

NAVAL AVIATION

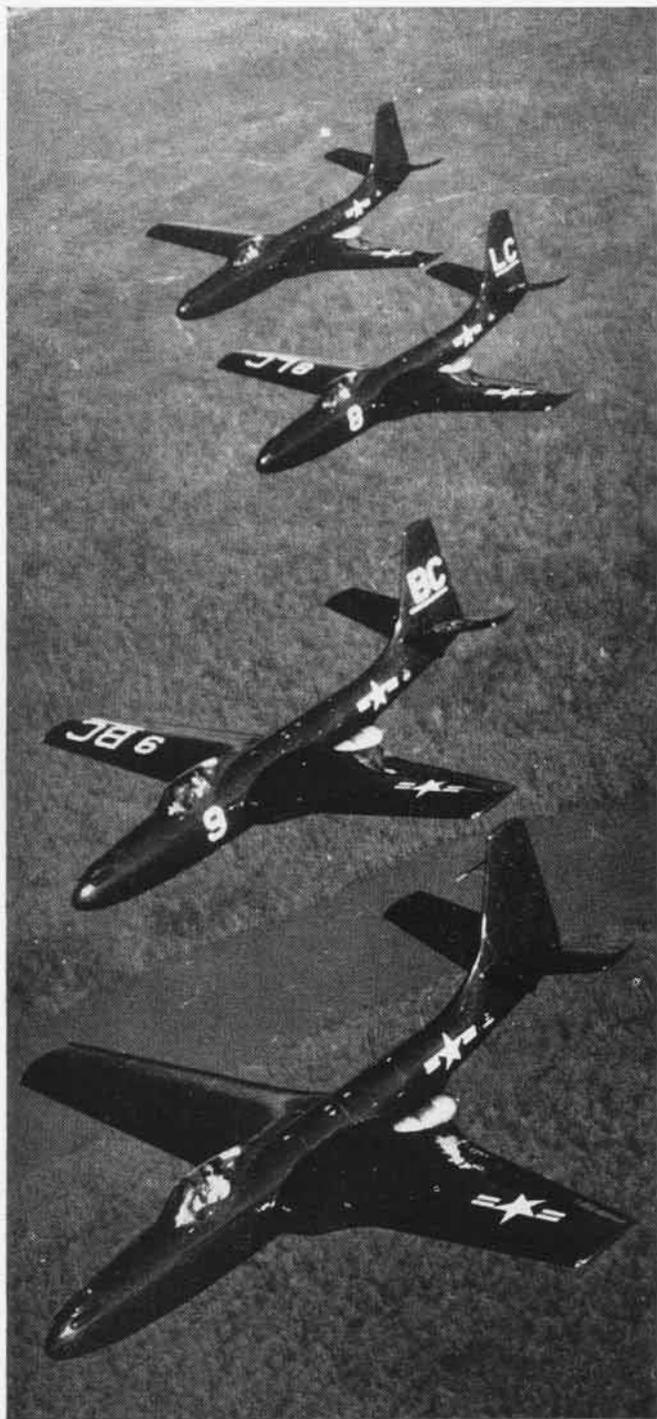
# NEWS



Reserve Flying  
Jets on Carriers  
Marine Air Tech

JULY 1948  
RESTRICTED

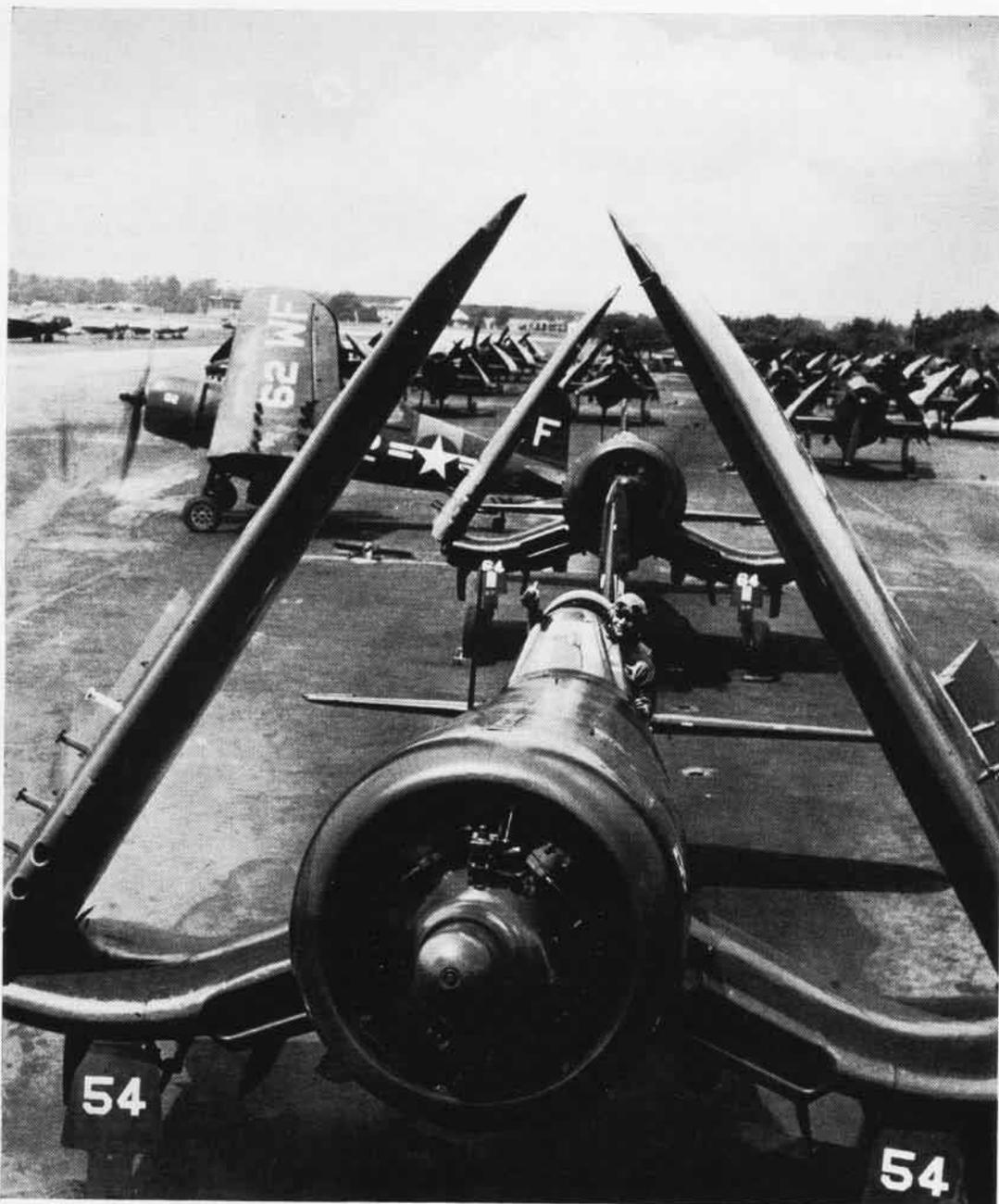




# NAVAL AIR POWER

Two of the first fighter squadrons to be equipped with jet aircraft are pictured above flying formation in their new steeds. On the left are four FH-1 Phantoms flying over wooded terrain at Cherry Point. They are from VMF-122, commanded by Lt. Col.

Marion E. Carl, holder of world's speed record. On the right are four FJ-1's, the speedy North American carrier fighters, being flown at San Diego by VF-5-A. The FH was the first jet to land aboard a U.S. carrier in 1946; the FJ landed on the Boxer this spring.



# Naval Air Reserve

ON ONE July the Naval Air Reserve celebrates the second anniversary of its postwar reactivation.

No paper force, the Naval Air Reserve is a going concern today. In two short years it has built up what many impartial observers have called the finest Reserve outfit in the world. It has forged a training program which is setting the pattern for similar Reserve programs throughout the country.

The Naval Air Reserve's Organized combat air groups and squadrons constitute a ready reservoir of

striking power. In case of emergency these forces could immediately be put into the field. Twenty-four air groups, ready to go aboard *Essex*-type carriers, and 23 patrol squadrons, set to ferret out enemy submarines, are only part of its strength.

This is the Navy's answer to the question now being asked by many prominent civilians as to what the armed forces are doing today to keep up the interest and proficiency of the millions of Reservists who did an outstanding job on all fronts during the last war.

# AIR RESERVE PROGRAM IS NOW IN HIGH GEAR

GETTING the Naval Air Reserve program underway after the war was a tremendous undertaking. On 1 November 1945 the Naval Air Reserve Training Command was established at Glenview, and, in double quick time, a week-end training program for Organized Reserves was worked out. Naval air stations were transferred to this command and authorization given to set up training units at stations operated by the Regular Navy.

Today smooth-running operations have been established at all of the 18 naval air stations and 5 training units now in the Naval Air Reserve Training Command chain. These stations and units provide focal points for Naval and Marine Air Reserve training.

At present approximately 8,000 naval and Marine officers and more than 20,000 naval and Marine enlisted men in the Organized Air Reserve are maintaining their wartime proficiencies and keeping abreast of the last developments in the fast-changing field of naval aviation. For training purposes, they are organized into 54 air groups, 25 VP, 25 VR, 2 VPP, 27 VMF, 8 MGCI and 46 fleet aircraft service squadrons.

In two years, to be specific, the number of Organized Reserve aviators has climbed to 4,907 for the Navy and 1,039 for the Marines. Enlisted figures have jumped to 15,738 and 4,378.



MAP SHOWS THE LOCATION OF 23 RESERVE STATIONS AND UNITS, PLUS AUTHORIZED NARA'S

At the same time, 1,538 Associated Volunteer officers and 392 enlisted men attend regular drill with Organized Air Reserve squadrons. Add to this the 12,731 naval and Marine Volunteer Air Reserve officers and the 3,611 enlisted Volunteers, who either drill occasionally or take two-weeks cruises, and you get a good idea of the scope of training at Reserve stations.

Station personnel on full-time active duty now number 691 officers and 8,920 enlisted men and women.

Getting Organized Reserve activities into high gear, however, was only part of the training job, for the Organized Reserve is limited in size by appropriations just as is the Regular Navy. To provide the "depth" needed in time

of emergency, four or five Volunteer Reservists are required for each Organized Reservist. They, too, must be ready.

Since many of the Volunteers live too far away to take part in station activities, the Naval Air Reserve devised plans to take the program to these Reservists in their home communities.

THIS VOLUNTEER Air Reserve program is organized on two fronts—the first under the Naval Air Reserve Training Command and the second under the district commandants.

Reserve stations and units now provide training, utilizing their own equipment and facilities, for Associated Volunteer Units (AVU's) located at key points within their vicinity where large groups of Volunteer Air Reservists wish to come out for regular drill. Where adequate flight facilities are available, flight training is also provided for the aviators in these units, which are then designated as AVU(A)'s. The place where these AVU(A)'s are located, often a municipal field, is called a Naval Air Reserve Auxiliary (NARA).

District commandants, with the assistant director of Naval Reserve (Air) spearheading the drive, are in charge of the second front to integrate Volunteer Air Reservists into the program. Although this drive got underway only last November, Volunteer Aviation Units (as the ones under the commandants are called) have been mushrooming all over the country. In the Sixth Naval District, for example, nine VAU's are going concerns.

These units differ from AVU's in that their schedules are more flexible and their training is more informal.

Assistant directors of Naval Reserve (Air), who maintain contact with all Volunteer Air Reservists in their districts not associated with Organized Reserve activities, also encourage Re-



Atlanta "weekend warriors," J. W. Nevins, D. R. Brennan, G. H. Wallace, B. J. Long, D. H. Brady, J. K. Hart, and J. McCormick, look over their next flight route

servists who are too busy to join VAU's to organize local informal groups like the Aviation Commandery of the Naval Order of the United States. These groups meet occasionally for lectures and to renew wartime friendships.

All this progress could not have been made in such record time, were it not for the "know-how" of the men who plan and administer the Naval Air Reserve program, as well as for the teamwork shown by officers and enlisted personnel all along the line.

In this connection the Naval Air Reserve has been particularly fortunate in having a large nucleus of Reserve officers, who have given outstanding service to the program over a long period of years.

Top-ranking leader among this group is Rear Admiral Irving M. McQuiston, Advisor to DCNO (Air) for Naval Air Reserve, who started his career in the Reserve in 1917. Since that time, except for a brief period after World War I and during World War II, when he served as Chief of the Aviation Progress Division in the Navy Department, he has devoted his capacity for planning and organization to developing the Naval Air Reserve program.

Other Reservists, who throughout the years have helped to forge the whole Air Reserve into a smooth-running organization, include such well-known officers as Commodore Joseph B. Lynch, Captain Charles D. Williams, Jr., Captain Kenneth B. Salisbury, Captain Frederic W. Priestman, Colonel Ben Reiseweber, USMCR, Commander Harry M. Sartoris, Captain Francis N. Mary, USMCR, as well as many of the officers at Reserve stations and in the district offices.

Many of the outstanding group of Regular Navy officers who administer the Naval Air Reserve training program also have a background of valuable contribution to Naval Air Reserve



Rear Admiral I. M. McQuiston (center) discusses plans for the Naval Air Reserve with (l. to r.) Commo. Lynch, Cdr. Sartoris, Capt. Salisbury, and Capt. Williams

activities. Rear Admiral Richard F. Whitehead, Chief of Naval Air Reserve Training, way back in 1929 served as CO of the old Naval Reserve Aviation Base in New York. Others in this group include Captain Horace Butterfield and Captain Henry F. MacComsey.

#### SECNAV Says—

**T**WO ACTIVE years of progressive expansion since the war have resulted in the post-war Naval Air Reserve training program becoming an extremely important part of our National Defense Establishment . . . All Americans can look with justifiable pride and confidence to the members of the Air Reserve who have continued to be a vital component of the Navy's coordinated land sea-air team . . . I send my sincere congratulations to the men of the Naval Air Reserve and wish them many years of continued outstanding performance.



Organized Reserve pilots of VF-53-A at Columbus fly F6F Hellcats in formation



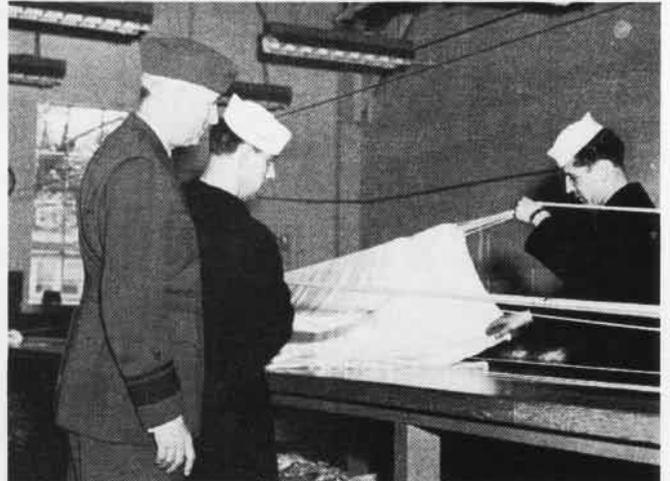
Columbus, Ga., VAU officers Meeks, Jones, Cabaniss and Glover file flight clearances while on two-weeks active duty



Aerial view of NAS NEW YORK showing line-up of Reserve planes. You can bet it doesn't look like this on weekends



For Most Reservists, this moment when the Chief of Naval Air Reserve Training passes by is climax of annual inspection



But there's more to military inspection than final review—Rear Adm. Whitehead watches Grubb and Holland at work

## ADMIRAL'S INSPECTION AT NAS WILLOW GROVE



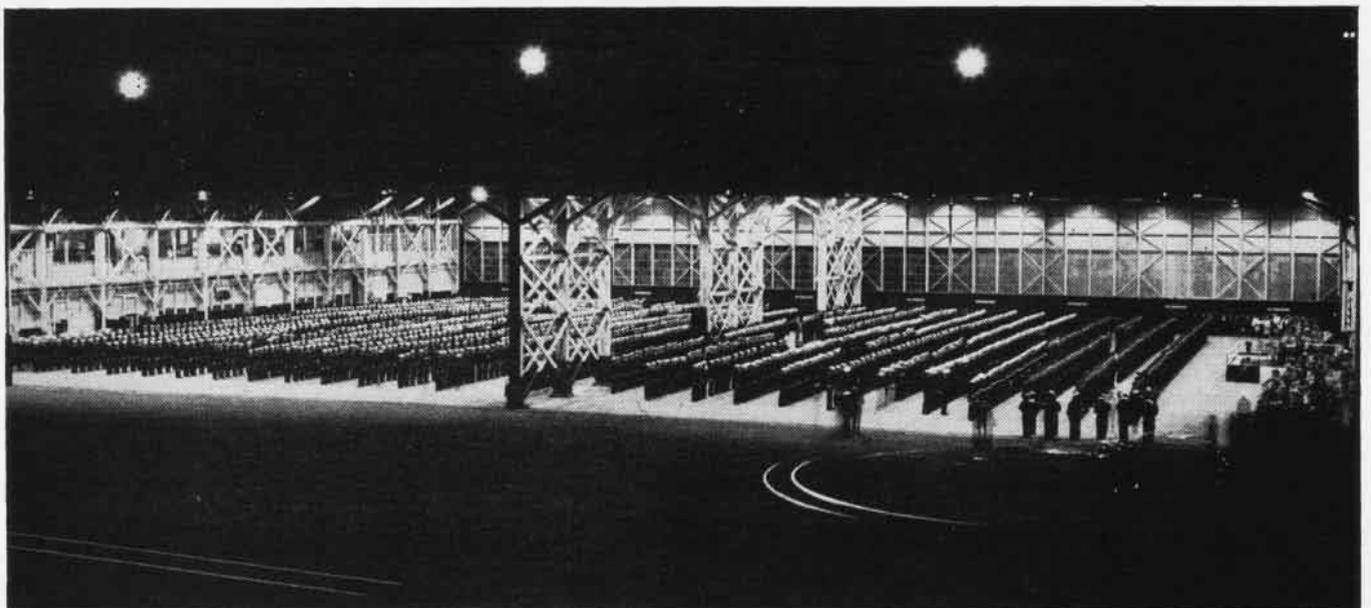
Adm. Whitehead questions I. Cross on GCA; Lt. Williams, unit head, looks on



Then he inspects the galley; checks up on the "chow" technique of E. Howard



Taking time out, he visits the fine enlisted men's club, to "shoot the breeze"



AND FINALLY, AS 2150 RESERVISTS STAND AT PROUD ATTENTION, ADMIRAL WHITEHEAD WINDS UP HIS ANNUAL INSPECTION OF WILLOW GROVE

### Naval Air Reserves



AIRCRAFT CHECKS & REPAIRS	52,323
ENGINE CHARGES & REPAIRS	2,465
PROPELLER CHECKS & REPAIRS	12,739
INSTRUMENT CHECKS & REPAIRS	54,946
ACCESSORY CHECKS & REPAIRS	300,205
PARACHUTES REPACKED & REPAIRS	43,694
ELECTRONIC & ELECTRICAL REPAIRS	14,948
ELECTRONIC & ELECTRICAL MODIFICATIONS	1,110

### Maintenance Record For Fiscal '48

LINE MAINTENANCE-AUXILIARY POWER UNIT REPAIRS	1,748
MAINTENANCE PERSONNEL - ALL STATIONS	3,935
LOCAL MANUFACTURE MANHOURS	120,176
TOTAL OPERATING HOURS	600,000
FERRY FLIGHTS FOR OVERHAUL	2,088
TOTAL AIRCRAFT RECEIVED	1,544
AUTHORIZED AIRCRAFT MANESTRACOMB	2,051 - 0588
	117 - 0588



## RESERVISTS CHALK UP FINE RECORDS

**N**OW LET'S look at the record for the past year.

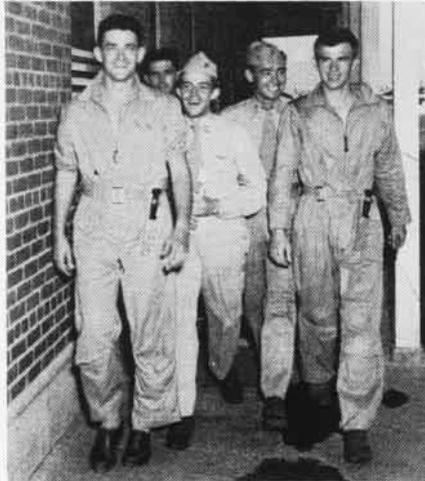
From 1 July 1947 to 1 April 1948, naval and Marine Reserve aviators piled up 365,284.6 pilot hours as contrasted with 189,189.2 hours during the same period in the first year. In June 1947, during the heavy annual cruise period, Reserve pilots chalked up an outstanding total of 122,075.3 pilot hours. Contrast this figure with the 274,380 hours flown by all Regular Navy pilots in the same month and you can see the potential striking power of the Air Reservists.

There's been a remarkable decrease in infraction of flight regulations during the past year. For example, although flight hours increased, 55% fewer informal boards were convened to handle "flathatting" this year.

On the facilities side, municipal field leases were squared away for such stations as Columbus and St. Louis.

The number of places where Reservists could get in their "shooting" and bombing was increased. Minneapolis, for example, got permission to use the Red Lake area in Northern Minnesota's Paul Bunyan country as a target area, while St. Louis Reservists practice bombing and strafing at the Army's Fort Leonard Wood impact area.

Recreation facilities for enlisted men



Marine pilots McDermott and Wilson, Cole, Brandon, Sumner at Cherry Point

have been on the upgrade, with fine clubs at Dallas, Willow Grove and Minneapolis.

Most striking development in the facility line is that the whole establishment at NAS AKRON—hangar, offices, shops and so on—is under one roof, in what was formerly a large war plant.

**T**HE FIRST AVU(A) was commissioned at Charleston, S. C. on 29 May 1947. Now one year later, 21 AVU(A)'s have been authorized for inclusion on the NARA network at key localities. To provide flight training for unit pilots, the home station usually sends over three or four SNJ's to the NARA during designated periods each

month. At Spokane and Birmingham, however, a small number of planes and active duty personnel are assigned on a permanent basis.

Los Alamitos, Dallas and New York have also commissioned AVU(A)'s, formed around specific missions, which train at the station.

Last count shows that stations and units also support 12 AVU's. These include WAVE units at Minneapolis, Denver, Oakland, and Grosse Ile, whose work has been praised.

A grand total of 2,051 aircraft has now been assigned to Reserve stations and units for use by Reserve aviators. These include 452 F6F-5's, 400 FG-1D's, 136 F4U-4's, 105 SB2C-5's, 306 TBM-3E's, 76 PV-2's, 60 PBV-5A's, 36 R4D's, 45 JRB's, 2 J2F's, 151 SNB's, 282 SNJ's, and 2 ZPK's. Greatest number of these planes was assigned to Los Alamitos, the largest station.

Organized Reserve training is now on a squadron basis. One hundred hour flight syllabi are set up for all Organized Reserve aviators and 50 hour syllabi for Associated Volunteer pilots. These constitute minimum flight requirements. More and more emphasis is being placed on high altitude tactics and gunnery. Former SB2C *Beast* pilots are "transitioning" into F4U experts.

Feature of VR training was the annual cruise which most squadrons took under NATS at Moffett Field or Patuxent. Squadrons operated as self-supporting units and maintained regular air lift schedules assigned by NATS.



Seattle's H. J. Downey gives last minute pointers to O. R.'s on post-mount camera gun before free-gunnery drill in PBV



Minneapolis WAVES inspect PBV during their two-weeks cruise—the 119 WAVES in this unit have a fine record



St. Louis' VF-75-A and VA-75-A enlisted men arrive at Vichy Auxiliary Field for a day's training in carrier operations



At Los Alamitos Cdr. Briant, AmVets' P. Smith, J. Hall, F. Langford and men load plane with food for Hopi Indians

## MARINE MANEUVERS HIGHLIGHT TRAINING

THE MARINE Air Reserve staged the outstanding training feature of the year last August and September, when they held the first nationwide aerial maneuvers at Cherry Point and at El Toro. Designed to test the speed with which Marine Reserve squadrons could be mobilized, it was found that the eastern group of squadrons got to Cherry Point in one day, and it took three days, due to weather and distance, for the western group to arrive at El Toro.

Special emphasis is placed today on CIC training. At eight stations the Marines have MGCI squadrons which set up similar exercises for Marine Reservists. With GCA units based on most Reserve air stations, Reserve pilots also get plenty of chance to practice GCA landings.

Training for enlisted Reservists has tightened up with a good balance between classroom instruction and prac-

tical experience gained on the job.

During the past year, stress has been laid on obtaining the maximum use of the 30 million dollars worth of equipment and training devices assigned to Reserve units from war surplus pools. Special training courses for SAD stationkeepers were set up at Atlanta and Norfolk.

The "jet phase" of naval aviation was the focus of much interest—principles of jet operations and maintenance were studied via the jet-cutaway-engine method. Current plans contemplate the early introduction of jet aircraft in the Reserve program.

The distinction of being the first officer of flag rank to fly an FH-1 goes to Brigadier General Christian F. Schilt, Commander Marine Air Reserve Training.

To get an idea of the job done by the maintenance and electronics personnel, look at the chart on page five. In addition, an elaborate modernization program was undertaken. Electronics maintenance facilities at Reserve units are now second to none in the Navy.

The ordnance gangs did their share.

Fine facilities for the stowage of ammunition, guns, and ordnance equipment have been set up at all stations. Glenview is proud of its "gun room."

Supply departments, which operate on a one to five million dollar basis in business handled, streamlined their activities. Shop stores offering "fast line" service are now set up in maintenance, public works, transportation, and electronics departments.

Commissary departments have been doing a fine job, making dining halls pleasanter places in which to eat. With nine stations serving as issue points and the rest scheduled to take over their own in the near future, the clothing issue snarl is on its way out.

Recruiting is being plugged all along the line. Newspaper writers and radio and screen stars constantly assist.

Marines are making an outstanding Organized Reserve recruiting record. Their enlisted strength averages about 95% of complement and their pilot strength hits the 96% mark.

On the community front, Reserve pilots have shown their skill in local



NAS Columbus pilots, Ted Mayer, S. B. Tracy and J. L. Ulman, talk over training flights upon returning to the line



Down at New Orleans, O. R's work on armament in one of the fine ordnance shops now set up at Reserve stations



**Dallas** E. M. Club 'fixers'—Campbell, Matthews, Gilbert, artist Henderson, Morgan, Hamilton, Wilson, Parks, Turner



**Bermuda** is favorite destination for VP training flights—here a group from Anacostia get set to take a bicycle tour

air shows as part of regular training. Enlisted men have devoted their own time to building floats for civic parades. Open houses and anniversary celebrations were held at Reserve stations. Special receptions were given to high school students. Boy Scouts and Air Scouts held encampments and received instruction at Reserve stations. Model airplane meets were held.

In local emergencies, Reservists provided outstanding assistance. During the Texas City disaster, the September and October hurricanes, the Ohio and Mississippi floods, and the New England forest fires, for example, the Reserves rendered real service, flying in supplies and medical personnel, and offering shelter to the homeless. Communication personnel helped keep the lines open. "Mercy flights" are a regular feature of such community service.

Searches for lost or downed planes are almost routine. Medical personnel have saved many civilian lives after air crashes or in other emergencies.

These are only a few of the many

examples of assistance that is regularly given by Reservists. They account for the saying that is often heard among civilians—"the Naval Air Reserve is not only our second line of defense in case of national emergency, it is our first line of help in local emergencies."

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### Air Reserve Leaders

- NAS Akron—Capt. E. L. B. Weimer, CO; Cdr. W. C. Grover, Exec.
- NAS Atlanta—Capt. E. T. Neale, CO; Cdr. R. J. Greene, Exec.
- AVU(A) Charleston—Lt. J. R. Simmons, CO
- AVU(A) Birmingham—Lt. Cdr. A. H. Arnold, CO
- NAS Columbus—Capt. F. C. Sutton, CO; Cdr. H. J. Murray, Exec.
- AVU(A) Louisville—Lt. Cdr. F. C. Lewis, CO
- NAS Dallas—Capt. M. A. Nation, CO; Cdr. P. Allen, Jr., Exec.
- AVU(A) Amarillo—Lt. R. J. Rowntree, CO
- AVU(A) Tulsa—Lt. Cdr. J. P. Irish, CO
- AVU(A) Dallas—Lt. Cdr. L. H. White
- NAS Denver—Capt. H. L. Hoerner, CO; Cdr. T. H. James, Exec.
- AVU(A) Salt Lake City—Lt. Cdr. J. Murch, CO
- NAS Glenview—Capt. C. B. Gill, CO; Cdr. J. H. Kimpler, Exec.
- AVU(A) Mohine—Lt. Cdr. R. O. Haynes, CO
- AVU Milwaukee—Lt. R. J. Schmitz, CO
- NAS Grosse Ile—Capt. C. S. Cooper, CO; Cdr. F. A. Brossy, Exec.
- AVU(A) Grand Rapids—Lt. Cdr. D. P. Schultze, CO
- AVU(W) Grosse Ile—Lt. Ruth Bosier, CO
- NAS Los Alamitos—Capt. R. S. Clarke, CO; Cdr. G. C. Briant, Exec.
- AVU(A) Phoenix—Lt. Cdr. J. A. Banks, CO
- AVU(A) Los Alamitos—Cdr. W. I. Staples, CO
- AVU Bakersfield—Lt. Cdr. R. B. Anderson, CO
- NAS Memphis—Capt. T. O. Taff, CO; Cdr. L. A. Waite, Exec.
- AVU(A) Knoxville—Lt. Cdr. C. V. Wesley, CO
- NAS Miami—Capt. R. N. Hunter, CO; Cdr. W. L. Cleveland, Exec.
- NAS Minneapolis—Capt. C. Briggs, CO; Cdr. L. D. Ruch, Exec.
- AVU(W) Minneapolis—Lt. Henriette Quilling, CO
- AVU(A) Bemidji—Lt. E. Wolfe, CO
- NAS New Orleans—Capt. J. E. Leeper, CO; Cdr. J. A. DeMetz, Exec.
- AVU(A) Pensacola—Lt. Cdr. A. W. Lindsay, CO
- AVU Alexandria—Lt. Cdr. W. E. Regan, CO
- NAS New York—Capt. F. N. Kivette, CO; Cdr. V. W. Randecker, Exec.

- AVU(A) New York—Lt. Cdr. R. N. Dohbins, CO
- AVU(A) Buffalo—Lt. Cdr. V. A. Zucarelli
- NAS Oakland—Capt. H. F. MacComsey, CO; Cdr. G. V. Walker, Exec.
- AVU Stockton—Lt. Cdr. R. Wilber, CO
- AVU(A) Reno—Cdr. W. B. Randall, CO
- AVU(A) Fresno—Lt. Cdr. G. H. Matchette, CO
- AVU(A) Monterey—Lt. H. J. Hackett, CO
- AVU(W) Oakland—Lt. Gabrielle Sewall, CO
- NAS Olathe—Capt. J. E. Baker, CO; Cdr. J. A. Petersen, Exec.
- AVU(A) Hutchinson—Lt. M. L. Detter, CO
- NAS St. Louis—Capt. E. P. Kauffman, CO; Cdr. N. O. Anderson, Exec.
- NAS Squantum—Capt. O. P. Smoot, CO; Cdr. A. P. Linscott, Exec.
- AVU(A) Brunswick—Lt. Cdr. H. K. Sowles
- NAS Willow Grove—Capt. C. B. Jones, CO; Cdr. E. G. Mason, Exec.
- AVU Pittsburgh—Cdr. C. H. Adams II, CO
- AVU York—Lt. Cdr. G. H. Wilkes, CO
- NARTU Anacostia—Capt. F. Funke, Jr., CO; Cdr. H. B. Jenkins, Exec.
- AVU Hagerstown—Cdr. H. T. Byler, CO
- NARTU Jacksonville—Capt. F. W. Priestman, CO; Cdr. E. L. James, Exec.
- NARTU Norfolk—Capt. O. Pederson, CO; Cdr. R. B. Bole, Exec.
- AVU(A) Richmond—Lt. Cdr. M. L. Strause, CO
- NARTU Seattle—Capt. C. F. Greber, CO; Cdr. L. S. Melsom, Exec.
- AVU(W) Seattle—Lt. (jg) Doris Yarger, CO
- AVU(A) Spokane—Lt. Cdr. J. P. Moloney, CO
- NARTU Lakehurst (LTA)—Cdr. R. C. Gossom, CO; Lt. G. Zeitler, Exec.



**At Bemidji**, A. Paulson, R. Johanson load a TBM with water-filled bombs



**At Anacostia**, Tull and Eiler check out radio's Arthur Godfrey, Reserve booster

# GRAMPAW PETTIBONE

## Don't Kill Your Friends

The pilot of an FH-1 checked his instrument gauges before take-off and they presented normal indications. During the run-up prior to releasing the brakes for take-off, the oil pressure reading was 75 pounds per square inch. Upon releasing brakes and initiating take-off roll, the pilot heard an explosion in the right nacelle. The compressor of the right engine shattered and some of the compressor rotating blades sheared off and pierced the compressor case and severed several electrical cables and dented the engine nacelle.

The accident board was of the opinion that this accident was caused by failure of the number one bearing *due to the lack of lubrication during prolonged inverted flight and probable inadvertent application of negative "G" by another pilot who had flown this plane earlier in the day.*

Here is the story behind the accident. The pilot who flew this FH-1 in the morning before the accident pulled off to one side of his formation and rolled over on his back. He remained inverted until the fuel warning lights came on and then rolled back to level flight. By the time he regained a normal position the fire had gone out in his port engine.

He picked up 200 knots and started the dead engine using the air-start switch. After he got this engine started, he noticed that the oil pressure on the starboard engine was fluctuating between 20 and 60 lbs per square inch. He immediately pulled the starboard throttle back to idle position and told the flight leader that he was returning to base which was about six miles away.

He did not use the right engine on the remainder of the flight except for a few seconds during his final approach. In reporting the discrepancies he simply wrote on the yellow sheet, "Oil pressure of right engine fluctuates." He did not specify the amount of the fluctuation or his other experiences with the plane until after the accident had occurred on the following flight.

Since it is normal for the oil pressure of the J-30 engine to vary or fluctuate with engine speed, the plane was only given a routine pre-flight check before releasing it for the afternoon flight on which the engine exploded.



### Grampaw Pettibone says:

When I read something like this I'm really ready to blow my top. For gosh sakes, why not give the maintenance crews a chance to correct discrepancies before they cause accidents. It only takes a minute or two to fill out a yellow sheet correctly and to write down enough information so that satisfactory inspections and repairs can be made.

Fortunately the pilot who was attempting a take-off in this plane was not injured. If the explosion had occurred a few sec-



onds later, however, he might have been in very serious trouble. Any time you have reason to believe that you may have injured an engine, or exceeded the "G" limits on a plane, or damaged it in any way, report the trouble in full as soon as you land. Don't kill your friends!

## Dear Grampaw Pettibone:

I would like to get your opinion of a flight that I recently made from Columbus, Ohio to St. Louis, Mo. The flight was made on 5 April 1948. I am a Naval Aviator in the Volunteer Reserve, and I had completed a two-week training cruise at NAS ST. LOUIS, on 31 March 1948. During the 18 days preceding this flight I had flown 30.8 hours in the SNJ, the majority of this time being cross-country flights. My total time to that date was 1875 hours. Here is the story of the trip as it happened:

Sunday morning Ens. ——— and I had flown to NAS FLOYD BENNETT, N.Y., where we spent the night. On our return flight the next day, we landed at Port Columbus, Columbus, Ohio, where we refueled the plane and filed a clearance to Lambert Field, St. Louis, Mo. We were going to get a late start from Columbus (1700 EST), but we figured that it would be possible to get to St. Louis before dark. We filed VFR and aerology at Columbus advised me to fly as low as possible to get away from strong headwinds. I flew at 500 ft. and followed the highway that runs west out of Columbus through Indianapolis and on to St. Louis.

The weather was relatively good all along the route until we got just east of Effingham, Ill., where I dodged one or two rain squalls. After we passed Effingham, I started to fly by my map and stayed north of the highway. We still had plenty of ceiling, but the visibility was decreasing due to the fact that the sun had disappeared behind a large cloud bank in the west. I was flying a course of 245 degrees at a point about 60 miles ENE of the field at St. Louis when I ran into a very heavy rain. I turned NW to get out

of this rain as it cut the visibility down close to zero.

I could now see that the whole St. Louis area appeared to be covered by a large thunder storm. There was an exceptional amount of lightning in and around this storm. As my last red instrument card had expired about two years ago, I had no intention of going near this storm. I thought that I might enter St. Louis from the West or NW so I flew to the north of the storm until I reached a point that was about 20 miles Northeast of Lambert field. I saw that I could not make it to St. Louis VFR so I started to look for a place to land.

The time was now 1830 CST and we were 15 minutes behind our ETA. At 1835 I throttled back to conserve our gas. I had broken the crystal of my wrist watch at Columbus so that I made time checks with my passenger. I turned on the running lights at about 1830. The landing lights checked OK, but I was unable to get the cockpit lights to work. I headed north towards Gillespie, Ill., where the nearest field of any kind was located. It was dark when we reached Gillespie, and I circled the town and looked for the grass field that was supposed to be located just west of town. It was now completely dark and I thought of Springfield, Ill., as it was the nearest field with paved runways. I headed north again towards Springfield.

On the way I circled just southwest of Virden, Ill., where there was another grass field. I didn't find it, so I continued on towards Springfield. I did not like the idea of landing in the dark at a small grass field that would probably be soft due to heavy rains, but I realized that I would soon have to land somewhere as we would be out of gas at about 1930.

At about 1905 I could see the glow from the lights of the city of Springfield. I knew that there was a new airport with paved runways just NW of the city, but the tower was not as yet in operation. I called Springfield Radio and asked them to contact the new airport and have them turn on their runway lights. I spotted a rotating beacon with a green light and headed towards it. At 1910 I saw the runway lights and heard Springfield Radio calling me. They were saying something about obstructions and that I could land at my own discretion.

There was a lot of static and the radio was very hard to hear. I was planning on dragging the field once to check for obstructions on the runway. I was to land north-east on runway 4. I circled at 1000 feet to the left and made an approach to drag the field at about 50 ft. When I got down close to the ground and saw that the runway was clear, I made a landing and taxied in to the hangar.

I closed my flight plan with Patterson flight service and filed an R.O.N. My time of landing had been 1915 CST. I learned

that the obstruction that I was warned against consisted of a 400 ft. radio tower east of the field. When the plane was gassed the next day, it was found that I had only seven gallons of gas remaining in the left tank. The right tank was empty.

Here is my question: What did I do wrong that caused me to be flying over Springfield, Ill., at night with about 20 minutes of gas left? Was I wrong in leaving Columbus as late as I did? Should I have made an emergency landing before it got dark?

Respectfully yours,



**Grampaw Pettibone says:**

After studying the flight clearance which you enclosed, I think that your initial mistake was in attempting to make St. Louis that late in the day with marginal weather en route. Also, as you may have noticed, the clearance was made out on the basis of the 1500 weather sequence so the information that was given you would be close to four hours old by the time you approached your destination. With this in mind it would have been a very sound idea to listen for the weather sequences en route.

However, your big mistake was in not effecting a landing shortly after 1810 when you first ran into instrument weather 60 miles from St. Louis. If you had turned around right away and returned to any one of the three airfields within 50 miles of your position at that time, you could easily have been on the ground before dark.

Anyway, many thanks for writing us about your close call. I know from an experience many years ago just how scared a fellow can get when he watches the gasoline indicator approach the zero mark and can't find a place to land at night. I'm sure you won't get caught like this again and let's hope that your story deters a few others from making this mistake.

## Heads Up, Please.

A group of VRF pilots were ferrying three F6F's in close formation, when the following accident occurred:

The lead pilot had experienced complete electrical failure and had just turned the lead over to the pilot in the number two plane. As the former leader eased into position on the starboard side he observed that both the new leader and the pilot of the third F6F were looking down in the cockpits of their planes which were converging at an angle or two or three degrees.

They appeared to be studying charts or occupied in some way with something inside their planes. Since his radio was dead he had no way of warning them. The collision occurred a few seconds later with the propeller of the overtaking plane cutting through the fuselage of the other F6F. The impact was not violent but the prop cut through the lead plane aft of the cockpit, shearing off the tail section.

One pilot was killed and the other bailed out and was seriously injured when he was blown face first into a tree as he approached the ground in his parachute.



**Grampaw Pettibone says:**

An unfortunate case and one which should never have occurred. Mid-air collisions don't just happen. They are

caused. In this case the error was mainly on the part of the surviving pilot who was in the over-taking aircraft. He states that he was busy shifting gas tanks at the moment the collision occurred. Incidentally the testimony of the pilot who was originally in the lead indicates that this group had been flying with about 40 feet of clearance between planes. I fail to see any necessity for flying such a tight formation on this ferry flight.



## Where's My Engine?

The F8F above parted company with its engine shortly after the second bounce in a slipstream landing accident. The pilot states that he was maintaining 85 to 90 knots in his approach when he hit the slipstream of the plane ahead. He was then 300 feet from the end of the runway and at an altitude of about 35 feet.

The plane went into a 70 degree bank with the left wing down and despite corrective action hit some 200 feet short of the runway. The left landing gear buckled on this impact, and the prop dug in on the second impact. The engine was torn out of its mounts and went bouncing up the runway ahead of the plane. Meanwhile the F8F slid up on the runway, spun around, and stopped about 200 degrees off its initial heading. MORAL: DON'T GET TOO CLOSE TO THE PLANE LANDING AHEAD.

## A Word To The Wise

A check of incoming Aircraft Accident Reports indicates that many activities are lax in submitting these reports within the proper time limits. The AAR should be on its way to the Navy Department within 10 days after the accident. If the investigation requires a greater length of time, a preliminary AAR covering all known details must be submitted within 10 days. Instructions contained in ACL's 119-45, 113-46 and 36-48 demand prompt attention.

It is to the advantage of the entire aeronautical organization that these reports be submitted promptly and accurately. If this is accomplished, the cognizant officers in the Office of Naval Operations and Bureau of Aeronautics can take speedy action to implement the recommendations in the accident report, and to correct any indicated deficiencies in material or training.

## Something Snapped

Several line crew men were having a difficult time manually spreading and locking the wings of an F6F. On the third attempt the Ensign in the cockpit saw that a crewman had his hand near the wing stub and

thought that it was in danger of being crushed if the wings were spread just then.

He reached out of the cockpit with his left hand to signal for an emergency stop. Just at that time, the wing was unlocked and swung down. The edge of the flap struck the palm of the pilot's hand, driving his elbow back against the cockpit enclosure and his wrist snapped.



**Grampaw Pettibone says:**

Ouch! Sorry you got clipped while you were trying to keep someone else from getting hurt. Your injury should serve as a warning to other F6F pilots to follow the directions in the Handbook and keep their flippers inside the cockpit when the wings are being unfolded.

## They Won't Run Sans Gas

The pilot of an SB2C-4 took off from Aberdeen, South Dakota for NAS MINNEAPOLIS with enough fuel in his plane for an estimated 1 1/2 hours of flight. The distance to be covered was about 265 miles. After fifty minutes in the air the pilot discovered that he had drifted south of his intended course, and attempted to check his position on the Minneapolis range. He was still quite some distance from the station and all he could pick up was static. He had been flying at 8000 feet and 185 knots, but at this time he decided to get down low in the hopes of spotting the name of a town or city on a water-tower, or some similar marking.

Because he was at such a low altitude he failed to see any one of four airfields within a radius of 20 miles of his position. An hour and twenty minutes after



take-off, his fuel was exhausted and he made a wheels-up landing on a smooth plowed field.



**Grampaw Pettibone says:**

This is another prize example of a flight that simply wasn't planned. Even with the most economical power settings, it is doubtful that the plane could have reached its destination with the fuel aboard at take-off. By flying at the high cruise power settings necessary to maintain 185 knots at 8000 feet, the pilot destroyed whatever slim chance he may have had of making it to Minneapolis.

Then to top off the whole miserable performance, he became lost despite excellent weather conditions. The spot where he made his forced landing was more than 100 miles from his destination.

# FIRST JET SQUADRON ON THE CVL SAIPAN

THE NAVY ended all doubt that squadrons of jet planes could operate off aircraft carriers by staging a demonstration aboard the CVL *Saipan* on 6 May. On that day 16 jets from VF-17-A, the Navy's first jet squadron, became the first such unit to operate off a flattop.

When jets joined the Navy, some doubters said they would require too long a deck run. Others predicted the fiery jet exhaust would burn crewmen and damage planes parked near them. Before several dozen of the nation's leading aviation writers and cameramen, the *Saipan* and VF-17-A gave jets a thorough test and they passed without a black mark.

The Navy knew jets had come to stay when the first FH-1 *Phantom* landed and flew off the U S S *Franklin D. Roosevelt* in August 1946. Some aviation experts weren't so sure they were practical for carriers, especially smaller ones.

Last April two FJ-1 *Furies* landed aboard the *Boxer* on the West Coast and one of them made the first jet catapult take-off from a U. S. carrier.

It remained for the *Saipan* demonstration to dispel any doubts that jets not only could operate in quantity from a flight deck but could do it just as easily as any propellered plane. Following are some of the predictions made by some Navy and civilian aviation leaders about jet operations, and what the Navy established by the VF-17-A tests:



CDR. FUOSS

1 *Jets are slower to accelerate and will have trouble taking wave-offs. It was*

expected to be a dangerous maneuver, but it wasn't. A number of wave-offs were given and the jets cleared the ramp with as much leeway as the "torpeckers" and *Hellcats* that landed aboard the *Saipan* after the jets had left.

Actually, fewer wave-offs were given the jets than the others, possibly because visibility from the pilot's cockpit is better.

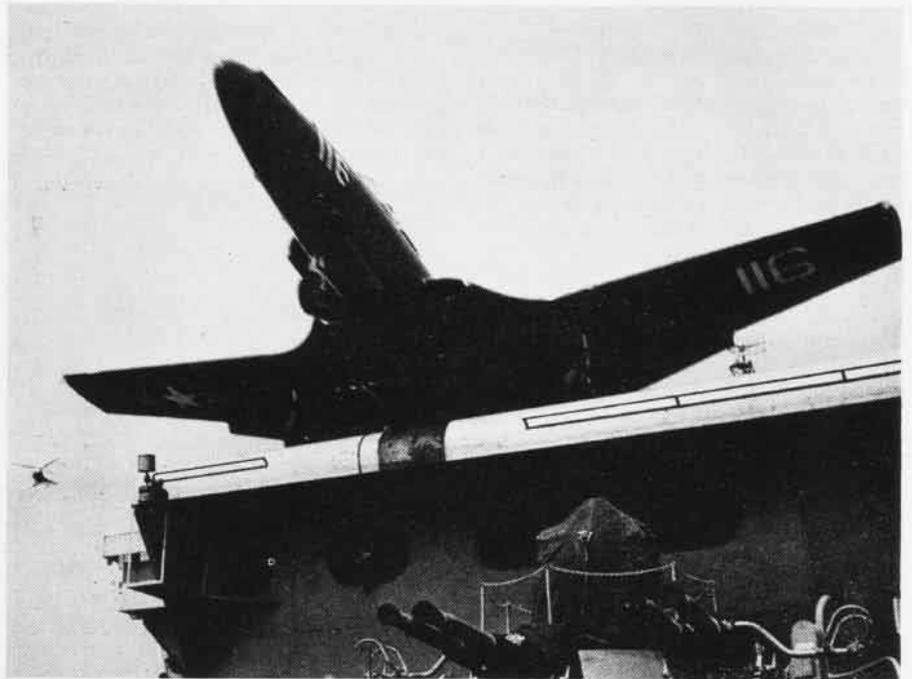
2 *Jets will have to land fast and will float because of residual thrust. The Phantoms came in only slightly faster than F6F's. They caught earlier wires than the propellered planes, as a rule, and apparently float no worse than the heavier fighter.*

3 *The jet exhaust will burn crewmen and be dangerous for following planes on the flight deck. Saipan deck crews treated the jet exhaust with proper respect—that is, they did not walk directly behind the engines*

or touch the hot metal when shut down. They were not timid around them, as they are around a propeller. Some catapult men, chilled by the icy 30-knot wind over the *Saipan* deck, backed up to the edge of the exhaust aft of the tail and warmed their hands and backs (see photo). Force of the blast appeared no greater than ordinary prop wash a short distance behind the plane.

4 *Since auxiliary starting power is required for a jet engine, launching will be slowed up. Two battery jeeps ducked around the jets, energizing their power plants in rapid fashion. Since no warm-up of the engine is required once it starts, rapidity of launching is greater with jets from the time the general quarters gong rings.*

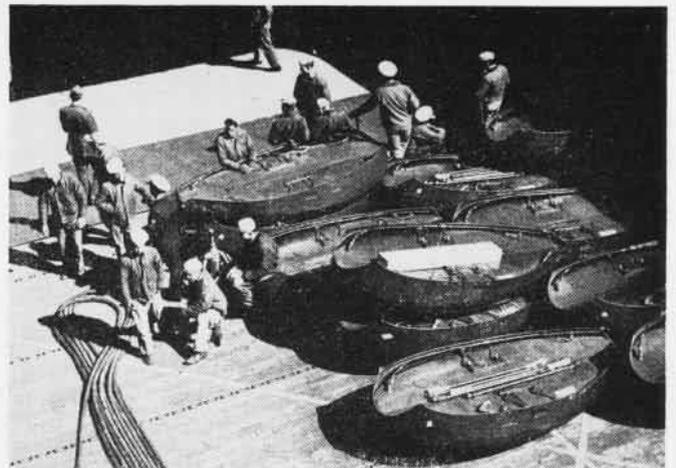
5 *Because of the jet exhaust, crewmen will have difficulty in unhooking the*



SPECTACULAR PHOTO SHOWS PHANTOM LEAVING DECK AFTER CATAPULTING; HELICOPTER ON LEFT



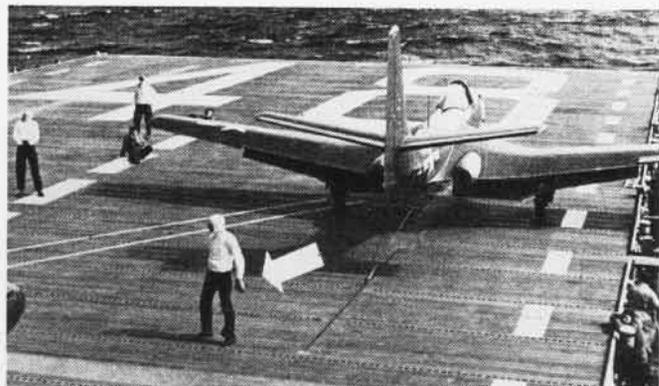
This picture shows most Navy jets ever photographed in one shot aboard a carrier deck, during demonstration on *Saipan*



Auxiliary belly gasoline tanks for FH-1 are of special design; here a cluster of them are carried up the forward elevator



**Planeguard** helicopter piloted by Lt. Shawcross of VU-2 hovers above as *Phantoms* prepare to take off *Saipan's* deck



**Crewman** aboard *Saipan* warms hands in exhaust of idling jet engine; engine noise proves most bothersome angle of jet

jet from the arresting wire. By using a sort of gaff stick, *Saipan* deck men cleared the jets just as fast as any other type plane. Many of the hooks cleared of their own accord on the rollback after arrestation.

**6** Jets will require wide intervals between catapulting or fly-offs because the exhaust gasses will asphyxiate pilots and burn following planes. Some pilots on the *Saipan* used oxygen masks when they took off with open canopies. Planes followed closely on each other at the catapult without damaging the one behind.

**F**OUR *Phantoms* put on the first show on the *Saipan*, being catapulted in rapid order. They came in for landings. The third plane caught a wire just as the first was catapulted for the second time. Eight planes flew the next phase of the show, making firing runs on dye marker and then a 500-mph high speed run past the ship. After they had whipped by, the plane guard helicopter piloted by Lt. William Shawcross made a "speed run" past the carrier at a sizzling 70 knots, just as a means of comparison.

The helicopter, incidentally, was from the newly-created Helicopter Utility Squadron 2, formerly VX-3, at Lakehurst. Copilot of the HO3S-1 was Ens. R. H.

Moseley. Helicopters, although comparatively new with the fleet, have proved themselves extremely valuable as lifeguards and for a wide variety of utility operations.

Climax of the jet demonstration was the catapulting of eight FH's and the deck fly-off of eight more in rapid succession. The later used most of the *Saipan's* 600-foot deck, but the test on the *Roosevelt* has shown they could get off in nearer half that if necessary. In tight formation, led by squadron skipper Cdr. Ralph A. Fuoss, the 16 *Phantoms* then made a close pass on the *Saipan* and headed for Quonset Point. There in the landing circle, Cdr. Fuoss' plane lost its tail section through mid-air collision in carrier break-up and he was killed when the aircraft dived into the bay from 700' up. His death was the first Navy squadron fatality in jets.

The *Saipan* air show proved conclusively that carrier and jet aircraft were wedded with no strain. The *Saipan's* narrow flight deck, which is only two feet wider than a 105-class escort carrier's, was no problem to jet pilots. They had only one barrier crash, the day before the show, with no damage to the plane. An F6F lost its hook, caught

a barrier and wrecked a propeller during the show. VF-17-A had operated off the *Saipan* for two days prior to the demonstration to accustom itself to carrier landings, since this was the first time its pilots had checked out with a jet on a carrier.

**A**S FOR maintenance aboard, the engineering officer, Lt. Cdr. William Kelly, and his assistant, Ens. John Brems, stated that the plane was surpassing expectations. The fact that 16 planes went aboard the first day and all 16 flew off the last day bore out this testimony. "I kept telling them that jets would work on carriers just as well as any fighter," Kelly said. He was project engineer on the FH aircraft while it was being perfected by BUAER.

Squadron pilots had few criticisms of their planes or the way they could be operated off the carrier. Due to their slightly slower acceleration, wave-offs were given when the plane was farther astern and they cleared the ramp with plenty of space to spare. Some deck crewmen complained that the terrific whine of the jet engines was bothersome although recent tests by Navy medical authorities could reveal no bad effects on several human "guinea pigs."



**Eight** batteries in jeep provide starting power for *Phantoms* which require external energy to start their 19XB engines



**VF-17-A** men watch squadron mates fly past *Saipan's* deck in close formation; photo first one of large formation of jets



TWO PHOTO HATCHES AND ESCAPE HATCH ON BELLY OF VP-ML-4 P2V USED FOR PICTURE TAKING

## Navy Cameras Over Alaska

SIX NAVY *Neptune* aircraft from VP-ML-4 are making a summer-long aerial mapping survey of 30,000 square miles of southeastern Alaska in cooperation with the Department of Interior and other government agencies. It will be the first comprehensive photographic survey of the area since two Navy-Interior expeditions, flying Loening amphibians, mapped 13,000 square miles in 1926 and 1929.

The six planes departed from their Whidbey Island base the middle of May and are based on the former Army airfield on Annette Island, near Ketchikan. They had been temporarily modified at Lockheed for photographic work for this particular project. Logistic support is being provided by the *Floyds Bay*.

Because of improved aircraft, better cameras and a greater area to be photographed, it is expected better maps and economic data can be secured for the agencies cooperating in the survey. They are the U. S. Geological Survey, the Forest Service, Navy Hydrographic Office, U. S. Border Commission and the Alaska Road Commission.

Data secured from the photographs, to be taken at 20,000 feet, will be used to determine waterpower possibilities of the "panhandle" area from Skagway south. The Forest Service will use them to estimate paper pulp resources of the area. Oblique photographs will be taken of glacier areas. Present demand is for larger scale, more accurate maps than are available of the South Alaska area.

To do the photographing job, the P2V-2's will carry cartographic cameras, tri-metrogon K-17 with 6" lenses specially calibrated for aerial photography and K-17's with 12" lenses for greater vertical detail. Eight officers and 18 enlisted men from Photographic Squadron One were assigned to the project to handle the photo technical details of the flights, cameras and film developing. Film will be processed at Annette field headquarters and assessed on the spot.

Annette field, where the present party is operating, is now under CAA operation. By using the P2V-2, the world's longest range plane, for the photographing job, landings can be made at other fields in southern Alaska if weather closes down the strip there.

The Navy made the first extensive photographic coverage of the southeastern Alaska territory in 1926 and 1929 in cooperation with the Geological Survey and the Forest Service. The first expedition was under leadership of Lt.



THESE LOENINGS FLEW ALASKA SURVEY IN 1929

Ben H. Wyatt and the second under Lt. Cdr. Arthur W. Radford, now VAdm.

Their four OL amphibians operated from barges anchored in the area around Ketchikan and Juneau. They used multiple-lens T-2 cameras and the photographs were used for planometric-type maps where relief was not required.

The 1926 survey covered 10,000 square miles of the Tongass National Forest which covers the Alaskan peninsula and the 1929 operation completed the same amount of territory in the forest and 3,000 square miles in Glacier Bay. About 5,000 square miles of the forest remain to be photographed from the air for map and resource-estimating purposes. The Radford survey revealed a power site of more than 20,000 horsepower in the Tongass forest near Taku Inlet. Its planes flew 800 hours, covering 640,000 miles.

UP TO that time, none of the interior of southeastern Alaska had been mapped from the air and maps showed only shoreline with inland areas largely blank, even within one mile of tide-water. The need for accurate maps of the area was considered imperative to the success of mining, fishing, lumbering, power and industrial development of the territory. The surveys revealed the Tongass contained enough pulp timber to supply 25 percent of U.S. needs. Officers of the 1929 Alaskan Aerial Survey detachment are shown in the accompanying photograph. Left to right, they are: Seated—Lt. E. F. Carr, Lt.



LT. CDR. RADFORD AND HIS 1929 SURVEY CREW

Cdr. A. C. Smith, Lt. Cdr. A. W. Radford, Mr. R. H. Sargent of the Interior Department, Lt. Thomas Macklin, Standing—Boatswain F. E. Dowd, Chief Boatswain J. D. Glick, Lt. (jg.) L. P. Pawlikowski, Lt. C. F. Greber, Lt. R. F. Whitehead, now Rear Admiral and head of Naval Air Reserve Training; Lt. E. F. Burkett and Machinist J. O. Hoey.

While the 1929 Alaskan survey was in progress two other Loening amphibians of the Navy mapped a large portion of Cuba's coastline. They were flown by Lt. (jg) Herbert W. Taylor and C. H. Schildhauer, now retired.

# Farewell To NATS

NAVAL Air Transport Service, the airline with the best safety record of any commercial or military air activity, passed into history on 1 June when 40 percent of its personnel and planes were turned over to control of the Air Force.

Under the merger plan adopted for the services, the new Military Air Transport Service utilizes these men and planes, still in Navy uniforms and Navy planes, to serve routes formerly flown by NATS. The Navy retains 60 percent of the men and planes of NATS but operates them as the Fleet Logistic Support Wing. Weeks of indecision and rumor in the Navy's transport air arm followed the official announcement that the division of NATS was going through.

The transfer of men and planes was made after the Congressional Air Policy Board and others asserted the move would save money and bring about better service to military travelers. MATS is headed by Maj. Gen. Laurence S. Kuter and operates under the Air Force, with Rear Adm. John P. Whitney acting as Vice Commander. Two deputy commanders, both major generals, direct air transport operations. Rear Adm. "Matt"

Gardner is commander of the Pacific division of MATS, with headquarters at Hickam Field, Honolulu.

With the demise of Naval Air Transport Service, here is the way its men, planes and routes have been redistributed:

1. JRM *Mars* seaplanes continue to be flown to Hawaii by the Navy's Fleet Logistic Support Wings, with space control of these flights made available to MATS as the needs of the Navy permit.

2. VR-4 operates with the Navy at Moffett Field as a heavy maintenance and training squadron.

3. Domestic ferry operations continue as a Navy function.

4. Here are the routes that the Fleet Logistic Support Wings continue to fly under Navy direction:

Seattle-Kodiak-Attu-Adak, VR-5 with R5D's.  
Honolulu-Midway, Honolulu-Samoa, VRU-1 with R5D-3's.

Moffett-San Diego, VR-4 with R5D's.  
Internal air evacuation (hospital plane) feeder service—Boston-Washington-Patuxent-Norfolk-Jacksonville-Corpus Christi-Oklahoma City-Memphis-New Orleans, VR-1 with R4D's.

Personnel shuttle, Patuxent-Washington-Quonset Point-Norfolk, VR-1 with R4D's.

Cargo expediter, Patuxent-Harrisburg-Wilow Grove, VR-1 with R4D's.

Argentia-Quonset-Patuxent-Jacksonville-Guantanamo run, VR-1 with R5D's.

Special airlift as required to support naval operations wherever the mobile fleet operates and the requirement exists.

These operations required the Navy to retain control of 393 officers and 2,554 enlisted men formerly in NATS. It retained 67 aircraft. In the division, 416 officers and 2,320 enlisted men, still



in Navy uniform, fly routes turned over to MATS, together with 45 aircraft.

In the revision of duties, MATS took over the former NATS routes to Guam, Manila, Tokyo, Shanghai, Coco Solo, and Trinidad; the famous "Hotshot" route from Moffett Field to Washington, plus the heavily-traveled "U" route from Quonset Point to Seattle via Jacksonville, Pensacola, San Diego and way points.

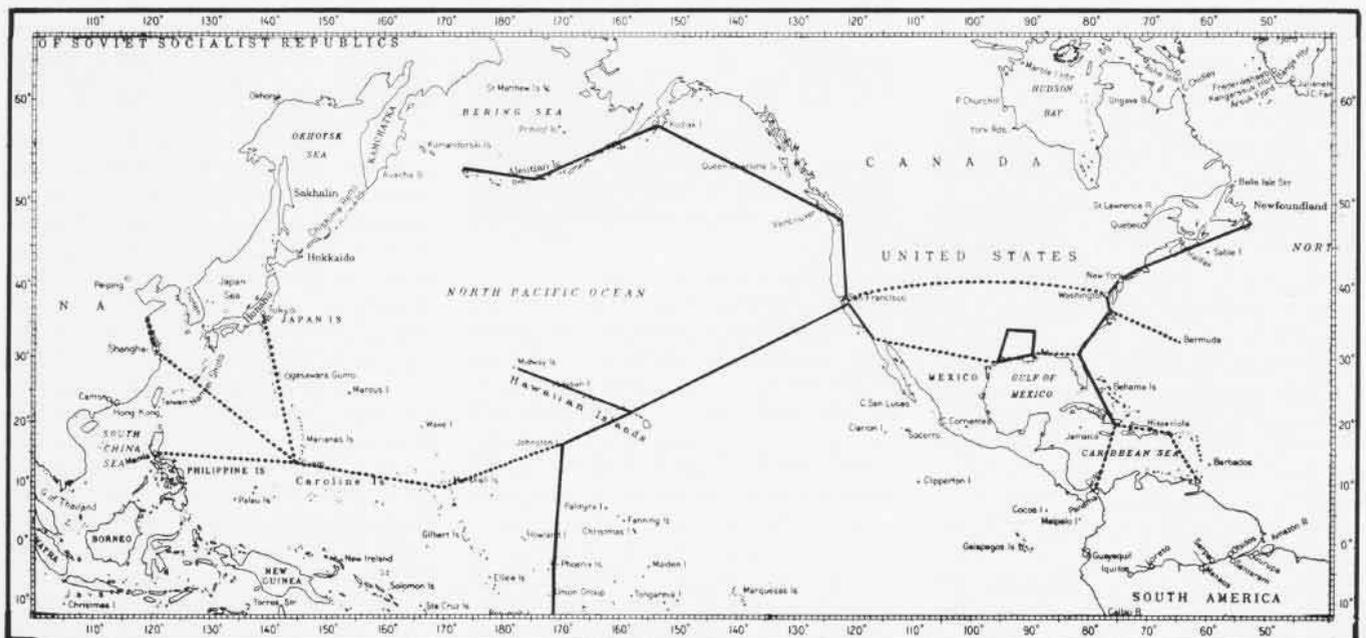
Under the Navy's control are VRF-1, VRF-2, VR-2, VR-4, VR-1, VR-5, VRU-1, Staff, Commander, NATS and staff; Commander, NATS Atlantic Wing. Fleet Logistic Support Wings continue to operate under CNO. VR-4 performs R5D heavy overhaul of all squadrons retained by the Navy, plus Navy R5D's assigned to MATS and conducts R5D pilot training school.

NAVAL Air Transport Service ended its career in a blaze of glory, finishing up the last 16 months of operation without a single passenger fatality, a record no commercial or military airline approaches. Only one crew member, a stewardess, was killed.

Operations of the new Military Air Transport Service will be reviewed periodically to see that it is economical and operates an efficient transport airline.

## LEGEND

THE WORLD map below shows routes flown by Naval Air Transport Service during its heyday. Solid black lines indicate routes which are now being flown by the Navy-operated Fleet Logistic Support Wings. Dotted lines show former NATS routes now flown by the new Military Air Transport Service of the Air Force.



# DID YOU KNOW?

## Carrier Squadron Adjusted New Plan Provides More Training

The Navy has announced an adjustment in size and number of air-group squadrons to provide for maximum tactical efficiency. Under the plan CV's and CVB's will carry five squadrons per air-group, with three instead of the present two VF squadrons.

Three-fold benefits are expected to result from the change:

1. Increased efficiency of individual training received by pilots.
2. Increased responsibilities assigned to and exercised by pilots.
3. Training will be afforded a greater number of squadron commanders, executive officers, and department heads since there will be more squadrons.

Present carrier squadrons have as high as 34 VF aircraft in a CVB group and 26 planes in a CV group. Under the new plan, squadrons will have 20 aircraft in CVB fighter units and 16 airplanes in CV squadrons. This will give CVBG's 60 fighters and 40 attack planes, plus four aircraft for the group commander and air coordinator. CVG's will have 32 VA planes.

Increased emphasis on night and all-weather operations indicates the desirability of more specialized training in those fields. Eventually, it is anticipated that facilities for such training will be available for all groups. At present, only VCN's are equipped to provide and supervise the training.

To take care of the expansion in VCN squadrons, VCN's 1 and 2 will remain in their present location with their mission individual training and development. Two new VCN squadrons will be commissioned, their mission to provide the fleet with operationally ready units.

## Men Get Wings at Ceremony Pilots Work Longer To Win Them

NAS JACKSONVILLE—For the first time since 1943, ceremonies marking designating of student pilots as naval aviators are being held here. The first class of 16 men receiving their wings following completion of their advanced training was honored by ceremonies on 27 May.

The presentation will be weekly affairs in the future. Aviation cadets during the war were given their wings and ensign's commissions on completing basic at Pensacola or Corpus. Now they



This is the new insignia for Fleet Logistic Support Wings, the successor to the famed Naval Air Transport Service, which was taken over by MATS, operating under Air Force. Story on pg. 13.

are not given their wings until they finish advanced. Naval aviators now go through only basic and advanced, instead of primary, intermediate and advanced training, as during war years.

## Bison Cramp Alaska Flying Hay-Burners Roam Delta Runways

VR-5, SEATTLE—Not every airport has the unusual hazard of a herd of buffalo such as roams the runways at Big Delta field in Alaska. The buffalo, or more properly North American Bison, number around 400 and for years roamed at large in Tanana valley south-east of Fairbanks.

Quite frequently the Big Delta weather sequence adds the warning "Bison on runway." Several weeks ago a Pan American World Airways *Clipper*

landed at Big Delta, awaiting weather at Fairbanks, and was forced to delay from the strip. Recently an Air Force several hours longer to clear the bison C-54 landed at Big Delta on a routine flight and 150 of the animals moved upon the airfield to graze. It required a dozen soldiers in four jeeps more than three hours to clear the runway for a safe take-off.

## Marines Laud Naval Airmen Congratulate Navy on 37th Birthday

The Navy's aviation branch received congratulations on its 37th anniversary on 8 May in a letter from Gen. C. B. Cates, commandant of the Marine Corps, to John Nicholas Brown, Assistant Secretary of the Navy for Air.

"On behalf of both the ground and air components of the Marine Corps, I would like to extend our hearty congratulations," the letter said.

"We in the Marines have shared the Navy's deep interest in the air arm, from its inception to the present time. Thousands of Marines, myself among them, who have landed under the protective 'umbrella' of Navy air and advanced against bitterly defended positions with the expert and valiant help of naval aviators salute our comrades of the sky on this important milestone.

"All of us look forward confidently to the new and vital contributions to our national defense which may be expected from naval aviation."

May 8 is the date on which the Navy purchased its first aircraft, back in 1911, from Glenn L. Curtiss.

## Neptune Flies Off CVB

A PICTURE of things to come was given the public recently when the Navy announced that two Lockheed P2V-2 patrol planes had been launched successfully from the flight deck of the CVB *Coral Sea* using JATO.

The spectacular test was made off Norfolk on 27 April. The two planes were loaded aboard by cranes at NAS Norfolk. Pilot of the first plane to fly off the deck was Cdr. Thomas D. Davies, who piloted the *Truculent Turtle* two years ago when it set a new world's distance record of 11,236 miles from Perth, Australia. Pilot of the second *Neptune* to fly off the *Coral Sea* was Lt. Cdr. John P. Wheatley. Both made the hops with short runs.

Previously, the largest plane to be

launched from a carrier flight deck was the R4D. Several of these took off with JATO from the CV *Philippine Sea* on the Arctic expedition a year ago. Weight of an R4D is only 29,000 pounds, compared to nearly 60,000 for the P2V-2. Wing span of the *Neptune* is 100 feet, only 13 feet less than the width of the flight deck on the *Coral Sea*.

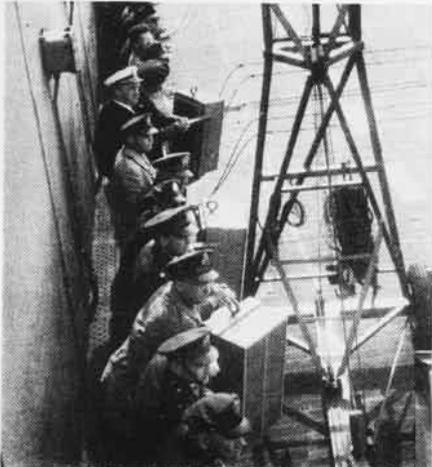
The *Neptunes* used for the Norfolk test were standard Navy versions not equipped for carrier landings. The fact that the *Neptune* is the world's longest range plane opens great vistas in the future of naval warfare since it has now established that it can operate from the mobile base of a carrier deck and is not limited to places where land bases are available near a target spot.

## Coral Sea Shows Its Wares Natl. War College Group Visits CVB

USS CORAL SEA—During the period 12-16 April, the *Coral Sea* was host to the staff of the National War College, the personnel currently attending the college, and observers on tour with the group.

Among the guests were Vice Admiral Harry W. Hill, USN, Commandant of the National War College, and Air Chief Marshall J. C. Slessor, KCB, DSO, MC, Commandant of the Imperial Defense College.

While on board the ship, the War College students were divided into groups to facilitate their familiarization with the ship's activities. These groups were conducted on guided tours to nine key spaces on the ship where short lectures were given by ship's officers. Subjects covered were plane handling opera-



WATCHING FLIGHT OPERATIONS ON CORAL SEA

tions, seamanship, engineering, aviation maintenance, CIC, damage control, communications, function of the air group, and the ship's organization. The groups also observed flight operations from vantage points in the island structure.

On 16 April, officers attending the Armed Forces Staff College at Norfolk, Va., also visited the *Coral Sea*. A one day cruise was made off the Virginia Capes where an air group recovery and launch were demonstrated. Planes were recovered in an average interval of 28.3 seconds. Eighteen aircraft were catapulted with an average interval of 23.6 seconds, and the remainder were deck launched with an average interval of 15.6 seconds.

By the end of April, 4,980 take-offs and 4,844 landings had been completed on board the *Coral Sea*.

## Pensacola LSO Sets Record Controls 35,000 Landings Sans Grief

NATB PENSACOLA—If the Navy had a champion landing signal officer, Lt. Milton A. Patton, LSO attached to



**Squirting** a tail of flame 50 feet long, a 11.75" aircraft rocket, the *Tiny Tim*, takes leave of its moorings on the belly of an F8F over the barren California hills near Naval Ordnance Test Station at Inyokern. The *Tim* is the largest aircraft rocket in use today, with a 4000-yard slant maximum range. Weight 1173 lbs., length 114".

Carrier Qualification Training Unit 4, NAAS SAUFLEY, probably would be the man.

He was commended for excellent performance of duty by Chief of Naval Air Training on 25 March. Here is



BAT-WIELDER PATTON GIVES PILOT A "ROGER"

his record: He controlled 33,720 field carrier landings and 1,570 landings aboard the training carrier—without accident or incident of any sort. His phenomenal record covered the period 1 January 1946 to 10 March 1948.

## Marine VR Pilots Are Busy Transport Planes Herd Fighters South

VMR-252, CHERRY POINT—Transport pilots of this squadron put in a busy two weeks furnishing air lift for the Second Task Fleet exercises around Puerto Rico in February, flying 31 trips

from here to Roosevelt Roads, P. R.

In addition to transporting personnel and cargo, the transport planes acted as guides for fighter aircraft headed for the exercises. Eighty-four fighters, composed of 12 F7F, 24 F6F and 48 F4U's, were herded 1700 nautical miles on schedule without loss of an aircraft.

Five transports and crews were maintained in readiness at all times at Roosevelt Roads for emergency runs, dumbo, observation flights and liberty runs. A total of 420 individual flights were made, totaling 880 hours. Some pilots flew as much as 35 to 40 hours in one week.

## Marines Spot Crippled Boat Night Fighters Radio Aids in Rescue

VMF(N)-542, EL TORO—The routine flight two Marine lieutenants started out on in their night-fighter F7F turned up some excitement on 26 March when they noticed a light flashing on the water below them near Catalina Island.

It turned out to be a drifting yacht with six persons aboard. Lts. Charles J. O'Malley and Robert S. Hemstead turned in a search/rescue report which started the ball rolling. They radioed Lt. Col. John D. Howard, squadron commander who was flying over El Toro. Howard contacted control tower which in turn radioed the emergency signal to the Coast Guard.

The two in the F7F circled the boat until a Dumbo PBY arrived from San Diego. A rescue vessel finally arrived to tow the crippled yacht to safety.

# SANS 'SLINGSHOT'



LT. SCORZA AND HIS TBM THAT DID FLY-OFF

VA-14-A, SAN DIEGO—This squadron has a deck catapulting story which it thinks beats that of VF-1-B on the *Midway* (NANEWS, April) which accidentally launched a *Corsair* without benefit of catapult.

VA-14-A launched an *Avenger* off the catapult without the machinery being fired! But read on! While receiving the turnup signal from the catapult officer on the *Princeton*, Lt. E. D. Scorza felt the hold-back ring break. Immediately his TBM-3J began rolling toward the bow.

As his first reaction, he retarded the throttle, but thinking that he would not be able to stop in time before he expended what little flight deck there was in front of him, he again applied full power and took off without incident!

Lt. Scorza retracted his landing gear while rolling off the deck and the plane did not mush or settle after leaving the flight deck, to the amazement of all.

Veteran pilots of his squadron, Air Group 13, and the *Princeton* say it is the first time to their knowledge that an *Avenger* has "taxied" off the bow and not flopped into the arms of King Neptune.

More astonished than any observer, however, was Ens. E. L. Walton, a squadron pilot riding as a passenger in the radio compartment, who had never experienced the impetus of catapult gear. When asked how he liked his first catapult shot he replied that it felt just like a deck take-off. He then was enlightened upon his experience. "How hazardous can this hazardous duty get?" was all he could blurt.

The fact that Lt. Scorza cut his throttle and then suddenly applied it to the maximum may have caused the propeller to overspeed momentarily, thereby drawing more thrust than is normally obtained from full power settings. Fuel used was 115-145 octane gasoline. Gross weight of the aircraft was about 15,500 pounds since it had tow reel and 3,000' of cable installed.

Average wind over the deck of the *Princeton* at the time was 30 knots.

Lt. Scorza's good fortune had a final touch of dismay. As flight officer of the squadron he had to credit himself with an unassisted deck launch and not a catapult shot! Skipper of VA-14-A is Lt. Cdr. A. K. Earnest of Battle of Midway fame.

(Editor's note: NANEWS, Feb. 1, 1945, carried an article on a TBM aboard the U.S.S. *Guadalcanal* making a successful launch from catapult position. The plane received a "slight nudge" from the catapult before the mechanism broke and the catapult "ran wild," leaving the plane to fly off under its own power. That plane weighed 14,000 pounds. Its pilot advised the carrier by radio that the launching "seemed a little slow.")

## New Martin Seaplane Flies XP5M-1 To Try Out New Hull Design

Another Martin flying boat has successfully completed its preliminary flight tests at Baltimore. Designated the XP5M-1, the new seaplane has a long narrow hull design which is expected to



XP5M-1 FEATURES LONG HULL AND SINGLE TAIL

reduce hydrodynamic and aerodynamic drag to a minimum.

Powered by two Curtiss Wright R-3350 engines, the XP5M should move flying boat speeds up nearer the landplane mark for the same size and type class. In addition to improving the drag characteristics of the flying boat, the new hull is designed to operate safely in rougher seas than can the *Mariner*.

A small-scale XP5M-1 hull is now receiving extensive hydrodynamic testing on the *Petulant Porpoise*, and these tests indicate that the hull is successful.

## Grads May Get Navy Wings Flight Training Program Outlined

A new program which gives 650 college graduates an opportunity to enter the Regular Navy as commissioned officers and to receive 18 months flight training has been adopted. It also offers Reserve officers on active or inactive duty a chance to become naval aviators, in addition to the above quota.

Those on active duty can be accepted without taking the indoctrination flight training course, while naval aviators on

inactive duty can come back by passing a refresher course.

In the college program, each officer appointed will attend an indoctrination course of one to four months, then take flight training. He must agree to serve two years after completion. The first group of appointees will go to Pensacola about 1 July. After two years total service they can request retention in USN.

Any Reserve officer appointed, regardless of previous rank or date of rank, will be an Ensign with a new date of rank. His previous service will count only for pay and longevity benefits. Applicants must be between 19 and 25 years of age.

NROTC students submit applications via their professors of Naval Science, Reserves on active duty through their CO's. All others apply to nearest Office of Naval Officer Procurement, naval air station or reserve naval air station.

## Private Airplanes Visit NAS Whidby Entertains 200 Members

NAS WHIDBY ISLAND—This station, home of such big naval aircraft as P2V-2's, PB4Y-2's and *Mariners*, saw some strange sights recently when 58 planes belonging to the Aircraft Owners and Pilots Association made their annual breakfast flight for a visit.

The private planes ranged from *Cubs* to *Seabees*. They brought 200 pilots and passengers for lunch and afternoon



LINES OF PRIVATE PLANES ON WHIDBY'S APRON

demonstrations which included a mock crash and fire-fighting drill, lost plane drill, and a GCA approach during which all transmissions between plane and GCA were rebroadcast over the station public address system.

NAS SEATTLE cooperated in taking HF bearings on the lost plane, enabling the tower supervisor to fix the position of the aircraft by plotting in bearings supplied by both stations.

During the visit, shop and an F6F were made available by FASRON-112 for inspection and the station made available the operational flight trainer and Links. Among the visitors were a number of Canadian planes which cleared customs at Bellingham.

# AND THERE I WAS...



## Call of the Wild

THIS ONE occurred at an African base where our Franco-American mess wasn't panning out too well.

On one inspection trip through the mess line, the skipper was held up while the mess cook paid far more attention to the French enlisted Wave next to him than he paid to his job.

He was plenty embarrassed when the skipper turned him around with "Say, son, are you mess-cooking here?"

He stuttered a reply, but was brought up short with "Well, start cooking and stop messing!"

PETER SHUMWAY, LT. CDR.  
BAGR, BROOKLYN, N. Y.

## Et Tu, Brute?

AND THERE I was, trying desperately to satisfy the toughest check pilot in the squadron in the execution of an Immelman. This was back in the old days—an acrobatics check (at which I was definitely not good) in the old "yellow birds."

His chief gripe seemed to be not enough initial speed, so he took over to show me how.

The last I remember was his beginning of



a pullout from a nearly vertical dive at about 140 knots. The next I knew, we were falling through a very poor loop—the intervening time having been curtailed by a characteristic blackness.

Soon he asked me if I had blacked out. "Yes," I replied. "So did I," the check pilot confessed.

And then he had the nerve to give ME a "down"!

PETER SHUMWAY, LT. CDR.  
BAGR, BROOKLYN, N. Y.

## Come On, Equipoise!

ON THE luminous scope in the carrier's CIC room, the blip, indicating a bogey, was approaching the center of the screen.

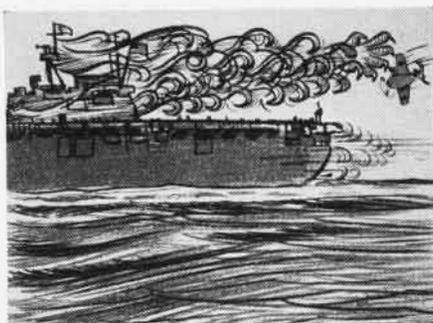
Below, shut off from the dark night by innumerable bulkheads and decks, the engineering officer and his crew listened as the fighter-director officer's voice droned over the TBS, "Bogey. Three miles, closing, 180°." A few members of the crew looked at each other but no one said a word. They all had the same thought.

"Bogey. Two miles, closing, 180°," the TBS broke the silence again. Somehow in the twenty seconds that had passed between the messages, the heat had doubled; not a dry spot could be found on the sweating, excited engineers.

"Bogey. One mile, closing, 180°." Each of the men below thought of making a mad dash for the ladder, then thought better of it before anyone moved a muscle. Nothing to do but wait and pray.

Suddenly, in the CIC room, the fighter-director realized he had made a mistake. Instead of gauging on the close-range scale as he thought he had been doing, actually he had been gauging on the long-range. Immediately he acted to correct his error and spread the right dope.

"Bogey. Three miles, closing, 180°,"



droned the TBS in the engineering room. The men cast a surprised look at each other and then one, the smallest of the group, shouted exultantly, "Cripes, men, we're gaining on them."

## This is Serious

OUR SHIP was laid over in Pearl Harbor for four months for repairs in 1944. I had decided to attend Communication School for two weeks at Waipio Base. As there was only one other officer in my class, we got to talking about the So-Pacific theater, where I had not been.

We finally got around to talking about radio reception out there and he mentioned that San Francisco could be received pretty clear, in fact he stated that he had listened to the past world series on that frequency on the way back to Pearl Harbor.

He went on to say they heard four of the

five games. I asked him how he happened to miss one. He paused and thought for a while, a bit frustrated, then replied:

"Oh, that was the day we were crossing the international dateline—we lost a day."

It took me a whole day to wake up and realize how he had pulled my leg.

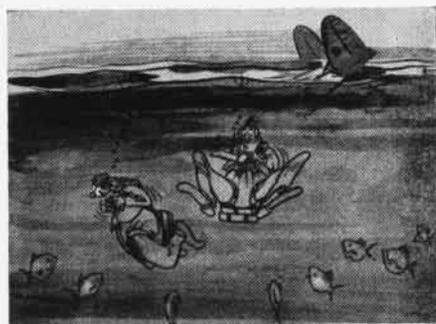
Lt. (jg) D. B. Boetto  
ResDiv 9-22, Joliet, Ill.

## The Last Word

IT HAPPENED at NAS CORPUS CHRISTI. The station had had an epidemic of PBM sinkings right inside the breakwater because of improper clearance of beaching gear as the planes were launched. (What happened was that when the gear was released, it would bob up under the hull, allowing the prongs on top to punch or slash a hole in the hull of the plane.)

On this particular day, there were twelve PBM's lined up at the head of the ramp waiting to go over. The beaching crew was working like mad and the air was jammed with radio instructions from the seaplane tower to the various planes.

As luck would have it, the first plane to go over got its beaching gear fouled, and



immediately the following call was heard: "Navy Corpus Seaplane Tower, this is MIKE 54. We are sinking and taking water fast. Request permission to return to our ramp."

But the towerman, noting that another plane was starting down the ramp, gave instructions to go around the breakwater and make another ramp.

This was unfortunate, for at that moment the ill-fated MIKE 54 was seen to spout crewmembers and life rafts from every hatch as she settled until nothing but the tips of the rudders showed above the water.

Excited by all this, the towerman began screaming, "MIKE 54, MIKE 54, do you read? Say something!"

This must have been too much for one of the other planes on the ramp, for a weary voice was heard to answer, "Navy Corpus Seaplane Tower, this is MIKE 54; GLUB, GLUB, GLUB!!!"

RANDALL H. RICE, ENS. (A3) USNR

## What's That Stuff? Sun?

PILOTS who have flown around the Aleutians will appreciate this sea story passed on by VR-5, NATS squadron based at Seattle.

Nineteen consecutive days of CAVU weather were chalked up at Kodiak by 15 April. The sun shone so long that Lt. W. A. Townsend, plane commander of a flight arriving at Kodiak, was a little befuddled.

He insists that a full GCA approach to touchdown was necessary because the brilliant sunshine obscured vision to runway 25.

# MARINE AIR TECH



ENGINEERING STUDENTS AT QUANTICO AIR TECHNICAL SCHOOL DO TROUBLE SHOOTING ON F7F

**T**HE MARINES are operating a technical training school at Quantico that is a little different from the average run.

In the first place, most aviation technical training schools have only enlisted men. This one is at least half officers. It does not try to make specialists out of its students; it tries to do just the opposite—give them a broad course.

Its students aren't sent to school, they ask to go. Since it is a "post graduate" type of school whose students have plenty of experience in the field, it has to make its own textbooks on the spot.

Four courses are offered in the Marine Corps Aviation Technical School, its official name. They cover engineering, ordnance, naval supply and accounting, and parachute rigging. The school occupies the former A&R shop at the south end of the platter-shaped airfield. Its students make good use of the excellent equipment and machinery left when they quit repairing airplanes on a large scale.

In keeping with its "post graduate" type of training, the school gives its students practical work on operational airplanes—not old clunks that are war-wearies, but planes from A6S-12 across the field. Squadron pilots breathe down the engineering students' necks as they tear down and reassemble or repair their planes. Tomorrow the squadron will be flying those same planes and that fact does wonders in impressing on students the importance of doing their jobs right. They work on F4U-4's, F7F's and later will get FH-1 jets.

Let's take a look at the courses Marine officers and enlisted men in the first three pay grades can volunteer for. Probably the most unusual is the naval

supply and accounting course, headed by Capt. T. Stepanuk. Prospective squadron commanders and material officers especially are interested in this one because it prepares them for the knotty problems they will meet when they take over squadron duties. Eight Marine aviators are among the students in the present class, training to be materiel officers. The 22-week course teaches them the paper work of running a squadron, how to order supplies and keep books. They learn to typewrite 30 words a minute, how to prepare requisitions. They have to know how the Navy supply system functions, as well as the Marines'.

The syllabus of the school includes these subjects: organization and administration of naval supply, material identification, classification and allowance, material procurement, purchasing, material receipt and expenditure, stock

records and inventory control, custody, stowage and shipments, accounts and reports, and camp construction and maintenance.

Enlisted graduates of the course are qualified for squadron material chief or group supply duties. The present school has 10 officers and five enlisted men. Courses are stiff, but the students come out of them ready to handle the important job of keeping paperwork moving.

**T**HE ORDNANCE course under Maj. H. R. Jordan has among its students 12 officer-pilots who have had some experience as ordnance officers in their squadrons. Another dozen students are staff noncoms, graduates of ordnance schools at Jacksonville or Memphis, who came to Quantico to get the latest word on ordnance.

Their course includes small arms, elementary electricity, rocket and gun circuits, electronics, toss bomb sights, Mk 23 gunsight, pyrotechnics, tow targets and fire control. They brush up on bomb loading and handling, and load 5" HVAR's and *Tiny Tim* rockets on the airfield for actual firing runs. The course runs five months.

All students at the MCATS get a full share of field experience. The last three weeks of their training they move out to a corner of the airfield, along the banks of the Potomac, and operate just as if they were on Guadalcanal or Tarawa with a Marine Service Squadron. They erect their own tent city, operate with field electrical, cooking, water-purifying and other equipment any invasion force would carry. This work keeps the training on a practical level and removes some of the classroom feel.

As the three photographs at the top of the next page will indicate, the field work is as close to actual combat conditions as is possible to secure around Quantico. The men live in their regular quarters during the exercises, but they



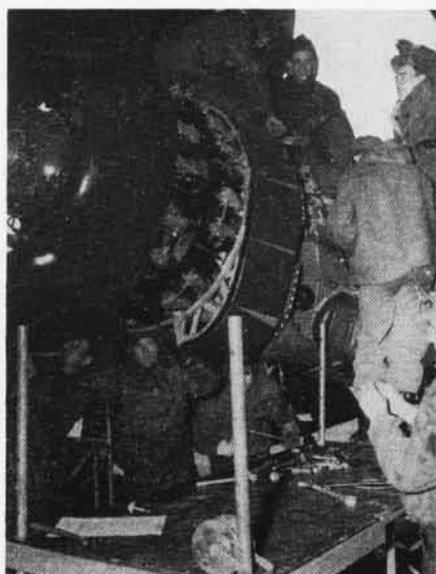
ENGINEERING COURSE STUDENTS LEARN OPERATION OF I-16 JET ENGINE WHICH DROVE RYAN FR-1



QUANTICO WINTER GIVES LASSES EXPERIENCE



PVT. SWIFT, SGT. BUSS DO FIELD WIRING JOB



CAPT. CURD, MEN CHANGE AN ENGINE IN FIELD

do all their work in the open, whether the weather be fair or foul.

The only course in which officers do not volunteer as students is that for parachute riggers. Eighteen enlisted men are taking the 15-week course at present. They learn to take care of service chutes, cargo drop chutes, life rafts, and Mae Wests. They even learn about weight and balance in aircraft and why it is so important to get the transport plane cargo stowed correctly so it can be dropped via chute to ground forces. The rigger may someday be helping load the plane and drop the supplies. The men also are taught how to instruct pilots and squadron personnel in care and use of chutes.

Just to keep their training practical, the riggers have to make two jumps in chutes which they themselves packed, one static line and one free fall. They have to help pack 100 chutes, pack 100 under supervision and 10 without before they graduate. Section officer of this course is Lt. J. M. Sleight.

LARGEST of the four courses in MCATS is the engineering branch. Instead of specializing in propellers, hydraulics or carburetors, the 18 officers and 24 enlisted men get a 735-hour course that covers everything in the book. Because it is above the level of other training they have had, MCATS' training facilities department under Capt. John C. Curd has the job of making up textbooks for the class from all available publications on hand. They represent a composite of the best material from many sources in the school's library, to make the information easier to get.

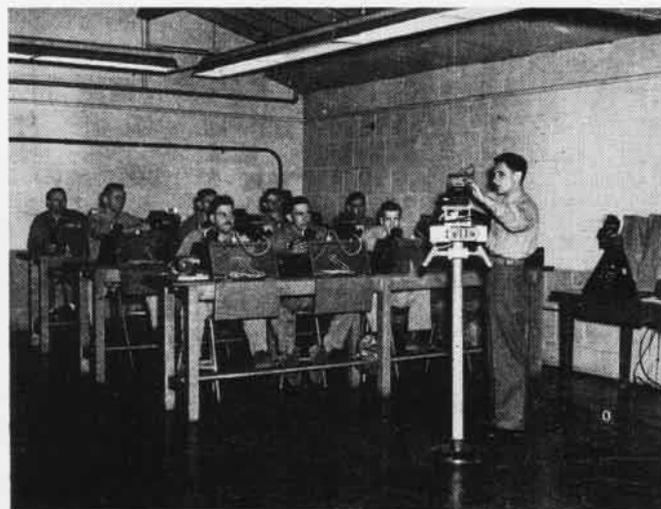
During their six-months course, students get everything from structures and aerodynamics to oxygen systems, with 70 hours of field problems thrown in just to keep things practical. Jet engines as well as reciprocal are covered. Instructors go to factory schools to get the latest word to pass on to students.

Officer in charge of MCATS is Lt. Col. John W. Sapp, Jr., a veteran of the

Solomons and Bougainville air campaigns. He was CO of VMTB-143 in 1942, the first squadron to drop aerial mines in the South Pacific. His assistant is Lt. Col. John F. Kinney, engineering officer of the famed Marine fighter squadron on Wake island when the Japs captured it. He was a prisoner of war until 1945 when he escaped in China. Training officer is Major T. G. Bronleewe.

The school started after the war with the closure of the A&R shop, but was closed for six months in 1947 while courses were revamped. The first class to graduate after that was last September.

Instruction in the school is intended to provide key personnel with broad, practical and technical knowledge within the fields. The level of instruction is high, and entrance requirements are exacting. Only non-commissioned officers in the first three pay grades who are specially recommended and of outstanding ability are selected as students.



SGT. RALPH GRAEF EXPLAINS FIRE CONTROL SYSTEMS TO ORDNANCEMEN



MARINE CATERPILLAR CLUB PHOTOS LOOK DOWN ON PARACHUTE RIGGERS

# Ditching a Neptune



Rescued and rescuers pose for a picture: front row, Delli-Gatti, Thurston; standing, Dahl, Dudley, Rouzer, pilot of P2V-2; Morrison, vx-4 rescue pilot, and Fagan

**S**URVIVAL and ditching techniques used to save lives of five members of VP-ML-7 when their P2V-2 lost its power at 12,000 feet over the Atlantic ocean should prove valuable to other multi-engine pilots. None of the men was injured when the plane was ditched at sea. Suffering only slightly from exposure to the icy water, they were rescued in three and a half hours by the commercial liner *Washington*. They put in a couple of bad hours, however, after a small ship near which they ditched sailed on without seeing them in the dark.

With Lt. Harvey H. Rouzer at the controls, the *Neptune* was returning to Quonset Point on 23 April from a round trip navigation flight to Bermuda. At 1825 and 100 miles from Quonset, the starboard engine manifold pressure dropped and engine oil pressure went gradually to zero. The fuel flowmeter also dropped 200 pounds. A minute later the port engine went through the same sequence of events.

Extreme vibration occurred in both engines and a gradual loss of power was noted. Rouzer shut down the engines, feathered the props and ordered his five-man crew to stand by for ditching. Emergency IFF was turned on.

He glided toward a tanker from 11,000 feet at 120 knots, dropping a thousand feet a minute. The landing was made into the wind. A full-stall

landing was made with use of full nose-up varicam at a speed of 55 knots into the wind on a calm sea with four to five foot swells, two miles on the tanker's port beam. (Ed. note: *Neptunes* have varicam elevators, double-hinged for better trim characteristics. NANews June, pg. 4)

No flaps were used, because of lack of hydraulic pressure. Only one impact was felt, and the nose dug in momentarily. Pilots came out through the overhead escape hatches; covers had been jettisoned on the way down. Navigator, plane captain and radioman came out through the astrodome hatch.

All five crew members were topside in about 15 seconds with the Mk 4 four-man life raft. Efforts had been made, in vain, by the plane captain to release the Mk 7 raft while in the water. Thirty seconds after the ditching, the aircraft broke in half just aft of the wing.

The tail section sank immediately, while the forward section assumed a nose-down vertical attitude. All hands were forced into the water, and then proceeded to inflate and man the Mk 4 raft. Shortly after the forward section of the plane disappeared, having floated two minutes, the Mk 7 raft surfaced. The two rafts were lashed together and manned two and three. Considerable gasoline and debris were observed in the area for the next hour.

The tanker apparently did not see

the plane ditch in the dim light and proceeded on course. No injuries were sustained by the men but all were chilled after being in the frigid water for several minutes. Shoulder harnesses had saved the pilots from injury during the ditching.

**O**N THE way down, the plane had sent out an SOS which brought out search and rescue planes, including a Boeing PB-1W *Flying Fortress* from Quonset's vx-4, piloted by Lt. Cdr. Frank Morrison, and another P2V-2 from VP-ML-7, piloted by Lt. Cdr. Dahl. About 2100 the red masthead lights of a ship, the SS *Washington*, were seen on the horizon. A red hand signal flare was ignited but the ship did not see it. On arrival of the search planes another flare was fired and seen by both planes simultaneously.

Smoke lights and flares were dropped by the planes, and the ship was directed to the scene by Morrison. At 2200, the ship dropped a Jacob's ladder over the side and all survivors were taken aboard.

The squadron recommended afterwards that P2V ditching bills be revised to place everyone forward of the wing, since the tail section broke off and sank immediately. It also suggested that the Mk 7 life raft compartment be moved forward.

Other members of Rouzer's crew were Ens. Philip J. Fagan and Sherman F. Dudley, ADC Thomas T. Thurston and ALC William Delli-Gatti.

## NAVY FILMS

- MG-5380a Ocean Station Vessel Crew Training in Search and Rescue—Search Patterns
- MG-5380b Ocean Station Vessel Crew Training in Search and Rescue—Training in Operation Plans Between the Ocean Station Vessel and a Ditching Plane
- MG-5380c Ocean Station Vessel Crew Training in Search and Rescue—Weather Duties
- MG-5380d Ocean Station Vessel Crew Training in Search and Rescue—Use of Special Electronic and Visual Search and Aids
- MG-5380e Ocean Station Vessel Crew Training in Search and Rescue—Towing a Disabled Plane
- MG-5380f Ocean Station Vessel Crew Training in Search and Rescue—Transfer of a Patient at Sea
- MG-5381a Standardization of Crew Training for Search and Rescue Craft—Survivor Recovery and Handling
- MG-5381b Standardization of Crew Training for Search and Rescue Craft—Search and Rescue Boat Handling
- MG-5381c Standardization of Crew Training for Search and Rescue Craft—Use of Radio and Visual Signalling Devices
- MN-5348c Navy Photography in Science
- MN-5348d Navy Photography in Intelligence

Film libraries in every Navy District, at various air stations, and centers, and at selected locations outside the continental United States, will furnish all training films required by the Navy and Marine Corps.

The above list includes latest films recently approved for release.

# GOLDEN GATERS FLY AT OAKLAND



'Weekend Warriors' from NAS OAKLAND fly over Golden Gate bridge in their FG-1D Corsairs after training flight

SUNNY California never looked sunnier than when the Navy plane, bringing the NA News reporter to "visit" NAS OAKLAND came in over San Francisco Bay. The flight across country had been rough. A dust storm was swirling good midwestern farmland up to 10,000 feet; there was a freak blizzard over Denver and heavy clouds, hugging the mighty Rocky Mountain peaks, forced the plane to travel at 16,000 feet on that stretch of the trip.

In the unpressurized R4D, the oxygen tanks aboard got a good workout. Once over the lush Sacramento Valley, the picture changed and so did the air—all was smooth and serene. Even the famous San Francisco fog failed to come out to greet us.

As the R4D circled down for a landing, we caught our first glimpse of the Golden Gate bridge, gleaming against the blue of the bay, and of the tall buildings on the hills of San Francisco.

Across the bay, the grey Navy base at Treasure Island, the big air station at Alameda, where even then a great *Mars* plane was landing, and the trim, compact station at Oakland came into sharp focus. These were the Navy guardians of the Golden Gate—each unit at work on its assigned task.

At NAS OAKLAND, *Corsairs*, *Hellcats*, even a few *Beasts* were among the more than 100 planes lined up and ready for coming weekend operations.

THIS station is one of the biggest in the Naval Air Reserve Training Command. Here 19 Organized Reserve squadrons, comprising 450 officers and 1,000 enlisted men come out for regular weekend training. This mighty Reserve air arm is flanked by 100 officers and men in the Volunteer Reserve, who also take part in training activities.

The station also supports a special training program for the 300 men and

150 officers in the Associated Volunteer Units located at Stockton, Fresno, Monterey and Reno, the last three of which have been authorized to conduct flight activities. Lt. Cdr. George H. Matchette, Lt. H. J. Hackett, Cdr. W. B. Randall and Lt. Cdr. R. Wilber are CO's of the units at Fresno, Monterey, Reno, and Stockton, respectively.

From their strategically-located base at Oakland, Reserve pilots fly a wide course from out over the blue Pacific ocean to the lofty Sierra Nevada mountains. Training is highlighted by fighter-director exercises, conducted with Reserve destroyers, and by coordinated attacks on ships manned by members of the Surface Reserve.

The program stresses training in anti-submarine warfare techniques. With rocket firing and live gunnery areas less than 10 minutes from the field, Oakland's "weekend warriors" also get plenty of shooting practice during drill.



Lt. Cdr. Mazza, Ens. Watts, Lt. (jg) Dottery and Lt. Cdr. Payne get the word on available aircraft from Cdr. Vincent



Here Capt. MacComsey and Cdr. Walker inspect R4D load of balloons later released over Oakland to spur recruiting



**Captain** MacComsey congratulates Cdr. Randall at Reno commissioning. Gen. Merrick and Unit members look on



**VA-61-A** pilots E. Conner, E. Bellizio, R. Gallimore, J. Monaghan, F. Brunner relax in ready room before flights

**T**HE STATION at Oakland is no "Johnny-Come-Lately" to the Naval Air Reserve network. Way back in 1927, it was commissioned as a Naval Air Reserve Base. Except for a four-year period during the war (1942-1946) when NATS operated the base as a terminal, it has remained in the NAR chain.

It is notable that many of the personnel aboard today were among those who helped build up the station and develop the Reserve program in the area. The executive officer, Cdr. George V. Walker, for example, began his career there as a Reserve student officer in 1929 and returned in 1940 to put in a four year period, ending as executive officer.

Five of the present station officers, Lt. Cdr. E. W. Smith, Lt. Joseph Teichera, Lt. (jg) Andrew Bertotti, Lt. (jg) Wallace Griffin and Lt. Frank Lopez were enlisted men at the old NARB.

Lt. Lopez, in fact, then a seaman second class, was one of the three enlisted men and two officers aboard when the station was first commissioned. He tells the following story, which well illustrates the firm foundation upon which the present structure rests: "In 1932 two enlisted men were maintaining all 18 aircraft assigned to the station. By 1939, when the administra-

tion hangar was built, the 65 station-keepers then aboard donated their days off and worked after duty hours to build up the station."

Under the fine leadership of the commanding officer, Captain Henry F. MacComsey, Naval Academy graduate of the class of '22 and formerly skipper of the *Leyte*, today's station personnel, comprising 37 officers and 421 enlisted men and women, are still putting forth their best efforts to make a first-class program.

Stationkeepers, J. C. Gibson, AMC, Arthur Leslie, AD2 and A. Johnson, AM2, for example, recently invented a tire bead-breaking machine that does in two minutes work that used to take 20 minutes to complete. Similarly Fred Cline, AD1, is devising a section on jet engines to give that "extra something" to the routine AD course.

During Capt. MacComsey's pre-war tour of duty as CO of the Naval Reserve Aviation Base at Chicago, that unit was awarded the Conway trophy for most efficient operations.

**M**ARINES are contributing much to the Reserve program. The Marine Air Detachment, headed by Lt. Col. Milo G. Haines, with Capt. Dan O. Jones as exec, boasts that Marine Organized Reserve squadron, VMF-141, has

100% complement. Furthermore it operates as a self-sufficient unit without appreciable help on drill days from the 35 Marine stationkeeper personnel.

In addition to the 57 officers and 164 men in the Organized Reserve, the Marines are justly proud of the fact that they have 147 officers in the Volunteer Reserve.

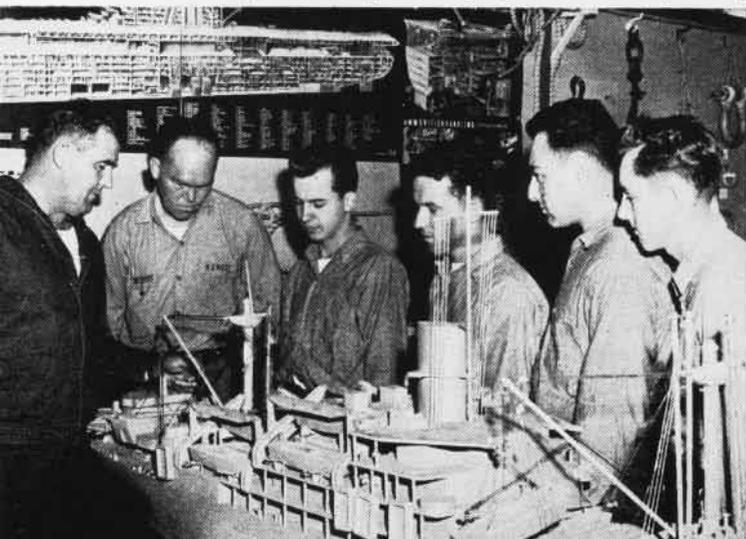
**O**AKLAND claims many outstanding "firsts" among Reserve units. In February 1947, 175 officers and men reported aboard for the first active duty "cruise" to be held at any station within the Naval Air Reserve Training Command.

In July, VR-64 and VR-65 chalked up a similar record as the first two Reserve transport squadrons to hold a regular cruise in cooperation with NATS, operating as a completely self-sustaining unit. Reporting to Moffett Field for this duty, they successfully maintained a Moffett Field-Los Alamitos-San Diego schedule for two weeks.

Oakland also has the only Organized Reserve photographic unit to be authorized on the West Coast. In fact VPP-51 is one of the two photographic units in the Air Reserve.

**T**HIS station also claims the only Organized Reservist to hold the rank

**Boat** class—C. D. Grubbs AD1 teaches seamanship to SR's R. E. West, W. J. Andrade, J. B. Hayes, G. S. Horwitz, S. Gray



**Oakland** O. R.'s study gun installation in F4U—W. Reeger AOU1, E. Kliegl GM1, J. Howell AOU2, J. Williams AOU1





**Ens. R. Wood** flies his own plane from his farm 50 miles away to attend drill

of captain. He is Capt. Albert Boles, flight surgeon, attached to CVG-97, with 31 years of naval service behind him.

A special feature at Oakland is the unusual "boot" classroom which has been set up in the aviation technical training building. Complete with ship's bell, clocks and rope designs, this room has a definitely nautical tone. It was "rigged up" by G. A. Lavoie, BM1, and C. D. Grubbs, AD1, boot instructors.

Station personnel are proud of their weekly paper, the *Golden Gater*. This publication has been meeting deadlines for 17 years and has appeared in every form from a slick magazine to a mimeographed sheet.

A great deal of interest in the program is being shown by WAVES. Right now they are in the process of taking over certain billets as associated volunteers in a pay status.

Two separate units also operate at NAS OAKLAND. GCA unit #19, with two officers and 14 men, all USN, has handled over 5,000 satisfactory approaches. This unit frequently assists in bringing in commercial airliners, as well as every type of land and seaplane including the giant *Mars*. A small group of NATS personnel are also based at Oakland to assist in loading and unloading the NATS hospital planes.

Reservists at Oakland, as at all sta-

**Organized** Reservists W. J. Camardese and F. D. Midgeley work on *Avenger* with stationkeeper C. J. Strotheide



**Training** cruise twosome—husband W. F. Beatty AD1 and wife D. Beatty AD2

### NAS Oakland Reserve Squadrons

**FASRon-66** Cdr. C. Ferguson, CO; Lt. Cdr. R. T. Gordon, Exec.

**FASRon-166** Cdr. G. M. Dixon, CO; Lt. J. R. Martin, Exec.

**FASRon-173** Cds. G. G. Calhoun, CO; Lt. Cdr. Simmons, Exec.

**VPP-51** Lt. Cdr. H. C. Paige, CO; Lt. Crosse, Exec.

**VR-64** Cdr. C. C. Barber, CO; Lt. Cdr. C. McKnight, Exec.

**VR-65** Lt. Cdr. S. I. Hansen, CO; Lt. T. C. Powers, Exec.

**VP-ML-57** Lt. Cdr. R. B. Daley, CO; Lt. Cdr. D. H. Hartvig, Exec.

**VP-ML-72** Lt. Cdr. W. J. Gertiz, CO; Lt. Cdr. H. S. Thompson, Exec.

**CVEG-76** Lt. Cdr. R. M. Payne, AGC

**VF-76-E** Lt. Cdr. R. K. Wines, CO; Lt. F. C. Elkins, Exec.

**VA-76-E** Lt. Cdr. B. B. Catterton, CO; Lt. J. J. Slaine, Exec.

**CVG-61** Cdr. R. L. Copeland, AGC

**VF-61-A** Lt. Cdr. D. L. Watts, CO; Lt. F. H. Bennett, Exec.

**VF-62-A** Lt. Cdr. W. E. Harrison, CO; Lt. F. T. Shea, Exec.

**VA-61-A** Lt. Cdr. G. A. DeVore, CO;

Lt. J. F. Noonan, Jr., Exec.

**VA-62-A** Lt. Cdr. C. E. Strong, CO; Lt. E. J. Nufer, Exec.

**CVG-97** Lt. Cdr. A. J. Quigley, AGC

**VF-97-A** Lt. Cdr. C. K. Hildebrand, CO; Lt. H. C. Throop, Exec.

**VF-98-A** Lt. Cdr. E. A. Kamp, CO; Lt. H. L. Haskins, Exec.

**VA-97-A** Lt. E. M. Wilson, Jr., CO; Lt. K. H. Blanchard, Exec.

**VA-98-A** Lt. Cdr. J. J. Wright, CO; Lt. J. Kopf, Jr., Exec.

**VMF-141** Maj. L. M. Williamson, CO; Maj. G. W. Metzger, Exec.



**Inventors** of tire bead-breaking machine A. Leslie, J. Gibson and A. Johnson

tions in the Command, are always on the lookout for ways in which to serve the community. Searches for floating mines along the Pacific coast are frequently made, with radar being utilized to detect the presence of such hazards. Naval Reserve pilots and planes often search for lost civilian aircraft.

Besides inviting local residents to come out to the station for special events such as anniversary "open houses," Reservists have also taken part in many community affairs. Reserve pilots, for example, have participated in two annual Oakland air shows, putting on demonstrations of formation flying, carrier-type landings and simulated attacks.

The station claims its share of Reservists who have had notable combat records. Arthur Trimble, PHOM1, for example, has the DFC and nine air medals, while George Evanovitch, ACOM, has two DFC's and eight air medals. Lt. Cdr. Anthony Quigley is the holder of two Navy Crosses and Lt. Cdr. R. B. Daley was recently awarded his fourth DFC and his 14th air medal.

Outstanding among station personnel is Lt. Cdr. H. R. "Buck" Mazza, type training officer, who is one of the most decorated men in the Navy. Among his awards are four Navy Crosses, a Silver Star, one DFC and four air medals.

**Teamwork**—station Marine Pfc. J. F. McManus and Organized Reservist Cpl. H. N. McLaughlin work on wing flap



# Carrier Plane Battle Score



CARRIER PLANES LIKE THESE CORSAIRS ON RANDOLPH TOOK TREMENDOUS TOLL OF JAP AIRCRAFT

NAVAL carrier aviation's supremacy over Japanese land-based fighters, a much-discussed point at the war's start, was demonstrated in combat when its planes destroyed 12,268 Jap aircraft, with a loss of 451 U.S. carrier planes.

These figures were released by the Navy on the 37th anniversary of naval aviation, May 8, making public for the first time confidential data on combat records.

The total of Japanese airplanes destroyed included only those shot down or destroyed while parked on home airfields, by gunfire, rocket fire or bombs from Navy or Marine planes. It does not include Japs destroyed by Navy AA or by suicide crashes.

Navy land-based fighters and patrol planes shot down an additional 2,805 Japs and destroyed 328 on the ground or carrier deck to bring the total "bag" of naval aviation to 15,401 Japs. A total of 897 carrier and land-based Navy and Marine planes was shot down in aerial combat to amass that total of enemy planes.

Thus, the data reflect the results solely of the struggle for control of the air and for air supremacy between naval aviation and the Japanese Army and Navy air forces.

Here are some outstanding facts brought out from the figures released after compilation by air combat intelligence officers in the Office of Naval Intelligence:

1. U.S. carrier aircraft accounted for 12,268, or 80 percent, of all Jap planes destroyed by Navy and Marine planes.
2. Of that total, 52 percent were shot down in air combat and 47 percent shot up on the ground and 1 percent on Japanese carriers.
3. Here is a startling fact—of the 12,268 Jap planes destroyed by carrier aircraft,

11,368 or 93 percent were Japanese land-based planes and only 900 were Jap carrier planes. This is despite predictions at the war's start that Navy carrier planes could not compete with Jap army aircraft because they had to be built stronger and heavier for carrier operations.

4. Of the total kill, 72 percent were destroyed in the Japanese inner zone (Japan, Ryukyus, Formosa, Philippines) and only 21 percent among the isolated island groups of the Central Pacific. The remaining 7 percent were destroyed in the Solomons, New Guinea, East Indies, China and Indo China.

5. U.S. carrier aircraft destroyed 4,571 Jap planes in the five months of the Philippines campaign and 4,387 in the Okinawa and Japan campaigns; 4,539, or more than half the total of these campaigns, were destroyed on the ground at Japanese inner zone air fields.

6. In the Philippines, Okinawa and Japan campaigns, carrier aircraft lost 217 planes in aerial combat, while shooting down 4,419 Japs, almost all land-based. This is a 20-1 ratio.

7. For the war as a whole, carrier fighters shot down 18.4 Japs for each fighter downed by the enemy. Navy and Marine land-based fighters of the same types shot down 7.3 Japanese planes for each of their own air combat losses.

8. During 1944 and 1945, air combat losses of Navy and Marine single-engine dive and torpedo bombers were 38 out of 103,793 bombing sorties, or one plane lost to enemy interceptors per 2,731 sorties. Navy and Marine bombers had fighter escort to nearly every target.

9. Of 9,249 Jap planes shot down by Navy and Marine planes, 5,962 or 65 percent were single-engine fighters and 30 percent were bombers; 3,896 were Zero-type fighters.

10. The Solomons air campaign accounted for 1,983 out of 3,133 or 63 percent of total Jap losses to land-based U.S. planes. Carrier planes in that campaign got 537.

11. In one month, October, 1944, 1,851 Japs were destroyed by carrier aircraft in the Philippines, Formosa and Ryukyus.

12. In January and February 1945, U.S. carrier aircraft struck targets over a 3,000-mile arc from Tokyo through Iwo Jima, Okinawa, Formosa, Luzon, and Hong Kong to Indo China, shooting down 765 Japs land-based planes, including 420 over Japan, and smashing 712 on the ground.

13. Fleet Marine Force aircraft, carrier and land-based, accounted for 2,238 or 24 percent of all Japs shot down in air combat.

14. Navy long-range *Liberator* and *Privateer* patrol planes which usually operated singly or in pairs on unescorted 800 to 1,000-mile search missions, shot down 304 Japs. Their air combat losses numbered 23, or a 13 to 1 ratio.

15. Available figures on Japs shot down by various types of Navy and Marine planes show the *F6F Hellcats* made more than half the kills, with 5,155 out of 9,249. The *F4U Corsair* was second with 2,140, as shown in the compilation on this page. Of the 20 Japs shot down by PV's, 11 were by specially-equipped night-fighter versions flown by Marines.

## JAP PLANES DESTROYED

	By Carrier Planes	By Land-Based Navy Planes
Solomons, Bismarks	537	1,983
New Guinea, Indies	239	49
Wake, Marcus, Midway	391	38
Marshalls, Gilberts	357	30
Aleutians, Kuriles	0	6
Carolines	536	69
Marianas	958	12
Philippines	3,212	211
Iwo Jima	399	31
China, Korea	139	89
Formosa	978	26
Ryukyus	1,852	528
Japan	2,770	61
Totals	12,268	3,133

## JAP PLANES SHOT DOWN

### Fighters—

F6F	5,155	F4F	873
F4U, FG	2,140	FM	422

### Dive Bombers—

SBD	138	SB2C	43
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### Torpedo—

TBF, TBM	98
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### Patrol—

PB4Y	304	PV	20
PBM	16	Others	40

Total Kills...9,249

★★★

NATS GUAM—Pilots of VR-6 and VR-8 have been "greasing them on" lately. Chicken hatching eggs have been shipped via NATS from West Coast to Guam. One batch made the trip from California to Guam-based hens' undersides in 59 hours.

MCAS EL TORO—To combat local *Santana* winds, which carry El Toro's naturally dusty soil into the air and into aircraft engines, special working details of 100 Marines planted ice plants over a 27-acre area.

# PETULANT PORPOISE TO TEST NEW HULL DESIGNS



NOT A NEW TYPE AMPHIBIAN BUT JUST A MODIFIED WIDGEON WITH THE P5M HULL INSTALLED

THE NAVY'S last operational J4F-2, the *Petulant Porpoise*, is busy these days modeling the seaplane hull fashions of tomorrow. Specially modified to test hull designs (*NANews*, November 1947), the *Porpoise* can "zip" off and "zip" on bottoms in jig time.

The first hull to be tested by the amphibian is a design developed by Martin Aircraft and Stevens Institute. This hull has already undergone 1500 hours of tank testing using a total of 50 different small-scale models. Though model information is good, pilot reaction cannot be gained from a model. A hull which is unstable in the tank might prove to have excellent characteristics with a pilot on the controls.

Thus, primary purpose of the *Petulant Porpoise* is to get hulls which pilots like and can handle easily. In addition, with this modified J4F, a variety of new hull designs can be proved

hydrodynamically at relatively little cost. It saves having to produce a new airplane just to check the performance of a new hull design.

After the Martin hull has been put through its paces, two NACA planing-tail hulls will be investigated. All of these studies are primarily concerned with hydrodynamic qualities, and secondly interested in aerodynamic characteristics. A good aerodynamic design can be achieved in a wind tunnel, but to get a good performer on the water, the hull must be tested in its element, and in fairly large scale.

TO TEST the hull under various conditions, some novel features have been incorporated into the *Petulant Porpoise*. Two ballast tanks are installed in the plane; one forward in the nose just aft of the splice line, and the other approximately underneath the elevators.

These tanks are interconnected by a pipe through which an ethylene glycol mixture can be pumped from one to the other in order to obtain different cg conditions. From 18 to 34 percent M.A.C. can be achieved by using this ballast system alone. If additional range is desired lead ballast will be used supplementally. However, the tanks alone can provide a cg condition that is not desirable for flight. This ballast system is similar to that used in the JRM-2 and the Hughes *Hercules*, and has been used on other naval aircraft during testing. Ethylene glycol has not been used before and is being utilized in the J4F because of its weight properties.

FOR STICK-FIXED and stick-free stability studies, the control yoke can be locked in various positions through the use of a ratchet-type lock. About 15 pounds pressure will overload the system in case the pilot should desire immediate manual control.

All of the plane's controls are installed above the splice line to facilitate hull replacement. Theoretically the plane could fly without any bottom, though it might prove a bit drafty.

Both the Martin hull and the two planing-tail designs have been developed for speed and rough water performance. The long narrow design will tend to reduce aerodynamic and hydrodynamic drag, and at the same time a longer bodied hull should cut down porpoising—the *bugaboo* of heavy-load and rough water operation—considerably.

The special hulls and the J4F modifications were made by Edo Aircraft Corp. After structural airworthiness tests were completed, the plane was turned over to the NACA who are conducting the research work in cooperation with Patuxent River.



NOTE SPLICE LINE RUNNING AFT TO TAIL JUST ABOVE WATER LINE



WATER LINE IN UNMODIFIED GRUMMAN SHOWS THE MUCH SHORTER HULL



SECOND TOUR PORTRAIT INCLUDES 'COLONNA' AND HIS FELLOW PILOTS UNDER THE TREES AT PALAWAN WITH SKIPPER AND MASCOT, ALL AT EASE

## TWO-OCEAN RAIDERS, VPB 128

PILOTS of Bombing Squadron ONE HUNDRED TWENTY EIGHT, who patrolled the sea lanes of the North Atlantic in 1943 and two years later found themselves on the Borneo-Palawan-Tinian beat, certainly knew by experience the reality of the grim phrase, "global warfare." On VPB-128 and squadrons like it rested the responsibility of keeping enemy submarines at bay, and if, as time marched on to an Allied victory, the sea lanes of the world were dominated by our forces, a fair share of the credit must go to the steady day-by-day patrolling of bomber pilots.



JAY B. YAKELEY

Commissioned on 15 February 1943 at Deland, Florida, under the command of Lt. Cdr. (later Cdr.) Charles L. Westhofen, USN VPB-128 spent its first weeks in mastering the new 4,000-hp PV-1 *Ventura*. On 26 April, the squadron moved to Boca Chica, Florida, for its shakedown cruise and final training in Atlantic Fleet antisubmarine warfare doctrine.

VPB-128 was the first PV-1 squadron flying operationally. On 14 May 1943, a detachment of seven planes took off for Guantanamo Bay, Cuba, for round-the-clock coverage of convoy lanes. By the middle of May, the other five planes of the squadron were assigned to anti-submarine patrol duty out of Floyd Bennett Field where, for four months,

they covered the critically important convoy lanes in and out of New York harbor with day and night patrols.

Routine the patrols were, but essential, and the knowledge that our defense was sure and effective forced the enemy to limit the activities of wolfpacks. Patrol bombers finally swept from the western Atlantic the menace of the U-boat. But it all took time, and occasionally the enemy made us pay a high price.

Early the morning of 7 August 1943, word was received that an enemy submarine had been spotted 300 miles east of Norfolk. Lt. (jg) Frederick C. Cross and his crew were alerted and took off at 0430. Picking the enemy up by radar at a distance of 12 miles, Lt. Cross turned to home in on the target. Coming out of a cloud, the *Ventura* was hit by an AA shell fired by the submarine. One engine was knocked out, and the cockpit was filled with smoke.

Mortally wounded though he was, Lt. Cross made the attack, dropped his depth charges, all near-misses. He then was forced to make a water landing, abandoning the plane with his copilot, Lt. (jg) Thomas J. Aylward, Jr. and radioman James A. Welch. The turret gunner was unable to get out before the plane sank. Lt. Cross died of his

wounds in the water, but the other two were rescued by a PBM.

Upon receiving word at the base that Lt. Cross had been shot down, the executive officer of the squadron, Lt. Joseph M. George, took off. No word was ever heard from him except that he was on station. All search effort proved fruitless. The submarine, although damaged by Lt. Cross' attack and other attacks, probably escaped.

FOUR days later, the squadron went to Quonset Point to be outfitted for the trip to its new base at Reykjavik, Iceland. While on duty there, VPB-128 operated with three British squadrons under the Coastal Command and participated in an eight-day battle with U-boats, which netted seven kills.

On 3 October, *Venturas* piloted by Lt. Robert D. Bonnell and Lt. Claude R. Parent attacked and damaged a surfaced enemy submarine. The next day, Cdr. Westhofen picked up another U-boat, but before he could deliver an attack, the submarine submerged. Employing cat-and-mouse tactics, Cdr. Westhofen left the scene and returned an hour later to surprise the submarine which was sitting on the surface. Before the enemy had time to crash-dive, Cdr. Westhofen attacked.

Despite heavy AA fire from the submarine, he made a low-level attack, dropping three depth charges along the length of the hull. Survivors were seen in the water after the submarine sank.

★ THIS IS the seventh 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).

For this kill, Skipper Westhofen received the DFC.

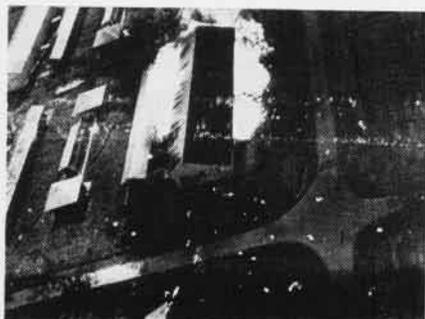
By December 1943, the U-boat strategy had changed so that their lanes were routed out of range of the *Venturas*, so with a "Well Done" from the Coastal Command in its possession, VPB-128 moved to its new base at Puerto Rico via England, French Morocco, Senegal, Liberia, Ascension Island, Brazil, and British Guiana, a wartime Baedeker tour of the Atlantic skyways.

Lt. Thomas Warnagaris chalked up a record in his flight from Liberia to Ascension Island. One-third of the way out, he lost an engine. With bad weather behind him, he decided to rely on the heavy tail wind to cover the final 650 miles to Ascension. He made it and, by so doing, probably broke the record for distance flight in a PV-1 with a single engine.

FOR THE first five months, the squadron remained at Puerto Rico and then headed for Norfolk for reassignment. Squadron pilots were ordered to Floyd Bennett under the command of Lt. Cdr. Jay B. Yakeley, Jr., where they were trained in Pacific Fleet doctrines of anti-submarine warfare, fighter affiliation, night and day torpedo and formation tactics, radar, and low level bombing.

By 13 October, VPB-128 was based at Hawaii with half the squadron ordered to duty at Midway. It was here that Lt. Stanley Miller did what engineers said was impossible in a PV-1. Taking off at Midway, one of his engines failed completely. In the excitement of keeping the airplane right-side-up and in the air, Miller and his copilot neglected to jettison bombs, drop tanks, or loose gear. Design studies indicated that a PV-1 couldn't fly on one engine with such a load, but Miller circled the strip at a very low altitude and settled back on the runway with no damage to anything but the nerves of the crew.

From 29 December 1944 to 27 February 1945, these *Ventura* pilots were stationed at Owi Island, Netherlands East Indies. Operationally their wings were clipped because of a shortage of PV-1's which VPB-128 had to transfer to another squadron. It was



SLAM-BANG! IN ONE DOOR, OUT THE OTHER



NAPALM BOMB HITS MARK IN SERIA, BORNEO

not until 1 March 1945 when they arrived at Samar that they could devote themselves to antisubmarine searches and convoy coverages.

On 18 March, Lt. Joseph F. Dorrington, Lt. Frederick W. Snyder and Lt. Henry T. James spotted two enemy midget submarines in Davao Gulf and attacked them, thereby achieving one kill and a probable. Three days later, another 3-plane division attacked another midget submarine tied up to a wharf at Cebu City. Rocket fire only damaged the sub, so the next day five more planes were ordered to finish the job. Loading them was Lt. Cdr. William Tepuni who made a successful bombing attack, but was shot down by AA gun emplacements. His plane crashed, exploded and burned. There were no survivors. Lt. George A. Hall made a second bombing run a few seconds later to complete the destruction of the submarine with three direct hits.

On 29 March, the squadron departed for Tacloban, Leyte, P. I. to fly the same type of search missions until it departed for Palawan 5 April. The next day, VPB-128 opened operations there. Once again the missions were primarily searches, but this time the targets were enemy ships—Japanese freighters, small transports and coastal vessels. On 16 April, Lt. Paul T. Cypret took off on a routine search from which he and his crew failed to return. Later reports confirmed that the plane had been shot down over Borneo. There were no survivors.

From 28 April on, the squadron began flying only offensive strike missions against enemy land targets, principally in North Borneo, working under the operational control of the Thirteenth Fighter Command, Army Air Forces. The *Venturas* usually carried five bow guns, two 1,000-lb. Napalm fire bombs, three 250-lb. G. P. bombs, eight rockets and a full load of ammunition. With that armament, PV-1 proved itself one of the most effective and deadly medium bombers in action. The load was varied in accordance with the targets which were chosen with a view to cutting enemy supply lines and destroying depots which would have

supported the Japanese forces at Tarakan and Brunei Bay.

IN COMMENDING VPB-128 and its skipper, Cdr. Yakeley, Brig. Gen. E. W. Barnes, commanding officer of the Fighter Command, wrote, "During the period in question [6 April to June 1945], VPB-128 was called upon to perform . . . offensive combat missions of a type with which its personnel had not had previous experience. These missions involved the combined use of Napalm fire bombs, demolition bombs, rockets and machine guns on the same strike. This is the first time, to my knowledge, that this combination has been successfully employed. You and your personnel exhibited the utmost eagerness to learn, master and adopt new techniques, the resulting tactical success of which is already a matter of official record. The spirit and performance displayed by you and your unit, merit special credit to you and the members of your command." The expression of such appreciation on the part of the Army Air Force was very gratifying.

Toward the end of June, when U. S. and Australian forces had liberated most of North Borneo, VPB-128 was ordered to Tinian. Officers of Fleet Air Wing TEN as well as squadrons remaining on Palawan bought out the bar at the Officers' Club on 22 June to give 128 a bang-up farewell party. The following day the first group of planes left for the Marianas where, until the close of the war, they flew negative "white-cap" patrols.

With the cessation of hostilities, the squadron assisted in the surrenders of the minor islands of the Marianas. At Rota, just south of Tinian, planes of the squadron carried strike armament for the first time since leaving Borneo. The landings were uneventful, and the ammunition was returned to Tinian.

From the shores of Iceland and Greenland to the Philippines and Borneo, VPB-128 had proved its will to victory, sustained long monotonous hours of patrol and delivered attacks with power. It takes that kind of discipline and daring to win a war, and VPB-128 had what it took.



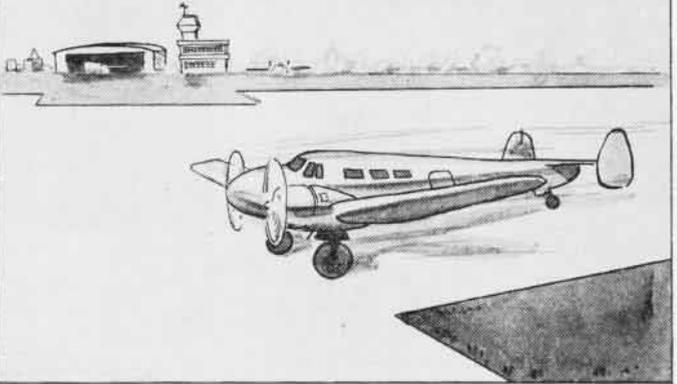
'AND THERE I WAS!' PILOT TELLS TWO CREWS

SPOILER HAS JUST FINISHED SOME REPAIRS ON THE STATION'S NEWEST JRB.

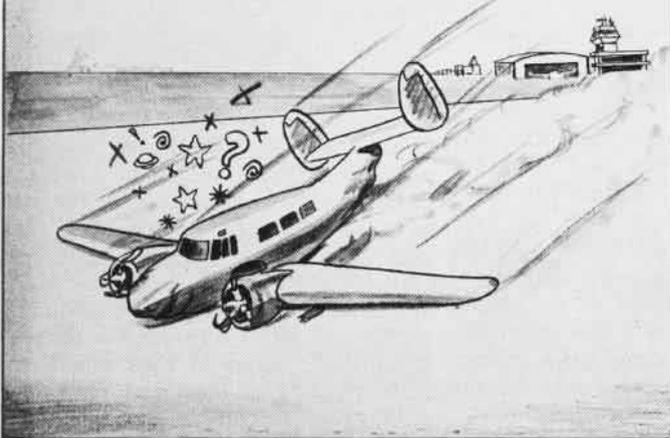
SHE'S ALL READY FOR THE ADMIRAL.



THE ADMIRAL IS CLEARED FOR TAKE-OFF AND POURS ON THE COAL



BUT AFTER THE FIRST 500 FEET THE WHEELS COLLAPSE.



JUST A LITTLE MATTER OF INSTALLING A SWITCH UPSIDE-DOWN.

SO! YOU INSTALLED THE LANDING GEAR SWITCH IN REVERSE.



## MAINTENANCE BONER

SPOILER always hated to look anything up in the *Erection and Maintenance Manual*. It was such a big, fat book, and since he didn't use it much, he had trouble finding the right page. Besides, maybe the Chief would come around pretty soon and see if he had gotten the wires on the right terminals.

Unfortunately no one inspected Spoiler's handiwork, and the result was increased work for the A&R Shop—another JRB in for a major overhaul.

Maintenance errors do not account for a very large percentage of all aircraft accidents, but they are causing a few serious accidents each month. Evidence that Spoiler has a few of his relatives scattered around the service can be found in the case histories below:

*Case 1.* JRB-4 had just come out of A&R where the landing gear had been assembled, operated, inspected, and passed. Some additional work was required in the cockpit which necessitated removal of the instrument panel. Upon reassembly of the panel the landing gear switch was installed upside down. In this condition the wheels would retract with the switch in the "wheels-down" position as soon as the weight of the plane was taken off the oleo struts. The personnel who accomplished the above work did not request an inspection and none was made. The landing gear folded at the start of the take-off run and the JRB went back into A&R for repairs without ever getting in the air.

*Case 2.* An F4U-4 pilot started his engine and gave the "pull chocks" signal to his plane captain. As the plane began its forward motion, the starboard landing gear retracted. The plane settled to the runway with serious damage to the

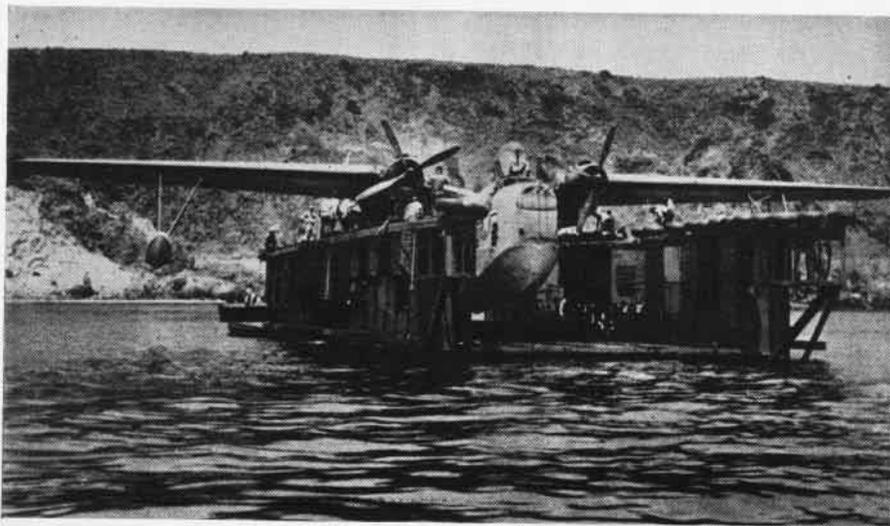
propeller and sudden stoppage to the engine. Inspection immediately after the accident disclosed that the hydraulic lines to the landing gear actuating cylinder had been reversed when the cylinder was installed just prior to the flight. The work had been done by a dependable and experienced petty officer, but he was *hurrying* to get the plane ready for a group hop.

*Case 3.* Pilot took off in an SNJ on a routine training flight. After cruising at about 1200 feet for 15 minutes, he noticed that the oil temperature was beginning to rise above the normal reading of about 65°. Almost immediately afterwards a great amount of smoke began to pour out of the engine cowlings, particularly on the starboard side. A film of oil obscured the cockpit canopy. By the time the pilot had reversed his course to return to the field, the oil-in-temperature was near 90°.

The amount of smoke and oil became so bad that he decided to make an emergency landing while he still had power. A good wheels-up landing was made in a hay field close to the main highway, and the pilot escaped without injury. The plane required a new engine, propeller, air-scoop, and repairs to the flaps and center section of the wing. During salvage operations it was discovered that the plug to the oil drain hole on the number two cylinder was missing. Some one had failed to check this plug for sufficient tightness prior to the flight.

*Case 4.* F8F pilot made a normal carrier take-off, but in a minute later the cockpit canopy blew off from the two-thirds open position. The canopy struck the pilot, causing cuts and bruises, and also damaged the horizontal stabilizer. Fortunately the pilot made a successful carrier landing. It was discovered that the plane captain had failed to secure the canopy emergency release pin on the port side when he replaced the canopy after cleaning the aircraft.

# TECHNICALLY SPEAKING



DRYDOCK RAISED TO FULL HEIGHT PROVIDES FACILITIES FOR MAINTENANCE WORK ON SEAPLANE

## FLOATING SEAPLANE DRYDOCK

**C**HAMPIONS of the seaplane over the landplane, in the constantly recurring arguments over the respective merits of each type craft, welcome the news that BU DOCKS, at the request of BUAER, is making progress in the development of floating seaplane drydocks. The first experimental drydock has been tested successfully on the West Coast.

This drydock is capable of handling seaplanes as large as the JRM, and preliminary evaluation with a PBM indicates that time required compares favorably with hoisting operations. Although many improvements will be necessary before this type of drydock will be suitable for service, improved versions should alleviate the difficulties of seaplane maintenance on the water.

Developments such as this, tending to improve the overall efficiency of the seaplane, will help put it on a par with the landplane of comparable size. Taking into consideration the problems of airport congestion, runway costs and strengths, and the inevitable trend toward larger aircraft, the future of the seaplane looks relatively bright. The runway problem in itself is an important pro-seaplane argument. Runways for large landplanes are not laid down overnight; whereas nature furnishes the seaplane's runway impervious to enemy bombs.

Admittedly, there are a number of

objections to the seaplane, outstanding among them being:

1. High weight and drag inherent in a seaplane because of configuration.
2. Extra training required of crew members to accomplish water handling.
3. Beaching crews and beaching equipment required.
4. Time required for beaching and mooring operations.
5. Difficulty of performing maintenance work on the water.

The first of these objections is, on many counts, the most formidable, since the efficiency of large seaplanes and landplanes can be thought of in terms of speed and payload, and these factors vary directly with weight and drag. For seaplanes of small or moderate size the additional drag caused by steps, chines, wing tip floats and bulky hull configuration is considerable.

As the seaplane gets larger, its efficiency in terms of speed and payload approaches that of a landplane of the same gross weight. The length-breadth ratio increases, thus reducing the drag problem. The new hull designs, such as the NACA planing tail hull, also contribute much to reduction of drag.

As the comparable landplane becomes larger, however, its alighting gear creates a tremendous weight problem. It is, therefore, conceivable that the seaplane as it grows in size may actually surpass the landplane in efficiency.

Of course, with present handling techniques the position is reversed after the seaplane is landed. While the landplane taxis to the line and is secured in a matter of minutes, the seaplane may have to taxi over long distances and spend considerable time being beached or docked. Here is where objections 2 through 5 come to light. Adequate handling equipment can do much to alleviate these problems.

**O**NE OF the most tedious operations is "making the buoy." If the personnel, time, and degree of skill required for this process can be reduced, a forward step will have been taken. A promising scheme now being developed is that of placing a hook on the bottom of the hull near the step. The seaplane taxis over a submerged cable and the hook engages. The plane then is warped into a dock or into position for beaching.

Since the approach can be made from any direction, except parallel to the cable, and at any reasonable speed, this operation should do much to reduce the time, personnel and degree of skill required of both plane crew and beaching crew. Another method of mooring seaplanes, using the movable seaplane slip, was developed by BU DOCKS at Port Hueneme, California. (See *NA-NEWS*, Jan. 1948, p. 26.)

Performance of adequate maintenance while the seaplane is on the water is difficult and usually cannot be carried further than routine preflight and post-flight checks. Seaplanes of gross weights around 50,000 pounds may be hoisted aboard a tender, a tedious job requiring skilled personnel and optimum conditions. As the seaplane becomes larger and heavier, hoisting becomes impracticable. It is at this point that the floating drydock comes into the picture, bringing maintenance facilities to the seaplane in its natural watery habitat.



PLANE BEING SECURED IN SUBMERGED DRYDOCK

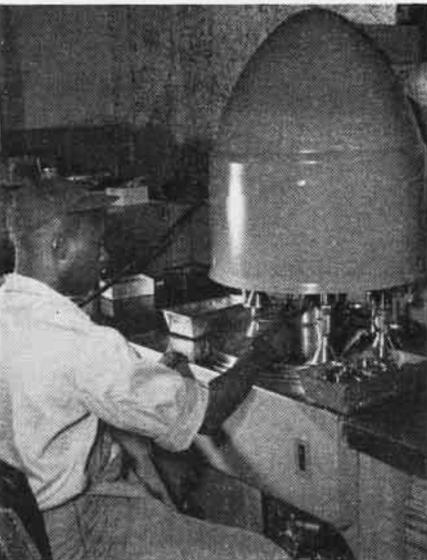
# Keeping the Balls Rolling



**Demagnetization** is necessary first to allow the removal of steel particles



**Bearings** are mechanically agitated in baskets immersed in solvent bath



In rapid spinning warm oil flushing machine, bearings get final cleaning

**B**ALL BEARINGS can be of critical importance when in short supply; witness the concentration of allied bombers sent over German bearing plants during the war. Working on the sound theory that few aeronautical bearings ever wear out because of use—but rather through misapplication, improper preservation or faulty maintenance—the A&R department of NAS SAN DIEGO pioneered in developing a successful process to recondition bearings for further service.

Water, dirt, and deteriorated lubricant are the enemies of long bearing life. Moisture does most harm to idle bearings; deteriorated lubricant can be removed and replaced; dirt, in its various forms, is the chief culprit. The reconditioning process combats these factors, with BUAER *Technical Order No. 87-44* serving as the basic guide.

Following initial demagnetization, the bearings, placed in agitator baskets, are washed in selected solvents to get the interior as clean as possible before even test rotation is permitted. This avoids any further abrasion from foreign particles. Naptha or dry cleaning solvent is used for dirty, greasy, or oily bearings, and a cold carbon removal compound for gummed or carbonized bearings.

In the third step, the bearings are spun rapidly in a current of warm oil to remove residual grease and grease soaps. Development of the rapid spinning warm oil flushing machine at San Diego first permitted reasonably economical reconditioning. Oil under high pressure forces out residues softened by the solvent.

The cleaned bearings then are relubricated with fresh grease forced through under pressure to displace any residues from the previous cleaning operations. Continual screening by sight and handling tests goes on during these steps. After the final inspection, which follows relubrication, the individual

bearing is wrapped and sealed in a pre-labeled foil barrier bag.

Much of the reclamation represents merely replacement of hardened or deteriorated lubricant in bearings otherwise satisfactory. Low temperature grease, AN-G-3a, has been the worst offender. Because of relatively high evaporation rate of the oil in this grease, practically no used control bearings are found in aircraft received in overhaul with grease meeting the low temperature performance requirements.

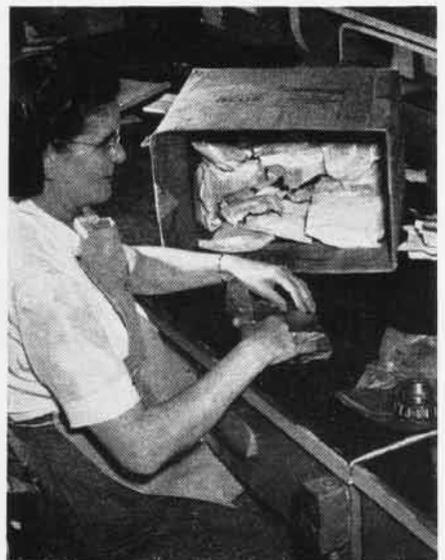
A considerable proportion of the work of the shops also represents rework of new bearings from storage. This is necessary to replace deteriorated lubricant or preservatives or, in certain cases, to relubricate with a prescribed grease other than that of a normally stocked bearing. A recent addition to the process polishes out incipient corrosion or superficial organic preservative stains.

**T**HE ECONOMY of the process is indicated by shop production figures showing that 15 bearings per man-hour are cleaned, relubricated, inspected, and delivered back for reuse. The proportion reclaimed, however, varies widely with types and according to previous misuse. Since the shops receive all bearings removed, without any pre-screening elsewhere, normally between 30 and 50% are found unsatisfactory for further use.

The specialized bearing shops also serve as a central source of information to other shop personnel on proper handling and use of bearings. When there is evidence, for example, of improper assembly, races sprung because of improper tolerances or faulty staking operations, the word gets around. Specialized and centralized handling leads to coordinated effort to insure proper use and storage of bearings and to correct any applications and conditions leading to deterioration.



**Pressure** relubricators force fresh grease into and through clean bearings



**Finally** each bearing is wrapped and sealed in pre-labeled foil barrier bag



BAR MAKES HIGH PROP EASY TO PULL THROUGH

## Bar Aids Prop Pull-Through

MCAS CHERRY POINT—M/Sgt. C. R. Anderson of AES-46, crew chief on a JRF, has designed and built a prop pull-through bar shown in the accompanying photograph.

The bar is made of  $\frac{1}{2}$ " SAE 1025 steel. Its shaft is 40" long, its handle uses up 30" more of the bar and the S-shaped tip another 30". Both the tip and handle have welds. The S and all welds are taped to prevent scratching the propeller. The equipment has worked in an extremely-satisfactory manner for the past two months.

## Canopy Jettisoning Tests

VMF-323 EL TORO—To insure that pilots can easily jettison the F4U canopy in case of a crash landing or bail-out, the squadron's safety officer has made arrangements to have the canopy of each aircraft assigned to the squadron jettisoned a minimum of once each month.

This ground test will insure that no faulty material, such as corroded wires and bent or broken safety pins, is attached to the canopy, that slide rollers are free and so forth.

Only squadron pilots will undertake these jettisoning ground tests. Furthermore each pilot will be required to jettison a canopy of each type, inasmuch as procedure for jettisoning the F4U-4B differs from that used for the F4U-4. Thus each pilot will have a thorough knowledge of the correct method of jettisoning either type should an emergency occur.

▲ **BuAer Comment**—This suggestion should result in familiarizing the pilots with jettisoning procedure and at the same time provide a check of the release mechanism. Great care, however, would have to be exercised in reinstalling to minimize the possibility of inadvertent jettisoning. *BuAer Technical Order No. 106-43*, dated 8 November 1943, and Section X of the *Erection and Maintenance Handbook for F4U-4* airplanes contain data to be used in replacing and maintaining these canopies.

## Marine Pilots Get VF Work

VMF-2, EL TORO—This training squadron has a transitional syllabus to prepare Marine pilots without previous fighter training for entrance into fighter squadrons.

The first phase consists of regular instrument flight training, except blue amber in type, and 25 hours of ground school. The

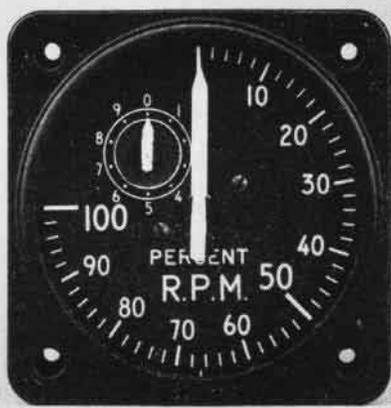
second, a transitional syllabus, includes 20 hours of flight and 25 additional hours of ground school.

The instrument phase not only refreshes the pilot's instrument flying abilities but also familiarizes him with single engine and control stick flying. It gives him an idea of the general flight characteristics of a single engine aircraft and at the same time acquaints him with the sensitivity of the controls.

On completion of the instrument phase, the pilot continues into the transitional syllabus which consists of six flights to familiarize him with acrobatics and fundamentals of formation flying.

## Percent Type Tachometers

Jet plane pilots soon will be reading and setting engine speeds on a percentage basis



QUICK READING, HIGH ACCURACY COMBINED

instead of the old familiar hundreds of RPM. Tachometers calibrated in percent of rated engine speed are scheduled for installation in the F2H, F6U, F9F, and P4M airplanes.

The new percent type tachometer combines the advantage of quick reading offered by a non-sensitive indicator and the high accuracy of a sensitive indicator. This is accomplished by a non-sensitive pointer which sweeps a 270° scale for 100% of rated turbine speed and a sensitive pointer which sweeps a 360° sub-dial for every 10% indication of the main pointer.

The percent type tachometer is the logical answer to the problem of providing a single tachometer suitable for a number of turbo-jet and turboprop engines having maximum speed ratings from 7,000 to 17,500 rpm. The problem has been solved by requiring engine manufacturers to provide a tachometer drive operating at 4,200 rpm when the engine turbine is running at its rated RPM. A new high-speed, two-pole tachometer generator is used to drive the indicator to a 100% indication for 4,200 rpm generator speed.

## Chart Shows Hard Landings

VMF-214, RENDOVA—The amount of material failures involved in any accident often is an important factor to be considered by the Safety Board. To assist in diagnosing this factor, the engineering department devised a chart which tells in a glance the total field carrier landings, carrier landings and hard landings of either type which any one plane has made.

The chart is kept in graph form. For the record of FCL's, our squadron LSO's keep a

log book from which the information is transferred to the chart at the end of each day's practice. For carrier landings, the master log is referred to.

A 100% turnover in aircraft recently simplified inauguration of the chart, but it should not be too difficult a task for any unit to set up. The squadron considers the time and work spent in maintaining the chart well worth the effort.

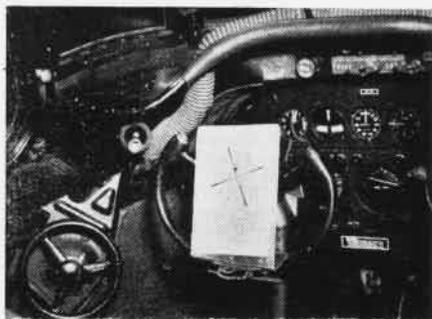
## Clip Board Holds Range Map

VR-4, MOFFETT FIELD—At the request of ComNATS safety council, this squadron designed and manufactured some map holders for use by NATS squadrons for instrument letdowns or use with radio beams.

As the photograph shows, the holders will clamp onto almost anyplace in the cockpit, the steering wheel or instrument panel. This holds the map up where the pilot can have a good view of it, without obstructing his vision too much or forcing him to look down to a map held on his lap.

VMR-152, EL TORO—In order to keep the let-down diagrams available for easy reference a pilot in this squadron roughed out a sketch of a holder that would permit a rapid view of the diagram without obstructing his view of the instrument panel. The metal shop then turned out the device, which can be easily duplicated by any metal worker.

The frame is made of thin sheet aluminum (24 S-T, .032). It is attached to the glare shield by means of a strip of aluminum, shaped to the form of the glare shield coaming (like a large clip), which is riveted to



CLIP BOARD ON WHEEL IN EASY VIEW OF PILOT

the frame. To secure the let-down diagram to the frame a large spring type clip was riveted to the face of the frame.

All RSD's in the squadron have been equipped with this type holder, and pilots report it an excellent aid to instrument flying.

▲ **BuAer Comment**—Either of these devices would solve the problem and should be manufactured locally to suit local needs. Attention is also directed to Device 12-BW, Map Holder, a description of which was given in the January issue of NANews, page 27. This device is readily obtainable through an official request to the Special Devices Center at Sands Point, Long Island, New York.

## Storage Facility Increased

NAF LITCHFIELD PARK—Under an interim permit from War Assets Administration, the Navy has been granted the use of the buildings and grounds of the former Goodyear Aircraft Corporation plant at Litchfield Park, Arizona. These facilities will be used as additional storage space for BUAEER aircraft.

# SUPPLY SUPPORTS MANEUVERS

SERVRON-33, MAG-33—This squadron supplied and maintained a complete Marine Aircraft Group during recent maneuvers at Camp Joseph Pendleton, Oceanside, California. One of the most noteworthy departments was the Group Supply attached to this command. Embarking on LST's at Seal Beach, California, the Supply department carried 1,000,000 pounds of supplies including 30 days' supply of aviation oil and 3 days' supply of aviation gas. Within three hours after hitting the beach the Supply department was issuing, and after 72 hours it was operating full scale.

The important points making this quick functioning possible were the methods used, waterproofing, special and standard boxes, and palletizing of all material. This last point, the prime consideration, was accomplished in the following manner:

1. *Table of Basic Allowance material*—Shelf stock was packed in small special boxes 4" x 4" x 12" which were constructed by this department and packed according to class order. Fourteen of these small boxes were packed in a larger box 14½" x 14½" x 30" which was completely lined with waterproof paper and sealed with liquid adhesive, making the entire box waterproof. Bulk stock was treated in a similar manner as far as possible, but packing of bulk stock was limited mainly by the size and shape of items.

2. *Section B (F4U-4) material*—Treated in the same manner as TBA material except for surfaces; because of their odd shapes and sizes it was necessary to build special containers.

3. *Office files*—Large waterproof boxes, complete with hinged tops and hasps for locking, were constructed for this department by Navy Supply. This facilitated carrying of all cardex files, correspondence files and publications.

4. *Marine Corps Clothing*—Packed by size and item in waterproof boxes 14½" x 14½" x 30". All boxes were constructed with cement or tar coated nails. The tops were secured with screws in order to conserve lumber and to facilitate speedy packing and unpacking.

5. *Sheet Metal*—Special containers were constructed to contain roughly 5,000 pounds. These containers were easily picked up from any side by a fork lift truck. Upon arrival these containers were set up and the metal issued simply by removing one end of the box by unscrewing and extracting the desired sheets.

6. *Aircraft Fabrics*—Special containers were built which allowed mounting the rolls of fabric on a pipe in a horizontal position. Each container had a hinged door which needed only to be raised in order to issue fabric from the rolls.

7. *Lumber*—Packed in stacks of same size and length secured by construction of 2" x 4" girdles around the stack at three points. These girdles were strapped with 1¼" strapping.

8. *Carbon Dioxide, Oxygen, Acetylene*—Bottles were strapped in wooden cradles to pallets. The carbon dioxide and oxygen in a horizontal position and the acetylene vertically.

9. *Aviation Engine Oil*—Four 55-gallon drums were strapped together with 1½" strapping and placed on pallets.

It is worth noting that in palletizing there was not a single broken pallet. Boxes were stacked 18 to 22 to a pallet and strapped with 1¼" strapping.

All material, when packed and palletized, was given a box and pallet number. From these numbers packing lists were compiled and cross referenced, enabling the Supply department to locate any article either by item, stock number, or pallet number. Electrical equipment, (wire, cord, sockets, plugs), camp equipment, Marine Corps property, TBA, Section B, and office equipment were palletized and numbered in series, allowing

the groups to be segregated as they arrived in the unloading area to facilitate making issues in the early stages of the maneuver. Issues of electrical equipment were made three hours after the first pallet arrived in the unloading area.

Because of the numerical grouping, special boxing, and palletizing of materials, the Supply department, consisting of 14 men and 2 officers, had all material assembled and set up in 72 hours and making normal issues.

The Supply department operated the fuel farm for the group, maintaining availability of aviation gasoline and aviation oil. Three refueling trucks were used for issuing 80 octane motor fuel, aviation engine oil and diesel fuel and/or kerosene.

Requirements of F4U-4 parts (Section B) were compiled and estimated upon usage data obtained during the six months preceding the maneuver. These data enabled this department to bring a sufficient quantity of spare parts in instances where the Section B allowance did not authorize sufficient quantities.



## BOOKS

*Twelve O'Clock High!* Beirne Lay, Jr. and Sy Bartlett. Harper, 1948, \$2.75. (A novel credited with having "some of the best writing about air combat to come out of World War II." Based on flying experiences against the Luftwaffe.)

*New Weapons for Air Warfare.* Edited by Joseph C. Boyce. Little, Brown & Co., 1947, \$4. (This volume in the series "Science in World War II" concerns fire-control equipment, proximity fuzes, and guided missiles. The series will cover the work of the Office of Scientific Research and Development.)

*Weapons of World War II.* G. M. Barnes. D. Van Nostrand Co., Inc., 1947, \$7.50.

*Airborne Warfare.* Maj. Gen. James M. Gavin. USA. Infantry Journal Press, Washington, D.C., 1947, \$2.00.

## MAGAZINE ARTICLES

The Defense of the Navy. Cy Caldwell. *Aero Digest*, May 1948, pp. 23-25, 106. ("The Land grab is a thing of the past. Today it's the Air grab, with the seagoing branch of our armed services right on deck to demonstrate the method.")

Progress in Landing Aids at Arcata. A. L. Lewis. *Aero Digest*, May 1948, pp. 40, 41, 118-121, illus.

Why Aircraft Use Anti-Friction Bearings. H. O. Smith. *Aero Digest*, May 1948, pp. 54, 55, 76, 78, 94, illus.

They Call It "Tricon." Part II. Operational Considerations. *Aero Digest*, May 1948, pp. 64, 67, 113-116. (G. E.'s "Triple Coincidence" electronic method of navigation.)

A Navy Airman Speaks Out. Cdr. Allen M. Shinn, USN. *Air Force*, May 1948, pp. 12, 13, 39, 43-45. (Views on unification and the status of naval airmen.)

New Wings for Peace. *Air Force*, May 1948, pp. 20-22. (Aviation Cadet training in peace.)

New Rules Set for Aircraft Procurement. *Aviation Week*, May 3, 1948, pp. 9, 10. (Government regulations to take the "plus" out of cost-plus-fixed-fee contracts.)

Jet Blades Tested in Outdoor Pit. *Aviation Week*, May 3, 1948, p. 18. (G. E. obtains experimental data on jet rotorcraft design.)

First Turboprop Trainer Nears Completion. *Aviation Week*, May 3, 1948, pp. 21-26, illus. (Britain's three-place *Athena*.)

Navy Expanding Plane Strength to 14,500. Robert Hotz. *Aviation Week*, May 10, 1948, pp. 11, 12.

*Skystreak* Crash. *Aviation Week*, May 10, 1948, p. 12.

Three Rules to Guide Test Pilots. Lawrence A. Clousing. *Aviation Week*, May 10, 1948, pp. 20-24. NACA safety principles for high speed flight.)

Instrumentation for Engine Testing. *Aviation Week*, May 10, 1948, pp. 27, 28.

World's Great Transport System. Robert Hotz. *Aviation Week*, May 17, 1948, pp. 11, 12. (Summary of MATS operations.)

*Phantoms* Join the Atlantic Fleet. Robert McLarren. *Aviation Week*, May 17, 1948, p. 13.

Aviation's Race Against Time. Brig. Gen. A. A. Kessler, Jr., USAF. *Flying*, June 1948, pp. 13, 70, 71.

If War Came Next Week. *Flying*, June 1948, pp. 14, 15, 60, 62, illus. (Evaluation of U. S. military air power.)

Russia Steals the *Superfort*. Kurt Rand. *Flying*, June 1948, pp. 28, 29, 74-76, illus.

The Last Days of the *Yamato*. Bertram Vogel. *Marine Corps Gazette*, pp. 15-19.

*Akagi*, Famous Japanese Carrier. Walton L. Robinson. *U. S. Naval Institute Proceedings*, May 1948, pp. 579-595, illus.

One-way Mission. Col. F. X. Purcell, Jr., USAF. *Skycraps*, June 1948, pp. 17-19, 44, 56.

Fighting *Fury*. Al Conover. *Skycraps*, June 1948, pp. 28, 29, 50. (Test pilot evaluates the FJ-1.)



CRANING NECKS GREET FJ SHOW AT SAN DIEGO

## Furies Highlight Air Show

NAS SAN DIEGO—The station held open house in observance of "Fill the Fleet" week, welcoming 10,500 visitors aboard in one day to see the naval aircraft and displays of equipment from various departments of the station.

The "show" included periodic parachute drops of cargo, prearranged exhibition flights of FJ-1 jets by VF-5-A and a display of 16 different naval aircraft. The crowd displayed intense interest in the *Furies*. High note of the day occurred when Lt. Cdr. John J. Magda piloted his FJ over the station, just 2 hours, 12 minutes and 54 seconds after taking off from Seattle.

Of further interest was the arrival from Los Alamitos of 20 *Hellcats* from VF-54-L, piloted by Naval Reserve aviators. On departure, the 20 planes led by Lt. Cdr. Overland, made an impressive low pass over the field in perfect formation, well attesting to the high standards of flight proficiency being maintained by Reserve squadrons.



MECHANIC GILBERT PERMANN ADJUSTS ENGINE



HOWARD DAVIS WORKS IN OVERHAUL DIVISION



VITO VIOLA DOES PRECISION JOB AT ALAMEDA

## ALAMEDA SETS RECORD IN HIRING DISABLED VETS

SETTING a record for military establishments as well as for many private industrial plants, NAS ALAMEDA is currently employing 500 veterans who were disabled in the service of their country. This is slightly more than six per cent of the 7902 civilian station employees, of whom 4157 men and 71 women are veterans.

Many of these disabled veterans are blind, some walk on artificial legs or use hooks for hands, and some suffer from recurrent malaria. Yet with proper placement and understanding on the part of military and civilian foremen, these veterans are doing a fine job all along the line.

Take, for example, Howard Davis, who is employed in the overhaul division. A member of Col. Carlson's famed Raider Marine Battalion, Davis was inching along past the bodies of his dead companions at Tarawa, hurling hand grenades at the enemy's sea wall, when "something jostled him" and knocked him flat. He regained his feet, confused because the sun no longer shone. A bullet had crashed through his temples, neatly clipping off the optic nerves. Yet despite his blindness, Davis has recently been awarded a prize for developing a throttle valve machining tool for carburetors.

Then there is Gilbert R. Permann, one of the best automotive mechanics at Alameda. A Zero dropped its deadly eggs on the Sabine way back in 1943. Flaming chunks of steel hurtled in all directions. One struck Permann below the knee. Gangrene set in and he was sent stateside for an amputation. "If I walk today," Permann says, "it's thanks

to a baby specialist from Oakland Naval Hospital, who performed seven operations on my leg."

Another Navy veteran, Wayne Lawton, had a leg pierced by shrapnel and wounds of the chest as a result of a Kamikaze suicide plane. He was one of the 100 survivors (out of 300 men aboard) of the *Luce*, which was sunk when two Kamikaze planes crash dived onto its deck. Despite his injuries, Lawton is one of the most active members of the electronics division.

A WELL-KNOWN figure at Alameda is Wilfred H. Bethke, who has been a chauffeur at the station for four years. He was signalman aboard the *Aaron Ward* (for which his three-year-



WAYNE LAWTON CHECKS ELECTRONIC GEAR

old son is named) during her death plunge off Guadalcanal in 1943. Bethke suffered a triple disability. He survived a deck raid of four 500-pound bombs, played hide and seek with additional bombs while floundering around in South Pacific waters and then contracted a first-class case of recurrent malaria.

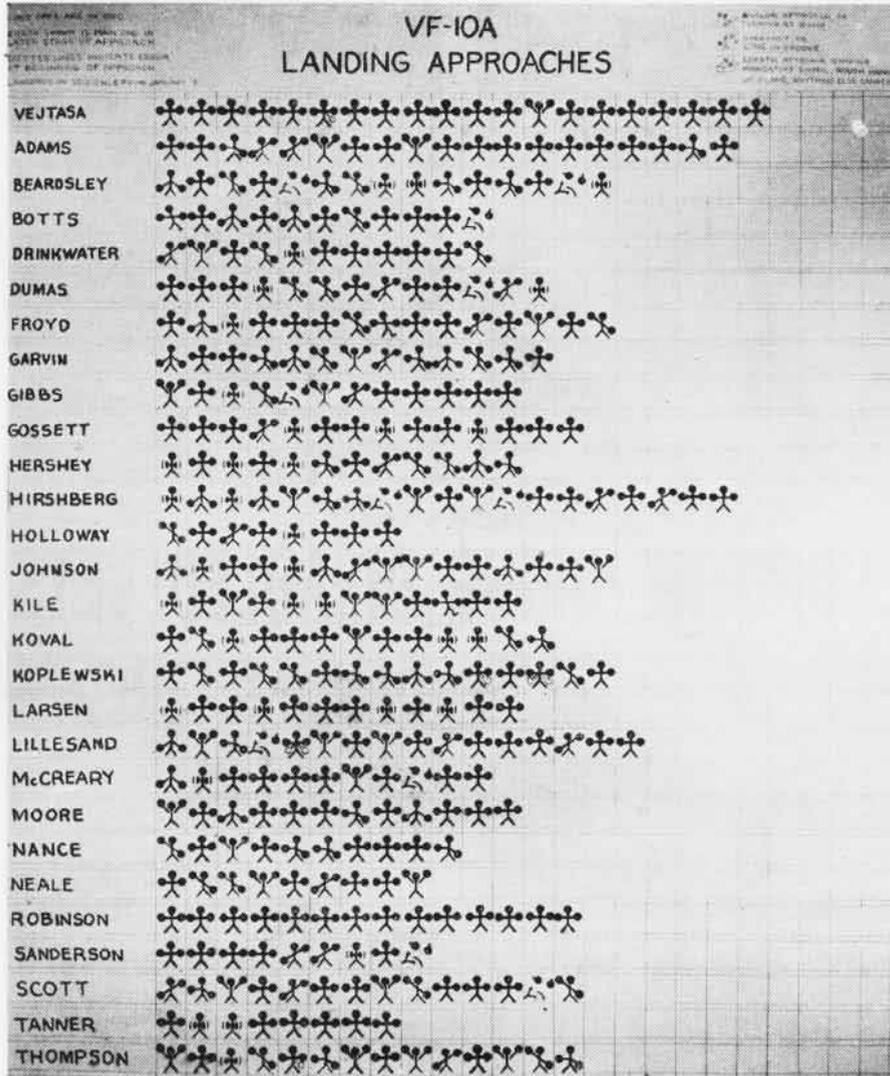
Despite the loss of both legs, Vito Viola manages not only to do first-class work on his job, but rides a bicycle, drives his own car and likes to dance. He was seriously wounded, while fighting strong German opposition in the vicinity of Luxembourg, when an enemy mortar shell exploded.

Another employee in the assembly and repair department is Henry Doung, a rifle-packing veteran who landed with the 5th Marine Detachment on Iwo Jima in 1945 to establish a supply base for the Navy. Murderous gunfire from Mount Suribachi struck Doung in the back as he inched his way forward.

A helper-general at Alameda, Amelio E. Rodriguez, had two narrow escapes from death. He suffered severe injuries of both ear drums when a German aerial bomb exploded near his gun position during the battle of Casablanca. Released from the hospital, he promptly was knocked out of service again when a German 105 mortar shell exploded and showered him with steel fragments.

Allen C. Copeland, who lost his left eye when the enemy rained artillery fire upon his division in Sicily, is also typical of the many disabled veterans at the station. According to the foreman of the refrigeration department, where he has been employed for two years, Copeland is one of the best men on the job.

# RED WAVE-OFF



HIGH, LOW, THREE-POINT OR A WAVE-OFF, VF-10-A CARRIER LANDING TECHNIQUES SHOW UP HERE

Tired of the perpetual verbal blasts from the landing signal officer day after day concerning repeated mistakes made by pilots of VF-10-A, the assistant training officer of this squadron, Ens. J. T. Gibbs, devised the landing approach chart shown above. This chart mercilessly bares the errors made by each pilot on each carrier approach.

Posted on the most conspicuous bulletin board in the squadron ready room, the chart, laid out on 23 x 27 inch graph paper, divulges embarrassing information guaranteed to humble the most capricious pilot who dares fly a careless or wanton carrier pass. As noted at the top of the chart, the wave-offs are in red, while the landings are a contrasting green.

To further explain the chart, the record of Ens. Gibbs may be used as an example. On his first pass, he was high but got aboard. His second was a "Roger" pass, but it was put in red be-

cause he was waved off for a foul deck. Third pass—a wave-off for being too slow. Fourth, he got aboard but was turning badly at the ramp. Fifth, he got aboard on a dangerous pass; he was settling badly at the ramp and the LSO had to cut him in. Sixth was a high wave-off. From then on he was in the groove.

The chart is very advantageous from an educational standpoint, inasmuch as it shows a definite trend of pilot technique, which a pilot may observe and then, if necessary, concentrate on correcting. For example, Ens. Kile has a tendency to be high and slow, Lt. Larsen tends to be slow and Lt. (jg) Robinson's passes tend to be agreeably monotonous.

Pilots in the squadron feel that this constructive criticism is tactfully yet sternly placed before them for their own benefit. The record is up for all to see and much benefit accrues from the idea.

## F6U Gets Jet Augmentation Solar Afterburner Gives Extra Thrust

Back in the horse and buggy days a balky steed was sometimes moved by building a fire in the vicinity of his tail. The system has seen some improvement. To gain additional speed from the Chance Vought *Pirate* a fire is built in the tail. Technically known as an "afterburner," the extra fire in the tail of the F6U gives the plane some 30 to 50 percent additional thrust depending upon speed and altitude.

In simplest terms, the afterburner is just an extension of the tailpipe into which fuel is injected and ignited (NANEWS, SEPT. 1947). Enough unburned oxygen gets through the jet turbine and mixes with the exhaust gasses to permit combustion in the extended tailpipe. This burning takes place behind the critical turbine blades where high temperatures can exist without damaging moving parts. The afterburner is not particularly efficient and will not be used except at times when large thrust increments are desirable. When needed, power is much more important than economy.

Designed and built by the Solar Aircraft Company of San Diego, the F6U afterburner will be a permanent addition on all production models of the *Pirate*. Adding some eight feet to the tailpipe radically changes the appearance of the aircraft.

The first flight made with afterburner operating was made in early April on the XF6U-1. The afterburner started



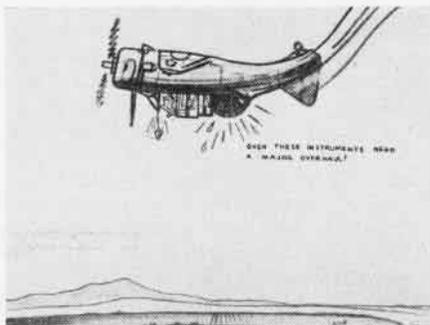
F6U AT TOP HAS TAILPIPE AFTERBURNER ADDED

easily and operated satisfactorily at 12,000 feet at 345 mph.

At 12,000 feet with the 24C operating at 10,500 rpm—approximately 45% power—and no afterburning indicated airspeed was 345 mph. At same altitude and power conditions, afterburner was turned on and operated at fuel flow of 4,000 #/hr. IAS after 3½ minutes of afterburning was 440 mph.

# Plumb Loco

The following communication from Fighting Squadron Three Baker recommends a quick fix for attitude gyros. The suggestion of this ingenious, simple, and inexpensive device, submitted by Ens. Edward M. Porter, Jr., may bolster the morale of personnel experiencing difficulties with gyro operation.



VF-3B, NORFOLK—In view of the unreliability of the present attitude gyro, coupled with the occasional sticking of the turn and bank indicator, the Instrument Flight Board has been making extensive tests on a quick fix in lieu of receiving the product installed in F-100.

After much thought and experimentation, this board has evolved a relatively simple fix both from the operating and maintenance standpoint. The materials are economical and few: (a) bolt (1); (b) twine, cotton (1-foot length); (c) tape, masking (3-inch length).

In operation the bolt is attached to one end of the twine and the masking tape to the other. The taped end of the line is then affixed to the gunsight crash pad, suspending the bolt in the middle of the cockpit.

Interpretation of the attitude of the aircraft with this instrument is simple if the principle of the plumb bob is kept in mind:

(a) *Left bank*—Bolt in left side of cockpit  
(b) *Right bank*—Bolt in right side of cockpit

(c) *Dive*—Bolt forward against instrument panel.

(d) *Climb*—Bolt back in pilot's lap

(e) *Bolt hanging upward*—You are on your back!

The Instrument Flight Board is now conducting flight tests of the subject fix. One problem encountered is the vibration of the aircraft and resultant "swaying" of the instrument. It can, however, be caged easily by holding the instrument steady with the hand. This gizmo will save the Navy thousands of dollars.

## Good Results from Exercise

SMS-33, EL TORO—One worthwhile result of this service squadron's participation in the March maneuvers of MAG-33 at Camp Pendleton was the discovery that some supposedly-complete crates of equipment were incomplete.

This equipment had been in storage and came to the squadron ready for shipment. Had it gone into combat with such equipment

where the supply lines were long, it would have taken five or six months to replace the missing parts, and the machines would have been inoperative to repair needed aircraft.

The engineering officer has placed on each piece of machinery a log. This log will give him an idea of how much it is used and for what purposes. The data can be compiled at the finish of the maneuver in suggestions for change to the TBA and necessary spare parts for machines that are liable to wear out. The log also gives an estimate for life of a machine before it has to be replaced.

## Tow Bar Aids Plane Handler

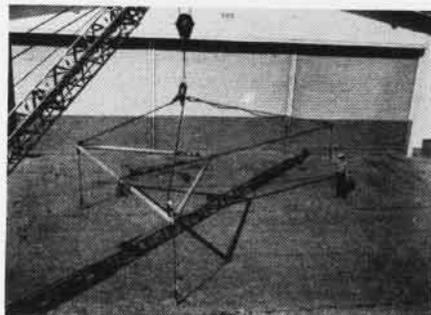
VMSS-12, EL TORO—Four of the new tow bars, forward and tail, for carrier aircraft were received recently by this service squadron. Due to the light weight and quick adaptability to different type aircraft, these tow bars have rapidly replaced the various old types which were required for different types of aircraft handled by the squadron.

With the new tow bar, aircraft in the hangar and around the area are handled faster and more efficiently with a consequent saving in man-hours. The bar is NAF, drawing 601634, Stock # R89-B-104300.

## 'Bat' Squadron Garners Hits

VP-HL-13, PACIFIC—During April, this squadron's long period of waiting to become an operating *Bat* squadron came to an end, and our training in theory and maintenance of the guided missile began to bear fruit when the executive officer dropped the first *Bat*.

His target was a pontoon barge with 20' corner reflector mounted on it for the missile to home on. The drop would have been a direct hit on any target of sufficient size to be of military consequence. Two other drops were made later with equally good results. On the last drop, the corner reflector itself was in need of extensive repairs.



NAS San Diego lays claim to being the only naval aviation activity having a sling capable of handling an R5D. Made by A&R, it is based on plans by Douglas Aircraft and is available to naval and other military activities desiring its use.

## Eyeshade Gets New Version

VMP-354, CHERRY POINT—After reading the article on blind flying goggles from VF-4-A, Quonset Point, in the March issue of NANEWS, this squadron decided to try out the idea presented.

It was found, however, that while the eyeshade arrangement was suitable for single-engine aircraft, a more complete coverage was



BLIND FLYING GEAR AS MODIFIED BY MARINES

needed for flying twin-engine airplanes.

Sergeant B. W. Logan, squadron parachute rigger, succeeded in designing a more efficient covering to be used in most types of twin-engine planes. It consists of the blue simulated blind flying goggles which give more coverage and do not have a tendency to "fog" when a pilot is sweating out the instruments. A piece of sponge rubber is cut to fit the curve and then is sewed on the plexiglas. This gives protection to the pilot's forehead. The other edges are taped to strengthen them and prevent cracking. An adjustable elastic band is fitted by snaps to the eyeshade, making it fit snugly and yet be adjustable to prevent a pilot from getting a dull headache.

This shade has been found to be very suitable for twin-engine work, as it allows a headset to be worn comfortably and yet gives the coverage needed on the sides for good instrument work.

## Drill Idea Cuts Accidents

NAS NORFOLK—An A&R employee designed a self-ejecting drill chuck key to eliminate injuries caused by failure to remove the chuck key prior to starting power-operated drills.

Shop tests proved the key safe, practicable and a contributing factor to fewer accidents. It is a relatively simple tool assembly and no difficulties have been encountered in modifying the conventional chuck keys.

The modifications require manufacture of a plunger or shaft, a coil spring, and drilling of a conventional chuck key. When assembled, the working parts are completely enclosed.

(Developed by W. C. McWilliams)

▲ *BuAer Comment*—Several injuries have been known to occur by leaving the chuck key in place. This idea is certainly a workable and inexpensive solution to the problem. Mr. McWilliams should be commended.

VR-8, PACIFIC—The Pacific war apparently isn't over yet. A large Japanese floating mine was sighted almost on the shore of Johnston Island and was exploded by Marine gunfire. Judging from the explosion, the island would have rocked and rolled if the mine had touched shore and been detonated.



# SUPPLY NEWS

FROM ASO AND SUPPLY DIVISION BUAER

## Aircraft Provisioning Data

The Airframes Provisioning Team has adopted a new form to be used at provisioning meetings. It is believed that this new form considerably improves the work of the team. Since the provisioning meeting is the best assembly of knowledge for a new aircraft, it was decided that as items were coded, a listing of all "P" and "P1" items would be made. An item would be broken down as to whether it was maintenance, overhaul, or both. Next, determination would be made as to the feasibility of including the item on Section B allowance together with tentative quantities allowed. The next step would be to decide if the item were salvageable or non-salvageable.

The information outlined above helps considerably in determining the quantity of each item that will be selected for each B or C list and for the D list. It is believed that through the use of this form the airframes provisioning has been accomplished more completely, and the information desired has been obtained in a more uniform manner. Furthermore, the data are more readily transcribed by a typist.

### PRE-PROVISIONING

As soon as a letter of intent or contract is placed with the contractor, a skeleton team is sent to the plant to select the larger, more expensive assemblies, often before the engineering drawings are completed. Consequently, some of the items cannot be fully identified by complete drawing numbers, nor can overhaul bits and pieces be selected at this time.

This pre-provisioned initial spares order enables the contractor to schedule the production of major components needed as spares at the same time he schedules the quantity need for his airplane final assembly line. This facilitates economical manufacture of those major component spares and their concurrent delivery with the airplanes.

### PROVISIONING

Formal provisioning usually starts about three to six months before the initial delivery of the aircraft under contract, when the contractor has completed engineering drawings and a maintenance parts breakdown list of spares of maintenance and overhaul significance.

This provisioning is divided into two parts. First, the source-of-supply coding team, which usually consists of two or three representatives from BUAER Maintenance, a like number from the Fleet and one ASO technical adviser, performs the functions described in paragraph one above, which is in general agreement with BUAER ACL #128-44 and subsequent directives. The second part is the quantity provisioning performed at ASO. This meeting is far more inclusive in attendance, comprising the coding team, BUAER representatives, Fleet and

Field representatives, and ASO representatives.

ASO provides three types of representation: technical, statistical, and operational. The technical representation collaborates with BUAER representatives and determines classification and identification matters.

The statistical representation attends in a consultant capacity to interpret and explain the effect of usage data on the material being selected. A by-product results in the establishment of complete and accurate allowance list data.

The operational or stock control representatives are by far the most numerous, but are present only when their particular category of material is under discussion. Thus at ASO, where the pertinent data are gathered and the experienced personnel are available, the amount of each item required to support the new plane is determined. This greatly increases the amount of reliable data available for use by the provisioning team in arriving at decisions. It is no longer necessary to rely on memory, as issue and usage records are immediately available and are consulted.

### RE-PROVISIONING

The last step, re-provisioning, occurs when BUAER increases or cuts back the order for the particular airplane model, or when an order is placed for an airplane not more than 50% different from the basic model, or when plans for employment of the model are radically changed to result in either a major increase or a major cutback in the quantity of spares required. This revision action is instituted through organized teams whenever it is deemed necessary in the judgment of ASO, the stock controlling activity.

### ADVANTAGES OF THE SYSTEM

This new system, while not a cure-all for provisioning ills, presents certain distinct advantages and improvements. It provides a better source of supply coding and better initial quantity determinations through fuller utilization of issue and usage data accumulated for a comparable model. The system allows full representation and use of the knowledge and experience of the personnel of the Stock Control Units concerned with the various categories of material when quantity provisioning is effected in ASO. The cost of provisioning due to travel, subsistence, and other expenses, is kept to a minimum.

### AID FROM FIELD AND FLEET

One of the major aids in making the system successful is Fleet and Field representation. The experience and judgment of these men who work intimately with the materials is a necessary aid to proper provisioning. Their knowledge of material is essential for balancing the statistical data when interpretation is required. Field commands and air stations should be certain that such representation is made at provisioning meet-

ings when requested, to assure that the best possible provisioning results. It is also desired that the same group attend each meeting so that experience gained at previous meetings may be utilized.

## Electric Relay Spare Parts

Inasmuch as General Electric cutout, R86-GE-3GTR2C1A, is installed in most aircraft and General Electric will not return to production of this relay or spare parts, BUAER has advised ASO that steps will be taken to obtain a suitable replacement. When the substitute has been determined, a service change for installing the new cutout will be issued.

Parts used on the cutout are critical and cannot be procured from another source. Therefore cannibalization, salvage, or local manufacture will have to suffice for certain spare parts not available in the naval service to maintain this relay.

Supply activities should ration the General Electric relay and spare parts accordingly.

## Trailer Carries Oil Pump

VMF-323, EL TORO—When MAG-33 moved to Camp Pendleton for maneuvers in February, it experienced one of the well-remembered wartime problems, shortage of equipment.

The first serious problem encountered by VMF-323 line maintenance crews was lack of oil trucks. Instead of trucks, each squadron had been issued two hand fuel transfer pumps and two gasoline transfer pumps. Both were mounted on oil drums and tried, but neither was sufficiently heavy to pump the heavy oil demanded by aircraft.

The only apparent solution was to pour the oil from the drums to buckets and then from the buckets into the aircraft. This would, of course, have been a slow, tedious job, would have meant spillage, a lot of extra work keeping the planes clean and would have gotten dust and dirt into the oil during transfer.

The crew solved the problem by a quarter-ton jeep trailer, with a 50-gallon drum of oil. It installed an alemite transfer pump, model 6722, atop it. A 20-foot section of garden hose was attached to the pump nozzle and the result was a satisfactory oil pump that satisfied all concerned.

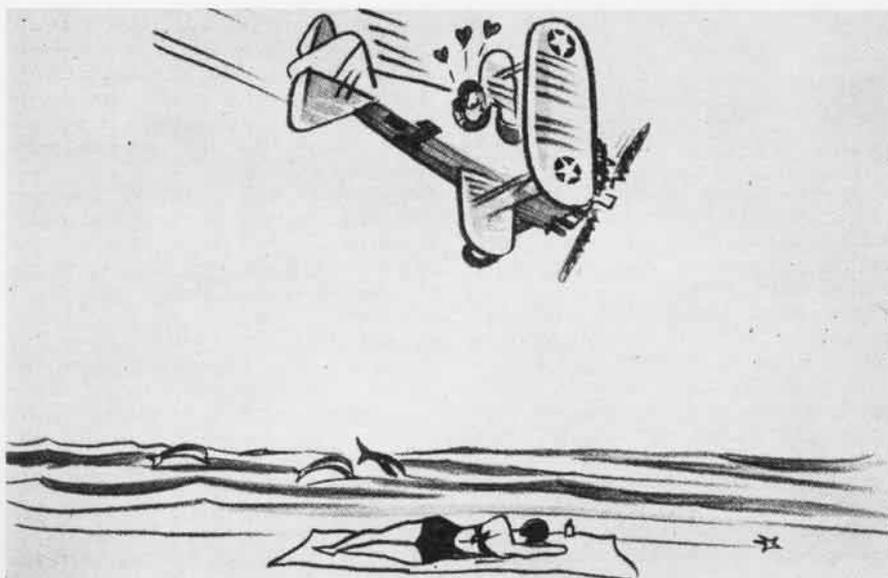


HANDY TRAILER DISPENSES OIL, AIR FOR TIRES

After the oil pump installation was complete, the crew found there still was lots of room left in the trailer, so it mounted an air compressor alongside the drum. This made it possible to service plane tires at the same time it was getting oil. The booster pump jumps air pressure from 150 lbs. to 3,000 lbs. and makes it possible to service aircraft struts another nice feature of the rig.

# AVIATION ORDNANCE

INQUIRIES SHOULD BE ADDRESSED TO THE CHIEF OF BUREAU OF ORDNANCE



EXCELLENT VISIBILITY AND A WELL-DEFINED TARGET

## Strafing from High Altitude

The delivery of an attack from the highest altitude consistent with maximum target damage is already a basic procedure in aircraft squadron tactics. With the increased efficiency of anti-aircraft fire, it behooves attacking planes to deliver their offensive punch from the safest position available and that position is rapidly approaching the stratosphere. With this in mind, it is not surprising that some interest has been evinced in strafing from high altitude.

The Bureau of Ordnance has established a project at the Naval Aviation Ordnance Test Station, Chincoteague, Virginia, to investigate the effect of strafing from altitudes of 15,000 to 35,000 feet, especially in regard to the effect of standard and parallel boresight patterns. This project is active at the present time and many interesting results and problems have appeared.

The high winds at altitudes are the foremost problem so far encountered. Computing gunsights that will compensate for this wind effect are a possibility but the present procedure consists of the pilot doing all computation involved. The other major difficulty is that the project requires good to excellent visibility and a well-defined target. Both of these problems are capable of solution with proper fire control equipment and the main idea under test at the moment is whether or not acceptable dispersion will be achieved.

To date, good results have been obtained at altitudes from 8,000 to 18,000 feet with guns fixed in a parallel boresight arrangement. It is planned to carry the test to the maximum obtainable altitude and then repeat with a standard boresight installation. Runs are made on a beach target and results obtained by a rake crew on the ground. Following each run, the ground crew measures the pattern and rubs out the bullet marks in

the sand. No difficulty has been found in hitting the target once proper allowance for wind is established. The dispersion in deflection appears to vary only a negligible amount with increased altitude.

It will be interesting to see what will happen when the guns are boresighted standard. There is some evidence that the dispersion in deflection will approach a maximum and increase no more in spite of increase in firing altitude. Whether or not this will be true and whether or not this maximum remains to be seen. At any rate, the highly effective art of strafing is in the process of being moved upstairs.

## Bomb Fuze Data Indicator

The Bureau of Ordnance has developed a handy bomb fuze information indicator for use of aviation ordnance personnel. This device, of restricted classification, is identified as "Bomb Fuzes, Information Chart, NavOrd SK 147043." It is of plastic construction with a central disc which shows through appropriate windows the mark and modification of the fuzes, the arming distance, the kind and amount of delay incorporated, and the service bombs with which the given fuze may be used.

The fuzes and bombs shown on this indicator are standard service items carried in stock by the Bureau of Ordnance for Navy use. The information given applies to the technical features of the material such as: fuze type, fuze characteristics, companion fuzes, and bombs to which applicable. The data were assembled in this form for the convenience of design personnel and those concerned with procurement and supply of bombs and fuzes.

It is not intended as a complete digest of information for operational personnel and if so used should be utilized in conjunction

with Bureau of Ordnance pamphlets, Ordnance circular letters and all other publications which prescribe operational limitations, restrictions on use, complete round data, minimum release altitude and similar information.

Fuzes Mk 237 Mod 1 and Mk 238 Mod 1 were declared obsolete when the indicator was in the advanced stages of manufacture. These items, therefore, could not be deleted without considerably delaying the project and increasing the cost.

Service release of fuze Mk 244 Mod 1 has been withheld pending further proving ground investigation of the upper time delay limit.

*Supply and use:* Available funds permitted the procurement of only a limited quantity of indicators for distribution to service activities. The indicator will be furnished in an envelope on the back of which is printed a description of the indicator and instructions for its use.

## BuOrd Invites Suggestions

William Jack Lewis, A&R Department, NAS, SAN DIEGO, improvised a practical method of cleaning the gas cylinder bracket (B7226814) of 20mm aircraft gun barrels. Result—a considerable annual savings in overhaul costs.



CLEANING TOOL SPEEDS GUN BARREL OVERHAUL

Formerly, a small wire brush was used to remove carbon deposits from the gas port of the bracket. This was not only time consuming, but brush usage was high. The new method is to use a slotted brass arbor chucked in a drill motor with coarse steel wool and bore cleaner.

Steel wool is entered from the opening in the side of the bracket and arbor is inserted through the top of the gas port. The slotted end of the arbor engages the steel wool and rotates it in the gas port of the bracket. This method removes all carbon deposits and is illustrated by the accompanying photograph.

▲ *BuOrd Comment*—The Bureau of Ordnance appreciates such suggestions and invites all activities to submit any ideas they may have for improving maintenance or overhaul techniques of Aviation Ordnance Equipment. The Bureau is considering an award in addition to the amount granted by the local board.

VP-HI-2, GUAM—Three *Privateers* from this squadron recently joined 9 B-29's and 12 F4U's in flying an aerial review honoring World War II dead heading for home on the Army Transport *Walter Schwenk*. They flew over the ship as it passed Saipan's west coast bearing 3,000 dead to stateside. The B-29's dropped floral offerings from their bays.

# SERVICE TEST

## INTERIM REPORT DIGEST

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

### FJ-1 (98 Hours)

**Catapult Tests.** Thirteen shots were made from the H4 catapult with fuel loads ranging from full internal to full tip tank and internal capacity. Catapult accumulator pressure settings were from 3300 to 3500 pounds, providing end speeds of 84.2 to 86 knots. Subsequent plane inspection showed the following discrepancies:

1. Hold-back release strikes the after section of hold-back fitting compartment, causing aircraft skin and rib damage.
2. Fairing door on catapult hook was torn from fuselage at piano hinge.

3. Arm of fuel quantity transmitter, P/N R88-T-2677-242, in forward fuel tank was badly distorted on second catapult shot.

4. The pendant, employed without a bungee, damaged wing flaps and underside of fuselage in wing flap area.

5. Forward section of the wing to fuselage fillets (leading edge of wing root) was strained and several screws pulled through.

**Landing Tests.** Aircraft was subjected to high cuts during field carrier landing practice. The following discrepancies were noted upon inspection:

1. Hinges, P/N 134-33323-1B, 2B, that attach main landing gear wheel door to fuselage, parted at points of contact with main landing gear wheel fairing door operating bellcrank, P/N 134-33326-1, 2.

2. Second rivet from the lower tip of vertical reinforcement at the 0 wing station, one inch aft of front spar in wheel well, sheared.

3. Twenty-five percent of the attaching screws on upper and lower surface of wing tips pulled through the laminated glass fabric.

The left wing, main gear fairings and horizontal stabilizer tips of aircraft were damaged when striking a tree top on take-off after failure to engage the two deck pendants in the arresting gear. Failure to engage the arresting gear was caused by hook bounce due to insufficient damping action.

**Catapult Retract Mechanism.** Catapult hook is retracted by a cable assembly connected to nose wheel retracting linkage. Cable assembly was improperly adjusted, causing arm assembly, P/N 134-56126, to contact arm assembly stop before nose wheel was fully retracted. As nose wheel continued to retract, arm assembly stop sheared. *Recommend* that a manually operated catapult hook and fairing door, spring loaded in the "UP" position, be installed.

**Fuel Booster Pump.** Investigation of pump failure showed that pump end bearing re-

tainer had broken in several parts and broken parts had jammed between bearings and bearing race. Fuel seals were in good condition. *Recommend* closer inspection of bearings before assembly.

**Starter Generator.** Brushes, grade 147RT, were found badly worn after 8.5 hours test time. Unit had been operated 3.2 hours at altitudes of 35,000 feet or above. *Recommend* that brushes be replaced with more durable high altitude brushes, grade 417RCH.

**Starboard Aileron.** After 76 hours aircraft time, 46 hours with wing tip tanks installed, the last seven 3/32" 100 degree countersunk aluminum rivets at outboard trailing edge of starboard aileron pulled through upper and lower skin. *Recommend* that contractor investigate and improve aileron construction.

**Valve Assembly.** After 30.2 hours aircraft time, the following failures were observed in valve assembly P/N W7951-2D when in closed position:

1. The two "O" rings that seal the fuel shut-off plate in closed position fit too tightly around flanged orifice. The 12 small springs that apply pressure to "O" ring back up plate did not force seal against shut-off plate. Fuel leaked past shut-off plate.

2. Insulator pads parted from glued position on contact control arm, causing motor to short circuit and become inoperative. *Recommend* that manufacturer install a positive action shut-off valve.

**Rudder Pedal.** Rudder pedal bars are too close to heel slide. As a result the pilot controls the rudder with his toes resting on the brake. There is a tendency inadvertently to apply brake when actuating rudder on landing or take-off. This foot position is also tiring to the pilot. *Recommend* that heel slide (cockpit decking) be lowered to increase height of rudder pedal bar above heel slide by one inch.

**Attitude Gyro.** Initial erection time of attitude gyro indicator, P/N R88-I-1305, Pioneer type, 14601-1A-A1, is excessive for use in the turbojet type aircraft. Excessive lag in instrument occurs during normal maneuvers. *Recommend* that a more suitable attitude gyro be provided for jet aircraft.

**Ignition Inverter.** After 82 hours aircraft time, one of the AC phases of the ignition inverter short circuited, resulting in failure of and major damage to the inverter.

**Wing Tip Tanks.** When the grade 115/145 gasoline in the tip tanks is subjected to moderate ambient temperature and sunlight for a few hours, excessive vaporization occurs. This pressurizes the tank beyond capacity of vent and results in fuel leakage around filler caps and "O" ring seals at the fuel tank quick disconnect fittings of tank

and wing tip. As local remedy, tip tank filler caps are left partially open until aircraft is ready for flight. *Recommend* that satisfactory venting system be installed.

**Hydraulic Fluid.** Use of inflammable hydraulic fluid, AN-VV-O-366B, is considered hazardous because normal fluid drainage from hydraulic leaks in engine compartment is over the shroud covers for fuel tanks and combustion chambers. Considerable hydraulic fluid frequently collects in compartments of aircraft, particularly in exhaust cone and tail pipe areas, for which drainage is not provided. *Recommend* that non-inflammable hydraulic fluid be used.

**Fuel Shut-Off Valve.** After 32 hours aircraft time, the electrical motor that actuates the motor slide fuel shut-off valve, P/N R83-WTR-W7955-2D, burned out. *Recommend* that mechanically operated shut-off valve be incorporated.

**Exhaust Cone.** The 90 degree elbow flare tubes, P/N 898402, of some J35 engines are welded at improper angles in the exhaust cone, which precludes adaptation of the number 4 and number 5 (right and left) cooling air lines under normal installation.

As local remedy the exhaust cone was rotated 180 degrees from its normal position, which aligned the right side cooling air line to the 90 degree elbow. Left side cooling air line was modified to fit other elbow. Materials required are three feet 18-8, 3/4" O.D. .030 stainless steel tubing, two nuts, P/N AN-818-12, and two sleeves, AN-819-12. These materials are all parts of original air lines. *Recommend* that remedial action taken be considered as basis for service change to adapt the exhaust cone to the present cooling air lines installation.

### F4U-5 (59 Hours)

**Automatic Power Control.** Engine operation with reworked automatic power control unit has been normal.

**Cowl Flaps.** Ballast tube, 2B14, burned out in flight, causing cowl flaps to open to full open position. Cowl flaps could not be closed using the emergency over-ride switch. Cause of failure unknown.

**Discrepancies.** The following items are under investigation: 1. Duct assembly, auxiliary blower installation; 2. Exhaust shield riveting, upper exhaust collectors.

### AM-1 (133 Hours)

**Exhaust System.** (Third revision installed on BuNo. 22266) After 91 hours operating time, a section of the stack wall, 2" x 2 1/2" adjacent to the attaching flange of the exhaust stack installed on C-6 cylinder blew out. This is fourth failure of the stack in this position, all failures identical.

(Second revision installed on BuNo. 22267) At 122 hours operating time, the exhaust stack for A-4 and C-4 cylinders developed a 1 1/2" crack 3/4" forward of the weld to the flange for A-4 cylinder. This is second failure of this type.

**Test Exhaust System.** (Reworked to Ryan drawing C769—installed on BuNo. 22267) After 115 hours airplane operating time, the stack clamp, P/N 21887-4, connecting exhaust stack 1C and 1D was found cut in two pieces as result of stack vibration. Clamp bolts were tight. Second clamp failure for this system. *Recommend* that contractor comply with specifications for exhaust system, 81EI(Aer); that airplane contractor and

engine contractor conduct joint investigation of exhaust system failures.

**Automatic Power Control.** Examination after an engine surge and jammed throttle revealed that the oil supply strainer to automatic power control was 95% closed with oil sludge. *Recommend* that strainer be removed and cleaned at 60-hour intervals and that para. 6-11, p. 92 of AN-02-10HA-2 handbook for R4360-4 engine be revised to include inspection of strainer.

**Nose Cowl Attachment Bolts.** Special hardened bolts furnished by contractor were inspected after 60 hours operating time with following results: Rows 1, 3, 5, 6, and 7 had an additional groove average  $\frac{1}{4}$ " in length cut to depth of .005 to .010". Bolts for rows 2 and 4 had small scratches.

Local fix installed on BuNo. 22267 showed no discrepancies. The fix is as follows: One set of bushings was manufactured with shank length of .317". An AN960-516 washer was installed on each side of cylinder ear to provide bearing surface for bushing shank and prevent shuttling of link support. Longer shank bushing eliminates addition of a special bolt, necessary shimming and provides adjustment for wear. Positive indication that the platform assemblies are clamped against the cylinder ear can be made by observing clearance between outer surface of support link tine and hexagon shoulder of bushing. *Recommend* that nose cowl attachment to "D" row cylinders be modified as described above.

**Main Landing Gear Door.** After 82 hours airplane operating time, left hand main landing gear door tore from the wing and was lost in flight. *Recommend* that reinforced door supplied by contractor be installed; that the half fork door tie rods be redesigned to increase strength; that an attachment method be employed in the half fork door jack pad access doors to relieve airlock fasteners of structural loads.

**Canopy By-Pass Valve.** To replace hydraulic seals on the canopy by-pass valve fittings it is necessary to remove the valve, P/N E8254A, from the bulkhead in order to rotate the fittings. Valve is secured to bulkhead with two screws having nuts installed on other side of bulkhead and inaccessible because of close proximity of the fuselage fuel tank and radio equipment. *Recommend* that AN366 plate nuts be employed instead of the plain nuts to improve accessibility.

#### P2V-2 (13 Hours)

**Fuel Seals.** Before start of service evaluation, aircraft time 77.2 hours, a fuel leak was discovered and traced to outer panel cell inter-connector seals, Lockheed P/N 132816. Seals contained manufacturing imperfections in that the inner diameter was not a true circle and at point of maximum eccentricity tool scoring was prominent. As installed, the scorings in each seal lined up to form a channel for fuel to pass from cell into outer panel. New seals received had same imperfections, but were positioned, on assembly, so that tool marks did not line up with those on adjacent seals, and no leakage resulted. *Recommend* that closer inspection be made during manufacture and installation of the fuel cells to guard against use of imperfect seals.

**Shrouded Exhaust Pipe.** After 77.2 hours aircraft time a crack, extending  $\frac{3}{4}$  of dis-

tance around circumference of the shrouded exhaust pipe, WAC P/N 420887, was found at a point about  $1\frac{1}{2}$ " aft of the cylinder mounting flange. Crack appears to have started at point where shroud is spot welded to pipe.

**Exhaust Weld Assembly.** Assembly, P/N R-82-RYA-51785-12, located at cylinder No. 15, cracked around entire circumference at a point six inches from cylinder mounting flange and at another point one and one-half inches from collector ring clamp, and was lost in flight.

#### FH-1

**Engine P-400026.** This engine (total time 26 hours) was installed in right hand side of BuNo. 111755. After 23 hours of operating time, a loss of oil pressure was noted during flight and engine was immediately shut down. Inspection showed that turbine rotor shaft, P/N 43J221-1 was cracked. The crack, three inches long, extended down the shaft through the flash weld, then continued around one-half of the periphery of the shaft. This crack had scored the No. 3 bearing oil seal, causing the loss in oil pressure.

**Engine P-400005.** This engine was installed in left side of BuNo. 111755, and is in satisfactory condition with a total time of 183 hours.

**Engine P-400008.** This engine was installed in the right hand side of BuNo. 111755 in place of engine P-400026. On the first flight the compressor rotor blades on stages 7 and 8 failed, resulting in major damage to engine and airplane at 109 hours.

NATS SHANGHAI—Pilots report a headline in a local paper "Shanghai Mayor's Pay Hiked to \$9,090,000 a Month"—Chinese bucks, that is, worth \$50 American.

VP-HL-13, PACIFIC—Computation of sleeve gunnery flights has been hampered by the high percentage of sleeves that were shot down before the runs were completed. High score went to Cdr. Ira W. Brown's crew which got 230 hits.



*Pfc. Frank Calvin of NAS Corpus Christi places wreath on tomb of Unknown Soldier in Washington, D. C., in behalf of civilian employes of Corpus. Calvin wears 2 Navy Crosses, Purple Heart and PUC for his activities during the war while serving in the Pacific area.*

## LETTERS



SIRS:

The Captain's Cup of Attack Squadron One Able is a trophy awarded monthly to the outstanding officer and enlisted man. The cup was presented to the squadron by the Commanding Officer, Lieutenant Commander John K. Clifford, as a Christmas gift. It stands approximately two feet high, topped with a golden eagle, and appropriately engraved with the squadron insignia, the well-known Top Hat.

To the personnel of Attack Squadron One Able, the winning of this award represents the tops in achievement. Each month the officers and the men pick from their midst the officer and the enlisted man who have shown the most outstanding work, initiative, and morale in keeping with the highest of naval tradition. The selections are made by secret ballot and the officer and the man judged the finest for the month have their names perpetually engraved on the trophy.

The captain's cup for the month of February was presented to Ensign L. A. Else and F. R. Mallaire, AD3, by Commander Fred E. Bakutis, USN, Commander Attack Carrier Air Group One, at the air group inspection 13 March 1948.

PUBLIC INFORMATION OFFICER

VA-1-A

SIRS:

In an article from this squadron on the artillery spotters school at Camp Pendleton (N. A. NEWS, April) was stated that 100 feet above the deck altitude was ideal for spotting and adjusting fire.

That figure was a typographical error. The sentence should have read 1,000 feet. A pilot flying only 100 feet above the terrain would not only be fully occupied with picking a safe flight path, but also would be extremely vulnerable to fragments from bursting shells, and under actual combat conditions, subject to heavy small arms and automatic fire from the enemy on the ground.

D. H. SAPP

COMMANDING OFFICER

VMF-214, PACIFIC.

A safari is out now looking for the missing zero which was in VMF-214's original story.

#### GCA BOX SCORE

Landings, April .....	8,333
Instrument landings, April .....	226
Grand total landings .....	107,727
Grand total instrument .....	5,203

# LETTERS

SIRS:

Your excellent Grumman article in the May issue of NAVAL AVIATION NEWS was read with interest.

The Air Force pilot referred to in the fourth paragraph on page four, I feel you know, is a brother of *Lt. William Barrelin*, who holds the spotlight on page 28. We don't take off with flaps down in a P-51.

With reference to the P-51, we believe it to be the best, or nearly the best propeller-driven fighter in existence. It is assumed you know the F8F is not the fastest to 10,000 feet if other than Navy aircraft are included. The same P-51, which had two passes made on it during take-off, can beat it to 10,000 feet.

NAVAL AVIATION NEWS is quite widely read in the Air Force. It is appreciated and admired.

MAJOR R. L. JOHNSON  
FLIGHT TEST DIVISION

WRIGHT FIELD, DAYTON, OHIO

¶ Thank you for the letter, Major. No argument on *Lt. Barrelin's* brother who takes off with flaps down. On basis of latest available performance figures it appears P-51 and F8F would make it a good race to 10,000; however, *Bearcat* still holds world's climb record—10,000 feet in 100 seconds.



SIRS:

Thanks for the photo of my old flagship I-J-10, printed in the April inside back cover of NAVAL AVIATION NEWS.

Am enclosing a snapshot taken in '37 while serving as 2nd mech on this plane. My plane captain was ACMM Yesinski who is still in the Navy here at NATB PENSACOLA on shore duty.

"Si" Simard was skipper of VJ-1 at that time, Joe Gowan, exec; R. S. Quackenbush, flight officer; Bosun Baker, material officer, and ACMM Bayless leading chief.

Squadron pilots included Roy Jackson, Bill Williams, Harry Holt, Pappy Geise, Leo Flynn, Lees, Wright, Byrd, Mears, Smith,



Evans, and Av Cadet pilots Dare, Muirhead and Bates.

Believe the photo you have of I-J-10 was taken while she was out "shooting" fleet maneuvers off Pt. Loma in 1937. Old VJ-1 was a topnotch squadron, as old time aviation personnel well know.

MAYNARD W. KOUNS, JR, LT.  
NATB PENSACOLA



SIRS:

This picture might be called "A Chief Is Born." When David J. Tousignant, a Reserve yeoman first at NAS LOS ALAMITOS made chief—the first man to make that rating since the Reserve program started—his mates decided a dunking was in order. So, despite the 50° temperature and drizzle, they tossed him in the pool, clothes and all. In view of the southern California drought, it was the only convenient water they could find for the purpose.

E. C. INGRAHAM, LT. CDR.  
PUBLIC INFORMATION OFFICER  
NAS LOS ALAMITOS



SIRS:

1. Permit me to correct something which I think amiss in the March edition. On Grampaw Pettibone page, you make a statement about the picture below showing an F4U-4 when it is actually an SNJ. This might possibly have been a transposition with the one on the right which refers to an SNJ and shows an F4U, which from this angle slightly resembles an F6F.

2. In the letters section, the letter from Mr. Gay refers to a carrier landing record of some sort. I'm not positive, but I believe if you will check the qualification records of VF-18 and VBF-18 when we first received the F8F *Bearcat* and were qualifying on the *Ranger* in 1945, you will find a shattered record for the fleet, without a mishap.

SPENCER M. SCHECKTER  
132 S. BARNARD ST.  
STATE COLLEGE, PA.

¶ In answer to Item #1, the cuts were transposed, as you guessed. Item #2, most records of ships now laid up in the mothball fleet are impossible to secure readily, having been stored in warehouses at various places. It is not possible to check VF-18's record since the squadron sent in no official reports for that period to Aviation History section.

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### ● RECOGNITION QUIZ

Top—Grumman F9F, single-jet fighter, powered by Allison J-33 or P&W Nene jet engines, rated up to 5,000 pounds thrust which would put it in the 600-mph class.

Below—H-12 seaplane by Curtiss, powered by two 330-hp Liberty engines. It flew for the Navy in the 1918 era.

### ● THE COVER

Since this month's feature article is on Reserve flying, the cover typifies activities of the week-end pilots keeping up their flight proficiencies. The photo was taken for the News by NARTU Jacksonville's aerial cameraman, S. V. V. Toole.

### ● PHOTO CREDIT

The lead picture on page 1 of the Air Reserve feature article was taken at NAS Willow Grove by Bob Mooney, photographer for the *Philadelphia Inquirer* and an ex-Army pilot.

### ● THE STAFF

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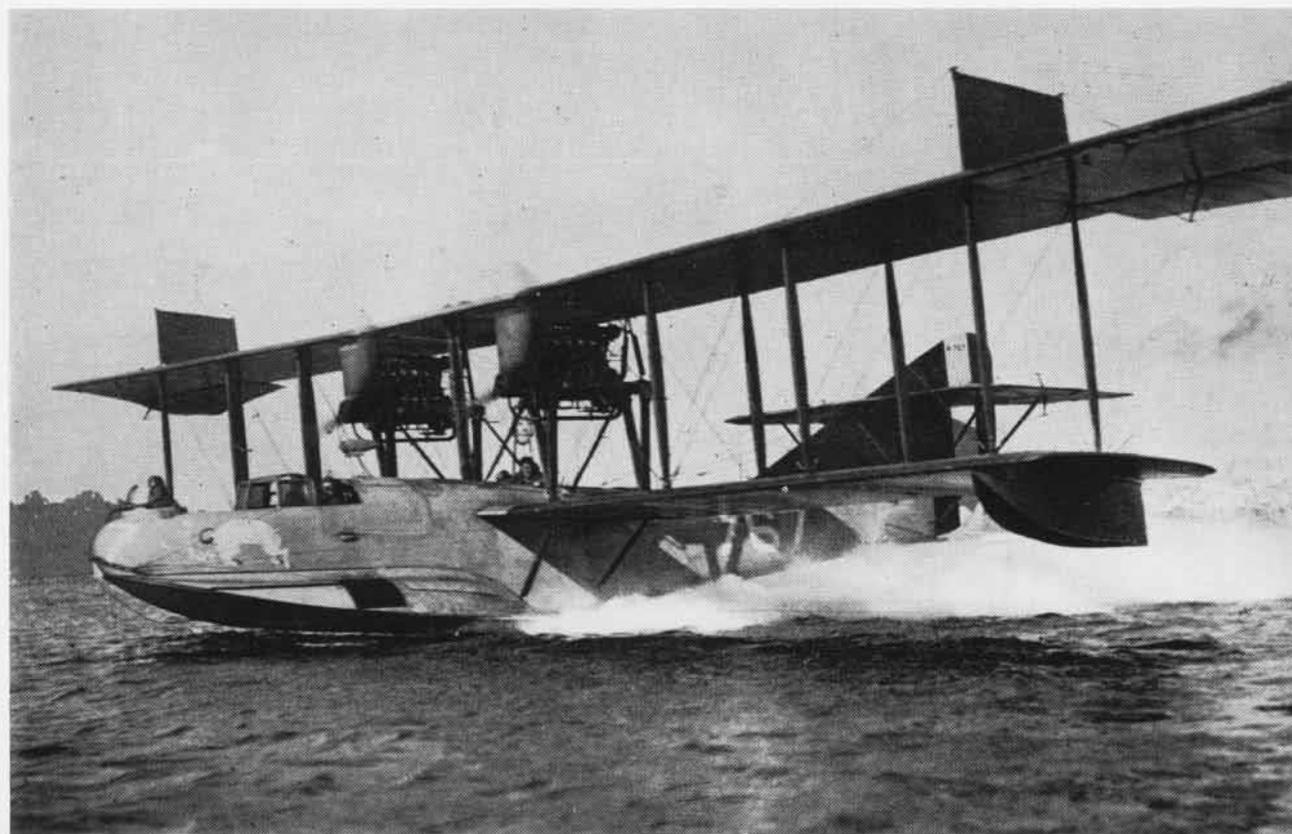


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## ON LAND AND SEA

COMING HEAD on in the picture above is a jet aircraft. Would you open fire if you saw it? The seaplane below we tossed in for the old-timers. *Answers on facing page.*





## SQUADRON INSIGNIA

CLEVER and colorful squadron insignia are featured in this month's array. VF-3-B, flying off the *Roosevelt*, caricatures the famous FDR smile and cigaret holder with signal flags spelling squadron initials. VA-14-A features a well-armed pelican with rockets, torpedo, machine guns and bombs, plus a tail hook for the bird. The insigne of VF-20-A has naval aviation's gold wings, the sword of military mission and the flame emphasizing ferocity of the squadron might. VA-7-A employs a pugnacious boy in fighting togs riding a bomb. The squadron employed the slogan during the recent war.



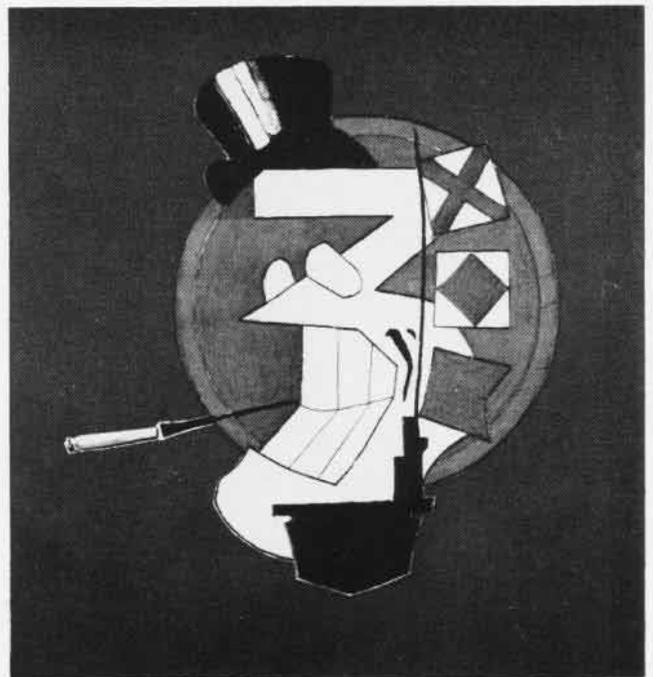
VA-7-A



VF-20-A



VA-14-A



VF-3-B