NAVAL AVIATION NEWS

Fleet Air Wing One
NATB Survival Test
Tiny Tim • Pettibone

Sept. 1, 1945
RESTRICTED

SHARE THIS COPY

A Gamble Paid Off

The dive bomber nosed over for the target run—dropped its bomb. The explosion was devastating. Pulling out of the run, the plane shuddered—then burst into flames. The entire belly was ablaze, and fire trailed for 30 feet aft the tail.

Richard F. Wilson, ARM3c, watched as the *Kingfisher* he was in took after the crippled plane. Seconds before the dive bomber crashed, two shadows cleared the flames and parachuted into the sea. The pilot broke out the raft and paddled toward his aircrewman who, wounded and his strength spent by the burns he had received, tossed helplessly on the huge swells.

The *Kingfisher* swooped in for a landing. Spasms of enemy fire burst from the beach—the OS2U rocked and rolled as the Japs barely missed their target.

Richard Wilson matched his life against their aim. Jumping out on the wing, he tossed a line around the floundering man and dragged him out of the sea. Safely in the plane, Wilson applied first aid while the dive bomber pilot climbed aboard. Two lives were saved—a gamble paid off.

Aircrewmen have what it takes

No. 29 of a series

NAVAL AVIATION NEWS
SEPTEMBER 1, 1945 — NO. 248

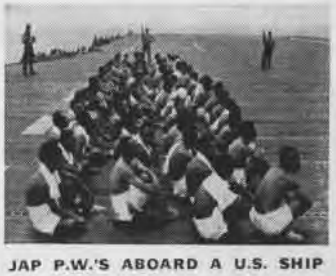
OKINAWA

MARINE AND NAVY AIRMEN SMASHED JAP NANSEI SHOTO POWER

PHOTOGRAPHIC INTELLIGENCE

ALL THE Ryukyus are within 750 nautical miles of the southern edge of Japan's vital industrial zone. Tanega Shima, located at the northern end of the Nansei Shoto, is only 40 miles from Kyushu. In preparation for attacks which would beat Japan into destruction unless she surrendered, the U.S. needed a base in the Ryukyus on which to build airfields, supply depots and staging areas. It was for this that the campaign on Okinawa was launched and prosecuted with determination in the face of enemy resistance which demonstrated that the Japs realized the full strategic importance of their island.

In addition to a strong, well-equipped garrison on Okinawa, Japan had constructed on the outlying islands of the Ryukyus, airfields, AA positions, suicide boat bases and other installations that constituted threats to the invading forces. These installations had to be sought out and destroyed, and photographs played a useful part in the operation. Marine and Navy pilots undertook the job. Photos of the results show how effectively they knocked out the Japs' strength and opened the way for U.S. bulldozers to prepare bases for the finish fight with Japan.



JAP P.W.'S ABOARD A U.S. SHIP

JAPANESE BUILT AIRFIELDS ON ALL SIDES OF OKINAWA, USED SUICIDE BOATS AND SUBMARINES TO ATTACK U. S. FLEET

OKINAWA

OKINAWA was surrounded on all sides by Jap airfields. To the north the enemy had fields in the Amami Gunto, two on Kikai island, one on Tokuno island, and a seaplane base at Koniya on Amami O Shima. The Japs also operated Inujo field on Tanega island, just south of Kyushu. These airfields all possessed fueling and repair facilities and served as staging bases for Kamikaze pilots and other Japs flying southward from Kyushu.

South of Okinawa, in the Sakishima Gunto, the enemy had three fields on Ishigaki island and three on Miyako. Two hundred miles east of the main Nansei Shoto chain there was a Jap field on Minami Daito, and west of Okinawa the enemy had fields on Ie and Kume islands.

The Japs supplemented their air attacks in the Ryukyus with suicide boats and submarines. Furthermore, many islands of the Nansei Shoto that were too small or too rugged to permit airfield construction had radar, radio, weather stations, and lighthouses, forming an observation and warning network that endangered Allied operations in the area. U.S. pilots encountered heavy AA fire from Japanese positions on critical islands, and it became apparent that enemy garrisons were well established in areas of greatest military importance. The conquest of Okinawa depended to a considerable extent on neutralization of surrounding islands, accomplished by air attacks.

A SUICIDE BOAT BASE?

JAPS INTRODUCED BAKA

MANY KAMIKAZES HIT

Dark Smoke puffs up from Koniya Town, Amami O Shima, following neutralizing strike by planes

MINAMI DAITO FIELD 200 MI. EAST OF OKINAWA

AMAMI O SHIMA TOOK PASTING IN AIR ATTACKS

WORRIED JAPANESE SHIPS CLUNG TO THE SHELTER OF THE RYUKYU CO

ENEMY INSTALLATIONS, CONCEALE

FORESEEING the overwhelming force which the Allies would bring into the Ryukyus, the Japs resorted to camouflage and concealment as much as possible. Numerous photographic sorties were made by U.S. airmen in the attempt to discover locations of suicide boat and submarine bases and other hidden enemy installations.

Pictures proved particularly useful in spotting a nest of submarines at Unten Ko on northwest Okinawa. According to an action report: "At Unten Ko the first attacks reported little success due to the excellent camouflage of the submarine pens and nearby installations. However, close examination of photographs taken during these attacks revealed a number of concealed pens and provided an opportunity for briefing the pilots on the pin-point targets. Permission was obtained to hit the area again, and the results were excellent, with 3 or 4 pens destroyed to the accompaniment of

U. S. Carriers toughed it out with Kamikazes as they led attacks against Nansei Shoto bases

FOR SAFETY: PHOTO SHOWS ROCKET ATTACK BY CARRIER PLANE ON LUGGERS HUGGING SHORE OF KAKEROMA ISLAND IN THE AMAMI GUNTO

ON MANY ISLANDS OF NANSEI SHOTO, WERE SOUGHT OUT AND ATTACKED

heavy explosions and huge fires. Additional pens were located on pictures taken during this attack, and the whole process repeated twice again, ending with a total of 11 pens wrecked, several MTB's and midget submarines destroyed, and general devastation of the buildings, fuel dumps and loose stores, as well as the base's principal dock facilities."

The Japs were found to be parking aircraft in revetments situated in wooded areas, making identification and attack difficult. Enemy shipping in the Ryukyus also became more and more troublesome to locate, as convoys sought the shelter of protecting coves. And on Okinawa itself carrier planes and photos were used to track down Jap strongpoints.

MARINE AND NAVY SQUADRONS BORE BRUNT OF AIR CAMPAIGN IN RYUKYUS; AA WAS HEAVY OVER JAP-GARRISONED NANSEI ISLANDS

BURNING JAP SHIP GOES DOWN OFF MIYAKO ISLAND IN SAKISHIMA GROUP. SAKISHIMA'S ARE SOUTHERNMOST OF THE NANSEI SHOTO

STRIKES WERE NOT ALL ONE-WAY: KAMIKAZE PILOT DOVE INTO THIS NAVY LST AT OKINAWA AND SANK IT AT PIER

REVETTED AMMUNITION BUILDINGS (LEFT) BLAZE AFTER CARRIER PLANE ATTACK ON KONIYA SEAPLANE STATION AT AMAMI O SHIMA

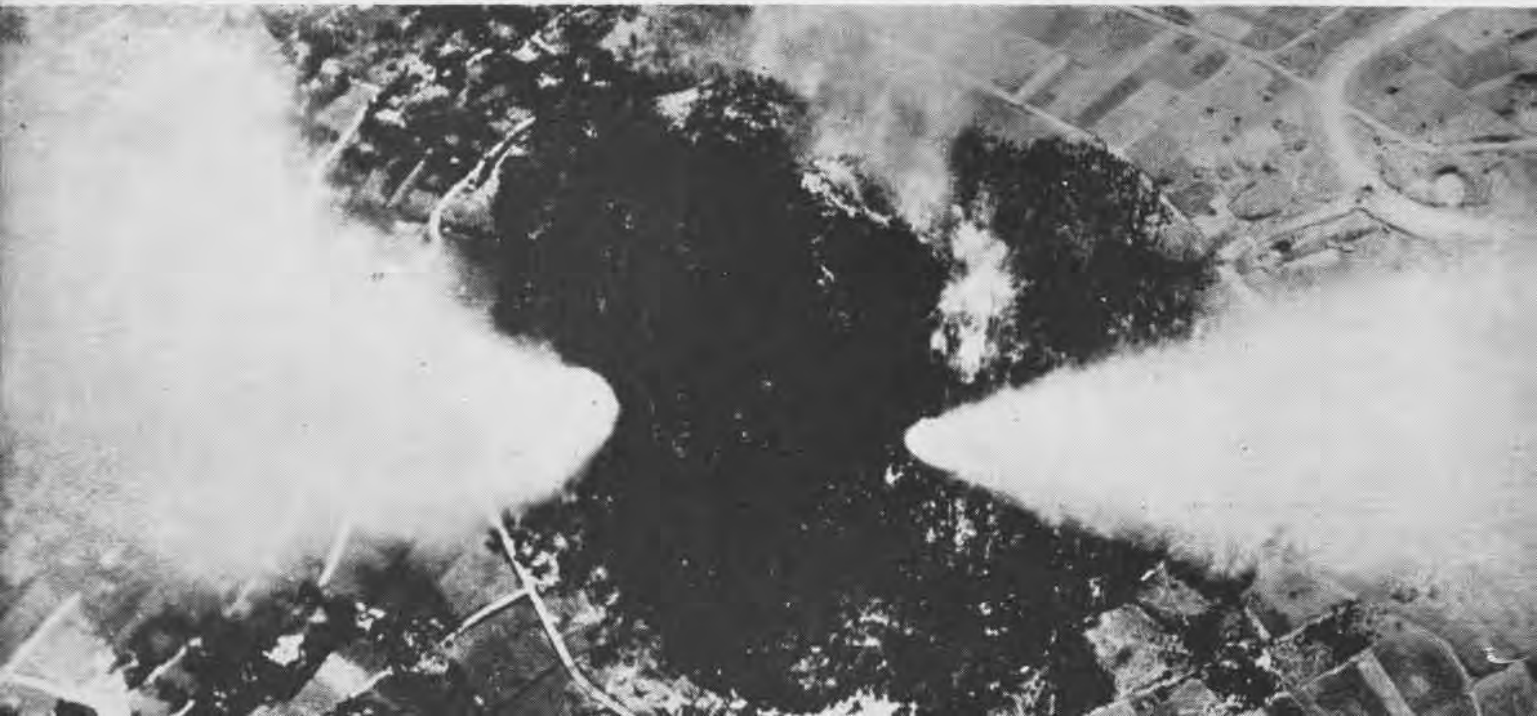
BRITISH CARRIERS CONVINCED JAPS IT WAS AN ALLIED WAR WHEN THEY PLASTERED AIRFIELDS AND TOWNS ON ISLANDS IN THIS AREA

FIERCEST ATTACKS WERE AIMED AT THE JAPS' STAGING FIELDS; MANY SUPPORT SORTIES FLOWN

MARINE and Navy pilots, assisted by British airmen, battered all fields in the Ryukyus during the early days of the invasion. The enemy was sending down planes from Kyushu in large numbers, and many of these were caught and destroyed on fields at Kikai and Tokuno in the Amami group. Fuel dumps, hangars, shops, and barracks were destroyed throughout the Ryukyus, and runways were cratered. Radar and radio stations, shipping (especially small, suspected suicide craft), and military headquarters were other important targets.

Carrier-based pilots flew thousands of sorties in support of ground troops on Okinawa. In one instance a small ridge had held up U.S. troops northeast of Shuri for over a week. More than 300 men had been killed in attempts to take the position, and it was decided that close-support bombing was the only alternative. The support mission was briefed carefully with a blown-up photograph of the position, the attack on which involved considerable risk of bomb-overs into U.S. lines. Then *Avengers* came in in pairs at 200-400 feet, blasting enemy dugouts at the base of the ridge. After the last pair made their drop, artillery reopened its barrage, and U.S. troops swarmed over the ridge which finally was secured with loss of only two men. This was good air support.

MANY STRIKES WERE FLOWN IN SUPPORT OF U.S. GROUND TROOPS. HERE ROCKET ATTACK SMASHES AT STRONG POINT ON IE SHIMA



MARINE PILOTS FLEW FROM CARRIERS AND OKINAWA FIELDS

AIR ATTACKS ON RYUKYU ISLANDS MADE POSSIBLE U. S. SEIZURE OF OKINAWA, VITAL PACIFIC BASE

STRIKES on Japan's Ryukyu air bases accomplished their purpose. An action report states: "Although these attacks against the Nansei Shoto airfields did not succeed in neutralizing the fields for more than short periods, they did result in destruction of most of the facilities and supply dumps around the fields, and wrecked many aircraft, thus severely hampering the enemy's efforts to stage aircraft through these fields against our forces at Okinawa."

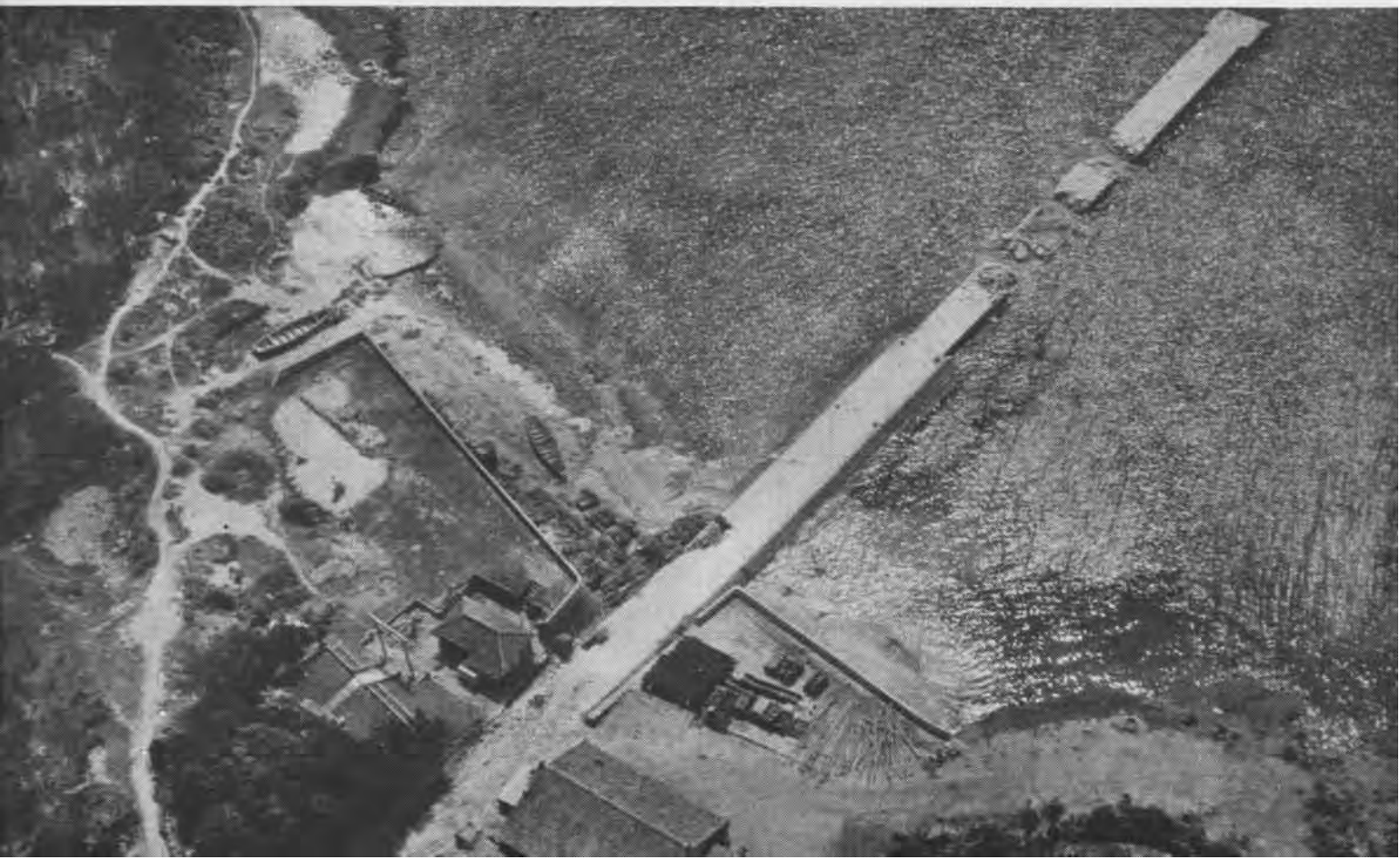
The air attacks opened the way for capture of Okinawa and its development as a powerful U.S. base for final blows against Japan. In the other Ryukyu islands the Japs' potential air and waterborne threats were located and either destroyed or so badly damaged that they could no longer offer any serious obstacle to the Allied moves toward Tokyo.

A DOWNED JAP IS WATCHED CLOSELY AS HE COMES ABOARD

Repeated attacks were made on Jap installations on Tokuno island, an enemy plane staging base

Bombs burst on Hirara airfield, one of three Jap fields on Miyako island. Many dummies were used here by enemy. British and U.S. carrier-borne squadrons alternated at neutralizing bases in the Sakishima group, which constituted definite threat to Okinawa

Pin-point bombing knocked out enemy's bridges on Okinawa. There were numerous instances in the campaign in which Marine and Navy planes provided close support of ground troops. Targets varied widely and included haystacks, suspected as ammo dumps



GRAMPAW PETTIBONE

The Voice of Experience

An F4U pilot (475 hours), while on a routine training flight, noticed smoke coming into the cockpit from under the instrument panel. He immediately started his return to base and requested emergency clearance to land.

When the pilot changed propeller pitch at 500 feet on the downwind leg, the engine cut out completely. Realizing he could not make the field and thinking he didn't have time to retract his wheels, the pilot made a wheels-down landing in the best area available. The plane cartwheeled upon impact. Luckily, the pilot received only "B" injury. The plane was recommended for strike.

The accident board recommended that pilots be warned to maintain sufficient altitude to *insure* being able to make the runway at all times while circling a field for an emergency landing. They also pointed out that if there is insufficient time to raise wheels before landing in loose soil, wheels at least should be *unlocked*.

Grampaw Pettibone says:

Better read those two recommendations again. They contain good advice. There is also an important lesson for operating units in this accident. It occurred because the airplane was mistakenly scheduled to fly after it had been "grounded" following the last flight. Might I suggest you check to insure this couldn't happen in your outfit. A preventive check is always so much better than disciplinary action after the funeral.

Liberator Emergency Landing

A two-wheel emergency landing recently made in a PB4Y was so successful that the details are being disseminated for information.

The emergency arose during a pilot qualification flight. While making a power-on landing approach, the plane hit a strong down draft. Full power was applied immediately, but the aircraft struck a hedgerow and sheared off the left landing gear. The plane remained airborne.

Upon being notified of the accident, the squadron commander immediately proceeded to the tower and took charge of the flight. During the next two hours, the following precautionary measures were taken in preparation for the two-wheel landing:

a. The airplane proceeded over the English Channel, distance 12 miles, to jettison all pyrotechnics and ammunition.

b. High power settings were used on all engines to reduce fuel load. Approximately 400 gallons remained upon landing.

c. All loose gear was lashed down.

d. The pilots' escape hatch and waist hatches were removed and stowed in the bomb bays.

e. The hydraulic lines to the port brakes were broken and sealed off, to reduce the fire hazard.

f. The fuel sight gages were drained and sealed off, to reduce the fire hazard.

Note: Although not mentioned in this report, two other safety measures for reduction of fire hazard during forced landing are listed in the PB4Y-2 Pilot's Hand Book: *1.* Turn off wing compartment drain line, and *2.* Use auxiliary hydraulic booster pump to lower the landing gear and flaps and to charge the brake accumulators; then turn off before contact.

After precautionary measures had been completed, the crew took ditching stations and braced themselves. A normal landing approach was made. When within gliding range of the field, the number two and three engines were cut and the propellers feathered. Number one and four engines were cut and propellers feathered just before touching down and the crash bar was thrown off. The number two propeller was cut first because it was considered most dangerous to the crew. This was due to the fact that it was nearest to the fuselage on the no-wheel side; particularly dangerous in this case because port propellers, due to their direction of rotation, have a tendency to "walk" into the fuselage when damaged.

The airplane settled smoothly on the starboard main landing gear. The left wing was held up with the ailerons as the nose wheel settled to the runway and the plane was held straight by use of rudder and good right brake. The plane had rolled 2500 feet and was considerably slowed down before the left wing tip touched. The pilot reported he was still able at this time to maintain his heading with the right brake. Finally, the aircraft turned slowly left and came to rest 50 feet off the runway and 50 degrees from its original heading.

The damage to the aircraft caused by the landing was relatively light. The bottom of the fuselage was crushed from station 6.0 to 7.4, the port wing tip was sprung and the number one propeller tips were bent. There were no injuries to personnel.

▶ *Comment*—**Admittedly less damage will result to a *Liberator* in a successful two-wheel landing than in a belly landing. They are not recommended for all type planes, however, particularly not for smaller planes which are apt to swerve more sharply and turn over more readily.**

Better pilot technique is required for this type landing than for a belly landing. Also, a much longer runway is needed and a large clear area *must* be available on the no wheel side, the side to which the plane will swerve. Although this airplane came to rest only 50 feet off the runway, others not quite so successful have not stopped until many times that distance from the runway.

Glad to be Aboard, *crewmen from a ditched patrol plane scramble to reach the deck of a rescue submarine. Barefooted crewmen of the pigboat help haul Navy airmen out of their rubber life raft up the side of the submarine. In this rescue, and others like it, Navy submarines pick up downed airmen within sight of Jap coast.*

Face Saver

The pilot of an F6F was on an authorized familiarization flight, practicing touch and go landings. On the third approach he allowed the plane to settle in the groove, with the result that the left wing struck a dead tree which had escaped his notice. The plane struck the ground in a nose-down attitude. The pilot's head hit the starboard cockpit light and microphone holder, which are well forward in the cockpit, causing very serious head and face injuries.

Investigation revealed that the pilot did *not* have his shoulder straps *locked*.

▶ *Comment*—**Aside from the poor landing technique involved, this case illustrates a method of self-mutilation just about as senseless as hara-kiri.**

This is not an isolated case. During the past few months, there were 13 take-off and landing accidents reported in which pilots or crewmen *had their shoulder harnesses buckled but not locked*. These accidents resulted in one death, 10 serious injuries and two minor injuries.

Navy shoulder harnesses are designed to permit body movement necessary to operate all controls, and also for comfort. Know where the lock lever is located, use it for all forced landings and field or carrier take-offs and landings, and *leave* it locked until the landing or take-off is completed.

WTT Duty

Upon returning from a gunnery training flight, an F6F pilot (450 hours) was picked up by the taxi director on the edge of the parking apron. Shortly he was passed to the next signalman.

The pilot tells what happened next: "Due to the fact that there were quite a few men standing in the vicinity, I had some difficulty picking out the second signalman. When I did spot him, he was giving me a left rudder signal which I obeyed immediately. This turned my plane and enabled me to see a GH directly in my path.

"I was too close to the GH to miss it by simply continuing my turn or by easy application of brakes—so I pulled the stick back in my lap and gave hard brake on both wheels. I missed the GH, but my plane went up on its nose.

"This accident was caused through no fault of the signalman, but my negligence in not picking him up in time."

The Accident Board was in complete agreement with the pilot that the cause of the accident was entirely due to his negligence in *continuing* to taxi when the signalman could not be seen.

The Board was of the opinion that the disciplinary action taken in this case would give the pilot sufficient experience to qualify as a Safe Taxi Pilot. Punishment consisted of one week's WTT (Watch Them Taxi) Duty, to be stood at the edge of the taxi apron.

Watch That Airspeed

THIS *happened when a student got too slow while practicing slips during a landing approach.*

Altitude Tip

A visiting pilot (450 hours) made a good landing in an F6F at a field of 6000 feet elevation. After a run-out of normal length, he unlocked his tail wheel and started to turn off the runway. He still had so much speed on, however, that he started to groundloop and ended by nosing over.

The Investigating Board pointed out that faster landing speeds are experienced at altitude. They were of the opinion that pilot error in this case resulted from unfamiliarity with this fact and caused him to start his turn before having slowed down sufficiently.

▶ *Comment*—**All pilots should be familiar with the changes in operating characteristics of aircraft when using high altitude fields.**

Air decreases in density with altitude; therefore wings give progressively less lift as altitude increases. Aircraft will stall at progressively higher speeds as lift decreases; therefore increased speeds are required to maintain flight.

This is one place you get a lucky break, however, because you do not have to figure out how much extra speed is needed. Airspeed indicators do this automatically, the reason being that they are acuated by the same density of air as that which gives the plane lift. In other words, take-off and landing speed as registered on the airspeed indicator will be *the same*, no matter what the altitude of the field.

The thing you do have to know and make allowance for, however, is that your ground speed progressively increases with altitude. This necessitates a longer take-off run to build up to flying speed and also a longer run-out after landing. It also means you can not take-off as heavily loaded at altitude as at sea level. Tests have shown that approximately 3 percent longer take-off run is required for *each* 1000-foot increase above sea level.

Since density of air also is affected by temperature, a word of warning on this subject also is in order. The higher the temperature, the less dense the air, with the same effect on airspeed meter readings and operating characteristics as those described for higher altitudes. Approximately 3 percent longer take-off run is required for *each* 10°C rise in temperature above normal. Normal air temperature is 15°C.

For information, official flight characteristics of aircraft are always based on sea level and 15° C air temperatures.

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.*

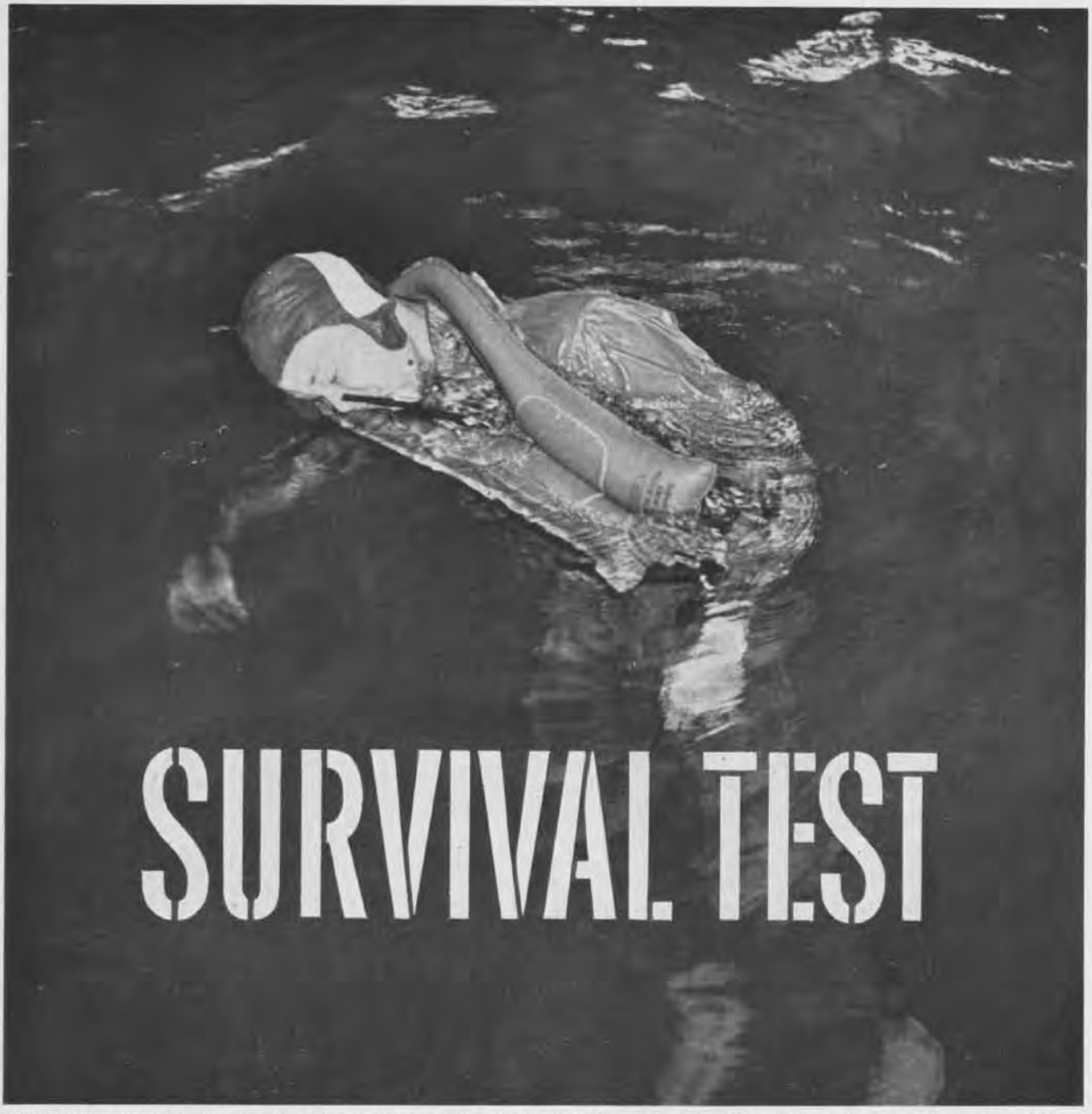
1. **If your normal stalling speed is 92 knots, what would be your approximate stalling speed in a turn using 50° bank?**
2. **When you are wearing an anti-blackout suit, why is there more danger of overstressing your aircraft?**
3. **For planes equipped with any type constant speed propeller, what is the recommended manifold pressure during prolonged dives?**
4. **Minimum altitude for acrobatics over congested areas is 4,000 feet. True or false?**
5. **Why is it dangerous to bank during a dive pull-out?**

(Answers on page 40)

He Robbed Himself

An F4U-1 pilot experienced engine failure at 4000 feet during a routine ferry flight. He chose a nearby field and radioed that he was making a wheels-up landing. Upon impact the seat tore loose from its mounting allowing the pilot to be thrown forward, resulting in fatal injuries.

Subsequent investigation of the cockpit revealed that the locking pins holding the seat in place had not been properly secured. Further, it was determined by testimony that the pilot had been in the habit of removing these pins in order to stow his luggage behind the seat. Due to the inconvenience of replacing the pins securely, apparently he had been putting them in just far enough to hold the seat in place. When the airplane landed wheels-up on the soft ground, the deceleration was sufficient to cause these pins to give way and rob the pilot of the very support that would have saved his life.



SURVIVAL TEST

FAILURE TO FIT MAE WEST PROPERLY RESULTS IN POOR BUOYANCY AND, LIKE THIS, MAY LOWER NOSE AND MOUTH UNDERWATER

Dunking in the Drink With All Survival Gear Reveals Common Flaws in Faulty Ditch Routine

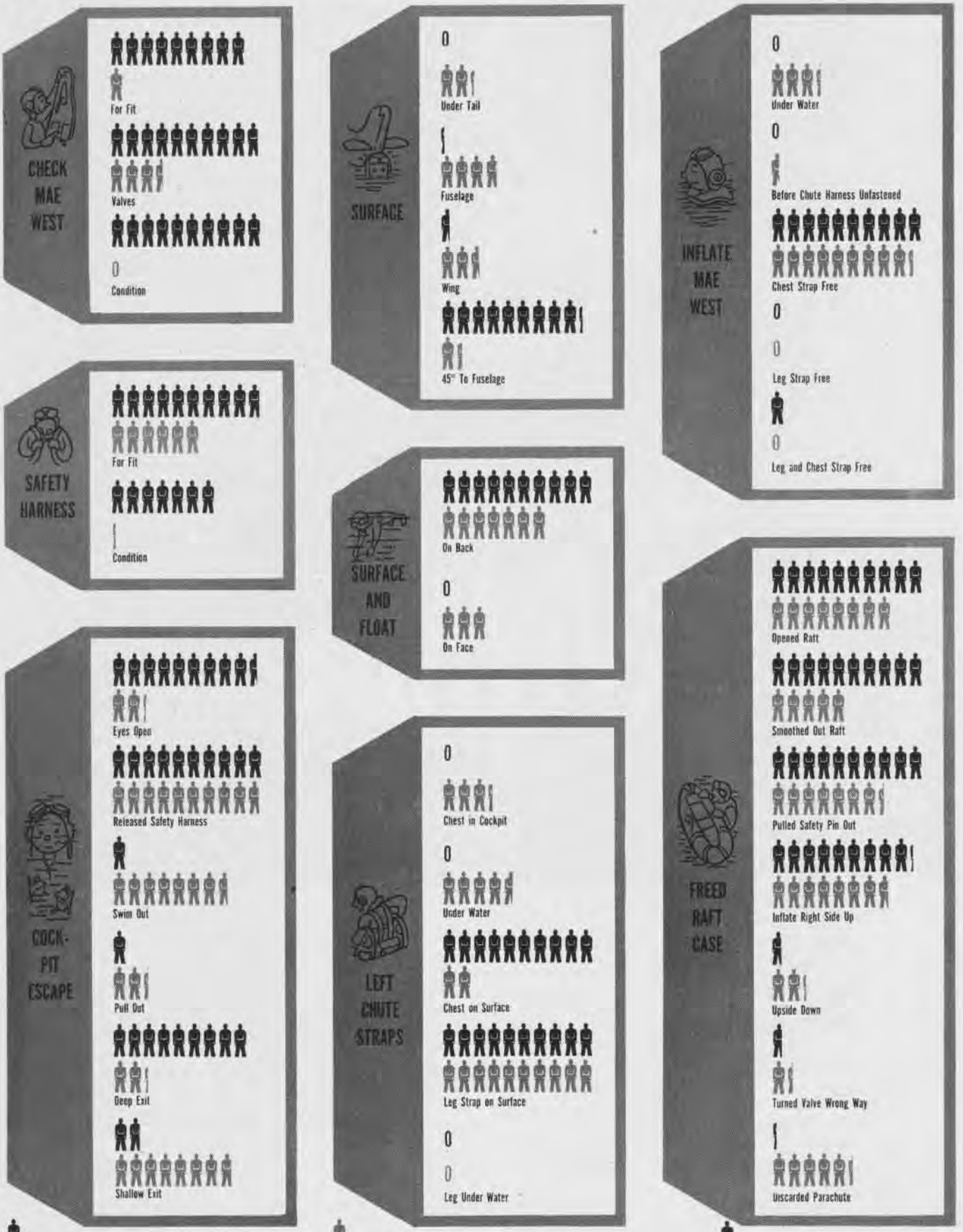
OPERATING on the theory that survival-wise men live longer than survival-ignorant, NAS PENSACOLA, recently set up a controlled experiment in order to establish a reliable instructional program in cockpit escape and use of survival gear. The experiment actually became a hilarious contest.

A group of 50 men, thoroughly indoctrinated in survival procedures, was pitted against a group of 50 men who, though provided with the same equipment, never had been told what to do with it. The contest was staged in a swimming pool. Each of the men was given: Summer flight suit, Mae West charged with CO_2 cartridges, seat type parachute with pararaft, and back pad equipment pack.

The men were instructed to don all gear, to simulate taking a plane out and ditching it "two or three hundred miles at sea," and to use all gear to the fullest extent of their knowledge, or ingenuity as the case might be.

All work undertaken in the water was checked by an underwater observer and a man on the side of the pool. Dunked pilots were not permitted to communicate with each other before or after the "ride". Results were fascinating. Instructed men proved about 65 percent more efficient in knowledge and use of gear. Uninstructed men fumbled through, and a large percentage would have been killed had the ditching been real. There was many a chuckle at the impromptu procedures employed. But valuable training pointers were revealed. At the end of each day's tests all hands had mistakes explained and techniques described.

WATER SURVIVAL TEST PROVES INSTRUCTION PAYS OFF



USE OF PONCHO, GLOVES, AVOIDS SUNBURN

Trained Crews Survive Nicely But Impromptu Ditchers Stage Clambake Follies in Test Drill

THE COMEDY of errors provided by 50 untrained men in this survival test wouldn't be amusing under actual conditions. Flagrant boners:

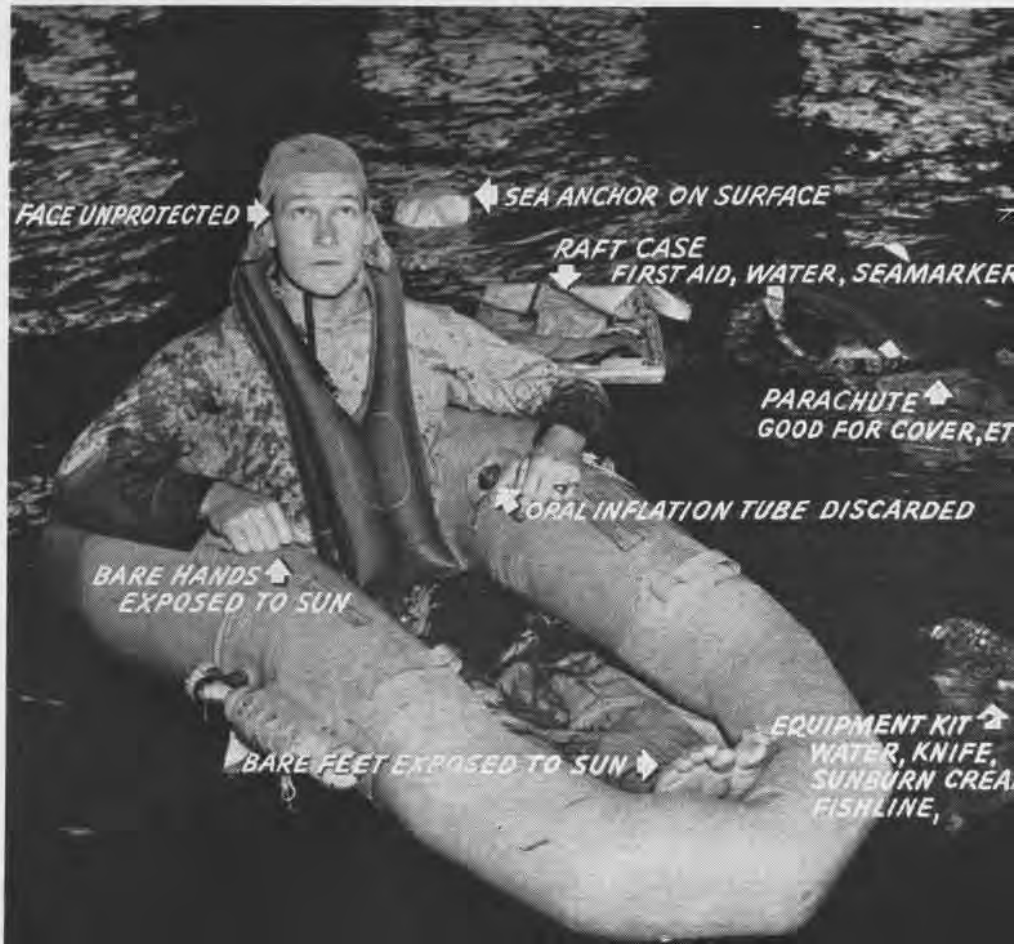
- Only five men fitted their Mae Wests. Few checked parts. Some pulled toggles and found that CO_2 had escaped through oral valve; that they had dead cartridges or not any. Not one checked condition of harness or safety belt.
- Most, in great haste, made shallow exit, swimming from cockpit and snagging gear. Resultant panic caused great sputter and swallowing of water.
- Over 40 surfaced where part of plane would have been, and seven, who inflated Mae West under water, actually banged heads on fuselage section.
- Few realized flotation qualities of gear, surfaced bottoms up, head under water. Thirty-five stayed that way and had to be fished out.
- Many turned inflation valve on raft CO_2 bottle the wrong way, lost handle.
- Half the men threw away chute and back pad kit; only 16 kept raft case containing dye marker, etc., and only two secured any gear to the raft.
- Once in the raft all men bailed like mad, considering this more important than saving food and water.

Glaringly, the contest revealed the the dangers of ignorance of survival procedure; pointed up important things to stress in a good instructional program.

BENT ARM MADE RAFT-BOARDING DIFFICULT

RIGHT WAY This man saved all his equipment, secured it to the raft in shipshape fashion so that it can be covered with poncho quickly. Everything is within reach and he is well protected against all types of weather

WRONG WAY Lack of proper instruction and "know how" results in a jumbled mess. This man's failure to secure or make proper use of gear decreases his survival chances. All his equipment is drifting. He'll burn badly



STREAM OF ADVECTED FOG FLOWS IN THROUGH GOLDEN GATE ON SUMMER AFTERNOONS; BRIDGE TOWERS PROTRUDE THROUGH FOG

NORTHERN CALIFORNIA FOG

CAVU Can Become Ceiling Zero Within Thirty Minutes

Fog or low stratus clouds are the principal impediment to flight operations during summer months in the Northern California area. During July and August a stream of fog flows through Golden Gate almost every afternoon across San Francisco Bay toward the Berkeley hills. There it divides, flowing north and south along the base of the hills.

Essentially the same, fog and low stratus clouds differ only in elevation above the ground. In the hills around San Francisco Bay a low stratus overcast becomes fog at higher elevations.

Advection fog forms when moist air flows over a colder surface and is cooled to its dewpoint. Conditions along the Northern California coast are particularly favorable for formation of advected fog in summer months because of the presence of a narrow belt of cold coastal waters created by upwelling ocean currents. Even in summer, water off San Francisco is colder than coastal water 1000 miles farther north. Prevailing westerly winds bring warmer, moisture-laden air across the coastal cold water belt. A warmer layer of air nearly always exists at an altitude of from 800 to 2500 feet, effectively preventing the upper portion of fog or stratus clouds from reaching above that height.

Solar heating may dissipate fog or stratus in forenoon or early afternoon if the layer is not too thick. Foggy conditions may continue all day if the layer is more than 1000 feet thick.

Fog flowing in through the Golden Gate in summer months occasionally reaches around the Bay to the OAKLAND airport and NAS ALAMEDA and may cause a change from CAVU to ceiling zero in from 20 to 30 minutes.

The coast range with elevations of from 2000 to 5000 feet presents an effective barrier to the fog or low stratus clouds. While the Bay area may be completely overcast or fogbound due to advection conditions, the Sacramento and San Joaquin valleys to the east are usually unaffected.

In the winter season San Francisco Bay is almost free of advection fog. On clear, cold nights, however, sheltered valleys will frequently be blanketed in early morning hours with a thin layer, seldom more than 500 feet, of radiation fog caused by cooling of the earth at night. This usually clears two or three hours after sunrise.

Radiation cooling in the San Joaquin and Sacramento valleys at night occasionally causes radiation fog during winter that may continue for several days. Since the Bay area usually has contact weather at that time coastal operations will not require the availability of alternate landing fields.

Pilots going to the San Francisco Bay area for the first time should study Chapters 17 and 18 in *Aerology for Pilots* and *Aerology Series Number 3-Fog.*

DID YOU KNOW?

Navy Wings Now Probationary

Insignia Revoked for No-Flight Duties

The Secretary of the Navy has approved a change in wearing of Naval Aviation insignia so that the right to wear them is made probationary for 12 months after first designation.

If, during that period, a commissioned officer, warrant officer or nurse is separated from duty involving flying, his or her right to wear the aviation insigne may be revoked by the Chief of Naval Personnel. This ruling also applies to enlisted personnel designated as Naval Aviation pilots.

In a case where the right to wear wings has been revoked, the individual cannot wear them until such time as he returns to duty involving flying or again is authorized by Chief of Naval Personnel to do so.

Navy Sets Up An Air Test Center

NAS Patuxent River Is Site Of Activity

Under an order issued from the Office of the Secretary on June 16, 1945, the U. S. NAVAL AIR TEST CENTER PATUXENT RIVER, MD., was established at NAS PATUXENT RIVER. The Commander, NAVAL AIR TEST CENTER, will be responsible for the functions of aviation test activities now under NAS PATUXENT RIVER, and other functions hereafter established and specifically assigned to him. The director of each test activity will report to the Commander, NAVAL AIR TEST CENTER.

The Commanding Officer, NAS PATUXENT RIVER, will report to the Commander, NAVAL AIR TEST CENTER and will provide and maintain personnel and facilities for administrative and other services on the station. The Officer in Charge, WEBSTER FIELD, also will report to the Commander, NAVAL AIR TEST CENTER.

The NAVAL AIR TEST CENTER is an activity of the POTOMAC RIVER NAVAL COM under BuAer's technical control.

Bags Jap Without Firing a Shot

PB4Y Chases Jake Up One-Way Canyon

A Navy PB4Y search plane ran down and destroyed a Jap *Jake*, single-engined seaplane, over Luzon without firing a shot. The plane was returning from a flight off the China coast when the Jap was spied five miles ahead and below.

Nosing his plane down, the Navy pilot bore down on the Jap, who nosed over and tried to escape to one side. The two planes tore across the island, with the Navy pilot heading off the Jap each time he tried to turn. Soon they were only a few feet above the ground.

The big plane drove the *Jake* up a small valley and closed to gun range. Boxed in by hills, the Jap crashed into the side of a cliff. The PB4Y made a 180° turn and went home. On the way back, its crew downed another *Jake*, this time using a few bullets to do the trick.

PBM in Fast Rescue off Korea

Picks up Crew of Plane Hit by Jap Fire

A near-record for speedy rescues was established by a Navy PBM which picked up the crew of another *Mariner* within sight of Japanese-held Korean shores while on a hunt for enemy shipping to attack.

The first *Mariner* was hit repeatedly by antiaircraft from an enemy tanker which it was strafing. Shells knocked out the bow turret and the bombing panel, shattered the cockpit, stopped one engine and damaged the other.

The damaged plane completed its bombing run with one engine, then made a forced landing 10 miles offshore. Its sister plane, seeing the incident, landed alongside before the *Mariner* had come to a complete stop. Crew members had broken out their life rafts but were pulled aboard quickly and the rescue plane took off before the enemy tanker could get close enough to fire a shot. Only four members of the plane were injured.

Marine Bombers Frustrate Japs

Photo-Flash Bombs Stupefy The Enemy

A Marine bomber squadron assigned to low-level rocket attacks on Japanese shipping around the Bonin and Volcano Islands wanted photographic evidence of destruction, so they carried along some of the Navy's special photo-flash bombs and synchronized a camera with them.

The fliers swooped in on the ships, fired their rockets, then dropped the bombs. Jap gunners on the ships seldom were able to shoot. The Marines soon found out why.

The Japs, with their faces upturned, had their eyes wide open trying to pick out planes in the darkness. Then the photo-flash bombs exploded—500,000,000 candlepower in each bomb. The Marines figured it was about 20 minutes after the planes left before the Japs were able to see well enough to do anything, let alone retaliate.

ZIPPING OFF *the launching rails on a surveyed* SB2C *on the new rocket range at* NAVAL AIR GUNNER'S SCHOOL, YELLOW WATER, *may be seen two sub-caliber aircraft rockets in midair. Firing of these* SCAR'S *is a new development of training naval personnel in rocket operations. Students at aviation ordnance officers school and advanced aviation ordnance school, before their graduation, have to assemble, load and fire a rocket*

PUBLICATIONS

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

FLIGHT SAFETY BULLETINS

12-45 *Restrictions on Diving Attacks with VPB Aircraft.*
13-45 *Attachment of Parachute Harness During Water Landings.*

AVIATION CIRCULAR LETTERS

74-45 *Class Designation of Aircraft.*
75-45 *Classification of Naval Aircraft Maintenance and Overhaul Activites Ashore.*
76-45 *Marking of Parachutes with Striking Date.*
77-45 *Aircraft Clearance—Filing of Instrument Flight Plans.*
79-45 *Reconditioning and Redistribution of Aircraft.*
80-45 *(Joint Ltr.) BuAer Standard Airplane Inventory Logs—Policies Governing Use of.*
81-45 *Aviation Survival Program.*
82-45 *Aeronautical Material—Coding and Manufacture of.*
83-45 *Aeronautical Allowance Lists—Use of.*

TECHNICAL NOTES

60-45 *Information of Adjustment of AC Carbon Pile Voltage Regulators Eclipse Type 1001 and 1322.*
61-45 *Hard Water Conditions—Correction of—When Used with NavAer Specification C-109—Cleaner, Metal, Silicate—Soap.*
62-45 *Installation of Mk 4 or Mk 9 Droppable Fuel Tanks on Mk 51 Mod 11 and Mk 51 Mod 12 Bomb Racks.*
63-45 *Modification of AN/AIA-2 and AN/AIA-2A Interphone—Radio Control Assemblies to provide Pilot ICS Disconnect.*
64-45 *Modification of Leece-Neville Type E-5A (LN-24502) Generator.*
65-45 *Droppable Fuel Tanks—Instructions on Preparation for use.*
66-45 *Instructions for Wearing the Type 14 Oxygen Mask without a Helmet.*
67-45 *Lantern, Floating—Quick Release Clamp—Attachment of.*
68-45 *Pararaft Kit Container Release Device.*

TECHNICAL ORDERS

D-45 *(Conf.) Models F4U-1D and FG-1D Airplanes Take-Off and Flight Characteristics with 11.75 Inch AR (Tiny Tim) Installed.*
58-45 *Model R5D-4, -5, and -6 Airplanes—Restrictions and Permissible Maneuvers.*
59-45 *Model PBN-1 Airplanes—Restrictions on Operation.*
60-45 *Operation of Multi-Engine Aircraft.*
61-45 *Model JM-1, -2 Airplanes Restrictions to be Observed in Operation.*
62-45 *Multi-Place Life Rafts, Inflation and Deflation Hand Pumps for.*
63-45 *C-127/ARC, C-126/ARC, C-137/ARC Console Type Controls, C-38/ARC-5, Control Box Type Control, and J-22B/ARC-5 Jack Box Type Controls—Modifications for Better Operation of Aircraft Radio System.*
64-45 *Electrical Connectors, Soldering Flux and Waterproofing Procedure.*
65-45 *Navy Quick Fit Back Type Parachute and Harness.*
66-45 *Water Injection Fluid, Use of*
67-45 *Model F4U-1, -4 Airplanes, Model FG-1 Airplanes, Model F3A-1 Airplanes Restrictions to be observed in operation.*
68-45 *Model PV-2 Airplanes Restrictions to be observed in operation.*

The Cover One of Fleet Air Wing One's night prowling PBM-5's is hoisted onto a seaplane ramp at Saipan by a beaching tractor. Attachable wheels make the PBM-5's amphibious.

Busses Display Dilbert Posters

Cherry Point Marines Put Him in Rack

MCAS CHERRY POINT—Dilbert posters calling attention to various woes and weaknesses of pilots have been put to a new use by the NINTH MARINE AIRCRAFT WING in connection with its safety program. They have been installed in the poster racks on all BOQ and *Fliers' Special* busses operating around the base. Dilbert's presence in

BUS RIDERS READ OF DILBERT'S TRIALS

the busses was greeted with nostalgic smiles as pilots viewed the antics of their friend of primary, intermediate and operational training days.

CAR Revision Now Is In Effect

Alters Contact, Instrument Flight Rules

Contact and instrument flight rules and definitions in *Civil Air Regulations* were revised on August 1. Copies of the changes made in Part 60, *Air Traffic Rules*, are distributed by the NAVY HYDROGRAPHIC OFFICE or regional offices of the CAA.

Naval aircraft are required to comply with *Civil Air Regulations*, except in those instances where military necessity as determined by appropriate authority makes deviation necessary. All naval aviators are governed by CAR and in addition by the following:

Contact flight:

1. Contact flight will be made in such manner that ground or water within gliding distance of the aircraft can at all times be used for visual reference
2. Except when necessary for taking off or landing, or where the mission of the flight requires otherwise, flight will not be made below 500 feet

Instrument flight rules:

1. Provisions of ACL 19-44 and amendments thereto will be observed

VJ-1 Dates Back To Oct. 1924

Squadron Maintains Original Number

Few existing squadrons in Naval Aviation have so long a history as VJ-1. Information released by CNO shows that UTILITY SQUADRON ONE was commissioned Oct. 5, 1925.

The original complement was taken from SCOUTING PLANE SQUADRON TWO, commissioned April 17, 1924, and decommissioned the same day that VJ-1 came into existence. Few if any other squadrons in Naval Aviation have retained an original designation so long as VJ-1.

Navy Plans Awards for Photos

Steichen Heads New Picture Institute

Recognition for Navy photographers' work, both under fire and on assignments in quieter locales, will be given through the newly-created NAVY PHOTOGRAPHIC INSTITUTE, established to promote and encourage photography on Naval subjects.

It is planned to give annual awards to Navy photographers for work afloat and ashore, with the awards being made annually on Navy Day, October 27, by the Secretary of the Navy. Outstanding work in both still photography and motion pictures will be considered in several categories. Basis for awards will include outstanding photography under fire at the risk of the photographer's life and pictures which make important contributions to a better understanding of the war.

First awards will be retroactive to the start of the war. Prize-winning pictures will be the nucleus for Navy photo exhibits to be shown in key cities over the country, then later becoming permanent exhibits in museums. Motion picture scenes adjudged the best of the war will be incorporated into a film for public showing.

Director of the new institute will be Captain Edward J. Steichen, long-time head of AVIATION TRAINING DIVISION'S picture unit.

NATS Delivers Mail to Okinawa

Detachment Handles 500 Tons In 15 Days

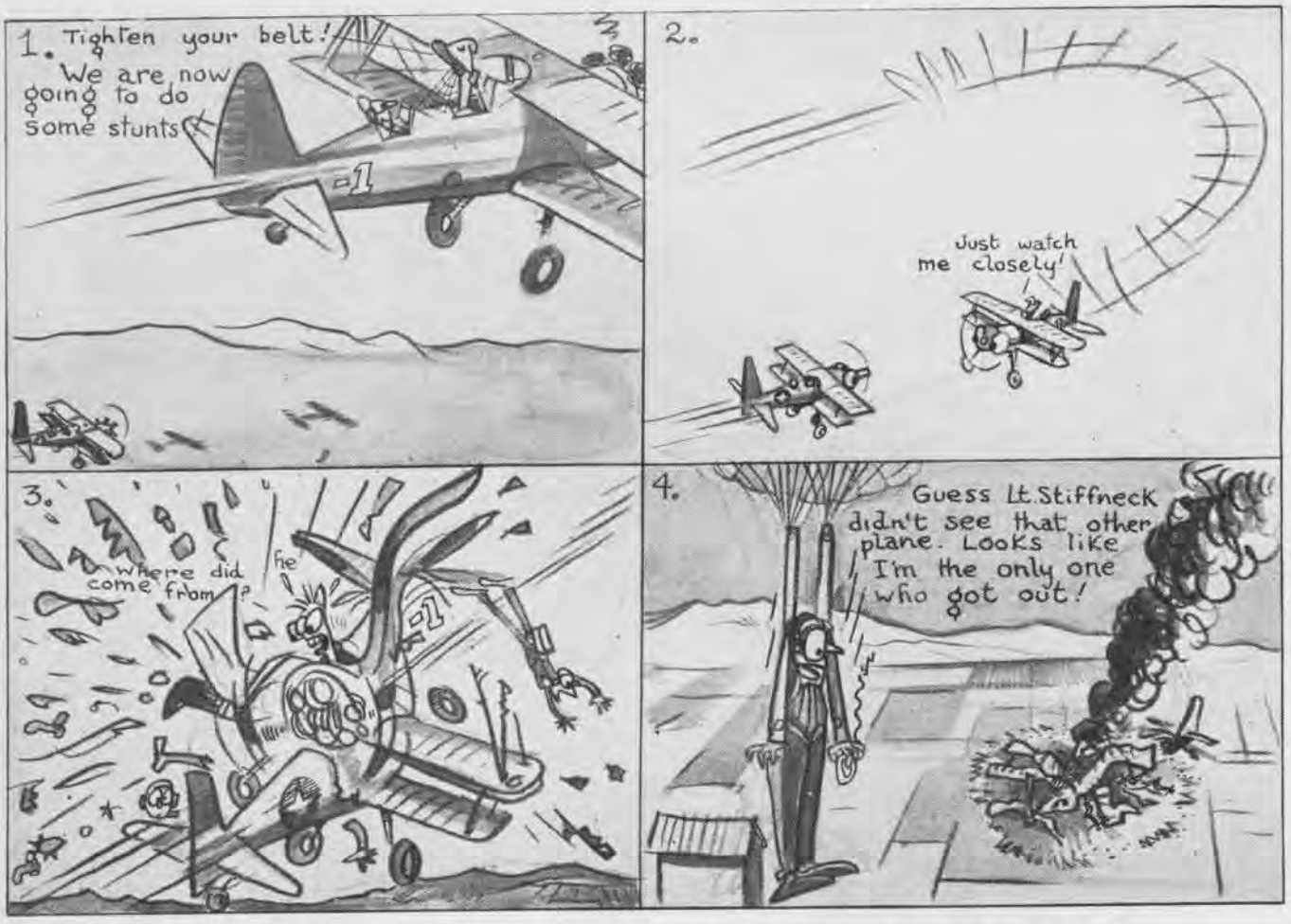
VR-12—This squadron's Okinawa detachment handled 1,049,282 lbs. of mail and cargo in a 15 day period ending June 11. During that period 274 trips were handled by 137 NATS planes. On

WOUNDED MEN LEAVE NATS SPECIAL R5D

the detachment's record day 100,735 pounds of mail was received or dispatched. In addition to mail and cargo, the detachment transported 2,879 casualties and 1,734 passengers.

Between April 8 and June 22 VRE-1 flew 446 round trip missions totalling 1,245,800 miles over ocean and evacuated 9,424 casualties.

A sign over NATS reads: "Naval Air Transport Service Command — New York, Frisco, Tojo-land." Soon Tokyo?



SUBJECT: Lt. (jg) JOE STIFFNECK

MORAL: Don't be a Joe Stiffneck. Look before making a turn, dive or climb. A limber neck means a long life. Avoid mid-air crashes.

MID-AIR collisions cause only 2.5 percent of *all* naval aircraft accidents, but they are to blame for 11.1 percent of all *fatal* accidents. Nearly all these collisions are due to avoidable pilot error. They are the scourge of flight safety. In most cases, one or more lives are lost.

There is only one way to prevent these accidents: Keep a sharp lookout before making a turn, dive or climb. The plane you may hit usually is hiding under your wing, or on the other side of that cloud through which you intend to fly. Most mid-air collisions occur during rendezvous, tactics and gunnery runs. Be alert during these maneuvers. Cultivate the habit of looking around to spot other planes. A limber neck means a long life.

Case 1. During a primary formation training flight a three-plane section was placed in right echelon. The instructors were going to demonstrate break-up procedures to their students. The leader broke off, making a 90° turn to the left and losing altitude. The next plane to peel off made an extremely shallow dive and a turn of less than 90°. The pilot of the last plane, following through, lost sight of the preceding plane. The result was a collision in which both planes jammed together with fatal force. Both student and instructor in the airplane that was struck were killed. Occupants of the overrunning airplane managed to bail out.

Case 2. Two divisions of F6Fs were making dummy flatside gunnery runs on four TBMs. After four or five runs, the leader of one fighter division saw the other division make a left turn. Assuming there was to be a join-up, he turned his division to the left and up. The other division, after making the left turn, made another flatside attack on the TBMs, then turned right. This brought the fighter divisions into a collision course. In an attempt to get out of this predicament, one plane in the lower division pulled up and to the right. It was struck by a plane in the same division. Results: One fatality, one plane stricken. An investigating board concluded that the accident was caused by poor judgment on the part of both division leaders, and poor technique of the pilot who overran.

Case 3. A fighter pilot was authorized to proceed to the acrobatics area to engage in stunt practice. After completing several maneuvers at 9000 feet, the airplane was put into a loop. At the bottom, or pull-out, of this maneuver, the stunter rammed broadside into another airplane. Both aircraft exploded and crashed. Result: Complete destruction of both planes and the two pilots.


Fleet Air Wing

COMMANDER OF FLEET AIR WING ONE LAYS PLANS FOR FUTURE JAP BOMBINGS WITH THE OFFICERS HEADING SQUADRONS UNDER HIM

[This article was prepared before V-J Day.]

One Aerial Blockade by Land and Seaplanes Drive Japs from Seas They Once Controlled, Sinking Hundreds of Ships

SCOURGE of the East China Sea since it arrived at Okinawa, is Fleet Air Wing One, whose *Privateers, Coronados* and *Mariners* sank 159 Japanese vessels and damaged 194 more in its first two months of aerial blockade operations.

Fairwing One developed the *Black Cat* and *Dumbo* squadrons in the South Pacific. It operated search and reconnaissance units at Saipan and Tinian, at Ulithi and Palau. Planes of the wing flew anti-submarine patrols and barrier searches, shot up Jap picket boats, swept ahead of carrier forces and raided shipping in Kazan and Bonin islands.

Its big moment came when it moved to Kerama Retto four days before D day on Okinawa. From then on its raiding planes ran wild against Jap shipping between China, Korea and the Japanese islands, sinking 145,000 tons and damaging 138,000 more tons in a few weeks. Its search planes detected the Jap carrier force which subsequently was defeated in the first battle of the Philippine Sea. Two of its *Mariners* spotted the *Yamato* and its task force.

Fairwing One's raiders strewed the Tsushima Strait between Japan and Korea (Chosen) with so many wrecked Jap vessels Admiral Nimitz called them "Chosen People."

The Wing includes 17 squadrons of PB4Y-2's and seaplanes covering almost two million square miles of ocean daily, searching out Jap shipping to attack. Aiding the wing in keeping these planes flying are 15 seaplane tenders to maintain the "boats" and CASU men to work on *Privateers*. Daily combat reports attest to the never-ending patrol the Wing keeps over waters once controlled by the Japanese Navy.

ROW OF PRIVATEERS STANDS ON PARKING STRIP OF YONTAN AIRFIELD ON OKINAWA: THE PB4Y-2 HAS PROVED EFFECTIVE ON PATROL

PINOCHLE ABOARD A TENDER OF FAIRWING

Devastating Raids Cut Japanese Lifeline from Ports on Asia Mainland

THE AERIAL blockade of the Yellow Sea and Korea Straits has almost stopped what used to be a safe three-day run between Shanghai and Japan. Even the narrow Tsushima Strait has been under Fairwing One patrol attacks more than 16 hours daily, forcing the Japs to use little freighters to make the run at night. Japs have had to rely on longer and slower freight hauls overland to points where shipments can be sent across the Japan sea to the north.

Mariners fly inner and outer anti-sub patrol around Okinawa and make long-range searches along the coast of Japan while *Privateers* extend their raids to the home islands themselves, wherever they are in range of Okinawa airports. The biggest days enjoyed by the PB4Y-2's were May 5 and 6 when they sank 51,800 tons of Jap shipping targets around Korea, sinking half of the 37 vessels they found. Large oilers, cargo ships and tankers were the bombers' targets.

Officers and men alike have to dig their own foxholes as well as fly planes. Here an officer enlarges his "better 'ole" so that he can get in quicker when any stray Japanese raiders come over

Repair work on land-based bombers of Fairwing One has to be done under difficult conditions. CASU and ACORN work together in keeping the aircraft flying to Tokyo and way points in Japan

There is no substitute for muscle and sweat when no fancy bomb lifts are available on advanced bases like this Okinawa field. *Privateer* groundcrewmen hoist 500-pounder off a bomb trailer

Fleet Air Wing One's raiding planes cut Japan's supply lines from continent to island, sinking scores of enemy ships. The Wing sank 159 Japs within two months after Okinawa invasion

Privateer Squadrons

THE NAVY'S new long-range bombers, the *Privateers* attached to Fleet Air Wing One, proved their worth as combat patrol planes in the Central Pacific this year. Flying from Tinian and later Okinawa air bases, they drew the rugged assignment of patrol-bombardment searches for the Fifth Fleet and carried it off, with heavy destruction to the enemy.

Operating from Tinian, they knocked off heavily-armed picket boats, sought out Jap ships, convoys and task forces. In one 18-day period off Korea they sank 96,000 tons of shipping and damaged 77,000 more. They ran up and down within sight of Jap coastal batteries, sinking everything from fishing vessels on up. These raids proved the *Privateer* could take it as well as dish it out for Jap antiaircraft fire was stiff.

Grotesquely bent by bombs of a raiding Fairwing One *Privateer*, this Jap freighter heads for the bottom of the ocean, another in the long list of victims of the Navy's aerial blockade. Hunting for Jap ships to sink is becoming increasingly difficult as the Navy's planes whittle down the enemy's merchant fleet, forcing it to utilize small craft in its effort to escape Navy search planes

No deluxe BOQ mess halls function in advanced areas like this Yontan airfield, where squadron commanders stand in line with their enlisted crewmen for breakfast prior to day's patrolling

Privateer crewmen pull through the propellers of their plane prior to takeoff from Okinawa base on a search-bombardment patrol. Behind them are the tents where they sleep and do work

Big Coronado patrol bomber rolls up ramp at Saipan seaplane base. Crewmen are trained to handle many jobs in an emergency

Flight deck of a *Mariner* gives little room for exercise during routine patrols. Navigator, radiomen sit nearest the camera

Seaplane tender crewmen in rubber boat pull alongside PBM at anchor, to make repairs. Only big tenders can hoist plane aboard

LONG flights over lonely sea lanes, looking for Jap shipping, are the job of Fairwing One's PBM and PB2Y search planes. Missions come every three or four days and last 10 hours. While searching for surface ships, they keep constant lookout for Japanese submarines. They also do night patrols and escort invasion convoys by night and day.

With every invasion since Saipan, the patrol bombers have gone into the areas on D-day or before and established reconnaissance patrols. At Okinawa one FAW *Mariner* bagged two *Vals* and another sank a destroyer, dropping a 500-pounder down its stack.

Another mission of the seaplanes is *Dumbo* work. They are used extensively in air/sea rescue in conjunction with *Superfortresses* on the daily milk-run to the Jap homeland.

Mariners, *Coronados* and *Catalinas* line the parking apron of an island seaplane base. Auxilary ships in harbor aid in repair work

Seaplane crew members of Fairwing One enjoy dip while staying on a tender between missions. Ships are "home" during off hours

Seaplane Tenders

WHILE CASUS maintain Fairwing One's *Privateers* on Okinawa airfields, a fleet of seaplane tenders, both the large AV's and the "baby" AVP's anchor in sheltered harbors to keep the flying boats in operation.

While the planes are being fueled, armed and serviced, their pilots and crews are housed aboard the tenders. Complete shops, adequate to repair or replace any part or instrument of these seaplanes, also can repair Navy small craft at advanced bases. Two seaplanes can be serviced on the deck of the large tenders, the ship's 30-ton cranes lifting them out of the water to the flag deck for repairs.

The smaller AVP's send repair parties in rubber boats to work on planes in the water, a hazardous task in rough water. They do much the same work as the big tenders—refueling and re-arming the planes, planting buoys in seadromes, feeding and berthing pilots, crewmen and others of the VPB squadrons, supplying parts for repairs and boats to transport plane crews to and from their aircraft.

Seaplane tenders have to be able to defend themselves against Kamikaze and bombing attacks so they carry strong batteries of antiaircraft guns, up to five-inchers on AV's. The tenders move forward directly behind the main fleet and carry on maintenance until shore base repair units start work.

Seaplane tender officer takes bearing under shadow of 40 mm. gun with which ship beats off Jap attackers. Large tender below hoists *Mariner* aboard with its 30-ton crane for major repairs

Aviation machinist's mates install starboard engine on a PBM after overhauling it aboard a seaplane tender. Smaller tender sends repair crews in rubber boats to do minor jobs on planes

1 **Wearer** finds new anti-blackout suit easy to adjust. Suit's zipper speeds action

2 **Like** Types Z-1 and -2, cutaway has 5 air bladders of plastic-impregnated cloth—2 over calves, 2 over thighs, and 1 over abdomen. Wearer puts suit on the right leg

NEW CUTAWAY TYPE G SUITS GO TO PILOTS

APPROXIMATELY 3500 new Cutaway Type Z-3 Anti-Blackout Suits have been issued to VF and VMF pilots, and additional suits will be issued until requirements of the Fleet have been met.

The Z-3 suit is of similar design to the standard Army suit, with some improvements. It weighs less than 1½ lbs. Suit should be worn when:

1. Use of heavy winter flight clothing or electrically-heated suits make a coverall type anti-blackout suit unnecessary.
2. The working uniform is worn in flight.
3. It is desirable to wear an anti-blackout suit over *light* clothing.

The Z-3 suit is made of the working parts of the coverall types Z-1 and -2 and consists of separate calf, thigh and abdominal elements connected together. Quick adjustable laces are provided, as these suits must be fitted more snugly to the body (to insure protection against grey-out and black-out) than is necessary for the Z-2 coverall.

The same provisions for oral inflation to provide accessory flotation in water are incorporated—quick-release zippers for the legs and an oral inflation valve for plugging into the male quick disconnect.

This suit cannot be worn over heavy or bulky flight clothing, as the pressures provided by the standard anti-blackout valve are insufficient to inflate the suit enough to transmit pressures through bulky material to the body.

Light clothing, such as the summer uniform or the summer flying suit, is satisfactory for use under the Z-3. Both the Z-2 and -3 will fit when worn under the standard electrically-heated flying suit. The inflation tube is brought out through the zippered pocket on the left of the electric suit.

Cutaways come in four sizes and have the following ASO stock numbers:

Large Long	R-37-S-4855
Large Short	R-37-S-4855-S
Small Large	R-37-S-4855-10
Small Short	R-37-S-4855-15

[ALSO SEE TN 56-45, ANTI-BLACKOUT SUIT, 19 JUNE 1945 AND NANEWS, 3/15/45, PAGE 39]

3 **Corset**-type strings allow for easy tightening of suit at waist and legs

SHORE STATIONS

▸MCAS EL TORO—Approval has been received for construction of automatic sprinkler systems in ten squadron hangars, two group A&R hangars and the station brig. Completion of this project will do much to remove the danger of fire in these wooden buildings.

▸NAS HONOLULU—At a time when the station was deluged with crackerjacks, an AMM, of VR-10 bought a box and opened it with proud mien in front of friends in anticipation of a delightful repast, was embarrassed to discover that his box contained no prize.

Writing to the Crackerjacks Company and expressing his chagrin and embarrass-

ment, the AMM poured out the humility and lamentations of his soul. Several days later he received a letter of condolence and apology from the Crackerjacks people, explaining that due to war, man-power shortage, and the undependability of present-day help, such conditions couldn't be helped and would he accept 12 boxes as a gift from their company.

▸MCAD MIRAMAR—The commanding general of Marfair West recently inspected his new quarters at this depot. While admiring the flower bed just outside his office, the general stooped to pluck a posy.

Just at that moment, a corporal noticed some Marine destroying public property, and called out: "Hey, you, leave those flowers alone."

The general straightened up, and said: "What have I done wrong NOW." The corporal saw stars.

▸NAS BRUNSWICK—A certain chief bent down to push away a dog who had taken a great liking to him and was constantly at his heels. As he was bending over his beautifully matched teeth fell to the ground. Both the chief and "Kippy" made a grab for them, and when last seen the chief was in hot pursuit of one small spaniel.

▸NATTC JACKSONVILLE—A WAVE Yeoman is a boon to the crew of the Green Hanger due to her uncanny ability to foretell weather conditions. The crew members always know when inclement weather is in the offing by observing her hair-do, for therein are displayed these unique prognostic powers. When she has determined what the weather will be she displays her hair accordingly. After weeks of close observation, the men have worked out the following chart. Hair up, *hot;* hair down, *cool;* hair up in tight little curls, *hot and rainy;* hair down in tight little curls, *cool and rainy;* hair down in loose little curls, *cool and cloudy.* Her predictions of the weather are said to work every time.

▸MCAS MOJAVE—There is one Marine flier on this station who will never get to the Pacific. He is being sent, instead, to the San Diego zoo. The "bird" with the unusual assignment is "44", an American eagle adopted by the Leathernecks as a mascot. "44" has been a model Marine but this desert climate doesn't agree with him, so his buddies have made a present of him to the zoo.

▸NAS FLOYD BENNETT—NATS ferry pilots, who have the reputation of never having an extra clean shirt, now have a new champion. He is a VRF-3 pilot, who became a one-man ferry squadron by delivering eight planes in 13 days. Within that period he took four hops on NATS transports and two airline trips. Deliveries effected were PV-2, San Pedro to Whidby Island; F6F, Alameda to Melbourne; PV-1, Jacksonville to Beaufort; TBM-3E, Trenton to San Diego; TBM-3, San Diego to Alameda; SB2C-4, Alameda to Astoria; TBM-1, Astoria to San Diego; SNJ-6, San Diego to San Pedro. He got a day off at the end of this trip to wash his shirt.

▸NAS HONOLULU—When a transportation officer told a seaman to meet the afternoon NATS flight, explaining there would be chicks aboard for him to look after, the sailor immediately visioned a USO troop of blondes, red heads and brunettes. Dressing in his nattiest white uniform, complete with campaign ribbons, the sailor was waiting when the plane arrived. He boarded it and found his charge was a crate of domestic fowls, six hens and a rooster, destined for an advance base.

▸NAS OAKLAND—The newly established NATS "health shack" now is running full blast with steamroom, sunlamp and massage facilities for jangle-nerved pilots and other officers and men. Approximately 160 are getting the treatment daily, and twice that many could be handled.

A CH. SP. (A), in charge of the program, is training personnel as masseurs to man the "health shacks" being set up at Honolulu and Guam to promote the NATS pilot physical conditioning program. In addition to NATS personnel, the Chief will also train men in massage technique for any Naval commands afloat or ashore that desire it. The course lasts approximately one month.

▸NAS HONOLULU—From a squadron navigator, who recently reported here, we get the word that VR-11 flight officers, laying over at the Admiralties base, have inaugurated Hermit Crab races. Each man places his entry in the center of a circle drawn on top of a table in the officers' club and the race is on. The first Hermit to cross the line wins the drinks for his owner.

▸NAS HONOLULU—A WAVE in Sick Bay with a broken foot, was all agog the other day when she learned she could attend Sunday's baseball game and watch her favorite ball player do his stuff against the Barber's Point team. She had no sooner settled herself in a comfortable position in the stands when they carried her hero from the field with a leg injury. Undaunted, although disappointed, the WAVE says she will try again, until she has finally seen her favorite Red Sox-er in action.

▸NAS JACKSONVILLE—There's a Soldier stationed here at Mainside who wears the uniform of the United States Navy.

Loyd Little Soldier, a full-blooded Sioux Indian from a North Dakota Reservation, whose forefathers under Chief Sitting Bull massacred General Custer and his troops, fights proudly in the ranks of the American Navy.

▸NAS CROWS LANDING—A seaman decided to cool off the other evening. As he neared the river, he heard cries for help, and saw a girl being swept down in the current. He plunged in, caught up to her, and finally brought her to shore. She had stopped breathing. He applied artificial respiration, and sent for the dispensary ambulance. Two hours later the girl, suf-

fering no ill effects, was sent home by the Medical Officer. The only tragic consequence to the incident was the seaman's loss of a brand-new set of uppers in the San Joaquin River. Dredging operations are not completed.

▸NAS HONOLULU—Now that the evening star is unusually loose, reports are coming in from the west that on numerous occasions planes have been sent up to investigate that bright light. Squadron navigators find the planet easy to shoot at night and are considering sending through an official request that our planes leave Venus alone.

▸MCAS EL TORO—Tobacco rationing is hitting pretty hard in some spots, and regulations don't provide for a guy like "Butch". He is a pipe-smoking, four-month-old bulldog who is in a very sad state. If he doesn't get his nicotine soon, his job as co-pilot for a three-wheel scooter will be most definitely impaired.

MASTERS O

WHEN the Fleet decided in 1943 that more efficient operations would result if more Aviation Machinist's Mates were given advanced training in specific maintenance duties, the AMM rate was subdivided into five specialist designators.

An advanced AMM school had been established early in 1942 at 87TH & ANTHONY and here, an AMM returning from the Fleet, can qualify now as specialist on engines, carburetors, hydraulic maintenance, instruments, or propellers. There is no engine designator but those for other rates are: AMMC, AMMH, AMMI, and AMMP. The turbo-jet school (AMMT) is at NATECHTRACEN, MEMPHIS.

BENCH OVERHAUL AIDS IN AMMI TRAINING

The decision to specialize the AMM rating has born fruit today in an overall improvement in maintenance. Men trained to do a specialized job are proving valuable to the Fleet and to shore activities.

Since the ratings closely approximate the jobs of commercial airline mechanics, this training should be good post-war employment insurance.

Actual work on the line prepares an AMMP for maintenance in forward area

F MAINTENANCE

ENGINES This 20-week course is designed to teach trouble-shooting and maintenance of aircraft engines and their accessories. Trainees work on the latest model service type engines including R 1820, 1830, 2600, 2800, and 3350 series. They do trouble-shooting problems on "live" aircraft, servicing and maintenance of fuel, ignition and carburetor systems and other related subjects. Graduates who are qualified for the AMM rating have received the educational background necessary to prepare them to take prescribed examinations for an A&E license with CAA.

CARBURETORS General duties of a carburetor specialist include maintenance and operation of carburetor repair and overhaul shops in conjunction with assembly and repair facilities at shore bases. The training given at 87TH & ANTHONY occupies 12 weeks. Aviation Machinist's Mates learn basic carburetion, overhaul, repair and testing. They work on service types of carburetors including the Holley, Ceco and Stromberg. They also study water injection and the operation of a model carburetor assembly and repair shop. In the later phase of training the AMM's gain a great deal of practical experience under actual working conditions. This training fully qualifies them for designation as carburetor specialists. Such training not only makes them valuable now but contributes to a peacetime trade.

AMMH-HYDRAULIC MAINTENANCE Only three years ago, the adaptation of hydraulics to aircraft was virtually in its infancy. Because of that fact, skilled hydraulic mechanics remain comparatively scarce even at this date. Due to the Fleet's rapid growth, there have been instances where only one AMMH was available for a squadron or base. The 12-week training course at NATECHTRACEN equips AMM's for this responsibility. They learn to service, repair and maintain all hydraulically-operated features of planes such as hydraulic turrets, Servo units, landing gear, the flexible gun mount, gun chargers, dive flaps, wing flaps, bomb-bay doors, brakes, and other vital hydraulically-operated parts of a plane. The training will be valuable to them later in peacetime.

INSTRUMENTS This is an 18-week course, and it is one of the most thorough to be found anywhere in the United States. The AMMI is taught to maintain the instruments used by Naval Aviation. Trainees learn to use field test equipment, bench machinery, dead weight testers, galvanometers, barometers, thermometers, and master instruments with correction charts and electrical meters. They become skilled in the use of small hand tools such as the jeweler's screw driver, needle file, tube benders and small soldering irons. Men trained for instrument maintenance are serving the Navy ashore and throughout the combat theater. Such men will likely find that their training acquired at NATECHTRACOM center during war years, will prove to be a decided asset in finding a job when they are civilians.

AMMP PROPELLERS Increased aircraft production and late changes in design have created a growing need for propeller specialists among Aviation Machinist's Mates. This need is being met by the 12-week course given at 87TH AND ANTHONY. Trainees learn to maintain and service propellers on all types of Naval aircraft from a huge *Mars* flying boat, down to the smallest training plane. Fast, accurate trouble-shooting of propellers is essential to maintenance of our combat planes in the Pacific. Trainees are qualified to meet the need. Maintenance and overhaul of ground adjustable, two position, constant speed, hydromatic and electric propellers are studied. The trainees get minor blade repair, line operation, trouble-shooting and field checking. They are qualified as prop specialists. This is another course that helps prepare men for work after war.

TINY TIM

SEVEN HVAR ROCKETS STREAK ON AHEAD OF TINY TIM AS IT NOSES DOWN BEFORE FIRING FROM NAVY CORSAIR ON INYOKERN RANGE

New 11.75" Aircraft Rocket Gives Planes Heavy Firepower; It Packs Terrific Wallop in 500-lb. Head

THE JAPANESE got a look at something new in aerial destruction, the big *Tiny Tim* aircraft rocket. This 11.75" giant is essentially a 500-pound bomb with a rocket motor and fins, adapted for firing from aircraft.

With 152 pounds of TNT in its head, the *Tiny Tim* gives Navy planes the heaviest firepower of any plane in use today. Two of the big rockets, in addition to eight 5" HVAR rockets can be loaded on a fighter, making it a formidable weapon for close air support or other offensive operations.

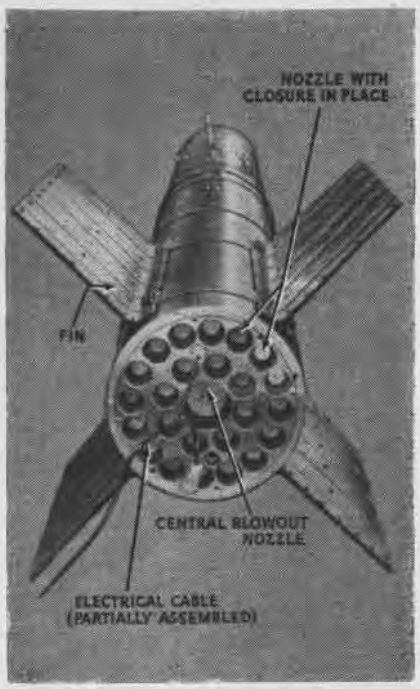
A new version of the *Tim* is in production, slightly shorter and lighter in weight, but with greater velocity and the same payload of HE. The original *Tim's* 810 feet a second velocity is boosted to 880 feet, relative to the plane. To facilitate carrier handling, the length was reduced from 125 to 115 inches.

The motor driving the big rocket is composed of four powder grains of ballistite weighing 152 pounds. These burn out in .88 of a second. Twenty-five nozzles in the after end carry off the exhaust blast. The round is fired by a lanyard and 16-foot electrical connector after it has dropped from the bomb rack sufficiently far to clear the propeller and obviate any damage from blast.

EIGHT HVAR'S AND TWO TINY TIMS GIVE THIS CORSAIR FIREPOWER OF A LARGE SHIP

TREMENDOUS FLAME BLAST TRAILS BEHIND BIG ROCKET AS IT HEADS FOR THE TARGET

TIM 114 INCHES LONG, WEIGHS 1173 LBS.



REAR VIEW SHOWS NOZZLES, FIRING CORD

Tiny Tim is Valuable Weapon for Use Against Pinpoint Targets at Best Range; New Model Shortened

THE HEAD, motor and fins of the *Tiny Tim* are stored separately and assembled immediately prior to use. Three fuzes are used in the base of the head, arming by internal gas pressure. The original rocket had no significant underwater travel since the fuzes functioned after about 20 feet of penetration, but studies are underway to improve this performance.

The *Tim* has a slant range of 4,000 yards maximum, although for greater accuracy release should be from 1,500 to 1,000 yards. Initial training is being given at dive angles of 15°, 30° and 50°, at ranges at 29 Palms, Calif., and Manteo, N. C. The rocket because of its size and weight has less range and velocity than the HVAR which has a 6,800 yard maximum and 1,350 foot a second velocity relative to the plane which launches the rocket.

As with other rockets, the 11.75" is especially valuable against pinpoint targets where accurate firing is necessary to hit objectives such as shipping, coastal defense guns, pill boxes, fuel oil storage facilities and fortifications in general. The round will penetrate a three to four foot reinforced concrete wall of 5,000 lbs/in. test strength at zero degrees obliquity. Dispersion of rounds can be held to a low figure.

Training films listed below on assembly and firing of *Tiny Tim* are available at film libraries:

MN 5799a—Assembly and loading of airborne forward firing rockets PT2, *Tiny Tim*.

MN 5876—A report on airborne rockets (color).

MN 4383—*Tiny Tim*—Airborne forward firing rockets.

MN 5036A—*Tiny Tim*—Handling aboard a carrier.

NDRC 101—*Tiny Tim*—Forward firing review.

CHUTES BILLOWED OUT, CAUGHT THE RUSHING SLIPSTREAM, BRINGING PLANE TO STOP

MARINE PILOT SAVES HIS INJURED

Fifteen casualties were placed aboard the Marine hospital plane. Easing down the runway, the pilot slowly lifted his R4D into the air and carefully winged his way out of the combat zones.

The flight was smooth, the patients quiet. Approaching home field, the pilot prepared to land. Working down the check-off list, everything seemed in perfect order, but a last minute recheck on the hydraulic system sent chills up the pilot's back. A leak had developed making both brakes and landing flaps useless.

The Leatherneck circled the field to give himself time to think. A crash landing appeared certain . . . his seriously injured passengers would never survive it. Suddenly he thought of the parachutes aboard.

He called the tower. "Navy 0254 . . . We're coming in for a cockeyed landing."

The pilot ordered his crewmen to lash the 'chutes to supporting struts inside the cabin, toss them out the emergency hatches and pull the rip cords at his command. Cutting his speed to a bare minimum, the pilot glided the large transport to the very tip of the runway, utilizing every foot of airstrip. Just as the plane reached the halfway mark on the runway, he signalled his crewmen to release the 'chutes.

Clouds of silk billowed out and caught the rushing slipstream. The plane slowed abruptly, then eased ahead, rolling to a gentle stop at the extreme end of the runway. The patients reached the base without a jar, the plane without a scratch—a perfect three-point landing.

Cargo of wounded survived, thanks to the ingenuity of their Marine pilot.

Marine Corps Report

Pamphlet Lists Fuel Information

Publication Provides Detonation Data

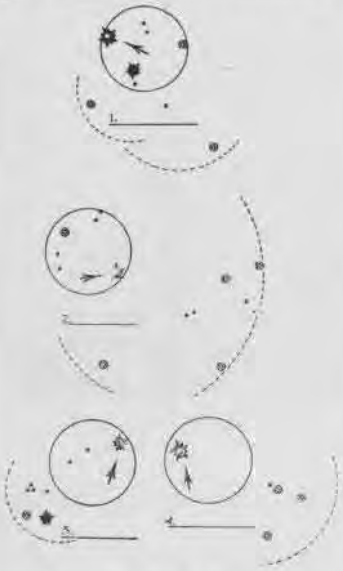
A new publication *Aviation Fuels and Their Effects on Engine Performance* now is available to Naval Aviation personnel through regularly established channels.

The pamphlet NAVAER-02-1-511 may be ordered by activities through their publications officer or directly from BuAer, PUBLICATIONS BRANCH, on form NavAir 140.

Printed in color, the pamphlet contains general useful information concerning aviation fuels, listings of octane numbers as well as performance numbers.

Engine detonation is explained and combat power of fuels discussed. The publication also contains general precautions regarding vapor lock and water content, which units will find useful.

SHOW ME THE WAY TO GO HOME



Star Identification

How good are you in star identification?

Each circle represents the field of the MARK V or Bausch and Lomb sextant, 12° of the sky. The stars are drawn to scale, both as to position and to brightness, the scale of magnitudes being the same as on the *Almanac* star chart. The stars shown in the field of the sextant are enough to identify the star indicated. Stars are shown outside the field where necessary for positive identification to shoot.

(Answers on page 40)

TECHNICALLY SPEAKING

Modified PBJ Meets New Demands

MAG-61—The Photographic Department has modified a PBJ airplane to meet the demands of increased post strike coverage and reconnaissance assignments.

Guns, turret and radar equipment were removed, and the rear machine gun mount fairing also was removed to accommodate an F-56 40" camera with modified mount. Straps were installed to secure the camera when not in use and to provide a gunner's belt for the photographer. Two NR-1 mounts were installed in the position formerly occupied by the radar equipment, and a view finder adapter was placed in the opening previously occupied by the gun turret post.

The opening in the fuselage which formerly accommodated the radar antenna was covered and two hatches cut. Just aft of the cover plate is the view finder opening. On the bulkhead to the left of the view finder, a vacuum and power panel was installed. K-18

NR-1 MOUNTS REPLACE RADAR EQUIPMENT

cameras and view finder then are in operating position. Open hatch at right of first camera enables photographer to open camera hatches from the inside.

The airplane's standard photographic facilities were unchanged.

[Designed by Lt. E. E. Webber and Lt. M. M. Siar, Jr.]

Device Simulates Night CV Views

By means of a night lighted carrier viewing device, pilots now can accustom themselves to the night-time appearance of carriers on which they will serve. By showing a carrier from many angles and under varying conditions, the device trains pilots in changing aspects of a ship as the plane circles for a landing. Small dots of fluorescent

LIGHTED MODEL SIMULATES PITCH, ROLL

paint of appropriate colors are spotted on model carriers at proper points to simulate accurately night aspects of the carrier when viewed under ultra-violet light.

Developed by the Special Devices Division, Office of Research and Inventions, the device is a portable knock-down viewing box with a turntable inside. Extent of pitch and roll of carrier and simulated speed of plane may be varied. Three pilots, undergoing briefing on the night appearance of a carrier, may watch the model simultaneously through three viewing slots.

The homing signal is operated either automatically or manually. Each device includes three model carriers of the CV, CVL and CVE types. If desired, the turntable alone, without the viewing box housing, may be used in a darkened room for large groups. The device is No. 16-C-36.

CV Reports On Defueling Pump

U.S.S. Lake Champlain—This carrier finds that the aircraft gasoline defueling pump having a capacity of 20 gallons a minute is unsatisfactory.

It is believed that aircraft defueling pumps must have a capacity of 60 gallons a minute on carriers in combat.

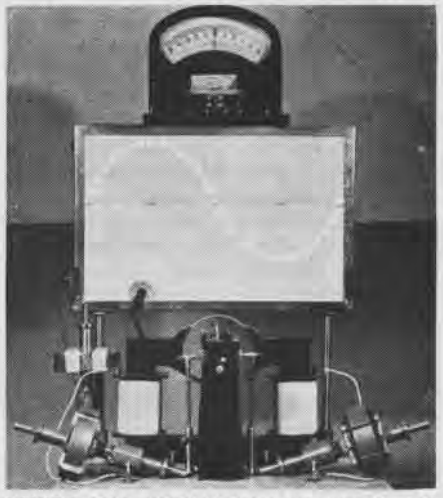
▶ *BuAer Comment*—**Defueling is the subject of considerable study by BuShips and BuAer.**

AEMs Design Electro-Genoscope

NATTC Jacksonville—Two aviation electrician's mates here have developed a teaching device known as an "electro-genoscope"—designed to teach principles of the electric generator and motor from the simplest conception of these machines to their commercial application in aircraft.

The machine consists of a set of large field poles and a set of four armatures, which may be interchanged rapidly during demonstrations, and a sine curve "screen." To teach the simple generator action, the field poles and one armature consisting of a single loop are used. This loop is connected with either slip rings or commutator so that either the action of an AC generator or a DC generator may be taught. As the loop is revolved, the sine curve is established in lights on the "screen" either for DC or AC.

In the development of generators the



DEVICE AIDS INSTRUCTION AT NATTC JAX

next step from the simple loop is a two-pole armature. All the characteristics of this type machine can be demonstrated with meters. Further development in generator characteristics is demonstrated with a four-pole armature, and characteristics of a commercial-type generator with an eight-pole wave-wound armature.

All the principles of electric motor operations may be taught on this device simply by changing connections and brush adjustments.

[Developed by C. M. Harmon, AEM2c and Louis A. Smith, AEM2c]

PHOTOGRAPHY

Handbook of K-3A Houston Machine Out

A handbook of instructions and parts catalog (AN 10-25-50) for the K-3A Houston processing machine, which now is being used aboard CV's and at gunnery training activities for developing 16 mm. motion picture film, has been stocked and issued to photographic activities.

Fuzzy Pix from K-20 Aircraft Cameras

A recent report from the Fleet indicates that difficulties have been encountered with K-20 aircraft cameras producing fuzzy pictures. Using a ground glass at the focal plane, tests showed that the cameras were in focus. The trouble was found to be in adjustment of the connecting link between the trip and vacuum back.

Attention of all photographic activities is called to Photography Technical Bulletin NO. 62, paragraph 21, which describes the remedy for this condition. Other Photography Technical Bulletins dealing with the K-20 camera that should be consulted when difficulties arise, are NOS. 12, 16, 35 AND 46. Handbooks AN 10-10AC-25 and AN 10-10AD-2 give instructions for the operation, maintenance and overhaul of Graflex and Fairchild models.

Eastman Discontinues DK-20 Developer

Photographic units requisitioning DK-20 developer under STANDARD STOCK NO. 51-D-118-75 are receiving Microdol as a replacement. Manufacture of DK-20 has been discontinued by Eastman Kodak Company. Microdol is a fine grain developer considered superior to the former product.

Must Consult Your Publications Officers

Photographic officers who are not receiving all publications in which they are interested should contact the publications officers of their activities to insure receipt of all pertinent information. Aviation Circular Letter 90-44, dated September 20, 1944, requires appointment of an officer whose duty it is to see that technical information is disseminated from the original source to the lowest echelon.

Publications officers also are requested to contact photographic activities on ships and stations they serve to insure particularly that photo labs are supplied with copies of the Aeronautical Publications Index. Cooperation of photographic and publications officers will expedite circulation of information to all hands.

Sonne Camera Course Now Is Available

A four-week course in the Sonne camera became available on August 1 to photographer's mates who are graduates of the NTS photography school at NAS PENSACOLA.

The curriculum includes installation, operation and maintenance of the Sonne camera. Courses will convene each month at the NAVAL TRAINING SCHOOL (PHOTOGRAPHY) NAS PENSACOLA. Capacity of the Sonne camera course is 15 men per month.

Plexiglas Tool Saves Spoilage

NAS SAN DIEGO—A transparent burnishing tool made of scrap pieces of ⅛" clear plexiglas has resulted in savings of $250 per year in the graphic arts and photo catalog shops of the A&R department at this station. The tool, designed by a civilian employee under the Navy Employees' Suggestion Program, can be made up in various sizes and shapes.

The burnishing tool has many uses in applying and smoothing out adhesive cross hatching, shading, arrows and various characters used in graphic arts and photographic work when reproducing and processing them for printing purposes. It is also useful for burnishing surface of paper for inking purposes, for creasing paper after folding and for smoothing out cemented seams in cloth and paper.

The plexiglas tool is superior to commercially manufactured tools in that its transparency provides clear view of work being processed. It is smoother in operation due to the pliable nature of the material and it does not break off or splinter. Use of the tool has reduced man hours and spoilage of materials.

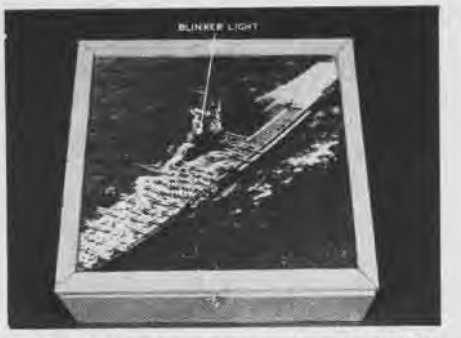
[DESIGNED BY ELAINE E. HODGES]

TOOL IS BOTH PLIABLE AND TRANSPARENT

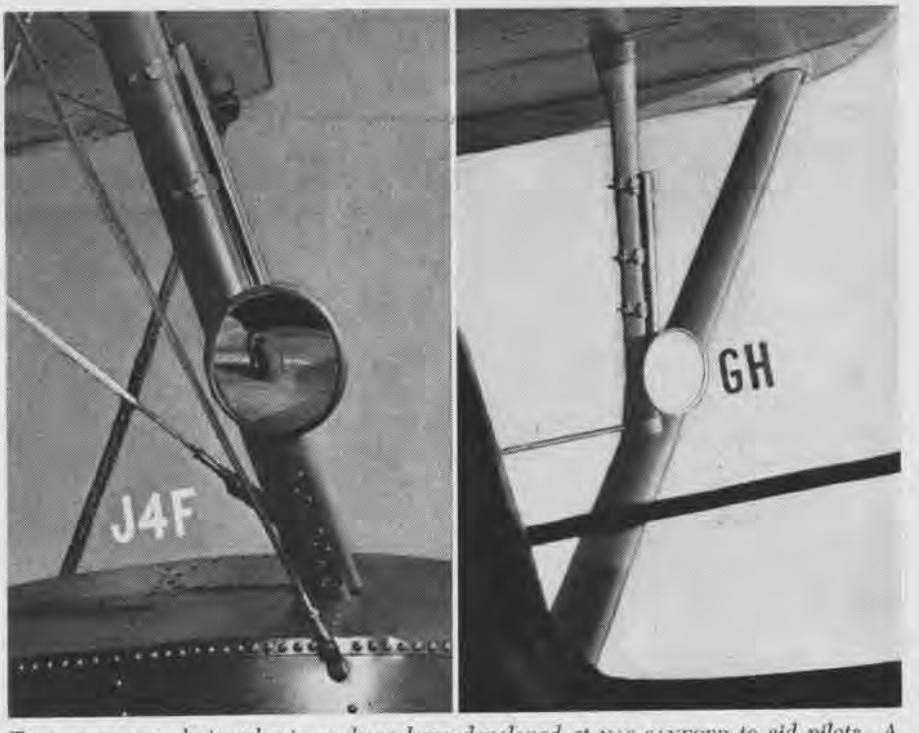
Training Aid Teaches Blinker

VMSB-464—Instruction in blinker is being stressed by this squadron. To give a realistic touch, a projection box was constructed. It is an enlarged 19½" x 15½" picture of a cruiser mounted on a box with a ⅜" projection hole at the point where blinker would function.

A 24-v 21-candlepower bulb is powered by 48 volts direct current. The bulb is installed in an F4U downward reflector light. With an ordinary key, the instructor flashes signals to the class.



PROJECTION BOX GIVES REALISTIC TOUCH

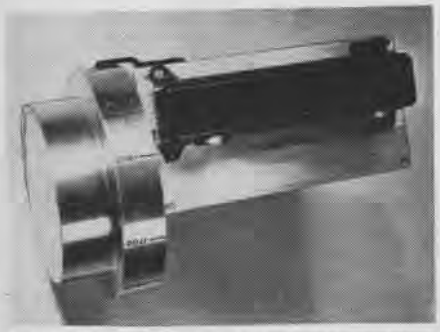


TWO SPECIALLY *designed mirrors have been developed at* NAS SANFORD *to aid pilots. A front view mirror (see cut) greatly aids pilots in taxiing and decreases the hazard of accidents in* GH *type aircraft. This mirror in no way affects the flight characteristics of the airplane. A rear view mirror (see cut) designed at this same activity for the* J4F *airplane makes it possible for the pilot to check the tailwheel position visually*

Range Finder Facilitates Drills

An aid in bombing, strafing or rocket-firing drills is the Synchronous Range Finder developed by the Special Devices Division of the Office of Research and Inventions. The device enables ground observers to determine the range of approaching TBF or TBM planes at distances of 400 to 2000 yards.

Weighing less than two pounds, the range finder can be held in one hand easily. Range is indicated in yards on a calibrated disc. The device can be used with BuOrd Position Angle Finder, Device 3-A-33, which gives a similar indication of glide angle. The Synchronous Range Finder is Device 3-E-4.



A 2000-YARD RANGE CAN BE DETERMINED

Nomogram Reveals Target Speed

Actual speed of an enemy plane can be determined now with the Target Speed Nomogram, developed by the Special Devices Division of the Office of Research and Inventions. Used with the Gunnery Film Assessor, it makes possible determination of the ratio between a fighter's own speed and that of an enemy aircraft. Thus, the speed of an enemy plane can be determined as accurately as pilot estimates his own.

To obtain this ratio the pilot must know two angles off the longitudinal axis of the target plane, with corresponding ranges, in addition to knowing his own speed. This information can be obtained through use of the Gunnery Film Assessor Device 3-B18.

GUNNERY FILM ASSESSOR SERVES AS AID

The Target Speed Nomogram, Device 3-B-16-C consists of two specially calibrated graphs mounted on a plywood base and the necessary moving components or arms to set in the range, angles-off and fighter speed variables.

Requests should be directed to Chief, Office of Research and Inventions, attention Special Devices Division.

Succeeds List of 1 July 1945 — 1 August 1945

AIRCRAFT SERVICE CHANGES AND BULLETINS

AIRPLANE	BULLETIN	DATE	CHANGE	DATE
F6F	119	7-12-45	90	7-16-45
FM	49	7-24-45	58	6-16-45
F4U-F3A-FG	229	7-11-45	221	7-13-45
F7F	18	7-13-45	17	7-19-45
GH-NH	11	7- 5-45	22	6-15-45
HNS	5	5-29-45	7	5- 5-45
JM	37	7-24-45	45	5-21-45
JRB-SNB	34	6-26-45	27	3-20-45
J2F	20	6-30-45	0	0
JRC	7	6-25-45	5	7-19-45
PV	146	7-16-45	169	6-27-45
PBJ	59	7-20-45	74	7-17-45
PBM	129	6-20-45	165	7-23-45
PBY	122	7-27-45	186	7-18-45
PB2Y	70	6-27-45	154	7-18-45
PB4Y	167	7-21-45	162	7-24-45
R5C	53	7-10-45	127	6-29-45
R4D	45	7-18-45	39	7- 3-45
R5D	67	7-24-45	118	7-18-45
RY	64	7-21-45	30	6-16-45
SB2C-SBF-SBW	210	7-25-45	147	7- 4-45
SC	81	7-23-45	40	7-24-45
SNJ	35	6-19-45	0	0
TBF-TBM	197	7- 9-45	238	7-13-45
TBY	10	7-23-45	0	0

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

AVIATION SUPPLY

Shooting the Chutes to Home Base

Parachutes loaned to personnel making flights on leave aren't trained to "home" by themselves. Two specific procedures should be followed: *a.* If plane is making return flight, pilot assumes responsibility for return of chute. *b.* Person borrowing chute turns it in to Supply Officer at station of debarkation, who in turn sends it to home station at Government expense.

Fond Farewell to Flight Rations, Maybe

The problem of feeding passengers and crews in flight, long suffered by NATS Command, soon may be solved. Contracts have been awarded for 280 Maxson ovens and equipment for installation in R5D's and JRM's so Maxson meals may be served. Maxson sky plates are packaged meals of meat, vegetables and potatoes. Food is partially cooked, "locked" in a Maxson disposable plate wtih a grease-proof cover secured by plastic collar. The package is flash frozen. Plates are placed in a light-weight oven about 15 minutes before serving. Result: Hot dinner.

Greasing the Skids for Rain or Fog

Use of rain repellent or anti-fogging kits soon will be covered in a Technical Note by EQUIPMENT AND MATERIALS BRANCH, ENGINEERING DIVISION, BuAer. This item, originally used for the outside surface of plexiglas windshields and greenhouses only, was found an excellent anti-fogging agent when applied to inside surfaces. Many stock No. 83K710055 kits have been delivered.

Portable Boom for Lip Microphones

Present shortage of lip mikes is due partly to fact that a new assembly has been procured, adding a portable boom to alleviate difficulty encountered with this item. New mike's stock No. is M5A/UR. Delivery of about 8,000 a month began in July, the first 5,000 to Fleet.

Procurement of Radio Tube is Revised

Vacuum tube procurement, allocation and disposition for the entire Navy is now under BuShips, RADIO DIVISION (BuAer-BuSandA C.L.,11 June 1945). Dependent stations must draw only from following Major Supply Points, except in extreme emergency. Major Supply Points, holding 90 days requirements, draw from corresponding Stocking Activity.

Major Supply Point	*Stocking Activity*
NASD, Oahu	NYD, Pearl Harbor
NAS, Seattle	NYD, Puget Sound
NAS, Alameda	NYD, Mare Island
NAS, San Diego	NSD, San Diego
NAS, Corpus Christi	Naval Station, New Orleans
NAS, Coco Solo	NSD, Balboa
NAS, San Juan	10th ND, San Juan
NAS, Trinidad	NOB, Trinidad
NAS, Guantanamo Bay	10th ND, San Juan
MCAS, Cherry Point	NYD, Norfolk
MCAS, Quantico	NYD, Norfolk
NAS, Pensacola	NS, New Orleans
NAS, Miami	7th ND, Pier 3, Miami
NAS, Jacksonville	7th ND, Pier 3, Miami
NAS, Norfolk	NYD, Norfolk
NAS Quonset Point	NYD, Boston
NASD, Philadelphia	NYD, Philadelphia

Trouble Reports Lack All Facts

The Japs frequently are ridiculed for their dogged self-deception and refusal to act with logic, reason and plain common sense and yet many of us are equally remiss, as is shown by two cases recently brought to attention. A letter from a COMMANDER FLEET AIR is quoted in part as follows:

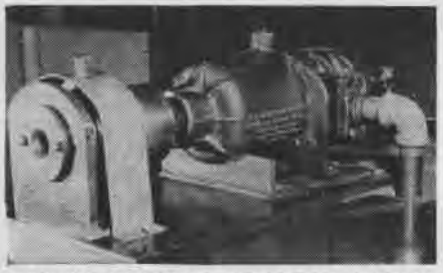
"Recently two aircraft accident reports submitted by units of this command have been followed up by staff representatives of COMMANDER FLEET AIR to determine the true cause of the accidents. In one case, that of a fighter forced landing in the water, the gas tank, carburetor, and fuel lines were completely empty of gasoline. The accident report gave the cause as 'engine failure.'

"The second case, that of an engine failure on take-off (F6F with tow) resulted in a belly landing and major damage. The report listed low fuel pressure, the pilot's statement low oil pressure. Inspection of the plane by staff personnel revealed an empty oil tank and subsequent freezing of the engine. However, the trouble report ascribed the failure to 'undetermined'. Actually, the cowling had not even been removed in an attempt to learn the cause of the failure.

▶ ***BuAer Comment*—How many people in these cases were kidding themselves? Not only the pilot, who neglected to make adequate original check, but the Trouble Board too! To call cases like these inexcusable is an understatement.**

New Machine Saves Manpower

MCAS CHERRY POINT—Spark plugs to be reconditioned are disassembled by a machine designed and constructed by a sergeant at this station. One man operating the machine can disassemble as



MACHINE INCREASES OUTPUT 600 PERCENT

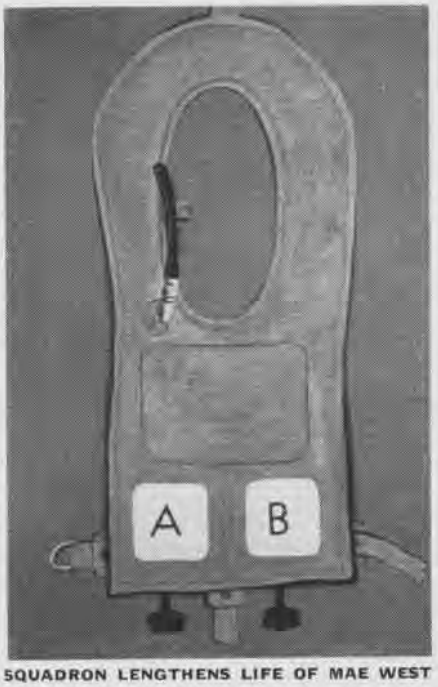
many spark plugs in a day as three men formerly did in two days.

Controlled by a foot pedal, the machine is powered by a pneumatic vane wrench made by the Chicago Pneumatic Tool Company. The spark plug receiver is connected to the power unit by rachet. When the top of the plug is inserted into the machine, the base of the plug is held in the operator's hand. The counterclockwise motion of the machine unscrews the plug and the rejecting spring throws out the plug head when the hand pressure is released.

The machine is mounted on a base ⅜" x 10" x 18". A commendation from the Navy Beneficial Suggestion Program has been awarded for this invention.

Patches Cut Life Jacket Wear

VC-9—This squadron has found that life jackets have a tendency to wear out at points A and B on the front side directly over the CO_2 bottle containers *(see cut)*.



SQUADRON LENGTHENS LIFE OF MAE WEST

A parachute rigger suggested that two re-enforcement patches 4" x 4" be placed over these points. The patches increase life of jacket.

[SUGGESTED BY W. J. TREGONING, PRIC (CA) USN]

Idea Aids Radar Interpreting

NAS QUONSET POINT—Difficulties in observing and interpreting the normal pattern appearing on indicator screen of model AN/APN-4 radar equipment have been eliminated by a procedure developed at this station.

Trouble due to light from outside sources passing through the ventilation holes of the ID-6 or 6A/APN-4 indicator and through unshielded portion of the cathode ray tube striking the rear of the tubes' fluorescent screen was corrected. Method used is to cover the external, exposed portion of the type 5CP1 cathode ray tube with a single layer of blue opaque cellulose tape.

Cradle Made of Extra Material

NAAF, CASCO BAY—Odds and ends of material on the station were utilized to construct an emergency hauling out or beaching cradle for 63' AVR crash boats for routine station boat maintenance.

The cradle makes use of standard PBY seaplane beaching gear but does not prevent the gear from being used on the planes for the change was slight.

Securing Reel Not Satisfactory

U.S.S. LAKE CHAMPLAIN—A deficiency in original design of the lever locking device on the ratchet type aircraft securing reel has been overcome on this carrier.

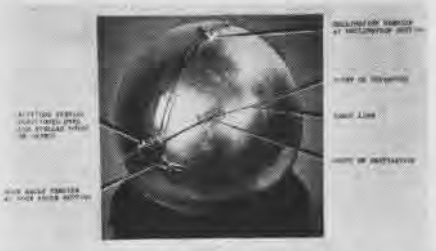
An improvised lockpin is inserted in holes bored in lips of handles and passes over the securing cable. The improved reel is not satisfactory due to time wasted in manipulating pins and loss or mutilation of pins is expected. An RUDM has been submitted on the ratchet type aircraft securing reel because the original design does not provide adequate security.

▶ ***BuAer Comment*—The Bureau has been aware of this defect for some time and a locking lever has been installed on the later units to prevent unlocking. Due to wide distribution of reels, in service it would be impractical to attempt to furnish the locking lever as each activity is able to correct the defect locally.**

Spherenav Gives Student a Fix

Rapid and accurate solutions to problems encountered by student navigators are possible by means of the Spherenav Craft Positioner developed by the Special Devices Division of the Office of Research and Inventions. Many otherwise confusing aspects of celestial navigation are clarified by the positioner, and chart projection distortions are eliminated.

The sphere is of extreme radial accuracy and represents the celestial concave as well as the terrestrial globe. Fifty-five navigational stars are positioned accurately. Points of departure



SPHERE REPRESENTS CONCAVE AND GLOBE

and destination are plotted on the sphere in accordance with their terrestrial coordinates of latitude and longitude.

By means of a scale provided, great circle courses and distance then may be determined easily. For celestial practice, altitude observations are set in the proper protractor, using corrections from the special tables for elapsed time and movement of aircraft. Then, lines of position can be drawn on the sphere quickly and accurately and a fix obtained.

Requests should be directed to Chief, for ORI, Navy Department Device 1-BT.

The Bunker Hill's crew brave suffocating flame, exploding rockets and bombs in a heroic battle that saved their ship. The *Bunker Hill*, operating with task force in the "slot" between Kyushu and Okinawa, was hit twice within 30 seconds by *Kamikazes*

A U.S. submarine braves heavy shellfire from Jap batteries on Marcus island to rescue three Navy airmen adrift in life raft

Dropped by a low flying *Judy*, this 660 lb. bomb failed to arm itself and careened down the carrier deck without exploding

AVIATION ORDNANCE

INQUIRIES SHOULD BE ADDRESSED TO THE CHIEF OF BUREAU OF ORDNANCE

Quick Rewind Unit for Target Lines

A self-winding unit for reeling in the 900' tow lines dropped to the ground by aircraft returning from drag take-off towing missions has been devised by the Group Ordnance Section of the HEDRON based at MCAS SANTA BARBARA.

As many activities know, recovering these lines rapidly long has been a problem, and users of this type of towing on a large scale should find this rewind unit or a similar one well worth adoption.

The unit consists of a Bomb Trailer MARK 2 MOD 1 modified to mount two specially built reels on which the target line is rewound. A gear keyed to the shaft of the reel is connected by a roller chain with a jaw clutch mounted on the bomb trailer rear axle extension. Both the clutch lever, which serves to engage this clutch, and a brake pedal, which controls a strap and drum type brake mounted on the end of the reel shaft, can be operated conveniently by a man standing on the unit's rear platform. Rewind speed is controlled by towing speed of the bomb-trailer.

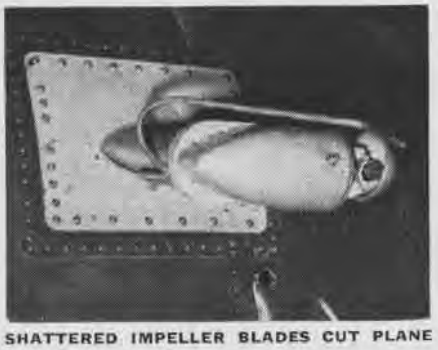
TOWING SPEED DETERMINES REWIND RATE

Target Reel Impeller Can Damage Plane

Increased use of the Antiaircraft Target Reel MARK 5 and MODS owing to its inclusion in the present extensive carrier towing program, as well as two recent RUDAOE's and one RUDM, points up the maiming potentialities of the reel's four-bladed impeller.

The lock for this impeller is designed to prevent blade rotation at air speeds up to 150 knots. At higher speeds, as the following incidents illustrate, the present impeller lock may become warped out of engagement.

With MARK 5-3 reel installed, a TBM-3 of Torpron 46 assumed a 35° nose down attitude at 220 knots while on a torpedo tactics flight. Despite the engagement of the impeller lock, the powerful blade torque built up by the slipstream bent this lock out of the way, thus allowing the impeller to rotate. Subsequently, the resultant high centrifugal force on the impeller blades was sufficient to cause their distintegration. Fragments easily penetrated the thin metal skin of the aircraft and seriously injured the radioman at his station. Similar reports have been received from the *Suwanee* (CVE-27) and VJ-14.



SHATTERED IMPELLER BLADES CUT PLANE

Steps to eliminate a repetition of this trouble have been initiated by the cognizant Bureaus. BUAER is increasing the size and tensile strength of the impeller lock, as well as relocating the lock one inch farther out toward the blade tips, while BUORD is developing an impeller lock designed to supplant the lock entirely.

Pending completion of these revisions, BUORD recommends the installation of a positive lock on the impeller blades before flights where reel operation is not required. Such a lock can be constructed by linking one blade to the impeller extension bracket with a U-bolt complete with spacer and washers, but other locks of equal effectiveness can be devised locally by field activities. If the towing equipment is not scheduled for use in the immediate future, more positive insurance against malfunction can be secured by removing the impeller assembly.

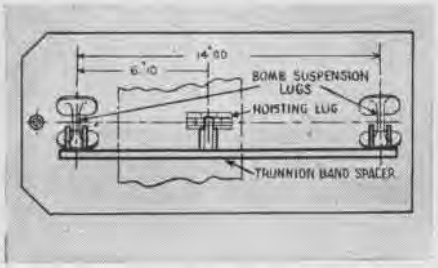
New Trunnion Band Spacer Saves Time

Fleet activities long have encountered difficulty in assembling trunnion bands correctly on 500- and 1000-pound bombs. Cumbersome ruler measurements have been necessary for positioning the band accurately in order that the bomb suspension lugs will engage the hooks of a MARK 51 type bomb rack when the bomb is hoisted by the trunnion band hoisting lug.

Inaccurate positioning discovered later during aircraft loading requires the time-consuming return of the bomb and trunnion band to a bomb-handling area—an extra operation that is particularly complicated aboard carriers.

A spacer developed by COMFAIRWESTCOAST and recently designated by BUORD as Trunnion Band Spacer MARK 1 MOD 0 (STOCK NO. 3-S-3545) should eliminate much of this trouble. Weighing about one pound, this fixture is composed of a strip of sheet steel 15 3/16" long to which are welded four small rectangular plates —two at each end—that act as guides and engage the bomb suspension lugs. A short bar supported by two plates and welded to the strip at a point 6¾" from the center of the front suspension lug plates fits in the hoisting lug of the trunnion band. The spacer is removed and used on subsequent bombs once the band has been positioned.

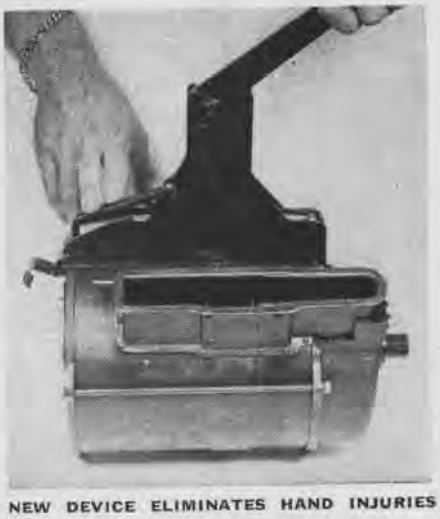
NAS SAN DIEGO is currently manufacturing these items for use aboard carriers. General distribution by BUORD is scheduled to begin soon.



TRUNNION BAND SPACER SPEEDS LOADING

Device to Remove Unfired 20mm Rounds

Unexpended 20mm rounds remaining in the mouth of Feed Mechanism M1A1 after use may be removed by a device patterned after that designed and built by Sgt. Edward C. Dodson of VMSB-934. Use of device eliminates chance of hand injuries.



NEW DEVICE ELIMINATES HAND INJURIES

It consists of a claw and handle fitted into a frame that snaps over mouth of feed mechanism. It operates in this manner:

After the feed mechanism is removed from the 20mm automatic gun, device is placed on mouth of mechanism. An extension is provided at each end of device to fasten it in position. A hole in the front extension fits over a nut on the face of the mechanism, and the rear extension latches over edge of mouth.

Handle of device then is brought forward to permit the claw to engage the base of the round. By holding the claw down against the round with the fingers and pulling the handle to the rear, the round is ejected. Process may be repeated for any remaining rounds. It may be necessary to wind up the feed mechanism to place succeeding rounds in the mouth.

BUORD does not contemplate furnishing this device, but recommends that interested activities should construct it locally.

SCREEN NEWS

Microbe Gate-Crashers. The cloak of invisibility which makes the private lives of bacteria very private indeed is one of the chief causes of carelessness in preparation for surgical operations. Being human, some hospital corspmen find it difficult to be continuously on guard against an enemy they can't see. The wag who said that all deadly microbes should be painted red, white and blue, and tagged "Dangerous," gets his wish, to all intents and purposes, in the film:

MN-1511L *The Enemy Bacteria*—Unclassified, 29 min., color

SYNOPSIS: A surgical team scrubs up for an operation. The instrument man, arriving late, cuts short his scrubbing time. The presence of bacteria is shown by animated characters. Such septic criminals of the microbe underworld as streptococcus, staphylococcus, etc., have a high old time running around contaminating things. They make gleeful entrance into the patient's body by hitch-hiking a ride on the surgeon's instruments, handed to him by the

NO PLACE FOR BACTERIA IN THIS SCENE

contaminated corpsman, and find another open gate when the corpsman cuts his glove. Once inside, the microbes raise families by the million, win a war with the body's white cells and generally raise hell with the delicately balanced human mechanism.

The end result of the corpsman's carelessness is amputation of the patient's leg.

Filmed in color, this motion picture drives home an unforgettable lesson for those literal-minded individuals to whom only seeing is believing.

Back Home. A lot of talk has gone over the dam and several libraries of literature have been written about what will happen to Joe – mentally, morally and physically – when he comes home from the wars. Some insist he faces a thorny bramble path of readjustment; others say the problem exists solely in the imagination of those who write about it. As the clouds of words settle down, the main fact remaining clearly visible is that individual circumstances vary and shape the problem in a hundred different ways. This fact is recognized in the newest film on readjustment, which is concerned with the return of the ex-neuropsychiatric patient to civilian life:

MN-3428d *Combat Fatigue—Assignment Home*—Restricted, 25 min.

SYNOPSIS: Three EX-NP patients are honorably discharged and go back into civilian life. One returns to his farm, another gets a job in a machine shop, and the third returns to college. Each meets and solves the problems arising out of his own particular environment.

Great care is taken in each case to give the patient confidence and calm his fears by assuring him that his recovery is complete and that as a normal individual he is prefectly able to cope with the usual problems of the discharged veteran.

At the end of the film, it is made clear that in the last analysis each man must stand on his own feet and that no film can encompass all the situations which are likely to arise. Nevertheless, certain suggestions useful to every returning veteran are offered: (*1*) get a job or an education; (*2*) meet people half-way; (*3*) avoid the kind of anti-social attitude that shuts a man up in a sensitive shell of isolation; (*4*) get back into the swing of things.

Before leaving the hospital, the returning veteran is told by the medical officer: "We can give you only an inkling of how to solve your problems–the rest is up to you."

Other Films Shipped

MN-5799a *Assembly and Loading of Airborne Forward Firing Rockets—Part I—HVAR 5" AR & SCAR* Confidential, 20 min.

MN-5799b *Assembly and Loading of Airborne Forward Firing Rockets—Part II—Tiny Tim* Confidential, 14 min.

MN-4984a *Smoke Screen for Amphibious Operations—Assault Landings* Confidential, 15 min.

MN-4984b *Smoke Screen for Amphibious Operations—Smoke Bombs* Confidential, 5 min.

MN-3726g *Medicine in Action—Release No. 7 — Evacuation of Casualties—Saipan* — Restricted, 23 min., color

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

NAVAL

ABATU, NAS St. Louis
CASUs 2, 4, 23, 24, 31, 32, (F)42
CasuComDet. Port Hueneme
ComAirPac
ComAirSubComFwd-Area
Hedron TWO
NAB Seattle
NAC Navy #3149
NAMC Philadelphia
NAOTC Jacksonville
NAS Atlanta
NAS Clinton
NAS Grosse Ile
NAS Kodiak
NAS Moffett
NAS New York
NAS Norfolk
NAS Patuxent
NAS Quonset
NAS San Diego
NAS Navy #115
NAS Navy #117
NAS Navy #720
NATB Pensacola
NATB Corpus Christi
NATEC Lakehurst
Navy #3233
TAL Navy #116

MARINE

MCAD Miramar
MCAS Cherry Point
MCAS Eagle Mt. Lake
MCAS El Centro
MCAS El Toro
MCAS Mojave
MCAS Navy #61
MCAS Parris Island
MCAS Quantico
MCAS Santa Barbara
4th MAW

NATechTraCom

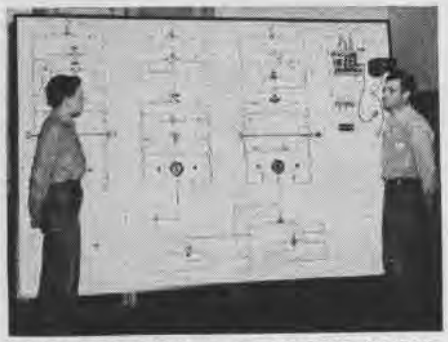
Automatic Pilot Mock-Up Aids Training

To clarify and simplify instruction in SBAE MK 2 (Stabilized Bombing Approach Equipment), the ordnance phase of Naval Air Technical Training PB4Y Maintenance School, NAS MINNEAPOLIS, has constructed a comprehensive mock-up of the C-1 automatic pilot.

This device permits quick and thorough understanding of the electrical theory involved, especially in the A.C. bridge sensing system.

Exploded schematic instructional boards consisting of schematic wiring diagrams similar to that of a typical PB4Y-1 installation, greatly enlarged, are used for interpreting the following wire diagrams. The mock-up has been made more practical by having each unit named and relative electrical values shown.

To illustrate more completely the operating conditions, an exploded bridge system is superimposed on the schematic diagram and consists of the actual electrical units in place on the proper section of



SCHEMATIC MOCK-UP OF CIRCUIT WIRING

the board. The entire device is wired in such a manner it actually becomes the bridge unit for all three control systems. The board is used with D.C. power and sensitive two-way voltmeters which show balanced and unbalanced conditions of the bridges. Or it can be used with A.C. power and the amplifier normally used with hte system, employing colored lights to simulate the same conditions.

NATechTraCom Lists Changes In Schools

The turbo-jet school formerly located at the NAVAL AIR TECHNICAL TRAINING CENTER, 87TH AND ANTHONY, CHICAGO was moved to NATECHTRACEN MEMPHIS on June 30, 1945.

Basic and advanced training at the NAVAL TRAINING SCHOOL (SPECIAL DEVICES) UNIVERSITY OF CHICAGO, has been discontinued.

Training in the Link celestial navigation trainer at NAS QUONSET POINT was discontinued on August 10, 1945.

The parachute riggers school at NAS LAKEHURST has revised its curriculum to include instruction on additional survival gear and related equipment. The course has been lengthened from 12 to 15 weeks.

LETTERS

SIRS:

I won my RCAF wings while serving in the RCAF from July 1941 to June 1942. Information is requested as to whether I am authorized to wear the subject wings. If I am authorized, it is further requested that details be supplied as to correct position such insignia should be worn on the uniform.

I am due to go back to the States soon and would like the information beforehand. Any help you could give me would be appreciated.

VPB-71 LT. JAMES F. THOMAS

¶ Wings are considered a part of the naval uniform, not a decoration. Therefore aviation insignia of other nations or other services may not be worn on the naval uniform.

SIRS:

We composed the following ditty to encourage more thorough and regular checks on life vests, in accordance with T.O. 25-45:

In case a zoomie should ever chance
To have engine failure, and wet his pants,
Literally and figuratively, see what I mean—
A good Mae West would be just keen.
But a good Mae West doesn't just happen,
Especially if CASU is ever caught nappin';
They have to be inspected, and put in shape;
Failure to do this is worse than rape.
Hardly a man is now alive
Who has read T.O. 25-45
But it's time you did, and read it well,
And please don't mutter "What the hell!"
So ho for flashlights and dye marker packets;
We'll shortly be inspecting all life jackets.
Do the job right, and cheerfully, comma,
And zoomie will thank you, and so will his momma.

CASU 55 LT. (jg) E. D. KEITH

SIRS:

In reference to the picture and note on the southeast corner of page 13 in your issue of 1 August you ask whether anyone can match this "whopper."

In 1933 when I was an aide to Rear Admiral Arthur St. Clair Smith, USN, whose flagship was the U.S.S. *Memphis*, we anchored one afternoon in the harbor of

Corinto, Nicaragua. Impaled on the bow of the ship in exactly the same place as the whale shown in the picture was a 12 ft. sailfish. As you know a sailfish is a streak of blue lightning.

The humorous angle to this was that Admiral Smith was a great fisherman and during his entire tour of duty on the *Memphis* he seized every opportunity to go fishing, particularly for sailfish. He never caught one.

R. M. HINCKLEY, CAPT. USN

SIRS:

All credit is due the U.S.S. *Matanikau* and her LSO for achievements described in NAVAL AVIATION NEWS, page 48, July 1 issue. She's doing a grand job.

For the record, however the CARRIER QUALIFICATION TRAINING UNIT at Glenview offers its own highs:

(*a*) On June 4, 1944 Lt. Troy T. Guillory, LSO, waved pilots aboard for 633 landings, thereby qualifying 82 of them, aboard the U.S.S. *Wolverine*.

(*b*) As of this writing over 42,000 landings have been made aboard the U.S.S. *Wolverine* and the U.S.S. *Sable* without a fatality of any kind on either ship. The last fatality was in Sept. 1944, when a pilot was lost.

(*c*) There were no accidents on the U.S.S. *Sable* involving any injury to personnel or any repair greater than the replacement of one tail wheel assembly between April 21, 1945 and May 28, 1945, although 4041 landings were made.

(*d*) Also, from January 3, 1943 to April 10, 1943, 1282 landings were made aboard the U.S.S. *Wolverine* without an "A" or "B" material accident.

C.O. CQTU, GLENVIEW

CONTENTS

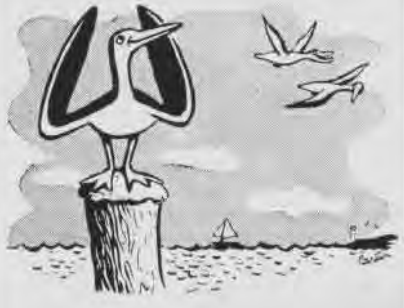
ANSWERS TO QUIZZES

● NAVIGATION PROBLEM (p. 32)

1. Deneb
2. Alpheratz
3. Polaris
4. Spica

● GRAMPAW'S QUIZ (p. 12)

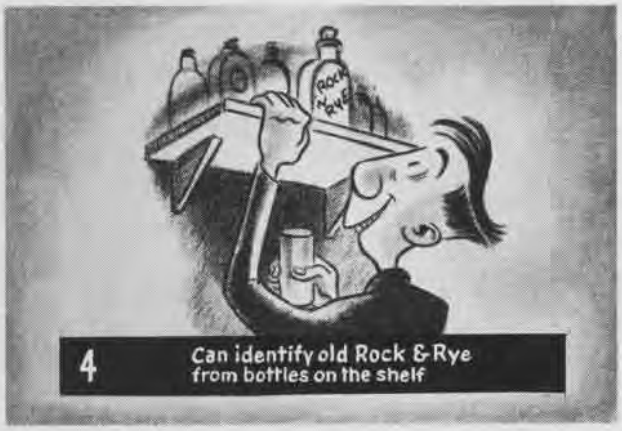
1. 115 knots. Ref: FSB 21-44.
2. Because the suit increases your resistance to the effects of high acceleration and you may unwittingly pull too many "g's" before realizing it, unless you have trained yourself as recommended in FSB 3-45.
3. 15 inches. Ref: TO 111-44.
4. False. Acrobatics over congested areas are specifically forbidden by CAR 60.104.
5. Bank increases and prolongs "g," thus increasing possibility of *a.* blackout, *b.* high "g" stall, *c.* structural failure. Ref: TN's 22-44 and 72-44 and *"G" Sense.*

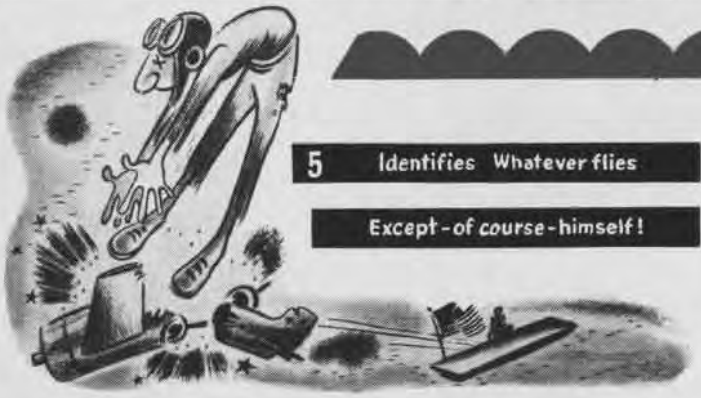


NAVAL AVIATION NEWS

Published twice monthly by Chief of Naval Operations and Bureau of Aeronautics to disseminate safety, survival and technical information to the aeronautical organization. CONTRIBUTIONS INVITED. Air mail should be used where practicable to insure speediest delivery of material submitted for publication, addressed as follows: Chief of Naval Operations, Naval Aviation News, Navy Department, Washington 25, D. C.

Tussie put the "DENT" in IDENTIFY





5 Identifies Whatever flies

Except - of course - himself!

MORAL:
IDENTIFY
when approaching friendly ships

AA FIRE CUTS OFF KAMIKAZE

THE FLEET THAT CAME to stay pulled down a curtain of anti-aircraft fire in front of Jap Kamikazes. This Jap plane disintegrated as it dived through the horizon-blanketing screen of steel. Water around the surface craft boiled from the hail of falling shell particles. Other larger splashes mark Kamikaze graves.