

NAVAL AVIATION

NEWS

RESTRICTED



Navy in Germany

Inyokern Rockets

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JET ENGINE ICING TEST

Atop Mt. Washington, highest peak in Northeast U. S., the Navy is conducting tests to determine how best to fight jet engine icing problems; Navy hangar, left center, must withstand gales which have reached 230 mph; cog railway reaches summit from right



NAVY WINGS OVER BERLIN

ALTHOUGH TTTT may never appear in any glossary of Navy abbreviations, to the members of VR-6 and VR-8 these letters will long symbolize a grueling but ultimately satisfying experience. For "Ten Tons to Templehof" is the label that Lt. Buergey of VR-6 applied to the daily trips of his squadron's current tour of duty, and the label has stuck.

These two Navy MATS squadrons are carrying the banner of naval aviation in the 20th century miracle of air transport, the Berlin Airlift. Under the direction of Cdr. Harry P. Badger and Cdr. James O. Vosseller, the two squadrons each are operating 12 planes from Rhein/Main field near Frankfurt and have made several outstanding contributions to the efficiency of the Airlift.

In their first two months of operations the two Navy squadrons flew 31,621.1 tons of supplies into Berlin in 3036.5 sorties. VR-8's record was particularly enviable. On 16 December the squadron flew 51 sorties to set an Airlift record for number of trips flown by an individual squadron during a 24-hour

period. On that day the squadron's efficiency mark was 222%. The efficiency mark is an indicator of the load a squadron carries compared with what it is expected to carry with the planes and personnel it has available.

Squadron Eight consistently topped its quota, and from 23 December to 6 January inclusive it had a record of 14 consecutive days with an efficiency mark of over 100%. Its average efficiency during this period was 138.3%. Eight's habit of showing up at the top of the Rhein/Main ratings keeps Air Force squadrons hopping to prevent its acquiring a permanent lease on first place. Squadrons VR-6 and VR-8 came to Germany to fly supplies into Berlin and they are doing it.

The story of their participation began last fall when Gen. Lucius D. Clay made his request for more four-engine aircraft to carry the necessities of life into blockaded Berlin during the crucial winter months. VR-6, stationed in Guam, suddenly was torn loose from its coral foundations, and VR-8 traded the sunny skies of Honolulu for the cold fogs of Berlin.



Flight operations in the Navy areas are conducted on a 24-hour basis; floodlights recently installed have been a big help in loading and gassing; view shows the VR-6 operations area at Rhein/Main as R5D's are readied for night *Vittles* run

THE SUDDENNESS of the departure orders came as a blow to every officer and man in the two squadrons. Very little scuttlebutt preceded them. Squadron Eight got the word in Honolulu on 27 October, and on the 29th the first group of six planes bade "aloha" to Diamond Head. On Guam, Six received its orders 30 October, and by 1 November its first contingent of four planes took off for the trek to Germany.

Two days in which to prepare for a move more than half way around the world was not much time, so preparations at both squadrons were conducted at a feverish pitch. VR-8 immediately dispatched an R5D from Hickam field to gather up all detachment personnel and layover crews at Johnston, Kwajalein, and Guam. Lt. Cdr. E. P. O'Brien had his wife and family on Johnston Island and he just managed to squeeze them aboard the plane as it returned.

Lt. Chester L. Robertson had spent only two days of his 10-day leave at Hilo when he received a wire: "Return to Oahu immediately!" "I thought some of my buddies were pulling my leg," Robertson said, "so I called Cdr. Vosseller to verify the message. He assured me that it was no joke, and although I had to leave my car, my family and I caught the next HAL plane."

Personnel of VR-6 were even more scattered. When the dispatch reached Lt. Richard D. Beckner's crew members in Shanghai they went on a souvenir buying spree, tried to round up all the squadron's laundry, and said goodbye to the squadron's many friends. Special planes had to be dispatched to Tokyo and Manila to get Lt. Warren's and Lt. Tranbarger's crews, but by 2 November all of Six's eight aircraft had departed Guam for Germany.

Enough personnel were taken by both squadrons to furnish a minimum of

three crews per plane and adequate maintenance personnel. When each plane departed it was loaded to the



Chief E. Trawick checks out flight gear to Davidson, Ens. R. Fuller, H. Madsen



Robert H. Davidson checks the lashings on load of flour, ten tons to Templehof

limit with spare parts, personal gear, men and officers. Knowing that both groups were going from a tropical to a cold winter climate, naval supply both at Guam and at Honolulu did a great job in outfitting the men bound for the Airlift. Parkas, wool sweaters, boots, wool socks, gloves, winter foul weather hats, wool overalls, and winter foul weather jackets were among the items dug up from the supply bins on the islands. Items not available there were picked up at Moffett and Jacksonville.

Planes from both squadrons made their first stop in the States at Moffett field. During the exodus from the Pacific, VR-8 traded four of its plush planes to the Marines for cargo jobs, and both squadrons made exchanges at Moffett field in California so that all aircraft destined for Germany were low-time planes. At Moffett 17 officers and 15 enlisted men were sent TAD from VR-8 to VR-6 to make up for the shortage in the latter squadron when it acquired four more R5D's. The magnificent efforts of the Fleet Logistic Support Wing at Moffett were responsible for the speedy and successful dispatch of the 24 planes comprising the two squadrons.

THE R5D's were scheduled from Moffett to Westover field, Massachusetts, as soon as they were readied with gas stops at San Antonio and Jacksonville. At Jax, crews also got a taste of liberty and the planes some special electronic gear. One plane, piloted by Lt. Richard Gerszeuski already had the latter aboard, and it headed straight for Westover from Moffett, landing only at Olathe enroute. This gave him a head start on all the rest.

From the MATS debarkation field at Westover, all planes headed for Rhein/Main in Germany, with planned stops



Groundcrewmembers of VR-6 thaw out around an open-air stove between engine checks before the ready room hut was built



Civilian unloading crews at the Berlin end of the Airlift help make quick work of getting the precious cargo off the planes

in Newfoundland and the Azores. After the stop at Lagens field in the Azores, one might have thought they were given the order "Deploy." Some nasty fog and low ceilings clung to the Rhein/Main area and only Airlift planes were being cleared into that field. Navy aircraft were diverted throughout Europe: to Marseilles, Vienna, Paris, Lyon, Munich, and Lyneham RAF base in England.

Because of his head start from Mof-fett, Lt. Gerszeuski was the first to land at Rhein/Main. He landed early in the morning of 9 November and that night he made the first trip for the Navy into Berlin. Two planes were sent up the corridor as fast as they arrived; but after traveling so far, crews and planes had to catch their breath, so Airlift authorities granted them a 24-hour preparation period before making the first trip.

Squadron Eight's last plane arrived on 15 November, while Six waited until 22 November before its last plane arrived after an engine change at Lyon, France. Crews of both squadrons were scheduled out as they arrived, but shortly a rotation system was inaugurated so that they had a definite time off with rest periods intermittently.

At the beginning the Navy received considerable kidding from their Air Force colleagues for their peculiar nautical terminology. The Air Force soon

learned, however, that the runway is the deck, left is port and right starboard, a C-54 is an R5D, and that a latrine is a head. It was Lt. Ormand C. Fowler who learned that the Air Force does not consider "wheels" to be an automobile.

He was taxiing into his "hard stand" or parking ramp at Rhein/Main after a flight to Berlin and called the tower, requesting that a "set of wheels" be sent out to the plane. The tower "rogered." When Fowler cut his engines, he looked out to see—not the crew pickup as he had expected—but a set of wheels for the R5D. "Wheels" in the Air Force are wheels.

The Navy was new to Western Germany and conversely few Navy personnel had seen this part of the world. The Germans didn't know just exactly what the officers were in their aviation greens. Shortly after arriving, Lt. Cdr. Eugene L. Lowrance of VR-8 was sight-seeing on the Bahnhof in Frankfurt one afternoon when he noticed a couple of Germans eyeing him critically.

"Finally I heard one of them whisper to the other, 'Russkie,'" Lowrance said. "I didn't want them to keep that impression so I got out my ID card and showed them where it said 'US Navy.' Their frowns turned to grins."

The two squadrons soon got accustomed to their new assignments. VR-8 was placed in the 61st Troop Carrier Group on the south side of the Rhein/

Main strip and VR-6 was integrated into the 1422nd Air Transport Group across the strip from Eight. The 1422nd was later redesignated the 513th T. C. Group.

The urgency of the Airlift was apparent immediately in the way loads of flour, coal, and other supplies were started aboard at Rhein/Main before the engines were cut and crew could leave the plane. They were unloaded so swiftly at Tempelhof that a mobile snack bar and jeep-equipped aerologist were supplied so crews would not leave the vicinity of their planes.

WINTER weather lived up to predictions. It became routine to fly east and west on the corridor on instruments and to make GCA approaches at both Tempelhof and Rhein/Main. All the Navy crews were thankful that they had been required to make all their approaches on GCA while with NATS.

When the GCA minimums of 400 feet and a mile existed at Tempelhof, the approach to runway 27 left was particularly interesting. Lt. Robert C. Haggerton, his copilot Ens. J. Richard Eaton, and plane captain AD3 Louis Marconi were on the final a half mile from touchdown when Marconi cried, "My God! I just saw someone's house go by!"

A few moments thereafter they broke out and made a perfect landing. The



LT. M. CARVER, PERSONNEL OFFICER, GREET'S CREW WITH 'PAPER WORK'



FOOD AND AEROLGY READY AT TEMPELHOF; BRIEFING JEEP MEETS CREW

final takes the aircraft right down between two rows of six-story apartment houses, and it requires a sharp GCA outfit to keep them out of the chimney pots. The GCA operators on the Airlift are probably the best in the business, for they bring their aircraft in safely when the soup seems thick enough to cut.

IN THE month of December alone the Airlift had 5,750 GCA landings. Of this total, 699 were in weather below the IFR minimum; 4,353 were actual GCA landings under IFR conditions; 694 were practice, 4 emergencies.

With the fog and rain of winter came the mud. Both squadrons had taxi ramps and hard stands made of perforated steel plating, but soon these areas as well as those around the operations huts became a sea of mud. The 70,000-pound planes would force the steel plating right into the earthen base.



THE ONLY ENLISTED PILOTS FLYING VITTLES

Cdr. C. C. Howerton, who directed the operations of VR-6 until Cdr. Badger took over on 12 January, mentioned to a visiting Air Force officer one day that one of the machinist's mates lost a carburetor in the mud one day and spent eight hours locating it again. There was a twinkle in his eye, but it seemed possible.

Around Christmas the weather improved a little and crew spirits im-

proved right along with it. On an occasional clear, crisp, cold day, pilots often broke the monotony with an occasional quip over the radio. Once, when giving his position over the Fulda beacon, the following flowed from a naval ensign:

*All Big Easys from one-one-two,
I have a short message for you.
Stand by one, while I give you a fix!
We're over Fulda at twenty-six,
Cruising six thousand and in the clear.
Sure am glad nine of you guys are here.*

A *Big Easy* plane is one headed east over the corridor, while a *Big Willie* is one flying west. A *Big Fat Willie* is one returning west with a load.

Although they were far from their homes and families, Christmas found the squadrons not lacking in Christmas spirit. They jointly adopted the Steinhelm Orphanage near Offenbach and contributed a truckload of clothing, food, candy, and toys to the 70 children living there. On 22 December representatives from the squadrons, including Lt. (jg) Karl L. Henn, Lt. Donald Allison, Lt. Maurice B. Jackson, ADC W. H. Stevens, ADC Earl L. Hockey, and AD3 William F. Bowser, delivered the food and toys to the orphanage and were an audience to a Christmas play presented by the children. Following the play, the Navy men passed out toys



MURPHY AD1 HELPS BRING CHRISTMAS TO KIDS

to the youngsters. Bedlam broke loose momentarily, for to many of the children it was the first such Christmas.

On Christmas Eve Lt. (jg) Henn, Lt. Allison, Lt. Cdr. L. H. Reagan, and Lt. Cdr. J. A. Morrison assembled food which they had purchased and any candy and nuts which they could "scrounge" from the BOQ into nine Christmas packages. These they delivered to destitute German families whose addresses had been secured from the German Youth Association.

When basketball season rolled around, Squadrons Six and Eight combined their talents to form the Rhein/Main *Tars*. Although work came first and they often had difficulty in rounding up enough players for a game, the *Tars* were soon a threat in the Northern USAFE Basketball League. The *Tars'* roster included Ens. J. R. Eaton, SN Leland G. Hampton, AD3 Louis Marconi, AN Robert C. Schwartz, AM2 Robert P. Burns from VR-6, and YN-2 Vernon Bronson, AM3 Richard M. Nesbitt, AD1 Robert J. Stein, AL3 Leo G. Walchuk, AT3 James F. Paschall, and AA Thomas Pollet of VR-6.

On 22 December WAVE Lt. Margaret Carver reported to VR-8 as personnel officer, becoming the only WAVE on duty east of the Azores and the first one to see service in Germany. Lt. Carver was one of the first women to be commissioned in the regular Navy last fall, and she came to duty in Germany from the VR-8 detachment at Fairfield-Suisun field in California.

SQUADRON Eight boasted not only the sole WAVE, but also the only enlisted pilots flying the *Vittles* run. Shortly after they arrived with the squadron, Chief Aviation Pilot Wesley T. Christianson was checked out as a plane commander. Aviation Pilot First Class Joseph A. Popp has been flying as copilot with the group in the airlift.

Engineering officers and personnel in the two squadrons had their hands full in their endeavors to keep the R5D's operating continuously. Heretofore they had been accustomed to aircraft layovers between hops in which to correct minor discrepancies and make minor inspections. In Airlift operations tires had to be changed, oil leaks fixed, plugs changed, etc., just as soon as the planes taxied into the hard stands and very often in sub-freezing weather.

For the first few weeks aircraft were flown to the Air Force base at Burtonwood, England for their 200-hour checks, but soon it became evident that checks could be pulled in the improvised nose-bays at Rhein/Main just as efficiently and in much less time. Engineering officers Lt. W. H. Jones of VR-6 and Lt. Cdr. E. P. O'Brien of VR-8 soon had their crews pulling checks in as little as 24 hours.

RIGHT along with the engineering difficulties of cold weather, mud, and shortage of personnel were those of Supply. Supply's biggest headache was parts procurement. During operations one night Ens. W. L. Reinhard of the engineering department of VR-6 temporarily solved the problem of a missing bungee string anchor bracket for one of the R5D landing gear. Just as soon as one plane went out of com-



TEMPELHOF AIRPORT IN THE SUMMER; NAVY CREWS HAVEN'T FOUND VISIBILITY SUCH AS THIS

On 19 December Lt. O. C. Fowler tried to relieve the food shortage in Berlin all by himself. When Fowler boarded his R5D he found that his cargo of flour had not been secured by tie-downs. The reason, he discovered, was that the flight clerk had gone for 50 more bags of flour. Apparently he had found the load short. When the load was complete Fowler found that the plane took excessive power for take-off and required more than the normal settings to maintain position on the corridor. He noted the count of bags as they were unloaded at Tempelhof. Instead of the normal 21,000-lb. load, he delivered to the beleaguered city 297 bags of flour, weighing a total of 26,730 pounds. He had flown almost three tons more than his normal load.

Rhein/Main is the busiest of the Airlift fields, with six Air Force squadrons of approximately 12 aircraft each

weather. They climb to their assigned altitudes along a path of homing beacons and range stations. On the eastern trip all pilots report their time and altitude over the Fulda beacon, thus enabling them to correct their intervals before entering the Russian Zone.

TRIPS in the Russian Zone have been uneventful for Navy pilots except for an occasional Russian plane in the distance. Forty minutes out of Fulda, aircraft report to Tempelhof airways and are taken over for their let-down and landing approach by the Tempelhof controllers. Because maintenance of proper airspeed is so important, Air Force control planes often fly formation with the Airlift R5D's to make certain that their airspeed indicators are calibrated properly. The return corridor from Berlin follows a northerly route with the primary reporting station being the Braunschweig beacon in the British Zone. After passing Fritzlar beacon, Frankfurt control takes over for the descent and landing at Rhein/Main. Airlift planes rely heavily on homer beacons, and proper "bird dog" operations is a must in all aircraft.

Aircraft departing from Weisbaden for Berlin are sandwiched into the Rhein/Main traffic by means of "block" control. That is, Rhein/Main aircraft are held on the ground until the Weisbaden planes have a proper interval.

Many of the crews have taken advantage of their rest leaves for sight-seeing, visiting such places as Paris, Switzerland, Denmark, Holland, and Luxembourg. After their long trip from the Pacific and this opportunity to see most of the countries of Western Europe, the members of VR-6 and VR-8 are convinced there is truth in the slogan. "Join the Navy and see the world."



CDR. BADGER RELIEVED CDR. HOWERTON, VR-6

mission he would scavenge this part for use on a plane going back into commission. On another night fluorescent lights were switched from plane to plane to keep them flying.

Perhaps the heaviest load of the entire operation fell upon the Medical Department. Lt. (jg) R. D. Nauman of VR-6 was the only doctor to come with the two squadrons, and before long he and his staff of six pharmacist's mates had their hands full. Common colds were particularly numerous, and at one time it was estimated that 80 percent of the Navy personnel had the sniffles. "Doc" Nauman set up his dispensary in the Betts Barracks area where, as the only medical activity, he served 2400 Airlift personnel.



EVEN THE COSTUMING (R) SHOWS UNIFICATION

and the two Navy squadrons operating from it. In addition to these, five Air Force squadrons from Weisbaden use the corridor to Tempelhof. Flight operations, consequently, are complex.

Airplanes are cleared for take-off at Rhein/Main at intervals of from three to five minutes, depending on the

GRAMPAW PETTIBONE

Must Own Oil Stock

An SNJ pilot on a cross-country flight to a destination 278 nautical miles away filed a flight clearance in which he estimated 2 hours and 10 minutes en route. Shortly after take-off he commenced using a power setting of 33" and 2100 rpm. He failed to keep a close check on his position and became lost when he neared his destination.

After a futile effort to orient himself on the range station he decided on an emergency landing a little over two hours after take-off. At this time he had only 10 gallons of gasoline remaining. While he was dragging a grass field for the second time his engine quit, because of fuel exhaustion. At this time he was in a right bank about 50 feet above the ground with wheels up and flaps down. He had to stay in the banked attitude to avoid trees ahead.

The aircraft hit the ground on the right wing and cartwheeled to the right for 75 feet. Both wings and the center section were ripped in one piece from the fuselage and the pilot's compartment was torn completely apart. Fortunately both pilot and passenger had tightened their safety belts and shoulder harnesses and escaped with very minor injuries, considering the forces exerted in the crash.

Gram paw Pettibone says:

I wonder if this fellow owns stock in an oil company? Seems like he should have known better than to fly an SNJ with these power settings. The pilot's handbook states that the maximum allowable cruising power settings are 30" and 2000 rpm. Using 33 hg and 2100 rpm he burned his gasoline at the rate of nearly 50 gallons an hour. No wonder he didn't have much left when he discovered that he was lost.

It's a good idea to drag a field prior to an emergency landing, but when you're on your last five gallons you'd better be satisfied with one look.

With proper flight planning the pilot need not have become lost in the first place. With proper throttle settings, he would have had at least an hour's fuel left after he discovered that he was lost.

Slipstream Blues

The F4U was idling on the line with a second class mechanic at the controls and a man standing by the winglines. Just as an SNB taxied astern, the mech in the F4U decided to check his mags at 2100 rpm. In the ensuing crash three



airplanes were damaged—the SNB and two planes that it was blown into.

Gram paw Pettibone says:

Engage me in private conversation sometime and I'll tell you what I really think about accidents like this and the people who cause them! The Dilbert in the F4U and his partner alongside were thoughtless, negligent and discourteous.

They're first cousins to the character who turns up for a pre-takeoff mag check with his slipstream flowing directly across the path of landing aircraft; to those who blow dirt and debris all over parked planes and bystanders; and to those who turn-up unexpectedly on the flight deck, bowling men over like tenpins.

Remember! Be courteous and thoughtful, consider your slipstream and its effect. And if you are a slipstream offender, keep your neck out of my hands!

On Route #1

Two midshipmen, awaiting transportation at NAS ALAMEDA, were assigned an SNJ for a local VFR familiarization flight. The local area was contact, broken to overcast with 1300 to 3000-foot ceilings during the following three hours. There were showers in the vicinity.

After take-off they proceeded southwest for a few minutes and ran into a shower. The pilot reversed course and decided to climb on top. He broke out at 5000 feet and continued on a northerly heading looking for a hole through which he might let down. About an hour after take-off he found a clear area at the north end of San Francisco Bay and let down to 1000 feet. Low clouds and rain were between him and the base so he climbed back on top and tuned in the San Francisco Range to

check his position. He then proceeded out the northwest leg on top and after a while took up a heading of 270° (directly out to sea). He held for 30 minutes, but found no clear area in which to let down, so he reversed his course and flew back over San Francisco.

He then decided to fly north and after about 15 minutes found another clear area and let down. This time he was over land, so he took up a westerly heading and held it until he reached the coastline. He then turned south, staying under the low overcast, and flying about a half mile off shore as he looked for the entrance to San Francisco Bay. By this time he was flying at 50 feet above the water and could see that the clouds fused with the tops of the cliffs and hills. He reduced his power settings to 1700 rpm and 22 hg as his gas supply was getting low.

He had to make a sharp turn out to sea to avoid Point Reyes just north of San Francisco and thus missed the entrance to the bay. Not realizing this, he continued south for another 40 miles. By the time he discovered that he had missed the bay, his fuel supply was too low to double back. Fortunately State Highway #1 parallels the coastline at this point and he was able to drag a straight section of the road and effect a safe landing. During the roll out a sign post ripped the under side of the left aileron and another post nicked the right wing tip. However, repairs were made on the spot and the next day the plane was flown back to the base.

Gram paw Pettibone says:

Gee, you fellows were born 30 years too late. This sort of up and down, hide and seek flying was considered real hot stuff before they made Von Richthofen a Baron.

Since that time folks have thought up all sorts of new-fangled ways to help you find your way home. I hear tell they've even got two-way radios now, so that you can call the range station and tell them all your troubles. Likely as not, they'd have been real pleased to tell you about 3000-foot broken ceiling and 15 mile visibility that existed all afternoon at Moffett Field. After all, you were practically within spitting distance of that big Navy field until you let your gas supply get so low.

Of course, it *could* be that you didn't want to let them know you were on instruments on a VFR flight plan. But, I can tell you one thing for sure. They'd a lot

rather know what you were doing than have you climbing up and down the foggy airways on your own.

Once you made your first mistake and found yourself up on top, you should have immediately requested a change in flight plan and asked for all the information and advice that you needed.



Dear Grampaw Pettibone:

The enclosed clipping from the front page of the *Manila Times* describes an air show held at the Manila International Airport.

The carrier plane referred to was a TBM I flew to Manila from Sangley Point for exhibition purposes. Due to crowded conditions of the taxiways, I had to taxi with folded wings. This article should clear up a lot of arguments about whether the TBM can fly that way or not. Twenty-five thousand people saw it, according to the writer.

Thanks for a lot of helpful hints in your column in the NEWS.

Yours with folded wings,

AD1 (NAP)

"THOUSANDS ENJOY AIRSHOW"

"More than 25,000 people witnessed the opening of the first air show in the Philippines held yesterday in conjunction with aviation week at Nichols Field (Manila International Airport), Baclaran, Rizal.

"Thirty-six P-51's of the United States Air Force passed in review. . . .

"U. S. Navy planes, including a carrier plane, followed next. The carrier plane came in with folded wings and opened up as it showed up over the airfield. The planes landed at the airfield and were immediately put on display to the public."

Grampaw Pettibone says:

You can fool all of the people some of the time.

For no particular reason this reminds me of something that happened to me a good many years ago. Returning to base late one night I went to throttle back for a landing, but couldn't budge the throttle control. After several attempts I gave it a really hard pull and it just came loose in my hand. I could move it in both directions, but the engines continued to run at full cruising power. I realized that I would have to get all squared away for the field with plenty of altitude and cut the engine by bringing the mixture control back to idle cut-off.

I called the tower and told them what I planned to do, but they insisted that I circle the field while they alerted the crash and ambulance crews. After about 20 minutes they cleared me to land.

The field was one of the largest in use at that time, and the landing was uneventful. As I rolled to a stop the crash truck pulled alongside. A young and sleepy sailor looked at me from the back of the truck with an expression that conveyed a mixture of wonder and admiration and asked, "How long have you been without power, Sir?"



Two's A Crowd

Two midshipmen were on their first night flight after reporting to an F8F squadron. Upon returning to the base they landed—the first fairly short and the second fairly long. Both were on the right side of the runway because of a FCLP platform set up on the left side.

About 3000 feet down the runway the second F8F overtook the first. The ensuing crash completely demolished one plane and caused major damage to the other. Fortunately both pilots escaped without serious injury.

Grampaw Pettibone says:

Obviously the pilot of the overtaking aircraft was at fault in that he failed to take sufficient interval for a safe night landing. However, I'm reluctant to place the entire blame on him, since he apparently wasn't briefed on the proper interval for night landings and the accident board pointed out that the squadron had no doctrine regarding this important point.

I will stick my neck out a mile and say flatly that "Two make a crowd on a runway at night." During darkness it is hard to see far enough ahead to avoid collisions. In addition, pilots are likely to land a little short of or a little beyond the desired touchdown point. Also it is more difficult to keep the plane rolling straight ahead. For these reasons merely alternating landings from left to right side is not sufficient.

Night landing collisions will not be entirely eliminated until safety officers and commanding officers get together and revise squadron doctrine to allow only one plane at a time on the landing runway. In most cases this will not result in much loss of time. Normally if the number two plane is just turning off the down-wind leg when the first plane lands, a safe interval will be maintained.

Who Forgot the Hammer?

The following pilot's statement gives a good account of what can happen when checks and pre-flight inspections are performed in a careless manner.

"I took off at 1450 in an SNJ for a local flight which was to include acrobatics. I was just finishing a barrel-roll at 8000 feet when I felt and heard a noise that sounded like some member of the fuselage had snapped or bent. My first impression was that too much stress had been put on the aircraft, but

after thinking over the maneuver, I concluded that it was not done in a vicious manner and the amount of G's pulled was only normal. I continued to fly for the remaining thirty minutes of my flight, testing my plane by maneuvers, changing prop settings, lowering wheels and flaps, and visually checking the aircraft.

"I could not locate the trouble as everything functioned in a normal manner. After landing it was noted that the tip of one prop blade was bent, various portions of the cowling were bent, a spark plug lead was broken, and a push rod housing was damaged. A handle which appeared to be from a hammer or mallet was lodged between the cowling and the engine.

"The only conclusion that I could draw was that someone had left a hammer in the engine area when the aircraft came out of check. During my maneuvers it had caused the aforementioned damage."

Grampaw Pettibone says:

Earlier in the day a rawhide mallet was used in some work which was done on the prop of this SNJ. The aircraft was given a post-check inspection, but neither the inspector or the plane captain who gave the plane its pre-flight inspection noticed the mallet, which was evidently left inside the cowling.

This is the sort of boner that really makes my blood boil. Something was wrong somewhere and it wasn't in Denmark. Slipshod maintenance can be costlier than the dickens, and what's more, it is easy to prevent if the inspection crew is on the ball. Mistakes like this have caused tragic accidents in the past. There is no room for such errors in Naval Aviation.

Dear Grampaw Pettibone:

Dear Grampaw Pettibone:

Would you be kind enough to answer the three questions below:

1. Can a naval aviator count flight time while in a leave status for qualifying time for flight pay?
2. Can a naval aviator count passenger time for qualifying time for flight pay?
3. Is it permissible for a naval aviator who is under orders to duty involving flying to pilot a Navy plane while on a leave status?

Thanks a lot,

—Lt. USN.

Grampaw Pettibone says:

Everyone ought to know these answers by now, but here we go again:

1. No. This is because flight pay is based on the requirement to perform regular and frequent flights. If you fly on leave you are not doing it as a requirement.
2. No.
3. Yes. Orders to duty involving flying continue in effect while on leave.

DID YOU KNOW?

Naval Air Honors Truman 219 Planes Fly in Inaugural Parade

The Navy contributed 219 aircraft of all types to the big aerial parade which flew up Pennsylvania avenue for President Truman's inauguration on 20 January.

Quonset Point sent 24 *Bearcats*, 20 *Avengers* and 8 *Skyraiders* under Cdr. A. T. Decker. From Cherry Point Marine base came 48 *Corsairs*, 16 *Hellcats*, 8 *Phantoms* and 8 *Tigercats* led by Col. E. L. Pugh. Norfolk contributed big planes, sending 6 *Privateers* from VP-21, 6 *Neptunes* from VP-7 and 15 *Mariners* from VP-33, VP-49 and VP-34. Cdr. R. Y. McElroy commanded the Norfolk contingent.

Longest trip to the inauguration was made by a group of 24 AM-1's from Jacksonville and 16 *Corsairs*, all under Cdr. Burns. Anacostia NARTU dispatched 7 TBM's and 5 F6F's to swell the parade, led by Cdr. Edelen A. Parker and Cdr. James W. Condit. NATC Patuxent had 6 PB4Y-2's from VP-21 in the air.

In addition, the Anacostia Reserve unit sent up an F6F with trimetrogon camera to photograph the whole length

of the parade. On the Washington monument grounds, inauguration visitors inspected a *Skyraider*, *Corsair*, FH-1 and a Piasecki helicopter. This month's cover photograph shows an M-1 blimp from NAS *Lakehurst* which spent the afternoon flying up and down the parade route.

Hornet Reunion Is Planned 'Alumni' Meet in April Is Scheduled

A reunion of men who were attached to the USS *Hornet* (CV-12) is being planned in Washington, D. C., tentatively for the last week-end in April or the first in May. A working committee under leadership of Capt. C. H. Duerfeldt, exec from the ship's commissioning until October 1944, is making the plans.

A full day of entertainment, with plenty of time for renewing old acquaintances and telling sea stories, is scheduled. Old crew members and air group members and their families are invited to attend. Present indications are that a large number will attend since more than 700 former members of the ship have indicated their interest.

Arrangements are underway to provide Navy quarters for male personnel

who want them, and hotel reservations can be made through the committee. For further information "alumni" of the *Hornet* may contact Capt. Duerfeldt, Telegraph Road, Alexandria, Va.

This Happened at El Toro F7F Night Flight Proves Interesting

MCAS EL TORO—An F7F called the GCA unit here and requested that it be brought in for a landing as it had only 25 minutes more gasoline left.

The plane was brought around on downwind for a normal approach. However, it was erratic on its headings downwind and crosswind. When the pilot refused to follow corrections on final, the controller gave it a wave-off. The plane had 12 minutes of gasoline left.

An immediate PPI run was started. The pass was successful and the plane landed without incident. After hitting the deck, it was discovered that the pilot had just arrived from flight school, it was his first night flight in an F7F, he never had flown GCA before, the plane had a defective gyro compass, and, as if that wasn't enough, the radio was operating intermittently.

F8F SHOWS EVILS OF LOW APPROACH ON A CV



A RICOCHETTING TAIL



SOMETHING'S MISSING



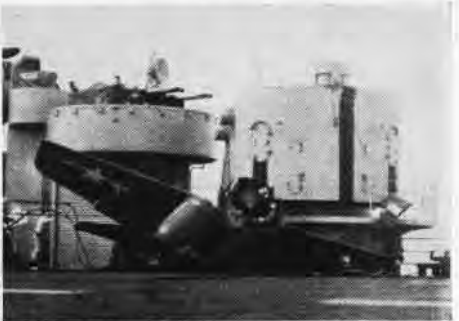
GANGWAY!



MY ACHING BACK



SAD SHAPE



PARTS AVAILABLE

TAPPING THE TOP LEVELS

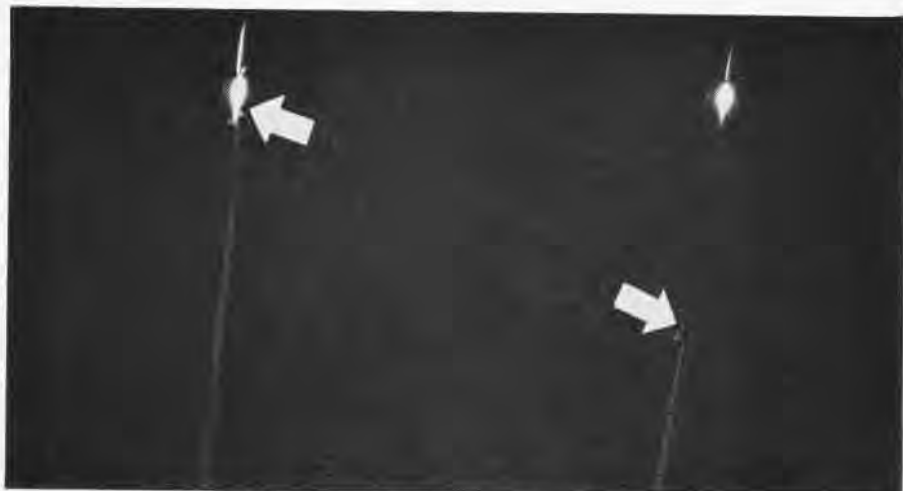
IF YOU have no place to go and want to get there in a hurry, you might try a ride on or in the Navy's *Aerobee*. This mode of transportation is fast—2600 knots cruising—and it doesn't go much of anywhere, just up, and up, and down.

The *Aerobee* was designed as a vertical ascent, free flight, high altitude sounding rocket. The program was initiated in 1945 at the request of the Applied Physics Laboratory of Johns Hopkins University and ONR for their use in studying upper atmosphere conditions. The project for development of the *Aerobee* was sponsored by BUORD.

Design requirements of the *Aerobee* were simple enough. The Navy wanted a missile that could carry a payload of 150 pounds, 50 miles—straight up. Aerojet Engineering Corp. proposed a favorable design which was accepted and work began. In conformance with an agreement, the airframe was built by Douglas Aircraft Co., with the powerplants supplied by Aerojet.

Two rocket power plants are used on the *Aerobee*, a booster rocket which burns out in 2½ seconds and delivers 18,000 pounds of thrust, and a sustainer motor which produces about 2,600 pounds thrust for 45 seconds. The booster is a solid propellant rocket which attaches to the end of the missile and supplies the initial burst which gets the vehicle up to speed.

After it burns out, drag, plus the sus-



WHEN BOOSTER IS BURNED OUT IT SEPARATES (ARROWS) AND THE SUSTAINER MOTOR TAKES OVER

tainer blast, separates the booster from the missile and the sustainer takes over. The sustainer motor is a pressure type similar to the V-2 rocket motor. At the end of 45 seconds, just as all fuel has been consumed, the missile is at maximum velocity around 100,000 feet. It coasts on up to 400,000 feet or so.

If this power were applied to a horizontal vehicle, one could go from Washington to Baltimore during the burning period and then coast on into Philly. But then what's in Philly? And you might overshoot and wind up in Brooklyn.

With the booster rocket attached, the *Aerobee* is about 24½ feet long; with booster off, it measures slightly over 18 feet. Built for speed, it is only 18 inches in diameter. Three fixed fins assure flight stability at high velocities. It is launched from a platform tower along rails which extend some 100 feet high, allowing it to emerge in a stable condition.

The first *Aerobee* round to be serviced and fired by a Navy crew was launched at White Sands Proving Ground, N.M., on 5 March, 1948 with assistance of Aerojet engineers. This flight had a number of missions. It was to determine the nature of primary cosmic radiation; to measure pressures and temperatures of the upper atmosphere; to gain flight data on the missile, with emphasis on velocity and altitude performance; to obtain empirical data to correlate computed effects of wind on missiles with corresponding tilt of launching tower; and to qualify station military personnel in all operational aspects of missile handling, servicing and firing.

THE FIRING was successful and the rocket motor burned a full 45 seconds. Due to the relatively small dimensions of the *Aerobee* and bad visibility conditions, all optical instruments lost the missile shortly after

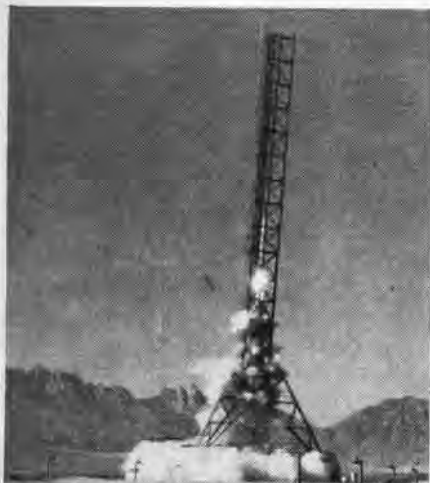
burnout and the impact was not observed. The cosmic ray data were telemetered satisfactorily. While the missile was not tracked to the summit, from the altitude and velocity at burnout the maximum altitude was computed at 410,000 feet. Performance was as predicted.

In April, 1948 an *Aerobee* containing an especially-constructed magnetometer was successfully fired at White Sands. This flight was noteworthy for the fact that the missile measured the earth's magnetic field, both vertical and horizontal intensity, up to an altitude of 68½ miles. The vehicle reached a peak velocity of 4125 fps—about 2475 knots—and sent back telemetered information 326 seconds out of the 349 seconds it was in the air.

MISSILE impact was located approximately 17½ miles north and 1½ miles west of the launcher. The missile apparently broke up in the air during descent, having no fins or warhead when found. This breakup, as indicated by the end of the telemetering record, occurred at about 326 seconds. The missile landed nearly horizontally and merely bent the tank sections. The tail cone was sheared off.

There was evidence of high heat due to skin friction during descent through the atmosphere. A study of the parts indicated that the rocket was able to enter the atmosphere on the way down in a stable, nose-first attitude. Because of the great speed with resulting high frictional heat, the No. 1 fin developed a crack in its leading edge. The dynamic pressure of the air then caused this fin to explode.

A number of firings have been made since the two detailed, and every launching has been successful. The results of one of the *Aerobee* flights received a great deal of national attention when pictures were released that had been taken 50 to 70 miles high.



AEROBEE HEADS UP CHUTE IN CLOUD OF SMOKE

Changes In Appropriations Final Revisions In Aircraft Spending

Listed on page 3 of the August, 1948 issue of *NANews*, were a number of planes being bought or proposed to be bought with '48 and '49 funds. The following revisions have been made:

Instead of the 33 additional F6U aircraft, this money is being used to purchase 60 F4U-5N aircraft. In place of the 47 Martin AM's listed, 30 Grumman AF-1's and 2's are being obtained. The 28 undetermined aircraft listed at that time have been revealed to be North American AJ-1's. In addition to these changes, 120 more F4U-5N aircraft are being bought.

Globe-Trotting Pilot Home Reports on Problems Flying Officials

VR-12—Some interesting items reported by Lt. (jg) Thompson upon his return from a month-long trip to Europe, the Mediterranean and Asia carrying a passenger list of high officials on a good will tour to newly-formed states of Pakistan, India and Ceylon:

Continuous wondering by passengers and crew alike, whether their immunization cards would get them through public health officials at Karachi.

A notam issued by Ceylon Ministry of Aviation that water buffalo droppings on the runway at Trincomalee look like small boulders. They do.

A 20-minute wait to take off from the RAF field at Fayid because flying before sunrise is forbidden, and by official decree of the Egyptian government the sun doesn't rise until 20 minutes after it actually does.

NAVY GCA AT SHANGHAI IS BUSY

SHANGHAI—The life of a Navy GCA controller is not always exciting, but take a look at a day in the life of the controller at this Chinese facility:

1333—Landed an Air Force B-17 with 600 feet ceiling.

1512—Brought in a VMR-153 B5C plane, 500 feet ceiling.

1545—Landed a VMR-153 plane after minor communication difficulties, ceiling 400 feet with light rain.

1712—PAA DC-4 plane piloted by Capt. Ogg landed on first attempt, ceiling 100 feet. Eight crew and 10 passengers aboard.

1725—A Chinese Air Transport Command C-46 piloted by Capt. Bing Yip contacted. Capt. Yip climbed 75 feet above glide path at three miles from end of runway on his final approach. He was brought back to the path and wandered up again one mile out. Pilot took a voluntary wave-off and immediately was given wave-off by GCA controller. Then the pilot evidently sighted the runway lights momentarily and tried to land. GCA gave him second wave-off. Pilot pulled up into overcast and crashed a few

seconds later half a mile past the runway. Ceiling 100 feet.

1750—Another CATC plane piloted by Capt. Croft made eight approaches before he brought his four crew and 16 passengers in. Had 50 gallons of gas remaining. On each approach he controlled his aircraft well until a mile from the end of the runway. From there his flight path became erratic, mainly with rapid drift to the left. Ceiling 75 feet.

2005—A CNAC C-46 piloted by Sailer had been holding over Kiangwan homer for two hours and 15 minutes before asking for GCA aid. Damaged port stabilizer when pilot tried to jettison cargo. Noticeable vibration at slow speed necessitated the pilot holding well above normal air speed on final. Pilot Sailer got two wave-offs and landed on third attempt with 40 gallons of gas left. Ceiling 75 feet. Mechanics turned up this plane next morning but had insufficient gas to taxi to dispersal area.

The GCA crew was on duty from 1000 to 2100. From 1700 on, as tension mounted, members were relieved at intervals to prevent nervous fatigue.

Xmas Tough on VR-2's Men Snowstorm, Electricity Liven It Up

VR-2, ALAMEDA—Observing Christmas has its bad points as well as its good; witness the experiences of Transport Squadron 2 men in that connection:

Two "woodsmen" Peters, DDC, and Scott, AMO, went up to the high Sierras to cut a load of 150 Christmas trees for the air station welfare department. The trees were supposed to be free but Mother Nature decided to impose a few

expenses upon the explorers. During the night, after they had cut a lot of trees, a heavy snow threw 30" of white stuff on the ground and a blizzard still was raging.

Aided by a native with a four-wheel-drive truck, the two men succeeded in reaching their cut trees the next day. Salvage work began with eight miles of hazardous snow and ice to be covered before the trees were hauled out of the woods. Chains had to be used on all four wheels of the logging truck to do the job.

While forcing through hip to shoulder-deep snow on a slope, Peters stumbled and fell head first into a snowdrift. Having nothing but his feet showing, he was extracted from the snowbank by a ranger who was wearing snowshoes. The men were practically sick bay prospects when they got home from their ordeal.

After the trees were put up at various places around the air station, Christmas parties were held. Santa Claus at the VR-2 hangar had a little trouble. While 200 children watched the animal show, a troop of playful monkeys almost stole his whiskers. To add insult to injury, St. Nick got the jolt of his life when the public address system shorted out and 110 volts hopped right into his hand as he reached for the mike to wish everyone a "Merry Christmas."

NAS DALLAS—An ACI team composed of two sections, one for each air group, has been formed. Each section comprises a staff ACI officer in charge and an ACI officer from each squadron. The ACI officers will work as a team and relay the necessary information, as it is prepared, to each squadron.



Take a good look at the armament the plane above is carrying—three aerial torpedoes, 12 HVAR rockets and four 20 mm cannon—a total of 9,000 pounds. Weight of the AM-1 Mauler pictured was 25,520 pounds, considerably heavier than a conventional twin-

engine R4D. The Navy is buying 149 of these big dive bombers from Glenn L. Martin, about a third of them yet to be delivered. A P&W Wasp Major engine powers the Mauler turning out 3,000 hp. The AM-1 can gross up to 29,000 lbs. if the need should arise.



ABOVE CALIFORNIA'S BARREN MOUNTAINS, A NAVY CORSAIR FIRES A LOAD OF HVAR ROCKETS AS PART OF NOTS INYOKERN'S TEST PROGRAM

DESERT ROCKET HAVEN

IN THE summer of 1943 the Navy Department directed the establishment of a West Coast rocket testing station to serve primarily during the war as an adjunct to the California Institute of Technology program for aircraft rocket development and testing.

In November of 1943 the Naval Ordnance Test Station, Inyokern, was established. Bureau of Ordnance placed special emphasis on development of rocket weapons, guided missiles, and aviation ordnance, as well as the training operations necessary for proper use of new weapons.

The Secretary of the Navy described its mission as that of a "station having for its primary function the research, development, and testing of weapons and having additional function of furnishing primary training in the use of such weapons."

Naval Ordnance Test Station, Inyokern, is one of the largest facilities of the Bureau of Ordnance. Roughly equalling the size of the State of Rhode Island, the station includes about 1000 miles of desert, plains, and mountains in the Kern, Inyo, and San Bernardino counties of California.

Located in the foothills near Pasadena is the Pasadena Annex, an integral part of the Naval Ordnance Test Station, Inyokern. Here extensive studies of

hydrodynamics and ballistics of water entry of projectiles is made. This activity operates the variable angle launcher located at Morris dam near Azusa, California. This launcher is the largest in the world dedicated to serve as the basic mechanism for installation of tubes and launching devices for weapons of the present and the future.

Rear Admiral A. G. Noble, chief of the Bureau of Ordnance, stated at the dedication of the Michelson Laboratory at Inyokern, on 8 May 1949: "The Navy's basic problems in maintaining a position of material advantage as the dominant world sea power are currently believed to be: 1. Increased air striking potentials. 2. Increased antiaircraft effectiveness. 3. Increased antisubmarine effectiveness. These most broad naval problems therefore dictated the emphasis on the Bureau's present three programs—the aircraft program, the antiaircraft program and the antisubmarine program."

In support of Navy ordnance programs, the work of the research, development and test organization, Naval Ordnance Test Station, is concentrated in four primary development fields—rockets, guided missiles, aviation ordnance, and underwater ordnance.

The research, development and test organization includes three technical de-

partments. They are the explosives, research and development,

Explosives Department—The explosives department conducts the principal development work on rockets, propellants, and explosives and is responsible for the operation of extensive pilot plant facilities. These pilot plants are for the experimental development and production of solid propellants and other weapons components. The propellants for the first 5.0" HVAR's and 11.75" TINY TIM's, that went to war on naval aircraft were developed and made here. The explosives department is composed of three major divisions: 1. development division; 2. process division; 3. test and service division.

The development division is equipped to conduct the design and development of rocket projectiles including metal parts, liquid or solid propellant charges and high explosives; applied research in connection with solid and liquid propellants; and, to design and develop special devices and instruments for use in such programs.

The process division is responsible for processing of rockets and explosives, the operation of the pilot plants, and the development of processing methods.

The test and service division performs the services required in tests of rocket motors, propellant charges, ex-



WHAM! A TINY TIM 11.75" AIRCRAFT ROCKET HITS CONCRETE WALL TARGET ON INYOKERN RANGE

plosive charges, and operates shop and storage facilities required in the operation of the explosives department and the magazine storage for the entire station.

Research Department — The research department has five divisions



MORRIS DAM TORPEDO TEST WORKERS LOAD TUBE

equipped for applied and basic research in the physical sciences and is devoted to work on the technical frontiers. These divisions are chemistry, physics, mathematics, ballistics, and applied science. The first responsibility of the research department is to keep the other departments supplied with new ideas and new approaches. It obtains and evaluates the knowledge required to carry out the assignments given to the station by the Bureau of Ordnance. It pioneers the discovery of new scientific phenomena or relationships and investigates their applicability to ordnance.

Primary zones of research with which the scientists at Naval Ordnance Test Station are now concerned include: fluid mechanics; heat transfer; propagation of shock waves; blast effects; chemistry of new propellants; investigations in "micro-time" physics (ultra-transient systems); ballistics of spin-

ning rocket projection from high speed aircraft; physics of the upper atmosphere; factors affecting flight and control of missiles above 30,000 feet; radiation phenomena; evaluation analysis of combat problems bearing on weapons development; aerodynamics of projectile flight; mechanics of water entry by high-velocity missiles; ballistics of projectile motion in dense fluids; and physics and metallurgy of certain metals and alloys.

Development Department — The development department is responsible for what perhaps might be considered the most important and conclusive phase of all test work assigned to the station. With four divisions to carry out the



WING ROCKETS, PACKAGE 50 MM GUN ON 5B2C

project work, the development programs are the primary responsibility of the aviation ordnance division and the underwater ordnance division. The third, the measurements division, conducts major measurements programs in the operational assessment field, and is responsible for the design of experimental programs and the assessment interpretations of that work. The fourth and latest addition to the development de-

partment is the guided missiles division.

The measurements division operates extensive ground range facilities where various types of rockets and guided missiles are test fired. The ranges are highly instrumented for tracking and telemetering work up to a maximum distance of 30 miles from the firing or launching point.

One of the ranges is equipped with a 1500-foot rail launcher so perfectly aligned that a rocket can be pushed along it on skids at supersonic velocity. Rockets with attached accelerating boosters are mounted on the rail and fired at simulated aircraft speeds in order that accurate studies may be made of their trajectories and penetrating power under controlled conditions.

The aviation ordnance division's newest application of rockets is to the propelling of small sleds at supersonic speeds over a one-mile track. This makes possible the studying, under accurately controlled and reproducible ground conditions, of the problem of air-to-air fire control associated with high speed targets and fighters. Also it presents the opportunity to pre-flight-test guided missiles, test air foils at supersonic speeds, and to test the behavior of bullets or missiles fired crosswind.

Naval Air Facility—Because naval aviation plays an important part in the development of new ordnance weapons, the Naval Air Facility was established to test the latest ordnance equipment being developed by the scientists who are helping to make Inyokern one of the outstanding ordnance test stations in the world.

The first aircraft rocket weapons that were tested were those developed by the California Institute of Technology. First air firing of the 5.0" HVAR (high velocity aircraft rocket), which was a development of the earlier 3.5" AR (aircraft rocket) with a 3.5" motor, were conducted at Harvey Field. Harvey Field was an ex-CAA intermediate field taken over by the Navy during the war until completion of the air field at the main station.



TWO TINY TIM ROCKETS RIDE ON F6F'S BELLY



SQUIRTING A 75' TAIL OF FIRE, TINY TIM ROCKET HEADS DOWNWARD



PBJ FIRES SPIN-STABILIZED 5" ROCKETS FROM TUBES IN PLANE NOSE

This rocket, the 5.0" HVAR, when built was dubbed *Holy Moses* from the spontaneous remarks of a press man when viewing the effect of this rocket when fired from an aircraft.

The progress of the war dictated the need of a missile to be fired from an aircraft which would pack a bigger punch than anything previously available. This was achieved at Inyokern near the end of the war in the form of an aircraft rocket known as the *Tiny Tim*. This was a rocket nearly a foot in diameter, weighing more than half a ton with a semi-armor-piercing explosive head. Though this rocket was not readied for fleet use until just before the end of hostilities, it was used during the Okinawa campaign.

To show how the Naval Air Facility teams up with the technical organization from the theoretical to the practical, let us say that a directive is received from the Bureau of Ordnance to develop an aircraft rocket that will go faster and have more powerful warhead than any rocket previously made. The technical organization is first turned to for an improved propellant. Perhaps a chemical compound they have long been working on in the hope that it might one day be useful will be chosen, or perhaps a picked team will be assigned to the development of a totally new propellant.

In another laboratory, a group of physicists are working at splitting time into smaller and smaller bits. Their techniques will be put to examining the process of explosives of a rocket warhead in order that a more perfect design may be obtained. The ballistics people will start the calculations on the flight characteristics of the rocket. Electronics people will design and build special measuring gear that will be required in test. A group of engineers will simultaneously start the design of the metal parts. To satisfy the de-

signers, better metal alloys will be developed in the materials laboratory. Soon experimental rockets will be manufactured in the shop.

Now the rockets are ready for their first firings from an aircraft. Many things have to be determined about their behavior on an airplane. What will be the effect of the rocket blast on the wings and control surfaces? What kind of launcher will be most practical? Sighting constants have to be determined so that dispersion will be known. Penetration ability at different ranges and dive angles will be learned. To accomplish all of these, many photographs taken from cameras mounted on the plane and on the firing ranges will be returned to the laboratory, developed, and assessed here.

Thus the aircraft rocket is built. A process stated in a few words may take three years to materialize, but all steps of that process are now in progress on this station.



1500-FOOT RAIL TESTS HIGH SPEED ROCKETS

MUCH PAINSTAKING effort is going into the development of new and better aircraft fire control and sighting systems. Methods of isolating errors caused by such variables as angle of attack and skid from the errors of sighting systems have been devised. This enables an aircraft fire control system to be more thoroughly evaluated than has heretofore been possible. The increasing speed of fighter and attack aircraft and development of new airborne weapons has made obsolete World War II bomb, gun, and rocket sights. Not only that, but the assortment of weapons now put on one airplane makes it impossible to install three separate sighting systems; there just isn't room in new high performance aircraft.

So—scientists and engineers are designing and developing, and naval aviators are testing new universal sighting systems that will be standard equipment on the planes of the fleet in the not too distant future.

Naval Ordnance Test Station, Inyokern, is now the home of more than 12,000 men, women, and children who, although living in the heart of the desert, are provided with all the institutions necessary for normal community life. About 4,000 civilian employees and nearly 1,000 naval personnel staff the Inyokern facilities. These include some 500 scientists and engineers and 100 naval officers. Possibly the most significant experiment so far conducted at this station is the one to establish a new type of organization and operation for a research center staffed by a mixed group of civilian scientists, engineers, and naval personnel living together in a self-contained community, and operated within the framework of Navy administration.

Pasadena Annex and Morris Dam employ approximately 800 people with a small contingent of Navy personnel.

ONE FLIGHT FOR JANICE



THERE WAS an ocean of snow where the sky ought to be. Lieutenant Larry Bates stood in the door of operations, his hands thrust deep in his flying suit pockets, and watched the flakes settling on the eight-inch layer already spread over the ground by two days of intermittent snow and sleet.

His restless eyes swept the sky and flight line and came to rest briefly on his PV-2 standing in front of the tower. The snow was beginning to accumulate again on the wings although his crew chief had just finished brushing them off.

Larry flipped his half-smoked cigarette in the butt can in irritation, and stamped back into the weather office; he went back to his vigil at the teletype machines. For two days his long, angular face had been a mirror for the sequence reports. When a slight improvement in the weather to the east showed, his face would light up. When the reports were worse he would rumple his black hair and pace the floor in desperation.

Only one plane had been cleared eastward since Larry had been grounded on the Tennessee field. It quickly returned to the field, covered with ice, the pilot grimly smiling his thanks for being safely back on the ground. But Larry badgered him about his attempt. How was it? Any forward visibility? Windshield ice up? De-icers do any good? What was the temperature up there? Finally the Com-

mander told him:

"Listen Lieutenant, if you're thinking of clearing through this stuff you're nuts. Just thank your lucky stars you're on the ground. That is the worst weather I've ever flown in, and I've flown in some rough stuff."

"So have I," Larry said to himself as he turned back to the sequence reports. And he had. He had flown patrols out of Newfoundland and Greenland during the war, and no one would deny that some lousy weather existed along the North Atlantic convoy lanes.

Just then an EAT came in on an R5D coming in from Norfolk, Larry's destination. He would get more information from the pilot of the R5D. He listened over the squawk box to the pilot's reports over various stations along the route. "Heavy icing over Richmond. Extreme turbulence over the mountains. Snow and ice over Tri-City. De-icers only partially effective." With each report Larry's anxiety increased.

"Why did this have to happen to me? Janice will be madder than hops. The Skipper's party is tonight. She's bought a new dress. What will I tell her? She'll never believe that I was grounded because of weather. She knows I went through the instrument school and that I'm considered a very good instrument pilot." He recalled the painful ordeal he went through with his wife the last time he was a day late getting home. This time it would be worse—he was two days late already.

Then the R5D landed.

When the pilot walked in, Larry cornered him. The reports of the pilot were not as bad as he had expected. He could make it! He had de-icing equipment. There was no



reason why the operations officer shouldn't clear him now.

Larry took his clearance in to the operations officer, the Lieut. Commander who had heard Larry's tale of woe too many times already. After staring at Larry for a while he asked, "Do you honestly feel that you have to fly in such weather just to get home? Do you think you can make it?"

"Sure, I can make it," he repeated the famous last words confidently and pointed to his "Green" card.

"O.K.," the Lieut. Commander replied, shaking his head. "I'm signing this clearance against my better judgment. I hope your insurance is paid."

Larry practically ran to the plane. He was twenty paces ahead of the copilot and plane captain, and he was not impressed by the fact that his two passengers suddenly remembered some unfinished business and canceled out.

After receiving his A.T.C. clearance and several advisory messages from Flight Service, Larry was cleared for take-off. At 600 feet he was in the clouds. Ice began to build up almost immediately. He let it build up on the wings. When he thought it no longer safe to wait, he started the boots to pulsating. The ice cracked and flew off. A thin smile came to his lips. He let it build up again.

This time, however, it collected much faster, almost as soon as the boots were turned off. Soon he could no longer see through the windshield, and his airspeed started decreasing. He checked the pitot heater quickly. It was on. What was wrong? He turned on the prop de-icers. Again that faint smile came as the airspeed started building up. The copilot, unimpressed, turned to see a note of dissatisfaction on the face of the plane captain. He usually stood between the two pilots with only the harness strapped to his body, but this time he had the chute on.

Turbulence set in as soon as they were over the foothills. Icing conditions were getting worse, and the de-icing boots would no longer clear the wings. Although Larry was now pulling 40 inches of manifold pressure and using 2,300 rpm's, the airspeed was decreasing steadily. The plane captain and copilot were exchanging more frequent worried glances now as Larry kept boring into the storm, showing no hesitance at all.

Finally the copilot said, "Don't you think we better go back, Larry?" "Naw! We can make it. I've flown in lots worse stuff than this. We'll be home in a few minutes."

The copilot took up all the slack in his parachute harness. If this continued he was leaving Bates to fight it out the best he could.

As the airspeed decreased to 130 knots, beads of cold perspiration began to show on Larry's face. Turbulence made it almost impossible for him to keep the plane upright. The gyro instruments had spilled twice. "It's a good thing I learned to fly basic instruments—the Navy should send all its pilots through instrument school."

The airspeed was down to 115 knots now. Then 110, 105, full power and rpm's. "What made me think I could make it?" A sharp picture of Janice waiting, dressed for the party, flashed across his mind. "I can't hold it much longer," he thought. Speed still decreasing. "Prepare to bail out," he said to the crew.

That was all the plane captain needed. He jettisoned the rear door and out he went. Larry didn't even notice as he fought the controls.

"Better get out," he told the copilot.

"What you going to do?"

"I'll follow you."

The altimeter read 5,500 feet as the copilot left the plane. Almost as soon as his parachute opened, his feet touched the ground.

The next day the wreckage was found in a small valley near a mining town. Larry was dead at the controls.

The chaplain didn't tell Janice the real reason Larry died. She would never have believed she was in any way responsible for his death anyhow. She would remember making his life miserable for several days because he was late on the last trip, but what did that have to do with all this ice and snow? That was what killed Larry.

Or was it?

("One Flight For Janice" is adapted from a story by Capt. James L. Dumas, USAF, which first appeared in *Flying Safety* magazine. The author points out the story is fiction and not based on any specific incident, but rather from impressions gained while "reading between the lines" of many accident reports.)

NAAS CORRY FIELD—Santa Claus arrived in a PBV-5A to entertain 400 children of station personnel. He leaned over to greet them after deplaning and tore the stern out of his red pants. He finished the party looking like a sheet-clad Hindu.

VMO-6, EL TORO—Parachute loft made covers for props, engines, wings, vertical and horizontal stabilizers for the OY-1 aircraft to withstand cold weather parking. The loft also made a coverall suit of phosphorescent neon red cloth to be worn when forced down in snow.

NAAS CORRY FIELD—A rescue PBV piloted by D. E. Bennett, ADC, found nine persons stranded on several small islands in the Chattahoochee river near Columbus, Ga. Turbulent waters and flotsam prevented a landing but food and life rafts were dropped to them.



BOOKS

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V. ADM. J. H. INGRAM GIVES HIS 'WELL-DONE' ON 107'S SEA RECORD



R. ADM. BELLINGER, COMAIRLANT, DECORATES PILOTS FOR ASW WORK

BOMBING SQUADRON 107

VP-83, VB-107 and VPB-107 were the successive designations of a great squadron destined to play a leading role in the dramatic suppression of U-boats, first on the Natal-Ascension run and briefly at the end of the war in the North Atlantic. By that time, it was second high among all Navy squadrons in sinking submarines with 5½ kills, ½ kill behind champion VP-84.

Commissioned 15 September 1941 at NAS NORFOLK, VP-83 had no aircraft for nearly two months. Then, one lonely *Kingfisher* was assigned to the squadron. It was, however, a harbinger of more to come, for shortly thereafter six crews left for San Diego with the skipper, Lt. Cdr. R. Sperry Clarke, USN, to pick up six amphibious *Catalinas*. Shortly after they arrived at San Diego, Pearl Harbor was attacked, and they were immediately pressed into service for antisubmarine and interceptor patrols on the West Coast. By the end of January 1942, they were back at Norfolk.

On 11 January 1942, VP-83 equipped with *Catalinas* began major operations as part of Patrol Wings Atlantic. Operating in the Norfolk area, three squadron airplanes went on a search patrol on the 30th in connection with the sinking of the SS *Rochester*. The ship sank five minutes after the first plane arrived on the scene of the torpedoing. The USS *Roe* picked up two lifeboats of survivors one hour later. The search for the undersea raider continued for four and a half hours. Bombs were dropped on an oil slick, but there was no evidence of damage.

On the 15th of March, the skipper told officers to prepare to leave for Natal, Brazil, for "temporary duty." They were further instructed to take

★ THIS IS the fifteenth of a series of short sketches of squadrons in World War II. It is based on reports filed with Aviation History and Research in DCNO(Air).

along heavy clothes and winter flight gear. "We'll be in the tropics only six months and move to a cold climate." That the skipper just hadn't polished off his crystal ball or adjusted his glasses to read it seems probable, for the squadron was destined to operate out of Natal for the next 33 months!

On 7 April, six planes of the first division of the squadron landed at Natal and were the first military planes to operate from Parnamarim Field. This airfield, which played a major role in ATC ferry operations, is well remembered by the thousands who rested there before continuing their journey across the South Atlantic.

Two months later, the second division departed for Natal. A fatal accident marred the final leg of the journey to Natal when Lt. (jg) C. H. Skidmore flew into a severe thunderstorm and crashed to sea five miles northeast of Natal light. Of the eight aboard, only three survived.

On 2 July, the squadron operating with 11 PBV-5A aircraft began the rugged task of systematically patrolling the shipping lanes along the entire 3800 miles of Brazilian coastline from Rio de Janeiro to Cape Orange. As VP-83 was the only US bombing squadron in Brazil, it had not only to give coverage to convoys but also undertake antisubmarine searches. Most of the bases used in this vast area were poor, lacking housing, messing or repair facilities. On extended convoy coverages when landings and take-offs had to be made at all hours of the day and night, the crews slept in the bunks of the planes or on the

wings. Occasionally—and only occasionally because of the danger of dysentery—officers and men would stay in town for the night.

In the early months of the Natal tour, attacks were made on enemy underwater craft, but not until December did the squadron begin to hit pay dirt. During that month, seven submarines were sighted and attacked. Considerable damage was inflicted on two of the attacks, those of Lt. Cdr. B. G. Prueher and Lt. (jg) Gerard Bradford, Jr., but no definite kills were claimed.

In January 1943, Lt. Cdr. Prueher became the skipper of the squadron.

THE SQUADRON made its first definite kill the 6th of January. Lt. (jg) William R. Ford's plane dramatically concluded a three-day convoy coverage by sinking a sub. Lt. Ford was able to approach at an angle of 60° without alerting the U-boat. He dropped three bombs almost simultaneously—and a fourth for good measure. At the explosion, the submarine appeared to rise out of the water and break. Two life rafts were dropped. Survivors picked up later confirmed the sinking.

Another highly successful attack occurred 15 April when Earl J. Kloss, S2/c, spotted "a ship down there." Ensign E. C. Morrison, navigator, identified it as an enemy submarine, possibly Italian, and scrambled to inform the pilot, Ens. T. E. Robertson. By that time, the plane had passed directly over the target. As Robertson turned to port to see it, the enemy began throwing up anti-aircraft fire. Robertson began a dive at 7,300 feet.

The ancient *Catalina*, which had, incidentally, badly frayed control cables, nosed over 60° and reached an indi-

cated airspeed of 245 knots. When the airplane got down to 2,000 feet, the target was half submerged, so all four depth charges were dropped. This destroyed the control mechanism of the submarine which immediately surfaced and began circling at four or five knots, leaving a heavy brown oil. Immediately after the attack, Robertson sent out a contact report, alerting other pilots of the squadron. Lt. Bradford responded and upon arrival delivered the *coup de grace* by dropping four bombs at 50 feet. The enemy sank six minutes later, and life rafts were dropped. Two survivors picked up several weeks later confirmed the impression that the sub was Italian.

A few days later, VP-83 returned to Norfolk where it became Bombing Squadron 107 equipped with 15 PB4Y-1's. After 15 days leave, pilots and crews were given a few hours instruction in the four-engined craft. By 26 June they were back again in Natal.

ON 22 JULY, Lt. Cdr. Renfro Turner sighted a submarine at 0925 and attacked with six depth charges. A hold-down was immediately instituted, and the target re-sighted at 1052. Lt. (jg) J. T. Burton made a run on the enemy at 1058, but owing to error, no bombs were released. A minute later, Turner dropped his three remaining bombs, but no damage was visible. A three-plane hold-down was maintained, and the next morning six planes took off to destroy the U-boat. Lt. (jg) C. A. Baldwin damaged the sub so that it could not submerge. Lt. (jg) G. E. Waugh attacked in coordination with Lt. Ford. Both planes dropped their bombs. Then Waugh's airplane tragically plunged into the ocean and all hands were lost. The submarine sank, but survivors were picked up.

On 3 August, Lt. Cdr. Prueher swept an estimated submarine position, sight-

ed a U-boat, and pressed the attack home. Immediately, a large oil slick was seen. A second U-boat, which submerged immediately, was sighted 10 or 12 miles away, but Prueher had to go to Recife to re-arm and re-fuel. He returned to the area and renewed the attack as darkness was setting in. He made two strafing runs, but the amount of damage could not be determined.

Then on 11 August, Prueher and his crew set out for what was destined to be their last flight. They were never heard from again—not directly.

But early in September, survivors of another downed sub reported that Prueher had attacked one of three U-boats rendezvousing to transfer personnel from a U-boat badly damaged the third of August. Prueher and his crew had made two bombing runs before they went down, never knowing that they had sunk one enemy submarine.

Lt. Cdr. Turner took over as skipper. A commendation from Com Fourth Fleet promised vengeance for the loss of the gallant skipper of 107, for all the officers of the squadron who had gone down in their planes, and for all the men who perished with them.

On 30 September, a detachment of VB-107 was assigned to Ascension Island to facilitate antisubmarine barriers and sweeps in the narrows of the South Atlantic between Africa and the "hump" of Brazil. One of the most exciting battles in which 107 engaged was on 5 November 1943 when Lt. Baldwin of the Ascension detachment attacked a submarine and crippled her so that she could not submerge. Lt. Baldwin remained in the area calling in other planes of the squadron. Lt. Ford made an intensive attack, but still the U-boat did not go down. Finally Lt. S. K. Taylor came in to hit the bull's-eye. He made two runs on the target, and the submarine blew up and sank within five minutes.

The barrier patrol continued all fall, success and failure alternating in the daily search for enemy surface and underwater craft. On 1 January 1944, Lt. M. G. Taylor investigated a ship picked up by radar. The ship refused to identify, so the plane crossed over in front of it and fired a few bursts from the bow gun several hundred yards ahead of the ship. The ship replied by attacking, knocking out one engine and perforating the fuselage. Contact with the ship was kept the rest of the day by other aircraft of the squadron. Coverage was maintained 2 January. Lt. R. T. Johnson and all his crew were lost as a result of damage suffered during an attack. Lt. W. E. Hill covered the final watch until the USS *Somers* arrived to sink the vessel by gunfire. The ship proved to be the SS *Weserland* headed for Germany with a load of crude rubber from the Far East.

On 6 February, Lt. (jg) C. I. Purnell made two bombing runs on a U-boat and chalked up a successful kill.

THE CAREFUL, systematic patrolling of the South Atlantic was exacting its toll of the enemy and ridding the seas of the submarine menace. With targets on the decrease, the patrols yielded little. Then on 29 September, Lts. E. A. Krug and J. T. Burton in a coordinated attack sent another U-boat to the bottom.

For the remainder of the year, VPB-107 engaged in extensive training since seven new crews had arrived as relief.

In January 1945, the squadron left for England via Ascension Island and French Morocco. Based in the United Kingdom, VPB-107, skippered by Lt. Cdr. W. F. Brewer, made a commendable record, coordinating their work with the Coastal Command. But V-E day came quickly enough to prevent the enemy's feeling the full power of their offensive in the North Atlantic.



107'S DECISIVE ATTACKS NETTED THESE PRISONERS FROM NAZI U-BOATS



LT. FORD'S CREW ENDED A 3-DAY CONVOY COVERAGE BY SINKING SUB

Chinese Shuttle Service

A MARINE transport squadron has found itself in the emergency airlift business during recent months of 1948. VMR-153, located at Tsingtao, China, has had a series of rush moving jobs between its home station and the colorful ancient cities of Peiping, Mukden, Tientsin, Shanghai and Nanking.

In July, during the great famine in Manchuria, cargo, consisting of food and other necessities, totaling 144,274 pounds, was shuttled to the American consulate in Mukden from Shanghai, Tsingtao and Peiping. Twenty-four passengers also were carried.

From the 27th to the 29th of October another emergency airlift was made to Mukden. This turned out to be a race for completion before the Communists captured the city. Six R5C's were used during the operation, the last departing from Mukden less than a day before the city fell. Transportation was supplied for 56,590 pounds of cargo and 39 passengers.

From the 11th to the 13th of November, 24 flights were made to Nanking and Shanghai to expedite the evacuation of the American military dependents and household effects from that area. This operation was somewhat hampered by the general state of confusion existing at Nanking, making complete utilization of available aircraft impossible. In spite of the adverse conditions, however, 89,938 pounds of cargo and 40 passengers were airlifted.

The airlift from Peiping and Tientsin began on the 14th and ended on the 18th of November. During this period large quantities of food supplies were brought to the American consulate in Peiping, with personnel and personal effects carried to Tsingtao on the return trip. The 22 flights handled 101,025 pounds of cargo and 63 passengers.

An additional Peiping airlift was made on November 29. One R5C was sent to Peiping from Tsingtao to return consulate personnel. It loaded 16 passengers and personal effects at Peiping and returned via Tientsin. At Tientsin three additional consulate personnel were taken aboard for Tsingtao. One plane was sent to Tientsin with consulate personnel and 844 pounds of rations. It returned to Tsingtao via Peiping, loading there 3,000 pounds of belongings of consulate personnel.

The air evacuation of American dependents and friendly neutrals continued through the month of December. On the first, three R5C's carried 76 U. S. embassy dependents and 6,021 pounds of personal effects from besieged Nanking to the relative safety

of Manila.

Forty dependents of the American consulate staff in Shanghai and 6,285 pounds of baggage were air-evacuated to Manila by two R5C's on 5 December.

At varied intervals throughout the month dependents of naval personnel were transported from Tsingtao and Shanghai to Canton and Hong Kong, deep in south China. In these operations, seven aircraft were used to evacuate 48 passengers and 12,474 pounds of their belongings. On one occasion 14 German Catholic missionaries were carried as far as Shanghai so that they might make a plane connection back to Europe.

Aleutian Cloud Has 'Prize' VP-6 Reaps Reward On Blind Hop

VP-6, PACIFIC—You never can tell what you'll meet in the middle of a cloud. Take one of this squadron's P2V-2 crews, for instance.

With the ceiling fair in the Aleutian area, and the usual snow and rain storms not too far off, crew seven was airborne for some local instrument work. Shortly after take-off, it flew through a harmless-looking snow cloud. To all of the crew's amazement, there was a loud crack.

A huge ball of blue lightning enveloped the nose of the aircraft. The ball was seen to split at the nose and go out each wing tip. It scared the daylight out of the crew, but after a thorough check of all instruments, gauges and electrical equipment, everything seemed to be normal, so the hop was completed.

Upon landing, a thorough inspection was made of the outer part of the plane. There was no visible damage except for a few small pits in the skin, on the bow of the aircraft.



It isn't often that naval aviators win trophies for their flying, but two members of VF-51 are shown here clutching some nice hardware. Ens. F. T. Brown holds plaque he won for copping the 1948 Bendix race, jet division. Lt. L. E. Thompson holds the big Allison trophy race cup he won. Both flew FJ-1 Furies.

Fleet Air Moves to Florida Jacksonville To Handle 3 Air Groups

NAS JACKSONVILLE—Quonset Point's loss was Jacksonville's gain recently when jet *Phantoms*, AM-1 *Maulers* and other combat planes formerly stationed at the Rhode Island air station were moved to Jax.

The move was part of the program which made Jacksonville over from a training station to an Atlantic fleet air base. Former training activities were moved to Corpus Christi, Memphis or Pensacola.

Quonset facilities were too crowded so Carrier Air Group 17, which includes VF-171, the only Navy jet squadron on the Atlantic coast, was moved to Florida. Marines have a *Phantom* jet squadron at Cherry Point, N.C. Commanding officer of VF-171 is Cdr. William N. Leonard. The outfit will be based at Cecil field which during the war helped train SBD dive bomber pilots. About 500 men and officers and 100 planes are involved in the move.

Carrier Air Group 4, formerly stationed at Norfolk, Va., also moved south and is based at Jacksonville main-side, joining CAG-8 already based there. All three air groups are under command of Rear Adm. Calvin T. Durgin, Commander Fleet Air Jacksonville.

Marines Like Leave Graph Chart Tells When Vacations Pile Up

VMF(N)-513, EL TORO — This squadron has worked out a system of keeping track of leave which employs graphs to keep officers and men posted on who's going on vacations and when.

The system is a terrific morale booster. The graph is posted where all hands can see it. Main data shown are the total number of officers and men who are on leave on any one day. A computation is based on the 10% rule with periods marked off when the squadron mission is such that no leave may be granted.

Then by picturing the number on leave and those with approved requests, the periods available are clearly shown. Any reasonable requests for leave during the available periods are automatically honored.

In this manner choice is given to personnel who look ahead rather than to those who just happen to have their leave requests on top of the pile. Also it seems to spread requests for leave more evenly over the year without the usual attendant disappointments.

NAAS WHITING FIELD—Steerable tailwheels are now being replaced with lockable wheels on all SNJ's of BTU-1A and 1B. Brakes will be used more, but groundloops are expected to decrease which is a good thing.



COMPUTING, RECORDING DATA FROM OBSERVATIONS MADE IN FLIGHT



STUDENTS GET PRACTICAL TRAINING IN USE OF THE RADIO ALTIMETER

THE WEATHER'S UP THERE

THE CLASSIC definition of a good schoolroom involves having a qualified professor on one end of a log and the student on the other. But when learning gets out of the realm of the abstract and deals with techniques practiced with specialized gear in a specific environment, then the equipment and its housing become important. Learning to be an aerologist in the service of aviation is such a situation.

The logical place to get first-hand information about weather conditions affecting flying is in an airplane; and that is just where the Aerographer's Mates Schools of NAS LAKEHURST have put their students. A pamphlet *Aerology Flying Classroom*, recently is-

plane is equipped with nine large work desks. Over each desk is an instrument panel mounting a pressure altimeter, an air speed indicator, a flux-gate compass repeater and a standard free air registering thermometer. Four type B-3 gyro drift meters, an SCR-718 radio altimeter, loran gear, and two type ML-313-AM psychrometers also are installed in the plane. The astrodomes for observation are located over the center aisle.

When the aerologists take over on this equipment, the pressure and radio altimeters are used to measure cloud heights and to make pressure extrapolations. Wind speed and directions can be determined by using the drift meters. The air speed indicators are used to make pressure and temperature corrections. The flux-gate compass repeater serves in determining the orientation of cloud formations and fronts and also to assist in estimating wind direction.

In the flying classroom the embryo weatherman gets a complete picture of the pilot's weather problems and sees just how to help. From actual experience in "flying the weather," the fore-

caster is better able to assist the pilot in planning a flight. He is able also to make better forecasts for future flights by emphasizing such hazards as low ceiling, poor visibility, turbulence, icing, fog and unfavorable winds.

Before take-off there is pre-flight briefing of the class. The current surface map, upper air charts, teletype sequences, and the flight plan are discussed with the students who then make practice forecasts on the aircraft clearance form.

IN THE air, students meet the weather that appeared on the daily weather maps. They make weather observations and encode them for transmission; they measure the weather elements at significant levels and chart the data; they make vertical cross-sections of the atmosphere through which they are flying and try to explain all phenomena observed during the flight.

Back at the station, a follow-up classroom session analyzes the work done during the flight just completed. The students' forecasts are corrected and graded. Errors are pointed out, and the instructor uses the observations and data taken during the flight to explain the weather encountered.

The flying classroom gives a three-dimensional aspect to the weather map. As the descriptive pamphlet puts it, this training "lifts the blue line of the cold front from the map and replaces it with a never-to-be-forgotten line of actual thunderstorms." The gap between pilot and weatherman has been narrowed, for the more flying time an aerographer's mate has, the better is his understanding of flight weather problems. His interest is stimulated by actual flight experience, and the benefits are passed along to all.



ASTRODOME GIVES VIEW OF CLOUD FORMATIONS

sued by Aerology Flight Section of CNO, looks at this practical project inaugurated in 1945 and finds it good. Since the flying classroom program started, 218 advanced students in the Class "B" and "C" schools have been given airborne training, and a larger number of primary students have had indoctrination flights.

The flying classroom is a standard twin-engine R4D-7, a navigational trainer. The passenger compartment of the



TAKING AN IN-FLIGHT PSYCHROMETRIC READING

Argentia Flight Hits Wind Heavy Going Reported By Transport

VR-1, PATUXENT—All the bad flying weather isn't in the Aleutians. One of this squadron's transports with 28 passengers aboard had a rugged time flying through an unscheduled hurricane between Nova Scotia and Argentia, Newfoundland.

Aerology reported squalls along the route with the hurricane, which formerly threatened the Atlantic seaboard, about 200 miles southeast of Argentia. Lt. Cdr. H. D. Metke and his copilot, Lt. Cdr. M. R. Plaxco, reported severe turbulence and heavy rain.

Thirty-five degrees right drift was met over Copper Lake and 35 degrees left drift was observed over the Corbin intersection. Arriving at Argentia, the flight was making good a ground speed of 70 mph. A PPI approach was made with a 25-degree crosswind from the right and visibility cut to one mile by heavy rain. The pilots said a safe landing could not have been made without GCA.

'Old Reliable' Libs Honored VP-61 Wins Safety Plane Award

The Navy doesn't have many PB4Y-1 Liberators still flying, but those it has are doing all right for themselves—witness the safety award won by VP-61 from ComFairWestCoast for 5,000 flight hours without accident.

Patron's 32 pilots and 279 airmen



CDR. DAVISON, L/C VAN DUSEN RECEIVE AWARD

flew the six Liberators all the way from Nome, Alaska, to the Mexican border and got in enough distance to girdle the globe a dozen times. They were used by VP-61 to map northern Alaskan areas for geologic purposes and furnished photographers to aid VP-4 in aerial mapping of the Alaskan panhandle. Formerly commanded by Lt. Cdr. Charles A. Van Dusen, VP-61's skipper now is Cdr. William H. Davison. It is one of the few units in the U. S. armed forces still using Liberators.

Grab Yourself a Fat Salmon Fishing on Adak Reaches New Low

VR-5, SEATTLE—Fishing on Adak has reached the Paul Bunyan stage. While one can use a pole and line, after a while interest is lost because of the monotony.

It has been found that hip boots and dexterity in knee deep water can provide a new thrill. Facing downstream,

the approach of salmon can be observed and a quick feinting movement drives them into a recess in the bank.

A scooping motion with the arms places a six to ten pound salmon on the bank and the fight is continued on dry land. A scramble up the slippery bank with a horizontally sliding motion gets a salmon back about eight feet. It is then possible to relax, stand up and drip, or go back and try again, for they are coming up by the hundreds. They taste just as good when captured in this way and you don't have to fight to remove the hook.

GCA BOX SCORE

December GCA Approaches	7,882
Actual GCA Landings	425
Grand Total Approaches	175,679
Total GCA Landings	7,648

The December total of actual landings requiring the aid of GCA is the largest for any month since the Navy started operating its sets.



Naval officers going to General Line School at Monterey, Calif., take a look at AD-1 and P2V-2 aircraft armament as a part of their course in aviation ordnance. Aviation plays a prominent part in the curriculum so latest operational types were flown to NAAS Monterey for classes.

Spotting Pilots Aid Fleet VO-2 Furnishes Planes, Men on Call

VO-2, NORFOLK—This squadron is furnishing detachments to ships of the Atlantic fleet, calling on its 31 pilots to put aviation units aboard any CV or BB desiring them for a particular cruise.

Among the ships furnished units were the Missouri, Fargo, Huntington, Manchester, Worcester, Albany, Little Rock, Providence, and Portsmouth. These ships have been participating in various types of cruises such as Reserve training, Mediterranean, task fleet maneuvers and shakedown cruises.



This picture demonstrates why early aircraft did not need JATO to get out of tight spots. While President Taft and numerous prominent officials watched, this Wright biplane piloted by Harry N. Atwood took off from the south lawn of White House and attained a respectable altitude in a few feet. The flight took place in 1912. The plane was a Wright B aircraft built by Burgess and Curtis at Marblehead, Mass., under license with Wright brothers. The plane later was owned and flown by Roy Waite, a Navy employe 32 years, most of them with Bureau of Aeronautics.



HER SUPERSTRUCTURE BATTERED BY THE BIKINI ATOM BOMB BLASTS, THE PENSACOLA RIDES PUGET SOUND CHOP ON WAY TO HER LAST 'FIGHT'

PLANES, SHIPS SINK 'PENSACOLA'



USS PRAIRIE BUGLER PLAYS TAPS FOR CRUISER

CARRIER-based planes and ships of the First Task Fleet finished off another of the Navy's gallant veterans of World War II recently when they sank the CA Pensacola on 10 November off the north coast of Washington.

The 18-year-old cruiser, battle-scarred veteran of 13 major engagements and the Bikini atom bomb tests, was rocketed and blasted by bombs and shells for almost 6½ hours before a torpedo shattered her bow. Even this did not sink her—she took 64 more minutes of pounding before she heeled and sank.

Kamikaze planes bit the Pensacola off Iwo Jima but she was repaired and back fighting in the Okinawa campaign. She also was active in the Alaskan patrols.



RIFLE SQUAD ON PRAIRIE HONORS PENSACOLA



CRUISER OF FIRST TASK FLEET GETS DIRECT HIT ON PENSACOLA BOW



HER STERN STICKING STRAIGHT UP, PENSACOLA FINALLY GOES UNDER



COLONNA 'TAKES SHOW IN HIS TEETH' TO ASTOUND AMECHE AND KIMMEL



CAPT. KIVETTE AND HONEYDREAMERS S. MIKELSON, TEXTOR AND WARD

NAR SHOW HITS AIRWAVES

THE STREAMLINED 1949 Naval Air Reserve show has now hit the airwaves and is winning new friends for the Reserve throughout the nation. Approximately 700 radio stations are carrying the 26-week series and are cooperating all along the line to help the program.

Produced by popular demand for a continuation of the successful 1948 program, the 1949 show is a new and enlarged edition. It features a 16-man orchestra under George Barnes, the *Honeydreamers* (a smooth octet) and guest stars from stage, radio and screen. Genial Jim Ameche again acts as "Skipper" for the show.

On the guest star roster are such famous personalities as Jack Carson, Marion Hutton, Jerry Colonna and Skitch Henderson. Other prominent artists in the line-up are Ted Lewis, Beatrice Kay, Evelyn Knight, Jack Fina, Dean Martin and Jerry Lewis as well as a few talented newcomers.

The Naval Air Reserve is well rep-



MARION HUTTON WOVES LISTENERS AND KIMMEL

resented in the show. Ens. Keith Textor, USNR, leader and arranger for the *Honeydreamers* was a wartime fighter pilot. *Honeydreamer* manager, Ens. Arthur Ward, USNR, was an instrument instructor. In fact the *Honeydreamers* originated during the war in the Navy as the brainchild of Textor and Ward, though it is now a strictly civilian professional outfit.

Behind the scenes are other prominent Reservists. Warner Brothers' exploitation agent, Robert Reilly, a lieutenant attached to VF-63-A at NAS LOS ALAMITOS appears frequently with a name personality, such as Jack Carson, for a guest spot. Stanley Richardson, wartime Army Air Force information specialist, who now heads the Hollywood Coordinating Committee, lends the support of his organization. Then there is composer-singer-bandleader Saxie Dowell, a wartime chief musician aboard the *Franklin*. Currently an active Reservist, Saxie throws in assistance here and there, particularly when he's needed for a quick guest spot. Several of his musicians also saw service during the war.

Building a fast-paced show of high professional caliber like this year's Naval Air Reserve program is no casual task—particularly on a limited budget. Back in 1947 plans were laid at the Naval Air Reserve Training Command, then headed by Rear Admiral E. C. Ewen, to tell the Naval Air Reserve story via radio. From a modest start of one platter with spot announcements featuring Naval Air Reserve singing commercials by the *Honeydreamers*, the program progressed to a platter with six five-minute shows on each side. Last year it blossomed out into a 26-week series of 15-minute shows which also starred "Skipper" Jim Ameche, the

Honeydreamers, and such well known guests as Mel Tormé, Jack Smith, Phil Regan, and Buddy Rogers.

Some 320 stations carried the first spots, while last year's show was beamed over 343 stations in this country and was also heard in Honolulu, Alaska and Panama.

During the lull between the first and second editions of the show, listeners have been greeted from time to time by prominent Hollywood talent sounding off for the Naval Air Reserve. Such naval and Marine Reservists as Robert Taylor, Robert Montgomery, Tyrone Power, Wayne Morris, Gene Kelly and Buddy Rogers, as well as the Command's first "Miss Naval Air Reserve," Janis Paige, have helped plug the program.

These spots were produced in Hollywood with the cooperation of the Hollywood Coordinating Committee and the movie studios concerned. The helpfulness of the stars was outstanding. Spots were carried by 500 stations and will continue to be used indefinitely.

THE DIRECTING hand behind all this activity on the radio front belongs to Lt. Cdr. Walter H. Kimmel, who is in charge of the Naval Air Reserve radio section. He is attached to the staff of the Chief of Naval Air Reserve Training, Rear Admiral Richard F. Whitehead. During production season, Kimmel keeps himself busy writing, producing and even taking part in the show. At the same time he bounces all over Chicago lining up guest talent. He acts as show manager, keeping the faucets pouring in one sink. He also maintains close contact with field outlets.

In addition Kimmel arranges for Admiral Whitehead to present the

Naval Air Reserve story over local radio stations while he is on his annual inspection trips of the 27 naval air stations and units under his command.

Reserves Start 1949 CV Operations

One February marked the start of the 1949 Naval Air Reserve cruise program designed to requalify Organized air groups under the Naval Air Reserve Training Command in carrier operations.

CVEG-71 from NAS GLENVIEW, commanded by Lt. Cdr. Richard West, was selected to initiate 1949 carrier training aboard the *Cabot*. Pilots attached to the group flew their fighters and attack bombers from Glenview to Corry Field, Pensacola, base for operations. Remaining personnel of the some 180 officers and enlisted men slated for the cruise made the trip via naval air transport.

The first three days at Pensacola were packed with field carrier landing practice at satellite fields and with routine gunnery, bombing and rocket-firing training.

Then came three days of operations aboard the *Cabot*. Carrier take-offs and landings, and combat and antisubmarine patrols filled the schedule, which was highlighted by coordinated attacks on the carrier and a towed spar. Aboard to note the progress of the Reservists under his command was Rear Admiral Richard F. Whitehead.

All hands then donned their white uniforms to enjoy two days of liberty at Havana, which had been designated as a port of call.

Training on the return trip to Pensacola featured torpedo attack and defense and intercept problems. The group disembarked at Pensacola on 12 February and returned to Glenview the next day. The fighter squadron was led by Lt. Cdr. Charles Ellwood, while Lt. Cdr. Norman Carlson was in charge of the attack squadron.



RESERVISTS FROM VP-ML-61 AND VP-ML-73, NAS MINNEAPOLIS, LINE UP AT SAN JUAN TERMINAL

The *Cabot*, 11,000-ton veteran of World War II, now assigned to the Naval Air Training Command and carriers from the Atlantic and Pacific Fleets according to present plans are to be used to train additional Reserve squadrons during subsequent cruises.

Reserve Pilots Salute President

Fifteen Organized Naval and Marine Reserve pilots from NARTU ANACOSTIA, flying TBM's and F6F's, joined Fleet aircraft in the massive sky parade honoring President Truman on the occasion of his inauguration.

Weekend warriors who took part in the demonstration were: E. A. Parker, J. W. Condit, W. E. Lake, L. B. Norris, W. E. Carroll, F. E. Davis, M. S. Harder, A. G. Halverson, C. J. Rieman, J. J. Boyle, C. O. Hildebrand, R. J. Maloney, R. J. Westbrook, I. R. Earle, and E. Sietz.

Minneapolis Men Fly to Puerto Rico

Twenty-one Reservists from VP-ML-61 and VP-ML-73 at NAS MINNEAPOLIS recently made a "pine to palm" cruise from the Twin Cities to Puerto Rico in three PV's. Temperatures ranged from 8 below to 80 degrees above on the trip.

Stops enroute were Jackson, Ill., Miami,

Guantanamo Bay on the way down and Miami and Pensacola on the return trip. The cruise featured more than 1100 miles of overwater navigation plus the added precision navigation required when the planes became involved in a search for a missing Puerto Rican DC-3 charter plane with more than 30 persons aboard.

Each plane flew over 6000 statute miles and logged over 30 flight hours during the five day operations. Lt. Cdr. G. D. Fairbanks was in charge of the flight.

Station Round-Up

NAS ATLANTA—VP-ML-51 pilots and crews conducted a search for a *Corvus* that was reported down near Knoxville. After three hours of scanning the rugged terrain of western Tennessee, the P-boat piloted by Lt. (jg) Hedrick and Lt. (jg) Murdoch sighted a parachute 20 miles south of Marysville. The pilot had bailed out of the stricken plane during the night and reported his whereabouts at the same time as the parachute was discovered.

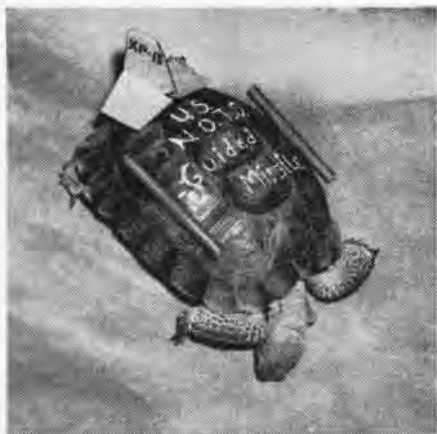
NAS BIRMINGHAM—Pilot billets in CVEG-63 are now 100% filled. Lt. Cdr. J. H. Joyce will skipper the VF squadron while Lt. I. L. Jones will be CO of the VA squadron. Cdr. J. Gibson, a well known local attorney and former CASU CO, has been selected to head FASRON-60.



R. ADM. WHITEHEAD (L) AND CVEG-71 PILOTS TALK OVER CRUISE PLANS



CDR. CONJIT BRIEFS ANACOSTIA PILOTS FOR INAUGURAL AIR PARADE



This secret weapon was discovered on the sandy desert stretches at NOTS Inyokern, Calif. Officially dubbed a PVSGM (positive velocity self-guided missile), the device features twin rocket power units outboard of the centerline, rudder and elevators, plus retractable landing gear.

Unusual 'Save' at Squantum GCA Instructions Relayed by Tower

Chalk up an unusual "save" by the GCA unit at NAS SQUANTUM. Unable to contact the pilot directly, control tower facilities were used to relay instructions.

All this happened on 5 November 1948 at 2315, when C. E. Davis, former Army Air Force pilot and now chief pilot for the East Coast Aviation Corporation, elected to try an approach at Squantum in preference to an instrument let-down at Logan International Airport in Boston.

At this point the fuel supply in his Stinson *Voyager* was running very low. Therefore, when it was found that the low frequency antenna in the GCA trailer would not load up immediately to the power necessary for establishing communications, it was decided to have Squantum tower relay the GCA transmissions to Davis. Communications between the trailer and the tower had already been established on the squawk box installation between the first and second directors' positions.

The plane was located on the PPI scope 10 miles west northwest of the field. The ceiling was 500' and the visibility four miles, so it was decided that the PPI approach would be made to the runway that the trailer was monitoring rather than to the duty runway which had a 245' tank just 800' to the right of it.

Precision information was relayed to the director by the azimuth and elevation men through use of the inter-communications system. The plan was carried through even though the ceiling dropped suddenly to 200' and the visibility decreased to approximately $\frac{3}{4}$ of

a mile while the plane was on its base leg.

The pilot became contact at $\frac{1}{2}$ mile, made a half circle to the left, and landed on the duty runway at 2345 with only two gallons of gas remaining aboard.

Although he had never before made a GCA landing, Davis stated that he had perfect confidence in the ability of the GCA crew to bring him in safely and that he thought the procedure simple and precise.

ROTC Takes Hop in a Mars Screen Queen Figures in the Flight

NAS ALAMEDA—The *Caroline Mars* of VR-2 lent her bulk to the recent Navy and Marine recruiting drive by taking 88 ROTC midshipmen from Stanford and University of California up for one-hour indoctrination flights over San Francisco.

The trip ended a tour of NAS ALAMEDA. In-flight broadcasts were made from the JRM-2 during the afternoon, being transmitted on VHF, picked up by Twin Peaks radio, and mirrored to commercial station KFRC for re-transmission.

In addition to several civic leaders from the bay area, Manager "Lefty" O'Doul of the San Francisco Seals ball club and stage and screen star Chili Williams accompanied the flight. Midshipmen interest reportedly was equally divided between the configuration of sky queen *Caroline Mars* and screen queen Chili Williams.

Jap Mine Sunk By Marines F4U's Scuttle Menace Sans Blast

MAG-15, PACIFIC—Technique useful in destroying floating Japanese mines was demonstrated by three pilots from Headquarters Squadron flying F4U's recently off the west coast of Hawaii.

The planes reported on station to an Air Force B-17 which was patrolling the area and keeping the mine in sight for this destruction team. Due to poor visibility caused by rain in the area, which presented some difficulty in locating the target, the mine finally was spotted and identified by one of the pilots as a large black oval-type mine with metal prongs.

A traffic pattern immediately was formed by the three *Corsairs* and strafing runs made on the target from 3,000 feet. Pullout was 1,500 feet, using two guns with 150 rounds each.

After making six runs on the target, visual contact with the mine was lost by the entire flight and a systematic search of the area disclosed that it obviously was sunk by gunfire without exploding. Past operations indicate a minimum altitude of 1,100 feet must be observed when firing on this type of mine, in the event it explodes, for it is impossible to avoid the ensuing shock waves and a safe altitude should be maintained at all times.

VR-5, ALEUTIANS—Aerologists, listing 125-knot winds on flight clearances, added this warning note to transport pilots: "Blowing rocks."



Three (count 'em) Piasecki HRP-1 helicopters and 13 combat-equipped Marine ground troops cooperated to stage this picture for the news photographers at Quantico recently. The twin-rotor Rescuers are from VMX-1. The demonstration was a part of a show to reveal how helicopters can be used to drop combat troops in isolated areas. These helicopters later went to Greenland to rescue Air Force men.



N.A. NEWS VISITS

NAS Glenview

Glenview Air Reserves Play A Triple Role



Rear Adm. Whitehead (c), Brig. Gen. Schilt and Capt. Gill greet Maurice Roddy, Chicago Sun-Times air editor and Brig. Gen. Allen, Illinois National Guard CO

NAS GLENVIEW plays a triple-threat position on the Naval Air Reserve circuit and does a good job all along the line.

Focal point for Organized Naval and Marine Air Reserve activity in the Midwest-Chicago area, it provides a streamlined training program for the more than 2000 Reservists in its 16 Organized squadrons. In addition it does a booming business in two-weeks cruises or occasional drills for some 2500 Volunteer Reservists. To extend the scope of its training, Glenview also supports three Associated Volunteer Units located at Moline, Milwaukee and Burlington. Flight training is given at these spots for a total period of 16 days a month.

Besides carrying the ball for these

activities, Glenview occupies a unique place in the Reserve line-up, for at this station are located the headquarters both of the Chief of the Naval Air Reserve Training Command, Rear Admiral Richard F. Whitehead and of his Marine Corps counterpart, Brigadier General Christian F. Schilt.

Since the Naval Air Reserve Training Command operates some 27 air stations and NARTUS and administers the outstanding Air Reserve training program in this country, providing logistic support for the Command is a king-size job. In addition, Glenview is host to the world's largest radar school which is under the cognizance of the Technical Training Command, but which is supported by the station.

All this makes the Glenview sched-

ule a round-the-clock, seven-day a week affair. There are also other angles. Everyday is inspection day, so to speak, by genial but exacting Admiral Whitehead and his hard-working staff.

Certainly Glenview does look every inch a command station from its carefully tended grounds and its modernistic administration buildings to its fine runways, which are large enough for B-29's. With a full quota of facilities, it constitutes a compactly set up, self-sufficient community.

As for Glenview personnel—with the welcome mat always out, they have developed an infallible technique for dealing with visiting firemen. Cordiality and helpfulness are characteristic of all hands.

THE CITIZENS of Chicago and surrounding communities have assigned still a third role to Glenview—that of "helper-outer" in local emergencies. Search flights over Lake Michigan for missing boats and planes, checking on the safety of ice-bound pumping station keepers, mercy flights to flood-bound areas are almost regular routine for Reserve pilots. Once they were even called upon to help local police keep track of several machine gun bandits who were trapped in a nearby quarry, until they could be captured.

Responsibility for coordinating the manifold activities at Glenview devolves upon Captain Cecil P. Gill. Although he often needs the patience of Job and the wisdom of Solomon, he manages to keep operations running smoothly and on an even keel. An Academy graduate with the Class of 1925 and a naval aviator since 1929, Capt. Gill's first command was the CVE *Vella Gulf*.



Just for the record—these members of VF-58-A had their picture taken in front of operations at NAS GLENVIEW after having racked up an A-1 cruise last September



Long distance commuters, Leary, Nielsen, Litchfuss, Young, Weir, Yoss, Neri, Gardiner point to their homes in five states



Time out for AOU's Mollan, Able, Rau, Richardson, Kraeger, Holmes (front) and Dombrowski, Berg, Johnson, Page (rear)

He participated in the battles of the Marshalls, Carolinas, Gilberts, Hollandia, and Truk.

His executive officer is Cdr. J. H. Kimpler, Naval Air Reservist since 1925, who was exec at Guam during the war. On his team are a loyal group of 42 officers and 532 stationkeepers. Lt. Col. Andrew B. Galatian, Jr., who led the *Flying Nightmares* at Rabaul, commands the Marine Air Detachment.

SPARKED by an enthusiastic group of Reservists and backed by fine instruction, Organized training at Glenview is hitting a new high.

Focus of the present drive is intensive practice for carrier operations, which nine air groups in the Reserve Training Command are scheduled to undertake aboard the *Cabot* in 1949. Kick-off spot has been awarded to CVEG-71. From 1-14 February approximately 41 pilots, 10 ground officers and 123 enlisted men in the group went south to carry out training operations in the Pensacola area, finishing off with six days aboard the *Cabot*, now assigned to CNATra.

The small turn-over in pilot personnel, most of whom have been in the Organized Reserve for two years, is paying dividends in increased flight

time. From 1 July to 1 December 1948, 20,230 flight hours were piled up as contrasted with 32,860 for all of fiscal 1948.

Highlighting the cruise picture for 1948 were VP-ML-54's advance base operations at NAS MIAMI and the fancy 57-hour average chalked up by VF-58-A pilots. The latter were immediately dubbed "Dare's Devils" after their CO, Lt. William F. Dare, now an assistant type training officer. Top honors were taken by Ens. Robert Morrison with 70 hrs. and Lt. Jack Mulder, who sank a German sub during the war, with 69 hrs. Led by Lt. Cdr. D. R. Sanborn, who has since returned to active duty with the Fleet, VP-ML-54-ers supported their own operations at Miami and racked up 400 hours, much of it in antisubmarine warfare tactics.

Only ten minutes' commuting is required to reach Glenview's much-used bombing and gunnery area over Lake Michigan, though one week's warning is needed to clear boats from the area.

For pre-carrier bounce practice, Glenview recently reopened its auxiliary field at Libertyville, unused for two years. For each drill a full complement of supporting equipment from heating units to radio jeeps is trucked down.

Technical training, headed by Lt.

Cdr. Nelson J. White, has its job cut out for it with 1091 enlisted personnel in the squadrons. An intensive seaman-recruit course, tailored after the Regular Navy pattern, is given under the direction of H. D. Bunch BMT and assistant J. L. Mayberry BMT. At present 232 O-2 and 62 stationkeeper SR's are enrolled.

Tech training gets a shot in the arm from the initiative of such instructors as K. M. Brow AD1, who drew up elaborate charts showing complete hydraulic installations on all current-type aircraft. Or take C. W. Lillie AT1, G. B. Price AT1, E. L. Sherman ET2 and R. A. Franklin AT2. Not only did they rig up a fine electronics training shop in their spare time, but they also designed and built a working installation of three types of radar equipment, into which trouble can be inserted for detection and correction by trainees.

GLENVIEW has its share of Reservists with outstanding war records. Among those entitled to wear the Navy Cross are: Lt. Cdr. John R. McCarthy, CO of VF-58-A; Lt. Charles R. Walton of VA-88-A, district manager for the Chrysler Sales Corporation; and Lt. S. T. Bitting, CO of VA-58-A. Silver Star holders include Lt. Donald B.

Hot 'Joe' is served by Sgt. Cotto to VMF-121 pilots, Stratton George, Bryson, Dusk'n, Nitz back from a cold day's flight

J. R. McCarthy reviews day's operations with H. L. Cox, R. E. Gibson, D. B. Pieper, F. L. Vocke, L. Kash, W. Mitchell





MMS's Pasma, Gatterman, Lotsbaich, Phelan, Krenzke; Eshbach, Liden, Mullett, Zawodniak, Krupar, Mertz, Lindberg



VF-71-E's SDO Anthony stands by as Thomas, Chubak, Lip-pold, Gregory, Van Biesbroeck, Litchfuss, Heck draw chutes

Pieper, formerly with VT-18, and Lt. L. J. Kash.

Among the outstanding Marines are these Reservists who flew 60 missions against the Japanese: Maj. Robert Bryson, VMF-121 exec; Capt. Raphael Ahern, who shot down two *Zero's* and four probables at Rabaul; and 1st Lt. Pete Ross, holder of two DFC's.

Family teams at Glenview include Lt. Richard Davis of VP-ML-54 and his wife, Lt. Mary Davis; VF-71-E's twin Lt. (jg)'s, Raymond and Joseph Anthony; and, until school reopened, Chief Wilson Richardson and his son.

About 30% of the Organized pilots attend such colleges and universities as Purdue, Northwestern, Illinois, and Wisconsin. Some willingly make a 300-mile trip for drill twice each month. Among the campus notables is Lt. (jg) Pat Costello, senior class president at Notre Dame.

Other well-known Reservists include Cdr. C. L. Claybaugh of VR-60, CAA inspector who checks all pilots in the district; Lt. Cdr. Richard K. Schramm of VF-57, CAA district aircraft inspector; and Lt. Cdr. Richard K. West, CVEG-71 CO, who heads a local industrial plant, where several of the pilots in his group are employed. Mention should also be made of Lt. George F. Rogers, Purple Heart holder, who

Glenview Squadrons and AVU(A)'s

CVG-57—Cdr. H. E. Tennes, CO

VF-58-A—Lt. Cdr. J. R. McCarthy, CO; Lt. W. H. Mitchell, Exec.

VF-57-A—Lt. Cdr. P. G. Zimmerman, CO; Ens. R. A. Kerr, Exec.

VA-58-A—Lt. S. T. Bitting, CO; Lt. P. V. Byrne, Exec.

VA-57-A—Lt. (jg) A. J. Werlein, CO; Lt. (jg) W. J. Swearingen, Exec.

CVEG-71—Lt. Cdr. R. K. West, CO

VF-71-E—Lt. C. R. Ellwood, CO; Lt. L. H. Peck, Exec.

VA-71-E—Lt. Cdr. N. A. Carlson, CO; Lt. D. S. Gibbs, Exec.

CVG-87—Lt. Cdr. L. K. Droom, CO

VF-88-A—Lt. Cdr. E. Koranda, CO; Lt. R. H. Horder, Exec.

VF-87-A—Lt. Cdr. H. T. Kirk, CO; Lt. Cdr. R. C. Palmquist, Exec.

VA-88-A—Lt. R. J. Collins, CO; Lt. C. R. Walton, Exec.

VA-87-A—Lt. Cdr. W. E. McBride, CO; Lt. A. J. Buddington, Exec.

VP-ML-54—Lt. F. W. Hayes, CO; Lt. R. N. McGuire, Exec.

VR-60—Lt. Cdr. W. B. Huey, CO; Lt. Cdr. J. M. Klapp, Exec.

VR-61—Lt. Cdr. F. E. Myers, CO; Lt. Cdr. H. Riddle, Exec.

FASRon-56—Lt. R. J. Muleahy, CO; Lt. J. R. Conway, Exec.

FASRon-156—Lt. Cdr. F. E. Woods, CO; Lt. Cdr. R. W. Cramlet, Exec.

VMF-121—Maj. R. Ingram, CO; Maj. R. Bryson, Exec.

AVU(A)-1, Moline—Lt. Cdr. R. O. Haynes, CO; Lt. R. Kellenberger, Exec.

AVU(A)-2, Milwaukee—Lt. Cdr. R. Schmitz, CO; Lt. R. Odenbrett, Exec.

AVU(A)-3, Burlington—Lt. F. Anderson, CO; Lt. W. Lamb, Exec.

fought all over the Pacific; Lt. William A. Kinsley, Glenview's enterprising and cooperative PIO, who has over 5,000 hours on the books, mostly in multi-engine planes; and Lt. Cdr. Bill Miller and his assistant Lt. Cdr. Ollie Ortman, who head type training.

Glenview, like all Reserve stations, does a rushing business in open houses, tours for Boy Scouts, model airplane contests and other functions that build up community good-will. An all-time high for attendance at such events was registered on Navy Day in 1946, when 150,000 turned out for the station's open house and air show.

Commercial airlines have also discovered the value of Glenview. In case of congestion at Chicago airports, American, Northwest and Trans-World Airlines have contracted to use its field. When an American *Convair* with 39 aboard could not lower its wheels, the pilot elected to crashland at Glenview because of its fine crash equipment.

This then is the story of the fine program which is underway at Glenview today. It provides an exciting sequel to the history of Reserve training in the area, which started first at Great Lakes after World War I and was later moved to the Naval Reserve Aviation Base at Curtiss-Wright Airport, site of the present station.

CVG-87's Van Valkenburgh, Foreman, Marshall, Canzoneri, Rosenberg hear ex-member Barish describe new job with VC-4

VA-71's N. Carlson briefs J. Neri, G. Weir, R. Marovick, H. Walker, D. Van der Zee, R. Hornfeld before bounce drill



AND THERE I WAS



a transfer out of this crummy outfit?"
 ASHLEY D. PACE, JR.
 GULF PAPER CO.
 PENSACOLA, FLA.

Operation Quack

THIS HAPPENED last fall, three years after the war was over. MGCIS-7 had its radar sweeping the Western Pacific skies. The scope showed aircraft were landing at an unused airfield eight miles north of the base, but there were no planes from the Marine station in the air.

One of the squadron's *Corsairs* was scrambled to investigate the "bogies" and vectored



onto them at dusk. No visual contact was made, although MGCIS-7 radar showed the plane within a quarter of a mile of the "bogies" on several occasions.

During the night the raids continued and about 80 were plotted. Come dawn and a division of *Corsairs* was sent out to track down the "enemy." They flew out the vector and discovered a large formation of Chinese ducks which were landing in the bay north of the base.

Free Winging

HISTORY was almost made on the one occasion during the war when cadets were allowed to participate in ferrying 18 *Yellow Perils* from Pensacola to Glenview.

The hop started off happily with two officers leading three plane sections of cadets. All went well until the lead planes ran out of gas somewhere over the middle of Missouri and had to make forced landings.

In a matter of minutes the fledglings followed them down. Darkness mercifully screened the descents, but some bailed out, others crash-landed and walked away. In all it was some 10 days before the 14 planes that arrived under their own power, finally were able to be flown in.

Throughout the whole scrambled operation, it was a question of who was the most confused—the surprised cadets or the surprised farmers in whose fields they landed.

Lt. James L. Kraker, Jr., one of the cadets, tells about his experience this way: "I knew little about flying, so I simply defied all the laws of aerodynamics, landed my plane and never even scratched a wing tip. Had I known then what I later learned about flying, I am sure I would have killed myself. Planes just won't be flown the way I had to fly mine to land that night."

The civilian viewpoint was well expressed



by that farmer in whose field one of the lead pilots crash-landed. After listening to the officer express grave concern over the two cadets who were flying on his wing, the farmer looked about in a very disturbed fashion. Then with an air of concentration he proceeded to carefully examine each wing. Finally he turned to the pilot and in a tone of awe and wonder asked, "Do you really mean to say, there were two people riding on those wings?"

Whose Face Is Red?

A FORMER officer, now a civilian employe in the Navy department, was sitting at his desk talking to a distinguished-looking gentleman whose name he had not caught upon being introduced. The visitor worked for a civilian business firm.



The phone rang. The voice on the other end of the line inquired if he should come to a cocktail party which was being planned.

"Sure," said the former officer. "It's going to be a nice party. We are going to have a lot of admirals there too."

"I don't think I will then," the voice on the phone said.

"Aw come on, they'll be in their civilian clothes," he was advised. "They'll look like any other street sweeper."

Hanging up the phone, the former officer asked his visitor to give a secretary his name before he left.

"Rear Admiral _____, USN Retired," the visitor replied.

NAAS WHITING FIELD—An F-80 of the Air Force made a dead stick landing here, but due to excessive speed overshot the runway and came to rest on number nine green of the station golf course—6 ft. from the cup.

Like Father, Like Son

AN OLD retired naval officer married late in life and had three boys, aged eight, six, and four. He ran his household in a nautical manner. One day when a neighbor's window was broken, he got behind his desk and called them in one at a time.

The eight-year-old boy came in first, snapped his heels, saluted, and said, "Jimmy Jones reporting, Sir." The Captain said, "A neighbor's window has been broken. Do you have anything to report?" The boy said, "No, sir." The Captain said, "Any questions?" The boy said, "No, sir." The Captain said, "Dismissed." The boy saluted, about faced and left the room.

The six-year-old boy came in next, snapped his heels, saluted and said, "Billy Jones reporting, sir." "A neighbor's window has been broken. Do you have anything to report?" "No, sir." "Any questions?" "No, sir." "Dismissed." He saluted, about faced, and left the room.

The four-year-old boy then entered, snapped his heels, saluted and said, "Johnny Jones reporting, sir." The Captain said, "A neighbor's window has been broken. Do you have anything to report?" "No, sir." "Any questions?" "Yes, sir." The Captain said, "Very well. Ask it."

The four-year-old said, "How do you get



TECHNICALLY SPEAKING

NEW KNEE PLOT BOARDS

CAG-1, PACIFIC—Recognizing the fact that only contortionists can navigate with the standard F8F-1 plotting board, two pilots of this air group developed navigational knee boards which they feel are improvements.

The board illustrated by Fig. 1 was designed by Lt. Cdr. R. D. King of FAWTUPAC detachment from one originated by Lt. L. A. Kurtz. It provides not only a convenient, usable board and computer but also space for writing flight information and notes.

Built like a "Dagwood sandwich," this board features a frosted plexiglas on top for notes, radio channels etc., while inside is a conventional Mk 2A or 3 plotting wheel. Facing this is another plexiglas sheet backed by a template with marked spaces for navigational computations.

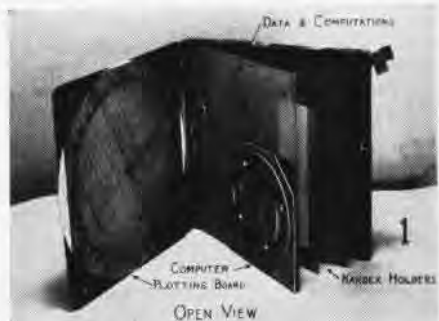
A standard Mk 8A computer is mounted in one corner of the plexiglas leaf for convenience. Underneath this middle leaf three or four Kardex holders are mounted on the base of the case for wind estimation table, lost plane procedures, survival signals etc., while clips are provided on the undersurface for an automatic pencil.

Figure 2 illustrates a board developed by Lt. W. B. Kirkland of VF-13, a modification of the King board above. It also has four features, a pad of paper on top for flight information, a plotting board, computer and navigation log, third, a space for local area charts and fourth, a file of information.

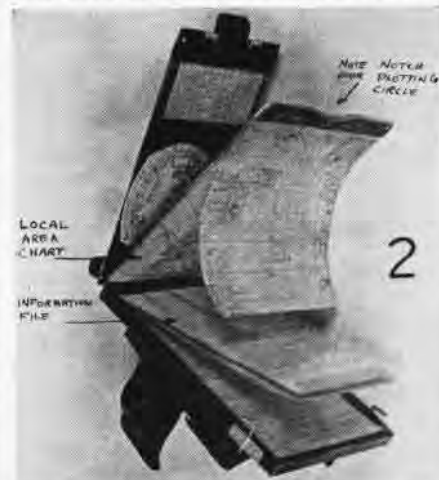
The Grumman gift knee pad was modified by replacing the frosted plexiglas with thin aluminum. The plotting board is made by mounting the center section of the plexiglas top of a TBM plotting board on aluminum and inserting the cup-down disc from an F8F plotting board.

The plotting board is hinged with the knee pad and opens to give access to the local area chart and information file. This pad has proved valuable for all types of flights, including air-to-air gunnery. It eliminated the need for the standard board which is so difficult to use in flight.

▲ **BuAer Comment**—BuAer has developed a knee pad chart-plotting board, designated Mk 7-A, production deliveries of which were scheduled to begin in February. This will replace the panel-mounted chart board



KING BOARD CONTAINS MANY WORTHY FEATURES



KIRKLAND'S BOARD MODIFIES KING BOARD IDEA

in all new carrier-type aircraft except long range aircraft. Backfitting will be limited initially to FH's and FJ's.

The Mk 7-A, designed by Aeronautical Instruments Laboratory at NAMC Philadelphia, is partly the result of combining the best features of many different types of knee board submitted to the bureau for consideration during the past several years. The Mk 7-A incorporates the four major features of the VF-13 board and is about the same size.

In addition, it is swivel-mounted and the computer, plotting-surface and YE-YG ring are combined in a novel way. Based on fleet recommendations, the computer has been simplified by elimination of temperature correction scales since the board was designed initially for jet aircraft. Specifications are available for a Mk 7 board (complete computer scales) if requirements should arise. A battery-lighted version of the Mk 7-A board is now under development.

Alameda Boils 932 Aircraft

NAS ALAMEDA—Nine hundred and fifty-three non-serviceable Navy aircraft of all

sizes have been scrapped here since 1 January 1946. The planes were obsolete or damaged beyond economical repair.

Nothing is wasted. The engines are removed first. Props, flight instruments, landing gear and control mechanisms are sent to supply department for reissue to O&R. Fuselage, wings and other metal surfaces are cut by acetylene torches and melted into ingots. A fighter makes 1640 pounds of pure aluminum.

In one eight-hour shift, an apparently sturdy aircraft is stripped and reduced to pure metal. Nothing is left except the aircraft's war record and the memories of the men who flew the plane.

Drill Speeds Seat Change

SMS-33, EL TORO—A jig and screw feed attachment for drilling the two holes in the armor plate of F7F aircraft to complete Service Change 35 has been developed by M/Sgt. John E. Fitzsimmons of SMS-33. Using this jig and drill it is not necessary to remove the armor plate from the aircraft; thus eight to ten manhours are saved for each seat change.

The jig is made in a U shape, of locally obtained steel, with fingers extending from a heavy cross bar, and the ends of the fingers bent 90 degrees inboard. These fingers fit behind the armor plate at the position the holes are to be drilled. The fingers are made from 1/4" by 6" plate iron.

Another cross bar is placed about 1 1/2" from the 90 degree bends on the fingers and is to be used as a drill guide. This cross bar can be made from 2 1/2" angle iron with hardened drill bushings. Drill 60 degree center holes in channel cross bar centering with holes in drill guide. Drill guide bar is kept in place by bending 90 degree angles on each end and drill through angles and fingers for the placing of two removable pins on each end.

A 1/2" Milwaukee standard heavy duty drill motor with a load speed from 425 to 500 rpm is used, although any 1/2" drill motor with a removable breast handle that is on center with a chuck can be used. Remove this breast handle and manufacture a threaded extension, one end threaded to fit the handle stud, and the other threaded inside 3/4-10 left hand thread. Manufacture a 60 degree center, approximately 3" long, threaded 1 1/2" with 3/4-10 left hand thread.

Cut a 1/8" woodruff key slot in threaded center near 60 degree point. Manufacture a wheel 6" in diameter from 1/4" plate stock with a 3/4" hole in center with 3/8" key slot and press wheel on center with 3/8" key in place. Heat treat threaded center and extension to 150,000 lbs. per square inch.

Drill bit is made from 3/8 round stellite bar brazed to 1/2" hexagon bar stock. Drill 3/8 hole in hexagon steel and braze to the stellite to prevent slipping in drill chuck. A 3/8 high speed drill should be used for pilot hole in cases of one face hardened armor plate.

Place drill motor with center attachment between drill guide and back cross bar. Place center in center holes in back bar and drill bit through drill guide against armor plate. A steady feed is obtained by turning wheel.

▲ **BuAer Comment**—F7F Service Change 35 is an X-ray change which incorporates a high strength seat. The process is satisfactory. If the time is saved as stated, it represents a good man-hour saving.



NEW CANOPY RELEASE

Illustrated above is the method of using the new parachute canopy release developed by BuAer Airborne Equipment division for installation on all service chutes. The release was designed so an aviator can get rid of his chute canopy without being dragged overland or in the water. With the old chute harness, he was liable to lose his parafrst and survival gear if he got out of the harness to prevent the wind-filled canopy from dragging him. Further details on the release are given in the Pilot Safety article, appearing in next month's issue. Releasing the parachute canopy is a simple operation using the new gear, as the photos above show: Remove safety guard, squeeze release pins and lift. Gloves are no hindrance in operating the new gear.

Chutes Will Be All Nylon

The Navy is going all-out for nylon on its parachutes and is taking steps to replace present cotton chute packs with the stronger and more durable nylon.

Tests made by the parachute experimental unit at NAS El Centro indicate that the packs constructed of nylon fabric were superior to those in service use. Nylon is impervious to mildew and fungi growth and is more durable. Adoption of this pack will provide an all-nylon parachute for service use, nylon harness webbing and rip-stop nylon canopy material previously having been developed and found acceptable.

As fast as the new packs are available they will be supplied to activities to substitute for the present equipment.

All-nylon webbing with its greater strength and other improved characteristics will give greater protection to the pilot of high speed aircraft. Adoption of the harness and pack gives the Navy an all-nylon parachute, the first to incorporate a canopy release and a quick-fit feature.

Marine F4U Pilot Hits Eye

VMF-115, PACIFIC—This squadron has a pilot who racked up some pretty fair country shooting recently in a competitive exercise with rockets.

The pilot fired four HVAR's and missed the bullseye by an average of only three feet. His first rocket, which counted double, was a bullseye, as were his second and last. The third rocket fired was but 15 feet from the ring. His achievement was all the more remarkable since all runs were made in a crosswind of 30 to 40 knots variable from two to four.

Instrument Test 'Check-off'

MAG-33, EL TORO—A time-saving device worked out by Tech. Sgt. George F. Cojocari is proving useful in the instrument shop. The set-up consists of a series of "check-off" cards, typed and sealed in plastic, that show the correct operating procedure for the different testing units in the shop.

By following these check-off cards, placed on the testing units, any individual, even though unfamiliar with the tests, could successfully test any pressure instrument for accuracy.

It normally would take the average person several hours to read and understand the test unit's manufacturer's manual to obtain the same result.

The cards are so constructed that should one want to test an airspeed indicator, for example, the check list would show at a moment's glance just what switches to turn on and the proper setting for all valves to obtain a correct reading if the instrument is operating correctly.

▲ **BuAer Comment**—This is an excellent suggestion. Not only will it be time-saving, but it will help insure that cognizant personnel subject the instrument to the required tests, inasmuch as it is quite possible to overlook certain details when referring to an elaborate instruction manual.

Because of the shortage of qualified instrument mechanics, squadrons have been forced to assign non-qualified men to instrument maintenance duties, and the procedure outlined here would be invaluable.

Spray Saves Plane Interior

NAS ALAMEDA—A new method by which small naval installations or ships can renew torn, soiled and faded upholstery and rugs has been adopted for emergency repairs at this station.

Discovery of the process, a new commercial product, was made when the station had to repair damage done by careless workmen to upholstery and rugs of an R50 aircraft in for routine overhaul. The workers had climbed in and about the plane interior, leaving dirt and grease on blue upholstered seats and beige deck carpeting.

Faced with having to recover the seats and replace carpeting or repair the damage, the station's upholstery shop was called to the rescue. It was decided to try the commercial product, a combination cleaner and tint. First, the interior of the R50 was vacuum cleaned. Then, using standard equipment, the commercial preparation was sprayed and brushed onto the upholstery and carpeting.

As the tint dried, the grease stains miraculously disappeared, leaving a completely new and soft, permanent finish to the fabric. The same preparation is now being used commercially to renew automobile interiors, and soon may go on the market for home furnishings.

Flexible Cable Lubricator

NAS NORFOLK—A civilian employee of the O&R department has developed a device for lubricating the inner movable wire or cable of flexible and push pull cable assemblies. Its use within the department has resulted in appreciable savings in man-hours and the cost of materials previously spent in processing and lubricating flexible cables.

Such flexible and push pull cables as propeller governor control cables, bomb door cables, landing gear and flap position indicator cables, and actuating cables formerly were disassembled (whenever possible) and immersed in baths of penetrating and lubricating compounds. This method was not only time-consuming, but frequently the inner wire or cable processed in this manner was not adequately lubricated for continued use and eventually had to be salvaged.

The flexible cable lubricator is a device consisting of a 20 foot by 3 inch OD steel tube filled with liquid lubricating compounds. One end is permanently sealed and the open end is sealed by a threaded pipe cap. As many as five flexible cables can be placed in this tube at one time for lubricating.

Inlet and outlet fittings on the sealed tube are connected with a hand operated pump. When the pump is operated, a pressure of approximately 500 psi occurs within the tube. The combined action of compression and circulation injects the lubricating compounds through the flexible cable housing in sufficient quantities to lubricate the inner movable wire or cable. Approximately five minutes are required for this operation.

This device has been shop tested and has proved highly satisfactory in lubricating efficiency. It is especially valuable in lubrication of TBM aircraft flap and landing gear position indicator cables which, because of their design, cannot be disassembled to facilitate lubricating operations.

▲ **BuAer Comment**—This appears to be a good method of lubricating flexible cable.

NORFOLK LICKS RADIO NOISE

NAS NORFOLK—O&R department has made considerable progress in eliminating or reducing radio and radar interference, originating or generated within the aircraft, by incorporating corrective measures while the plane is being overhauled or repaired.

Radio interference originating within the plane long has been one of the most disturbing factors in aircraft radio communications. It not only limits the operating range but distorts the reception. Interference also obliterates desired indications on radar screens and aural and visual indications of navigational radio aids.

Many of the sources of interference have been due to improper bonding within the structure, poor grounding of turrets, arcing of brushes in various electrical motors. These sources of radio and radar interference have been so impressed upon the operating shops

that they have become "noise conscious" and their full cooperation has resulted in elimination of the known causes for interference that can be remedied during the plane's overhaul.

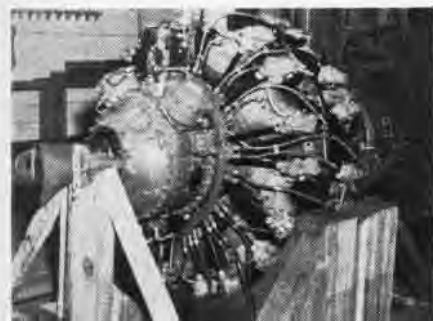
A typical problem which electronics branch solved involved locating and eliminating interference created in the propeller governor system. By tests and mock-up installations, it was determined that an interference was caused by the improper shielding of the propeller relay. Installing the relay in a shielded cover, securely bonded to the structure, cleared up the trouble.

In many cases, the branch has been able to eliminate or reduce ignition interference to a negligible degree, eliminate a large number of radar noises by filtering or shielding, determine and apply corrections to many noises originating in rotation equipment throughout the aircraft.

Crating for R-2800 Engines

SMS-15, PACIFIC—Difficulty was experienced recently in shipping R-2800 engines by air because of the inability to pass a standard engine crate through the cargo doors of an R5D, the largest plane available.

A stand was devised which proved quite satisfactory. Two cradles were constructed of 2 x 12 lumber. Each cradle consisted of four thicknesses laminated with half inch plywood. The two cradles were joined by a piece of 2 x 4 and mounted on four 3 x 4's



CRADLE FOR AIR TRANSPORT OF R-2800 ENGINE

having four skids of 2 x 6's. A "Dutchman's clamp" was attached to the prop shaft. A one inch strut was then mounted at one end to the clamp and at the other end to a piece of three-inch angle iron which was set on the 3 x 4's. A washer and nut was used to draw the strut rigid.

It is suggested that the skids be constructed of angle iron with roller-type, full swivel casters, mounted in the four corners, which would enable the stand to be moved by hand without the need of additional handling equipment.

When mounted in the stand the high point of the engine stood 64 inches from the deck, allowing a three-inch clearance for loading aboard an R5D.

▲ *BuAer Comment*—Navy stocks a cradle suitable for air transport of R-2600 and R-2800 engines. Stock No. is R89-C-AC40K726. It is suitable for use with R5D, R5C and R4D airplanes. Cradle described herein is satisfactory for purpose intended, but manufacture is unnecessary since cradles are available in stock.

O&R's Strip Signal Tracer

NAS ALAMEDA—An APS-6 IF strip signal tracer has been developed by the O&R department. It was found that most failures in the APS-6 IF sections caused the signal to diminish to such an extent that locating the stage in which the failure occurred was difficult.

By using the APS-6 IF section as an RF amplifier video detector, the 60 mc signal can be readily traced and the stage or defective part identified.

A conventional APS-6 IF section and power supply are used with the following circuit changes:

a. The condenser in the cathode follower circuit which normally is mounted in the receiver has been relocated on the IF test strip.

b. A potentiometer is used to control the output of the test unit by varying its screen voltage.

In trouble shooting with the test unit a 60 mc signal is fed from a signal generator into the IF strip under test. The signal is taken



SIGNAL TRACER HELPS FIND DEFECTIVE PARTS

off at any stage by a test probe and fed through the test unit to a TS-34 or suitable RMS meter where it may be viewed.

For checking the gain per stage the relation of output per stage to input from the signal generator is logged. The AGC lock in voltage also may be checked by using the test prod. In order to test an IF section while receiving targets, the receiver gate pulse is fed into the test unit through the red pin jack. The black pin jack is used when checking the video circuit of the IF section.

High Flight Brings Cracks

MAG-14, CHERRY POINT—While flying in *Operation Combine III*, Capt. John A. Hardy Jr., of VMF-212 experienced an unusual difficulty while letting down from 39,000 feet in an F4U-4 which resulted in a large crack in the main fuel cell and gas fumes in the cockpit.

Descent was started with 20" manifold pressure and 2600 rpm, indicating 170 knots. At 22,000 feet, he smelled gas fumes, which grew stronger. He turned off the booster pump and cockpit heater. At 18,000 feet, fumes were so strong he opened his canopy to dispel any fire hazard.

The fuel gauge indicated rapid loss of fuel. The engine ceased to function at 14,000 feet and he made a dead engine landing at Eglin Field #9. Subsequent investigation showed the crack at the defueler valve. The fuel cell was replaced and the aircraft operated normally. The vacuum relief valve was tested and found to function properly. Pressure relief valve was tested and found to relieve the pressure in the fuel cell at 2½ pounds a square inch.

▲ *BuAer Comment*—Cracking of the pressure relief valve at 2½" is more than adequate safety margin since they are set to crack at 3". Hence, it is not likely that the cracked tank could have resulted from excess pressure in it. When gas fumes are in the cockpit, the pilot should turn his oxygen regulator from normal oxygen to 100% oxygen position so he won't be overcome by fumes. There is no danger of fire or explosion because of using the oxygen unless there is a spark and then danger would be present whether oxygen were used or not.

Machine Aids Tire Mounting

SMS-12, EL TORO—A machine has been designed by M/Sgt. Danis and constructed in the transportation department of Marine Service Squadron 12 to facilitate the mounting and dismounting of all types of vehicular tires.

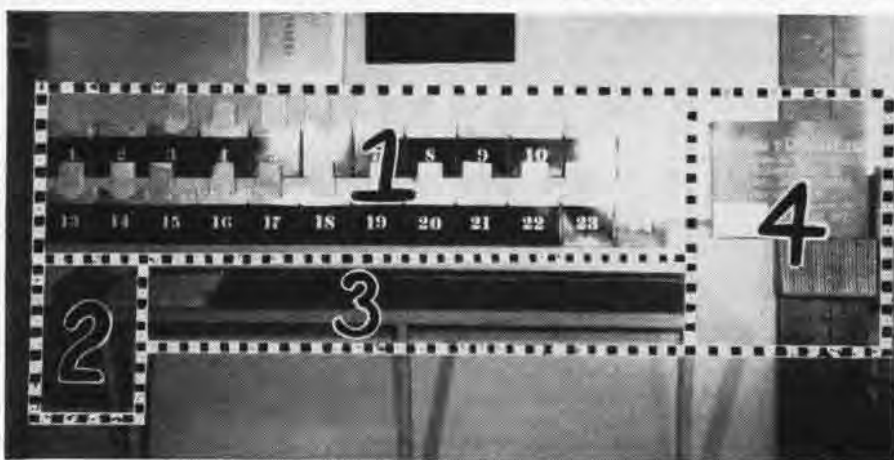
A hydraulic Porto power jack is clamped to the frame (see photo). Base plates of varying sizes can be placed on the rear of the frame to accommodate any size tire. The machine compresses the tire on the rim, enabling the lock ring to be removed easily when dismounting a tire and easily replaced when a tire is mounted.

In addition to saving a great amount of time and work, this machine eliminates the need for hammering to put on or take off a tire. Consequently the beads of the tires are not injured nor the rims unbalanced or bent.



HYDRAULIC JACK WORKS TIRE REMOVAL DEVICE

FILES WHERE YOU WANT THEM



WRITING BOARD, PENCILS HANDY, FILE BOX FOR EACH PLANE—SYSTEM KEEPS RECORDS IN ORDER

VMF-214, EL TORO—Until recently this squadron has run into difficulties and confusion in making the daily flight inspection forms and aircraft flight report forms available to pilots, plane captains, engineering and other personnel. The old system—or lack of system—included such assorted difficulties as forms folded to fit the plane captain's pocket, no pencil available when the pilot was ready to sign the flight report, propeller wash blowing the reports out into limbo, and reports so dirty and worn as to be quite illegible.

Keeping accurate records of work accomplished on individual aircraft was also a problem. The method formerly used was a mimeographed work sheet which was filled out at the completion of work on any aircraft, signed and placed in a basket in the engineering office by the person doing the work. The work sheet then was transcribed into the appropriate log book by the engineering clerk. This system was inadequate because the work sheets frequently disappeared before the information was entered in the correct log.

Solutions for these difficulties have come with the adoption of a system that is both simple and efficient. It involves the following installations:

1. Twenty-four metal boxes, 6"x7"x1", consecutively numbered, are placed on an outside wall of the engineering office. (See photo—1.)
2. A two-partition box, 13"x10"x6", is also placed on the same wall (2).
3. A slanting writing board, 8"x2', is installed directly below the metal boxes (3). Numerous pencils are kept on the board at all times.
4. Small record books numbered one through 24 are placed on a shelf to the right of the writing board. These are called "rough log books" (4).

Every day before flight operations, each plane captain takes a blank daily flight inspection form and a blank aircraft flight report form (which are stapled together) from the forward compartment of the box (2). He makes his daily inspection of aircraft, fills out the appropriate parts of both forms, and puts both forms in the metal boxes (1) which are numbered to correspond with the MODEX numeral of the individual aircraft.

Each pilot, before flying an aircraft, stops at the writing board and takes the aircraft flight report and daily inspection form from the box with the MODEX number assigned to

him. He signs the flight report and at the same time has an opportunity to see the daily flight inspection form. He then replaces the forms in the proper numbered box.

After each flight, each pilot returns to the writing board, completes the form required, signs the flight report and returns the forms to the box. Plane captains may then inspect aircraft flight reports to determine if any discrepancies have been noted by the pilots.

At the end of each day's operations both the aircraft flight report and the daily flight inspection form are placed in the rear section of the box (2). The engineering clerk then refers to the completed forms daily for completion of flight records.

Aircraft rough logs contain entries for every mechanical operation performed on the aircraft by maintenance personnel. Entries are made promptly upon completion of the work and initialed by the person actually doing it. Rough log entries then are entered into the proper aircraft, engine, and propeller logs by the engineering clerk.

This system of record keeping has been in use by VMF-214 for several months and appears to be highly satisfactory.

Engine Backfire in P2V-2's

There have been several instances in P2V-2 aircraft where fires have resulted from severe engine backfire which occurred either during run-up and engine check or take-off and climb.

Investigation after each fire showed that internal injury to the engine resulted from the severe backfiring. The bending of the engine support longeron gussets, loosening of the dual intake pipes, and the rupturing of the carburetor assembly allowed an induction system fire to be ignited, causing excessive damage to the engine nacelle and adjacent parts.

In the future, pilots and maintenance crews should exercise more caution in starting and running up engines, thus making an effort to avoid backfiring. If severe backfiring does occur, an inspection should be made to determine the extent of injury to the engine and adjacent structures.

CORRECTION

In the January issue of NANews, the XF7U-1 aircraft was identified as having two Westinghouse jet engines on Pg. 2 and GE-Allison's on pg. 5. The former is correct.

One-Wheel Landing Is Made

VMF-115, MIDWAY—Today's candidate for the pilot with the "most uncomfortable feeling" is Capt. Edwin G. Nelson, who had to land his F4U with one wheel down because he could not get the other gear down nor the original wheel up again.

After trying every conceivable way to get the left wheel down, he tried to retract the right by moving the wheel lever to "up"



ALERT PHOTOG CATCHES PLANE BEFORE, AFTER

position and breaking the CO₂ line in the cockpit. He then used the hydraulic hand pumps but could not get more than 500 lbs. pressure which was insufficient to overcome the CO₂ pressure.

Nelson brought the plane in and it swept to the left when the wing hit the runway. He came to rest right side up on a sand dune. His shoulder straps saved him from injury although the plane required a left wing change, landing gear and accessories changed or repaired and a new prop.

Mechs of the squadron pitched in with a vim and repaired the aircraft so that it was test flown five days later and went aboard the *Rendova* the next day.

Photo Mosaics Aid Rescuers

VMP-254, EL TORO—Use of aerial photographs to aid the fire department in locating the fastest route to crashed aircraft has been developed at this station.

The fire station discovered that crash grid maps on hand were inadequate in showing terrain features that could hinder the crash equipment and fire trucks in reaching the scene of wrecks. VMP-254 was asked to furnish them with complete photo coverage of surrounding areas.

Five mosaics at a scale of 1 to 62,500 were made to supply each emergency vehicle. Three mosaics at a scale of 1 to 30,000 were made to be used in the fire station to plan routes. All mosaics have a grid system similar to grid maps used in the past.

Use of photographs has many advantages. Personnel not acquainted with the area can orient themselves quickly by man-made or natural landmarks. Best avenues of approach to difficult terrain by secondary roads, fire trails or ridges which are not on grid maps, are clearly shown on photo mosaics. Fire as a result of crashes can be combatted better by knowing where to set up fire breaks.



VAPOR BLAST PROCESS BEING USED ON SNJ AIRCRAFT AT ALAMEDA; NOTE PROTECTIVE MASKING

VAPOR BLAST LICKS CORROSION

Versatility in the removal of rust and corrosion from aircraft, without disassembling the plane and cleaning each part individually, is being developed by NAS ALAMEDA engineers.

A process known as "vapor blast liquid honing" has expedited overhaul of aircraft by removing corrosion from aluminum alloy surfaces without damaging the thin, protective coating. It also removes rust from steel parts without variation of dimensions.

Engines, armament parts, aircraft surfaces, plant machinery and tools are only a few of the many categories now dependent on vapor blast for precision cleaning. Even large aluminum surfaces, such as the massive hull bottom of the JRM *Mars*, are within the realm of this rust and corrosion chaser.

Delicate aircraft spark plugs, for many years subjected to the harmful effects of sand blast, are now completely freed of carbon, rust and lead deposits without harm by vapor blast.

In the vapor blast process microscopic particles of silica and novaculite mixed in water are squirted by air pressure against the surface being treated. The blast effect chases away rust and corrosion from steel and aluminum.

By varying the size of the abrasive particles, it is possible to process the most delicate precision parts. Vapor blasting not only leaves the aircraft clean and free of foreign matter, but gives a smooth finish so that the painter or polisher can apply a final coating of lacquer or wax with minimum effort.

The use of automatic conveyors, turntables, tumbling baskets and other fixtures further extends the possibilities of this process in the overhaul and maintenance of aircraft. A new method is being devised for masking sensitive parts and microscopic openings to prevent penetration of powdered sand or grit into other parts of the aircraft during blasting.

Before vapor blasting the aircraft, component parts—wings, landing gear, control surfaces and engine—are disassembled. The plane is then masked by plugging off all open lines and interior apertures.

Radio gear, instruments, controls, etc., are wrapped with waterproof paper and tape. Removable fairings, panels, access doors, etc., are masked by applying zinc chromate paste in the faying surfaces, augmented and strengthened by a fillet of Thiokol rubber over the faying surface seam.

All skin faying surfaces are given a fillet of Thiokol. Large openings and areas such as the fire wall, wing roots and control surface wells, are bridged with chicken wire, covered with waterproof paper and secured in place with waterproof tape. Edges of tape are given a fillet of Thiokol, and large covered areas are given a coat of sprayable plastic.

▲ *BuAer Comment*—Although finish produced by vapor blasting is smooth when measured in microinches, it is rough optically and has a non-specular appearance even when painted with a clear lacquer. However, the process is effective for removing corrosion with a minimum of man-hours and removal of metal. The surface produced is a good surface for paint.

The process is not recommended as a general method for removal of corrosion products on painted aluminum surfaces. The finer grits are ineffective and coarser grit may seriously damage the cladding on alclad aluminum alloys.

Fuel Leak Burns a Corsair

MAG-11, CHERRY POINT—An accident causing much discussion in this organization was one in which an F4U-5 assigned to VMF-224 caught fire and burned while taxiing. The pilot was uninjured.

Investigation revealed the fuel inlet line to

the left pylon assembly was not plugged. The fuel selector valve of this aircraft when unseated a distance of $\frac{3}{4}$ " from the "On" position toward the "left tank" position allowed gasoline to flow freely from the left pylon assembly. Use of the auxiliary fuel pump in the "high" position increased the flow.

Damage to the aircraft prevented turning up the engine. However, a check for possible leaks in the fuel line showed none, nor was any evidence of fire found in the accessory section.

The investigation board said the pilot inadvertently displaced the fuel selector valve sufficiently to allow gasoline to flow out of the left pylon assembly into the prop wash, creating a heavy vapor. This vapor ignited from exhaust fumes. The squadron RUDM recommended that check valves be installed in the pylon fuel lines which allow gasoline to flow only from auxiliary tank to main tank or carburetor.

▲ *BuAer Comment*—Installation of a check valve in the line would cause undue resistance in the fuel system and would not constitute a satisfactory solution. Pilots should be aware of a fuel selector valve properly seating by the feel of it and should exercise every caution that it is properly seated. Chance Vought has been contacted to determine a fix.

New Hookup for Lip Mikes

VMF(N)-551, CHERRY POINT—Several pilots of this squadron are using a modified method of attaching the lip microphone harness to their head sets and helmets.

Objection to the conventional method of attachment was the fact that once the harness was secured with brads it was permanent and not interchangeable.

By putting duro-dot sockets on the harness and two studs on their helmet or headset they have a method of attachment that permits the harness to be changed in a moment's time, merely by pulling it from helmet and snapping it onto another.

Form Aids Cowling Repairs

SMS-12, EL TORO—The machine shop has developed a form to assist in making repairs to F4U-4B engine cowlings which is both a time-saver and easy to manufacture.

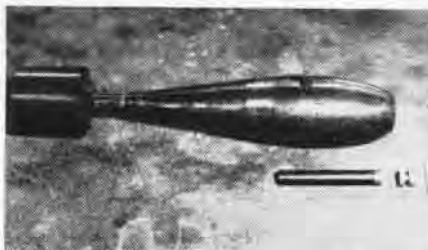
Three-quarter inch steel first was used for the form but later it was found that phenolic sheet was hard enough and did not require nearly as much work to make.

The cowling, which cracks from repeated vibration and strain, is strengthened by placing aluminum patches on the weakened or cracked places. These areas must be shaped and bent to fit. With these forms it is possible to shape the patches to fit snugly to the cowling, making it easy to rivet patch and cowling together.



TEMPLATE SAVES TIME IN REPAIR OF COWLINGS

AVIATION ORDNANCE



NEW PRACTICE BOMB GIVES GREATER STABILITY

Practice Bomb, 25 lb. Mk 76

The practice bomb, 25 lb., Mk 76 Mod O, has been developed for use with single suspension pylon racks (bomb rack Mk 55 Mod O), and is a continuation of the miniature-type practice bomb series.

The bomb has a cast-iron body stabilized by a sheet metal tail assembly and uses the signal, practice bomb, Mk 4 initiated by firing pin Mk 1 Mod O for spotting bomb drops.

Improvements: The following improvements have been attained in the development of this 25 lb. Mk 76 Mod O practice bomb over the present miniature practice bombs:

- (a) Increased stability
- (b) Lower dispersion
- (c) Improved functioning of signal on land and water drops from high altitudes.

Malfunction of Bomb Fuzes

Two recent instances have been reported to BUORD in which a high percentage of duds and low order detonation of bombs fuzed with AN-M103A1 fuzes occurred during live bombing exercises.

The particular lots of bomb fuzes involved in the malfunctions reported are currently being tested and analyzed by the Quality Control Surveillance Laboratories. The Chief of Ordnance, Department of the Army, has been notified of these fuze failures and combined efforts are being exerted to detect and remove any additional defective or deteriorated lots of these fuzes from military stocks.

BuOrd Wants Performance Reports: It is re-emphasized that BUORD must depend to a great extent upon reports from the using services for information regarding performance of aircraft ammunition and ordnance equipment under actual service conditions. Many performance reports received have resulted in disposition and re-design of the material involved.

The importance to the Navy of detailed reports by the fleet of malfunctioning or deteriorated aircraft ammunition and ordnance equipment, including recommendations for design changes or improvements, cannot be over-emphasized, and it is urgently requested that the preparation of such reports be considered as a matter of highest priority.

Dahlgren Tests Ammunition

The aviation ordnance department of the ordnance division, Naval Proving Ground, Dahlgren, Virginia recently completed an



DAHLGREN DISPERSION, SHORTING-OUT SCREEN

initial investigation on the exterior ballistics of 20 mm projectiles on a 2000-yard firing range. Studies and records were made of muzzle velocities vs. projectile time of flight to 2000 yards vs. projectile striking velocity at the end of 2000 yards of travel vs. apparent projectile accuracy.

The firings were conducted using a special accuracy gun whose inherent dispersion is less than one mil and is portrayed in the accompanying photograph. The wooden target used is 20' x 20' and the shorting screens used to measure projectile striking velocity are 9' x 9' and are portrayed in photograph 2. Other instrumentation measures projectile muzzle velocity, time of flight and striking velocity. An interesting feature of the instrumentation used was that of picking up the projectile hit upon the wooden target by means of a microphone attached to the target and radioing the signal back to the watchmaster timer at the gun which had also received an impulse as the projectile emerged from the gun muzzle.



SPECIAL 20 MM GUN FIRES ON DAHLGREN RANGE

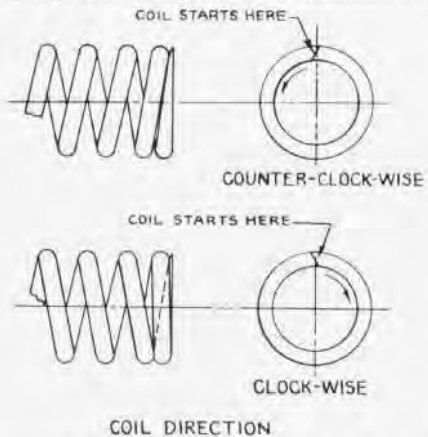
The time between the two impulses to the timer gave the projectile time of flight.

This range at Dahlgren is one of very few in existence that can obtain such information, and it is expected that many new types of aircraft ammunition will be fired on this range. The most important feature of the range is that additional exterior ballistics properties of projectiles may be accurately checked against the calculated values.

• ADDRESS INQUIRIES ABOUT ORDNANCE ITEMS ON THIS PAGE TO CHIEF, BUREAU OF ORDNANCE

20mm Driving Springs Told

Since the promulgation of NAVORD OMI-V4-48, *Instructions for Inspection and Replacement of Defective 20mm Driving Springs* (25596), the Bureau of Ordnance has



received inquiries requesting clarification of Figure 1 of this Ordnance modification instruction. To avoid any further confusion, an explanation of Figure 1 is deemed appropriate.

Technically, the sketch, Figure 1, is correct. Referring to Figure 1, NAVORD OMI-V4-48, the end views of the springs not only illustrate the starting point of the coil (indicated by the arrow and the explanation "Coil Starts Here") but in addition illustrate that portion of the first coil that is ground flat during manufacture. Examination of a spring will clarify this explanation. This second detail is not required for the inspection.

Figure 1, NAVORD OMI-V4-48, may be disregarded and the accompanying sketch

substituted. The inspection is made by viewing the spring from the end, and noting direction of rotation of the coil. The following conditions will determine if the spring is satisfactory:

1. Springs coiled in a clockwise direction, with a dab of green paint on the ends, are satisfactory.
2. Springs coiled in a clockwise direction which are not marked with green paint are unsatisfactory.
3. Springs coiled in a counter-clockwise direction are satisfactory regardless of whether paint has been applied.

Instructions for the disposition of unsatisfactory springs are given in paragraph 7 of NAVORD OMI-V4-48.

Fire Control Terminals Bad

The Naval Ordnance Test Station, Inyokern, recently reported defective terminals located in an Amphenol 28-12 connector used in an aircraft fire control system that has been under test. (See accompanying photograph.)

This connector was received as a part of the equipment. It is defective in that a spring retaining clip around the open end of each terminal was omitted in manufac-



PROPERLY ASSEMBLED TERMINAL SHOWN BELOW



DEFECTIVE TERMINALS LACK RETAINING CLIPS

ture. The resultant contacts are all intermittent under vibration and, in general, continuous when at rest. The second photograph shows both a defective and a properly assembled terminal. This defect proved very difficult to locate due to its intermittent nature and the fact that an almost endless variety of symptoms occurred. The expense to the Navy in lost time and money was considerable.

Recommendation: It is recommended that other activities having similar trouble due to intermittent operation of equipment investigate this condition as a possible source of trouble.



Those sizeable wingtip tanks on the FJ-1 from VF-51 were added to give it range to compete in the Bendix air race last fall. Photo shows it taking off at Long Beach with the 290-gallon tanks filled with JP-1 fuel, sufficient to complete the 1800-nautical mile non-stop flight at 96% RPM. The plane otherwise was in a standard combat configuration and carried a partial ammunition load. Its take-off weight of almost 18,000 lbs. is believed a record for single engine jet aircraft.

MARINES TAKE ISLANDS

MCAS CHERRY POINT—Marine aviation is making its greatest show of power since the close of World War II, participating in Atlantic command exercises in the Caribbean from 21 February to 19 March.

Second Marine Aircraft Wing under Maj. Gen. Field Harris is located at various bases of operation on Puerto Rico. Mag-11 under Col. E. A. Montgomery is at Roosevelt Roads, along with Air Base Squadron 21. Col. E. L. Pugh leads MAG-14 from Losey Field near Ponce, P.R., with Air Base Squadron 22 attached to his group.

NAS SAN JUAN will be used by VMR-252 as a base of operations and as headquarters for Marine Wing Service Group 2, a new type of Marine unit which operates somewhat as a Navy CASU did during the war and will be given its first real Marine test in the exercise.

The theoretical "enemy" will be entrenched on Vieques and Culebra islands, endangering the security of the western Atlantic and Caribbean areas. All elements of the Atlantic fleet—sea, air and undersea—will be thrown against them.

On D-minus-two day, Marine fighter-bomber squadrons were to shower the islands with bullets, bombs and rockets. Once ground troops were ashore, Second Wing planes were to take up close air support work, bombing and rocketing tough enemy strongholds.

To accomplish their mission, the squadrons moved 200 aircraft, 3,000 men and 3,000 tons of equipment and supplies almost 2,000 miles south from Cherry Point to Puerto Rico. Cherry Point's two night fighter squadrons in F6F and F7F planes are acting as enemy aircraft, harassing air bases and attempting to penetrate friendly air defense.



The above photo shows the new-style after cockpit which BuAer has placed on the F7F-2D airplane. Designed to provide adequate visibility for air control of pilotless aircraft, it gives the Tigercat a new look. The modification consists of an F8F windshield and bubble canopy installed over the rear cockpit and the use of a standard type pilot's seat. Utility Squadron Three is giving it service evaluation.

SERVICE TEST

INTERIM REPORT DIGEST

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

AD-2 (280 Hours)

Hydraulic Leak. Investigation of a hydraulic leak at the accumulator end of the accumulator line P/N 5256716-480, disclosed a longitudinal crack in the "T" sleeve. The crack extended the full length of the sleeve, P/N AN819Z. This is first discrepancy in hydraulic system tubing. Accumulator line has been forwarded to contractor for examination.

Generator. Mounting head ball bearing of generator NEA-5, Eclipse, serial No. 1722, failed after 188 hours generator operating time. Believe dust seal loosened and allowed bearing lubricant to drain out. *Recommend* that service life of mounting head ball bearing be increased.

Fire Seal Flange. During removal of engine from engine mount, engine fire seal flange was damaged by contact with engine sump and with fuel injection drive gear covers. Space within inner circumference of flange is insufficient for unrestricted passage of the engine. Removing lower section of the fire seal flange will provide clearance. *Recommend* that a removable lower section of the fire seal flange be provided.

Cowl Flap Actuator. Cowl flap actuator failed to energize because brush lead had broken away from the No. 3 terminal on thermal overload switch, P/N MKA-9. Strands of the brush lead were not twisted before being soldered to the overload switch terminal. Lead is not supported in the channel through the thermal overload switch housing and is subject to vibration.

As temporary fix, a one-inch length of transparent insulating tube was placed around the brush lead. This tube served as support to prevent vibration of wire in the channel where it passes through the thermal overload switch housing. Lead was resoldered. *Recommend* that workmanship on soldered connections be improved and that support be provided for the lead in the channel where it passes through the thermal overload switch housing.

Parts Catalog Error. Gasket illustrations for the front valve tappet guide, P/N 134323, item 4016, and the front push rod housing adapter, P/N 134233, item 4020, are incorrectly located in the group assembly illustration of the valve mechanism (figure 31, page 73) in the Parts Catalog for the R3350-26W engine. *Recommend* that the group assembly illustration be corrected to indicate the correct location of the front valve tappet guide gasket

and the front push rod housing adapter gasket.

8F-2 (186 Hours)

Oil pressure as low as 90 pounds continued to be encountered at 25,000 feet and above. A nose oil pressure gage was installed and nose oil pressures as low as 26 pounds were indicated at these altitudes.

Exhaust Stack Studs. Two broken exhaust stack studs and one loose stud were found on No. 1 cylinder. One loose stud was found on No. 3 cylinder and one broken stud on No. 7 Cylinder. All were replaced with oversize studs, P/N R-85PW92720P4.

F2H-1 (4 Hours)

Test began 4 January. Following discrepancies are under investigation: Two failures of blast tube shutter spring, P/N 13-71012, have occurred. Speed brake actuator motor, P/N 29501, failed after 1.5 hours. Filler cap, aileron boost reservoir, P/N 15-69039, was badly mutilated when aircraft was received. Fuel hose, fuel manifold to fuel filter, starboard side, P/N 15-58022-107, was found cracked and fabric and rubber had separated when aircraft was received. Koehler drain valve, P/N K2800A1—valve leakage. Fuel filter drain valves—valve leakage. Electrical leads to fuel booster pump motors were not supported and were chafing badly on the access door hinge support.

AM-1 (450 Hours)

Service test completed; aircraft transferred to Martin plant for modification.

Carburetor Air Scoop. Scoop, P/N 10-5000004, was found deformed and seal flange buckled as result of engine backfiring. *Recommend* that carburetor air scoop be redesigned to comply with paragraph 626 of SD-24-E.

Oil System Drain. Present oil drainage line is made up of two lengths of $\frac{3}{4}$ OD tubing and contains five 90 degree bends. It routes the oil from main oil tank to tank drain valve located in left side of fuselage. Because of excessive length and small clearances between line and airplane structure, the line is easily damaged during an engine change and is difficult to position properly to prevent chafing.

Oil drain line also passes over the left oil cooler temperature control valve and interferes with accessibility for maintenance of that valve. Oil drain valve could be installed nearer to oil tank than present location. There is sufficient clearance through left catapult tow fitting door to permit attaching a

length of hose to an oil drain valve installed at oil tank sump. *Recommend* installation of oil system drain valve, similar to the Aero-draulics valve, P/N A-04-01B, in place of the present oil tank drain adapter P/N AN 840-16D, which is installed in oil tank sump. Comply with paragraph 745 of specification SD-34-E.

P2V-2 (431 Hours)

Fuel Cell Fittings. Aircraft had been grounded a month for engine and anti-icing changes when a preflight inspection showed fuel dripping from center section tank compartment drain of port wing. Leakage stopped after enough fuel had been drained to uncover cell fittings located on aft upper walls. Each cell cover assembly was removed to inspect cell interiors. Torque load on cap screws which secure cell fittings to cells was lower than specification requirements. This probably resulted from cold flow of the rubber. No. 3 cell showed evidence of leak at fuel cell fitting. After replacing fittings and applying correct torque loads on cap screws, tanks were refilled. Two days later fuel again leaked from port inboard tank compartment drain and a few rivets, on the lower surface of wing below fuel cell interconnector between cells 2 and 3, were moist. All interconnectors in port center section tank compartment were removed. All interconnectors showed evidence of leakage.

Fuel cell installation is considered unsatisfactory for the following reasons: Lack of suitable access doors for field inspection of fuel cell fittings. Inspection impossible without first defueling the plane and inspecting cell interiors. Small leaks in system can go undetected because fuel evaporates before it can reach exterior surfaces. Cap screws on cell fittings were retorqued. Interconnector gaskets were replaced with locally manufactured ones. *Recommend* that sufficient access doors be provided to allow adequate inspection of fuel cell fittings as required by SD-24-E, paragraphs 203 and 227, and that a more dependable seal be provided at fuel cell interconnectors.

Inverter. The main inverter which normally supplies power to all flight attitude instruments is located within two inches of the flight instrument standby inverter. Both are located between stations 234 and 349 in the radar well. During combat operations concentrated enemy gun fire could make both inverters inoperative, thus leaving the plane without any source of power for the electrical flight attitude instruments. *Recommend* investigation of possibility of separating the two inverters.

After 449 hours aircraft flying time, the flight instrument standby inverter, P/N R17-1-7463, failed to supply power. Inspection showed rough contact surfaces on the AC output brushes and a gummy uneven film on the friction surface of the collector rings. Same discrepancy had occurred previously at 278 hours, causing the flight attitude instruments to operate erratically on standby power. The standby inverter was operated approximately 23 hours between the two failures. *Recommend* that a P2V aircraft bulletin be issued directing all operating units to inspect the flight instrument standby inverter after every 120 flight hours to assure availability of standby power for flight atti-

tude instruments in event of main inverter power supply failure.

Rudder Pedal Adjustment. To adjust rudder pedals pilot must place his foot under and in back of pedal assembly and press a lever outward. Because of limited space between pedal and deck it is practically impossible for pilot wearing flight boots to adjust the rudder pedals. *Recommend* that adjustment mechanism be redesigned.

Watertight Fuselage. Water stains were observed on the soundproofing blanket caused by leaks in the fuselage at various places. Investigation showed the following leaks: flight compartment—around gasket between copilot's sliding window and cabin structure; radio compartment—through fuselage structure and around fitting securing life raft release cable; radio compartment—around port window gasket between glass and frame, also between window frame and fuselage structure; navigation compartment—around astrohatch service assembly; navigation compartment—through fuselage's structure around life raft release handle well located outside airplane topside about one foot aft of astrodome; radar compartment—around escape hatch seal on port side of fuselage. *Recommend* better and longer lasting seals.

Pilot's Check-off. The following additional items not included on the pilot's check-off list should be checked immediately prior to take-off: Cowl flaps at the desired position. Surface controls checked for full freedom of movement.

Packing Ring. An oil leak occurred after 35 operating hours on a newly overhauled port engine. Packing ring, P/N 2083D91, which seals the connection between the external oil inlet front tube and rear tube, was mutilated around entire circumference and had annular ring scoring on surface which mates with metal washer, P/N 133174.

Portable CO2 Rig Is Useful

A new two-bottle fire extinguisher unit was recently put on the line at LP-12, NARTU NORFOLK. Made up in three man-hours, the portable rig enables one man to quickly and easily bring to the scene of fire two 50 lb. bottles of CO2.



NORFOLK RESERVIST DEMONSTRATES CO2 RACK

In addition to its emergency value, the carrier provides a method of storing CO2 bottles neatly and out of harm's way when not in use on the line.

▲ *BuAer Comment*—A good idea.

Marines Trying New Wing Plan

MCAS CHERRY POINT—The Marine Corps is trying something new here, forming a Marine Wing Service Group 2 which will function like the Navy's CASU's did during the war to maintain planes of squadrons arriving at a station.

The new group is designed primarily as a service and supply unit for MAG's operating aircraft in the second wing. Under the old system, the MAG had to carry its supply gear with it, thereby slowing down its movements. Under the new one, MAG's will be able to move quickly and will receive their supplies from the Air Base squadrons. If the idea is successful, it may be installed in other areas.

Air Base Squadron 21 will cater to MAG-11. In the field it will provide tower control, field lighting, aerology, crash crews, camp equipment, PX facilities, medical and dental, communications watches, provisions and installation of shop equipment and fire protection. Air Base Squadron 22 will provide for MAG-14.

The new Wing Service Group consists of a hedron commanded by Warrant Officer R. K. Adams, Wing Service Squadron 2 commanded by Capt. T. H. Hughes, the two air base squadrons headed by Lt. Cols. S. B. O'Neil and A. D. Gould. It will have 927 men. First real test of the system came this winter during maneuvers in the Caribbean.



EL TORO MAP ON DECK HELPS FLIER CHECKOUT

Map Aids Marine Aviators

VMF-214, EL TORO—This squadron has worked out a good idea to indoctrinate new pilots in field traffic rules and standard operation procedures around the station.

A map of the station was painted on the deck to help them visualize the maze of directives and orders they have to read and absorb. Briefings are greatly facilitated when locations can be spotted on the map.

Perhaps the best use was made of it to indoctrinate Reserves on their recent maneuvers. Though nearly half had used this field at one time or another, most had forgotten landing and taxi directions. All pilots commented on the ease in orienting themselves and getting added information on such instances as dropping tow targets.

In the accompanying photo, Lt. J. Lynn Helms, right, briefs Lts. Jack R. Grey, Danny Johnson and James D. Boldman.

Rudder Pedal Locks Useful

VMF(N)-513, El TORO—A system for locking controls on the F6F-5N so the plane can be secured for the night with a minimum of trouble has been designed by M/Sgt. W. E. Cato of this squadron.

Ailerons are secured in the traditional manner, by use of the safety belt, the only outside device being a lock for the rudder. Cato devised a lock from a 27½" x 2½" strip of 24st aluminum to secure the rudder to the hydraulic hand pump. No other parts or attachments are necessary.

A notch 1½" x 1¾" was cut in one end of the strip so that it fits over the pedal assembly rudder tube between the pedal assembly and the arm assembly. A notch ½" x 1¾" in the other end of the strip allows it to be attached to the hydraulic hand pump retaining bolt.

The above method has been proven in actual use at El Toro as well as aboard ship. It is considered an improvement over using battens because it saves time in installation and because battens are more likely to work loose.

Swinging Bomb Rack Built

NAS ATLANTA—A miniature bomb rack suspension idea developed by Robert E. Boland, SN, has increased the actual amount of bombing practice which can be conducted by a PBY without returning to rearm.

The bomb rack is mounted on a swinging arm which is installed in the blister and then swung out to the bombing position. The rearming process can be accomplished by one trained individual and bombing done electrically by the pilot from the cockpit. The arm can be removed quickly from the aircraft, leaving no permanently-installed equipment other than the small fitting at the forward end of the blister which serves to help brace the L-shaped arm.

The top photograph shows the arm with the Mk 47 Mod 1 rack swung inboard for rearming. The lower one shows it outside the blister in operating position. It was not found necessary to provide sway bracing for the rack as the air is free from turbulence at this point, even in turns and skids.



RACK SWINGS IN FOR REARMING, OUT FOR USE



SUPPLY NEWS

FROM ASO AND SUPPLY DIVISION BUAER

Buying Non-Standard Items

Purchases for other than inventory purposes in Class 201 Naval Stock Fund have been discontinued both ashore and afloat. Provision now is made for purchase directly against appropriated funds for which an allotment or a project order has been granted. The principal reason for this change was to prevent an immense amount of uncontrollable traffic in NSF clearances.

The Naval Stock Fund in the past has suffered losses because of the lapse of appropriations before a charge was made to the appropriation on receipt of the material. It has been taking, and still is taking, large losses from the obsolescence of non-standard material procured under the Naval Stock Fund.

Index of Aviation Material

Advance change to the BUSANDA Manual, paragraph 26203, establishes the accountability codes listed in the Classification Index of the ASO Catalog for all aviation material. By referring to the Index, supply personnel have the opportunity now to establish their custody records for material coded "A". Work is now in process to add thousands of items to the next revision of the Index.

Study Instrument Problems

Because of the critical nature of most instruments, the following projects are underway, tending to simplify supply and maintenance instrument problems:

1. Instrument configurations of aircraft now in service are being prepared by the BUAER Maintenance Division. This action is expected to result in standardization of instrumentation with consequent reduction in the range of items which must be carried in stock, ordered, handled, and maintained. Inventories will be reduced by elimination of obsolescent, slow-moving items.

2. Instrument models which have never been assigned status by BUAER Instrument Status Bulletins are being assigned status to show if they are to be (a) supported by overhaul spare parts, (b) maintained so long as overhaul spare parts are available, or (c) obsolete models which are to be disposed of in accordance with ASO disposal directives.

3. Instruments such as binoculars, grid sheets, plotting boards, computers, etc., which formerly have been carried in stock as required for general aircraft applications, are being screened by BUAER to evolve a more suitable policy for allocation. Some standardization may be expected, and requirements for procurement, overhaul and stocking will be more accurate.

4. ASO C/L 243 established two stocking points for instrument spare parts: NASD PHILADELPHIA and ASD OAKLAND. It also established the channel for submission of

QSSR's and ad-interim requisitions, the channel being for all reporting activities to submit QSSR's and ad-interim requisitions for material direct to ASO. On receipt of these QSSR's or requisitions, ASO will take action to issue material from the two stock points or, if necessary, redistribute material from one authorized instrument overhaul activity to another. When the required material is not available in the system, reallocation action will be taken for direct shipment of parts on contract from the contractor.

Handle Supplies With Care

Damage to critical materials is on the increase. It can be stopped by eliminating careless handling and by instruction in the proper methods. *Care must not be sacrificed for speed.* Perhaps a box will get to the top of the stack faster by throwing it, but if the material is damaged additional money will be required to buy new material and additional time required to requisition it. Save time by handling material correctly in the first place.

In case material is damaged in the stockroom, make sure it does not remain in RFI stock, but report it and get it into 265 immediately. To further reduce damage to aeronautical material, use care when loading freight cars, trucks or small equipment. Material must be properly boxed and packaged when it is to be shipped to users at a distant point. All personnel must be aware of the continual fight against allowing careless habits to damage critical items.

Save Photographic Supplies

SecNav has ordered that immediate action be taken to conserve photographic equipment supplies throughout the Navy because of the limited funds available for replenishment and the increased use of photography.



Requisitions shall be closely scrutinized by approving officials in order to prevent acquisition of equipment and supplies not needed in the performance of the activity's assigned mission.

Rip-Stop Nylon Parachutes

Deliveries of the new 28 ft. rip-stop nylon parachutes are expected to begin in May. This parachute will not require airing and drying nor will it become overage. Issues will be restricted to high-speed aircraft until stock position is adequate for all type aircraft.

De-Icer Boot Service Life

De-Icer boots are now considered to have a service life of *one year's installed service on an aircraft.* For example, if a boot has been installed on an aircraft for a period of six months and has been returned to storage, it can again be reinstalled on an aircraft for an additional six-month period.

In addition to the one-year service life, boots also have a maximum life of three years. Any boot over three years old from date of manufacture, regardless of service life, is overage.

Control of Special Devices

Control over training device spare parts is shared by ASO and the Special Devices Center at Sands Point, Long Island. Any requisition and correspondence relative to *complete* devices should be forwarded directly to the Special Devices Center. Spare parts should be requisitioned from NASD PHILADELPHIA.

If ASO does not stock the item, the requisition will be forwarded to the Center. Overhaul of Class 93 in a Class 265 status is scheduled by BUAER. Special Devices Center is responsible for scheduling all complete devices and spare parts under their control. ASO recommends schedules for all items appearing on the QSSR, i.e., ASO controlled spares.

BUSANDA has approved and assigned space at ASD OAKLAND to be used as the West Coast stocking point for Class 93 material. When adequate stocks of both ASO and Special Devices Center controlled material have been transferred to Oakland, the report procedure now followed in ASO C/L 155A will be revised. It is contemplated that all West Coast activities will be supplied from Oakland.

Metal Identification Marks

The current Army-Navy aeronautical specifications for metal in bar, rod, sheet and tubing require that each piece be completely marked with the specification number, manufacturer's name or trademark, and commercial designation. In specifications for tubing such as AN-T-3a, -15, -22, -33, -68, and -69, the tubing is preserved with compound, specification AN-C-52 which sometimes obscures the identifying markings.

Shipping containers and bundles in which these metals are shipped, normally furnish identifying information as to the specifications. In cases where this identifying information has been obscured by preservation, only as much as of the preservation compound should be removed as is necessary.



FUEL TRANSFER PUMP USED IN DEFUELING JOB

Defueling Gear Improvised

VMF-312, EL TORO—A scarcity of defueling equipment in the local area inspired M/Sgt. Eddie F. Reynolds, engineering chief of VMF-312 to improvise his own. The equipment assembled consisted of a fuel transfer pump from an F4U-4, two lengths of hose, an on-off switch, and one length of cable with positive and negative terminals.

By attaching one length of hose to the defueling valve on the aircraft and the other length of hose to the top valve on the gas truck, fuel thus becomes transferable to truck from aircraft. Oil also can be transferred from oil drums to truck. The 700 gallon per hour capacity pump is operated by power from an auxiliary power unit.

Red Ammo Pans Aid Marines

VMF-312, EL TORO—Tech. Sgt. Leonard E. Munroe of this squadron's ordnance department has devised a system of speeding up the loading of .50 cal. wing guns which may prove useful to other squadrons.

Twelve extra wing ammunition pans, used only for such flights when firing of guns is contemplated, were painted red and numbered according to the position of the pan in the wing.

These pans were loaded with calibrated, painted ammunition far in advance of the loading time aboard aircraft. These loaded pans were kept in temporary standby condition in the ready-service locker.

Value of the above plan is that pilots can tell with a glance from the cockpit which of the six guns are loaded. It also makes for positive identification of loaded aircraft on the ground or in the air, gives standby readiness for immediate loading and makes use of the color red which is associated with precaution and safety.

Trailer Hauls Finger Lifts

NAS ALAMEDA—Supply department has modified an Army generator trailer, M-7, into a safe, efficient and economical finger lift transport.

The low bed and long ramp permits the finger lift to be driven on and off the trailer. This eliminates the necessity of another fork truck or loading ramp to load and unload the equipment and therefore allows use of a finger lift at locations which previously were inaccessible to finger lift equipment.

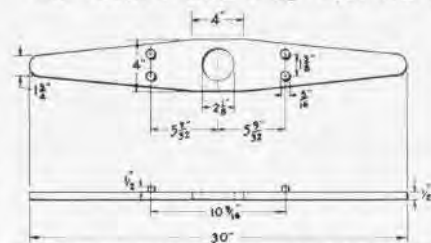
This trailer permits safe intra-station transportation of broken down lifts in lieu of the unsafe practice of pushing or towing them. The truck can be secured and ready to roll in less than five minutes. It can be carried over the road at any speed local laws permit,

and with such a low center of gravity, the trailer is practically impossible to overturn. The trailer has been in constant use by Supply the past few months, and has more than paid for the cost of modification.

Wrench Handles Tight Nuts

VMF-452, EL TORO—This squadron uses a spanner wrench as illustrated to remove warped or frozen brake disc retaining nuts on the F4U-type aircraft.

The wrench is made of $\frac{1}{2}$ " steel with a



SIMPLE WRENCH SAVES TIME, WEAR ON THE NUT

hole in the center to allow it to fit over the axle. Four lugs are welded to the base of the bar to fit the four holes in the opposite side of the brake disc retaining nut. By use of this wrench sufficient pressure may be exerted to free the tightest nuts without damage or loss of time.

Prior to use of this wrench it had been found necessary to remove frozen or warped discs with a hammer and punch, often resulting in damage to the nut as well as requiring considerable time.

VMAW-1, MIDWAY—MSgt. Jesse W. Oliver, sergeant major of this base air warning squadron, broke the island record for the M1 gunnery course by two points when he fired 323 recently. All men armed with the M1 have now fired the course and 88% qualified in the weapon.

Wire Cage Protects Worker

SMS-12, EL TORO—After constructing the parachute safety belt and shoulder harness tester in accordance with TN 1-48, it was felt that serious injury might occur if a harness or belt were to break while being tested.

A wire protector was designed and made to prevent such an accident. The protector is 14" wide, 12" high and 68" long. It is hinged to the back of the testing equipment to facilitate putting on and taking off belts and harness.

▲ **BuAer Comment**—Any safety device for protection of personnel is good. However, in this particular case, very little chance of belt breakage is expected due to extremely low loads of the test equipment. The belt pull is only a fraction of the specified strength of the belt.



WIRE CAGE COVERS CHUTE BELT BEING TESTED



DETACHABLE COLLAR KEEPS COFFEE ON COILS

Secure Those Coffee Pots

VP-32, PACIFIC—On a long patrol, a cup of hot coffee can be mighty welcome, but the members of this squadron want the coffee pots and other hot pans to stay on the stoves. However, when a PBY-6A is operating in rough air, these utensils have shown a distinct tendency to go hurtling into the bilges. Since the burners on the electric stoves are raised $\frac{3}{8}$ " above the stove tops, there's nothing to discourage this yen for take-off on the part of the cooking gear.

To eliminate the potential fire hazard and danger of scalded personnel, Edward O. Sierens, AMC, designed appropriate detachable guards made of 24-ST aluminum. All planes of VP-32 are now so equipped.

Pensacola Unzips 'Hellcats'

NAS PENSACOLA—The O&R department recently turned out its first reconditioned F6F fighter, taken out of mothballs and put in flying condition here. It was the first *Hellcat* to go through the process, other planes reconditioned heretofore being SNJ's.

The F6F's have been in mothballs for at least two years. A total of 1,500 man-hours was required to recondition the planes on the assembly line basis, which utilizes 370 persons. Twenty-seven of the reconditioned planes were completed by January, with 72 to be turned out in the next quarter.

NAAS WHITING FIELD—A new training idea is being tried out. Squadrons are divided in two groups and muster at 0700 and 0800. This permits eight flights a day, puts more students in the air, cuts down planes in the area at one time and gives less congestion at outlying fields.

Wand Helps to Fix Loran

VR-8, PACIFIC—As an aid to navigators in calibrating loran equipment, a small tuning wand attached to a chain has been secured to each loran rack. The wands prove superior to screwdrivers, which have been used in the past with bad effect on the tuning controls.

A study is underway to relocate the pilot's and copilot's headset and microphone. Numerous complaints have been received of these items becoming entangled in the seat adjusting mechanism and usually just at the moment when they are needed most.

A number of new tool kits have been made up for radio repairing. Instead of putting them aboard the plane with the emergency equipment as in the past, the first radioman now will check the tool kit out in person, keep it in his possession throughout the flight, returning it to radio maintenance on completion of the flight.

LETTERS

SIRS:

My flying machine, as Mr. Towers probably has told you, is not in my opinion fit for use. I built it from parts of the Burgess F and Wright B, which are not exactly alike, and nothing fitted. I had to cut off and patch up parts and bore additional holes in beams to make them fit.

The engine bed, made by Burgess, was not exactly square with the front beam, so the engine had to be mounted a little out of true. I have made more than 200 flights in this machine and recently, in spite of unusual care of myself and men, something seems to vibrate loose or off a majority of the flights made.

One of the propeller shafts is the same one used with the gyro motor on the old machine. It is the only left hand shaft here. While the engine runs smoothly, it does not deliver nearly as much power as when it was newer, and even then, it did not have enough power to fly safely in any but smooth weather.

It is impossible to climb over a few hundred feet with a passenger. The whole machine has just about served its usefulness and I would like very much to have a new machine of the single propeller type. Lieutenant Arnold of the Army, after seeing the machine run and examining it, said that none of the Army fliers would go up in it. Will you kindly let me know what the prospects are for my getting a new machine?

ALFRED A. CUNNINGHAM, USMC

† In fairness to our readers, we should mention that this letter was written to Capt. W. I. Chambers of the Navy Department from the Naval Aviation Camp, Annapolis Md., and dated 25 July 1918. Cunningham was the No. 1 Marine aviator. The "Lt. Arnold" he refers to later became Gen. H. H. "Hap" Arnold, head of the Air Forces. The "Mr. Towers" became Admiral Towers. We present this letter merely to show how times change. Or do they?

SIRS:

I am a plank owner of fighting VC-13 and am very proud that they got the long ribbon. I served aboard the good ship *Core* and left the outfit in '43 to put the *Bataan* in commission. Would like to hear from any of the gang of VC-13 that were in it when I was coffee king.

JOHN PAUL JONES.

246 MILL ST.
RENO, NEVADA

SIRS:

The NAS LOS ALAMITOS entry in the Tournament of Roses parade swept most opposition before it to capture second place in its division. The float, which is shown here wending its way slowly down Colorado Boulevard, included a full-scale replica of the 1915 Curtiss hydroplane. It was "piloted" by Lt. (jg) Harvey Ray, assistant operations officer at this station, who was completely attired in 1915 flight gear.



The unique float, which represented all the stations and units in the Naval Air Reserve Training Command, was built out of scraps and spare parts by the enlisted men at the station. Many of their wives also came out to help on the project. To give the flowers a fresh appearance, both the men and their wives worked around the clock in eight hour shifts which began 48 hours before the parade.

E. C. INGRAHAM, LT. CDR.
PUBLIC INFORMATION OFFICER

NAS LOS ALAMITOS

SIRS:

The enclosed copy of the first entry in the ship's log, USS *Boxer* (CV-21) for the year 1949, is forwarded as an item of interest to all Navy men who stood the first mid-watch of the new year. The watch officer was Lt. C. E. Sweet.

"Moored as before" is a short entry to write, and I'd do that now but thoughts of the Navigator fill me with fright, so I'd better get on in nautical lore, and put down the dope for this zero zero to zero four. The USS *BOXER*, that "Busy Bee," is moored port side to pier number three, for upkeep and leave and recreation at Alameda, California's naval air station.

The subject of lines dangling over the side, will be treated in accordance with the watch officer's guide; two 10" manila lines, two 8" manila lines, and 1 1/2" spring lay wire, two 1 1/2" spring lay wires, four 1 1/2" wires, and for some strange purpose under number five boiler they have lighted the fires.

The weather outside is dark, damp and dreary, and the bowels of this CV are about as cheery, a little more steam would make it a beauty, but no need to request; the Chief Engineer has the duty. Fresh water and telephone service is supplied, connected from shore right into our side. The USS *General Randall* is somewhere in the bay with Capt. J. K. B. Ginder aboard flying SOPA. ComCarDivTHREE, RAADM. M. R. Greer, is on leave with the captain, till the third day of the year.

There are some ships present in the bay, they come and they go but the USS *Antietam* (CV-36) always seems to stay. At zero zero thirty three, the Chaplain came aboard as happy as could be, he stated he was here to spread good cheer; but this OOD would rather have a beer. Two hours after greeting 1949 the ships clocks were set back to plus eight zone time, and so ends this log writing in rhyme, after all five hours is a long long time.

USS BOXER

STEADMAN TELLER, CAPT.

NAS COCO SOLO—This station moved back into the overhaul picture with completion and delivery of two PBM-5's to Corpus Christi. These two planes were forerunners of others to follow at the bureau scheduled rate of one a month. Since June, Coco Solo also has been overhauling R-2800-34 engines.

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● BACK COVER

The Hawker 7/46 in the back cover ad is the latest jet fighter to join the British Royal Navy's air arm. Head-on it looks like the F9F somewhat. Wing-root aircoops feed a single Nene jet engine which shoots its exhaust out of both trailing edge wing roots.

● THE COVER

An outstanding feature of the aerial parade accompanying President Truman's inaugural parade was an M-1 blimp from NAS Lakehurst which soared over the parade route most of the afternoon. Our cover photo, by a NANews cameraman, caught it slipping past the dome of the capitol. Pilot of the blimp was Lt. Charles A. Mills, Jr.

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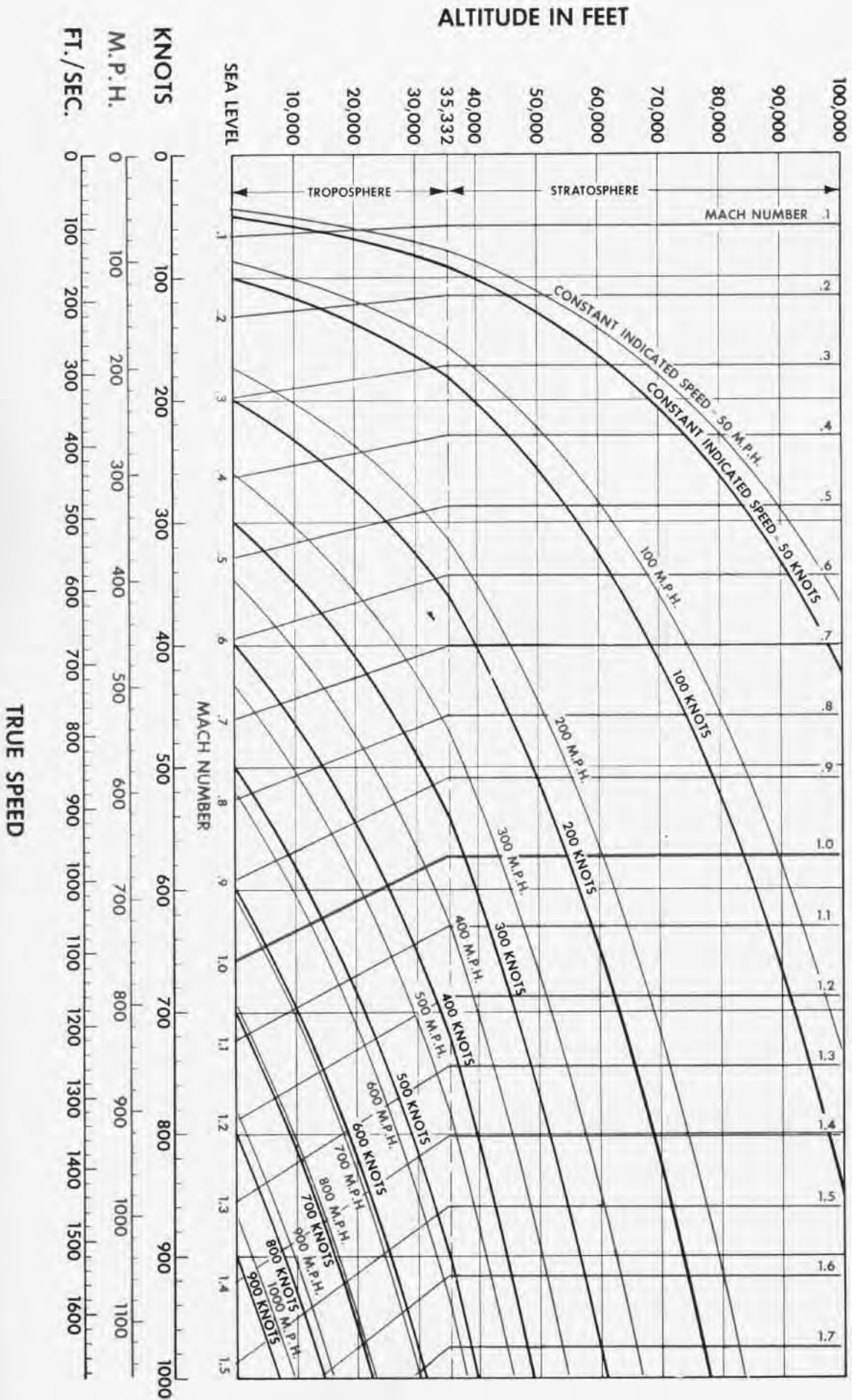
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