

NAVAL AVIATION

NEWS



By-passed Islands
Primary Instructors

July 1, 1945

SHARE
THIS
COPY



COMIN' AT CHA!



At 20 months

Crawls Crab-fashion



At 3 years

STILL Not House-broken



At 9 years

Learning to wave bye-bye



At 18 years

No whiskers



At 23 years

Slow on IDENTIFY



THEREAFTER
WAHOO-BIRD

(Flies backward...
doesn't care where he's
going...wants to know
where he's been)



MORAL: IDENTIFY...don't get caught with your diapers down



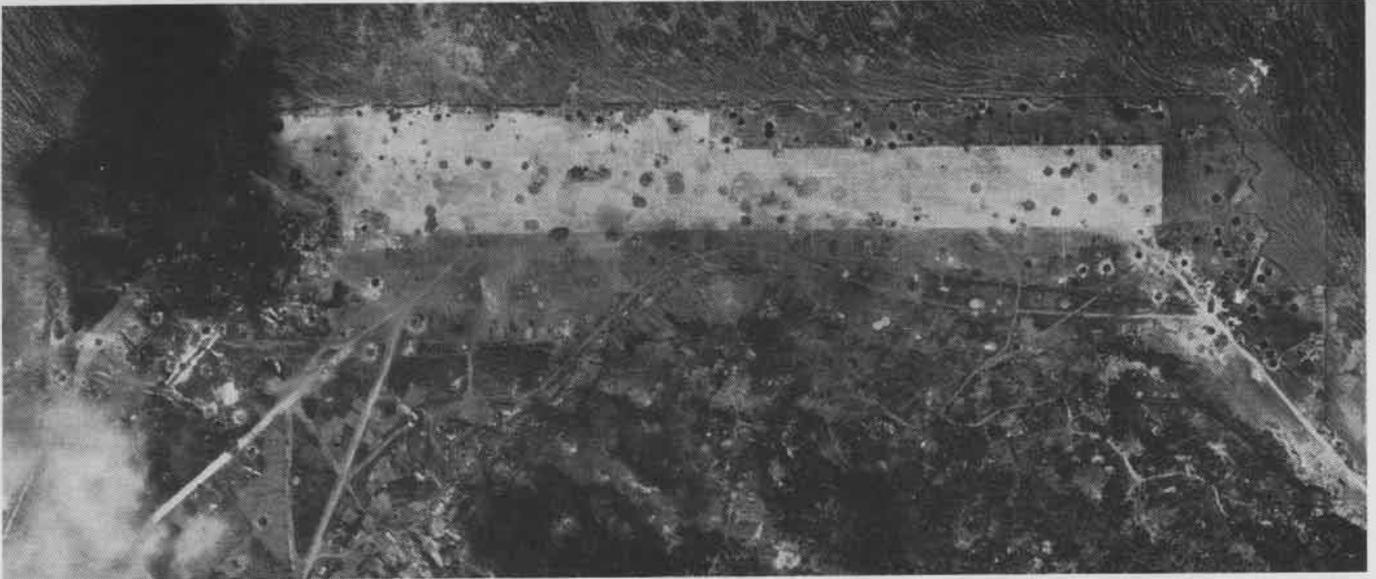
BY-PASSED ISLANDS

SCATTERED over thousands of miles of the Pacific, Jap garrisons still hold out stubbornly in many by-passed islands. Recent photographs of the Carolines, Bonins, Marianas and Marshalls, and of Wake and Marcus, show that the enemy is hanging on despite frequent bombings. Airfields have been the most heavily attacked Jap installations in by-passed islands, but the Japanese continue to patch up runways. Increasing numbers of gardens are seen, indicating that the defenders are forced to raise most of their own food. There is photographic evidence that submarines continue to reach the islands, probably bringing supplies of non-bulky type and evacuating some key personnel. Barges, small craft and trucks per-

PHOTOGRAPHIC INTELLIGENCE

mit some transportation. AA gun positions are numerous on the beleaguered islands, and mortars and heavy coast defense guns are visible.

U.S. planes make numerous raids on the islands which are of greatest military importance, smashing airfields, grounded aircraft, buildings, gun positions, camps and other installations. Airmen sink small Jap ships which are used for island supply. Photographs of the islands are helpful in locating targets, recording damage, revealing enemy repairs and disclosing Jap movements. Although some Japanese have given up, the majority appear determined to stay for an indefinite period and to strike back at U.S. ships, planes and men with any weapon remaining at their use.



RUNWAY AT TRUK HAS BEEN BOMBED AND REPAIRED OFTEN. REVETMENTS CARVED OUT OF HILLSIDE HOLD MOST REMAINING PLANES



ONLY TWO AIRCRAFT APPEAR IN PICTURE OF WHAT WAS ONCE IMPORTANT JAPANESE AIRFIELD ON BABELTHUAP IN PALAU ISLANDS

CAROLINES IN THE Caroline Islands, spread out over 820,000 square miles of the Pacific, there are many nests of stranded Japanese who show few signs of quitting. Pictures even reveal construction of new AA and searchlight positions as well as repairs to airfields and buildings.

The once mighty fortress of Truk still is attacked by U.S. fliers. Photographic reconnaissance indicates that only a small number of aircraft are operative at this base that formerly throbbled with enemy planes. Many supply warehouses and fuel tanks are smashed. Small craft are present in the harbor, and they make good targets for strafing attacks. Despite the apparent hopelessness of their position, the Japs recently have completed a considerable extension to the runway on Param Island. Although repeated attacks are made on Truk airstrips, the enemy somehow manages to repair them. Photos show that planes are moved close to hillsides for better protection against fighter attacks.

In the Palaus, strikes have been aimed chiefly at Babelthwap, Arakabesan, Koror and Urukthapel islands. Photographs provide assistance in locating ammunition, fuel, and supply dumps, bridges, AA gun-emplacements, mortar posi-

tions, warehouses, gardens, trucks, ground installations and small craft.

At Yap, a former cable station 250 miles northeast of the Palaus and close to the U.S. Fleet anchorage at Ulithi, the Japs repaired their much-bombed runway, making a serviceable emergency strip. U.S. planes attacked the field and also hit inter-island causeways, radar, buildings, bridges and barges in the area.

Photographs of Puluwat Island reveal that the Jap field there is partly overgrown, but enough of the strip is serviceable to permit possible emergency use. Defense positions and electronic installations are visible on photos of Puluwat and changes that indicate enemy activity are observed. Pictures of Satawan Island show the runway heavily damaged. The airfield on Woleai is completely pitted with large, deep bomb craters.

Scholars believe that the Carolines once formed part of the continent of Asia. They are all coral except Yap, which is of rock, some of the Palaus, and Kusaie, Ponape and Truk, which are volcanic. There are 48 main clusters of islands. Discovered by Spaniards, the Carolines were sold to Germany after the Spanish-American War and passed into grasping Japan's hands under a League of Nations mandate.



Typical photograph of a by-passed area is this Dublon Island at Truk. In right foreground are destroyed fuel tanks and two that appear intact. No aircraft are visible at seaplane base in center foreground, but a hammerhead crane still stands at end of

pier. Along the shore behind seaplane base are revetted areas for storage, which are empty. A good many small gable-roofed buildings on Dublon are undamaged. Two submarines in harbor at rear presumably are used by the Japs to bring supplies to Truk.



COMMODORE PERRY BOUGHT LAND HERE IN 1853 FOR A COALING STATION FOR THE U.S. NAVY BUT THE PROJECT LATER WAS DROPPED

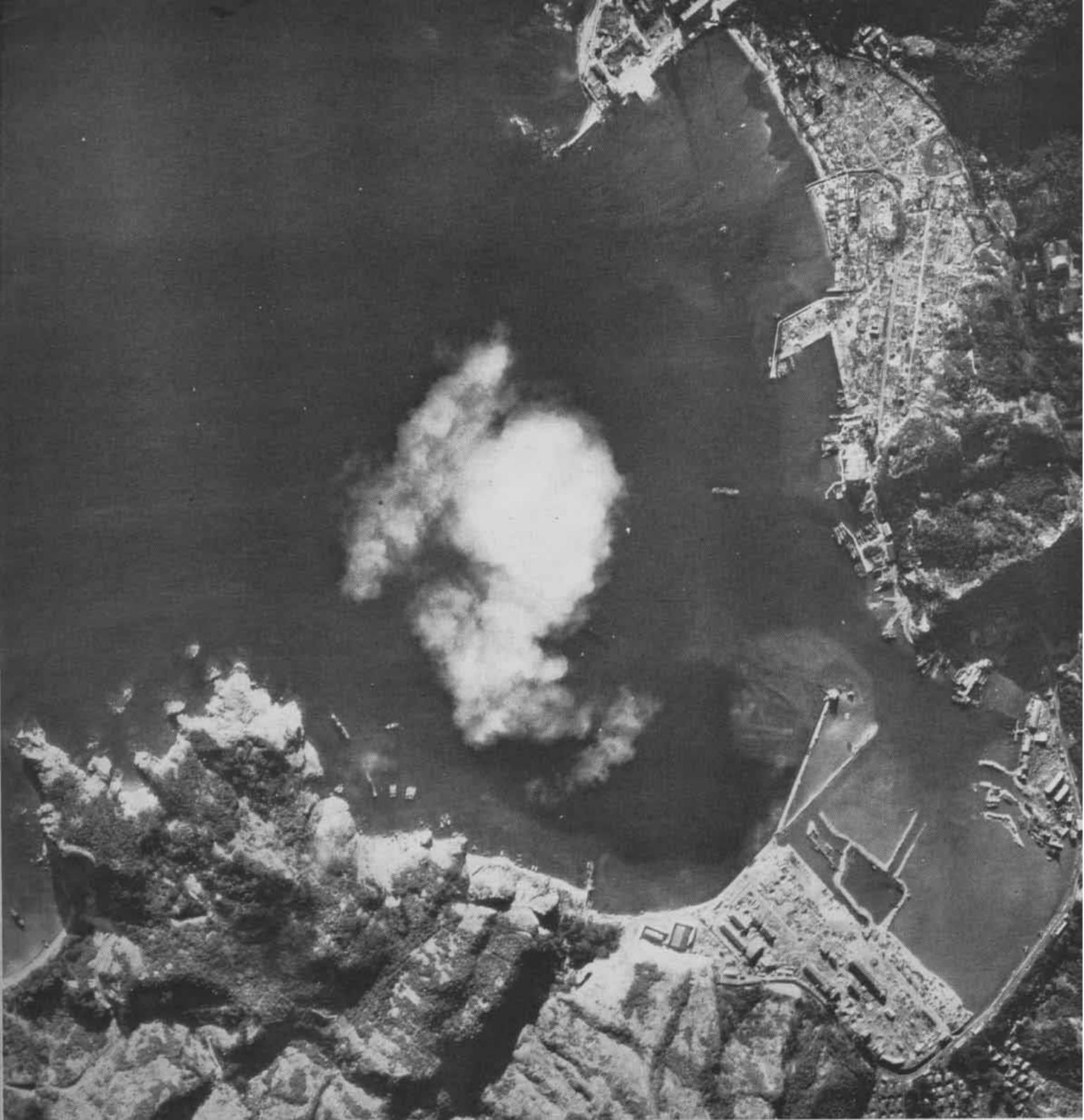
BONINS REPEATED attacks have been made on islands in the Bonin group. Before the landing at Iwo Jima, airfields and shipping in the Bonins were hit heavily, and since that time American airmen have made frequent harassing missions over Chichi and Haha Jima and occasional strikes on or near Ani, Ototo and Muko Jima.

Susaki airfield at Chichi Jima is well cratered by U.S. bombs (*see cut p. 1*). Only a few planes have been seen on photos of this field in recent months. The seaplane station on Chichi is another target frequently hit in raids; several *Jakes* have been damaged or destroyed at this base.

A considerable amount of shipping has been sunk by U.S. fliers in the Bonins. Among the Jap vessels spotted in this area are: APD's, patrol boats, PT's, freighters, coastal cargo vessels, tankers, LSM's, PC's, fuel barges and small craft.

On Haha Jima, pictures reveal that large portions of Kitamura and Okimura, the principal towns, are destroyed. New gun positions and new trenches, however, indicate that the Jap garrison still is active.

Commodore Perry visited the Bonins in 1853 and purchased some land for the United States at Futami Ko, on Chichi Jima, intending it for use as a coaling station. After he left, however, the project was given up. The islands suffer from earthquakes, Chichi having 11 shocks in 1930.



SHIPPING IS ATTACKED IN FUTAMI KO, CHICHI JIMA HARBOR. NAVAL AND SEAPLANE BASES AT LEFT HAVE BEEN WELL PLASTERED

NAVY, MARINE and Army fliers take part in smashes at Japan's by-passed garrisons. In addition to regularly scheduled strikes, patrol planes make occasional attacks on Jap outposts. The enemy appears to be able to adjust himself to deprivations of life in these areas, confiscating some materials from the natives and raising considerable amounts of vegetables. Many Japanese, it is believed, would rather endure hardship and death at their posts than accept ignominy of surrender. Strikes make conditions intolerable.



WAKE **L**ITTLE Wake Island, located 522 miles from Eniwetok, 1,221 miles from Saipan, and 1,441 miles from Iwo Jima, is in a position from which the Japs might scout U.S. movements. It has been attacked from time to time in recent months. Pictures show many hits from these and earlier raids. Wake's three intersecting runways, barracks, storage areas, shops, and gun positions alongside the runways were principal bombing targets.

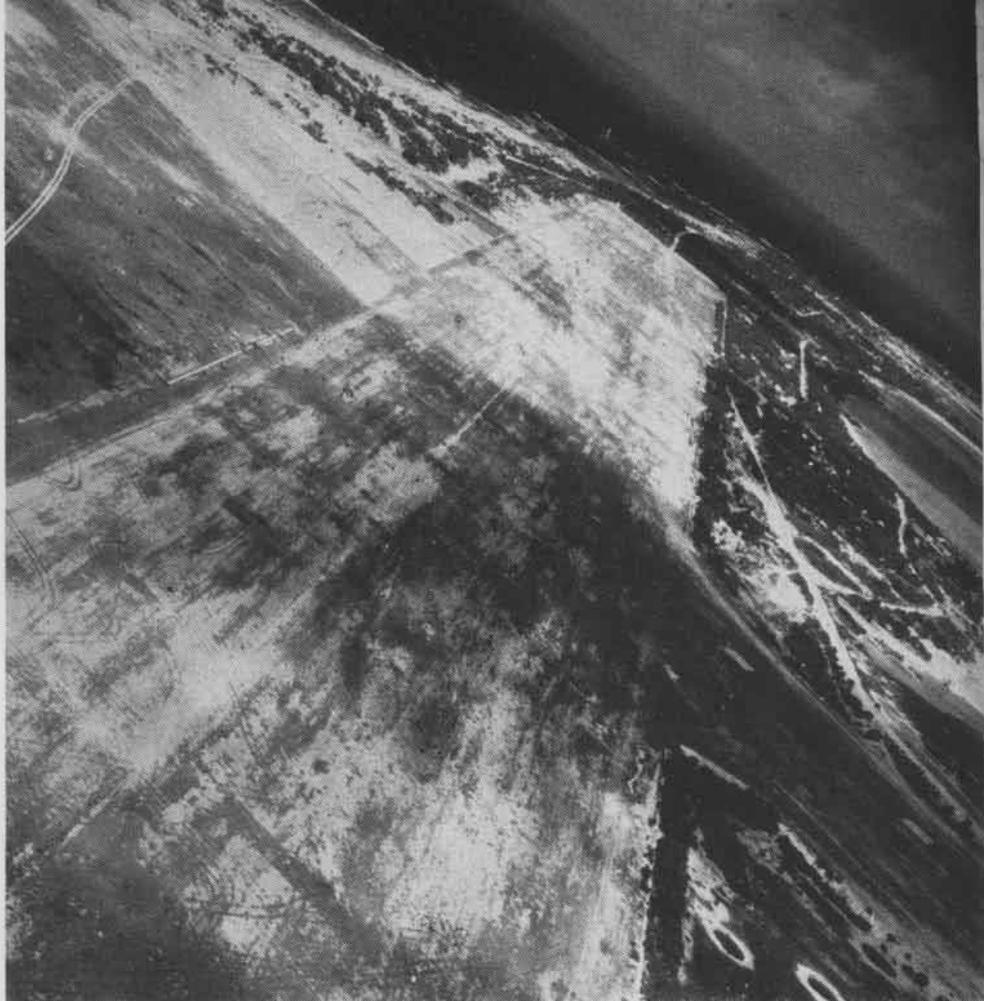
After one raid, the runways were reported unserviceable, but photographs taken the next day revealed that they had been repaired overnight. Recent photos indicate that barricades are built across the runways, suggesting that the Japs no longer expect to operate planes from Wake but are determined to keep off U.S. aircraft.

Developed before the war as a Pan American Airways base, Wake was captured by the Japs December 23, 1941 after the small American garrison had held out 15 days. The enemy improved the U.S. airfield and utilized the seaplane base. Wilkes, Wake and Peale—the three islets that comprise Wake atoll—were filled with AA, CD and machine guns, rifle pits, electronic installations and other defenses. The atoll has been raided many times since that time.

MARCUS **F**OR MANY months harassing attacks have been carried out on Marcus Island, a 740-acre coral patch which is about half way between Wake and the Bonins. The Japs operate patrol planes from Marcus' two runways, and the island is equipped with radar and radio which can give warning of U.S. operations. The garrison on Marcus doggedly continues to repair runways, and photographs indicate that planes are flown into the island to replace destroyed aircraft. A few small boats also are visible in pictures. Runways, buildings and aircraft are the principal targets hit by U.S. bombs.

Marcus is triangular in shape, with its apex pointing north. There are a few trees, but most of them were cut down to permit construction of the two 4,000 ft. runways which occupy all the western and southern sides. Fuel tanks, barracks, storage sheds, gun positions and other installations fill the rest of the island.

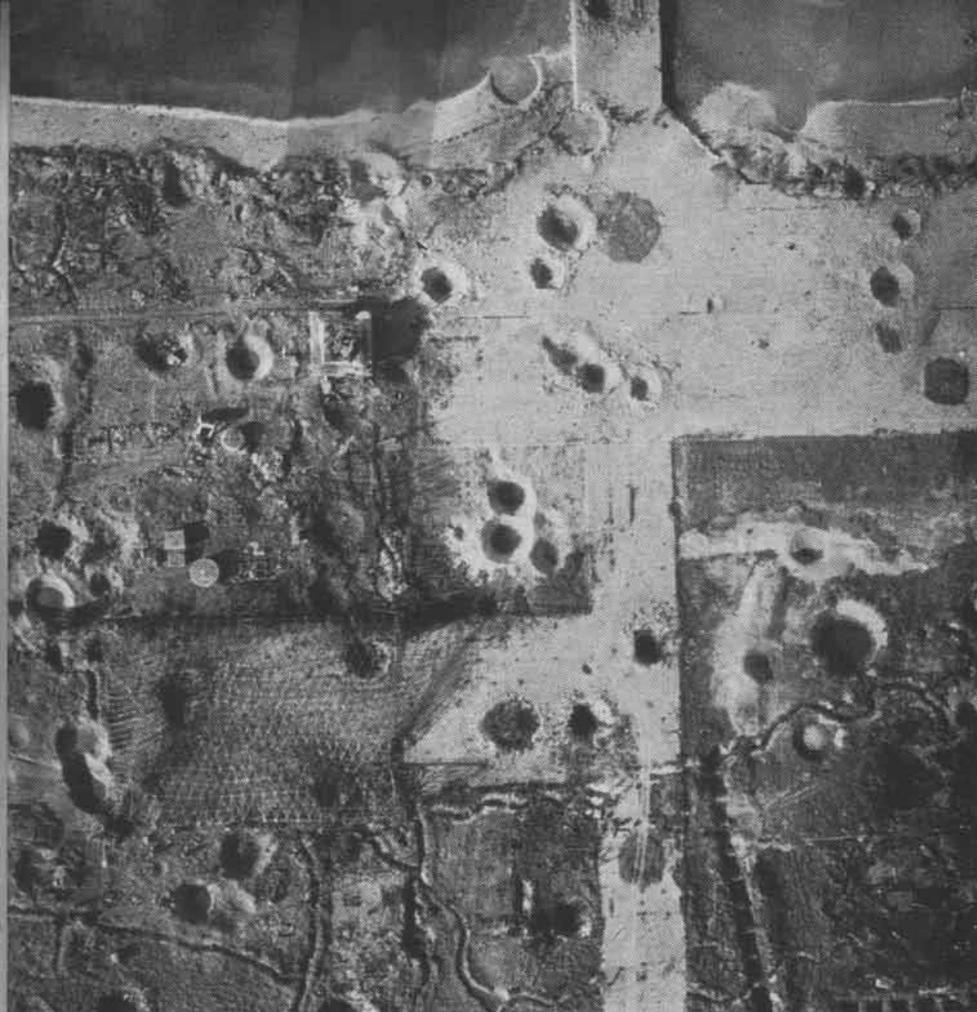
Two Japanese companies formerly mined phosphate on Marcus, but their operations were suspended when the airfield was constructed. There are no natives. Marcus is in a central position being approximately 600 miles from Wake and the Northern Marianas, 900 from Eniwetok, and 1,000 from Tokyo.



OFT-BOMBED WAKE ISLAND NOW HAS ROWS OF OBSTACLES DRIVEN ACROSS THE RUNWAYS

JAPS CONTINUE TO OPERATE PATROL PLANES FROM LONELY MARCUS, A 740-ACRE ISLAND





MARINE STRIKES ON BY-PASSED MARSHALLS MAKE LIFE FOR ENEMY ALMOST UNBEARABLE

JAPANESE AIRFIELD ON PAGAN ISLAND IN THE MARIANAS APPEARS FULLY INOPERATIVE



MARSHALLS ALTHOUGH U. S. forces smashed their way into the Marshalls over a year ago, some islands of this group still are held by the Japanese. The enemy's most frequently bombed installations and garrisons are on Maloe-lap, Mili, Jaluit, Wotje and Taroa.

These five islands have been subjected to frequent attacks directed at runways, ammunition dumps, rice storage areas, earth-covered shelters, coast defenses, command posts, small boats and boat repair facilities, AA positions, fuel tanks, radar, camps and block-houses. Continual raids have rendered Jap-held islands in this area very unpleasant places in which to live. Photographs are used by attacking squadrons to locate targets and to estimate damage inflicted on them by air strikes.

The Marshalls comprise 34 low-lying atolls and single islands arranged in two parallel chains. They are spread out over a sea area of 375,000 square miles. (Total land area of the Marshalls is only 74 square miles.) During World War I the Japanese took possession of the islands, which previously had been owned by Germany. The Japs treated the natives harshly, and the latter welcomed the arrival of Americans in 1944.

MARIANAS THE MARIANAS, containing U. S. Navy Pacific headquarters and providing bases for *Superfortress* raids on Japan, still have some by-passed Japs. Chief remaining installations and enemy personnel concentrations photographed are on Rota, Pagan and Maug.

Rota, sandwiched between Guam and Tinian, is no comfortable spot for a Jap. Pictures indicate that most enemy military activity there has ceased. AA installations are destroyed or removed. Prepared beach defenses, such as trenches and fire lanes, are overgrown. Pillboxes, machine guns and other light defenses are visible no longer on aerial photos. About 95 per cent of all buildings are destroyed. The airfield area appears deserted, with its strip pitted and in some places overgrown. Pictures disclose an enormous increase of small gardens and farms all over the island.

At Maug, U.S. strikes have destroyed or damaged a radio station, weather station and barracks.

Like the Marshalls, the Marianas—Guam excepted—were former German possessions taken over by the Japanese during World War I. There are 17 islands altogether—14 separate ones and one group (Maug). Rota, Guam, Saipan and Tinian are principal land areas. Three others are active volcanoes.

GRAMPAW PETTIBONE

Beware of Bombs

While dropping 500-pound live bombs with instantaneous fuzes during a practice run, a TBM pilot went down too low on his second drop. His plane was hit by blast fragments, necessitating a forced landing at sea.

Comment—This pilot was lucky! Other similar instances have caused loss of control with fatal results.

There is no reason for pilots to conduct individual experiments on this subject; the effective danger altitude of blasts for various size bombs has been accurately determined. Minimum release altitudes, both for training and combat, are set forth on page 109 of FTP 224 (Restricted). This information should be made available to and thoroughly impressed on all bombing pilots.

Test Controls Before Take-off

During the attempted take-off in a gusty wind of 30-40 knots, a PB4Y-2 showed a strong tendency to swerve to the right. The pilot stopped the take-off and returned to his starting position. At this point, an inspection of the rudder control linkage from bomb bay to tail showed linkage to be satisfactory.

The pilot then attempted another take-off during which the same strong tendency to turn to the right was experienced. Full rudder and unequal application of power were made, but

the pilot was unable to maintain a straight course. Plane continued to drift to the right after becoming airborne, whereupon the pilot cut power and landed. The plane turned off the runway at a 15° angle, crossed a taxi strip and finally hit a 5 ft. drainage ditch which sheared off the landing gear and parted the fuselage forward of the after, top gun turret. Fortunately, no one was killed.

The Alameda Safety Board published the following analysis of errors and contributing factors involved in this accident:

1. With proper precautions on the part of the pilot and ground crew, this accident, which required replacement of a very expensive airplane, would not have occurred. The immediate cause of lack of rudder control was the shearing of rivets in the rudder torque tube assembly. It is considered this was caused when the rudder controls were unlocked while the plane was parked in the strong, gusty crosswinds, or while being taxied crosswind. (Upon inspection of other *Liberators* following these severe wind conditions, the rudder lock drum brackets, part no 32r4007, were found to be cracked and bent, causing the rudder-locking drum to become jammed against the quadrants at the base of the rudder-control post, thus restricting movement of the rudder.)

2. There was negligence in not having the plane parked facing the wind with

battens applied, thus eliminating the strain on the rudder assembly.

3. The fact that no pressure was felt on the rudder pedals as the plane was taxied crosswind was a definite indication that no force was being exerted on or by the rudder. This, alone, should have aroused the pilot's suspicion after a faulty attempted take-off.

4. Inspection of the rudder linkage system was correct, but the second attempt to take-off should never have been made without a thorough inspection of ALL control elements. This always includes a visual check for the free and forceful movement of the control surfaces.

5. When the second take-off was attempted, the pilot should certainly have been more aware of the probability of the same trouble occurring and should have insured a greater margin of safety by not reaching so great a speed before deciding to stop.

Not Too Tight

An F6F pilot noted a sudden drop in oil pressure while on a gunnery flight at 7000 feet. He headed for the nearest field, but was forced to make an emergency landing on the beach when the engine froze. The aircraft received major damage.

An inspection of the engine revealed that the sump plug had been lost, which allowed all the oil to drain out. It was the opinion of the safety board that the plug had been improperly safety-wired; the wire was twisted so tight when installed that it was practically severed. The weakened wire then parted due to engine vibration.

Grampaw Pettibone says:

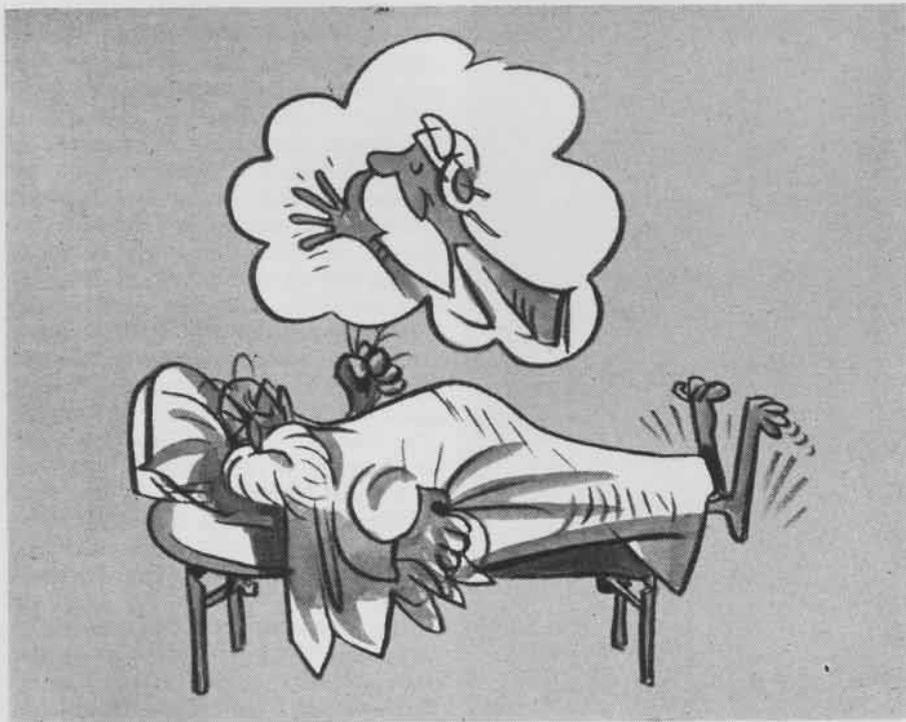
This report went on to state that the mech involved was given additional instruction.

So far so good, but I hope the rest of the mechs in that squadron were also warned of this danger.

No aircraft accident can be considered "finished business" until all possible corrective action has been taken.

That's why this case is published—so that this matter will be brought to the attention of all hands.

SHARPLY silhouetted against the sky, four aviation technicians are hard at work on the port engine of a PBM at an island seaplane base in the Pacific. In forward, combat areas, where operational flights over large stretches of open water are routine, skilled men insure the safety of each trip by constant maintenance of all the equipment.





Proper Technique—Your Only Safeguard

Four F6F's were engaged in a two-section division defensive exercise at 8000 feet, with a fifth F6F simulating attack. Sections were stepped down. The wingman of the second section had lagged behind his normal position. This pilot, who was noted for his painstaking pride in flying a neat, tight formation, found it necessary to close up and cross under to regain his outboard position. In so doing, he closed too rapidly, overshoot his position and then pulled up



into the section leader's propeller. Damage to the empennage threw the wingman's plane into a severe spin. The pilot was seen to bail out at 5000 feet. The parachute streamed, but did not blossom. Later examination showed that it had been ripped.

The wingman's error in overshooting his position was considered as being due to overzealousness to "stay in there," coupled with his attention being diverted by the attacking plane. Pulling up into the section leader then resulted from the natural tendency to haul back on the stick when he turned his head upward and back to orient his position.

It was believed that the parachute was torn when it became fouled on the empennage because the pilot pulled the rip cord before being sufficiently clear of the airplane.

 **Grampaw Pettibone says:**

I've got to sound off about the parachute part of this accident. That sort of thing happens altogether too often. In some cases pilots stand up and pull the rip cord even before leaving the plane. Toss a newspaper out of the cockpit some time and watch where it goes. That's exactly where you will be pulled by your parachute, if you open it too soon.

Don't wait until you get caught in a jam and then try to figure out what to do. That way you will probably make the same mistake this pilot did—it's only natural to want to get that chute open as soon as possible. Use some forethought, figure it out in your bunk where you can think clearly and talk it over with some one with jumping experience. Picture this situation and make up your mind that if you ever have to jump, you will get well clear of the plane before pulling that rip cord.

A parachute is a perfectly safe means of making a landing, but like everything else connected with aviation, it takes a little

know-how, a bit of technique. Study the pamphlet *Parachute Sense* and hold a mental bailing-out drill in the air occasionally.

Dangerous Snag

Serious injuries were sustained by the radioman in an SB2C when, during dive bombing practice, he accidentally released his parachute.

In order to keep track of the other planes in the division for his pilot, he was sitting facing aft. His safety belt had been loosened to give him greater freedom of movement. As he rose to a crouching position to see a plane below, he unknowingly hooked the rip cord handle on the body armor support. The parachute spilled and trailed over the port side of the plane, pulling the radioman up into the turtleback. Fortunately for him, the risers immediately were cut by the sawing action against the turtleback.

Upon questioning other radiomen in the squadron, the commanding officer found that several of them almost had experienced similar accidents by having their rip cords catch on the same post while moving about in the cockpit.

Cockpit Enclosures

There have been quite a few recent cases of cockpit enclosures jamming shut during crash landings on land and water. In some instances, pilots made unsuccessful attempts to jettison enclosures before landing. In other cases,

pilots failed to lock the enclosure open; they merely pushed it back out of their way, hoping it would lock itself. It didn't, and seldom will.

Evidence indicates that cockpit canopies frequently cannot be jettisoned owing to improper maintenance. If an aircraft is out of control in the air, as might occur after a collision, structural failure, or stall, it sometimes is necessary for the pilot to jettison the enclosure before he can leave the cockpit. In such cases, a pilot's life depends on proper functioning of the jettisonable feature. It is up to the engineering officer and his crew to see that this mechanism is maintained in accordance with the latest instructions.

It is recommended enclosures *not* be jettisoned for a forced landing, however, as there always is the possibility they may strike the tail surfaces and cause loss of control. Instead, they should be locked open; in fact, they should be *locked open for all landings* so that this procedure becomes automatic. This open-lock is designed to withstand impact of a violent crash. No matter how strong it is, however, it won't do a bit of good unless you shove the enclosure far enough back to engage it, or manually lock it if your plane is so equipped.

Shoulder Harness Insurance

Case 1. During field carrier-landing practice, the engine of an SBF cut out on the down-wind leg of an approach. The pilot managed a controlled forced landing with wheels up, but the plane caught fire. Upon arriving at the scene, rescuers found that the pilot's shoulder harness was unlocked and that he had been rendered unconscious from a blow on the head. Before the rescue could be effected, the pilot received severe burns that resulted in his death the next day.

Case 2. An F4U swerved off the runway during a landing run-out and crashed into a drainage ditch. The pilot suffered severe facial and head injuries because he was not wearing his shoulder harness.

Case 3. An F6F settled slightly during approach to a landing and struck the top of a tall tree. With insufficient airspeed to maintain flight, the plane then crashed on the runway. The pilot received serious injuries when his head struck a cockpit light and the microphone holder. His shoulder harness was not locked.

► *Comment*—The foregoing cases are recent typical examples of what is happening all too frequently when pilots and crewmen fail to take advantage of the protection offered by properly locked shoulder harness. Flight Surgeons are urged to show Training Film MA-4488 to all flight personnel at the activity.

GRAMPAW'S SAFETY QUIZ



ALL AVIATORS should know the answers to these questions. In the air, the penalty for not knowing may prove fatal. If you miss an answer on the ground, penalize yourself by looking up the reference.

1. If accidentally splashed with aviation gasoline, what immediate first aid measures should be taken?
2. What is the established piloting procedure for directing the attention of surface ships to scenes of distress?
3. Snap pull-outs definitely are prohibited; is this true or false?
4. If you were in position to take off and received a red light from the tower, what should you do?
5. On take-off, when the horizon is obscured by darkness or overcast, what is the safest flight procedure?

Answers on Page 48

DID YOU KNOW?

NATS Flies Propeller for Can Three-ton Cargo Reaches Fleet Quickly

NAS HONOLULU — Top-urgent cargo occasionally gives Naval Air Transport Service a job of loading and stowage.



CREW LASHES DOWN PROP FOR DESTROYER

One such job came up when NATS delivered a three-ton propeller for a destroyer across the Pacific in less than 48 hours to put the warship back into action weeks ahead of schedule. Eight-and-a-half ft. in diameter, the heavy screw was eased through the eight-foot hatch of the *NSD* and lashed down to begin its transoceanic flight.

NATS Opens Service to Manila

First Seaplane Lands Near Navy Base

NATS PACIFIC—A NATS PB2Y circled the war-torn ruins of Cavite naval base and landed in Manila bay to inaugurate direct air service between Manila and San Francisco early in May. VR-2 flies the *Coronados*, making possible 56-HOUR travel between the two points.

Hulks of Japanese and American shipping dotting the inner Manila harbor make water landings more hazardous than ordinary. Even as the first plane landed in the Sangley Point seaplane area, the NATS unit there had mail and passengers waiting to take the first return trip out for points east. Distance between Alameda and Manila is 8,000 miles.

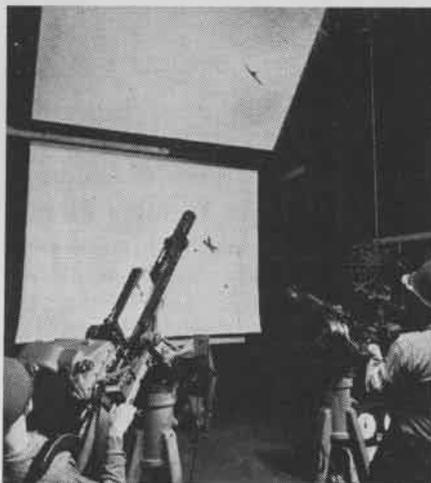
Amphibs Employ Special Devices

AA Gunnery School Now Is in Operation

Amphibious training bases now are using synthetic anti-aircraft gunnery trainers developed by BUAE's Special

Devices Division and also by BUORD.

One of the first to receive the devices was ATB CAMP BRADFORD, VA., where LST crews are trained. With the cooperation of the Amphibious Training Command, Atlantic Fleet, and ATB personnel, special devices officers had a complete synthetic anti-aircraft gunnery school in full operation last August. Within two months, a dozen buildings had been erected and trainers installed with a capacity of 1,000 men a day. Now trainers are providing about 30,000 man-hours of instruction a month.



AA STUDENTS PRACTICE ON MK 3 TRAINER

Equipment at BRADFORD includes the following BUORD gunnery trainers: one Mk 1 Polaroid Trainer, eight Mk 3 trainers adapted from the 3-A-2 Dual Projection Trainer, 12 Mk 4 trainers adapted from the 3-A-11 Panoramic Gunnery Trainer, and 12 Mk 6 trainers adapted from the 3-B-6 Fixed Gunnery Deflection Trainer. All these devices provide training that otherwise would not have been available for men about to enter combat zones. Reports from BRADFORD indicate that use of gunnery training devices definitely has improved gunnery technique. Similar AA schools have been set up at ATB's at Solomons, Md., Little Creek, Va., and Ft. Pierce, Fla.,

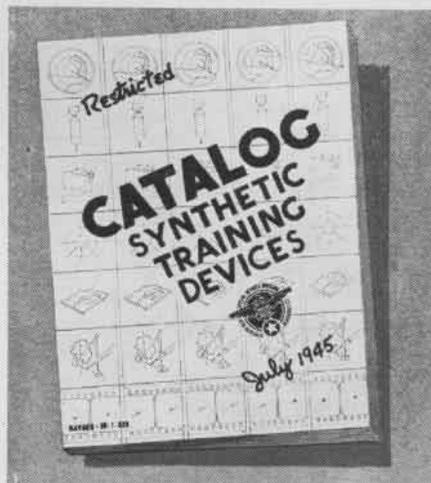
and are being set up at Oceanside, San Diego, Coronado and Morro Bay, Calif.

Air Station Designation Changes

Oakland Becomes A Full Air Station

Changes in designations of numerous air stations have been announced by the Secretary of the Navy. The Auxiliary Air Station at Oakland has been raised to an Air Station. The Marine Corps Air Facility at Corvallis, Ore., has been changed to a NAAS.

The Marine Corps Auxiliary Air Facilities at Camp Lejeune and Rhome Field recently were disestablished. The Auxiliary Air Station at Boca Chica was redesignated an Air Station. The Navy took over the Marine Corps Air Station at Edenton for Fleet training. Aviation facilities at King City airport, California, were designated a Naval Auxiliary Air Station and Navy-owned property at Gainesville, Ga., airport, designated a Naval Air Facility by the SECNAV order.



PUBLICATION LISTS 145 BUAE DEVICES

New Devices Catalog Is Ready

Publication Lists Recordings, Films

Descriptions and photographs of 145 devices developed by the Special Devices Division of BUAE for use at naval air stations and other naval activities are included in a new *Catalog of Synthetic Training Devices*.

The catalog, classified RESTRICTED, provides information on the cockpit safety program, training courses, new anti-aircraft training devices, training bulletins, housing installation and spare parts. It also includes lists of recording and films used with devices. The publication is scheduled for distribution to air stations and other activities in July.



**Advance
Bases**

LET NANews HEAR
FROM YOU!

BEST ANSWERS

PICK THE BEST choice to complete the statements below, then check your answers on page 48.

1. Tokyo is located on the island of—

- a—Hokkaido
- b—Honshu
- c—Kyushu
- d—Shikoku

2. The Japanese word for island is—

- a—Gunto
- b—Maru
- c—Iwo
- d—Jima

3. Rangoon is located in

- a—Burma
- b—India
- c—French Indo-China
- d—Borneo

4. Thailand formerly was known as—

- a—Korea
- b—Siam
- c—Taiwan
- d—Hainan

5. The Chinese name for Port Arthur is—

- a—Seoul
- b—Tengchow
- c—Saishu
- d—Lushun

6. Another name for Formosa is—

- a—Samar
- b—Thailand
- c—Taiwan
- d—Hainan

7. The Japanese name for Korea is—

- a—Manchukuo
- b—Thailand
- c—Hainan
- d—Chosen

8. Iran formerly was called—

- a—Iraq
- b—Persia
- c—Saudi Arabia
- d—Syria

Leathernecks Stress Safe Driving

Training Course Reveals Weaknesses

MCAS CHERRY POINT—Stress on safety in operative government vehicles has been heightened with a driver selection training course to screen out unqualified drivers and to disclose average-driver weaknesses that bear upon accident rates.

The station transportation section will use special devices to test vision, depth perception, steadiness of hands, strength of grip and reaction time for a driver's foot to leave the accelerator and reach the brake pedal. The written examination will be made up of true-and-false and multiple-choice questions covering operator's knowledge.



WHITE ENSIGN of the Royal Navy flew at half mast at Royal Naval Air Station at St. Merryn's, Cornwall, on occasion of President Roosevelt's death. Picture furnished by the U.S. Naval Attache, London.

Navy Names Jap Training Planes

Technical AIC Picks Tree Cognomens

Japanese training planes now are being assigned Allied code names by Technical Air Intelligence Center, NAS ANACOSTIA. The designations will be in the form of tree names, to avoid confusion with code names of Jap combat aircraft.

Enemy trainers named thus far are:

Hickory, Army advanced trainer. Twin engines. Span 59' 10". Length 40'.

Pine, Navy advanced trainer. Single engine. Span 51' 10". Length 31' 4".

Spruce, Army trainer. Single engine. Span (36?). Length (24?).

Willow, Navy trainer. Single engine. Span 36' 1". Length 26' 5".

Cypress, Army trainer. Single engine. Span 24' 3". Length 21' 8".

Technical Air Intelligence Center, NAS, ANACOSTIA, has been given sole authority for issuance of future code names. Photographs and pertinent data on suspected new aircraft types should be forwarded to TAIC. Tentative code names should not be assigned in the field or by other agencies.

Navy Destroys 1,782 Jap Planes

Hunting Good in 1945's First Quarter

Naval and Marine aviators destroyed at least 1782 Japanese aircraft during the three month period ending 31 March, while losing only 188. This brings the tally for the entire war to 11,601 to 2070, a ratio of 5.6 to 1.

Figures for the first quarter of this year are preliminary and may be increased by reports from outlying units. The victory ratio of the quarter, 9.4 planes to 1, is almost double the percentage results for the year 1944.

Of the 1782 Jap planes destroyed, nearly 800 were shot down in aerial battles. The remainder were destroyed on the ground by fast carrier plane strikes. The figures indicate that although Jap plane quality is improving, the Navy's planes and pilots are doing all right against them.

V-E Day Brings Small Cut-back

Navy Reduces Plane Orders Slightly

Defeat of Germany will make only a slight modification in the Navy's aviation procurement program, it has been announced officially. This year the Navy is purchasing about 26,000 aircraft.

The decline in estimated eventual requirements, due to the end of the war in Europe, is 941 planes, or less than four percent of the total figure. More than half of the 941 had been cancelled before the actual German surrender.

Last month the Navy extended its procurement program into the final quarter of 1946, letting orders of half a billion dollars for aircraft.



STUDENT PILOTS at NAS CORPUS CHRISTI develop taxi technique in this specially rigged taxi-trainer. At the controls of this airplane, an SNJ rigged with wing tip skids and a nose wheel, students can work out their taxi problems and study methods of avoiding ground loops without endangering either themselves or their plane. Developed at Corpus Christi, the trainer is believed to be the only one of its kind in the Navy.

Marine Corsairs Strike Tokyo

Carrier-Based Fighter Planes Are Active

Carrier-based Marine Corsairs participated in prelanding aerial assaults on Iwo Jima and the two-day raid on Tokyo that preceded the Iwo invasion. This was the first time Marine carrier-based fighters had flown in support of a landing operation.

Fresh from their raid on Tokyo, the Marines unloaded bombs and machine-gun bullets on Mount Suribachi Jap positions. Then, as assault forces charged ashore, the flying Leathernecks strafed the beach, laying a curtain of steel a few hundred feet in front of the attackers.

Veteran Marine fliers with more than a year of overseas duty requested extension of duty tours just to have a fling at carrier fighting.

Long the "triple threat" of Pacific air



CORSAIRS SUPPORT LANDING OPERATIONS

warfare, the Corsair is now called the "five-in-one" threat. It is the only plane operating as a land-based fighter and fighter-bomber, carrier-based fighter and fighter-bomber, and night fighter.

CAA Asks for Greater Airports

States Would Match All Federal Funds

The CAA National Airport Program calls for construction of 3,050 new airports and improvement of 1,625 others, according to *National Aeronautics*, to bring the total number of landing facilities in the U. S. to 6,305 within ten years. The program would cost \$1,251,000,000 and CAA proposes it be done by matching with state money a Federal fund of no more than \$100,000,000 a year. CAA wants Congress to appropriate immediately \$3,000,000 for a survey project, to set up an equitable formula for distribution of the money, and to require that any airport for which Federal aid is used be made to conform to CAA standards.

Of the states, CAA would require the setting up of an appropriate state agency to handle the program, adequate zoning and enabling legislation, earmarking of all aviation tax revenues for aviation purposes, and a guarantee that local project sponsors will take over maintenance of the finished air fields.

Restricted

FLIGHT



SAFETY

Haste Makes Waste

A recent memorandum report on the loss of a TBM-3 vividly illustrates what can happen to the pilot of a new air group operating for the first time in enemy waters. The obvious errors involved constitute a perfect example of "what not to do."

The pilot took off on a routine flight at 1400 on coverage of a transport area, and was due to return at 1815. A chronological log of events during his return follows:

1808—Started return to base while on second leg of patrol, heading south. Tried to pick up own carrier but unable to do so. His radioman then homed him on a course of 210° to another carrier in sight about 10 miles away.

1815—Called Carrier Division Commander of carriers in sight who told him to steer 210°, which he did for five minutes.

1820—Received call from own carrier, and was told to head 180° for two minutes then orbit, and turn on emergency signal for 10 seconds. Was then told to continue on 180°, distance 55 miles. The pilot acknowledged this message.

1825—Radio went out of commission, as confirmed by inability of anyone to reach him. He held the 180° course for about one hour, gradually letting down from 2500 to 1000 feet. Saw no light beacon during this time. Believed radar was working, but picked up nothing.

1850—The plane was tracked in on a course of 180° almost to the carrier then lost. At this time night fighters had been dispatched to bring the plane home, but they found a seaplane where the lost plane was thought to be.

1925—Got rid of bombs and rockets at 1500 feet and circled up to 2000 feet, made one square box search 5 minutes on each leg.

2015—Let down as he headed for transport area, intermittently fired machine guns to attract attention.

2030—Altitude 1500 feet, course 000°, called any or all ships asking for course. A DD heard him, and reported to his carrier.

2050—An ASP reported seeing two flares and hearing message from the plane.

2059—Picked up convoy on bearing 268°, distance 25 miles. Was headed for it when his carrier gave him course.

2100—A DD reported plane bearing 250°, distance 48 miles. At almost the same time his carrier picked him up bearing 260°, distance 38 miles. Was given course of 090° by C.I.C.

2107—Plane reported five gallons of gas remaining and getting ready to ditch. Came in at 2500 feet, gradually going down to 100 to gain speed.

2108—Plane was given wind direction for ditching and told to keep coming as he was heading practically into the wind.

2115—Carrier turned into wind to receive

plane and turned on homing light. 2123—Pilot told to "put down wheels, flaps and hook."

2124—Pilot told to "take it easy, get lined up, we are ready for landing."

2125—Plane then made approach from starboard quarter, overshoot and got wave-off.

Made second approach, overshoot and got wave-off.

While starting third approach from astern, engine failed and normal water landing made off port quarter. All occupants picked up by a DD uninjured.



Conclusions

The pilot, after completing his ASP, instead of using POINT OPTION and his navigation board to find his way home, apparently depended entirely upon radar and radio to get back. When these failed him, he was lost, nearly out of gas, and with no way of re-orienting himself except by heading in the general direction of land.

The reason for flying on a course of 180° for approximately one hour, after being given a distance of 55 miles from base remains unexplained. At his speed of 130 knots, not much more than 30 minutes should have been spent on that course prior to commencing a square search. This should have been effective as the weather in general was clear with few scattered cumulus clouds in the carrier area.

Even with the above loss of time and gasoline, the plane might have landed safely aboard had the pilot taken a slower, straighter approach, thus enabling him to get aboard on the first or second approach.



Lessons Learned

Although radio and radar are wonderful instruments, they do fail. The only safe thing to use for navigation is the old-fashioned plotting board, regardless of length of a flight, particularly over water. The pilot who depends on radar to the point of neglect of navigation is courting trouble.

As is usual in the case of a pilot in a hurry to land aboard, this pilot attempted to cut corners, ending up in unsteady approach and eventual wave-offs. When in a tight spot in an airplane, as in many other cases, "haste sometimes makes waste." A pilot in a hurry to get aboard should make a longer than normal stern approach to insure getting aboard on his first try.



LEATHERNECK AEROLOGISTS SET UP THEIR INSTRUMENTS AT WINDY POINT, SUB-STATION OF MARINE CORPS AIR STATION, MOJAVE

WIND WARNING

WIND warning at MCAS MOJAVE is tricky business. Situated on the floor of the Mojave Desert below Tehachapi Mountains, the airfield often is swept by sudden strong and gusty blasts from the northwest that threaten aircraft in the air and on the ground. Due to the nature of these winds, adequate forecasting is a real aerological problem.

These conditions made it imperative

for the aerological department to establish a sub-station known as Windy Point. By a process of triangulation, the best location was found in Tehachapi Mountain area at the rim of Tehachapi Basin, west-northwest of the station some 14 miles away.

Desirability of this location can be understood when the forces producing downslope winds are known. Air masses building up in San Joaquin Val-

ley overflow into Tehachapi Basin. Since a mountain barrier of 5000' elevation seals the east-southeast end of the basin, the pressure of air increases continually. Eventually, the difference in pressure between the air in Tehachapi Basin and that in Mojave area below becomes so pronounced it is literally sucked over the ridge and down the mountain slopes. MOJAVE then experiences rapid changes in pressure and temperature and winds of extremely high velocity.

Windy Point can supply the meteorological data which, in giving advanced notice of the onset of these winds, acts as a wind-warning service. Danger to aircraft in the area is significantly reduced. Research work also conducted at this sub-station proves more than locally valuable, as further information on ravine winds and mountain weather is made available to the CAA weather bureau.

Jeep Carries Aerologists To Post

The location of Windy Point is quite inaccessible, and it was necessary to transport instruments and housing facilities for the crew as well as connect the sub-station with MCAS MOJAVE by telephone. A jeep ride up an elevation of 5100' is necessary to attain this objective, and the ride makes all roller-coasters look pallid by comparison. Up rugged mountain slopes unmarred by any sign of road construction, down into snow-filled ravines, then up the other side, the small jeep loaded with water cans, food supplies, and aerologists makes the run every three days.



SUB-STATION OPERATES EFFICIENTLY; MARINES INSPECT HYGROTHERMOGRAPH WEEKLY

SHORE STATIONS

▶ **NAS CORPUS CHRISTI**—Enlisted men have the opportunity of going on all-expenses-paid fishing trips in the Corpus Christi bay during the summer.

The *Corpus Christi Caller-Times*, for the third summer, is taking a maximum of 40 men aboard the boat *Rosabell* for a trip every Monday, starting 0630 and ending shortly after noon.

▶ **MCAS EWA**—A Leatherneck walked into the Eye, Ear, Nose and Throat department of Sick Bay and asked the doctor to sign a prescription for him.



The Marine listed the symptoms and described his trouble as "Payday." To the Doctor, that meant the 1st and 15th, or the 5th and 20th, of any month, and, frankly puzzled, the medic insisted on more information.

"Payday" turned out to be a horse the Leatherneck was scheduled to ride in a rodeo.

▶ **NAS HONOLULU**—A lieutenant, one of the many naturalists here who spend their spare time collecting samples of plant and insect life on the Pacific islands, returned from a routine flight to his room where he was keeping a cigar box full of butterflies, his prize catch from the Philippines. While he was away, a family of ants had moved in and set up housekeeping, using for their subsistence his handsome butterflies. Last time anyone saw the lieutenant he was wailing like a wounded panther.

▶ **NAS MIAMI**—When a lieutenant ordered some sliding pads a year ago for his baseball team at MCAS EDENTON, he didn't think he'd wind up doing a favor for the 1945 NAS MIAMI diamond outfit.

At any rate, the following letter was received here a few days ago from the athletic equipment company from which the lieutenant had ordered the pads in 1944:

"We have received an invoice from the athletic equipment company, covering the sliding pads ordered by you almost a year ago. We are enclosing our invoice covering the charge to you.

"As you probably know, this merchandise is hard to obtain and hence the delay in filling the order. If you are not able to use these pads we shall be pleased to have you return them to us and we will allow full credit for same."

Strangely enough, another lieutenant, NAS MIAMI's present baseball coach was trying to find some sliding pads. He simply paid for the two dozen that had been ordered the year before and everybody was very happy.

▶ **NAS DAYTONA BEACH**—The coffers of the Sanford Florida Auxiliary, Navy Relief Society were \$75.00 richer this week. This

amount was presented by a lieutenant to the chairman of the relief committee and was from a fund made up of "Dilbert" fines collected at the field carrier landing activity at Tomoka Field.

The unfortunate pilot who makes an approach with his wheels up has to pay \$3.00. The most common fine of 50¢ is contributed by the pilot who fails to close his cowl flaps.

The \$75.00 fine contribution was collected over a two-month period at Tomoka, and any future "Dilbert" fines will find their way to Navy Relief.

▶ **MCAS MOJAVE**—Participants in the combat conditioning program have found a man after their own heart. He is a torpedo bomber pilot, and it is rumored he can and does tire the instructors. He was a logger in civilian life.

▶ **NAS GLENVIEW**—Following is an excerpt from the ship's log of a decommissioned unit of NAPTC.

10 August 1944

1712—Doughnut man came aboard. Jones gave me 25¢ to buy doughnuts. The man said he didn't sell them by the quarter's worth so I antied the extra nickel and ate one so no repayment necessary. His prices are: 6 for 20¢, 9 for 30¢, etc.

J. F. Johns, SK1C

▶ **NAS HUTCHINSON**—Swimming tests given in compliance with Naval Air Operational Training Command directives revealed 26 percent of this station's ship's company personnel as non-swimmers who need intensive training to pass the required swimming tests of the Command. The 26 percent of non-swimmers were found unable to remain afloat five minutes. Forty-seven percent could remain afloat five minutes only.

▶ **NAAS JACKSONVILLE**—Gunnery's maintenance problems on .50 cal. aircraft machine guns have been reduced to a minimum by a system of removing the inner mechanism from all guns except those actually used during the day's flights.

Each morning, maintenance crews load the working parts into all guns scheduled to fire from planes operating that day. When planes return from their flights, they are met by a crew that immediately re-

moves inner parts and returns them to the line gunnery shop for maintenance. This keeps guns in better working condition and increases margin of safety by eliminating the possibility of accidental firing on the ground.

▶ **NATTC MEMPHIS**—One morning after a hard night ashore, a member of the station's band was awakened by a recording *Can't Get 'Em Up*, which came over the worry box, loud and clear—especially loud—with beautiful bell-like tones.

Still punchy from sleep, the musician arose from his sack, shook his fist at the unseen bugler. "Someday I'm a-goin' to murder that bugler," he began, plotting mayhem for the early morning tootler. "If I could ever get my hands on the blankety-blank!"

"Take it easy, Mac," a shipmate from an adjoining sack cautioned his buddy. "You can't win! That is your own recording!"

▶ **NAAS JACKSONVILLE**—An all-wood nose hangar, constructed according to a plan drawn up especially for *Liberator* and *Privateer* type aircraft, now is in use by the maintenance organization. This hangar, with two long platform wings, extending from a central well, deep enough to accommodate the nose of a PB4Y-2, permits easy access to all engines of the plane. Two flights of shallow stairs, so constructed that they can be converted into a ramp for movement of heavy equipment, give access to the two working platforms.

▶ **MCAS CHERRY POINT**—The civilian housing project was all astir. Word had spread from house to house that some kind of a



monster was reclining in a drainage ditch. An alarm was sent out and MP's came running. The monster turned out to be a 6 foot alligator who had just wandered in for a visit. The MP's shot the reptile, and the civilians skinned it.

▶ **NCQNS NEW YORK**—Approximately 150 enlisted personnel of the Hospital Corps began classes in rehabilitation technics in a newly established school at Hunter College, N. Y., which has been designated the **HOSPITAL CORPS REHABILITATION SCHOOL**.

Founding of the school sets a precedent for Hospital Corps courses in agreement with Hunter College authorities, granting college credits for successful completion of courses, each of which will be of 16 weeks duration. First classes scheduled are in physical therapy, occupational therapy, teaching of the deaf, hard of hearing, blind, and the orthopedically-handicapped.



Advance Bases
LET
NEWS HEAR
FROM YOU!

TOKYO TALKS

-TO U.S. FORCES IN THE PACIFIC

Desperate attempts are being made to ease the food famine that is descending on the United States. Officials of the food administration department, in their frantic efforts to feed the people of America, are now building their hopes on a new Secretary of Agriculture named Anderson, whom they evidently hope will be able to work miracles. All he has so far recommended, however, is that food cultivation should be resumed in liberated areas as soon as possible, and that machinery should be sent to these areas to set up production. But what good, we ask, is this going to do to Americans who are clamoring for more food right now?

-TO JAPAN AND EMPIRE

His Imperial Majesty hears the war reports from early in the morning to late at night. It is indeed very gratifying to hear that His Majesty has almost no time for a moment's rest because of busy daily personal study of various information documents.

-TO JAPAN AND EMPIRE

Tokyo, Yokohama and Kawasaki have sustained considerable damage from recent air raids. On June 3 Premier Suzuki made an inspection tour of the ruins of Tokyo and then called at the metropolitan police board to offer encouragement and received a report on the conditions of the devastated areas.

-TO JAPANESE HOMELAND

President Truman and the rest of American war leaders are persistently demanding unconditional surrender of Japan. Such utterances are interpreted in Japan to mean only that America is tired of war. Americans would do well to consider the fighting now centered in the Okinawas and the future battles to come in other areas. If she should come to fully realize how many more sacrifices she must make in the future, then we believe that we can open a way for the unconditional surrender of the United States.

Japan does not want to enslave the American people or exterminate them. The unconditional surrender Japan demands of the U.S. is the liberation of the Americans from the clutches of the warring imperialists and the immediate return of the American servicemen from the bloody fighting in the Pacific to their homes, work and their loved ones. And then we would like mutually to join hands in constructing an international machinery which will strive towards world peace and the good of humanity.

-TO THE UNITED STATES

We can surmise that our bomb-carrying balloons are creating havoc in the enemy's country. Thus far attacks have been on an experimental scale, but when experiments have been completed, large-scale attacks with death-defying Japanese

airmen manning the balloons will be launched. The balloon bomb is one of Japan's unique originations, and will enable us to attack the enemy mainland directly from Japan. They have a ceiling over 45,000 ft. and take just over 100 hours to reach the U.S.

-TO THE UNITED STATES

What with Japanese balloon bombs over the U.S., crippling naval losses, and skyrocketing casualties in the Pacific, President Truman's message to Congress was more of a warning to the American people than otherwise. Among other things, Truman appealed for workers in shipyards, and revealed the considerable damage inflicted on U.S. warships by Japanese crash-divide attacks.

-TO JAPAN AND EMPIRE

The reason we are fighting for Okinawa is not that we are just fighting for Okinawa alone but are fighting for Japan. In order that the Japanese mainland may be defended, we must defend Okinawa. Okinawa, which lies in our

vision, is actually said to be a spearhead, or the first defense line, or a part of the Japanese mainland. Herein lies the reason for our belief that to defend Okinawa means to defend entire Japan.

-TO JAPANESE HOMELAND

The American bombings have burned down and devastated our cities of Tokyo, Osaka, Nagoya, and so forth. The burning of the Capital was truly a sad thing for the Japanese people, but it was fully expected. It is said that the Americans are indiscriminately bombing the historical and cultural edifices in Europe and East Asia and that they are trying to reduce the historical pride of Europe and Asia to ashes and bring America's history up into the front. The American bombings have been so thorough as to give proof to such thinking.

-TO THE UNITED STATES

Rehabilitation work in the devastated areas of the Tokyo metropolis is rapidly moving ahead, like Phoenix, rising from the ruins and ashes left in the wake of the enemy's recent indiscriminate incendiary raids. Aside from making full use of thousands of tons of scrap metal, the devastated areas are already being cleared and rapidly converted into gardens to assure a sufficiency of foodstuffs for the citizens of Tokyo. Plans are also under way to repair the damaged shrines as well as to plant as many flower gardens as possible. In short, the Tokyoites are more than ever determined to fight this war to the finish, and to defend His Majesty's Capital under any circumstances.

-TO JAPAN

Establishment of owner-operated farms, which is advocated by the Government, is still being encouraged. Poor results in farming hitherto appear to be due to lack of cooperation by landowners, who have hesitated to sell, hoping for a future rise in the price of land. It should be noted that practically all of the acreage of untilled land is made up of land which the tenant farmers had returned to the owners. However, the fact that the owner-operator-farmer will unceasingly try to protect his own land, regardless of profit or loss, is the traditional spirit of our country's farmers.

-TO JAPAN AND EMPIRE

The Navy Ministry has announced that a Jinrai Unit has been active in recent days at Okinawa. By Jinrai is meant that rocket bomb which is attached to the body of the attacking plane. The enemy has named this new weapon the baka bomb, and it is reported that it comes rushing out from its cradle on the side of the wings of the mother plane with a deafening noise, and is guided by a man. Simultaneously as the attacking plane comes over the objective, enemy warships for example, the human bullet plunges into the ship with the greatest endurable speed for any human being. This new weapon represents a discovery that could have been made only by the Imperial Navy and already some 332 men have been honored with the special command to carry out this extremely important patriotic mission.

SHOW ME THE WAY TO GO HOME



Link Problem

Pt. Option 0800 Lat. 31° 50' N. Long. 159° 00' E. on Cus 190°, speed 20 k., Mid-Lat. 30° N, Mid-Long. 160° E, Var. 9° E, TAS 160 k., Flight Alt. 2000 ft. W/V 340°/20 k.

Island Able Lat. 32° 10' N, Long. 159° 25' E.

Island Baker Lat. 32° 00' N., Long. 159° 48' E.

MISSION: Makes sweep to Island Able, examine it for evidence of enemy activity by flying two standard 360° turns to port. Return to Pt. Option.

0800: T/D over Pt. Option for Island Able.

0805: Disregard original target. Change CUS to investigate Island Baker.

0815: Pt. Option changes to CUS, 170° Speed 24 k.

0817: Makes turns over Island notices wind changes to 180°/30 k.

0819: Depart Island Baker to intercept Pt. Option.

1. What is ETI? _____
2. What is GPI? _____

(Answers on page 48)

PRIMARY FLIGHT INSTRUCTORS

"S" TURN TO CIRCLE

WIND



WIND

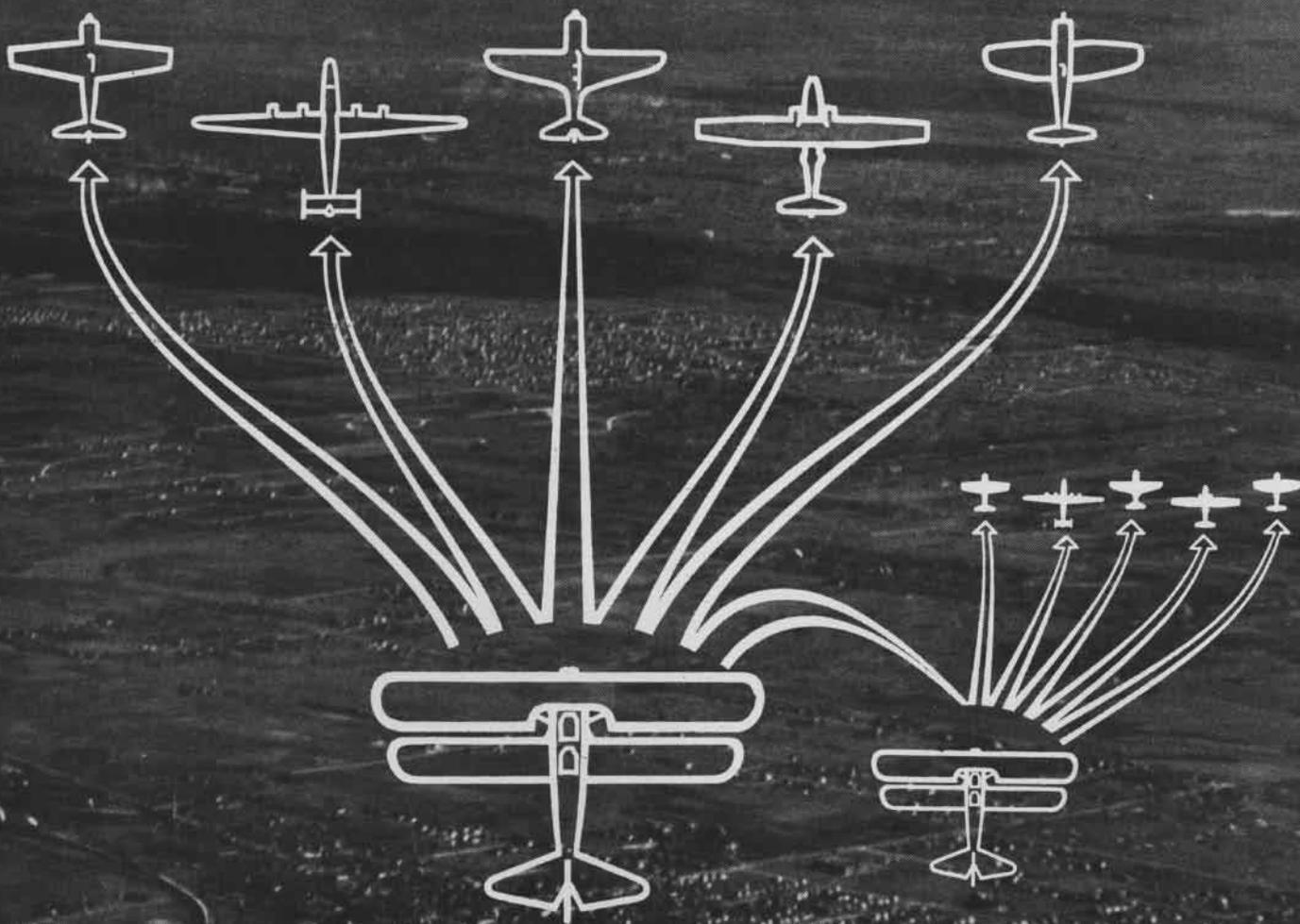


20% KNOWING WHEN
TO LAND

40%

40%

AT THE DUAL CONTROLS OF THE YELLOW PERIL, NAVAL AVIATION CADETS LEARN TO FLY



PRIMARY INSTRUCTORS ARE RESPONSIBLE FOR SENDING MANY MEN INTO COMBAT, PERHAPS TRAIN ANOTHER PILOT TO INSTRUCT

PRIMARY TRAINING

INSTRUCTORS PRODUCE NAVY FLIERS FOR COMBAT

AT THE four pre-flight schools and seven air stations of the Naval Air Primary Training Command scattered over the nation, thousands of aviation cadets get their first preparation for combat and learn to fly. With a few more months of intermediate and operational training, these same young men, ensigns in the Navy or Marine second lieutenants, wearing their wings of gold, will be ready to go aboard new carriers as they are commissioned or to relieve combat-weary squadrons in the Pacific, to carry the war to a triumphant finish.

By teaching these cadets to fly, flight instructors at the primary air stations make Naval Aviation's most important contribution toward this goal. Each individual instructor, by his own efforts, has been respon-

sible for sending upward of twenty pilots into action every year, a force that can make its impact felt.

It is in primary that a cadet learns to fly. Later in intermediate and operational he gets more specialized training and learns to use as a weapon the plane he has been taught to fly, but it is the primary instructor who gives him the fundamentals of flight. Habits formed at this stage stay with the cadet the rest of his life and they must be good habits.

All aviators do not have the ability to teach others, regardless of their experience and flight skill. By careful screening, the Navy picks out the ones who have the desirable attributes and selects them for a tour of duty at an air station under the primary training command.



CADETS AND INSTRUCTORS CHECK THE FLIGHT SCHEDULE BOARD TO SEE WHEN, IN WHAT PLANE AND WITH WHOM THEY FLY

CADETS GET THEIR FIRST TASTE OF NAVY FLYING

NAVY flight instructors, handpicked for the job, deserve the recognition of the nation for their outstanding accomplishment of providing the expanding Fleet with superior pilots in record-breaking time. They are the backbone of the primary training program, the men who by their sweat and blood turned out pilots on a mass production basis to fly the thousands of new planes ready to be

thrown against the enemy at every opportunity that arises.

While more and more combat pilots are returning for instructor duty, there are many still serving who have never had the opportunity to fly with the Fleet. Recognition for their splendid accomplishment only recently was offered in a letter of commendation from Vice-Admiral Aubrey W. Fitch, DEPUTY CHIEF OF NAVAL OPERATIONS (AIR).

However, it is the feeling of accomplishment that gives the instructor his greatest morale boost. To see a class of students start as fumbling novices, complete their solo hop, gradually develop from mechanical robots to skillful pilots and go on to intermediate training, is the inspiring sequence of progress that keeps him constantly on the job, gives him pride and new interest in the work he is doing. That is the job of the men who teach cadets to fly *Navy Yellow Perils*.





INSTRUCTOR CHECKS CADET'S NEW CHUTE FOR PROPER FIT



EXPLANATIONS IN AIR ARE REPEATED WHEN PLANE LANDS

NAVY MAKES INSTRUCTORS OF EX-CIVILIAN PILOTS

DURING the early days of the expanded Naval Aviation training program, the greatest need was for competent instructors. Cadets were being procured by the thousands and backlogs were piling up awaiting the call for training. The few capable instructors available were flying long grueling hours but were unable to meet the expanded program.

To cope with this emergency, the Navy started procurement of civilian pilots. Classified as A-5(L) pilots, they came to Naval Aviation with diverse backgrounds. Some were commercial pilots, many were war civilian flight instructors, others had logged time merely as a hobby. But they all accepted the challenge willing to do their part in

the war effort and a great part it was—the training of thousands of young cadets, eager to earn their Navy wings.

Many of these civilian pilots, now in naval uniform, were sent to instructor refresher schools while others were sent through a primary training course before attending instructor school. By taking advantage of their past flight experience, the Navy was able to make instructors out of them.

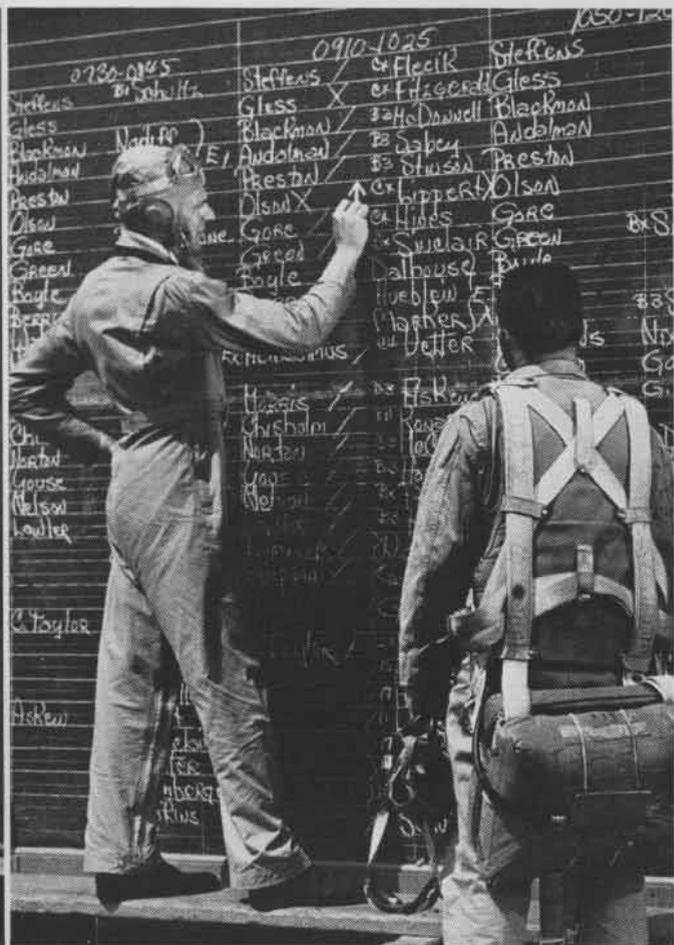
Words of praise are inadequate to express properly and offer due recognition to the brilliant performance turned in by this group of fliers, now reclassified A-5(L). To them goes much of the credit for meeting the all-but-impossible quotas of naval aviators needed by the Fleet.

Now that the demands on the training program can be anticipated with greater accuracy, new assignments are being sought for the A-5(L) pilots. Those over 30 years of age will continue with the primary command until relieved for administrative billets as Fleet-returned instructors are made available. Others under 30 will realize their long-delayed hope of additional training and an opportunity to fly and fight with their former students against the enemy.





BLACKBOARD TALKS BEFORE, AFTER FLIGHT AID STUDENTS



GETTING UP-CHECK IS USUALLY CAUSE FOR CELEBRATION

INTERMEDIATE GRADUATES ARE CHOSEN TO INSTRUCT

ANOTHER group of instructors, selected from among the cadets who finish intermediate training, fills a great need in primary training. Because they possess the qualities desirable in a good instructor, they are chosen for I-U-T (Instructor Under Training) school and upon completion assigned to a one year tour of duty at a primary station.

Sacrificing their personal desire for immediate action with the Fleet, this group, classified as A-1(L), continue to furnish the command with capable instructors who also have done a splendid job of turning out future pilots.

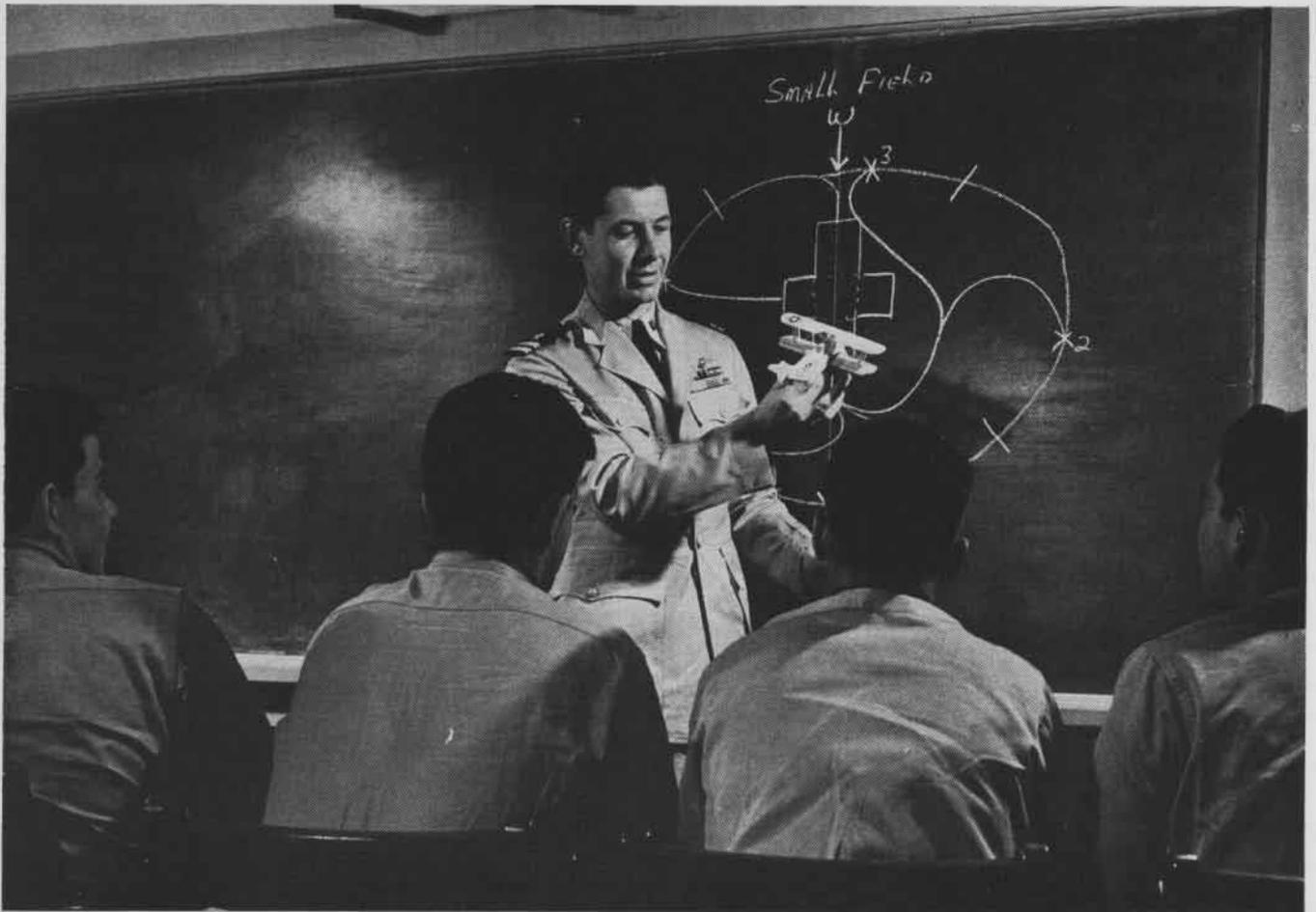
Lacking the experience of many of the commercial pilots who serve as instructors, the A-1(L) flier has the advantage

of a more thorough indoctrination in Naval Aviation. He knows the cadet's problems because he was so recently going through the same routine. While at the time the tour of primary instruction may seem a definite barrier to his desire for combat duty, actually the experience will prove very beneficial and he will make a better combat pilot because of it. Careful planning and cool analysis in the air war of today is needed more than mere dash and courage. The ex-primary instructor fills these requirements.

There is no substitute for flight experience, and the hundreds of hours logged in a *Yellow Peril* during a year of primary instruction will add greatly to the storehouse of useful information filed away for future use. Then, too, because an instructor must set a near-perfect pattern for the student to follow, flying technique improves with every passing month, a decided advantage to the pilot when he reaches combat. A seasoned pilot makes fewer mistakes.

Upon completion of the 12-month assignment, the A-1(L) pilot is given an opportunity to take an intermediate refresher, then go on to operational for additional training.





RETURNED COMBAT PILOTS NOW ARE ADDING THEIR WIDE EXPERIENCE IN FLEET OPERATIONS TO THE PRIMARY COMMAND

RETURNED COMBAT PILOTS COMPLETE FLIGHT TEAM

STILL a third group of instructors—to relieve the ones who have completed their tour of instructor duty—now are appearing in the primary training command. These are naval aviators who have seen combat and are being ordered to the states for rest and then reassignment.

Carefully screened upon arrival at the West Coast, and their records searched by the office of flight personnel in the NAVY DEPARTMENT, WASHINGTON, D.C., pilots are selected for duty as flight instructors in the Navy's three functional flight training commands.

Capitalizing on their mature flight judgment and experience, the Navy plans to utilize selected numbers from this

group of pilots as primary instructors to train more and more aviators for the Fleet. Because they know the needs of combat, they are better able to judge the qualifications of future pilots. From bitter experience they have seen costly errors in flying and fighting judgment and are in a better position to fortify their students against a repetition of these, letting others profit from their experience.

To the returning pilot there are many advantages in being assigned to a 12-month tour of duty as a primary instructor, an important one being assigned to a naval air station near his home or, within quotas, at the station of his choice. Billets now are available at NAS GLENVIEW (CHICAGO), ILL.; BUNKER HILL, IND.; OTTUMWA, IA.; NORMAN, OKLA.; MEMPHIS, TENN.; DALLAS, TEXAS; AND NEW ORLEANS, LA.

Additional recognition is being given returned combat pilots by placing them in positions of responsibility in the primary training organization, where their Fleet experience can be utilized to best advantage.

With their background of combat flying, A-1 instructors are greatly admired and respected by their students. Results





INSTRUCTORS ALWAYS USE HANDS TO SIMULATE MANEUVERS

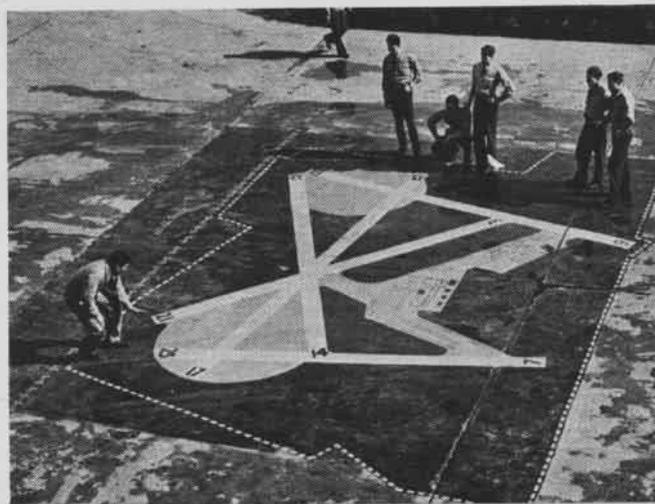


DEVICES ARE USED TO HELP CADET VISUALIZE PATTERNS

already have been found to be more than satisfactory and at the completion of a tour of instruction duty, the combat-wise pilot will have the satisfaction of knowing that many pilots, instead of just one, profited from his experience.

FLYING skill alone, however, is not enough to make a good instructor. Upon returning, the combat pilot must prepare himself to be a flight instructor. This means a refresher course to equip him with approved methods of handling new, inexperienced students and knowledge of proper methods of presenting the flight training course.

While serving as a primary instructor, A-1 pilots also will be given an opportunity to fly more advanced types of planes, to undergo instrument training, cross-country, etc., in order to maintain proficiency on the heavier models and keep in flying and fighting trim for any emergency. At the completion of their 12-month tour as an instructor, the pilot will get an operational refresher in the newest types to keep him up-to-date with the latest developments in equipment.

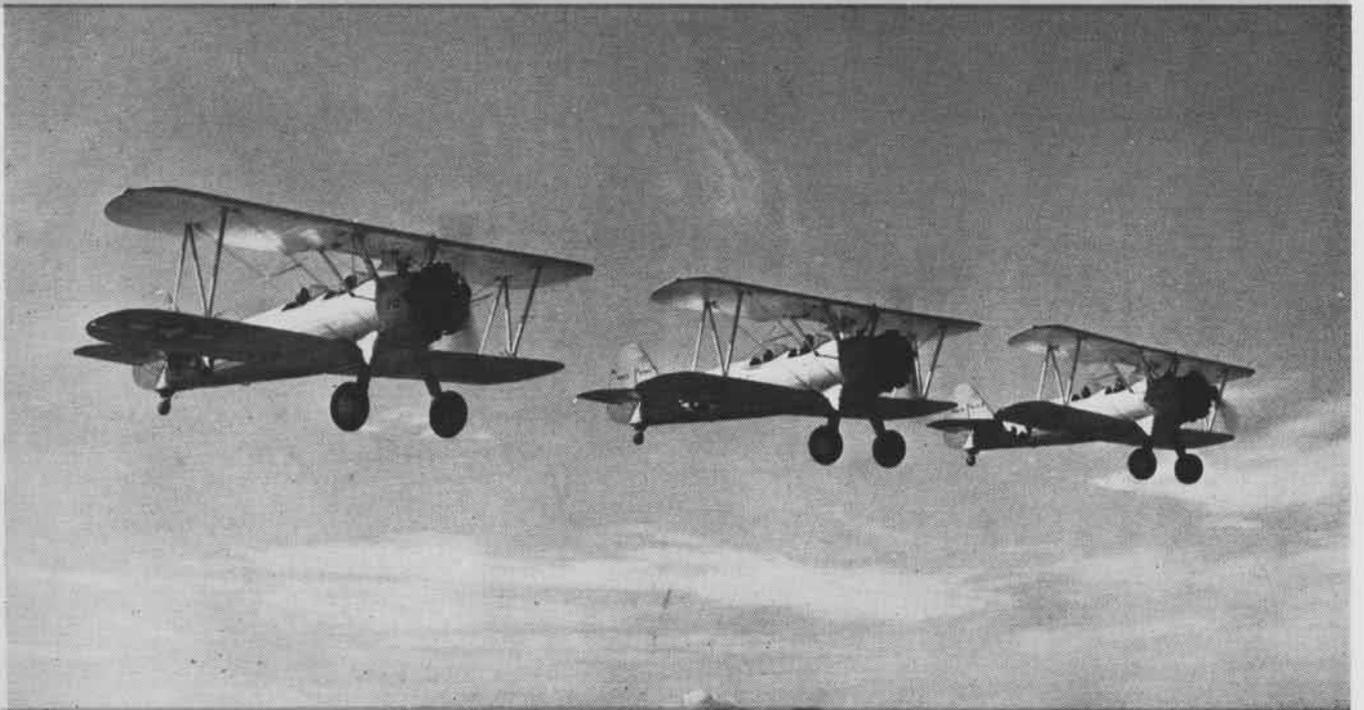


INSTRUCTOR SIMULATES LANDING ON NAS GLENVIEW MODEL





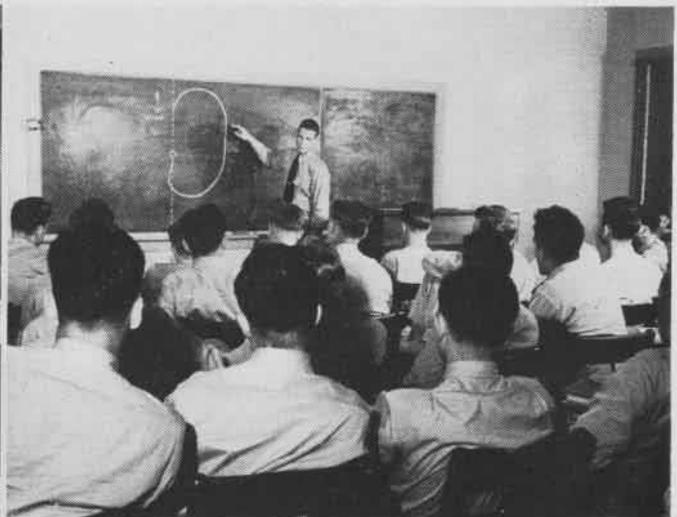
INSTRUCTORS UNDER TRAINING LEARN TO TEACH WHILE FLYING AT NAS NEW ORLEANS, ON SHORE OF LAKE PONTCHARTRAIN



STAFF INSTRUCTORS GROOM I-U-T'S IN PRECISION FLYING, PREPARE THEM FOR JOB OF INSTRUCTING PRIMARY CADETS



I-U-T'S GET THE DOPE ON FILLING OUT FLIGHT RECORDS



STAFF INSTRUCTORS CONDUCT STAGE CLASSROOM LECTURES



LISTENING TESTS RATE THE INTELLIGIBILITY OF PATTERN



I-U-T LEARNS TO SPEAK CLEARLY THROUGH GOSPORT TUBE

HOW PILOTS ARE TAUGHT TO TEACH

NEW ORLEANS I-U-T PROGRAM IS GRADUATE SCHOOL OF FLYING

EVERY prospective primary instructor goes through the flight and ground school course at NAS NEW ORLEANS, before reporting to his ultimate duty station as an instructor. At NEW ORLEANS the I-U-T (Instructor Under Training) is trained to think in terms of teaching. He learns to think as an instructor, speak as an instructor, fly as an instructor.

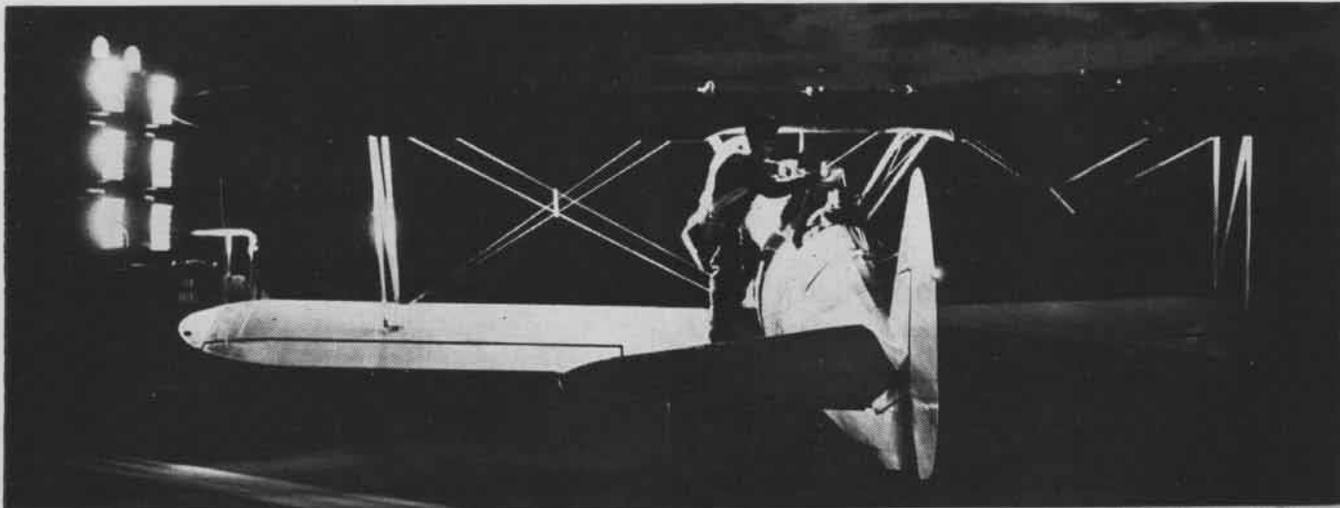
His ground school courses deal with the fundamentals of teaching and supplement the flight syllabus. At the same time the I-U-T gets an abbreviated yet thorough and down-to-earth course in psychology as it applies to the flight instructor. This includes principles and theories of learning and methods of speeding up these processes. Personality traits are discussed, tips given for adjustment to meet typical situations.

Another interesting and important phase of ground school is the speech psychology laboratory where gosport communication is studied. Constantly seeking to improve communications between instructor and student, the I-U-T learns

the technique of speaking through the engine and plane noises, makes recordings of his patter both in the plane and under simulated conditions in the lab to determine and improve intelligibility. While the I-U-T is going through this phase of the work, he is improving his own patter.

Instructional planning helps the I-U-T in presenting the flight course to a student, demonstrates how the work must be well-planned in advance, with allowances made for difficulties with any phase of the syllabus. Aerology as taught in ground school is more of a refresher course and deals with common phases of the weather problem.

In flight, the I-U-T learns to perform each maneuver with care and precision and at the same time explain the procedure so that a new student can understand just what is taking place. Nearly every dual flight is with a different staff instructor to give the I-U-T the benefit of different ways of presenting the same problem. When the course is completed, the I-U-T gets a certificate, is ready to teach cadets.



IN FINAL STAGE OF PRIMARY TRAINING, CADETS GET THEIR FIRST EXPERIENCE IN NIGHT TAKE-OFF, LANDING, FLIGHT



SUNDOWN DOESN'T MEAN THE END OF DAY ON PRIMARY FLIGHT LINE WHEN ADVANCED STUDENTS START NIGHT OPERATIONS

PILOTS BENEFIT FROM AN INSTRUCTOR DUTY TOUR

COMPETENT flight instructing makes a good pilot even better, and experience gained proves valuable to anyone planning to make a career of aviation. A good instructor will continue to learn more and more about flying, and every new student will teach him something.

More important, however, is the experience that will help qualify him for a post-war job in flying. With the increase in civilian flying, the demand for flight instructors will continue even after the war, especially in schools or colleges where aviation instruction is sponsored. For a career in the regular Navy or Marine Corps, ability and experience in flight instructing will of course be a mainstay in the repertoire of the pilot.

Other opportunities likewise will be open to the pilot with instructor experience, such as airplane dealerships with flight instruction offered as an added incentive, positions as airport managers, with private flying schools, in commercial taxi or airline services and as pilots for private

industry, to mention only a few of the possibilities for the pilot with a well-rounded background.

An important consideration is the type of flying the pilot will do in post-war civilian life. The opportunity to fly military planes of high horsepower ratings will be strictly limited and, except for a few, too expensive. The trainer type of aircraft more nearly approaches the plane that will be available.

A commercial CAA license in a 2000-horsepower plane will be of little use in civilian life, but the same license with an instructor rating in the low horsepower classifications could be very desirable and useful in providing a livelihood. Opportunity also is provided at all primary stations to brush up on instrument flying and take the required CAA examination for an instrument rating.

RELAXED flight schedules make the job of instructing an easier one than in the early days of the training program. The present schedule at NAS GLENVIEW, which is typical of stations under the primary training command, provides for instructors to fly three periods of one hour and fifteen minutes each for six days. When considerable time is lost due to bad flight conditions, an extra period may be inserted temporarily. Night flight schedules take approximately one night out of eight. The instructor flies for six days and then is off a day away from his daily flight job.

Lt. EDWARD F. OSBORN



NAS GLENVIEW—Lt. Edward F. Osborn, USNR, F6F pilot on the U.S.S. *Bunker Hill*, participated in 12 major Pacific campaigns, formerly a primary instructor, holds AIR MEDAL, now back at instructing:

"As I look back on my own experiences I realize that it is really here in primary that a pilot learns the fundamentals of flying, which later help him meet the enemy and

combat pilots in the world . . . Pilots returned from the fleet have a wealth of knowledge and experience worth injecting into the primary program. They are shrewd judges of human nature and keen observers of flying techniques. They can tell quickly which students will make the best shipmates and best pilots, because they know what manly qualities are desirable for a person to have to withstand a long sea voyage and the split-second thinking required of combat in the air. Returned pilots can contribute many fine points of flying technique, conduct and discipline into their students . . . Primary flight training is by far the most interesting phase of the aviation training program."



Case histories

come out on top. I feel that having had combat experience, the returned pilot can do a much better job of teaching these cadets and telling them what they'll be up against when they get out there. I've been through it all and I'm convinced the Naval Aviation cadets learn more in primary.

Lt. ROY R. M. GIBSON



NAS GLENVIEW—Lt. Roy R. M. Gibson, USNR, engaged in strikes on more than a dozen Jap islands during Pacific tours with VT-3 and VT-1, holds the DFC and AIR MEDAL, now a primary flight instructor:

"The primary flight instructor has a big job on his hands of coordinating the syllabus, students, equipment, weather, teaching methods and himself into a system of training that will develop the finest naval

Maj. ROBERT R. BAKER



NAS NEW ORLEANS—Maj. Robert R. Baker, USMC, *Wildcat* pilot at Guadalcanal, holder of the DFC and PRESIDENTIAL UNIT CITATION, previously served 26 months as intermediate and primary instructor, now a staff instructor at I-U-T:

"I get a real boot out of taking a new student who knows nothing about flying and in just eight lessons watch him take off on his first solo. I've seen hard-boiled instructors leave a poker game on some trumped-up excuse, slip out and watch a new student come in for a landing. For that matter, I've done the same thing myself . . . I feel that my tour of duty in primary has really taught me to fly the plane instead of letting it fly me . . . If assigned to

an instructor billet, primary is the most interesting because it covers all phases of flying, from straight and level to acrobatics . . . Primary has really smoothed out my flying. I won't miss any more gunnery runs because my plane is in a skid when I get out into combat again as I'm scheduled to do very shortly. Instructing has taught me that lesson."

Lt. FRANK STANDRING



NAS BUNKER HILL—Lt. Frank Standring, USNR, holds two DFC's and two AIR MEDALS, the PRESIDENTIAL UNIT CITATION, now a primary instructor at this station:

"Primary training has been divorced from the Fleet too much in the past. With the influx of pilots from the Pacific, this is changing. There is a great need for combat pilots in primary for we really have a big job to do."

Lt. J. H. AIRHEART



NAS NEW ORLEANS—Lt. J. H. Airheart, USN, PBV pilot in the Aleutians for 17 months, holds the NAVY CROSS, a former primary instructor now taking I-U-T refresher:

"I wanted the benefit of I-U-T school and asked to be sent here. The course certainly improves your flying, will help me a lot in instructing although I've had 16 months experience. They have an impressive way of presenting the program, correct your errors, help you diagnose them yourself and train you in explaining the work to a student."

Lt. EDDIE FAYLE

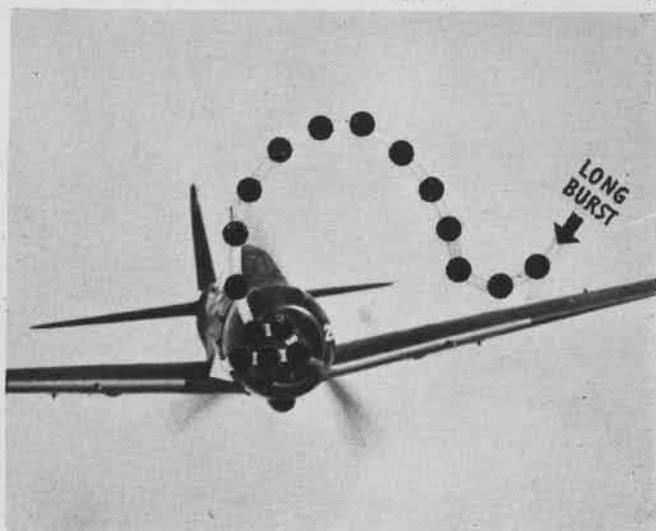
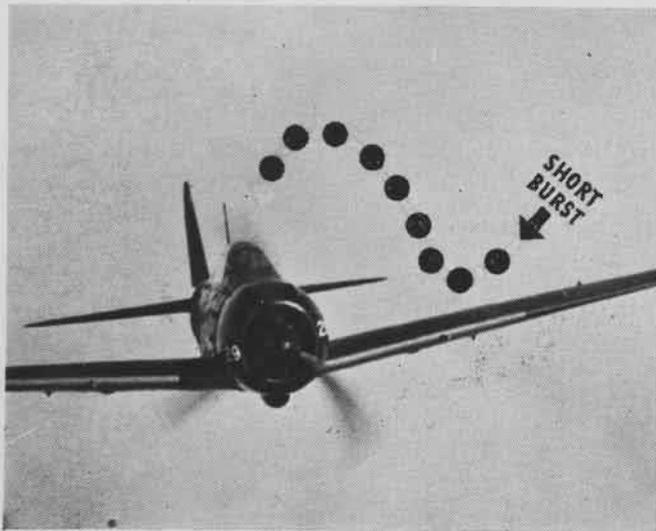


NAS BUNKER HILL—Lt. Eddie Fayle, USNR, holds the NAVY CROSS and PRESIDENTIAL UNIT CITATION, was formerly test pilot at NAS PATUXENT RIVER, now a primary instructor:

"I'm sure that the use of combat pilots in primary has been of benefit to the students and I'm glad I've had a chance to do my part. They need more good Navy pilots.



UP-CHECK ON FINAL FLIGHT SENDS CADET ON TO INTERMEDIATE TRAINING, TO LEARN TO USE PLANE HE FLIES AS A WEAPON



Aerial free gunners who fire only short bursts may miss their targets by ceasing firing before they can bring sights to bear

Long bursts from free gun give gunner chance to correct aim. If fired too long, barrels will overheat and bullets will tumble

FIRING LONG BURSTS

Free Gunner Corrects His Aim While He Is Firing

THE QUESTION of the best burst length for an aerial free gunner has given rise to much thought and discussion.

In 1942, free gunnery instructors were advocating the short burst method of firing, or firing in bursts of 6-10 rounds. In 1943, a tendency developed in free gunnery training activities to favor longer bursts. By early 1944, it was realized generally in gunnery training that long bursts are much more effective than short bursts when the object is to shoot down attacking enemy airplanes. Short bursts still are considered desirable when the primary objective is to discourage an enemy fighter from commencing an attack. [See "Let 'Em Up For Air," NANews, May 15, for data on fixed gunnery bursts.]

The short-burst doctrine possibly resulted from the peacetime necessity of obtaining maximum life from gun barrels. The serviceable life of gun barrels, measured in number of rounds fired, is greater if short bursts are fired and if a cooling interval is allowed between bursts.

Gun Climbs When Firing Starts

It was natural for the short-burst doctrine to carry over into the war period particularly since short-bursting possessed what appeared to be the virtue of conserving ammunition. It was assumed that the short-burst method did not reduce the effectiveness of fire. To the contrary, it generally was considered in gunnery training activi-

ties that short-burst firing increased effectiveness of fire because it provided the gunner with frequent opportunities to counteract the tendency of the gun to climb when firing.

However, the average gunner just will not fire short bursts when he is being attacked by a fighter coming straight at him, with its guns blazing. The sound of his guns is reassuring to him at such a time, and he is going to fire in long bursts.

It now is known that there are several good reasons why long-burst firing is more effective than short-burst firing, the most important being the following: 1. long bursts produce denser and more lethal patterns; 2. more accurate sighting is possible when firing long bursts; 3. long bursts tend to compensate for errors of sighting and tracking. Discussion of these points follows:

Experiments have shown that a machine gun's bullets "splatter" until the gun develops the rhythm resulting from full cyclic rate of fire. The first round goes true, but the next few rounds disperse badly. Then the gun settles down to a smooth rhythm and the remaining rounds of the burst are projected in a dense, lethal pattern. The "short-burster" is dealing out a succession of "splatter" patterns, while the "long-burster" is dealing out a greater concentration of fire after the first few rounds.

When a machine gun (hand-held or turret-mounted) commences firing, it will climb before the reflexes of the gunner can react to prevent it. The

"short-burster" combats this situation by releasing the trigger and bringing the dead gun down to the proper level. He repeats this process each time he fires a burst. The result is that his gun follows a saw-tooth course which detracts from accurate sighting.

The "long-burster," on the other hand, forces his gun down while firing, and he then is able to hold it more steadily on the line of flight of the target during the remainder of his burst. His gun will bob up once, but during the balance of the long burst he can hold it substantially on a straight line, thus permitting more accurate sighting.

Fire As Long As You Get Hits

Even the best of gunners cannot maintain the precisely correct relation between sight and target throughout an attack. Discrepancies in tracking, angle-off estimation, application of intended deflection, etc., cause the gunner to be "on again—off again." This is very apparent when viewing film of the self-assessing camera gun. If the gunner is firing in long bursts, he is likely to be dealing out an effective pattern at the moment he is "on the target." If he is firing in short bursts, there is a good chance he will be between bursts at precisely the moment he should be firing; and even if he should be firing at the right moment, his "splatter" pattern would be so scattered that effectiveness would be poor.

The question of how long is a long burst has provoked much discussion. The obvious answer seems to be that a gunner being attacked should keep his guns firing as long as he feels 1. that his sight bears the correct relationship to the target and 2. that the target is within effective range.

[FROM AVIATION GUNNERY TRAINING STANDARDIZATION UNIT NEWS BULLETIN]



IMPROVED PARARAFT KIT CONTAINER MAKES PARARAFT KIT READILY AVAILABLE AFTER A DITCHING, WHEN EVEN A SECOND COUNTS

PARARAFT CONTAINERS

FEATURING security of attachment during high speed jumps, and fast, positive release from the parachute pack, an improved pararaft kit container recently developed by the BUREAU OF AERONAUTICS should prove the

answer to reports that rafts were being lost during jumps, and were difficult to remove from the container. Thoroughly tested first on dummies dropped from planes traveling well over 275 miles per hour, the container later was used in 73

live water jumps made under varying conditions of wind and sea. Upon the successful completion of these extensive tests, a TO was issued, recommending that, until the new container became available at forward area supply points, it be fabricated in the field from the detailed drawings and instructions given in the technical order. Undoubtedly, many squadrons already have put the improved container to very good use.



ALL OF THE FOUR STANDARD PARACHUTE TYPES NOW IN USE MAY BE EQUIPPED WITH THE NEW IMPROVED PARARAFT KIT CONTAINER

DESIGNED for use with any of the four standard parachutes (STANDARD SEAT, STANDARD BACK, QUICK ATTACHABLE SEAT, QUICK ATTACHABLE CHEST), the container construction and method of attachment are fully explained and illustrated in TO's 114-44, 17-45, 18-45 & 22-45. Unit commanders are urged to make sure all parachute riggers are familiar with the contents of these TO's.

In using the improved pararaft kit container, one of the most important considerations is that each individual have a properly fitted harness. Each shoulder strap, leg strap and back strap should be adjusted. On a well-fitted harness, shoulder adapters should lie in

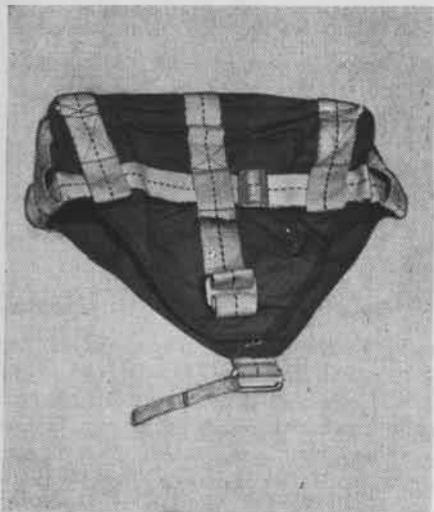
the hollow of the shoulder just below the collar bone, the sling should be snug under the buttocks, the back strap should give support to the small of the back, the leg straps should be just snug enough to permit sliding the fingers downward between the strap and leg when the wearer is standing. Before each take-off, the fit of the harness should be checked, and it should be made certain the pararaft lanyard is secured to the life jacket.

As originally designed and explained in the TO's issued on the improved container, a single, open-link connector was used to secure the pararaft kit within the container. The pararaft kit container issued later has been modi-

fied to incorporate a positive action snap. The new snap can be quickly and easily operated with one hand, thus providing ready access to the pararaft kit within the container.

Packing of the parachute is difficult with the pararaft kit in place. For easier packing of the parachute, it is suggested that the pararaft kit be removed from the container, and replaced after the parachute has been completely repacked.

Initial shipments of the new container have been made and they should be available now or in the near future at forward area supply points. The containers are being issued with PK-1, the latest pack of survival equipment.



OLD DESIGN WITH OPEN-LINK CONNECTOR

NEW DESIGN WITH POSITIVE-ACTION SNAP

ONE SNAP SECURES KIT FIRMLY IN PLACE

UNCLE KIM TUSSIE



SURVIVOR'S STATEMENT: "On the 14th, I saw no ship or aircraft . . . that night the sky was overcast and it was very dark. Just about the time I had gotten settled for the night in a raft I heard a rumbling noise and looked around to see a large dark shape moving toward me.

At first I thought it might be a storm but later made out a battleship blowing its stacks. It passed within thirty yards of me and the wash almost upset the raft. I didn't know whether it was a Jap or American but as it passed I saw the silhouette of an OS2U on the stern and then I started yelling. Later a destroyer passed and picked me up. It turned out that the battleship had heard my calls and thinking that a man was lost overboard, had notified the destroyer to stand by."

HE DIDN'T know a battleship from a cloud. But he did know the OS2U. Because he re-cog-nized this airypplane on the ship wuz probably the reason he's alive today. But hit seems funny to me he couldn't tell a thing as big as one of our battleships from the en'my's at jist a good spittin distance. But he made up fer all he didn't know about ships when he re-cog-nized the little OS2U a-roostin like a sleepin chicken on the big ship.

In the midst of the bitter Solomon Islands campaign, four of our PT boats were returning to base after a routine night patrol. On the way back, they noticed some enemy barge activity and proceeded to investigate. Several barges were sighted and were either destroyed or damaged by gunfire from the boats. While the PT's were still in this area, three planes were sighted approaching the boats at approximately 300 feet over the water. All were immediately recognized as F4U's, and the PT's took steps to establish their identity, even waving the American flag. Two of the F4U's appeared to recognize the PT's, but the third plane opened fire on one boat, fatally wounding one officer and two men. This PT boat returned the fire, and the attacking plane crashed and exploded. The

other two F4U's violently wagged their wings to establish identification and circled the area.

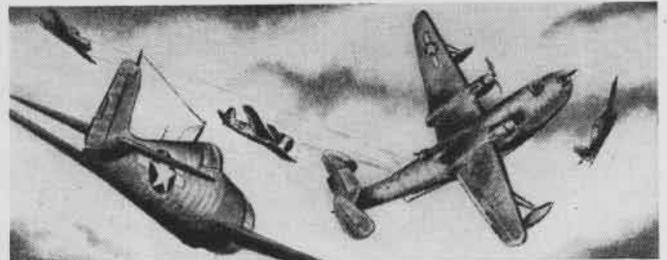
Subsequent investigation revealed that the PT's were outside their assigned operating area. The investigation further revealed an apparent communication failure between the planes. The F4U section leader had been in communication with the other two planes only a matter of seconds prior to the occurrence. He recognized the PT's as friendly even though they were outside their assigned area and ordered the other two pilots not to open fire. The assumption was, that for some reason, the attacking pilot did not receive, or else misunderstood, this message. As he was killed, the reasons for his action in continuing the attack never will be known.

HIT HURTS me to read a report like this'n because it brings back a lot of grief. Hit reminds me of the meny fr'ends we've shot because they didn't i-identify tharselves and because we failed to re-cog-nize 'em. I spect we've filled over a hundred fr'ends full of buckshot who wus a-comin to our still jist to git thar jugs filled with our good herbs. We's sorry afterwards but our bein sorry didn't bring thar lives ner did hit hep thar wounds. But, honest Injun, a lot of our a-shootin fr'ends couldn't be hepped. Hit's jist ezackly like what I've read in this report. Pears like some shootin happens among our boys over thar that cain't be hepped.

Anybody a-readin this report oughta know how important commun-i-cashions, i-dent-i-fication 'nd re-cog-nition can be to prevent these mistakes. But ye cain't allus count on one of 'em 'r all of 'em to keep sicha tradegy as this'n from a-happenin. Because they all failed here and if either one of 'em had been used thar'd a-been some lives saved. Hit all biles down to teamwork; when ye git the signals mixed like I've been a-tellin ye about at our still, somebody's a-goin to git hurt and hurt bad.

ACTION REPORT—On the morning of the 19th, one PBM was attacked by 4 F6F's and the plane captain of PBM was killed and two other crew members injured. The plane reached base but was not in a condition to continue operations. Crew members were certain of the identity of the attacking aircraft and saw the American bar and star on the fuselages. The fact that the attack was broken off would indicate that the F6F's eventually identified the PBM as friendly.

THE PBM is as ugly among other airypplanes as yer Uncle Kim is amongst the Tussies. And I aint a-lyin to ye nary bit, I'm the ugliest livin Tussie. I know if I could git close enough to six fr'enly Troxlers to re-cog-nize 'em they ougter re-cog-nize me. If they didn't and started a-shootin at me I'd say hit wuz jist plain ignorance.



Hit's jist the same thing I've read in this report. When our boys in the old ugly PBM got close enuf to our boys in the F6F's to see the Amerikan star and bar, thar jist ain't no excuse fer the boys in the F6F not a re-cog-nizin 'em. Because ye cain't show me a uglier plane in the whole gosh-danged Navy than the old PBM. And if ye show me a en'my plane anything nigh like th' PBM then I'd jist about be willin to try to eat it. And that's a-sayin a lot fer my teeth ain't good.

MAE WEST THE FLYER'S BEST FRIEND

THE ACCOMPANYING CHART, together with the following comprehensive evaluation of the performance of air/sea rescue equipment under combat conditions, are excerpts from a report submitted by the Aviation Equipment Officer of Air Group Seven. It should be borne in mind that these observations were obtained from one air group, and may not be applicable to other groups operating elsewhere.

Life Vest Most Valuable

"... few would question the statement that, 'the Mae West is the most valuable single piece of air/sea rescue equipment.' On numerous occasions,



men who were dazed from a hard water landing or who were suffering from shock still had sufficient initiative and coordination to pull the lanyard and inflate their life vests. Several were practically unconscious when taken aboard destroyers. Yet their life vests kept them afloat and, no doubt, saved their lives... two life vests failed to inflate and two others inflated only on one side. In three cases failures were due to loose caps on the CO₂ cartridge holders... pilots and crewmen must be cautioned again and again to tighten these caps after inspecting their vests...

Use of Life Rafts

"... the group used successfully eleven pararafts, nine two-man rafts and ten four-man rafts... there were eleven pararafts, nine two-man rafts, no extensive periods spent in life rafts... two pararafts were lost in the water apparently because they were not secured to the men. One pararaft was lost during a parachute jump. As a result of this, retainer webbings were sewed to the sides of the raft case to keep it secured. Later a Technical



Order #74-44 presented a similar webbing... some practice with them (life rafts) is highly advisable. Practice sessions were held... in which the men were required to launch the raft into

the surf, row out about one hundred yards, signal to a given point with their signal mirror, and then land, or beach their raft in the heavy surf..."

Parachutes Used Infrequently

"... there was little opportunity to evaluate parachutes since they were used so infrequently. Four persons used their chutes successfully. A fifth, a fighter pilot, hit the tail of his plane when he bailed out and was never recovered... one of the best single bits of advice to pilots is, 'see that the retainer belts are tight before attempting to bail out'... if the belts are loose it permits the chute and raft assembly to hang so low that it is almost impossible to get out of the cockpit. If they are tight, the assembly will be held firmly against the buttocks and will come out freely with him..."

Air/Sea Rescue Equipment Items

"... some pilots and crewmen found they could not wear the entire pad, so took critical items from it and had them placed in pockets sewed to their flying suits... the kits for making drinking water from sea water are considered to be among the most valuable items... at least two men felt that the waterproof flashlights they carried played an important part in the saving of their lives. Another was equally confident that his whistle led the destroyer to



him when he was in the water on a dark, foggy day. The signal mirror played a very minor roll possibly because many of our strikes were on cloudy days. Each pilot was provided with a small first aid kit which contained items that might be needed in a hurry..."

Training Program Stressed

"... each squadron was given a total of seven major lectures and demonstrations, and every item of emergency equipment was displayed and demonstrated... each new item was discussed and demonstrated before it was issued... movies were used to a considerable advantage... all squadrons were shown *Castaway* and *Survival in the Jungle*... these films are recommended highly as being educational."

AIR/SEA RESCUE EQUIPMENT

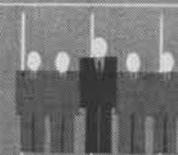
USED BY

AIR GROUP 7



SQUADRONS

VB VF VT TOTALS



NUMBER OF MEN USING EMERGENCY EQUIPMENT AND RETURNING ALIVE

42 19 35 96

TYPE AND AMOUNT OF MAJOR EQUIPMENT USED SUCCESSFULLY



LIFE JACKET

40 18 34 92



LIFE RAFT

11 9 10 30



PARACHUTE

2 1 1 4



RER TRAINEES AT NORMAN LEARN HOW TO REPAIR LIFE RAFTS. THEY ALSO LEARN HOW SUCH GEAR SHOULD BE PROPERLY STOWED

RER SCHOOL

ONE OF the newest training schools opened by the Naval Air Technical Training Command is the course in rubberized equipment repair conducted at NATECHTRACEN, NORMAN. There, aviation metalsmiths of any rate, equivalent Marine Corps rates and other personnel ordered by BUPERS, get a thorough schooling in repair and maintenance of bullet-proof gas tanks for aircraft, Plaskon sealing fuel cells for PT boats and amphibious craft, and such flotation gear as life rafts, life jackets and life vests.

Rubberized equipment repair is touched upon in the metalsmith Class A school, but the Class C (RER) school at Norman is the only Navy school that offers a specialized curriculum in this particular subject. Men go to Norman from the Fleet and from operational activities all over the world to secure a

training that emphasizes the time-tested policy of learning a thing by doing it, under guidance.

Instruction Divides Into Five Phases

There are five general phases of instruction.

FIRST: Repair of self-sealing fuel cells.

SECOND: Inspection, storage and handling of fuel cells.

THIRD: Repair and maintenance of flotation gear.

FOURTH: Removal and installation of fuel cells.

FIFTH: Specialized service repair of faulty fuel cells, from outlying activities.

In the FIRST phase, trainees learn how to make a gasoline-proof seal; how to prevent further deterioration of the sealing element after damage has been repaired, how to restore strength needed to withstand the rigors of combat service. Since fuel cell damage results from gunfire, primarily, training focuses attention on repair of bullet holes. Such training pays dividends when graduates reach the war theater in support of operations.

In the SECOND phase, trainees are instructed thoroughly on handling fuel cells and procedure for stowing them.



REJECTED CELLS ARE REPAIRED, THEN SUBJECTED TO MACHINE GUN FIRE ON THE RANGE



REPAIRED AND TESTED; CELL IS REINSTALLED BY THE TRAINEE

MEN LEARN THE CHARACTERISTICS OF A CELL, INSIDE AND OUT

VULCANIZING a punctured Mae West is only one of the things trainees learn to do in their **THIRD** phase of training. They learn to repair life rafts, and discover that leakage can be caused by improper handling or stowage as well as by gunfire or snags.

AM's attend school five weeks, but men destined for amphibious forces go to school only four weeks.

RER Trainees Try Out On A Live Plane

Because the **FOURTH** phase of RER school specializes in recognition and inspection of aircraft fuel cells, men who will go to the amphibious forces do not

take this phase of training. Both aircraft and mock-ups are used in this part of the course to familiarize trainees with proper procedure for removing and installing cells.

A live plane is used in the final wind-up of this phase. Trainees disconnect a fuel cell, remove it from the plane, inspect, re-install it and hook up the cell again. When they are through, the engine is started and the cell installation is checked for leaks. This test is "proof of the pudding," since it reveals how well the men have learned their job. *Corsairs, Avengers, Hellcats* and

Liberators are among Navy planes used. By this time trainees are well versed in cell repair and in maintenance. They know all about the different types of damage to which cells are susceptible; the type of tool and material needed for each type of "wound." They are top-notch technicians.

School Becomes Practical Repair Shop

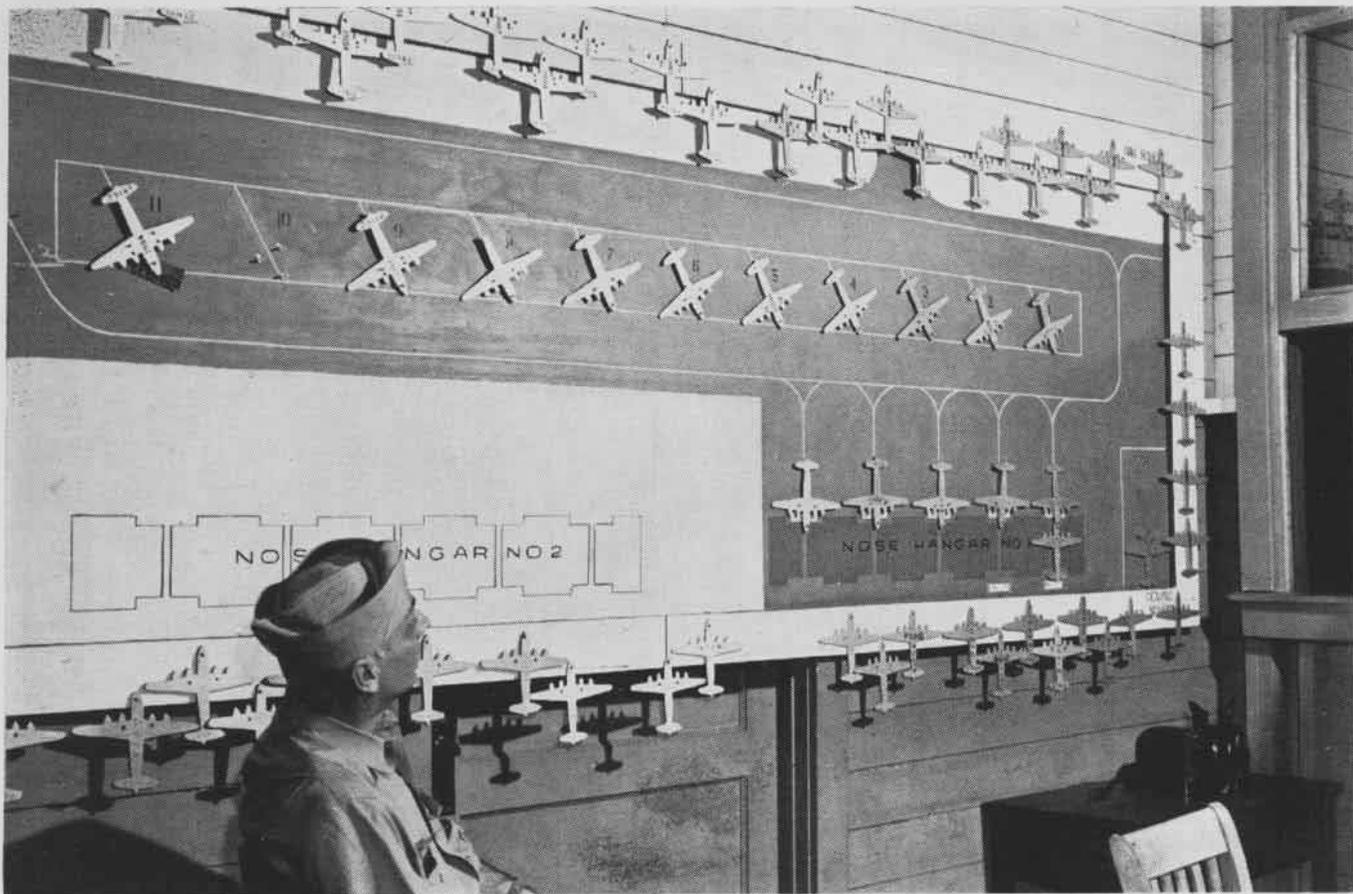
In the **FIFTH** phase of RER school, trainees work on faulty fuel cells that have been shipped in for repair from outlying operational facilities. They inspect, repair, test them and return them to the activity. Thus, the school serves as a practical repair station while men are learning.

Sometimes, a plane used for training by another Norman school develops a fuel leak. RER trainees are sent to the scene and make repairs. In this way they gain experience on operational aircraft. Rejected fuel cells are used in training, also. Punctured, repaired and inspected, these are taken to the firing range, filled with 90 octane aviation gasoline and subjected to fire from machine guns.

Men slated for amphibious forces specialize on the different technique required for cells on PT boats and amphibious craft. RER graduates receive no boost in rate but go to the fleet better equipped for war and peacetime.



SMOKE-EATERS GO INTO ACTION WHEN BULLETS HIT METAL VALVE AND SET CELL AFIRE



MOCK-UP FLIGHT LINE ON ENGINEERING OFFICE BULKHEAD HELPS NATS KEEP TRACK OF HALF-MILE LONG PRE-FLIGHT LINE OF R5D'S

RADIO AIDS NATS

SHORT wave radio now enables landplane engineering division of VR-10 to maintain close touch with R5D's in check on the half-mile long pre-flight line at NAS HONOLULU.

The squadron is maintenance unit for NATS Command, Pacific Wing, fleet of more than 100 four-engine transport planes that daily fly more than 34,000 miles of air routes over the vast Pacific.

Designed and built by the radio shop, the radio system of communication enables the duty officer to know exactly the status of each plane in check. As a result, schedules of more than 5,000,000 plane-miles a month are speeded up. Shipment of whole blood and return of wounded men to Hawaiian and stateside hospitals is expedited.

Transmitter-receivers use a fre-

quency of 3725 kilocycles and have a mile range. One set is mounted on the duty officer's desk in landplane maintenance office, and the other is mounted on a small motor scooter used by the officer in charge of the flight line. Continual reports on status of each airplane in check enables the division duty officer to estimate almost the exact time planes will be ready for flight.

A large chart of hangar and flight line area on the office bulkhead is used with airplane cut-outs to indicate position of each plane. Sending of parts or extra check forms thus is expedited.



Using office 'mike', landplane maintenance division officer calls line to check repair progress on airplane going to Guam

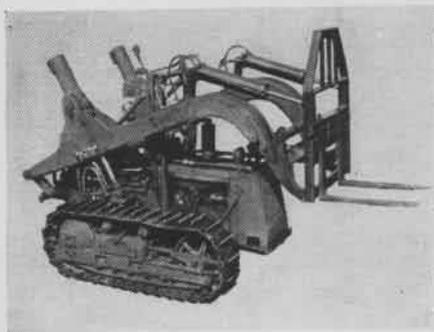


Out on the flight line, officer gives latest report on check of R5D; mobile radio has speeded up maintenance of big NATS aircraft

TECHNICALLY SPEAKING

Fork Lift Installed on Tractor

BUAER has announced that TD9 crawler tractors are being produced equipped with fork lift fingers and a dozer blade and have been distributed to practically all naval aviation activities in this country and advanced bases. The modification follows an adaptation first made by the public works department at NAS PEARL HARBOR. Field activities with TD9's can adapt them to this additional use if they so desire.



FINGER LIFT CAN BE PUT ON TD9 TRACTOR

The bulldozer shiploader was modified by installing a fork truck valve, dump truck rams, fork truck fingers and miscellaneous hose, piping and metal. With the possible exception of the fork truck valve, materials needed for the conversion probably can be obtained from salvage or by local manufacture.

Tests conducted over rough terrain approximating that on a beachhead revealed that the modified tractor would crawl in and out of ditches with a standard pallet load of 3,000 LBS. The machine will lift 8000 LBS. but has been rated at 4,000 LBS., because a greater weight tends to overbalance the tractor when negotiating ditches.

BuAer Gets New Suits for LSO

BUAER has on order 2,000 suits designed for landing signal officers to wear during night operations aboard carriers. The suits have stripes of fluorescent fabric which, used in conjunction with ultra-violet light sources, make the LSO signals more clearly visible to pilots coming in for a landing. Up to now carriers have improvised their own LSO suits.

For dusk operations, the suits incorporate a horizontal four-inch stripe of fluorescent red cloth on the sleeves and across the chest, with a vertical inch and a half stripe of fluorescent yellow down the body and legs. For night

operations the horizontal stripe will be of fluorescent yellow with fluorescent green used for the vertical stripes. These combinations have been arrived at by BUAER after exhaustive tests by the Fleet of various color combinations and sizes of stripes.

Replacement stripes are being supplied with each suit. Stripes are applied and secured by snap fasteners which are accurately located to permit complete interchangeability of stripes when they become soiled or require replacement for other reasons.

Because ultra-violet light affects vision when it is directed into the eyes, BUAER has procured the M-1944 aviation goggle with special ultra-violet absorbing and non-fluorescing lenses for use by landing signal officers. Aviation sun glasses with special Kalichrome lenses for this purpose also are being studied for procurement.

For use in case the ultra-violet light



SNAP FASTENERS SECURE STRIPES TO SUIT

source is interrupted, regular signal wands operating off the carrier's power circuits are being furnished. Graduates of the LSO school at NAS JACKSONVILLE are being equipped with signal paddles covered with fire orange fluorescent cloth for night operations.

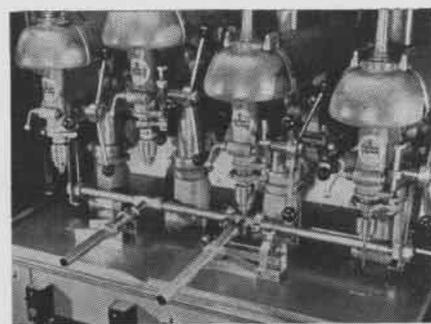
Drill Press Fixture Is Useful

A drill press fixture for holding drill jigs or small parts has been devised at NAS SAN DIEGO. The chief recommendation for this fixture is the quick clamping together with free movement of the drilled part to any section of the table. Use of the metal fingers also

reduces injury to operator's fingers.

The fixture is composed of four parts: 1. longitudinal support bar; 2. traverse support bar; 3. traverse slide bar; 4. holding fingers.

The longitudinal bar is bracketed to a four spindled drill press in a fixed position and serves as a guide rod for the sliding traverse support bar. To facilitate the sliding action, the traverse bar is provided with rollers. The drill jig or part to be drilled is held between



SUGGESTION SAVES TIME, PREVENTS INJURY

the fingers which are mounted on slide bar. These fingers may be adjusted to receive jigs or parts of various widths. When fixture is not in use traverse support bar and traverse slide bar are swung out of the way. This suggestion was submitted under the Navy Employees' Suggestion Program.

[DESIGNED BY ROBERT P. SEDLOCK]

Anti-freeze Makes Lethal Drink

Reports have been received by BUAER of deaths resulting from drinking methyl alcohol used in water injection systems of aircraft. Deaths resulting from acts not in line of duty, blamable on the man's own misconduct, deny his beneficiaries from collecting on his dependency provisions.

TN #70-44 emphasized the toxicity of this fluid and directed that all containers be kept locked and prominently marked POISON. BUAER is taking steps to mark airplane ADI tanks and outlets also. Methyl alcohol is far superior to any other available material for the purpose, but is a deadly poison.

One ordinary drop in the brain cells is fatal. Smaller amounts may lead to permanent total blindness and severe vomiting, both of which precede death. Methyl alcohol is an anti-freeze agent which is most successful when used for war emergency power during combat. It has the opposite effect on the body.

AVIATION ORDNANCE

INQUIRIES SHOULD BE ADDRESSED TO THE CHIEF OF BUREAU OF ORDNANCE

Bomb Shackle Overload Causes Trouble

The photograph shows a type B-10 shackle with its front spacer (stop pin) broken loose from the side plates by impact of extension of the forward suspension hook. The bomb shackle was damaged in releasing an empty droppable fuel tank suspended from one of the wing pylons of an F4U-1D airplane.

Reports indicate that type B-10 shackles in F4U wing pylons frequently are being damaged in this manner.

Damage results from an overload on the shackle at time of release. The overload has been found to be caused by excessive tightening of the sway bracing rather than



OVERLOAD ON BOMB SHACKLE WILL DAMAGE

by weight of bomb or fuel tank. Excessive tightening of bomb or tank against the pylon sway brace rail loads the shackle beyond its design strength. When the shackle is released, extension of the forward suspension hook strikes the front spacer with sufficient force to tear it loose.

To avoid such damage, all ordnancemen are cautioned to make sway brace adjustment with care so that load is properly secured without over-stressing shackle.

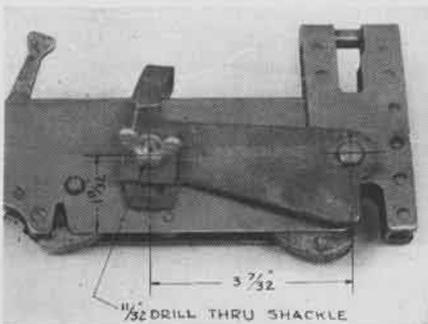
Brackets Stop Hang-ups On B-10 Shackle

Activities having F4U's equipped with bomb shackles TYPE AN-B-10 in wing pylons will be interested to learn that bomb-lug displacing brackets have been adapted to these shackles to stop hang-ups caused by incomplete opening of suspension hooks during glide or dive bombing.

Brackets most familiar to Fleet activities are those designed for use on the MK 4 type shackles (see NAVORD OMI V19-44). To install this bracket on the bomb shackle AN-B-10, it is necessary that a hole be drilled through the shackle side plates as shown. VMF's 121 and 122 of MAG 11 are responsible for this adaptation. One of the squadrons reports 350 bombs dropped without a hang-up in angles up to 70° since using shackles so modified in this manner.

Another displacing bracket—this one even more easily installed, since it requires no modification to the shackle—is the bracket designed for use with the MK 3 type shackle (see NAVORD OMI V5-45). This one, however, has only recently been placed into the supply system and may not be as readily available as the MK 4 type at certain activities.

Ordnancemen are cautioned to avoid



BRACKETS INSURE DISPLACEMENT OF BOMB

excessive tightening of the bracket against the bomb lug, particularly if the MK 3 type bracket is used. Design of each type bracket affords some protection against this when used with shackles for which they are intended. Differences in the widths of the side plates permits closing off a greater portion of the hook opening when brackets are installed on the bomb shackle AN-B-10.

Care should be exercised to keep bomb suspension hooks clean and free from rough surfaces. Likewise, under surfaces of bomb lugs should be examined prior to loading wherever possible and dressed if found to be rough. A thin film of grease applied to the carrying surfaces of the suspension lugs will further assist in preventing friction between hooks and lugs, thereby assisting release.

Cal. .50 Rate of Fire Can Be Increased

By use of the Cyclic Rate Control (Caliber .50) Mk 3 Mod 0 (Stock No. 1-C-5459-100) the normal rate of fire for the Cal. 50 BAM Gun AN-M2 can be increased 70 to 170 rounds per minute, depending on general condition of the gun. It attaches to the bar-

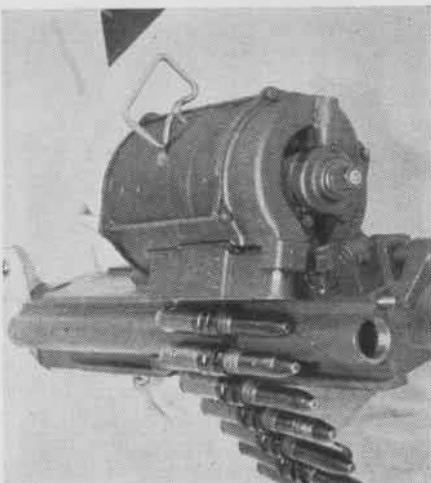


RATE CONTROL SCREWS IN BARREL JACKET

rel jacket and takes the place of the front barrel bearing. It has little flash-eliminating value and, when installed on the gun, prevents use of Flash Eliminator Mk 1 Mod 0.

If the Cyclic Rate Control (Caliber .50) Mk 3 Mod 0 cannot be used, rate of fire can be increased nearly as much by removing oil from the oil buffer. Operation without oil in the buffer results in abnormal wear of the mechanism parts, particularly the back plate, buffer plate, breech-lock depressors, breech lock and oil buffer body. However, satisfactory functioning can be expected for at least 5000 rounds without overhaul of the gun. (See NAVORD OMI GVI-45 for instructions on installation and maintenance for these two methods.)

No attempt should be made to use the Cyclic Rate Control on guns having the oil removed from the oil buffer, since use of the two methods simultaneously may cause extremely high rates of fire and result in excessive malfunctions and breakage of parts.



LOCKING PIN HOLDS FEED SPRING TENSION

20 mm. Feed Mechanism Has Locking Pin

Modification of the M1A1 feed mechanism for the 20 mm. aircraft gun, AN-M2, by use of a feed locking-pin makes possible a shorter rearming time for planes equipped with these guns.

This modification provides for use of a locking pin to be inserted through a hole drilled in the feed mechanism case. The pin will hold spring tension of the feed mechanism and allow an almost fully-wound feed to be removed from the gun. This permits the bolt to go forward without danger of firing and eliminates necessity of unloading the feed mechanism.

Location of the 17/64" drilled hole in the feed case is 4 3/8" from outside edge of the rear cover and 3/8" down from the top tie rod, measured along the circumference of the case on the side next to belt guide.

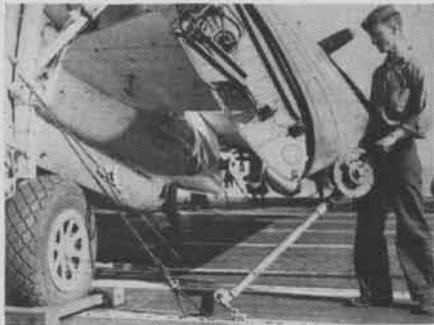
To make the feed locking-pin, approximately 12 inches of 3/8" steel rod is required. This material can be obtained from locally available supplies.

The device has proved serviceable to activities in rearming aircraft where safety rules specify that the breech block must be in forward position while the plane is on deck or in the hangar. The pin easily is removed from the feed mechanism when aircraft rearming procedure is completed.

Heavy Seas Lash-Up For Planes

U.S.S. WASP—Securing planes on a carrier deck during heavy weather at sea presents a problem for flight deck officers which was met on this ship by a system of hooks, cables and clamps.

Parts used were a Mk 7 Mod 1 portable bomb hoist, size 1½" sister hooks,



'COME ALONG' DEVICE TIES DOWN PLANES

½" wire cable, U type and self-tightening type cable clamps. The device, manufactured on board, consists of a rotating clamp that grips the tie-down cable by the arm, one end of which is bolted to the cam on the opposite side from the clamping surface.

The other end of the arm is attached to the bomb hoist cable. The cam fixed surface and arm guide are bolted

or welded to one side of a flat plate. When securing a plane with wire cable, one end is looped under the deck tie-down fittings and secured with a U clamp. The other end is passed through the airplane tie-down fitting. Operation of the hoist retracts the cable, drawing taut the tie-down cable, which then can be clamped at the upper loop.

► *BuShips Comment* — Securing device should be satisfactory though somewhat slow to operate due to time required to put on wire rope clamps. The efficiency of a single clip is only about 15 percent, (see Bulletin No. 30, p. 25), so that is a point against the scheme. There is a point in its favor: it permits use of two sockets in flight deck.

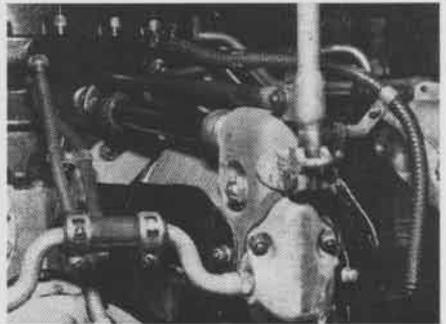
Rod Extractor Speeds Up Work

NATB PENSACOLA—A push rod extractor designed by an aviation machinist at this base resulted in estimated annual savings of \$3,300, and speeds by one hour the preservation of each airplane. The idea was submitted through the Navy employees' suggestion program.

Before putting preserving fluid in cylinders when preparing engines for shipment, it is necessary to remove the push rods in order to close valves. The push rod and housing extractor accomplishes the operation, and the com-

partment where work is done remains cleaner and free from dripping oil because rocker box covers are not removed as they were in the method previously used.

In use, the push rods are removed and rocker boxes filled with preservative mixture through the push rod open-



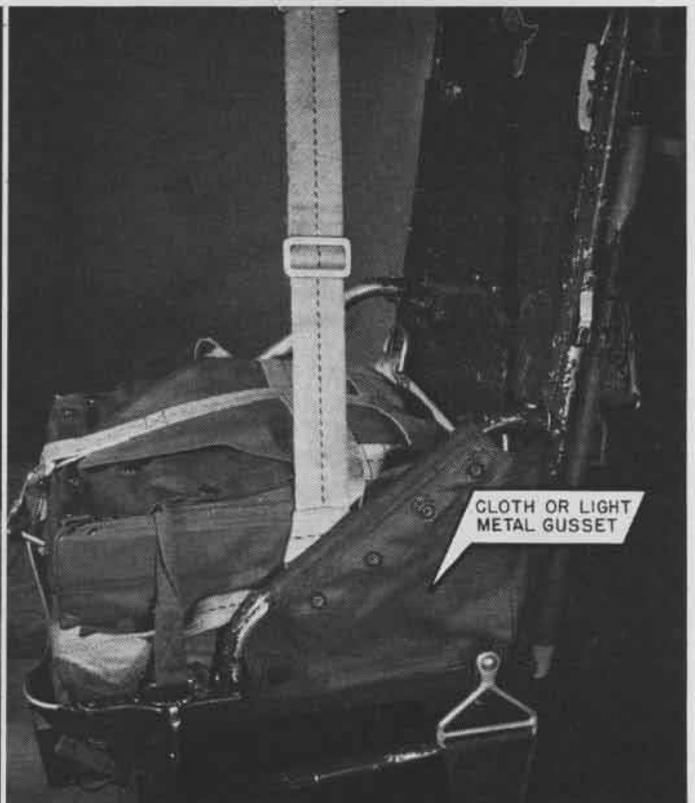
ROCKER BOX COVER NEED NOT BE LIFTED

ing. Then the push rod tube is replaced and secured. This operation also may be used on the front row of cylinders on twin-row engines. The old method is reverted to on the rear row of cylinders. If the activity removing engines has revolving stands, the new extractor can be used on both rows by turning engine over to allow for filling the rear rocker boxes with preservative.

[DESIGNED BY MARK M. SPOFFORD]



PARACHUTE RETAINING STRAP
INCORRECT INSTALLATION



CLOTH OR LIGHT
METAL GUSSET

A recent AAF report stated that a P-51 pilot was lost along with his airplane owing to his inability to bail out. Investigation of the fatality brought forth the possibility that the pilot had inadvertently tied himself into his plane

by securing his flight gear over the seat pan support brackets.

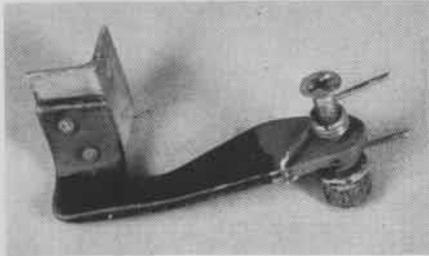
Such a mistake can be made easily on the SB2C, SBW or SBF pilot's seat when using a QAS-type parachute (See LEFT photo). The risk is a serious one.

This possibility can be avoided by installing a cloth or light metal gusset (See RIGHT photo). Official corrective action now is being initiated. In the meantime, all pilots are warned of the dangers involved in this type of a seat.

VF-87 Has Better Safety Lock

VF-87 reports that the safety lock of chartboards installed in the F6F-5 airplane is not strong enough to retain the chartboard during catapults. Beginning with airplane number 80160, Grumman will provide an improved lock.

For squadrons experiencing the same



CHARTBOARD SAFETY LOCK IS IMPROVED

difficulty with airplanes prior to Serial No. 80160, it is suggested this defect be corrected as recommended by VF-87, riveting one inch of three-fourths steel angle to the top of the lock (see cut).

Tool Remedies Clutch Problems

NAS PEARL HARBOR—A division of A&R here experienced time-loss and discrepancies in installation of Wright R-2600 low clutch assemblies. Loss of time was in aligning the teeth of the low clutch discs.

Inaccuracies during assembly often caused the low clutch housing to seat on teeth of the lower disc, causing low clutch oil pressure during operation. A chief machinist's mate made an assembly tool to remedy the troubles. Parts necessary to manufacture the tool were a surveyed low clutch housing and two 3/16" bolts.

Center of the housing was cut away to a diameter slightly larger than that of a disc. The small amount of metal between the oil drain holes in the housing was cut away to make slots for the disc teeth. Two holes were drilled on opposite sides and tapped on the top surface of the housing. The two bolts were threaded into these holes and used as lifting handles.

▶ To use this tool, install it in the low clutch cover. Install discs in order of assembly, aligning teeth of the disc with the cut-away housing slots. Grasp handles of tool and lift it out of the cover without disturbing alignment of disc teeth.

[DESIGNED BY L. C. ELMORE, ACMM]

THE GASSING DETAIL

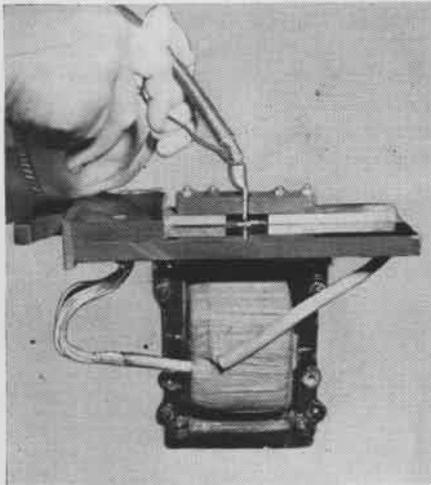
Speed and efficiency are imperative in all flight deck operations. This scene on the *Franklin's* flight deck shows the gas detail servicing *Corsair* fighters for combat. A crewman standing on

Device Speeds Soldering Work

NATB PENSACOLA—A soldering device that speeds up soldering operations 100 per cent has been developed by an electrician at this base. Made from a discarded transformer, primary 110-220 volts, secondary 3 volts at 75 amperes, max., the device permits an operator to use his hands to better advantage while soldering electric cables to terminals and contact points to contact screw assemblies.

The secondary terminals on the transformer are connected to two spring-loaded carbon segments between which is placed the lug to be soldered. High current applied and resistance offered cause these carbon segments to heat the work placed between them. The spring-loaded feature leaves the operator's hands free to handle cable and apply solder to the joint, assuring a good and fast operation.

Old method of using an electric soldering-iron necessitated clamping the terminal or screw in a vise and han-



WORKER USES HANDS TO BEST ADVANTAGE

dling the iron, cable and solder by hand, exposing the operator to burns. The new device has been successfully used for several weeks. The idea was submitted under the Navy employees' suggestion program.

[DESIGNED BY BRYAN PALMER]

Chain Aids in Lashing Planes

NAS SAN DIEGO—Two civilian employees of the station's supply department developed a simple and efficient method of securing planes by use of a chain. Scarcity of manila rope and necessity for its frequent replacement

prompted the idea, submitted under the employees' suggestion program.

The plan consists of a quarter-inch clevis hook to attach the chain to the stake driven in the ground, and a pelican hook at the other end of an eight-foot length of quarter-inch welded chain. The chain tie-down stands a



TIE-DOWN STANDS A TEST OF 2000 LBS

test of better than 2000 lbs., is not subject to deterioration by weather and eliminates line failure, which in the past caused damage to *Wildcats* that broke away in a storm. Some 2000 ft. of scrap chain found in the public works yard was used to make the tie-downs.

Prior to adoption of this suggestion, rope tie-downs had to be replaced every four to six weeks owing to action of weather, sun and rain. The chain idea saves 50 per cent of the time necessary to tie down the tail with rope.

[DEVELOPED BY HOWARD MELVIN AND CHARLES HOWARTH]

Waste Hose Protects Couplings

NATB PENSACOLA—To eliminate excessive wear and costly replacement of brass couplings on aviation gasoline pit hose, a hose-coupling nozzle protector has been designed here.

Friction caused by dragging hose across concrete from one plane to another caused couplings and nozzles to wear out quickly. A piece of rubber hose 11" long was split along one side and secured around the coupling by bolts through each end of the rubber hose. Cost of the protective cover is negligible since it may be made of surveyed material. Protective covers in use for a year show no signs of wear and have resulted in large savings.

The gas nose nozzle protector, consisting of a short length of hose blocked off at one end and inserted into the nozzle when not in use, is designed to prevent sand and grit from entering hose through the nozzle.

[DEVELOPED BY CLAYTON G. HUCKABA]

a fighter's starboard wing feeds high octane gasoline into the *Corsair's* tank. With a can of oil in one hand and gear in the other, a second crewman heads down the flight deck to service another plane. Indoctrination plus technical training and constant practice are required to weld these plane-servic-

ing details into the smooth working organizations so necessary for carrier efficiency. The smoking lamp is always out when planes are being refueled. Some time after this deck scene was filmed, the *Big Ben* was badly damaged in an action off Japan.



NA TechTraCom

Mockup Shows Hydromatic Cam Action

In the study of engines, propellers, instruments, etc., much unwarranted confusion often exists in the mind of the student because he tries to grasp all working details in one overall picture of the unit.

Experienced instructors at the NAVAL AIR TECHNICAL TRAINING CENTER, 87TH AND ANTHONY, CHICAGO, avoid this difficulty with simple mockups that illustrate clearly but accurately each basic principle involved.

Presented in orderly sequence, short demonstrations with these mockups give a clear picture of the purpose and the operation of each unit of the whole, yet, step by step, the student learns to dovetail the units into a working assembly without hint of complexity.

One such mockup is used in the Hamilton hydromatic propeller shop. It shows how lateral movement (of piston) is converted into the circular movement necessary for turning the blades.

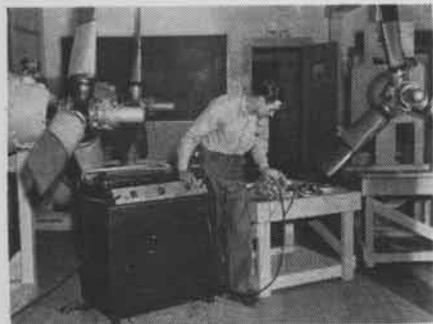
A rotating cam with cam-bearing assemblies is mounted so it will oscillate freely. Short tracks installed on each side of the cam support the outer rollers of each roller assembly (two used). A short shaft keeps the roller assemblies in alignment. A handle attached to the center of this shaft permits lateral operation, and as the rollers are moved inboard and outboard, the rotating cam slots translate this lateral movement into circular movement at the base of the cam, where through an integral bevel gear it is available for blade twisting movements at the blade gear segments.

Viewed as a whole the piston and cam assembly of a hydromatic propeller might appear formidable to the beginner. Step-by-step teaching is logical and has proven invaluable.

New Test Stand Feathers Propellers

When the AMM school at NAVAL AIR TECHNICAL TRAINING CENTER, NORMAN needed a device to feather propellers, increase and decrease, an ingenious instructor came up with the "Binneygench."

The light, easily moved test stand does away with the necessity of transporting



"BINNEYGENCH" TESTING TWO PROPELLERS

heavy, live storage batteries up to a propeller and connecting them to the operating mechanism. And, in addition to the

advantage it possesses in having a standard control panel which permits simulating actual control on planes, the device also has earned its way in cash-saving.

Most interesting of all its features is that the mechanism was constructed entirely from scrap. A 50 amp generator from an old Wildcat, a beat-up motor from a discarded magneto shop mock-up, surveyed switches, needle instruments and a lot of old metal from the scrap heap was all that was used. After it was completed, and in operation, it was found that, by making a few minor adjustments and adding a volt ammeter, the machine also could be used for recording any resistance or drag from moving parts of the propeller, thereby detecting trouble.

When finished, the stand was mounted in a simply constructed plywood case, and rollers were mounted underneath so that the machine might easily be moved from place to place. On a double line it can be used to test two propellers at one time.

Chicago's Hydromatic Propeller Mockup

Students in the hydromatic governor phase of Propeller School at NAVAL AIR TECHNICAL TRAINING CENTER, 87TH AND ANTHONY, CHICAGO, learn basic governing principles more quickly by means of line mockups (see illustration).

A 23E50 Hamilton propeller is mounted on a surveyed propeller shaft so that pressure from a near-by governor test stand



MOCKUP CORRECTS TRAINING DIFFICULTIES

may be applied to inboard and outboard sides of piston.

Proper manipulation of test stand controls will produce changes in propeller blade angles comparable with those produced by over-speed or under-speed conditions such as will occur when the propeller is installed on a line engine.

This mockup has been a definite aid to both student and instructor, permitting valuable time to be saved during demonstrations. Difficulties sometimes arise in explaining certain governor control speed conditions. These are quickly corrected by permitting the student to actually see how propeller blade angle changes in response to governor demands when in operation.

PHOTOGRAPHY

Relocate CV-9 Photographic Equipment

A number of changes in location of equipment in photographic laboratories on CV9 class carriers have just been authorized by BuSHIPS. With 16 mm. motion picture cameras now replacing 35 mm. equipment for flight deck operations, motion picture printers are being removed and a Temprite Cooling Unit installed in the space vacated by them.

Fleet reports indicate there is insufficient working space in the vicinity of the K-3A Houston processing machine. This unit may be relocated by moving it from the photographic laboratory to the air conditioning machinery room.

Air conditioning also has been authorized for all dark room spaces on CV9 class carriers. These changes are being made on new construction and operating units may have the work accomplished upon first Navy Yard availability.

Kodacolor Duplicating Film Is Available

Aero Kodacolor Reversal Matte Duplicating Film has been stocked and is ready for distribution at the four mainland photographic supply points. This film is to be used for making duplicate transparencies from kodacolor originals. The matte gelatin coating on the base of the film gives the same effect as a ground glass backing permitting it to be viewed before any type of light source. It also diminishes the curl inherent in most film and facilitates ease in handling.

The film is supplied in 5 1/4" (STOCK NO. 18-K-192), 7" (STOCK NO. 18-K-192-10), and 9 1/2" rolls (STOCK NO. 18-K-192-20), which are 50 ft. in length, for use with the Sonne continuous strip printer. It also may be cut into sheet form for individual duplication. A Photography TB NAVAER 10-1R-73 has been issued describing the film and giving instructions for use.

Control of Fungus Growth on Negatives

A recent *Photography Technical Bulletin* suggests that plain soap and water be used to remove fungus growths from negatives. This method works satisfactorily for newly formed growths if soap and water are used carefully. Further research, however, indicates that film shows a tendency to soften and that it is preferable to use a hardening bath containing 10 cc. of formaldehyde (about 37% by weight) and five grams of sodium carbonate, desiccated, in one liter of water.

For older fungus growths it is suggested that this procedure is followed: Immerse the negatives in a solution containing 10 cc. of concentrated hydrochloric acid and 100 grams of sodium sulphate, anhydrous, in one liter of water. Swab lightly with cotton and immerse in a solution containing 10 cc. of formaldehyde and 20 grams of Kodak in one liter of water. Allow the film to remain in this solution for three to four minutes and then wash fully and dry.

Special Tool Insures Accuracy

An adapter for the inside of a micrometer was devised under the employe suggestion program at Washington Navy Yard. A toolmaker conceived the idea of mounting two $\frac{1}{8}$ " balls on the ends of inside micrometer extensions. The ball-pointed extensions are used in place of the conventional micrometer extension measuring point to provide more accurate measurement of large inside angles.

The former method of using inside points apparently was not satisfactory for several reasons. In checking the angle gage it was necessary to remove the gage from the grinding machine several times to try it on a master plug gage. The measurement taken by use of the point never agreed with results obtained by checking with the plug.

To overcome the undesirable conditions attending taking inside measurements on these large-angle gages, the suggester mounted his specially-designed ball point extension on the threaded ends of the inside micrometer, and, to assure himself a true measure, the micrometer was caused to rest on 2 space blocks (see photograph).

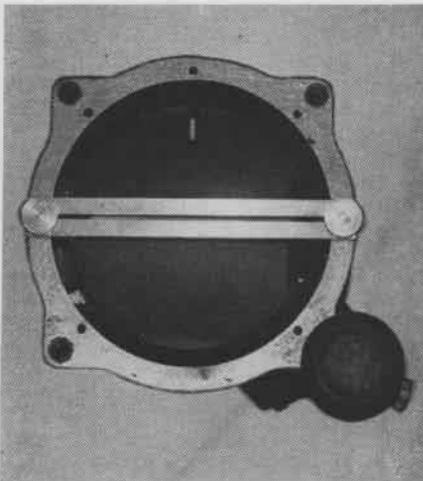
Measurement of steep tapers has been greatly improved through the use of this micrometer adapter. More positive measurement is assured and savings of from 4 to 6 hours per gage, are realized by adoption of this tool.

[DESIGNED BY WOODROW J. MILSTEAD]

Fixture Removes Human Element

NAS PENSACOLA—An aid in alignment of the gyro horizon indicator on

an airplane instrument panel has been developed by a woman employe at this activity, under the Navy employe's suggestion program. Use of the new fixture has saved time in aligning the



POINTER BAR LINES UP UNDER THE SLOT

gyro horizon indicator, and at the same time has eliminated probability of misalignment, which is possible when the bevel is used.

In use, the alignment fixture is placed across the case and positioned by the guide pins on the fixture. The pointer bar then is lined up directly under the slot. The fixture not only saves the time of installing the bevel each time and adjustment is made to a pointer bar, but also eliminates the inherent human element involved when a bar is aligned by eyesight.

[DESIGNED BY MRS. CHRISTINE ANGELETTI]

PUBLICATIONS

The following Flight Safety Bulletins, Aviation Circular Letters, Technical Notes and Technical Orders have been issued since 1 May 1945. Copies are available on request to Publications Branch, Bureau of Aeronautics.

FLIGHT SAFETY BULLETINS

- 10-45 *Disorientation or Vertigo Crashes During Instrument Conditions.*
- 11-45 *Divc Bombing, Glide Bombing and Strafing Accidents.*

AVIATION CIRCULAR LETTERS

- 41-45 *(Joint Ltr) TBF-TBM Type Airplane—Live Bomb Load—Safety Precautions Concerning.*
- 43-45 *Engine and Airframe Accessories Awaiting Reconditioning or Overhaul—Disposition of.*
- 44-45 *Information Concerning Refineries and Facilities to be Indicated on Regional Type Maps in Operations' Offices.*
- 45-45 *(Joint Ltr) Airborne Radio/Radar and Electronic Material—Class 16—Disposition of items reported on RUDM (NAVSAN-DA Form 309).*
- 46-45 *Class 265 Airframe Components—Designation of Repair Facilities for.*
- 47-45 *Aircraft Clearance—Filing of Instrument Flight Plans.*
- 48-45 *Log Books for Aircraft, Engines, Propellers, Auxiliary Power Units—Entering of Changes and Modifications—Policy Regarding.*
- 49-45 *Rescue of Personnel and Salvage of Naval Aircraft in Land Crashes; Claims for Damage to Private Property Arising from Aircraft Operations; Changes in Policy Concerning.*

TECHNICAL NOTES

- 31-45 *Replacement of Section Light 1073 with Former Upward Recognition Light Fixture AN3097.*
- 32-45 *Lubricants for Naval Aircraft and Accessories.*
- 33-45 *Airfield Lighting Equipment — Replacement of Fabric Cones with Metal Cones on Lamp Assembly, Runway Marker for Snow Areas.*
- 34-45 *AN/AIA-2 and AN/AIA-2A Interphone-Radio Control Assemblies Approved Procedures and Modifications for Correcting Operating Difficulties.*
- 35-45 *Electrical Landing Gear and Flap Position Indicating Assemblies—Familiarization with.*
- 36-45 *NAF 1116-4 Cutout, Replacement of Struthers-Dunn Type by Eclipse Type.*
- 37-45 *Improved Types of Flying Goggles.*
- 38-45 *Advanced Base Field Lighting.*
- 39-45 *AC Voltage Regulator Adjustment—Necessity for Use of Accurate Voltmeters.*
- 40-45 *AN/ARC-5 Aircraft Transmitting Equipment—Dynamotor Receptacles and Shock Mounts, Failure of.*
- 41-45 *Means for Supporting Traffic Control Lights.*

TECHNICAL ORDERS

- 42-45 *Model SNJ-2, -3, -4, -5, -6 Airplanes—Restrictions and Permissible Maneuvers.*
- 43-45 *Incorrect Wiring of C-69A/AIA-2A Control Units in AN/AIA-2A Interphone System as Received in the Fleet.*
- 44-45 *Model F7F-1, -2, -3 Airplanes—Restrictions and Permissible Maneuvers.*
- 45-45 *Change of the Intermediate Tacking Position in the Qas Parachute Rip Cord Housing.*

Microfilm strips of Carburetor Setting Specifications and Flow Sheets will henceforth be distributed by BuAER to all activities concerned with aircraft. Recipients are requested to avail themselves of local print-making facilities. An up-to-date printed manual, NAVAER 03-10BQ-700, incorporating these sheets will be released on a quarterly basis. The microfilm is intended to speed dissemination of information.

Succeeds List of 1 May 1945

1 June 1945

AIRCRAFT SERVICE CHANGES AND BULLETINS

Airplane	Bulletin	Date	Change	Date
F6F.....	110	5-12-45	88	3-27-45
FM.....	45	5-16-45	57	2-28-45
F4U-F3A-FG.....	210	5-3-45	211	3-31-45
F7F.....	15	5-10-45	12	5-19-45
F4U-4/FG-4.....	21	5-22-45	1	12-9-44
HNS.....	3	4-21-45	7	5-5-45
JM.....	36	4-14-45	45	5-21-45
JRB-SNB.....	32	5-1-45	27	3-20-45
J2F.....	19	5-14-45	0	0
PV.....	133	5-25-45	162	5-16-45
PBJ.....	53	5-14-45	69	4-16-45
PBM.....	114	5-9-45	162	4-18-45
PBY.....	108	4-27-45	179	5-10-45
PB2Y.....	66	4-27-45	153	1-3-45
R5C.....	38	5-18-45	104	4-27-45
R4D.....	42	5-24-45	35	3-9-45
R5D.....	54	5-4-45	104	5-5-45
RY.....	56	5-28-45	27	4-6-45
SB2C-SBF-SBW.....	182	5-22-45	138	5-16-45
SC.....	61	5-23-45	30	5-23-45
TBF-TBM.....	181	5-15-45	232	4-27-45
TBY.....	7	5-30-45	0	0

For complete list of Aircraft Service Changes and Bulletins, see Naval Aeronautic Publications Index NavAer 00-500 and supplement NavAer 00-500B.

Station Runs 3A-35 Mechanically

NAS ALAMEDA—This station has developed a mechanical panning attachment for the 3A-35 moving projector trainer developed by BUAE Special Devices Division.

The projectors are moved by using the gears and one of the amplidyne units from a surveyed turret. Control panel of turret is mounted on a chair placed immediately in back of the



OPERATOR-INSTRUCTOR CONTROLS 3A-35

gunner being drilled on the 3A-35. Operator sits in the chair and manipulates turret handles. Ordinary manipulation is greatly simplified as operator has only to move the projectors in azimuth, and skill in smooth panning of the 3A-35 is easily acquired.

Operator-instructors at this activity are well pleased with the installation. They have successfully conducted 3A-35 classes with one instructor. Where sufficient personnel is obtainable, however, much better learning is achieved with two instructor-operators, reversing their operating and instruction duties in alternating periods.

Stations handicapped by insufficient personnel may find it advantageous to investigate the possibility of mechanically operating their 3A-35's.

Information concerning the installation is available through the training officer, NAB, NAS ALAMEDA, CALIF.

Advance Bases

LET NA NEWS
HEAR
FROM YOU!



SCREEN NEWS

All out to the End Optimism is a wonderful tonic and a fine thing, but like everything else it can get out of bounds. Applied to the current war with Japan, optimism goes off the deep end when it deprives individuals of a feeling of urgency about reaching the final goal. Caution against resting on our oars at this crucial time is the keynote of:

MN-4999 *The Admiral's Reply*—Unclassified, 17 min.

The hard cold facts of life—and death—about the kind of war we're waging to douse the Rising Sun are powerfully narrated by Rear Admiral DeWitt C. Ramsey. He points out that although the war news is mostly good these days, the Japs remain a very tough enemy. **SOME FACTS:** there are 105 million Nips in the Japanese islands alone; the Japs dominate an area bigger than the United States; for every Jap taken prisoner, 20 have been killed (a Jap who surrenders is never allowed to return to his native land); between 5,000,000 and 8,000,000 men are in the armies of the enemy, about 70 percent in Japan and Manchukuo; our supply lines are more than 7,000 miles long.

The enemy hopes, says Rear Admiral Ramsey, that our people will tire of the war and be satisfied with a negotiated peace. He is confident, however, that when everyone realizes the magnitude of the task before us, we will stick with our jobs and give them all we've got until the end.



CLIMAXING six months of observing films at work in the field, a Training Film Utilization Conference recently was held to adopt policies that will streamline procedure and make for effective utilization of films released for instruction of personnel in aeronautics. Among recommendations made to film officers present were that: 1. Instructors be present whenever films are shown; 2. Programs be planned for showing on rainy days; 3. Libraries stock a picture on film usage; 4. A monthly report on new film be sent to film officers in the field.

V.D. Day—and Aftermath It is one of the oddities of human nature that the tragedy of venereal disease, accessory before the fact of so much physical pain, and mental misery and moral double-crossing, should be the subject of light comedy and irresponsible wit. And for this very reason, the so-called v.d. problem is among the most difficult of all topics to put on celluloid. Probably the most realistic and effective approach to the problem yet made is in the motion picture:

MN-2454e *V.D. Control in the U.S. Navy—Story of the D.E. 733*—Unclassified, 53 min.

The story of the D.E. 733 is the narrative of a voyage in which thoughtless gambling with syphilis and gonorrhea ashore is trans-

lated inexorably into lost human lives at sea when combat demands the best of every man aboard and fails to get it. The film is not a vague moralizing lecture; it comes to grips with raw emotions and makes many different appeals in line with the many types of individuals in the audience.

There is well-timed humor in this picture, but no smirks—chiefly because thoughtless action resulting in the loss of life of one's own shipmates is no joking matter. No one is absolved from responsibility for v.d. control, from top commands on down.

Proper Attitude.

MC-5241 *The Attitude Gyro Indicator*—Unclassified, 20 min.

CONTENTS: Illustrates principles of operation and describes outer and inner assembly of the attitude gyro indicator. A P-47 is shown going through the more common maneuvers. After each maneuver, a close-up of the gyro and its movement are pictured for closer study.

Cranial Operation

MN-3726h *Medicine in Action—Release No. 6—Head Injury—Report of a Battle Casualty*—Restricted, in color, 10 min.

Demonstrates treatment of a head wound (fracture) caused by a high explosive shell fragment. Shows cranial operation from beginning to end, illustrating both surgical and medical techniques. A specialized, technical film for medical officers.

Other Films Shipped:

MN-4312a *Air Support in the Landing Operation—Part 1—Confidential*, 20 min.
MN-4312b *Air Support in the Landing Operation—Part 2—Confidential*, 18 min.
SN-5058 *Tracking and Trapping the Sub—Confidential*, 19 min.
MN-4396 *Assembly and Maintenance of the Cal. .50 Broening Aircraft Machine Gun*—Restricted, 18 min.
MN-2615 *The Process of Human Dental Caries*—Unclassified, 12 min.

Where to Get 'Em. Central Aviation Film Libraries and Sub Libraries are listed below. Check your nearest Library before ordering.

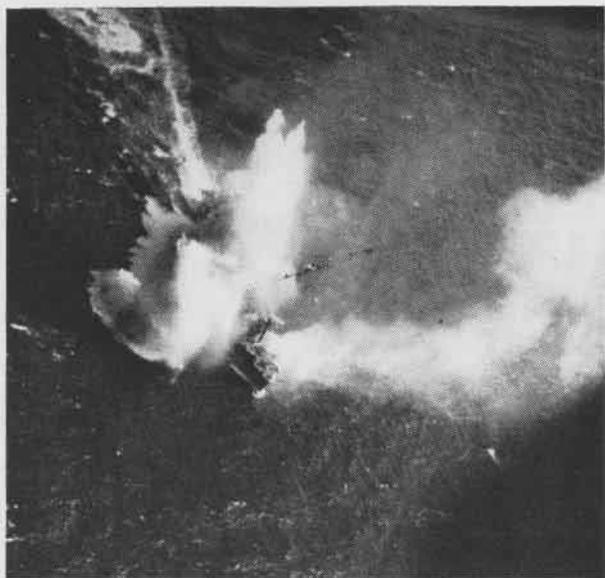
NAVAL	NAS Quonset
ABATU, NAS St. Louis	NAS San Diego
CASUs 2, 4, 23, 24, 31,	NAS Willow Grove
32, (F)42	NAS Navy #115
CAS ComDet., Port	NAS Navy #117
Hueneme	NAS Navy #720
ComAirPac	NATB Pensacola
ComAirSubFwdArea	NATB Corpus Christi
FAW 15	NATEC Lakehurst
Hedrons 2, 4, 7	Navy #3233
12, 16 Det.	TAL Navy #116
NAB Seattle	
NAC Navy #3149	MARINE
NAMC Philadelphia	MCAD Miramar
NATC Jacksonville	MCAS Cherry Point
NAS Alameda	MCAS Eagle Mt. Lake
NAS Atlanta	MCAS El Centro
NAS Brunswick	MCAS El Toro
NAS Clinton	MCAS Mojave
NAS Grosse Ile	MCAS Navy #61
NAS Kodiak	MCAS Parris Island
NAS Moffett	MCAS Quantico
NAS New York	MCAS Santa Barbara
NAS Norfolk	4th MAW
NAS Patuxent	



In advanced areas lacking seaplane ramp facilities, tenders have to act as airfields for the Navy's big PBM's. Here one of the 43,000-pound flying boats is standing on beaching gear on the deck while mechanics of tender give it a service in short order



No place for weak stomachs. A CVL rolls over to a steep angle during typhoon while battleship behind holds even keel



Japanese troop transport off the coast of Formosa takes a near-miss from a 1,000-pound bomb from a carrier plane

SUBJECT	ISSUE	PAGE	SUBJECT	ISSUE	PAGE	SUBJECT	ISSUE	PAGE
A								
AAF controls Norfolk traffic.....	5/15	..12	Class 88 instrument catalogue.....	3/15	..29	Flux gate compass trainer, new.....	4/1	..31
A&R, Pensacola, works 2 shifts.....	2/1	..39	Classroom visual aid projector.....	2/15	..31	Fly control develops new signal.....	1/1	..31
Accident analysis pamphlets.....	4/1	..13	Cleaner works in tight spots.....	1/15	..29	Folded wings may cause damage.....	6/1	..40
ACI corner educates VC-19 pilots.....	2/1	..11	Clean that windshield.....	1/1	..42	Four strikes against them.....	1/15	..28
Adjustable jig aids ring welding.....	3/1	..38	CM2c makes jeep winter-proof.....	4/1	..37	Fuel pump jig saves man-hours.....	1/1	..38
Advanced bases, Naval Aviation.....	3/15	..17	Coastal guns, Jap.....	5/15	..1	Fuel tanks, external droppable.....	6/1	..40
AEMN lists answers for AEM's.....	5/1	..40	Color aboard a carrier.....	1/15	..22	G		
Aerial mine spotting.....	3/15	..26	Combat experiences are recorded.....	1/1	..11	Generator fuse troubles PBV-5A.....	1/1	..31
Aerial view finder.....	5/15	..19	Combat may make you lazy.....	1/1	..30	Generator, wrench adjusts plane.....	2/1	..40
Aircraft accident reports.....	4/15	..20	Combat power, use wisely.....	6/1	..40	Goggle lens, red, proves better.....	3/1	..11
Aircraft clocks running short.....	6/15	..39	Computer, pilots use improvised.....	2/15	..36	Goggles, standard, need a trim.....	4/1	..30
Aircraft factories, Jap.....	3/15	..1	Concrete salvaged for pavement.....	6/1	..34	Good navigation pays a pilot.....	4/15	..13
Aircraft rockets.....	4/15	..23	Confidential devices catalog out.....	4/15	..13	Grease gun applies zinc coating.....	2/15	..33
Aircraft torpedo rings.....	3/1	..18	Console panel for electronic gear.....	2/1	..44	Guard will protect bombsight.....	2/1	..39
Airfields, Jap.....	6/1	..1	Container removal, change speeds.....	1/15	..31	Gunnery units outgrow a title.....	1/1	..11
Air Forces pamphlets, BuAer has.....	1/15	..19	Convalescent salvage work.....	5/1	..38	Gunnery work, Leathernecks get.....	1/1	..11
Air scoop covers cut moisture.....	2/1	..45	Cooling system, new, saves water.....	2/1	..11	Guns will corrode when not preserved.....	6/15	..43
Air-Sea rescue equipment, check list for	4/1	..20	Copy Cameras, Modify, for aerial film	6/15	..46	Gyro drift sight, cover protects.....	5/15	..31
Air-Sea rescue report.....	5/1	..14	Coronados take on <i>Dumbo</i> duty.....	6/1	..11	H		
Alameda develops voice trainer.....	2/15	..39	Corpus fields set safety mark.....	2/15	..11	Hair trim follows a sea rescue.....	2/15	..12
Anti-aircraft, Jap.....	3/1	..1	Cover glass failure, preventing.....	4/1	..30	Hand machine forms tube clamp.....	6/15	..46
Anti-blackout suit, new.....	3/15	..39	Cover protects gyro drift sight.....	5/15	..31	Hand signals, Mae West carries.....	2/15	..31
Article lists overheating causes.....	3/15	..29	Cowling seal helps in warm-up.....	4/15	..33	Hangar holds chute and life gear.....	2/15	..32
Assessing fixed gunnery film.....	2/1	..41	Crash fire rescue.....	3/1	..26	Harness of chute, device adjusts.....	3/1	..38
Attack path indicator.....	3/15	..30	Crash rescue, jeeps rig out for.....	6/1	..35	Heavy bombs hoisted with safety.....	6/15	..39
Automatic pilot school.....	5/1	..41	CVE air department.....	5/15	..23	Himmler (<i>The Hangman Speaks</i>).....	2/15	..28
Aviation manuals, new, come out.....	4/1	..11	CVE ship's company.....	6/1	..27	Holder helps in binocular use.....	2/15	..31
Aviation observer course opens.....	5/15	..11	D			Hose clamp installation, pliers aid.....	3/15	..38
Aviation Ordnance Officer's School.....	2/15	..14	Death agony of a Jap cruiser.....	3/15	..14	Hot news supplied by intelligence.....	2/15	..12
Aviation Storekeeper School.....	3/15	..19	Deflectometer earns an award.....	4/15	..35	Hydraulic pump aids in salvage.....	3/1	..38
Awards go to Navy men, 31,078.....	5/1	..18	Depots carry watertight lights.....	1/15	..38	I		
B								
Battery, planes can eliminate.....	4/15	..35	Device adjusts harness of chute.....	3/1	..38	ID's, title box helps in making.....	6/1	..34
Battery recharging, board speeds.....	5/1	..44	Device for plane engine noises.....	2/1	..46	IFF and you.....	4/1	..23
Bell & Howell—New Handbook	6/15	..46	Device indicates path of attack.....	3/15	..30	IFF Mock-Up Board aids NATS.....	6/15	..42
for 16 mm.....	6/15	..46						
Bench tool prevents injuries.....	6/15	..39						
Binocular use, holder helps in.....	2/15	..31	Device shows radio gear on VTB.....	6/1	..47	Improper clearance of aircraft.....	2/1	..38
Black lines promote range safety.....	1/1	..39	Dipping saves hours and latex.....	4/15	..32	Index to NANews 1944.....	1/1	..43
Boards speeds battery recharging.....	5/1	..44	Distress signal kit, CASU has.....	4/1	..30	Instructors, well done.....	4/15	..13
Bomb arming handle, TBF, changed.....	4/1	..35	Distress signals, night.....	3/1	..14	Instructor voice study.....	2/15	..24
Bomb arming wires.....	2/1	..14	Ditching.....	6/1	..42	Instrument panel is installed.....	3/15	..11
Bombsight, guard will protect.....	2/1	..39	Ditching, landplane.....	2/15	..16	Integrated aeronautic program.....	1/15	..13
Bond drive, Navy sets record in.....	1/15	..17	Ditching, sn2c crews practice.....	1/15	..18	Integrated aeronautic program.....	2/1	..17
Bond mark, Navy sets in March.....	5/15	..12	Dolly carries crashed aircraft.....	6/15	..45	Integrated aeronautic program.....	2/15	..33
Boresighting.....	2/1	..31	Dolly, man with, does work of 3.....	4/1	..31	Integrated aeronautic program	3/1	..13
Boresights, CASU, on water range.....	1/1	..39	Don't order now! (<i>Flight Thru</i>	4/1	..11	(first joint conference meets).....	3/1	..13
Brake band, sanding machine cuts.....	1/1	..47	<i>Instruments</i>).....	2/1	..47	Integrated aeronautic program.....	3/15	..31
Brake lining operation, jig aids.....	3/15	..34	Dope shop humidity, unit cuts.....	2/1	..47	Integrated aeronautic program.....	4/1	..32
Brazil, Visual quizzer goes to.....	1/1	..12	Drift meter trainer.....	6/15	..40	Integrated aeronautic program.....	4/15	..37
Britain assembles two fleets.....	2/15	..11	Drilling, mounted point aids in.....	5/1	..46	Integrated aeronautic program.....	5/1	..45
British end aerial training in U. S.....	2/15	..11	Drums lift plane above floods.....	1/1	..39	Island fighter strip.....	1/1	..15
BuAer directives get priority.....	2/15	..32	Ducks mimic Japs—try hara-kiri.....	1/1	..13	It's a life vest when it fits.....	1/1	..35
BuAer has Air Forces pamphlets.....	5/15	..19	Dumbo duty, Coronados take on.....	6/1	..11	J		
								
BuAer specifications index, new.....	5/15	..35	Dye colors snow-covered circles.....	2/1	..39	Jack adapter, CASU develops a.....	1/15	..38
BuAer studies oxygen mask wear.....	5/1	..39	Dye marker, keep off skin.....	6/1	..37	Jacksonville AOO's school.....	2/15	..14
BuAer suggests parachute list.....	1/15	..30	Dzus grommets, new tool removes.....	3/15	..34	Jacksonville's special devices shop.....	4/15	..36
BuAer to cut electrical parts.....	1/1	..47	E			Jack, TBF tail, seaman designs.....	3/15	..33
BuPERS approves new insignia.....	5/15	..13	Editorial association, Navy forms.....	5/15	..11	Jap aircraft factories.....	3/15	..1
Burring machine boosts output.....	4/15	..33	Electrical parts, BuAer to cut.....	1/1	..47	Jap aircraft get number system.....	6/15	..12
Bushing insertion, tool speeds.....	1/15	..29	Electronics can save lives.....	6/15	..35	Jap airfields.....	6/1	..1
C								
CAA amends civil pilot rule.....	1/1	..11	Electronics gear, console panel for.....	2/1	..44	Jap anti-aircraft.....	3/1	..1
Camera school, Pensacola gets.....	2/1	..12	Electronics names to be listed.....	5/15	..31	Jap coastal guns.....	5/15	..1
Canned salmon used as weapon.....	3/1	..11	Engine change, revised hoist aids.....	2/1	..39	Jap craft.....	2/15	..1
Care and preservation of parachute.....	4/1	..14	Engine cradle used by Marines.....	3/15	..29	Jap cruiser, death agony of a.....	3/15	..14
Carrier, color aboard a.....	1/15	..22	Engine noises, device for plane.....	2/1	..46	Jap electronics.....	2/1	..1
Carrier fire fighters.....	1/1	..28	Escort carrier captures U-boat.....	6/15	..14	Jap military buildings.....	4/15	..1
Carrier landing signals.....	1/1	..21	Extension makes valve accessible.....	4/15	..39	Jap shipyards.....	5/1	..1
Carrier, Navy launches largest.....	4/15	..13	External droppable fuel tanks.....	6/1	..40	Japs bring out a new fighter.....	6/1	..11
Carrier pamphlet, Navy issues a.....	2/1	..13	F			Japs give Tinian a windsock.....	3/1	..11
Carriers use steering device.....	1/15	..39	False armistice wildly hailed.....	1/15	..17	JATO helps save six aviators.....	6/15	..11
Cartoon aids in training cadets.....	1/1	..39	Fan run by air to cut hazard.....	4/1	..30	Jeeps rig out for crash rescue.....	6/1	..35
CASU boresights on water range.....	1/15	..39	Fence saves space in line tests.....	2/1	..43	Jeep winter-proof, CM2c makes.....	4/1	..37
CASU develops a jack adapter.....	1/15	..38	F4U pilot takes bit in mouth.....	2/1	..45	Jet-assisted take-off.....	1/1	..12
CASU has distress signal kit.....	4/1	..30	F4U's oil drainer designed for.....	3/1	..37	Jet take-off rescues <i>Mariner</i>	2/15	..34
CASU-33 invents a film marker.....	4/15	..32	Field kit for terrain models.....	3/1	..35	Jig aids brake lining operation.....	3/15	..34
CASU-33 invents a film marker.....	4/15	..32	Fighter strip, island.....	1/1	..15	Jig checks prop gear index.....	1/15	..37
CASU-27 reclaims flashlight cells.....	3/15	..37	<i>Fighting Lady</i> , Navy releases.....	2/1	..11	K		
CASU uses clamp on floatlight.....	4/15	..35	Flameproof nylon.....	6/1	..11	Keep dye marker off skin.....	6/1	..37
Catapult tails; TBM still flies.....	2/1	..42	Filter preserves dark adaption.....	3/15	..33	Kerosene spray spares hands.....	4/1	..34
Change speeds container removal.....	1/15	..31	Fire fighters, carrier.....	1/1	..28	Knob, new, cuts chance switching.....	4/1	..31
Check list for air-sea rescue equipment	4/1	..20	Fire fighters, Navy trains ship.....	5/15	..11	L		
Chute and life gear, hangar holds.....	2/15	..32	First joint conference meets.....	3/1	..13	Landing signals, carrier.....	1/1	..21
Chutes will not mold in bins.....	3/1	..34	Fixed gunnery film, assessing.....	2/1	..4	Landplane ditching.....	2/15	..16
CINCOPAC issues new photo rules.....	5/15	..32	Flameproof nylon.....	6/1	..11	Large movements of Navy aircraft.....	3/1	..10
Civil pilot rule, CAA amends.....	1/1	..11	Flashlight aids in fuze tests.....	4/1	..34	Latest Bulletins—Engines, Auxiliary	6/15	..44
Clamp aids in work on plastics.....	3/1	..36	Flashlight cells, CASU-27 reclaims.....	3/15	..37	Power Plant, etc.....	1/1	..11
Clamp holds generator for test.....	3/15	..34	Flask takes air and vaporized oil.....	6/15	..40	Let 'em up for air.....	5/15	..16
Clamping device reduces time.....	5/15	..39	Flight nurses.....	5/1	..11	<i>Liberator</i> turbo by-pass.....	2/15	..35
D								
Death agony of a Jap cruiser.....	3/15	..14	Flight orderlies, WAVES become.....	1/15	..18	Life vest, it's a, when it fits.....	1/1	..35
Deflectometer earns an award.....	4/15	..35	Floatlight, CASU uses clamp on.....	4/15	..35	Lights, watertight, depots carry.....	1/15	..38
Depots carry watertight lights.....	1/15	..38	Florida station modifies stand.....	3/1	..39	Line squalls.....	6/1	..33
Device adjusts harness of chute.....	3/1	..38	L					
Device for plane engine noises.....	2/1	..46	Link Sorter, San Diego develops.....	1/15	..37	Lip mike frees hands of pilot.....	1/1	..31
Device indicates path of attack.....	3/15	..30	M					

SUBJECT	ISSUE PAGE	SUBJECT	ISSUE PAGE	SUBJECT	ISSUE PAGE
Lip mike wins praise from users.....	3/1 ..39	Overheating causes, article lists.....	3/15..29	Shoulder harness is stronger.....	1/15..29
Lock for flight deck palisades.....	2/15..34	Overheating causes gun barrel bulges...	6/15..43	Signaling kits go on Mae West.....	5/1 ..44
Lock holds tow bar on aircraft.....	2/15..38	Oxygen cylinder contamination.....	5/1 ..40	Signals, night distress.....	3/1 ..14
Lock rings, new tool installs.....	5/15..37	Oxygen flask serves useful purposes...	6/15..40	Signs and symbols.....	3/1 ..23
Log entries should be adequate.....	1/1 ..40	Oxygen regulators, the word on.....	3/15..37	Slots give turret ventilation.....	6/1 ..34
Lubrication cams end jamming.....	6/1 ..45	Oxygen mask wear, BUAEr studies.....	5/1 ..39	Snow-covered circles, dye colors.....	2/1 ..39
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Mae West carries hand signals.....	2/15..31
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LETTERS

SIRS:

A new world's record has been chalked up by Lt. (jg) J. Parker Russell, landing signal officer, as the U.S.S. *Matanikau*



(CVE-101) completed 602 carrier landings in a single day. The ship was operating with pilots of two Marine fighter and torpedo bomber squadrons.

This Kaiser-class CVE, now engaged in carrier qualification training duty, has set also an enviable safety record. Nearly 15,000 landings have been made with only one pilot loss and no fatal accidents to members of the ship's company.

U.S.S. *Matanikau* EXECUTIVE OFFICER

¶ Can any training carrier LSO beat this record?



SIRS:

Congratulations on your fine section on the CVE and the training of its air department. (NANews 15 MAY 1945). However, in all fairness to what you call the Shake-down Detail, you completely forgot to mention the U.S.S. *Casablanca*, the first of its class, and the role she played in this training.

From July of 1943 to July, 1944, the *Casablanca* took crews aboard who were destined to end up on the later CVE's. Not only did we train the crews, but the *Casablanca* was used to qualify several air groups and in this way the crews aboard were given much very good training in actual carrier operation. I spent seven months on the *Casablanca* and went from there to the *Princeton* where what I had learned before was very useful. I think Captain Callaway and the crew of the *Casablanca* should have credit where credit is due.

NAS PENSACOLA

WILLIAM M. BRINTON, LT., USNR

SIRS:

Would you please tell me if the Navy is still training cadets and, if so, how I may apply for flight training?

I took the physical examination and was interviewed about 17 months ago when overseas, but was never called. I have been trying earnestly ever since to get v-5 training.

I would appreciate very much if you would give me the necessary information?

NAS OAKLAND

AMM3C

¶ Information on filing applications for v-5 training is included in BUPERS CL NO. 13844. It will be necessary for the AMM3C to re-apply through his commanding officer. A candidate for v-5 must be under 27.



SIRS:

Since Composite Squadron 96 left NAAS QUILLAYUTE, it has amassed an excellent record. While receiving rocket training at NAAS HOLTVILLE, it broke that station's record for more fired in one day than any previous vc squadron. The squadron's refresher landings were held off Pearl Harbor, and there it landed aboard 50 planes in 35 minutes, as well as a total of 274 in a single day, both achievements setting a new record for the CVE.

Upon embarking on its parent carrier as a replacement squadron, vc-96 took just one week to break the record of the ship for time interval between catapults, by establishing the mark of 35.5 seconds, a remarkable figure for a CVE. Only 14 days aboard were required for vc-96 to bag its first Jap plane which, incidentally, also was the first "kill" for the ship.

vc-96

COMMANDING OFFICER



WE'VE A BIG SURPRISE FOR YOU, JENKINS— IT'S BLUE NOW, NOT RED!

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ANSWERS TO QUIZZES

● NAVIGATION PROBLEM (p. 16)

EPI—0840

EPI—Lat. 31° 36' N

Long. 159° 01' E

(Tolerances: 7 minutes on positions; 3 minutes on time.)

● BEST ANSWERS (p. 12)

1.b 2.d 3.a 4.b 5.d 6.c 7.d 8.b

● GRAMPAW'S QUIZ (p. 10)

1. Wash exposed skin areas thoroughly with soap and water. Ref: TO 33-45 par. 10.
2. Circle ship at least once; fly across its bow at low altitude, opening and closing throttle; then fly in direction of distress scene, rocking wings. (Be sure to establish identification before approaching any ship during wartime) Ref: AVIATION CL 18-45.
3. True. Ref: TO 10-45.
4. Clear the runway immediately and wait for further instructions. Ref: Army-Navy-CAA Airport Traffic Control Procedure, Sect. 1.2201(b).
5. Go on instruments immediately upon becoming airborne. Assume and maintain a safe rate of climb through instruments; do not make unnecessary turns and do not operate any auxiliary controls or radio until you are certain that you are at least 500 ft. above the terrain or water. Ref: Par. 4(a) of Flight Safety Bulletin 10-45.

NAVAL AVIATION
NEWS

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Will you give them eight minutes?

IF you're a pilot or aircrewman, you can bet the folks back home are terrifically proud of you.

And you can also bet that your folks get a tremendous boot out of reading about any combat feat of yours in the local newspapers.

That's why it's so important for you to send in a Personnel News Report form *whenever* you accomplish any newsworthy feat—such as shooting down an enemy plane, damaging or sinking a ship, hitting a big shore installation, get-

ting a commendation or award, or anything else of the sort.

For when you fill out a Personnel News Report (it only takes about eight minutes), your PRO will send it to Air-Pac (PRO), and it will be written up as a news story and shot out to your hometown newspapers and radio stations.

So don't disappoint the folks at home. Send in a Personnel News Report *every time* you do anything that'll lend itself to a news story.

PERSONNEL NEWS REPORTS Fill 'em out . . . send 'em in!



FRANKLIN

THE BIG BEN wrote one of Naval Aviation's finest stories of bravery when it was hit by a Jap divebomber off Japan and set afire. Exploding shells and rockets and burning gasoline made it into a holocaust, but its crewmen fought and quelled the flames and brought their ship under its own power to a Navy Yard for repairs

TERRIFIC FLAMES AND SMOKE BLANKET FRANKLIN AS BOMBS AND GASOLINE EXPLODE

▲ NEW EXPLOSIONS KILL MEN, SCATTER DEBRIS ON FLIGHT DECK, FORCING FIREFIGHTERS TO RETREAT; NOTE WRECKAGE OF MAST
▼ WRECK-STREWN FLIGHT DECK TESTIFIES TO TERRIFIC FIRES WHICH SWEEP FRANKLIN; FLAMING GASOLINE POURS OFF HANGAR DECK