated link jams.

Screwdriver Cuts Down Work

VF-113—By designing a tool to remove screws, T. W. Love, AM1, leading petty officer of the structural crew, made it possible to cut time on the F8F-2 Service Change #101 from 12 man-hours to 5 man-hours.

The tool was built by fitting a ¼" ratchet to the blade of a 10" Reed Prince screwdriver. On the reverse side of the ratchet a ½" hole was drilled ⅜" deep. A flat plate, 2" in diameter then was welded to one end of a turnbuckle and the other end was modified to fit into the hole drilled into the ratchet.

The tool was used to remove and replace 32 screws from the ammunition compartment shelf and web assemblies. It was operated by fitting the screwdriver into the screw head, adjusting the turnbuckle until the tool was firmly seated between the aft side of the ammunition compartment and the screw, and by working the ratchet.



MECH'S IDEA CUTS JOB OF REMOVING SCREWS

Windshield service. *J. L. Maynard, foreman of machine shop at Beech Aircraft Corp. tries out novel glasses cleaning station at plant.*

New F8F Sway Braces Coming

FASRON 8, PACIFIC—Aircraft Armament Bulletin No. 115 directed that all F8F sway braces be fixed in their sockets by suitable set screws and that the shanks be reworked to provide a set screw recess.

The purpose for this was to have a positive means of securing the sway brace against loss. Aircraft Armament Bulletin No. 135 cancelled No. 115 as having served its purpose.

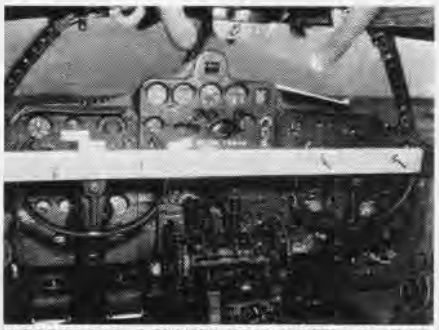
This squadron observed that some operating activities have formed this recess by various means in accordance with the bulletin, but without due regard to the position of the set screws in the sockets. As a result numerous cases have been found where the recess served no useful purpose. For instance, it would not line up with a set screw.

AirArm Bulletin No. 115 was issued primarily to prevent damage to the fuselage or the propeller by the sway braces dropping and then bouncing back against the airplane during the shock of landing.

In view of the circumstances, it is not believed that this bulletin has accomplished its purpose. It is recommended that the fix be altered to provide for a suitable grove, vice recess, around the entire circumference of the shank. This could be done to new production as well as existing swat braces.

***BuAer Comment*—The F8F sway brace problem has been restudied and BUAER will issue instructions for rework of the entire sway brace installation. F8F Service Change No. 109 will soon be issued. This change will install the "Store Sway Brace Aero 1A" on all F8F type aircraft. This sway brace is the universal type which can be used with all bombs, tanks, containers and so forth. In addition, provisions are incorporated for retaining the new sway braces in their sockets.**

VF-152—This squadron knows its aircraft. In the past year it has flown SB2C's, AD-1's and wound up *in* F4U-4B's.



WOODEN BAR, J CLAMPS HOLD WHEELS IN WIND

Clamp Locks Aircraft Wheel

VMR-153, CHERRY POINT—This squadron has developed a quickly attached and removed aileron lock.

The previous method of securing the control wheel to the control column by web strapping was satisfactory for low wind velocities. However, high gusty winds soon stretched the webbing and caused flapping action of the ailerons.

The new method consists of locking both the pilot and co-pilot control column wheels together with a 1"x4" hardwood slat using four ¼" "J" bolts and wing nuts engaging the wheel spokes.

P2V Cowl Flap Idea Works

NAS ALAMEDA—A simplified operation for adjusting oil cooler doors and cowl flaps on P2V's is in effect here.

Normally cowl flaps are installed in a shop where adjustments could not be made until the engines were in place. Now a test box with relays hooked up to a portable power unit permits proper adjustment before the engines are in.

This operation eliminates need of keeping one man in the cockpit, allows easier adjustment and permits flaps to be rigged four days earlier on the production line.

Reels, Battens Balk Typhoon

VMF-218, GUAM—When typhoon *Allyn* struck Guam in November, it left a trail of destruction across the island. Sufficient notice of the oncoming typhoon was received to permit securing of all aircraft before high winds arrived.

The squadron's 24 *Corsairs* and two SNJ's were taxied to hard stands and secured in the following manner: Two tie-down reels were put on each wing, one reel on each wheel and three on the tail. Battens were used on the elevators, rudders, flaps and ailerons. Wing spoilers were used on the leading edges of both wings.

Even though winds hit 85 knots with 110-knot gusts for three hours, no damage was sustained by aircraft.

THOROUGH BATTENING JOB SAVES GUAM PLANES

AVIATION ORDNANCE

F9F Photo Chase Plane Set

The Navy's F9F jet fighter has been adapted as a photo chase plane for use in motion picture coverage of guided missiles at the Naval Aviation Ordnance Test Station, Chincoteague, Virginia.

The modification was performed by the Naval Air Development Center, Johnsville, Pennsylvania, to specifications as drawn up

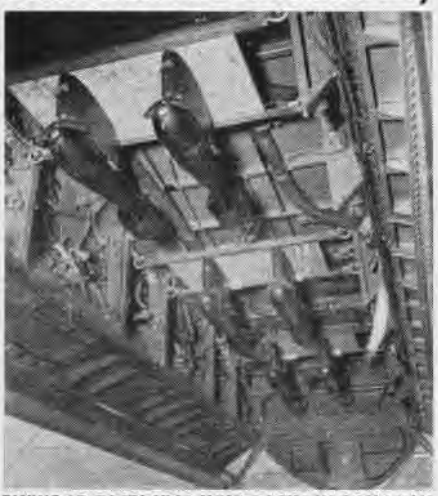
MOVIE CAMERAS 'FIRE' AT MISSILES IN FLIGHT

by the Naval Aviation Ordnance Test Station, Chincoteague, and consists of the installation of one 35mm Mitchell and two 16mm Mitchell cameras mounted in the nose of the jet and bore-sighted with the pilot's gun sight.

The 16mm cameras are operated by 24-volt motors and the 35mm camera by a 12-volt motor. The regular plane's battery was tapped to provide both the voltage required. This furnishes a constant and reliable source of power. One 16mm camera is equipped with a 63mm lens and the other with a 152mm lens. The 35mm camera uses a 6-inch lens.

The pilot controls the operation of the cameras by on-off switches located in the cockpit. Also located on this control panel is a footage indicator which keeps him informed of the amount of film remaining between runs.

Bomb Rack in TBM Bomb Bay



PLYWOOD BASES HELP HOLD RACKS IN BOMB BAY

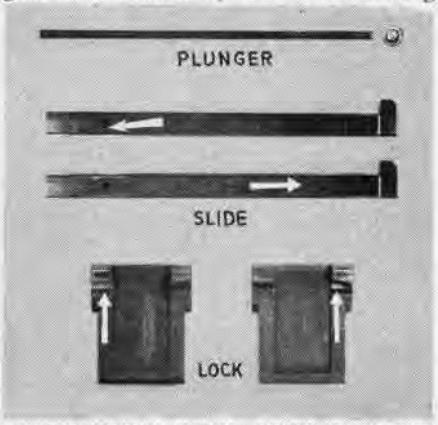
Six bomb racks, Mk 55, were installed in the bomb bay of a TBM-3E type aircraft at the Naval Proving Ground so that practice bombs, Mk 76 Mod 0, could be dropped from high altitudes.

The bomb racks were mounted on half-inch plywood with rings located to fit into the hooks of the upper station Mk 8 shackles. The electrical connectors plugged into the connectors for the upper stations. The mounts are quickly removed or replaced. Plenty of room is available to mount a larger number of racks.

Practice bombs, Mk 76 Mod 0, were assembled with new type practice bomb signals, Mk 4 Mod 3. One hundred percent functioning was realized from the bombs dropped from 20,000 feet on both land and water targets. The bombardier was well pleased by the accuracy he obtained.

Replacement of Gun Parts

Recent firing tests of the 20mm automatic gun M3 conducted by the Naval Proving



ARROWS INDICATE FAILURE POINTS IN M3 GUN

Ground, Dahlgren, have indicated the need for improving the right breechblock slide, driving guide plunger, and the breechblock lock.

Tests indicate that gun reliability can be improved by replacing these parts at 2500 round intervals. The accompanying photographs illustrate points of failure peculiar to each of the parts. Difficulty has also been experienced with the standard firing pin B164210.

In a recent letter to all activities using the gun, the Bureau of Ordnance recommended that the firing pin be replaced every 1500 rounds, or before the 1500th round replacement period if tip erosion occurred. Accordingly, BuOrd recommends that the following parts replacement schedule for the gun be adhered to:

Part	*Replacement Period*
Breechblock Lock, Part No. C72-26048, Stock No. J941-L-3817-100	2500 rounds
Breechblock Slide Assembly, Part No. 7229069, Stock No. J941-S-9417-600	2500 rounds
Driving Spring Guide Plunger, Part No. B163335, Stock No. J941-P-9590	2500 rounds
Firing Pin, Part No. B164210, Stock No. J941-P-3273-35	1500 rounds

The firing pin should be replaced irrespective of life in rounds if tip erosion occurs. Close inspection of these parts should be made during routine maintenance inspections of the gun.

The above parts, with the exception of the driving spring guide plunger, are available in the line maintenance spare parts set for the gun, Stock No. J941-S-9684-100, NavOrd List 21416, Revision A. Driving spring guide plungers have been added to the revised spare parts set, Stock No. J941-S-9684-110, NavOrd List 22847. NavOrd List 22847 is being distributed. Instructions are given in NavOrd List 22847 for converting spare parts set J941-S-9684-100 to spare parts set J941-S-9684-110.

New AOE Catalog Published

A new catalog of available line maintenance spare part and tool sets, published as *NavOrd List 21416, Revision "B"*, dated 1 November 1949, and is being distributed to aviation activities.

This publication *does not establish allowances* for line maintenance spare part and tool sets, but is a catalog containing a description of the sets, information on allowances and replenishment for Fleet activities, and replenishment and distribution for supply activities.

Spare parts and tool sets are available for the following aviation ordnance equipment as listed in the new catalog:

AIRCRAFT GUNS

Spare Part Sets—

Gun, 20mm automatic M24 including spare parts for 20mm synchronizing switch, Mark 1 Mod 0

Gun, 20mm automatic M3 including spare parts for, trigger electric, 20mm, AN-M4 and trigger electric, 20mm AN-M1A1.

Gun, 20mm automatic AN-M2

Gun, 20mm Feed Mechanism, AN-M2

Gun, BAM .50 caliber M2

Gun, BAM .30 caliber M2

Link loading machine, Mk 1 and Mk 1 Mod 1, caliber .50

Link loading machine, Mk 3 Mod 1, caliber .30

Ammunition belting machine, M16

Tool Sets—

Gun, 20mm automatic, M24

Gun, 20mm, M3 and AN-M2

Gun, BAM .50 caliber M2

Gun, BAM .30 caliber M2

AVIATION FIRE CONTROL EQUIPMENT

Spart Part Sets—

Illuminated sight, Mk 9 and Mods

Aircraft sight system, Mk 1

Gunsight, Mk 18 and Mods

Gunsight, Mk 18 Mod 6

Gunsight, Mk 23

Aircraft fire control system, Mk 6

Bomb Director, Mk 3 Mod 3

Bomb Sight, Mk 23 Mod 4

Gyro, Mk 18

Bombsight stabilizer, Mk 15 Mods 4, 5 and 7

SBAE, Mk 2 and Mods
Tool Sets—
Gyro, Mk 18 and stabilizer, Mk 15

Allowances for quantities of these sets are established in column "B" of NavOrd List 20870. *(Plane Model Allowances List for Aviation Ordnance Equipment)*

20mm Extractor Modification

Reports of unsatisfactory or defective aviation ordnance equipment submitted to the Bureau of Ordnance by activities using the *20mm Automatic Gun M3* indicate that a second extractor modification is necessary. Details of a previous extractor modification ordered by BuOrd are given in NAVORD OMI V1-49.

Investigation of the difficulty revealed that the extractor was striking the breechblock locking key B7226047 (Figure 66, TM 9-229) during ejection of the cartridge case.

Incorrect location of the extractor pin hole, extractor body or bolt body, in addition to wear between these parts and the extractor pin may lower the extractor so that the under side strikes the locking key. This interference, which peens both the extractor and locking key, may crack the thin section over the extractor hole of the bolt body.

Modification Instructions: A simple modification to the extractor will correct the above difficulty. Squadron maintenance personnel and gun overhaul activities are authorized to perform the modification to guns on hand. Details for accomplishing the work follow.

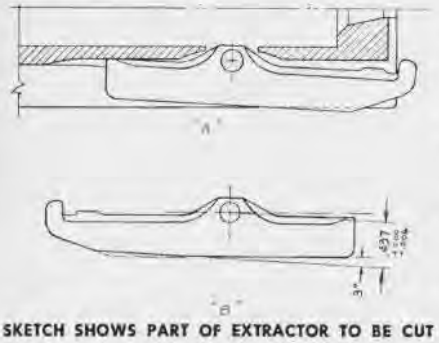
(*a*) Remove the breechblock from the gun. Disassemble the breechblock.

(*b*) Press the extractor against the extractor spring and drift out the extractor pin. Withdraw the extractor and extractor spring. Remove the firing pin.

(*c*) Replace the extractor in the extractor well bolt body. Install the extractor pin, omitting the extractor spring.

(*d*) Deflect the nose of the extractor to its extreme downward position. Refer to Sketch A. The bottom of the extractor (broken line, Sketch A) should not protrude below the base of the bolt body.

(*e*) If the bottom of the extractor protrudes below the base of the bolt body (Sketch A), remove a small amount of metal from the bottom of the extractor. The amount of metal to remove is shown by the broken line, Sketch B.



SKETCH SHOWS PART OF EXTRACTOR TO BE CUT

(*f*) Reassemble the breechblock and install in the gun.

The above modification is applicable to the following 20mm extractors:

Extractor B163302, Stock No. J941-E-1037-50
Extractor C7226820, Stock No. J941-E-1037-60
Extractor C7231224, Stock No. J941-E-1037-65

'Weathercock Tiedown' Used

VP-22 Privateer Rides Out Typhoon

VP-22, GUAM — "Weathercock tiedown" for large landplanes is this squadron's answer to typhoon gales.

When this PB4Y-2 outfit played reluctant host to typhoon "Allyn" on 17 Nov., there was an excellent opportunity to put into practice past experience with the big winds and to ring in some innovations.

Flyaway problems for the three-day period were simplified because six planes were in the Philippines for ASW exercises at the time.

Remaining at the field were two flyable planes and another awaiting parts and undergoing a four engine change.

With setting of Condition III, one plane was evacuated to Clark AFB at Manila. The area was policed for trash and building holddown cables were checked. Other typhoon precautions regarding material and personnel were carried out efficiently.

With the setting of Condition II, the remaining flyable plane departed for Clark field. In this period, the trick tiedown was used on the remaining Privateer. The nose wheel was bled and the main gear oleos pumped up higher, giving the plane a negative angle of attack.

The port wheel was braked and securely checked fore and aft. Chocks on that wheel were tied together. The wheel was also secured with two cables to a padeye in the deck, with two feet of slack in each cable. With one wheel secured, the plane was free to weathercock.

When the winds reached 50 knots, the crew manned the plane. When the wind reached 70 to 80 knots, the plane started to the right with the wind. Twice the crew got out and shifted the chocks. This shift wasn't necessary except to prevent the tires from being cut. In all, the plane turned 50 degrees. Airspeeds of over 110 knots were recorded on the airspeed meter at the height of the storm.

Only casualties of the storm were some shifted quonsets and some cases of K-rationitis among the personnel.

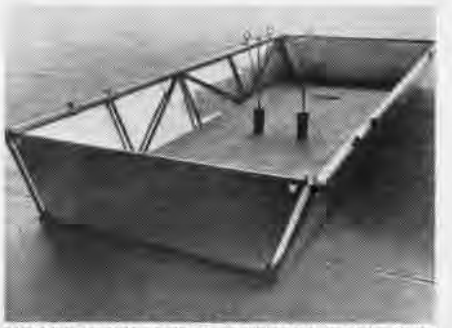
P2V-2 Cargo Tray Designed

Carries Big Load, Can Be Jettisoned

VP-3, PACIFIC—It takes one minute to install a cargo pan developed in this squadron.

Designed to fit the bomb bay of a P2V, the cargo-carrying tray can transport a load far in excess of the normal bomb load.

The project was undertaken by Gunter, AMC, and Spencer, AMC, when it was found that many return patrol trips from Atlantic ports to the Canal Zone were also cargo runs. Ordinarily stowage in the bomb bay is tedious and it can't be jettisoned in case of emergency. The new pan, weighing 200 pounds, can be salvoed.



CHROME MOLY, DURAL, PLYWOOD FORM TRAY

It is constructed entirely of scrap metal. The frame is chrome moly, the base plywood, and the sides 24 S.T. aluminum. Eight men can fasten it to the bomb shackles in one minute. A droppable gate at one end facilitates loading and unloading.

Fast Rescue for 5 Persons

Coast Guard and Navy Team Up

VP-34, NORFOLK—During a ferry-escort job helping 10 Uraguayan Navy TBM's fly to San Juan, a pilot of this squadron took time out to help rescue five civilians who had to ditch their *Bonanza* in the Caribbean.

The small plane, carrying Mr. and Mrs. Hennegan and their two small children and Mr. Jungerson, had to ditch between San Juan and Miami. An alert was sounded at the Miami Coast Guard air station for search and rescue aircraft. Two planes, one a JRF with Walter C. Huff, ALC, USN, and Don Colbaugh, Coast Guard pilot.

Huff spotted the survivors and an open sea landing, unusual for a JRF, was made three miles off Bimini. The survivors were holding on to two plastic fuel tanks but were unable to swim over to the JRF, so Huff volunteered to swim out to them with a line. He fastened the line to the survivors and the plane crew pulled them over to the *Goose*.

A PBY landed nearby and the survivors were transferred to it and returned to Miami. The *Bonanza* passengers had been in the water only two hours, indicating the speed of rescue.

● NAS SQUANTUM—A crash-fire rescue school was opened for all aviation rates in the Organized squadrons. The entire syllabus for the school was prepared by James P. Cook ESFC, a member of VA-78-A and a lieutenant in the City Fire Department, who also is in charge of the school under the aviation technical training officer. The facilities of Boston's fire-fighters school have been made available to Reservists on weekends.

LETTERS

SIRS:

In the January issue, Lt. (jg) Dewey R. Butt suggested printing a full-size photo, suitable for framing, of different naval aircraft, both past and present types, every month in the NEWS.

I believe this is a wonderful idea, these photos would make nice decorations for dens, offices, clubrooms and the like. I think a lot of former naval aviation personnel would go for the idea, but as you say budgets being what they are, I would like to offer the following suggestion.

1. Publicize the idea in NAVAL AVIATION NEWS to find out the response to such an idea.

2. If the response is great enough, print the photos individually and sell them in sets of five or whatever is appropriate, at a price to realize a small profit.

ORDNANCEMAN, USNR

WEST NEWTON, MASS.

¶ You won't have to buy these pictures. For some time it has been the policy of the Navy department to send out free pictures of ships and aircraft to former naval personnel. If you want two or three pictures of planes or your old ship, write to Chief of Naval Public Relations, Pentagon Bldg., Washington 25, D. C. They will supply 8x10 glossy prints. Be sure to specify what kind of plane you want.

SIRS:

On page 11 of the January issue, the caption under the picture of Mt. Rainier states, "As in all aerial obliques from a *Hellcat*, the pilot was shooting blind."

A photo pilot may use his vertical camera to take obliques and occasionally does, but in the F6F-5P there are three camera ports, two of which are oblique, both left and right, from which oblique photographs may be taken at various degrees.

By lining up a reference point on the wing with the subject to be photographed, the pilot of course does see what he is photographing. Lt. Sheen, did, however, take a good photograph with his vertical camera.

BLIND AS A BAT MARSH
PHOTO PILOT

NAS PENSACOLA

SIRS:

On page 28 of the January issue of NAVAL AVIATION NEWS, Case No. 2 in the flight Safety article as related does not clarify any violation in the writer's opinion.

Flight Clearance forms require true airspeed but as far as can be determined no Navy regulation was violated.

CAR prescribe instrument flight rules and the type clearance specified requires no other report than the position reports which were made over Roanoke and Charleston, unless specific instructions were given to that effect, therefore no CAR was violated. Please specify what violation caused a report to be placed in this pilot's official record.

CONFUSED TRANSPORT PILOT

NAS NORFOLK

¶ The initial clearance given the pilot was for 500 feet on top, and his flight plan specified a true air speed of 140 knots. Before commencing the leg from Roanoke to Charleston, the pilot requested and was granted permission to cruise and maintain 10,000 and this leg was on actual instruments.

According to position reports, the pilot made good a ground speed of 230 MPH on this leg and arrived over Charleston at just about the same time that another aircraft was expected at the same altitude.

Pilot subsequently stated that he flew at an indicated airspeed of 142 knots, which in itself would account for a sizeable portion of the discrepancy. According to the CAA report, he was flying into northwesterly winds, so that his speed should have decreased rather than increased. The pilot and navigator believe, however, that "there was a slight cross wind from south-southeast."

So you are *a recognition hotshot? Well, let's see you figure this one out. Of course we are running the picture upside down just to make it harder. After you have given up, we will tell you this is a row of 15 F2H-2 Banshees lined up in front of McDonnell Aircraft Corp. They have fixed wing tip tanks.*

Winner of *one of the fanciest, though unofficial medals, in the Navy today is Lt. J. M. Barrett of VC-25. The exec got his medal for "intrepid action" in sinking the first 'enemy' submarine in Operation Miki. Barrett got a tremendous ovation in the Bairoko's wardroom as the medal was pinned on his chest. Words on the medal read "Sighted Sub. Sank Same."*

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● THE COVER

Training films, featured in this month's issue, make up the theme for the cover shot of a Mitchell movie camera crew on board the CV *Hornet*.

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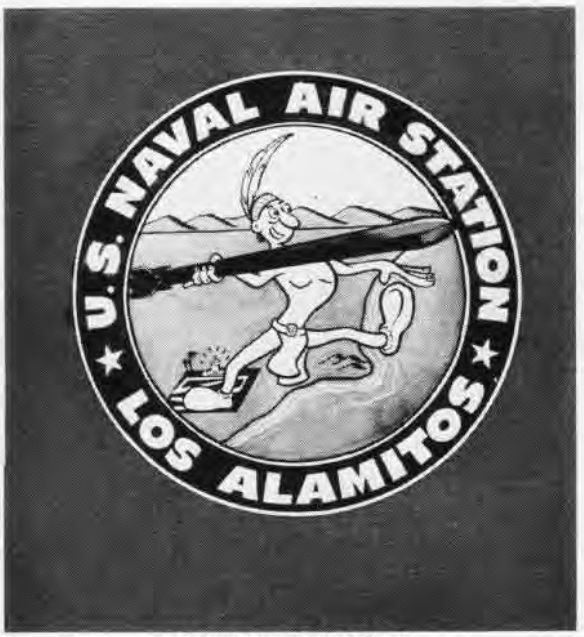
SQUADRON INSIGNIA

A TURTLE, tough and amphibious to match the present-day Navy, features Atlantic City's insigne, riding a *Banshee*. Lightning and sun signify the all-weather nature of the station's work. Reserve air station at Los Alamitos, Calif., features a rocket-launching Indian. VF-53's mark shows a winged black panther ready to strike a foe. The squadron motto, *Sans Reproache* is symbolic of gallant 18th Century Cavaliers. The carrier *Badoeng Strait* features an osprey, a hawk which hunts day and night. The mission of the ship is antisubmarine warfare, as shown by the osprey clutching a submarine in its talons.

BADOENG STRAIT

NAS ATLANTIC CITY



NAS LOS ALAMITOS

VF-53

LEARN TO FLY NAVY JETS

NAVAL AVIATION
NEWS

Naval Aviation Cadet training prepares you for a career in flying. Find out about opportunities at the nearest Naval Air Station