NAVAL AVIATION

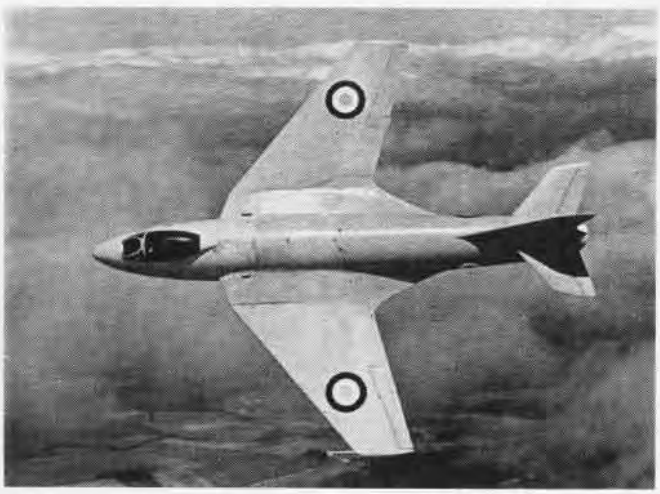
NEWS

RESTRICTED

Korean Air War
USAF Transports
NavAer 00-75-R3

FEBRUARY 1951

RESTRICTED



CAN YOU IDENTIFY?

Three different services are represented in this month's aircraft recognition quiz—Air Force, Navy and Royal Navy. One is world's largest single-engine plane. *Answers last page.*

NAVY AIR POWER IN KOREA

As United Nations troops pull out of positions in South Korea before advancing hordes of Chinese Communists, the importance of protective air cover increasingly is driven home.

Without carrier-based fighters and bombers to disrupt the enemy supply lines and to furnish close air support, the orderly withdrawal could have turned into a rout.

A good example of how helpful Navy and Marine aviation have been to ground troops is the picture above. Probably the finest picture of close air support of the war thus far, it shows a Marine *Corsair* pulling out of a dive as its napalm bomb flames up on the ground behind it. Ground troops wait for the aerial attack to flush enemy troops from hillside trenches delaying their march southward. The photo is by Sgt. F. C. Kerr.

As America at home mobilizes its strength, the war in Korea moves swiftly. Stories of Navy and Marine aviation in this far-off war appear on following pages.

'OPERATION PINWHEEL' ON CV PRINCETON HELPS TURN SHIP AROUND IN SASEBO HARBOR, JAPAN

Korean 'Country Store'

When the Marines were hard-pressed in the North Korean pocket, Marine "air delivery" boys delivered many tons of supplies to them by plane and parachute. In four hours on one job they dropped 42,130 pounds near Majon-Ni, establishing a new record.

Four hours after they got the urgent request the transports dropped 450 rounds of 105 mm artillery, 100 rounds of 4.2 mortar, 24 rounds of 60 mm. mortar, six cases of hand grenades and 36,000 rounds of belted machine gun bullets. Also dropped were 5 gallons of anti-freeze for tanks, 200 gallons of gasoline and 1,512 pounds of rations. Pilots who flew the record drop of 152 parachutes were LCol. Bruce Prosser, Capt. H. D. Menzies, Lt. E. D. Storrs and Robert Carter and M/Sgt. Larry Laugen.

The First Air Delivery Platoon during the first 13 days of November shoved 456,556 pounds of food clothing and supplies over the side to a Marine unit in Korea, taking 87 flights to do the trick. The platoon packages the supplies, loads them on planes and kicks them overboard. Although they are infantrymen they get flight pay.

Gunfire Sinks Mine

Lookouts on the tender *Gardiners Bay* sighted a suspicious-looking object bearing down on it in the strong Inchon harbor tide rips. A ship's boat made close examination and identified it positively as a floating mine of the Russian Mk 25 type.

The ship's 20 mm and 40 mm guns opened fire on it at about 1,000 yards range. The mine was holed and started to sink after 30 rounds of 20 mm and 80 rounds of 40 mm were fired. It sank well clear of the shipping channel and anchorages.

Ferry Service Suspended

The Fusen reservoir ferry had to cancel its schedule indefinitely in North Korea. The reason: No boats.

Corsair pilots from First Marine Aircraft Wing night fighter squadron saw Communists feverishly loading a couple of boats with supplies on the banks of the reservoir. They passed on the information to day fighter pilots who would have better light for bombing and strafing.

Next day rockets and bullets from the planes of Capt. Jack Rainalter and Lt. Harold Daiga sank the 100-foot ferry, plus a smaller 25-foot boat alongside. To put the ferry line definitely out of business they damaged a 25-foot barge half mile down the shore.

Cold on the Feet

With ingenuity reminding one of the Seabees, Marines at Wonsan commandeered empty rocket crates to make wooden floors under their tents to protect the inhabitants from the icy North Korean weather.

A construction crew of a dozen Marines, augmented by Korean laborers, scrounged the airfield area for empty rocket boxes. These were carefully dismantled and nailed into tent floor sections. It was not uncommon to see a morning's box collection transformed into a row of tent floors by nightfall.

Further ingenuity was displayed to keep the winter's blasts out of the Marines' airfield operations shack. The former Japanese concrete structure was badly scarred by Marine planes before Wonsan fell. All windows had been destroyed.

As winter came on "Consumption Junction" became more untenable for Marines on duty in it. The windows could not be boarded up because the duty section had to keep an eye on field operations.

Marines found a Korean in the nearby city who had some glass, though how he kept it through a campaign that leveled most of Wonsan is a mystery. The Marines had no money and the Korean had only the clothes on his back. Result: windows for the shack and a sack full of castoff summer duds for the Korean. For a Russian rifle, a sailor found a glass cutter aboard his ship in the bay and the operations shack soon had 56 panes of glass.

RADM JOHN M. HOSKINS, ComCarDiv Three, plans combat operations aboard *Valley Forge* off Korea with Capt. Walter F. Rodee

CATAPULT officer ducks as Navy *Panther* jet is launched for a strike against North Korean Communists from *Princeton's* deck

Know What You Shoot At

So that Marine fighter-bomber pilots would know Russian tanks from our own Army armor, indoctrination classes were held for Marine Air Group 12 fliers. Two tanks were parked immediately behind their briefing room where all outgoing pilots are given final word on targets.

The pilots liked the idea and said the Army officer who thought it up must have been a one-time insurance salesman.

Male Annie Oakley

Like the fabulous marksman who could drive a nail in a post at 100 paces with a rifle bullet, the Marines boast of the shooting of 2nd Lt. James W. Laseter. This First Marine Air Group pilot knocked out a Red self-propelled gun in Korea by firing a rocket directly into the operator's seat. All this while diving on the weapon at several hundred miles an hour.

A low-flying recco plane scouted the scene after Laseter's attack and reported he got a direct hit in the cockpit-like seat.

Another candidate for the sharpshooter's medal is the Marine fighter pilot who was called in by the ground control officer, Lt. John Theros, at Chosin reservoir to knock out a single machine gun firing on ground troops from the hills.

Using tracer bullets as a target in the dark, the plane came in from a flat angle, low over the streets of Hagaru-ri. As he zoomed over, the troops took cover, cussing the pilot, whoever he was.

Next morning, however, the tone changed to one of awe as a forward patrol went to look for the machine gun nest. There in the ruins of his position lay the gunner with a hole right between the eyes.

Rough Time in Korea

It was one of those days when Capt. Bert Sadkin, Marine transport pilot, wished he had stayed in bed. He was dropping air supplies to isolated Marine ground troops in North Korean mountains.

Flying about 100 feet up at around 100 mph, his Air Drop Platoon crewmen were busy pushing out parachute rigged bundles. Suddenly a jolt almost jerked the yoke out of Sadkin's hands. A crewman told him one bundle had hit and entangled on the tail assembly.

Sadkin banked the plane sharply, trying to lose the chute and bundle. All he succeeded in doing was knock one of his crewmen unconscious against the side of the plane—not a good procedure for crew morale.

So he landed the plane, the bundle bouncing along on the runway. "I'm glad this didn't happen earlier today," Sadkin commented, "That bundle had winter clothes in it. Earlier I was delivering ammunition."

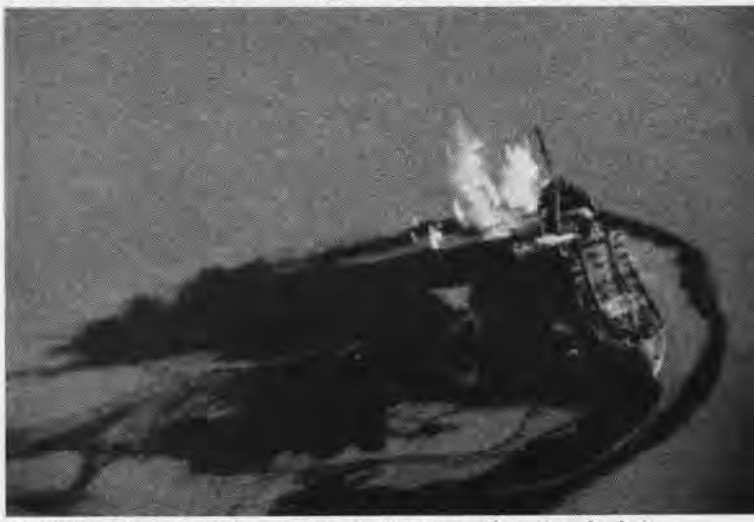
Reunion in Japan

This is the sequel to last month's story about Lt. Carl C. Dace of VF-111, first American pilot to use his ejection seat in combat to escape a stricken plane. Dace went into the water off Korea and was rescued next day by a destroyer.

After his rescue word was received on board ship that his wife, Lt. Emily Dace (NC), a flight nurse, was in Tokyo area. Lt. (jg) F. J. Morgan, the air group doctor, telephoned her the news of her husband's rescue. On the male lieutenant's return to the carrier leave was arranged and he went to Tokyo to see his ocean-hopping spouse.

Fate was against him. When he arrived his wife had flown back to the states in an evacuation plane. On the carrier's next entry in port, however, the two schedules jibed and the Dace's had a family reunion in Japan. Now every time the ship hits Japanese area ports, Dace streaks for Tokyo and tries to find his ocean-flying wife, who just might happen to be in town, MATS hospital flight schedules being uncertain as they are. Other pilots wish they were half so lucky.

GUN CAMERA pictures from a *Skyraider* with VA-55 shows 20 mm cannon shells ripping into freighters in North Korean harbor



SPEWING OIL and listing, a North Korean tanker lies dead in the water as VA-55's AD dive-bombers continue to plaster it

NAVY PBM exploded two Russian-type mines in channel at Chinam-p'o, Korea; best hunting time for mines proved to be low tide

VA-55 GUN camera films show HVAR rockets streaking toward railroad yards in North Korea; rockets proved effective missiles

CARRIER VALLEY FORGE steams into San Diego harbor from seven months fighting duty off Korea; CAG-101 aircraft fly parade overhead as the ship nears naval air station's dock

Planes Protect Beachhead

Naval aviation and carriers played a large part in the successful evacuation of 193 shiploads of Marines, Army and Korean refugees from the Communist-ringed seaport of Hungnam the last of December.

Navy and Marine *Corsairs* and *Skyraiders* from RAdm. Edward C. Ewen's Task Force 77 and an escort carrier group dropped bombs, napalm and rockets on North Korean troop emplacements. Napalm tanks could be seen tumbling down from the planes and huge clouds of black smoke arose in the hills as they hit.

While Navy and Marine personnel moved 350,000 tons of supplies and equipment aboard Navy transports, cargo ships, LST's, LSD's and MSTS vessels, a continuous cover of planes shuttled from carriers to smash onrushing Chinese and North Korean troops. In the final five days of the evacuation, with the beachhead growing smaller by day strikes came faster and faster. More than 2,500 sorties by fighters and bombers were flown during the operation in close support of ground troops.

The daily raids kept the Communists well dug in and prevented any big push at the beach area.

All the time the ships were evacuating men and equipment from the beachhead Marine and Navy transport planes flew heavy schedules, evacuating wounded men from Hungnam to Japan. Only a few short weeks ago these same planes and ships were bringing in the supplies they later had to fly out.

Jets vs. Helicopter

Three Russian-type MIG-15 jets attacked a Navy helicopter in Korea but the ability of the pinwheel to maneuver swiftly foiled the fast jets.

Lt. (jg) Raymond A. Miller and his crewman R. F. Anderson, AM3, were engaged in rescuing 28 Korean troops from Changyon, deep in enemy territory. The helicopter, with two of the ROK men aboard, had just left the ground when it was attacked by the Russian jets. Only quick maneuvering on the part of Lt. Miller avoided their being caught in the path of enemy fire.

According to Miller, the speed of the jets made it impossible for them to change their position to train their fire on the helicopter after it had maneuvered out of range. Before the jets had time to make a turn and come in for a second run the helicopter was flown out of sight and returned to its base ship.

In the picture at the bottom of this page, Miller tells Anderson and Lt. Charles C. Jones of his squadron how he eluded the jets.

Here's How It's Done

Marines demonstrated a new way to work close air support at night around Seoul. An air-controller with Marine ground troops asked for help to knock out a large concentration of well-organized Communists on a hill massing for an attack.

Capt. John McCabe headed his F7F for the scene. The controller directed the *Tigercat* to the target by firing tracer bullets. "Let me know when you want the machine guns to stop," he told McCabe.

"OK," the pilot said and started his close-in support run on the target at the end of the stream of tracers. About 1,000 feet off the ground, McCabe called, "Stop the fire!"

The machine guns stopped and the captain dropped a fragmentation bomb on the troops. He made eight more dives on the tracer bullet-spotted hill, firing his rockets and 20 mm cannons at the Communists. There was no counter attack from the hill that night.

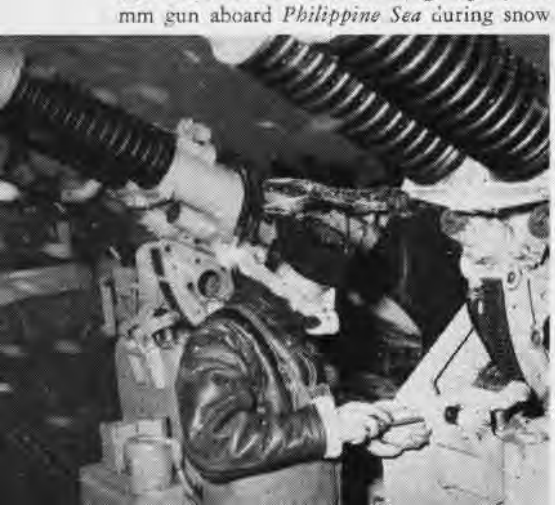
Bullets, Not Pamphlets

As a propagandist, Maj. Jack Brushert found his bullets worked better than propaganda leaflets against Chinese Communists in North Korea.

Given newly-printed leaflets to drop telling the Chinese to go home, Brushert flew over Choshin reservoir, put the plane on auto pilot and shoveled out the leaflets. Most of them flew back in his face.

Over Taehung-Dong he tossed out another package. It hit the cockpit hatch and leaflets flew back in his face again. On his way home he spotted a couple of new Communist trucks on a road. He worked off his anger by burning one with rockets while his wingman, Lt. Richard R. Miller, got the other.

GUNNER'S MATE Peter P. King repairs 40 mm gun aboard *Philippine Sea* during snow



LT. MILLER tells how 3 MIG jets attacked his helicopter in Korea, failed to hit it

FAMED RESCUE pilot with VMO-6 in Korea is Capt. Victor A. Armstrong, sitting in HO3S

CHIPPING ICE off the flight deck of the *Badoeng Strait* off Korea, being used by Marines for close support of ground men

NORTH KOREAN defenses are pointed out by Cdr. Leonard E. Ewoldt, ACI officer of the *Boxer*, showing guns, other targets

Unlucky "17"

A new unlucky number has cropped up on the CVE *Sicily*. After three wrecks involving planes numbered "17", Capt. James Thach, her skipper, banned further use of the figure.

Shortly before the Inchon invasion, Capt. William F. Simpson, USMC, flew off in #17 for a mission over enemy territory. He was killed when it was shot down.

A few days later Maj. Robert Floeck took off in a *Corsair* replacement plane #17. He also was shot down and killed. Within a week another #17, damaged by AA, returned safely to the ship. As it was being wheeled into position on the hangar deck, its guns suddenly discharged, killing a Marine sergeant.

Fourth tragedy, and clincher, came when another plane #17 flown by LCol. Walter E. Lischeid was hit by enemy fire behind the lines and exploded. He was killed.

Old Home Week

Four former members of the Royal Canadian Air Force had a reunion in Korea, all of them now members of the Marines flying from a Korean airfield.

They were Majs. John A. Reeder, Joseph W. Mackin, Rick Hey and Capt. James A. Burris. All four served with the Canadians in the war before the United States became involved, then joined the Marines. Reeder was skipper of VMF-111, Dallas Marine Reserve squadron when the Korean fighting broke out. Twenty-eight days later he was on duty in Japan.

Why Not Two Sticks?

A couple of Marine fighter pilots, Capt. W. W. Hazlett and 1st Lt. W. E. Jennings, were circling Marine ground troops near Chosin reservoir 80 miles from the Manchurian border.

They noticed a spurt of flame and then another on the hillside below them. Getting in radio contact with the ground units below, they asked if there was any trouble and whether they could help straighten out any little things.

"Naw," came back the reply. "A couple of the boys are having trouble building a fire. They're trying to light it with their flamethrowers."

Scared Him to Death

There is more than one way to kill a Korean tank.

Capt. Grover C. McClure spotted a tank retreating along a narrow road north of the North Korean capital of Pyongyang. The Marine dived on it and opened up with his rockets. The tank maneuvered smartly and the rockets missed.

McClure came around again and launched two more right in front of the tank. Still no hits. But the rockets confused the tank driver and he swerved off the road into a rocky ravine.

The tank turned over and over and bounced right out of the war.

Duck for Dinner

Capt. Wilson C. Terry, a Marine fighter pilot in Korea, didn't trust his mess crew to provide a turkey for Thanksgiving dinner. He came in for a landing in his *Corsair* with the remains of several ducks smeared over his windshield. The collision forced him to return to base for repairs.

Fat, Dumb and Happy

Some people just never get the word. Take the long caravan of Communist trucks driving down North Korean roads with all their headlights on.

Capt. Edward Osborne from a Marine night fighter squadron at Wonsan spotted them, at least 100 strong. Dropping a parachute flare he glided in, opening up with machine guns and rockets. The truck drivers turned off their lights after the first pass.

The light from many burning trucks paid tribute to Osborne's marksmanship.

ALTHOUGH AIR attacks on our carriers off Korea are non-existent, gunners on the *Badoeng Strait* polish up on marksmanship

AVIATION ORDNANCEMEN on the *Princeton* check and clean 20 mm gun in preparation for another strike on Chinese Communists

GRAMPAW PETTIBONE

How Did It Get There?

The R4D-5 pictured at the bottom of the page seems to be doing a very fine job of blocking traffic. It arrived in this unique position when the pilot and co-pilot forgot to put the props in full low pitch during a touch and go landing.

The pilot was demonstrating a power-off, no flaps, semi-stall landing on a 4000-foot runway. The R4D-5 which weighed only 21,300 lbs. crossed the end of the runway at approximately 70 knots and touched down about 1000 feet down the runway in a nearly stalled attitude. At a speed of about 50 knots power was applied for take-off. Since the props had not been placed in full low pitch, the acceleration was comparatively slow. The pilot noticed this and shoved the props forward, and then immediately closed the throttles to abort the take-off. At this time there was about 1500 feet of runway remaining and the R4D was doing between 60 and 65 knots.

Heavy skid marks were found on the last 1028 feet of the runway plus 291 feet on the grass over-run. The plane then went through a cyclone fence which marked the boundary of the field and rolled down the highway embankment. It hit the rise on the far side still doing about 20 knots.

The fuselage was buckled as far aft as station 135, and the R4D will require a major overhaul. All crew members escaped with only minor sprains and scratches.

Grampaw Pettibone says:

In a poker game a couple of years ago I watched a fellow throw in a hand that contained three Queens rather than call the final $30 raise. He had already invested about $70 in the "Three Ladies" and, as it turned out, they would have won him a $300 pot if he had only called that last bet. He's still trying to figure out why he threw the hand away.

You'd think the pilot of this R4D would be asking himself a similar question. What made him think that it would be safer to try to stop than to continue his take-off? Alas, such is not the case. In his statement he says that he thinks his decision was correct because he would have been airborne at less than safe single engine speed if he had continued his take-off run, and he felt certain that he could stop.

According to the pilot's handbook an R4D weighing only 21,300 lbs. can take off from a dead stop in a no-wind condition and clear a 50-foot obstruction in less than 1500 feet. In fact, it takes a greater distance to stop the plane when it is going 60-65 knots than it does to take-off from a complete stop.

While he was calculating the risks involved in the two courses of action, the pilot might also have remembered that his flaps were up and due to the absence of their drag he would require a longer than usual stopping distance.

It seems to me that all he had to do after pushing the props forward was just to sit tight and that R4D would have taken off like a scared jack-rabbit.

Of course, in discussing an accident or a poker hand, *hindsight* is a big help. It isn't nearly so easy to make the right decision on the spur of the moment.

Just to end this discussion with a comforting note, I might add that I spent a couple of hours trying to figure out from our accident records just what the chances were of having one engine quit in an R4D during any given minute of full power operation. I finally gave up, but before doing so, I came to the conclusion that it was less likely than the chances of winning the Irish Sweepstakes on a single ticket. P.S. Check yourself on your next few landings. Do *you* remember to put your prop or props in full low pitch every time? Check-off lists were invented to prevent just this type of error. USE THEM AND STAY OUT OF TROUBLE.

FIGURE OUT HOW THIS R4D GOT IN THIS HOLE

DILBERT GETS A LESSON IN CALCULATED RISK

GRAMPAW PETTIBONE ASKS

Why does the plane taxiing ahead always stop as soon as you lose sight of it?

New Jet Safety Record?

"Dear Grampaw Pettibone,

"Since your comment on VF-11 safety record says 'best monthly record reported to date for jets', we arguingly submit this epistle to set the record straight. At the first pop out of the bag, someone may try to disqualify us because we are not a fleet squadron but we feel that since we are assigned a comparable number of planes (20 assigned against 16 for fleet squadron) and since we have to check-out a new bunch of non-jet aviators each month that our problems and risks are comparable.

"During the month of August 1950 Jet Training Unit One flew 1315 accident free hours, racking up an average of 65.7 hours per plane for the month. This beats VF-11's average of 64.0 hours per plane (1024 hours/16 planes). In addition, JTU-1 in the last 12 months of operations has transitioned 284 pilots to jet aircraft and flown 10,328.4 hours without a student fatality.

"The only injury in this period was a pair of blood-shot eyes (looked like he had been on a fortnight of lost weekends) which a student incurred when he exposed himself to excessive negative "Gs". During this time, students were involved in only 4 accidents, instructors accounted for 3 more.

"In this regard, many people think we have two-seater TO-2's to check out these recently designated aviators—Not so!! Comes as a jolt to some of those reporting in. After 4½ days of concentrated classroom, cockpit time, instructor-student dope sessions, questions, answers, reviews, and a pat on the back, off they go—solo!! The runway portable talks them off and back on and they have had their first jet ride. All of their 25 hours during the course is without tip tanks, so they log their time at 55 minutes a clip . . . more landings that way.

"'JTU-1 has on board 137 men and 21 instructors which composes the finest crew in the Navy. If you don't believe it just ask one of 'em.

"'Yours accident freely,

"From highest to lowest in JTU-1"

Grampaw Pettibone Says:

Congratulations on a wonderful safety record.

It is never easy to draw a comparison between the relative hazards of training new pilots in a particular type plane

versus operating the same type in a fleet squadron. Training Command accident rates, however, normally run considerably lower than the fleet rates for the same types.

This may indicate that the Training Command places greater emphasis on safety, or it may prove that Fleet Operations are just naturally more hazardous. My own guess is that both factors contribute to the difference in the rates.

Space limitations prevent the publication of the splendid aircraft availability record which you enclosed, but you certainly must have a cracker-jack maintenance department to "keep 'em flying" so consistently.

Can any other jet outfit top the safety records of VF-11 and JTU-1? If so, don't be too modest to write in and tell about it. I don't have a large enough staff to keep a running check on every squadron . . . . and sometimes don't have all the necessary figures.

Get That Frost Off

Every winter we lose two or three planes because pilots attempt to take off without thoroughly removing snow, ice, and frost from the wings.

The aviation supply officer stocks a defrosting fluid which works quite well at temperatures near the freezing level. The fluid can be applied by swabbing, brushing or spraying. The stock number is R51-F-537.

In addition to removing the accumulated ice and frost, the fluid remaining on the surfaces should provide protection for approximately two hours provided the temperature is not below—10° centigrade.

Grampaw Pettibone Says:

Reports from the field indicate that this stuff works like a charm when the temperature is just a few degrees below freezing. It will *not* work when the temperature is more than 15° below freezing. When it gets that cold, anti-icing fluid or denatured ethyl alcohol will have to be used. Technical Note 23-50 gives additional information on the removal of frost, ice, and snow.

Remember—the neck that's out is your own. Don't try to take off with even the smallest amount of snow or frost on wings or control surfaces.

Atomic Energy Areas

By now all Navy pilots should know that all flying over the atomic energy installations at Oak Ridge, Tennessee; Los Alamos, New Mexico; and Hanford, Washington has been prohibited by Presidential Order.

Nevertheless there have been some recent violations due to poor navigation or careless flight planning.

Both of these errors can be corrected by the pilot himself, and operations officers can help by briefing pilots to avoid these areas on cross country flights.

New charts have been printed which show the boundaries of these three prohibited areas very distinctly. Study them carefully and avoid the embarrassment of being followed and identified by the fighter aircraft assigned to patrol boundaries of these prohibited areas.

Rather Tasty

Mechanics take heed! From Brazil comes this story of a mechanic who encountered an extremely unusual maintenance problem.

While working on a DC-3 at an outlying airport, the mechanic carefully removed the necessary parts and laid them on a clean newspaper in order in which they were removed. He then went out to lunch.

When he returned, he was just in time to discover a bird known as an Ema, swallowing the last bolt and looking around for something else to eat.

After a chase by the airline staff the bird was caught. The subsequent surgery proved fatal to the Ema, but all the parts were duly recovered and reinstalled.

Dear Grampaw Pettibone,

"This, I'm sure, will strike you as a rare request but I'd like to say at the outset, it is in no way a 'jab' at the supply situation or anyone responsible for the shortage of the 'hard hats' among us 'old men' still 'drivin' the piston driven aircraft.

"If you will supply me with the address, name and so on, of the concern manufacturing the crash helmets, I'll honestly be happy to buy my own. At present I'm flying in a combat zone and since I'm loaded with insurance of one kind or another, I won't mind the expenditure for an item I feel is a must for people flying the Corsair at night.

Note of interest: the only serious accident our squadron has had involved two landing aircraft. Ironically the lad who got hit by the aircraft landing behind him, had on the only crash helmet in the squadron. The canopy was slammed shut injuring one arm and putting a deep scar in the top of the helmet. He is, of course, tickled 'pink' to be the proud owner of the only 'hard hat' in these parts.

"I will honestly appreciate your attention to this little matter.

"Sincerely,

"1ST LT, USMC"

Grampaw Pettibone Says:

I'm hoping that by the time you see this in print new H-3 helmets will have arrived for every pilot in your squadron.

It wouldn't do you any good to write to the firm that manufactures the helmets because they are on the critical list and the Navy is buying them just as fast as they can be made. The cost of the new, more comfortable, H-3 helmet, complete with inner liner, earphones, and boom mike is quite considerable.

I understand that a great deal of work went into the design and testing of the new type helmet and that it is so good that the Navy has ordered 10,000 of them.

One pilot whose life was saved by a "Hard Hat" and who was in an area where he could get a replacement sent the battered helmet to us by way of showing what would have happened to his head if he hadn't been wearing it. From the looks of it he would have been "pushing up the daisies".

In the meantime keep your straps tight, and sit low enough to get as much protection as possible from the overturn structure.

Can You Top This?

About three months ago I asked Navy pilots with over 5000 hours or with 500 carriers landings and no pilot error accidents to write me giving their total time and a brief resume of the type of flying that they had done.

So far no one has claimed 500 accident free carrier landings. Does anyone have 400?

However, I have heard from eight "old-timers" each with over 5000 hours. Their flying experiences stretch back over a 21-year period, and I guess its not surprising that the years had dimmed the memories of a groundloop in 1930, a wheels-up landing in 1935, a nose-up while taxiing in 1938, a brush with the trees around Clay Pits in 1938, and a waterloop in 1940.

Even so their safety record is remarkable considering the varied types of flying that they have done.

The pilot who didn't mention the waterloop was later awarded the Navy Cross for heroism when he rescued a number of Army men adrift in heavy seas. Incidently he didn't mention this either, but it shows up on his card.

Here's the one to top—but no names as *yet*.

He's a lieutenant commander, USN, with 7,831 hours of flight time in the last 18 years. He hasn't scratched one yet. Can you top his excellent record?

OPERATION TURNABOUT

OPERATION TURNABOUT was completed by the aircraft carrier USS *Valley Forge* when she put into NAS SAN DIEGO for five days, then turned around and sped right back out to the Korean war zone again.

In the battle right from the start in June, the carrier came back to the States for a well-earned rest, only to be ordered right out again when the Korean war flamed up again. During her brief visit, however, the crew got a joyous welcome and had to go through the heartache of parting right after they got their bags unpacked.

Some of the more fortunate men were greeted by their wives and families, others missed the opportunity when all leaves were cancelled. The "Happy Valley" became the center of nationwide attention when she put into port because she had been on duty in the Western Pacific since the start of hostilities. Her men saw action from the first dark days up through the time when final victory seemed imminent and the ship headed home.

On the lighter side of the return, Ralph Edwards brought his "Truth or Consequences" show aboard the *Valley* and had it filmed for nationwide television release. Then two days later, one of the biggest parties San Diego ever has seen was thrown for all hands and friends at the Pacific Square Ballroom. Joanne Durant, *Miss California* of 1950, was awarded the title of *Miss Valley Forge*.

Everyone is familiar now with the chain of events that made necessary the recall of the *Valley Forge* to the war. NAS SAN DIEGO and all spare AirPac personnel turned to so that the carrier could refuel and take on supplies and ammunition in record time.

The necessity for the recall of the CV-45 was adequately expressed in a telegram from VAdm. Sprague which said "Your cheerful acceptance of return to combat instead of a well-earned rest again shows the unflagging can-do spirit of the *Valley Forge*, the highest devotion to duty and a keen appreciation of the grim events requiring this decision. Good luck and Godspeed."

NAVY WIVES SEARCH DECKS OF VALLEY FORGE FOR HUSBANDS, SWEETHEARTS AS SHE PULLS IN

DOG GREETS H. E. SHERWOOD AS WIFE WAITS

MISS CALIFORNIA PICKED MISS VALLEY FORGE

J. WALKER'S FAMILY GREETS HIM AT STATION

★★ ★

1 **WITH GUN** sponsons empty of armament and her deck lined with crew, *Valley Forge* ends six months duty around Korea

2 **CDR. HARVEY** P. Lanham, head of Valley Forge air group almost falls out of his jet Panther to greet his children, wife

3 **FINAL INSPECTION** of his men sees Cdr. Lanham hand over CAG-5 to Cdr. Marshall U. Beebe after medal presentations

4 **A FEW LAST** minutes together for J. A. Lobb and his wife before *Valley Forge* sails again for the Korea war zone

5 **WIVES OF MEN** aboard "45" tell their men goodbye as the ship refuels, takes on supplies and leaves after 5 days

★ ★★

AIR ANTISUBMARINE *Squadron 25 is now flying the new Grumman AF "Guardian." These carrier-based planes usually fly in pairs to make up the deadly "hunter-killer" team against enemy submarines. Each plane is specially designed to carry the equipment needed for its role. It is the largest single-engine aircraft in the world so far as is known.*

Technical Training Back at Jax

THE NAVAL Air Technical Training Center at NAS JACKSONVILLE, closed for economy reasons since May, 1948, is being reopened and operations at the Memphis NATTC are being expanded to meet the national emergency.

Eleven air technical training schools, along with the headquarters of RAdm. Harold M. Martin, head of NATT, will stay at Memphis. Nine schools were to move from there to Jacksonville in January.

Increased operations at Memphis call for a monthly input of about 1,000 students, a 30% increase over current rates. Officer and enlisted instructors will be increased to handle the load.

More than 70 buildings in the training center on the Jacksonville air station were restored. First students will begin work there in March. When the center builds up to operating strength, it will have more than 100 officers and nearly 1800 men to train the 1,000-man monthly quota. Total number under instruction at any one time will be about 6,000.

During World War II, NATTC JACKSONVILLE had up to 12,000 students and instructors. Schools to be moved from Memphis to Jacksonville are airman, Classes A and B aviation ordnanceman, aviation ordnance officer, aviation storekeeper, A and B aviation electrician school, aviation supply officer and aircraft instrument training school.

Remaining at Memphis will be Classes A and B aviation machinist's mate, A and B aviation structural mechanic, A and B aviation electronics technician and electronicsman, A and B training deviceman, instructor training, aircraft maintenance officer and aviation electronics officer schools.

New Plane—AD on Floats

Midway-Coral Sea Idea Pays Dividend

USS MIDWAY—Ever see an AD *Skyraider* on floats?

Take a look at the accompanying photograph of the AD-3WF (will float) which operated between this carrier and the *Coral Sea* recently. The operations plan called for the transfer of certain "dud" aircraft from the *Coral Sea* to the *Midway*.

The logistic situation precluded use of lighters or barges for this mission (there were none), but an alternate plan quickly was devised. Why not provide the necessary life by motor launch? This question being unanswered then was executed.

Two 50-foot motor launches were attached securely one to the other and the aircraft was lowered forthwith to its newly-acquired floats. This the redesignated AD-3WF with three power plants available proceeded as previously directed.

A repetition of the foregoing procedure enabled the operation to be completed in a highly successful manner. It was noted, however, that the main power plant of the AD was not required nor could it be effectively used because in the haste of design the floats were assembled backwards. This "bug" should be corrected before production.

PHOTOFLASH BULBS *have a habit of burning incautious photographers' fingers if they grab the bulb too soon after firing. Wave Edith A. Monson and Sherman L. Barber, trainees at NATTU Pensacola photo school, show what happens if you hurry too much.*

FIRST SKYRAIDER DIVE BOMBER ON FLOATS: MAYBE REVERSE PITCH PROP WOULD WORK BETTER

ALL ABOARD FOR JUPITER!

FLYING ON an interplanetary rocket to Jupiter may not be the comfortable ride pictured by the comic strips. You may find yourself sitting three feet above your chair, unable to drink your water and bombarded by cosmic rays.

Three scientists in the newly-opened field of "space medicine" outlined the problems recently before the Staff and Flight Surgeons classes of the School of Aviation Medicine at Pensacola. They were Dr. K. Buettner, professor of biophysics, University of Goettingen; Dr. Heinz Haber, research physicist, Kaiser Wilhelm Institute, and Dr. S. J. Gerathewohl, former Chief of the Psychological Test Center, German Air Force. All are now attached to the U. S. Air Force School of Aviation Medicine at Randolph Field, San Antonio, Texas.

Recent great strides in development of rockets and rocket-propelled aircraft have introduced new and baffling problems of protection for occupants of proposed "space ships" which would travel through areas of tremendously varying temperatures and pressures.

Dr. Gerathewohl said occupants of space ships flying beyond the earth's gravitational field would lose all sense of direction with regard to up and down and side to side.

Passengers of the vehicle of the future would have no effective weight and therefore could sit as comfortably three feet above a chair as they could in it. A simple act like drinking a glass of water hardly could be performed under gravity-free conditions.

In the first place, the water, having no weight, could not be poured into a glass. And even if it could be, it immediately would squeeze out and float away like a swarm of gnats.

Dr. Gerathewohl also pointed out that although people suppose the gravity-free state to be a delightfully comfortable experience, he has serious doubts about it. He suggested that the sensation would exactly parallel the sensations of passengers of an elevator that suddenly broke loose and plummeted freely down the elevator shaft—except in the case of the space ship, it never would hit bottom. "Indeed," said the doctor, "Space craft passengers might very well all be rather seasick."

Dr. Haber described the gravity-free sensation as being similar to falling into a bottomless pit. He said eventually a certain adaptation would occur, but could not say how long it would take to get used to the feeling of dizziness.

"If such adaptation did occur," he predicted, "when the space passengers returned to earth, it is probable they would spend some time feeling as though they were being lifted upwards.

"We are so accustomed to gravitation that it is with no small difficulty that we attempt to visualize a gravity-free state in which one can sit down and relax in mid-air. It is quite different from what we know of sitting down within the earth's gravitational field where a chair or bench is necessary to prevent us from following a celestial trajectory to the ground."

Talking on "Climatology of Space Craft", Dr. Buettner said a spherical space ship with a polished metal surface would heat up quickly to a temperature of 239° C (water boils at 100° C) when in the sun in outer space.

Coating the ship with white paint would reduce the temperature to 42° below zero Centigrade. It is quite possible to find a color or combination of colors that would produce the desired temperature inside the space ship. But in all likelihood, ordinary paint soon would be destroyed by the ultraviolet light found in outer space, he said.

Another difficulty outside the earth's atmosphere will be breathing, he reminded. Atmospheric pressure would have to be produced artificially within the space craft, and enough air (oxygen and nitrogen) carried to meet the needs of all the passengers as well as the rocket engine for the entire trip. Space flight, as presently conceived, does not require continuous engine operation.

To these problems, Dr. Buettner added the dangers to be encountered from cosmic radiation, especially the so-called "heavy nuclei" particles. This subject was elaborated on by Dr. H. J. Schaefer of the Navy School of Aviation Medicine.

"Recent research conducted at the school here has led to the assumption that in all likelihood there is a serious health hazard, due to cosmic radiation, at extreme altitudes because a certain component of these penetrating heavy nuclei rays exceeds in energy anything that can be produced today by cyclotrons or atomic piles," Dr. Schaefer said.

The 184-inch cyclotron in Berkeley, Calif., largest in the world, can produce an alpha particle with an energy of 350 million electron volts while some particles of cosmic origin attain energy values exceeding 100 billion electron volts. Such particles, which can attain the speed of light—186,000 miles a second—will have no trouble passing through space, ship, passengers and all.

Capt. Ashton Graybiel, MC, director of research at the Navy school, foresaw a modification to the present day aviator's vocabulary. "To conduct gravity-free experiments in conventional aircraft," he said, "the aircraft will have to be flown along a celestial trajectory.

"To accomplish this, the pilot will need something like a 10-gallon hat so that the rising and settling of the hat will indicate his proximity to the flight path. He will fly by his hat brim.

AN ENSIGN FIGHTS A WAR

VF-111, KOREA—This squadron's nominee for the "Naval Aviator to Whom Most Things Have Happened" is Ens. Earl R. Reimers, whose experiences flying jets around Korean waters are slightly hairy.

About the only thing he hasn't done so far is shoot down a MIG-15, and he might remedy that any day. Start the story back in September. On the first day he was on a close support mission with his skipper, LCdr. W. T. Amen. He came up the groove with zero pounds of fuel indicated. Luckily he landed aboard and was able to taxi forward on the flight deck before his gas gave out on him completely.

On the fourth while over Sinanju, his plane was hit by AA fire in the nose wheel well section. The shell severed the hydraulic and emergency air lines leading to the nose wheel.

Reimers, however, did not know this till he tried to lower his gear later. After making three passes at the ship while carrying out emergency procedures, his fuel again got dangerously low and he came aboard with no nose wheel. He made a good landing, caught a wire and was stopped by the gear. His fuel gauge showed 100 pounds.

However, it didn't really catch up with him until the 18th of the month. While on a strike with Amen to Pyongyang, he got separated on a strafing run through some low clouds. He tried to get joined up to return to ship but finally decided to go back alone. Unluckily, Reimers had ZB gear that was inoperative.

After flying a prescribed course and speed to take him to the ship, he soon discovered he had missed the task force. It was under a squall line and the weather in the area was poor with low overcast. After getting a steer on the emergency channel, he headed for the ship. Before he arrived he ran out of fuel and had to ditch the plane. He was rescued by the ship's helicopter and spent a couple of days in sick bay.

October was dull but came November and it was a different story. Being the fourth man in a four-plane division was a trifle disconcerting over Sinuiji. All of a sudden out of a clear blue sky he noticed tracers going by his wing. Looking back he saw a swept-wing jet, the MIG-15, which made its appearance that day for the first time.

That particular MIG got away, but on the same flight, one was shot down by Amen, the first enemy jet bagged by a naval aviator. Low on gas, the jets landed at Kimpo to refuel before returning to the carrier.

On 10 November after a CAP hop, our hero again had some difficulty. His tail hook would not lower so he elected to land at Wonsan. Wonsan's longest and only runway is 3800 feet and he was the first jet to land there. Naturally he created quite a sensation and was treated in the best possible Marine tradition by members of the Marine squadrons there.

Next day he left Wonsan to return to the ship but the *Philippine Sea* couldn't take him aboard at that time and he landed on the *Valley Forge* and spent the night. He got home next day.

Outside of the above adventures, Reimers' war tour of duty has been uneventful.

BOTH OF THESE *carriers are the Essex-class but recognition experts will be quick to spot plenty of differences between the new Oriskany (top) and the old Bennington, the CV-20. Biggest is the cleaner, smaller superstructure. Gone are the 5" turrets fore and aft of the island. They are replaced by 3" rapid fire guns in tubs alongside the deck of the Oriskany. The tripod mast is replaced by a single and the stack design has been changed. Painted on the island are the words "Beware of Jets" and "Beware of Propellers". The Oriskany, recently commissioned, may represent a trend toward the islandless carrier.*

Love Navigates a Seaplane

Married Couple Do 2 Weeks Training

VR-2, ALAMEDA — Something new has been found in navigator teams.

This squadron has had several married teams of a combination of flight engineer and orderly, radioman and orderly, and orderly and orderly, but the newest one is a pair of navigators married to each other.

They were Lt. L. J. Andrian and Lt. Jane F. Andrian on a two weeks Reserve training cruise with the squadron. The couple met during the war when he was piloting a navigational training flight, and she was navigator instructor.

Requests from the squadron personnel's spouses for navigation training so as to be able to accompany their husbands on a flight to Honolulu are received with a chilly view by—the husbands, natch!

JRM PILOT McCULLEY CHECKS OUT THE ANDRIANS

WITHOUT ITS CARGO POD, FAIRCHILD'S NEW PACK PLANE, THE C-121 IS A STRANGE LOOKING CREATURE AS IT FLIES BACK TO GET NEW LOAD

AIR FORCE TRANSPORTS

IF VARIETY is the spice of life, then the Air Force's cargo and transport aircraft present a highly-favorable array of flying machines. Not one of the nine different versions flying even slightly resembles the others—a fact which makes recognition study easy.

Not counting in the old standby R4D and R5D-type aircraft, the Air Force's transport stable features everything from erstwhile gliders with engines to the mammoth Convair C-99, the cargo version of the B-36 bomber, of which the AF has only one.

On the premise that everyone knows what the old standby Douglas transports look like, NAVAL AVIATION NEWS presents here recognition data on other planes in the cargo-transport field of the Air Force. It is just as necessary for fighter pilots of the Navy to recognize them as it is *Yak* jet fighters. During World War II, plenty of troop-carrying transports were shot down by AA or fighters, so that recognition of them must be stressed right along with combat aircraft.

C-97 Stratofreighter—

A cargo version of the famous B-29 bomber by Boeing, the *Stratofreighter* is easy to recognize with its underslung-bellied fuselage, much like the double-bubble of the Navy's R6O *Constitution*. A B-50 tail perches high atop the spine. Four P&W *Wasp Majors* give it 14,000 hp for takeoff. Despite its size—164,000 pounds—it is only half the size of the Convair C-99, illustrated at the bottom of this page.

Other versions of the C-97 are flying the world's airways for commercial companies as *Stratocruisers*. The plane will carry 136 troops, has a top speed of more than 375 mph, combat radius of over 1,100 miles with 4,000 miles maximum range. The *Stratofreighter* weighs 73,920 pounds empty, has a 141-foot wingspan. A YC-97B version is available as a military passenger carrier, being an adaptation of the *Stratocruiser* which is being used for evacuating the wounded.

C-99

Few pilots will see this behemoth of the air, but when they do, it will not be difficult to recognize because of its stovepipe fuselage, six pusher prop engines and other resemblance to the B-36. This 295,000-pound flying building will carry up to 400 men, it is claimed, can fly 8,000 miles and has a top speed of better than 300 mph.

Other interesting features of the plane, of which the Air Forces have but one, are 230-foot wingspan, tail height 57 feet and length 182 feet. Two cargo decks give it 13,850 cubic feet of space for storing freight or passengers. Its six P&W *Wasp Majors* give out, 3,000 hp on takeoff, driving pusher propellers. It lands at slightly over 90 mph.

C-119B Flying Boxcar

This newer version of the Fairchild *Packet* is recognizable for as far as it can be seen because of its tremendous pod

CARGO-CARRYING FUSELAGE DETACHES FROM AIR FORCE'S PACK PLANE

BOEING STRATOFREIGHTER HAS FAT FUSELAGE TAPERED TO HIGH TAIL

GIANT DOUGLAS GLOBEMASTER II HAS CLAM-SHELL DOORS IN NOSE FOR UNLOADING ITS CARGO; THIS C-124A CAN CARRY 222 COMBAT TROOPS

fuselage and twin-boom tails, which no other transport plane in this country has. The C-82 *Packets* had R-2800 engines, while the new models have the more powerful R-4360 P&W engine.

Widely used by the Air Force, the Marine Corps has procured a number of the R4Q-1's for troop carrying and transporting freight. The plane has 109 feet wingspan, weighs 74,000 pounds maximum gross weight and has a 1,100 mile combat radius with nine tons of cargo. It can carry 64 paratroopers or 35 litter cases.

Easiest way to tell the C-82 from the later model C-119 is the location of the pilot compartment almost in the nose of the latter. In the earlier plane, the compartment was back level with the props, making visibility poorer. Another recognition feature of the 119 is the lack of vertical stabilizers below the tail boom. Noted for its utility rather than its speed, the *Boxcar* can do better than 250 mph and lands at 100.

XC-120 Pack Plane

Probably the unique design in recent years for a utility cargo plane is this Fairchild brain child with the detachable fuselage. The lower portion has four sets of dual wheels, which are attached after landing. The pod can be towed away from the engines, booms, and wings. What is left can fly back for another load of cargo, thus speeding up loading and unloading—a feature found desirable in the Berlin Airlift.

The top photo on page 00 shows what it looks like flying home empty to pick up another "pod." This plane can be differentiated from the C-119 by the bashed-nose appearance of the front end, with the pilot's compartment moved back again to the location used in the C-82, sacrificing some visibility. Otherwise, the recognition features of its two predecessors are about the same, with high wings, twin boom fuselage and long, forward-thrusting nacelles.

First plane of its type incorporating a detachable fuselage, the Pack Plane may see others copying the idea, especially if the U. S. gets embroiled in a war where air transport of cargo is stressed.

C-121 Constellation

This is a cargo version of the well-known Lockheed *Constellation* passenger plane so much used by commercial airliners. From a recognition standpoint, it is easy to spot with its fish-like, thin fuselage, ending in three separate rudders of the typical Lockheed oval design.

Four Wright 2,500-hp engines power this plane, a longer version of the C-69 *Constellation* first used for transporting cargo. A still longer version, the R7O, is being procured by the Navy. It has 18 feet more fuselage but the same wingspan and powerplant.

The C-121 first came into use at the time of the Berlin Airlift operation when larger carrying capacity than the R5D was desired. It has a maximum range of 4,000 miles with 6,000 pounds payload.

Cruising at 300 mph at 20,000 feet, the C-121 claims it can carry 350 passengers across the Atlantic in four trips, in less

TRI-MOTORED NORTHROP RAIDER HAS FIXED LANDING GEAR, HIGH WING

FAMILIAR LOCKHEED CONSTELLATION FLIES FOR AIR FORCE AS C-121

time than the standard four-engine transport could make three round trips with 180.

YC-122 Avitruc

A newcomer in the Air Force's stable of transports is this twin-engine monoplane, which is primarily a powered version of the all-metal troop and cargo-carrying glider CG-18.

Built by Chase Aircraft Co., of New Jersey, its main recognition features are high wing, underslung nacelles and chopped off underside of the tail for loading cargo in the rear of the fuselage. Its box-like fuselage is somewhat like that on the Fairchild *Packet*.

Two P&W R-2000 engines develop 1350 hp at takeoff, giving it 200-mph cruising speed and maximum range of 1,000 miles. Gross weight loaded is 31,000 pounds. The plane has a wingspan of 86 feet, length of 56 feet and 21-foot height.

XC-123

Sister plane to the YC-122, this Chase cargo plane is bigger and more highly powered. Its engines were increased from R-2000's to R-2800's. Speed of the plane also was upped slightly to 220 mph top.

This aircraft, like its sister, is a modification of an all-metal troop and cargo-carrying glider, the CG-20. It is slightly smoother looking in the tail section but retains the high wing, box-like fuselage and upswept tail.

C-124A Globemaster II

A bigger version of the Douglas C-74 *Globemaster* (DC-7) is this huge transport. Designed to carry heavy ground force equipment, it loads and unloads through clamshell nose doors and up a nose ramp. It also has an electric elevator amidships. It can carry 222 fully-equipped troops or 138 litter patients.

From a recognition standpoint, its main difference from the C-74 is the whale-like snout. It has the standard Douglas rudder, low wing and mid-fuselage stabilizers. Four P&W *Wasp Majors* power this behemoth, giving it 14,000 hp to carry its 175,000 pounds design gross weight. It can pack 50,000 pounds 850 miles and return and has a combat radius of over 1,100 miles with lighter loads.

The *Globemaster II* is slightly longer than the C-74, has a foot less wingspan and stands five feet higher. It weighs 50,000 more pounds loaded, however, which it can carry with its more powerful versions of the R-4360 engine.

C-125 Raider

Aviation pioneers can hardly remember back when the services had tri-motored planes, but Northrop brings them back in its new Arctic rescue transport. This plane also brings back fixed landing gear, another almost extinct feature in operational planes.

Wheel skis, permitting landings on either runways or snow, will be fitted for Arctic operations. Sturdy fixed landing gear, rugged construction, three engines for safety factor and power, and high lift wing with maximum-span flaps all combine to make this specialized plane useful.

A unique rear ramp door permits rapid loading of vehicles and cargo. Approximately 20,000 pounds of cargo or 32 passengers can be transported by the *Raider*. Thirteen assault versions, designed for use in establishing air heads, also are being built by Northrop.

From a recognition standpoint, any big plane with fixed landing gear and three engines is bound to be spotted from far off by any observer. It is a high wing monoplane with stabilizers mounted high on the rudder somewhat like those on jet fighters. The plane looks a little like an old Ford-Stout.

SIX PUSHER PROPELLERS, CIGAR-LIKE FUSELAGE ON CONVAIR'S C-99

CHASE XC-123 IS AIR FORCE GLIDER WITH ENGINES, TAIL UPSWEEP

EARLIER MODEL CHASE C-122 WAS SMALLER GLIDER EQUIPPED TO FLY

FAMILIAR FAIRCHILD PACKET FLIES FOR AIR FORCE AND THE MARINES

AIR FORCE MOVES BY CVE

AIR FORCE THUNDERJETS AND MARINE F9F'S JAM BAIROKO'S DECK ENROUTE TO WEST PACIFIC

USS BAIROKO—With its decks loaded with Air Force F-84 *Thunderjets* and Marine F9F's, this escort carrier sailed for the Korean war zones looking more like a floating hotel than a carrier.

Aboard, beside the ship's company, were 56 officers and 244 men of VMF-311 commanded by LCol. N. R. MacIntyre and 23 officers and 201 men of the 522nd Fighter Squadron of the Air Force under LCol. J. B. McDonald.

The forward and aft elevator pits were loaded with bunks for the men and the hangar deck jammed with trunks. It was promptly dubbed the "Smiling Irishman's Used Car Lot and Penthouse Apartments" because the after elevator pit was decked over to form two berthing spaces.

Most of the first part of the trans-Pacific trip saw the "new" men seasick, but gun crews were exercised on station and held firing practices. During heavy weather below, deck instruction was held in classrooms and ready rooms.

FORWARD ELEVATOR PIT HOME FOR AIR FORCES

The trip was not altogether no play and all work, two fine disc jockeys and several good musicians were among the "passengers" so each afternoon a request record program was given over the RBO system and a jam session held forth in the after mess hall.

Upon its arrival to Japan, the carrier ran into a blinding rain storm as it entered Tokyo Bay and had to make the entry under full radar control. For three hours the ship fought 60 knot winds and heavy weather up the channel. She rates a "green card" for a fine GCA performance! Skipper of the newly-recommissioned CVE is Capt. W. F. Raborn.

RADM. RICHARD F. WHITEHEAD, *Commander Fleet Air Wings, Atlantic Fleet, checks chart with pilot during recent Fleet exercise*

Speedy Trip Via The SNJ

Pilots Make 450 Miles in Two Hours

NAS MEMPHIS—Two pilots from this station report a 450-mile flight from Dallas to Memphis in 2 hours and 12 minutes—in an SNJ!

Flying at 6,000 feet between Texarkana and Pine Bluff their ground speed averaged 260 mph. The disbelieving airplane drivers rechecked their navigation. It was correct but a tail wind of 110 mph helped a little. The pilots were glad they were going east instead of west on that particular day.

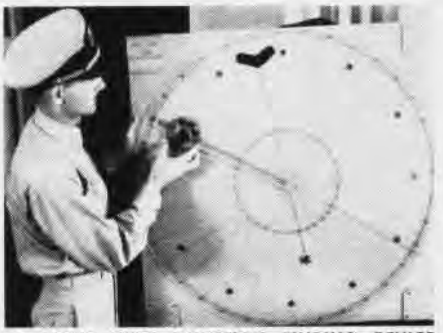
Compass Trainer Is Simple

Radio Direction Finding Is Made Easy

NAS CORPUS CHRISTI—One of the most difficult things for student instrument pilots to grasp is the ADF-MDF procedure. Many devices have been made in an attempt to show a student the relationship between his magnetic compass, radio compass, plane and station, but the majority were limited to a single phase of the operation.

Lt. D. A. Leslie, operational flight training officer here, has developed a radio direction-finding demonstrator which incorporates every phase of the complex operation. With this device, a student actually can see what his instruments will read and what that reading will mean to the relationship between the plane and the station.

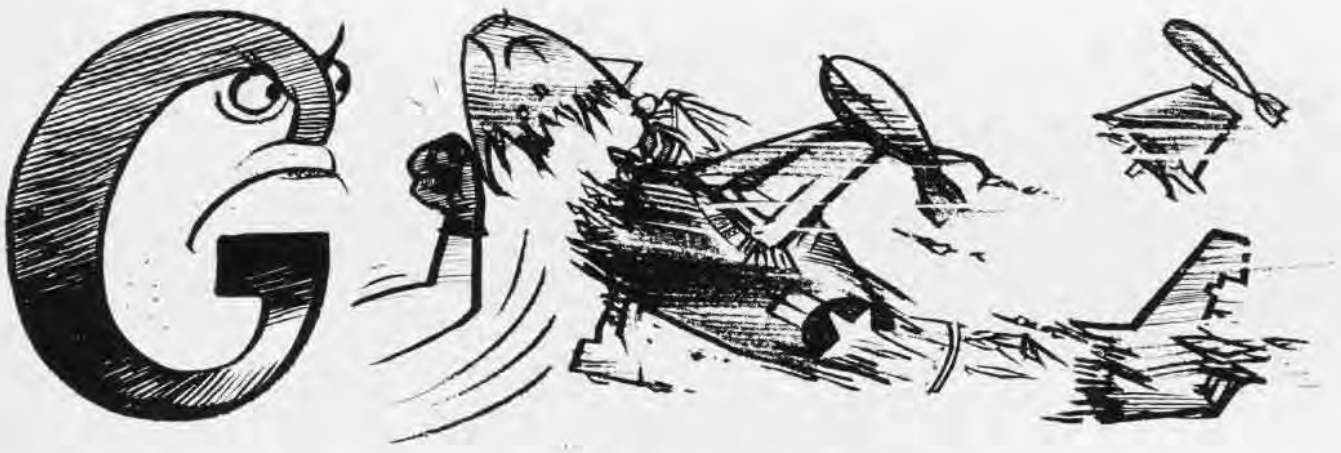
The device uses a magnetic compass and a relative bearing circle mounted on a miniature airplane to give a constant



LT. LESLIE WITH DIRECTION FINDING DEVICE

indication of the aircraft heading and the relative bearing of the radio station in relation to the aircraft at all times. It also has a field model and approach path on a movable disc which can be totalled through 360° of azimuth to portray any desired approach plan. A third feature is a QDM (inbound bearing) marker painted on a movable disc which also can be moved through 360° of azimuth.

The present model is 36" square and can be used for classroom or preflight instructional work for as many as 10 students at one time. It can be made at low cost by any O&R department.



'G' PACKS WICKED WALLOP!

NOT LONG ago the flight surgeon attached to the Staff of the Chief of Naval Operations was reading an aircraft accident report which was being routed from desk to desk in the Navy Department.

Half way through the report, he looked up and said, "I wish that every pilot in the Navy had to read this report from start to finish. Just look at these pictures."

The pictures were grim. All the shots were taken in a residential area not far from the heart of Los Angeles. In the background of each picture there were houses and crowds of spectators—in the foreground some portion of an FJ-1 which had literally been pulled to pieces in the air. The wreckage was scattered over an area of several city blocks, but fortunately most of the larger pieces landed in the streets rather than going through roof tops of nearby houses.

The pilot of the FJ-1 was a LTJG in the Organized Reserve with a total of 895 hours of flight time, of which only 4 hours were in jet type aircraft.

From statements of witnesses and from a careful examination of the widespread wreckage, the Aircraft Accident Board was able to construct the following analysis:

At an estimated air speed of 490-550 knots, at or near full power, the pilot started a recovery from a shallow glide. In the course of this recovery and while at about 3500 feet, the aircraft was subjected to a "G" load in excess of the prescribed limit. The right wing failed at the wing root fittings tearing upward and free of the fuselage, and falling in three sections. Immediately thereafter the tail section tore loose, carrying away the after part of the fuselage.

An immediate side load was exerted on the canopy tearing it loose and shattering the canopy glass. A section of the top of the fuselage including the power canopy actuating cylinder also tore free.

The pilot's helmet and oxygen mask were torn off with sufficient force to break the straps which held the mask to the helmet. Shredded parts of the rear section of the fuselage fell free.

The sequence of events to this point was an almost instantaneous chain reaction of disintegration.

Fuel cells or lines were ruptured, and the fuel was ignited by some portion of the electrical system, resulting in a violent explosion to the remainder of the aircraft.

The pilot's body was found about twenty feet forward of the nose section debris and was not burned. The parachute was still buckled on the body, with the parachute canopy streamed and burned. The risers were still in the parachute case and were unburned; the rip cord handle was only slightly displaced. The safety belt was open, but intact, with the left side almost burned through. Both shoulder straps were partially shredded along the front, and had torn free just behind the pilot's shoulders.

YES, BUT NOT AT 550 KNOTS!

The accident board was of the opinion that the pilot was knocked out or dazed when the canopy was torn off and therefore could make no effort to bail out.

Were this an isolated instance, there would be little point in publishing the fatal results, but such is not the case. In the past two years there have been a dozen similar accidents involving the F8F-2, FJ-1, F4U-5, AM-1, AD-2, F2H-1, F6F-5, and even an SNJ-5.

This accident is unique only in that the maneuvers which preceded the crash did not appear to be exceptionally violent. The pilot probably did not *feel* that he was exerting too much pressure as he started to pull out of his glide, and certainly had no reason to worry about having sufficient altitude for an easy recovery. The thing that he apparently failed to consider was his speed. He was at or beyond the permissible speed limit for the plane before he started his recovery.

It's worth remembering that most accidents involving structural disintegration occur at low altitudes where the increased density of the air permits easy attainment of high stress loads. The pilots are seldom available for statements or interviews by the Accident Board.

If *YOU* fly a high performance aircraft, and particularly if you are getting ready to engage in dive bombing, strafing, or rocket firing, it will pay you to brush up on the stress and speed limits for your particular plane as outlined in the Pilot's Handbook and in the appropriate BUAER Technical Order.

MARINE TRANSPORTS BUSY

MCAS CHERRY POINT—"Anything! Anywhere! Anytime!" might be a fitting motto for VMF-252 and 153, couple of busy transport squadrons based here.

One of their recent jobs was to transport a damaged F9F from Nassau, Bahama islands, to O&R in Norfolk. LCol. G. W. Nevils of VMR-252 picked up the disassembled airplane in a R4Q.

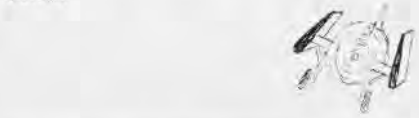
Shortly afterward a patrol squadron at Trinidad wanted a refueling truck. A bucket brigade was the only way to refuel its planes, and with patrol planes, that ain't easy.

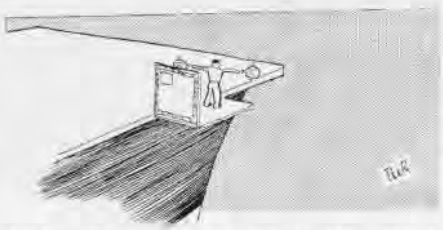
Surface craft seemed the only logical way to transport the bulky fuel truck. But VMR-252 was called in to do the job. Pre-loading figuring determined two *Packets* would be necessary to deliver the huge truck and all of its accessories, so VMR-153 was called in.

LCol. Nevils and Maj. R. L. Conrad flew to Norfolk, Conrad in an R5C. Stripped of tires and accessories, the 2,000-gallon truck was loaded aboard the *Packet*. The *Commando* carried the rest. Three days and 13½ flying hours later the truck was delivered to Trinidad.

The next morning the two transports winged westward from the land of the Calypso, where incidentally, a scotch and soda cost only 17¢. After refueling in Panama, Guatamala was the next rendezvous point. Thanks to good visibility, the crews got good views of many volcanoes and lava fields en route.

A couple of days later they flew to scenic Mexico City. As they approached the city, crews were awestruck by the scenic beauty. Situated 7,347 feet above sea level, the city is surrounded by snow-capped peaks 18,000 feet high. In the city itself, the Marines were surprised to find the American dollar went a long way. A first-class hotel room cost $2.50.





QUICK, JOE, WHAT'S THE SIGNAL FOR 'SPREAD WINGS'?

Speedy Cargo Plane Slated

Convair R3Y Will Have 350 Mph Speed

The Navy is procuring six pressurized cargo versions of the high speed patrol seaplane, the XP5Y-1, and will call the new plane the R3Y.

Since it is powered by four Allison T-40 gas turbine (jet) engines, the R3Y will be pressurized so that it can take advantage of the jet's better economy at higher altitudes. It will fly better than 350 mph and has a gross weight of 80 tons. First deliveries are expected in 1952.

The cargo version will look the same as the patrol plane, which has a length-beam ratio almost double that of previous conventional flying boats. Consolidated Vultee has been building flying boats for the Navy for some time, turning out 3,000 PBY's and nearly 250 PB2Y *Coronados* during the war.

THIS SKYRAIDER *at Air Power Day at the Los Angeles International Airport might well be said to be well armed, packing a load of 12 HVAR rockets, two 11.75" Tiny Tims and a built-in pixie in the person of Virginia Martin, Miss Airport Day hostess, probably the only living human to go for a ride on a Tiny Tim. The Navy F3D also was in the air show.*

Jet Wing Folds at 510 mph

British Test Pilot Lands Plane at 230

Navy jet pilots will be interested in the experience of a British test pilot who had one of his wings fold while he was doing 510 mph in a jet *Attacker* at 800 feet altitude—and landed it safely.

The test pilot for Vickers-Armstrong Ltd., was testing the first production *Attacker*, a number of which had been ordered by the Royal Navy. Making a fast run across the airfield he heard a bang. Looking to his right he saw the outer section of the folding wing, a piece 3' 8" in span, had folded in the air and was standing vertical.

Aileron control was gone because when the *Attacker* wings are folded the ailerons lock in neutral. By using his rudder he kept the plane level and controlled it directionally to a limited extent. He made a wide circuit and began his final run in at 265 mph.

He touched down at 230, twice the normal landing speed of the *Attacker*. By juggling the brakes and elevator he kept the plane on the ground and finally stopped only 10 yards short of the end of the 5400-foot runway. Only damage was a burst tire.

The pilot, Leslie Robert Colquhoun war awarded the George Medal for this feat, one of the highest in Britain, given only to civilians.

Jet Fighter Tows Targets

VF-171 Claims 'First' Jet Tow Plane

VF-171, ATLANTIC—A "first" in jet operations was racked up by this squadron when it launched an F2H-2 from the CVB *Coral Sea* with a tow target.

Although he carried a full combat load of ammunition and fuel, the pilot reported no difficulties from the catapulting. It is believed this was the first time a carrier-based jet has been used as a tow plane.

A fast tow airplane capable of taking a tow from a carrier deck to high altitudes at respectable speeds is necessary for training jet pilots in gunnery. Chief Aviation Ordnanceman R. C. Clark developed the new tow release mechanism that enables the Banshee to act as a tow plane.

Simple in its operation, the tow release mechanism used on the F4U-5 was put on the tail hook of the F2H-2. The tow line was secured to a pin extending from the fuselage. The pin was fitted inside the tow release mechanism when the tail hook is in the "up" position. When the pilot desires to release his tow he merely drops his tail hook.

It is felt that this new training aid will contribute immensely to pilot gunnery proficiency during extended cruises.

FIVE P4M'S OF VP-21 BANK GENTLY OVER THE SOUTHERN MARYLAND COUNRYSIDE; CREW OF NINE OPERATES EACH PLANE ON VARIED MISSIONS

P4M's JOIN VP-21 SQUADRON

MARTIN P4M-1 *Mercators*, the Navy's newest operational patrol planes, are now flying in Patrol Squadron 21, based at the Naval Air Test Center, Patuxent River, Md. In size, the P4M is in the class next above the P2V *Neptune*.

Its power plant setup is unique. It appears to be a twin engined plane but in reality has four of them—two R-4360 reciprocating engines and two J-33 jet engines.

Takeoff is usually made with all four engines, but the two *Wasp Majors* can do the job alone easily. In emergency one of them can complete a takeoff. Long range cruise at low altitudes is done with the R-4360's alone, while all four are turned on for high speed photo runs at 30,000 feet.

Armament can be varied according to the mission. The bomb bay can carry 12,000 pounds of mines, bombs, rockets or droppable gas ttanks. Crew comfort is aided by soundproofing. Wing span is 114 feet; length 86 feet 2½ inches. Number of crewmen on most missions is nine.

VP-21 PLANES SIT ON RAMP AT NAVAL AIR TEST CENTER, PATUXENT RIVER

P4M HAS TRICYCLE LANDING GEAR, MUCH ELECTRONIC, RADIO EQUIPMENT

HOFFMAN, RUSSELL, HELFER, HANTGAN, JAMES, BRIDGEMAN, CHECK GEAR

WHAT APPEARS TO BE A MAD SCRAMBLE IN PLACING F2H-2N BANSHEE IN CATAPULT GEAR IS FAST TEAMWORK BY HIGHLY TRAINED CREW MEMBERS

THESE MEN KEEP 'EM IN THE AIR

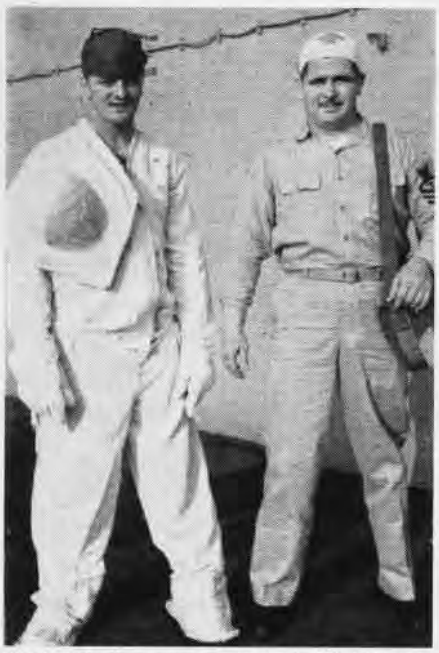
FOR EVERY pilot and plane aboard an aircraft carrier there are a dozen men who, doing their assigned tasks, help make operations click with precision. For instance, all catapult and arresting gear jobs are held down by Aviation Boatswain's Mates and strikers for that rate. Both aviation and general service ratings blend into a smooth combination to make seagoing air stations efficient fighting units. Pictured here are a few who perform their tasks aboard the battle carrier U.S.S. *Franklin D. Roosevelt.* With an air group aboard, this type ship is home and work for about 2,800 men.

AEROGRAPHER'S MATES are highly trained; here V. L. Zirpoli, AG3, and M. B. Chandler, AG1, prepare to make sounding of upper air.

AS A PLANE CAPTAIN, T. E. Lusby, ADAN, is justly proud of his F9F-2 *Panther* jet which he keeps in top shape for Pilot Eelis.

BASHFUL ONLY for the camera are deck crewmen McLure, AA, Scramlin, AN, Stine, AN, and Modzelewski, AN; all in V-1 division.

KEY MEN for Landing Signal Officer are Ward, AD1, hook and gear spotter, Crouse, AN, LSO talker and Brink, AN, clear deck spotter.



HOT PAPA fire rescue man is R. W. Warren, AN; Medic for first aid is Mitchell, HMC.

AIR OFFICER Cdr. Jackson (r.) has Hamil, SN, as talker; LCdr. Christensen assists.

IN BOWELS of ship catapult is operated by McLemore, AB2; talker is N. L. McLain, AN.

THOSE FAST moving plane pushers work in teams like that above; J. Zelum, AB2, is noted as quarterback—no laggards in his team.

MAINTENANCE MEN of VC-4 work on starter circuit of F2H-2N; R. J. Lang, AE3, W. J. Bowen, AEC and C. B. Noel, AD1, plane captain.

Reserves Help On Home Front

BACK ON ACTIVE duty—VP-661'ers Burger, Potter, Koenigsberg, Seward, Lepper, Myers, Master, Carrion (rear) Muessen, Bowen, Temple, Welch, Forman (front) plot course

BESIDES racking up a record for availability on the active-duty-with-the-Fleet front, Naval Air Reserves wound up 1950 in a flurry of activity on the home front, putting out blazes, rescuing flood victims and otherwise doing their usual job of aiding in local emergencies.

At NAS WILLOW GROVE, six Reservists, led by Lt. David Ascher, evacuated several families marooned in the Neshaminy Creek area by a fierce storm.

Swirling, debris-laden waters and swift currents made handling their two seven-man rafts hazardous at best. In one case it was impossible to row up to a home already flooded with three feet of water, so the men managed to cast a rope to the house. Then, holding onto the line and wading through water up to their chests, they towed the rafts behind them. After reaching the dwelling, they loaded the evacuees into boats and towed them back to dry land.

Not satisfied with rescuing the seven members of this family, the Reserves then struggled through the water to other buildings in the area to make sure that all residents had been taken out.

Willow Groveites who volunteered for this job in response to a request for boats and equipment from the local fire department were: J. W. Davis ADC, J. J. Horan ADC, J. P. Hatton AD2, E. McCrea AD2, E. McGovern AD3, V. DiBlasio AN and R. Erwin AF2.

Out in Denver, 40 Navy and Marine Reservists immediately volunteered to help when the naval air station received a call for men to combat a forest fire raging in the nearby mountains.

It took them nearly two hours to reach the foot of the mountains by bus. Then they had to make a stiff two-hour climb on foot up the mountainside in inky darkness. Upon reaching the top, they found the area well lighted by burning tree trunks left in the main wake of the fire. And nearby they could see raging flames where the fire was at its height.

Shouldering their axes, shovels and fire extinguishers they went to work to clear their assigned section of any blazes. By midnight they had the situation under control, but constant patrolling was necessary to extinguish small fires which continued to flare up. It was so cold that they had to light bonfires to keep warm and had to work on half hour shifts. Nevertheless, they kept steadily at the job until 0730 the next morning when another group took over. Some 20 hours after they started off, at 1230 to be exact, they arrived back at the station, black-faced and red-eyed from loss of sleep but ready to start out again if they were needed later.

Reservists from NAF SALEM, Oregon and from NAS NIAGARA FALLS also helped fight local fires. At Salem six men managed to save a rural dwelling which was on fire when they arrived, making full use of the station's 2,000-gallon tanker which they brought along.

At Niagara Falls, when a fire broke out on a nearby farm, a crew from the naval air station rushed their fire fighting equipment to the scene and were able to prevent the fire from spreading. Their efforts were acclaimed by press and radio as an outstanding example of NAS integration with the community.

COMMUNITY relations were boosted in Florida, when NARTU JACKSONVILLE offered its hangar as a temporary haven to a fixed base operator who had lost his hangars and six private aircraft in the first October hurricane. Smog conditions made it impossible for him to fly out his remaining planes before the second big blow, but he was able to get them safely to the NARTU hangars 15 miles away, where Reserve stationkeepers helped store them.

Interservice cooperation shared the picture with community assistance. Here a story from NAS DALLAS furnishes a typical example.

At 2240 one night, Bobby R. Umphress AL2, duty tower operator, intercepted a distress call over the radio from an AT-6 pilot who was lost and low on fuel. Umphress immediately switched on the VHF DF gear and asked the pilot to steer a course of 300 degrees, which he did. During the next eight minutes, Umphress kept in touch with the plane and finally brought it safely in at Hensley Field with only five minutes of fuel remaining in the tanks.

Marines showed the same spirit of helpfulness. At NAS OLATHE, members of the Marine Air Detachment recently volunteered 100% to repay 36 pints of blood to a hospital blood-bank. The blood had been taken to save the life of the mother of a fellow Marine, T/Sgt. Paul Emil Miester, Jr., who had met his death last September in Korea while serving with a bomb-disposal unit.

These, of course, are only a few of many instances where Naval and Marine Air Reserves have aided in local emergencies, but they indicate that Reserves are ready to do a job for the community as well as against the enemy.

Instrument Flying Stepped Up

To insure the highest degree of combat-readiness in case of their recall to active duty, Naval Air Reserve squadrons throughout the country have stepped up their instrument and night flying training. In the first three months of fiscal 1951, they flew no less than 33,911.6 instrument hours.

Take VF-038(AW) at NAS WILLOW GROVE as a typical example. Flights under actual IFR conditions are con-

J. LEONARD of Special Devices watches Clague and Miller operate one of the seven F8F-1 trainers now in use at Reserve stations

NAS WILLOW Grove's Davis, Hatton, Mac Crea and a civilian helper assist one member of the marooned family into the rescue life raft

ducted regularly with eight sections being launched on IFR flight plans during a typical month. Landings under GCA control have been made at all-weather air stations. Night intercepts, utilizing GCI and GCA to permit the simultaneous conduct of three problems, continue with increasingly better results. As of 1 November, four divisions held standard instrument ratings.

Night stacks command top priority at NAS DALLAS. Nine fighter pilots in VF-706 recently pulled a successful one in their single-engine planes. Hensley tower, acting as approach control, designated the holding point and controlled the descent of all the *Corsairs* until they reached the 2000′ level. Then GCA took over and controlled the two planes in the approach pattern making low approaches. The average time was three minutes per plane.

VP-701 of Dallas also had a good workout conducting a night stack controlled by Dallas approach control. The PV's alternated their approaches between a fan marker approach to the municipal field and a GCA approach to Hensley.

The intensive instrument training program underway at NAS OLATHE is keeping all departments on their toes. Aircraft maintenance is busy readying more planes for instrument flying; the Link section is getting a larger percent of Link utilization each weekend; and the operations department is handling more takeoffs and landings.

Olathe Honors Sixteen Aviators

The officers and men of the NAS OLATHE took the ninth anniversary of Pearl Harbor Day as the occasion to perpetuate the memories of Naval and Marine pilots from the Midwest by renaming the station streets in their honor.

Kansas Governor Frank L. Hagaman delivered the principal speech, after an invocation by Bishop Edwin V. O'Hara of the diocese of Kansas City.

Sixteen naval aviators, killed in the service of their country, were the honorees—beginning with Commodore Dixie Kiefer, former commanding officer of the naval air station, and coming down to Ensign Tommy Lee Burgess, who is presumed dead as the result of the Baltic incident earlier this year when his unarmed Navy plane was shot down by the Russians.

Included in the group were Cdr. William Bowen Ault, LCdr. Lilburn Adkin Edmonston, LCdr. Frederick Charles Tothill, Lt. Kelly Curtis Sandy, Lt. (jg) Thomas Tade Simpson, Lt. (jg) Brengle W. Starmer, Jr., Lt. (jg) Frederick C. Evans, Lt. (jg) Walter Douglas Bishop, 1st Lt. Otto Anthony Mittelstadt, 1st Lt. James W. Robbins, Ens. Don Willard Roberds, Ens. William R. Bell, Ens. Samuel Donald Coulter and Ens. James Gerald Renfrow.

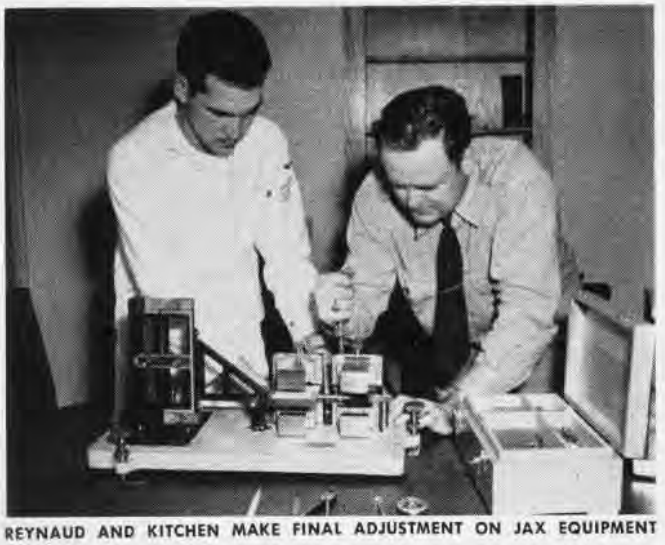
Families of 13 of the honorees were present as well as representatives of both Kansas and Missouri departments of the American Legion and VFW.

The ceremony was followed by an aerial salute performed by planes of the base. Later each family, escorted by a station officer, visited the street named after their son or husband, where their picture was taken for the record.

GREENFIELD contingent of AVUA-3—Volunteer pilots Morell, Hanley, Greene, Strange and Vitalis drive 35 miles to drill

FOREST FIRE in the Rockies—NAS Denver's E. Greenwood took this picture from an SNJ shortly before the SOS was received

THE EARTH GIVES WARNING



REYNAUD AND KITCHEN MAKE FINAL ADJUSTMENT ON JAX EQUIPMENT

CAPT. DAY AND MR. ANDERSON, METEOROLOGIST, INSPECT SEISMOGRAPH

ESTABLISHMENT of microseismic stations at Jacksonville and Cherry Point recently is part of an experimental program set up some years ago whereby hurricanes, once the sudden foe of ships and coastal areas, lose some of their dangerous quality of surprise. The weather specialists of the Navy, the Air Force, and the Weather Bureau have for many years been able to track tropical storms from the air. The Navy has also established a landbased system of detection in an attempt to trace a storm from less hazardous vantage points.

The chief advantage of the microseismic method is that it indicates a storm is rising when there may be no ship or aircraft travelling through the disturbed area. The earth gives its warning when there is no other immediate reporter.

Until sensitive instruments were developed which would record tropical storms, the knowledge of the existence of a storm depended on the chance that some one passed through it. It was not long ago that it was generally thought that there were no more than a half dozen typhoons in the Pacific annually. Then with the tremendous network of ships that World War II provided, it was discovered that some two dozen storms occurred each year. Until then there had simply been no observers of most of these tropical storms as they went through their cyclic rage in the far reaches of the Pacific. The use of seismographs gives us knowledge of storms that we might otherwise never know existed.

It was back in 1943 that the Navy determined to try the microseismic approach to hurricane tracking. Seismographs had long been used to detect earthquakes and determine their location. But even when there was no earthquake, small earth tremors—microseisms is a harder word for the same phenomena—were continuously recorded. Often these microseisms increased in size, yet the increase was not large enough to indicate an earthquake. Perhaps these tremors indicated a tropical storm. In order to determine whether this was true and inaugurate another system of spotting tropical storms early, the Microseismic Research Projects was established in January 1944.

Various locations for microseismic equipment were tried, of which some proved unsuitable, but by 1950 there were a total of 11 stations in the Pacific and western Atlantic. Single horizontal component seismographs are located at NAS ROOSEVELT ROADS, NOB GUANTANAMO BAY, and Truk. Tri-partite stations are located at NAS BERMUDA; Navy Hurricane Weather Central, Miami; U. S. Weather Bureau, Swan Island; NAAS WHITING FIELD; MCAS CHERRY POINT; NAS JACKSONVILLE, FWC GUAM; and Koror.

KITCHEN SHOWS HOW TO FIX MIAMI RECORDER

AT TRI-PARTITE stations, the instruments consist of three highly sensitive seismographs which are sealed to withstand moisture and placed on concrete foundations 2500 feet apart. Since the three seismographs are separated, a disturbance reaches each of them at a different time. These differences in time —only a split second—yield data from which a bearing may be found. These data are then sent to the designated weather central where, in the light of similar reports from other stations, they are used in an attempt to "fix" the storm.

Only the tri-partite station can give any indication of bearing data. In 1948 there were only two such stations, but in 1949 practically all the stations were operating the triple system.

But single stations also have their use. Any sudden increase in microseismic intensity may indicate the presence of a tropical storm. Then on the basis of experience in and knowledge of the particular area, it is sometimes possible to determine the location of the storm from the rate at which the intensity changes.

No sooner had the Microseismic Research Project been established than it began to show promise. The first microseismic station, established in Cuba in 1944, detected the existence of tropical storms more than 500 miles away. Two days before the October storm was discovered and before it gained full hurricane force, the microseisms doubled in size and later reached a high of more than 40 mm. As the storm approached and passed over the western end of Cuba,

LIGHT SOURCES FOR RECORDING TRACES IS CHECKED AGAIN BY REYNAUD

ADJUSTMENT IS BEING MADE TO GALVANOMETER IN RECORDING VAULT

the microseisms fell sharply to 27 mm. and then increased slightly when the storm was over water between Cuba and Florida. However, by the time the storm reached Jacksonville, it had lost part of its force, and the microseisms at Guantanamo were almost normal again. The seismograph had apparently indicated changes in storm intensity, the distance of the storm from the microseismic station, and the surface over which the storm was travelling.

IN THE Pacific, the microseismic method has likewise been used. A typhoon passing south of Manila caused a microseismic "storm" that increased from 9 to 65 mm. at that station with a smaller increase at Okinawa over a three day period. At a later date, when the storm was at least 600 miles from Okinawa and Manila and about 900 miles from Guam, it was severe enough to cause microseisms larger than 100 mm. at all three stations.

The effective operating range of the stations varies greatly. It depends chiefly upon the barriers between the storm area and the station. A few stations such as Guam and Manila have ranges exceeding 1,000 miles. A station may have a long range in one direction, a short range in another.

The ranges are greater in the Pacific than in the Caribbean where there is apparently some microseismic barrier. This area has a very complex geological structure.

Dramatic as the progress in microseismic research is, weather reconnaissance pilots are not likely to be retired to armchair status, displaced by the sensitive "ear" of the seismograph. Even when some of the problems are solved, the eyewitness will still be needed.

Here are some of the problems still to be solved. There is no accepted explanation of how or where the microseisms are generated. Weather analysts cannot, therefore, be sure of just what they are getting a bearing on. What part of the storm are they seeing on the seismograph?

Then any picture of the storm may be masked by other microseismic disturbances. The seismograph, in effect, suffers from jamming and the record is blurred. Clearcut interpretation under these circumstances is sometimes impossible.

Another problem arises from the fact that microseisms are transmitted through the earth, and major geological faults may act as barriers to transmission. This means that the effective operating range of stations varies greatly.

APPARENTLY the microseismic disturbance is produced only by some effect of the storm on water. Once the storm passes over land or shallow water, the microseisms fall off. This gives a false picture if the storm over land is increasing in tempo and force.

But even with these limitations, the advantage of having a system that may detect a storm early in its cycle is tremendous. Even if the technique is perfected so that it is possible to have accurate information concerning the position, course and intensity of the storm, early warning will still be the outstanding advantage of the microseismic method over other methods of detection.

A 'TRACE' RECORDS NORMAL EARTH TREMORS ON PHOTOGRAPHIC PAPER

DAMPING MECHANISM ON SEISMOMETER IS ADJUSTED BY LT. (JG) ROUSH

New British Aircraft Carrier

ARK ROYAL AFTER LAUNCHING AND BEFORE ISLAND WAS INSTALLED, DIFFERS WIDELY FROM OURS

Ed. Note: The newest British aircraft carrier, the *Ark Royal*, recently was launched by Her Majesty the Queen, with the *Eagle* to be in service next year. The following excerpts describing the *Ark Royal* class from the *School of Naval Warfare News*, published by the Royal Navy, will be of interest to U. S. naval pilots.

The *Ark Royal* class, according to Janes Fighting Ships, is 803 feet long, compared to 888 for our *Essex*-class. It displaces 36,800 tons, to 33,000 for the *Essex*. Extreme width is 135 feet, compared to 147.

THE FIRST thing the flyer will note on arriving on board is the vast size of her flight deck compared to any he's landed on before. It is almost straight sided, no cut aways for guns or directors but narrowing slightly at bow and stern. Nothing like as much as the older ships but the sides are not dead straight. That would mean large over-hangs forward and aft, a weakness in any ship and there is no weakness about the *Eagle*.

There are no obstructions on deck to hinder ranging aircraft, and there are walkways along the sides so that men who have to get at aircraft aft in a range can go there in safety.

The flyer will not see the arresting wires till he's just arriving and then he'll get confidence because there are 16 of them. Before them are six barriers. not all to be used at once but spaced out in pairs so that different types of barriers for twin-engined, jet and single piston-engined aircraft can be made quickly available if there is a mixed air group.

Up forward are the two flush-fitting catapults with their press button operating positions rising out of the deck amidships. The catapults are equipped with roller positioners, forward tensioning, automatic hold back engagement and all the latest devices to make it easy to achieve the high rate of launching we've all been striving for, for so long.

What about the lifts? (elevators) No side lifts. The problem of fitting a side lift to an armoured box carrier had not been solved in time for *Eagle*, mores the pity. But the two centre line lifts are notable all the same, particularly the forward one which will take two folded fighters at once with ease. They do up and down faster than any of our previous lifts and don't sag when an aircraft, even a heavy one, lands or runs onto them.

And so down to the hangars. There are two of them, higher than in the old fleet carriers. The lower hangar is unfortunately slightly obstructed on the starboard side by the bottom of the funnel uptakes, but the smoke has got to leave the boilers somehow.

One of the hangars has a forward extension so that one or two aircraft can be repaired without interfering with ranging the rest. Hangar equipment in general shows the stead improvement that has been going on for years. One big advance is in petrol supply. Hoses are stowed on reels, there are special micronic filters and the rate of fueling is much faster than ever before. This latter has meant much larger petrol mains and more powerful pumps.

The armorers will have to look smart on this ship if they hope to rearm the fighters before refuelling is finished. There are, of course, more main petrol pipes in the hangars than usual as jet fuel has to be catered for as well as petrol.

The ship is designed to operate aircraft up to 30,000 pounds weight, landing and taking off at up to 105 knots air speed in no natural wind conditions.

Sighting Flying Discs Again?

USS GARDINERS BAY—While steaming up the channel from Inchon, Korea, two mysterious missiles trailing long white smoke trails in the sky struck the water at great speed off the ship's port bow.

Two huge columns of water rose to about 100 feet in height at the point of contact. No aircraft could be sighted by radar or visually overhead although the ceiling was unlimited. Identification of the missiles remains a great mystery.

WEARING DRESS *blues in the combat zone is not especially uniform of the day, but VF-53 took time out from fighting the Korean war to have its picture taken. After it got into the fray on 3 July, the 16 pilots flew 690 strike missions, dropped 238 tons of bombs, fired 2481 5" rockets and 195,250 rounds of 20 mm cannon shells. Front row, left to right: Lt. (jg) C. B. Darrow, Lt. C. E. Smith, Ens. E. L. Franz, LCdr. J. M. Murphy, exec.; LCdr. W. R. Pittman, C.O.; Ens. A. J. Frainier, Ens. J. Abbott, Lt. (jg) E. H. Albright. Back row: Ens. H. C. Kuhlman, Ens. R. W. Robinson, Ens. E. V. Laney, Lt. (jg) R. E. Downs, Lt. A. A. Smith. Holding squadron insignia are W. P. Haskin, AM3, and P. F. Hastings, AD3.*

GOING, GOING, GONE—NO SCRATCH

As Ens. William F. Rau made a pass at the USS Leyte after returning from a strike mission over Korea he got a waveoff from the LSO. As he jammed the throttle forward, nothing happened.

"I had to pull off to the left and then the right," he said. "There was nothing left to do but crash in the sea."

In this series of photographs he is shown pulling to the right, then heading down into the water in a spectacular mountain of spray.

Immediately the guard helicopter headed for the spot as the ship made an emergency turn to port. Pinwheel pilot Lt. Al Monahan picked Rau out of the ocean and had him back aboard in a total of four minutes. Rau had plenty of time to crawl out on the wing. For all his experience all he got was wet.

ADMIRAL STARK AWARDED MEDALS AT A SPECIAL CEREMONY IN LONDON

MUCKENTHALER AND KRAUSE PLAY INSTRUMENTS; OTHERS, ACEY DEUCEY

LIBERATORS OVER BISCAY

THE BEGINNING of Bombing Squadron 103 was definitely not a study in slow motion. Commissioned 15 March 1943 at San Diego, California, the squadron less than seven weeks later was on escort duty and anti-submarine patrols in the Atlantic. Under the command of LCdr. W. T. Easton, VB-103 flew its *Liberators* from Argentia, Newfoundland, for the next three months to complete 268 missions and over 2,000 hours of flying time.

Unfortunately—this word is used by the squadron's own historian to describe a situation which, while it was a tribute to Allied air-seapower, was under the circumstances frustrating to bombing warriors—the U-boats had moved out of the area, and only one attack was made by Lt. (jg) Stanley Thueson.

This fight on 12 August between the PB4Y-1 and the U-boat lasted for more than 20 minutes. At that point, the U-boat submerged and a second attack was made, Cominch later assessing it as "probably slightly damaged."

On 15 August, VB-103's trans-Atlantic career was extended when its 13 aircraft—despite the fateful number, every *Liberator* made a happy landing—set out for St. Eval in Cornwall, England. Upon arrival, LCdr. G. W. von Bracht became the skipper. For the next 22 months, VB-103 pilots and crews were to work with the Coastal Command, chiefly in the Bay of Biscay, thereby winning the Navy Unit Citation.

From 30 August to 24 September, they operated from St. Eval, and the initiation was rugged. On 2 September, Lt. K. W. Wickstrom's plane failed to return, and on the 4th, Lt. Jim Alexander had to ditch his flaming plane after a fight with six JU-88's. But before he ditched, Alexander's gunners shot down one enemy plane and damaged two others. The crew took to the life raft and reached land 36 hours later.

JU-88's were out in strong formations over the Bay of Biscay to protect the U-boats which were based at French ports to conduct their deadly prowls. On 18 September Lt. (jg) W. B. Krause was attacked by eight JU-88's and came through a 15-minute scrap unscathed after he had damaged three of them.

Toward the end of September, the squadron moved to the RAF station at Dunkeswell, Devon, later to become a Naval Air Facility, and continued the Biscay beat.

On 10 November, Lt. (jg) K. L. Wright straddled a U-boat with five depth charges. The U-boat hit back with flak, but this did not halt Wright's drive. He strafed the sub until it settled by the stern and trailed oil. Three other aircraft completed the kill, for which Wright's crew was allotted 40% of the credit.

Another battle between a U-boat and a *Liberator* is shrouded in the dark night of 12 November. After Lt. (jg) Ralph Brownell gave a flash report of contact, no more was heard. Two oil slicks five miles apart—one large, one small—discovered the next day suggested the course of battle. It was presumed that Brownell attacked and sank the submarine just as he and his crew were shot down. British Intelligence listed the U-boat as "probably sunk."

The last week in December was an all-out effort against enemy surface ships in which VB-103, VB-105 and VB-110 participated. An enemy blockade runner escorted by eight destroyers and three minesweepers was spotted on the 24th.

By attacking and shadowing, the Coastal Command forces continued to harass the enemy convoy, directing surface forces to the attack. As a result of combined operations, one valuable enemy blockade runners and three destroyers were destroyed on 27-28 December. British surface forces reported that their success was due to the consistent accuracy of the positions given.

On 20 January 1944, Lt. C. F. Willis ran into a hail of flak from what proved to be a British vessel that was anything but friendly. Willis' warm reception put his No. 2 engine and the hydraulic system out of commission. The crew members aft were knocked out by the gas fumes and had to be carried forward. Unable to find a lighted airfield on nearby Ireland, Willis went on to Wales and landed at St. Davids. One wheel was lowered by manual crank, but the other couldn't be budged. Willis managed a perfect one-wheel landing to bring his *Liberator* safely in.

EIGHT DAYS later Lt. G. A. Enloe attacked a surfaced U-boat, dropping six depth charges which stradled the submarine. It settled by the stern and disappeared from sight a few minutes later. The conservative assessment was "probably sunk."

February signalled the re-appearance of JU-88's in the Bay of Biscay. On the 14th, Lt. (jg) Wright, patrolling above the cloud base, was suddenly attacked by two German aircraft. The leader of the enemy planes was damaged, and the PB4Y-1, hit again and again, had one of its engines knocked out. The pilot escaped into cloud cover and set a course for base, but was forced to ditch the aircraft when another engine cut out.

Except the two radio men who failed

to escape from the plane, all the crew succeeded in boarding the two dinghies. Another crew member died shortly afterwards from internal injuries. The eight survivors were picked up the next day by a British air-sea rescue launch.

From February through May, there were six attacks on submerged submarines (negative assessments), and one attack on a surfaced U-boat (probably slightly damaged).

D-Day marked a decided change in the Coastal Command's method of operations. In support of the invasion fleet, patrols were used to cork up the southern entrance to the English Channel. Aircraft patrolled the area at regular 30-minute intervals, and the number of the sorties for the squadron was increased to seven a day.

Enemy aircraft knowing full well that discretion had become the better part of valor wisely elected not to put in an appearance in the face of Allied fighter superiority. On 8 June, Lt. Philip R. Anderson had, however, a brief encounter with an FW-200 and made hits on it.

THE SQUADRON'S PATSU did such an outstanding job over the early invasion period that not once did a mission have to be cancelled because of non-availability of planes.

On 8 July, Cdr. Warren J. Bettens relieved LCdr. von Bracht as C.O. of the squadron.

The submarines finding the going too hot in the Channel were forced to curtail their activities there. More patrols were furnished the Biscay area, and two attacks were made on submerged U-boats during August.

Allied victories in France having denied the Germans the use of their old submarine bases, patrols became completely negative. Threat of attack by enemy aircraft also became a thing of the past. Shortly after, the aircraft of

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

VB-103 was put on convoy escort duty.

In the Atlantic, there still lurked schnorkel-geared threats to shipping. Now designated as VPB-103, the squadron continued to operate out of Dunkeswell to guard the southwest approaches to the English Channel.

Sonobuoys were dropped on 16 disappearing radar contacts during the last three months of 1944. 1945 opened with a bang on New Year's Day, Lt. Dwight D. Nott sighted a small compact quantity of bluish white smoke above the surface of the water. The sonobuoy pattern which Nott laid gave positive results, and four frigates were homed to the area. They confirmed the presence of a submarine and made two attacks which unfortunately proved unsuccessful. But the incident had proved that the menace was there. There was still a task to be done.

Weather cancelled 50 missions in February. The coldest weather recorded in Devon in 75 years hit operations hard. There were three feet of snow for about two weeks, and for four days no planes took off because of ice and snow.

On 23 February, Lt. Ostroski made an attack after investigating a surface disturbance. The sonobuoy log indicated that explosions were heard, but since there was no sonobuoy recorded in the plane, the effectiveness of the attack was doubted and the Admiralty in assessing the attack decided that there was "Insufficient evidence of the presence of a U-boat."

On 1 March, Lt. Gaines made an attack after investigating a suspicious oil slick. Again the lack of a sonobuoy recorder left the Admiralty unconvinced. Lt. Bozarth suffered from the same scepticism on the part of the Admiralty in regard to an attack on 8 March.

Just when the squadron was beginning to think that it may have been seeing ghosts and was never again to be in on a kill, Lt. Russell N. Field sank a U-boat south of the Scilly Isles on 11 March. The attack was fast, precise and deadly. Field straddled the submarine with depth charges. Forty survivors picked up from U-681 established the validity of Field's kill, and this time the Admiralty handed down an "A" assessment.

Lt. Field's success and the beautiful English weather in spring raised everyone's spirit, and the squadron took the top position for the month of March in all the Coastal Command's effort. One hundred and fourteen patrols were flown, averaging ten hours each.

IN APRIL, with the enemy really on the run in Europe, the Coastal Command called on the squadrons for extra alertness on patrol. The request bore fruit on the 25th when Lt. Nott sighted and attacked a schnorkeling submarine southwest of the Brest Peninsula. The schnorkel was seen to jump out of the water after the explosion, and a large oil slick appeared. Still grimmer evidence was a floating corpse. Excellent photographic coverage won from the Admiralty a "probably sunk" assessment.

This was the last contact with the enemy until after V-E Day when several flights were sent out on photo reconnaissance to take pictures of submarines which surrendered at sea. Security patrols were flown daily from V-E Day through 28 May.

The good news of a return to the United States came quickly, and the squadron boarded the USS *Unimak* at Bristol on 4 June. There would be 30 days leave, then two months of training before VPB-103 would be off to Japan. But this was not to be, and shortly after the Japanese surrender, the squadron was decommissioned in California, right in the place they'd started from.

AT ST. EVAL, MEN HAD TO WASH THEIR MESS KITS IN GREAT OUTDOORS

IN 1943, VB-103 GAVE CHRISTMAS PARTY FOR COMMUNITY CHILDREN

MOCKUP OF GONDOLA WHICH WILL SPIN SUBJECTS AROUND CENTRIFUGE

INTERIOR OF CENTRIFUGE SHOWS MOTOR MOUNTING, VIEWING 'TOWER'

NAVY AND PENN LAUNCH G RESEARCH

THE NAVY and University of Pennsylvania have announced a cooperative research program into flight forces on human beings, centering around the giant "human centrifuge" now being completed at Naval Air Development Center, Johnsville, Pa.

Harold E. Stassen, president of the University, and Capt. Seldon B. Spangler, commanding officer of the Center, signed an agreement whereby the University medical school and the Aviation Medical Acceleration Laboratory will work together in research.

Since the Marines and Navy developed dive bombing, the problem of blackout has been studied. Under the duress of war, centrifuges were built in the United States to find how many G's a pilot could take safely. Men were placed in spinning "capsules" and tests made to see how long they stayed conscious and able to fly a plane. These centrifuges were relatively small, varying in radius from 10 to 20 feet.

They accelerated slowly so that the G forces developed by these machines were not directly comparable to the forces which the dive bombers exerted on the pilot in a pullout. The knowledge of acceleration physiology was aided by these centrifuges, however, and present day G suits used by fighter and dive bomber pilots were developed on these machines.

Early in 1944 the Bureau of Aeronautics aviation medicine section drew up plans for a bigger centrifuge, four times larger than the one at Pensacola, capable of pulling up to 40 G's.

Specifications called for a centrifuge with a 50-foot arm, at the end of which was to be constructed a streamlined cockpit 10 feet in diameter in which the pilot-subject would ride. This arm and gondola, as it is called, were to be driven by an electric motor powerful enough to produce 40 G's at the gondola. For comparison, the "crack-the-whip" at a carnival develops about 2 G's. A suicidal maniac who jumps out of a seventh story window hits the ground with about a 40-G jolt. The gondola must be accelerated from four miles an hour to 180 mph in seven seconds.

The gondola also was to be designed to include facilities for decreasing the internal air pressure, to simulate air altitude of 60,000 feet and for varying the temperature range between 40° and 110° F. It was considered that these conditions would simulate those produced by any aircraft in high speed flight at any altitude up to 60,000 feet.

As can be seen, this minimum level of 40 G's is in excess of ordinary human tolerance. Human beings are able to take up to about 20 G in pilot ejection seats and are able to do better in prone positions. The high G level of the Johnsville centrifuge was built in to aid in testing rockets and aircraft components.

PRES. STASSEN SHAKES HANDS WITH CAPT. SPANGLER AT AGREEMENT

EXTERIOR VIEW OF CENTRIFUGE NOW BEING COMPLETED AT JOHNSVILLE

After deciding on basic requirements for the centrifuge, the next problem was where to put it. The building had to be placed in a soil with rock foundation so the Johnsville site was selected.

Capt. J. R. Poppen, MC, director of the Aviation Medical Acceleration Laboratory, and Dr. John McK Mitchell, dean of the University Medical School, will act in joint consultation in operating the research program. In the accompanying photograph showing the completion of the agreement, are shown the following, left to right, seated: Pres. Stassen and Capt. Spangler. Standing, Capt. Poppen, Dr. Mitchell, Cdr. Charles F. Gell, MC; Knox C. Black, RAdm. Herbert L. Pugh, deputy and assistant chief of BuMed; RAdm. B. Groesbeck, Jr., assistant chief for aviation and operational.

JUST FOR LAUGHS, *Lt. (jg) R. W. Grill, left, and Lt. (jg) J. A. Humes, landing signal officers aboard the CVB Midway, held a practice session on the LSO platform in borrowed Arab dress when the huge carrier visited Algiers, Algeria, recently while on a "Med" tour.*

Pensacola Trains Pinwheels

Helicopter Students Transfer South

NAS PENSACOLA—Helicopter training has been moved from Lakehurst to Pensacola, with commissioning of Helicopter Training Unit One in December, basing at reactivated NAAS ELLYSON field under the Basic Training Command.

The helicopter has passed rigid evaluation tests in Korean combat zones, making it a full-fledged member of the Navy's aviation team. Helicopters earlier had replaced outmoded cruisers and battleship float planes that once were the eyes and ears of the fleet.

Navy helicopter pilots were formerly trained at Lakehurst's Helicopter Utility Squadron One and at training units of other branches of the services. The Marine Corps has its own training unit, but Leathernecks aviators still will be eligible for training along with naval aviators at HTU-1. Only naval aviators will be accepted for training.

The nucleus staff of officers and men in the unit consists of Cdr. Ben Moore with four officers and four CPO's. Moore is one of the Navys most experienced pinwheel men. From this start, the unit will expand to 20 officers and 252 men, with an aircraft complement of 20 craft. Plans presently call for the output of 24 pinwheel pilots a month with the first class convening 15 January. The training courses include 60 flight hours and 35 hours ground school.

SOME FISH STORY—*Denver trout stalkers, LCdr. Morris, Cdr. Grover, Lt. Flannery and Capt. Brown, NAS CO, have a good line*

HAMILTON, KEMBRO, HAMERICK, MOORE, SHAWCROSS, BRAUN, FINN, DARDI FIRST 'FACULTY'

Hurricane Hunters Active

VP-23 Sets Record, Visits 33 'Eyes'

VP-23, MIAMI—A double-duty sort of squadron is this patrol outfit which hunts hurricanes for six months and submarines the other six.

During the hurricane season just passed—covering 1 June to 15 November—VP-23 scouted 11 full hurricanes and made a record number of 33 penetrations into the eyes. Previous record was eight hurricanes and nine penetrations in the 1949 season.

Come 1 December, the squadron put away its barometers, psychrometers and other special "hurricane hunting gear" and reverted to its role of antisubmarine warfare squadron. Of the 11 full hurricanes and one tropical storm in the Atlantic, Caribbean or Gulf regions, the squadron provided complete and continuous coverage on 10 hurricanes. Two storms were out of range.

Included were seven flights into the great Atlantic hurricane of 31 August to 6 September. Winds in this storm were as high as 125 knots on the weak side. In comparison to this year's record of 12 hurricanes and storms investigated, the Navy reconnaissance covered 4 in 1946, 9 in 1947, 7 in 1948 and 10 in 1949. Eye penetrations were made only in 1948 to 1950, with 7 the first year, 9 the next and 33 for 1950.

In changing over to an ASW mission again, considerable work is required to reconfigure the aircraft. After 15 November eight of the nine PB4Y-2's were changed over, with the ninth standing by as a weather plane until the hurricane season came to an end 1 December.

SNOW-SWEPT AND *icy are the decks of the CVE Badoeng Strait, operating off Northern Korea shores. Poised on the deck are a Marine fighter squadron's Corsairs, loaded with eight HVAR rockets each and carrying two belly tanks of gas which give the F4U plenty long range.*

France To Receive Langley

Famed Aircraft Carrier Transfer Set

The newly reactivated aircraft carrier *Langley*, namesake of the Navy's first flattop, will be turned over to France under the Mutual Defense Assistance Program.

The *Langley* was in the Atlantic Reserve fleet, in mothballs at Philadelphia. It was built in 1943 and was almost continuously in action against the Japanese until the end of the war, handling Air Groups 32, 44 and 23. Her planes shot down 119 enemy planes in the air and destroying 100 on the ground.

The ship's guns accounted for five enemy planes and her air groups sank seven enemy warships and 27 merchant ships. After bringing back many troops from the Pacific following the war, the *Langley* went to Philadelphia and then ferried troops from the European theater. She was inactivated in 1946. The French are to receive the ship this spring.

VR-2 Keeps Its Mars Busy

Hawaiian Mars Flies 369 Hours in Oct.

VR-2, ALAMEDA—If it's plane utilization you are interested in, take a look at this squadron's record for last fall.

The *Philippine Mars* flew 355 hours during August, the *Marianas Mars* was aloft 338 hours in September and the *Hawaiian Mars* topped this in October with her paddles beating the air for 369 hours. Can anyone top this for high-time planes?

Such records entail some well-organized cooperation of all hands when a plane arrives. A spectator is endangering his life if he wanders down around a *Mars* when docking. Before the beach crew finishes securing a plane to the dock, a horde of maintenance men swarms over every foot of the plane to ready it for the return flight. Four hours in the dock is typical of this fast service.

NavCad Has Rugged Jump

Chute Holed By Airplane Saves Him

Naval Cadet James A. Trout, USNR, can give thanks to his "rabbit's foot" or lucky charm, and perhaps attribute his longevity to just plain "living right."

Trout, a student in the Advanced Training Command at NAAS CABANISS FIELD, was practicing acrobatics in his F4U *Corsair* when the plane went into a spin at about 9,000 feet. All his efforts to recover were fruitless, only making the spin worse and increasing its intensity. After the fighter had spun down to approximately 4,500 feet, Trout prepared to "hit the silk."

After he got the cockpit canopy open, Trout released his safety belt and was

THIS CHUTE BROUGHT NAVCAD SAFELY TO EARTH

thrown against some part of the plane and knocked unconscious; this was at an estimated altitude of 1,500 feet. When he came to, he was clear of the plane, falling free in the air. He galvanized into action, reached for the rip cord and—it was gone!

The next instant his chute popped open above him, jerking him up sharply, and he began to swing back and forth. Trout glanced up at the canopy and received another jolting shock—one panel of the canopy was ripped its entire length and there were several holes in the others.

He barely had time to realize his plight when he was jolted again, this time by the ground. He landed on his shoulder in a hard grassy area. Climbing out of his harness, the cadet spread the canopy on the ground, stood in the center of it and signalled his buddies who had followed him down and were circling over him that he was O.K.

Investigation revealed what happened. After Trout couldn't get his *Corsair* out of the spin, it had literally kicked him out and pulled his ripcord for him while he was unconscious. All Trout suffered were a few bruises and a small cut on his head!

• MCAS CHERRY POINT—A memorial recreational building for enlisted men is being constructed here on a hill overlooking Slocum creek boathouse. It will be dedicated to Marines trained here who were killed in World War II.

MEN IN NAVAL *aviation whose exploits have won the Navy Commendation ribbon now have a medal to wear with it, shown above. If they are entitled to more than one, they can wear bronze stars on the ribbon, which is a green color with white stripes.*

GCA Aids F7F in Snowstorm

Lost Marine Saved by Radar Guidance

MCAS CHERRY POINT—An alert ground control approach unit recently helped Capt. Frank H. Simonds of VMF-531 to land his crippled F7F *Tigercat* night-fighter in a blinding snowstorm at NAS COLUMBUS, Ohio.

With only 10 minutes of fuel left in his gas tanks, Simonds landed with zero visibility after the GCA crew talked him down. He was on a cross country when his instruments failed, and his gyro compass went out. He contacted Columbus tower and they gave him instructions, finally turning him over to the radar crew.

Because of the snow, Simonds first pass was unsuccessful, as was his second. On his third try he glimpsed the field through the flurries and made a good landing, a plenty happy Marine.

SUPPLY—A BUSINESS IN THE MILLIONS

IT'S A GIGANTIC enterprise when a storehouse stocks 125,000 items valued at $213,000,000. That's the kind of business the Aviation Supply Depot at Norfolk, Va., handles.

Right now the Depot is hard at work meeting the accelerated demands of naval aviation supply. Protection of vital equipment and its distribution are vital to naval logistics.

The Aviation Supply Depot is the East Coast distribution point for aeronautical materials, aviation ordnance equipment and aviation general stores. It is geared for a much more rapid turnover than is non-aviation supply stock because of the frequent changes in design and the constant development of new types of naval aircraft and material.

It takes 10 huge buildings and nine warehouses to store the huge amount of equipment on hand, everything from the smallest cotter pin to the largest wing assembly. Such a vast amount of equipment requires careful management and efficient administration.

Cdr. E. K. Snider, SC, USN, is the Officer-in-Charge. Through the past several years, he has headed the Depot and directed the distribution of aviation supplies. His main assistants are department officers and experienced civilian workers. It takes a large staff well versed in distribution to enable ASD to perform its mission efficiently at all times.

The center of this vast supply function is a five-story masonry building, No. 132, which was first occupied in April 1941 by the Aviation Annex, established by the Bureau of Aeronautics, the Bureau of Ordnance and the Bureau of Supply and Accounts. The structure contains more than a third of a million square feet of floor space. Since 11 December 1947, ASD has been an integral component of the Naval Supply Center.

PARACHUTES GET A 24-HOUR AIRING REGULARLY ONCE EVERY MONTH

DEGREASING PARTS BEFORE DIP IN COMPOUND

Not only does the ASD have problems of preservation and distribution, but it also has a task related to history. At the end of World War II, plans were developed to establish a National Air Museum at the Smithsonian Institution in Washington, D. C. Allied and captured enemy aircraft will be a part of this display. Meanwhile, it is a responsibility of ASD to store and preserve the material until it is shown.

Carloads of combat aircraft material have been received, including aircraft engines, guns, cameras, radios and electronic equipment.

An Aeronautical Display room at the Depot exhibits, among other things, an F6F *Hellcat,* once part of Task Force 58, and various aerological, photographic, aviation and ordnance instruments.

The ASD is the largest distribution point for photographic, photolithographic and aerological material. All types of equipment from the smallest pocket size camera to the largest aerial camera, as well as delicate aerological instruments, are stored under the direction of AFC B. M. Barton.

DELICATE AEROLOGICAL INSTRUMENTS REPAIRED

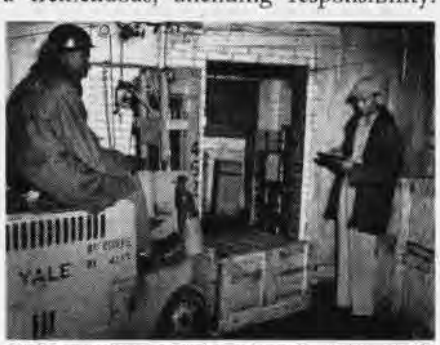
Storage of these technical materials must meet exacting requirements. All photographic film, paper and aerological batteries are stored in dehumidified vaults maintained at a temperature of 50° Fahrenheit and 50% humidity. Fireproof vaults for inflammable films are located in the cold storage room.

Almost every kind of equipment requires special storage. For example, all parachutes are unpacked once a month and suspended from the ceiling in the parachute loft to air out for 24 hours.

Aircraft instruments must be carefully protected. The preservation branch degreases aircraft parts before it puts them in a preservative compound.

One of the numerous activities of ASD is the repair of delicate aerological instruments. The work is precise and exacting. In the picture on this page, W. T. C. Rogers (left) and D. C. Hawkins demonstrate the work they do.

Department heads of ASD are LCdr. L. F. ReDavid, material; Lt. M. R. MacLeod, storage; Lt. E. J. Taylor, traffic; Lt. (jg) H. N. Maragides, budget and administration; and C. E. Flynn, labor and equipment. The careful preservation and proper distribution of millions of dollars worth of materials is a tremendous, unending responsibility.



PHOTOGRAPHIC FILM IS CHECKED INTO VAULT

HERE'S HOW *the Air Force refuels its jet fighter, the F-84 Thunderjet. A funnel-shaped coupling at the end of the tanker plane's hose engages the pitot-tube-like projection on the fighter's left wing. After this the two are automatically coupled and fuel is transferred. This is one of the two jets that flew across the Atlantic Ocean recently nonstop, refueling once.*

Quick Save by Helicopter

Brazilian Admiral Waits for a Rescue

NAAS CORRY FIELD—Quick service by a rescue helicopter was demonstrated on 18 September when the search and rescue unit picked a badly-bleeding aviator out of the boondocks and landed him next to the hospital.

At the time of the crash, the helicopter was standing by at Chevalier field to go to the U.S.S. *Wright* to pick up Admiral Flavio De Medeiros, chief of staff of the Brazilian Navy.

It went immediately to the accident scene where the student was found clear of the wreckage. Instead of delivering him to a waiting ambulance, the pinwheel took him directly to a parking lot next to the Naval Hospital. This operation saved 17 minutes in delivering the patient, Lt. (jg) A. E. Strauss.

★ ★ ★ ★

GCA BOX SCORE

November Total Approaches	11,620
Total Instrument Approaches	589
Grand Total Approaches	435,500
Grand Total Instrument	18,825

★ ★ ★

RADM. H. M. MARTIN TESTS DRY LAND 'SCOPE

Periscope Photos Made Easy

Pensacola Teaches Cameramen System

NATTU PENSACOLA — All hands have seen photographs made through a submarine periscope showing a sinking ship after being torpedoed. These photos are difficult to obtain owing to periscope optic problems, dried salt water on the outer surface of the scope, or waves engulfing the "eye" at the instant the exposure is made.

All students of the photographer's mate school soon will be instructed in the art of periscope photography. A 34-foot submarine periscope is being erected and housed in an addition to the photo school.

The "eye" will be 56 feet above ground level and will overlook Pensacola Bay. Students operating submarine periscope cameras will make pictures of selected targets that can be seen through the periscope. This will simulate actual operating conditions except for the salt water problem.

LT. OWEN, RIGHT, CHATS WITH LCOL. MARSHALL

Designer Flies in Banshees

Reserve Marine Finally Makes Grade

MCAS CHERRY POINT—Lt. Allen H. Owen should know how to fly *Banshee* jets. He helped build them.

Before he was called to active duty, Owen was an engineer with McDonnell Aircraft Co., St. Louis. He was one of the project engineers who worked on the F2H-2. Although a member of VF-221 Reserve squadron at St. Louis, Owen had to get in the Marine Corps on active duty to fly one of the *Banshees*. He is assistant engineering officer of VMF-122.

Warriors Glad to be Home

Valley Forgers Eager to Get Ashore

VC-3—When the carrier *Valley Forge* arrived back in San Diego on 1 December from the Korean war zone, her men were as glad to get back home to their wives as any long-gone sailor.

Some of the men, eager to be the first ashore, were granted permission from the Bos'n to ride the cargo net from the ship to the dock. From all accounts it was a comical sight to see so many arms and legs flailing about as the net was lowered.

The men started leaving the net long before it hit the dock. Some of them proved their love for the good old USA by getting down and kissing the first part of the States they had set foot on in seven long months.

CAN LOYALTY *be carried too far? That is the question confronting all hands as R. W. Thompson, Grumman aircraft representative with VX-1, was viewed using as a platform for lobster fishing a disabled F6F that crashed a few months ago near NAS Boca Chica field. The picture shows him pulling a Florida lobster out of the Gulf water.*

Winner *of the Admiral Mullinix Memorial Skeet Shoot at NAS San Diego was the five-men team from that station, competing against gunners from Nevada, Arizona and California. High man, Lt. A. E. Lewis, with 97, holds the trophy. Other members with him are R. W. Fore, H. P. Cady, L. W. Hughes and J. A. Robinson from San Diego.*

SOMETHING *different in going away presents was given Capt. Charles F. Greber when he left VU-7 to become CO of NAS Seattle. His men gave him a polished flower pot holding choice sprigs of ice plant in honor of his "horticultural proclivities resulting in development of that rare and exotic floriferous phenomenon known as 'Greber Grass'."*

HINGE MAKES IT POSSIBLE TO LOCK LEGS UP

Hinged Legs for Work Stands

Under the Navy's Beneficial Suggestion Program, Orson T. Summers, NAS SEATTLE, has evolved a method of protecting Mann-Wolfe stands when they are being moved.

By hinging the legs of the stands, the legs can be locked up when the stands are being transported from hangar to hangar. Formerly, legs had been broken or damaged when a high spot was struck.

In the illustration, the stand without the legs hinged is shown. At right, the hinged leg is examined by a workman.

Blower Shifts at Low RPM's

VA-175—LCdr. John E. Kennedy has reported an unusual case of engine roughness in AD-4 *Skyraiders*, attributed to the twisting of the accessory drive shaft. Two previous rough engines, one of which resulted from backfire in the air and the other of unknown origin, were found to have twisted shafts 30° and 9° respectively.

The latest case occurred in a blower change from the "low" to "high" positions at 22000 rpm and 25" manifold pressure. The result was an 18° twist in the shaft.

Squadron maintenance officers and men submitted the following conclusions to the Bureau of Aeronautics:

1. The presently installed shaft, P/N 424538, is not of strong enough design to withstand violent backfires and blower shifts at high rpm. The designing and installation of a stronger shaft is recommended.

2. Engines with the present shaft should be kept to a minimum of blower shifts. If it becomes necessary to shift to high blower, the shift should be made below 1600 rpm.

3. When the newly designed shafts are produced, they should be made available to operating activities so that replacement can be accomplished as soon as operationally feasible.

►***BuAer Comment***—**A stronger shaft (P/N 427205) will be available sometime this month (December 1950) for replacement by operating activities. Until then present shafts (correct P/N 424358) may be operated with up to 10° twist before replacement with same (P/N 424358) shaft. The new, stronger shaft will be installed at overhaul also.**

Concur emphatically that blower shifts be made at low rpm's.

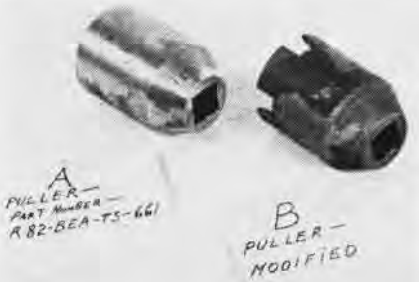
• NAAS WHITING—Of the 343 students in BTU-1, one is a Uruguayan, three French and two Mexican students. To handle this load 104 flight instructors are in the unit.

Salvaging a Sunken Mariner

USS SALISBURY SOUND—This ship worked out a good way to salvage a PBM, sunken in 45 feet of water during a squall. The crew hit the beach in a rubber boat.

Salvage operations were supervised by Lt. D. D. Mackay, ship's air officer. A 25-man pneumatic barge was secured under each wing. Three pneumatic fenders were inflated inside the fuselage. These were inflated section by section until the plane rose slowly to the surface.

Once alongside, hooked on and partly hoisted, submersible pumps were used to get the rest of the water out. When on board all salvagable material was removed. The empty fuselage now rests on the beach, a prospective partment for some enterprising native realtor.



ITEM 'A' IS STANDARD: 'B' IS MODIFICATION

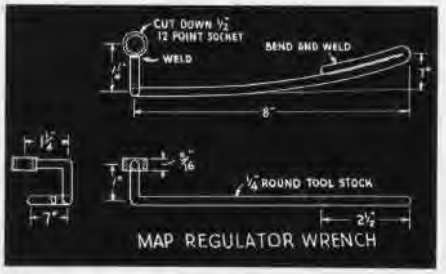
Pulling Wing Bolts Made Easy

When removing aircraft wings, taking out wing hinge bolts is often a difficult task because exposed threads have been damaged. This makes it impossible to start the bolt and remove it in the normal manner with a bolt puller.

John G. Bowker, ADC, of NAS PENSACOLA, solved this problem by designing a die to straighten threads which will allow the bolt to be pulled without destroying it with a drift, a loss of $14.00. Bowker's method has been approved for optional adoption by the Navy under the Beneficial Suggestion program.

In item "B" in the photograph the squares are cut out 3/8" deep and 3/8" wide. The inside taper is 20 degrees at a starting wall thickness of 1/16". The size of this die is 1¼ with number 12 thread. This die can be made from the puller pictured (Item "A").

RAMJET ENGINES *to power Navy KDM-1 target drones are shown here being completed by the Marquardt Aircraft Co., plant preparatory to shipment to Glenn L. Martin plant where the drones are being manufactured.*



MAP REGULATOR WRENCH

Wrench Aids Map Removals

VA-115, PACIFIC—A special wrench for simple removal and installation of the map regulator on the AD-4 has been developed by W. H. Ashworth, AD2.

Normally, the accessory drive and hydraulic pump would have to be removed to gain access to a nut holding the map regulator. By insertion of this wrench between the regulator and accessory housing, the otherwise inaccessible nut can be turned easily.

This wrench is actually a ½" socket wrench, mounted on a bent piece of ¼" stock, bent to perform in a normally blind position. Use of the wrench saves about four man-hours work, valuable time under combat operations.

Luminous Handle for Door

VC-35, SAN DIEGO—"Be Prepared" is a good motto for Boy Scouts, and it is a good one for anyone in naval aviation too.

While participating in a recent night operational flight, P. A. Sayers, AL1, an aircrewman, began to visualize just what he would do if he had to abandon his AD-type aircraft. First, he could not locate immediately the emergency release handle on the escape hatch because of the complete blackout in the plane.

Moreover, in the event of an actual bail-out, he would have to use the old "grope and find" method to locate the ripcord on his chute.

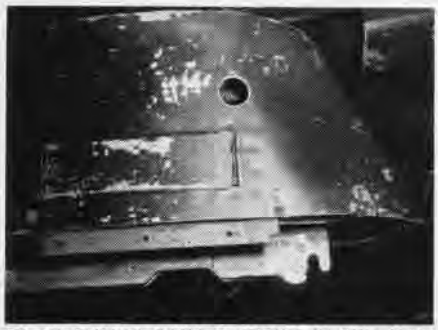
As a remedy, he suggested the emergency handle of the escape hatch, as well as his rip cord, be marked with luminous material to make it easier to find. The squadron now has all of its emergency handles and rip cords so marked.

Rough Water Damages Planes

VP-46, PACIFIC—High wind and rough water at one advanced base used by this squadron resulted in abnormal corrosion and some structural damage to squadron aircraft.

Parts of the planes most critically affected by corrosion were the nose section of the engine, magnetos, distributors, ignition harnesses, the afterbody of the plane including the gull of the wings between the engine nacelle and fuselage, the skin area near the tunnel hatch and the empennage.

Condition of the water is demonstrated by the fact that the tail of one plane riding the buoy struck a swell with such force that the tail gunner's escape hatch was knocked open. Some damage caused by repeated takeoffs and landings in rough water included loosening of wing panel attaching bolts, "dishpanning" of the skin between stringers on hull bottoms, and appearance of wrinkles in the crown of the hull between the radome and wing section.



PYLON FAIRING DAMAGE SHOWS IN THIS VIEW

Method At Jax Saves Fairing

Inside the pylon fairing of the F4U-4 or FG aircraft is a solenoid and bracket. In order to get at them for inspection or removal, damage has occurred to the fairing. An easier method of installation and easy access has been developed by Richard Wilford of the O&R department at NAS JACKSONVILLE. Under the beneficial suggestion program of the Navy it has been approved for optional adoption of Navy activities.

Present practice is to add a hood to the front of the inside fairing to clear the solenoid and bracket. Above the hood the metal has to be stretched and formed to clear another part of the forward part of the pylon. This in turn weakens the metal and has a tendency to crack. This one large piece of fairing has to be stretched around the pylon on the ship which makes installation difficult because only a small screw driver can be used. It is also difficult to keep the gap rubber from tearing or turning in. Many dzus buttons get torn out or the fairing is damaged during the process.

In Wilford's method, the inside fairing is cut (parts VS-34043 L/R) 1" forward of the two front dzus holes and another fairing made for the front of the pylon 2" larger than the original piece that was cut out. This piece overlaps the other two sides and buttons. This will provide clearance for change number 290. It also saves 30 minutes on incorporating change number 290 and saves cost of replacing the solenoid in case of damage by the old method.

It saves almost one hour on installation of all fairings while the pylon is on the plane. It also eliminates possible damage to the gap rubber, the replacing of dzus buttons or any damage to the fairing during the installation. It also provides quick access for replacing parts or inspecting the pylon.

Pensacola Pistol Team Wins

NAAS WHITING FIELD—The Pensacola Navy pistol team, composed of three Whiting and one Corry field deadeyes, garnered a suitcase full of medals and prizes in a couple of meets the past September.

At the Second Annual Marine Corps Schools tournament at Quantico, they won a good assortment, following this up with an appearance at the Louisiana State pistol matches where they won 31 individual medals and three team awards.

The team is composed of Cdr. E. E. Hedblom, MC; Lt. (jg) John Ralston, A. L. Jackson, AD1. Ens. Edgar Rawsthorne competed at Quantico while CWO M. J. Allen subbed for him at the Louisiana matches.

Gas Defueling Made Easy

U.S.S. SICILY—A mobile defueling unit for use aboard carriers has been developed by M. M. Cullity, AB3, to speed up the process of getting gasoline from planes.

By adding a couple of spare wheels taken from aircraft towing bars, plus a hollow bent steel handle with a metal sleeve attachment, Cullity succeeded in making the old defueling unit easy to move around. It allows one man to do a job formerly requiring two.

A strip of brass, bent in the shape of a horseshoe resting on its side was attached to the underside of each of the two edges of the unit which rests on the deck to eliminate sparks from friction with the steel deck.

The detachable handle makes the unit compact for stowage. Since it was necessary to move the defueling hoses and air hoses with

CULLITY SHOWS HOW MOBILE DEFUELER WORKS

the unit, Cullity designed a rack for the hoses to set on top of the unit. Then, it also was necessary to have gaskets and wrenches available for instant use when attaching hoses. So he put a tool box on the unit.

The suction end section of the flexible metal gasoline hose, normally used in such units, would not reach the bottom of deep tanks. The inside was honed smooth so that a rubber hose which would reach could be fitted inside it. This hose, 1"x14" was attached by two small hose clamps. Next, a sight gage was attached to the pumping unit to show the amount of fuel passing through the hoses. This could be used to tell when a tank was nearly drained.

► ***BuShips Comment*—Defueling pumps originally were a permanent installation at each fueling station on flight and hangar decks. They were later placed on skids to increase mobility. The described modification would appear to make them still more mobile.**

Future carrier-based aircraft will have underwing fueling and defueling, in which defueling is accomplished by reversing the gas flow in the fueling hose, eliminating entirely the need for a portable defueling pump.

Rig Simplifies Tender Work

U.S.S. SUISUN—This tender developed a towing device for installation on rearming boats which makes it considerably easier to handle the boats behind the ship in rough weather.

When seaplanes are fueled from the stern of small aircraft tenders, a 3" manila line is released through the plane's tunnel hatch subsequent to making the buoy astern of the ship. This line is recovered by the rearming boat and secured to a "Y" towing bridle in

PIPE IN BOAT'S CENTER MAKES TOWING EASIER

the stern of the rearming boat to prevent the plane from hitting the ship. Further, in high winds or yawing of the ship, it is used to keep the plane lined up directly astern of the ship.

Using the above standard method, this vessel found that owing to the fact that the Y towing bridle was well aft of the pilot point of the rearming boat, extreme difficulty was encountered keeping the plane centered directly astern of the ship, particularly in high winds.

To overcome these difficulties, it was felt that the towing had to be as close to the pivot point of the rearming boat as possible. The rig illustrated was developed and tested with excellent results.

It consists of 2" pipe flattened on the end, with ¾" bolts securing the pipe to amidship cleats and secured at the bottom to the after hoisting pad.

USS MIDWAY—This carrier's first "Century Pilot" is Lt. (jg) Henry Urban, Jr., who made his 100th consecutive landing on the ship while on the Mediterranean "beat". All of the landings were made on three cruises this year.

F CORRECTION FACTORS FOR TAS

PRESS ALT. FEET	CALIBRATED AIRSPEED KNOTS							
	200	250	300	350	400	450	500	550
10,000	1.0	1.0	.99	.99	.98	98	.97	.97
20,000	.99	.98	97	.97	96	.95	.94	.93
30,000	.97	.96	.95	.94	.92	.91	.90	.89
40,000	.96	.94	.92	.90	.88	.87	.87	.86
50,000	.93	.90	.87	.86	.84	.84	.84	.84

DIRECTIONS

In order to obtain true air speed properly corrected for compressibility effects, the pilot will follow these steps:

1. Obtain indicated air speed from the air speed indicator.
2. Obtain calibrated air speed corresponding to indicated air speed from the air speed correction card mounted on the instrument panel.
3. Obtain "true air speed" (incompressible) from the Mark 8, E6B or similar speed-time-distance computers, by entering with calibrated air speed, pressure altitude, and free air temperature.
4. Multiply TAS obtained with the computer by the F correction factor to obtain TAS corrected for compressibility.

See Technical Note No. 13-50 NavAer 05-35-560 1 June 1950

THIS SUPERCEDES SAME PUBLICATION DATED 15 March 1950

IN THE *October issue we reproduced dope similar to that above for airspeed corrections for the compressibility factor "K". In jet aircraft this must be used in addition to corrections for pressure altitude and temperature. The formula, from Technical Note 3-50, was incorrect. TN 13-50 cancels the other and states that TAS=FV' is correct.*

SUPPLY NEWS
FROM ASO AND SUPPLY DIVISION BUAER

Uses of AN-G-25 Grease

AN-G-25 grease should be used in lieu of AN-C-124 compound to preserve grease-lubricated bearings with the following qualifications:

- Only bearings which will be grease lubricated in service shall be so processed. Bearings which will be oil lubricated in service, such as instrument bearings and engine bearings, shall continue to be preserved in accordance with NAVAER 00-85A-502.
- Bearings which are to be lubricated with high temperature grease, such as wheel, starter, magneto and generator bearings, shall continue to be preserved in accordance with NAVAER 00-85A-502.
- In connection with the use of AN-G-25 grease as a preservative compound, an intimate wrap is required which is demonstrably greaseproof to AN-G-25 grease. To date, it has been found that aluminum foil conforming to Specification JAN-P-148 is the only wrap which successfully meets this requirement. Where an intimate wrap is not required, the moisture vaporproof material which is demonstrably greaseproof to and otherwise unaffected by AN-G-25 grease, shall be used.
- Bearings preserved as specified herein shall include, in addition to the present unit package marking requirements, the following information: "Ready for Use" and "Prelubricated with Operational Grease, AN-G-25".

The Bureau of Aeronautics is in the process of modifying Technical Order No. 32-45 to state that open bearings preserved with AN-G-25 grease do not need to be cleaned and lubricated prior to installation if the service lubricant is to be AN-G-15 or AN-G-25.

Shipments of Rotor Blades

Sikorsky Aircraft Service Information Circular No. 137 dated 3 October 1950 is quoted below:

"Sikorsky Aircraft has experienced some unsatisfactory conditions in the receipt of damaged subject tail rotor blades returned to the factory for salvage, repair and overhaul. Primary examination conducted by our Inspection Department to determine the extent of damage and the repair necessary disclosed numerous instances where replacement of some parts was caused by negligence rather than the original damage. Accumulated rust, corrosion and pitting was found on critical bearing surfaces and threads of the shaft (S515036) which resulted in their rejection for further service use. The above rust and corrosion seemed to indicate long term storage or having been in dormant stores after removal from aircraft without the application of some protective coating.

"There, Sikorsky Aircraft strongly urges the operators of the above model helicopters to adopt preventive measures to assure greater life for the subject tail rotor blade assemblies.

"The following recommendations are hereby submitted to prevent the above undesirable accumulation of rust and corrosion:

"(a) Inspect all tail rotor assemblies (S515008-1) in their shipping containers if they have been opened since original shipment by the contractor. Apply coating of Spec. AN-C-52 Type 1 or heavy grease to shaft threads and bearing surfaces if necessary.

"(b) Tail rotor blade assemblies (S515008-1) damaged or otherwise, removed from aircraft, devoid of Housing Assembly S515023, apply coating of Spec. AN-C-52 Type 1 or heavy grease to shaft threads and bearing surfaces."

ASO concurs with the recommendations contained in the circulalr quoted above and emphasizes to all activities the importance of properly preparing equipment being returned for repair, check, test or relubrication, for shipment.

Attention is called to Aviation Supply Office Circular Letter No. 256 (Rev. 1) dated 20 December 1945, which deals with the general problem of preparing material for shipment which is being returned.

Priority 'A' Classification

Common sense should dictate the assignment of priority classification.

Reports from the field indicate that a great percentage of supply business is now done on a priority "A" basis. This is not only a serious reflection on the aeronautical inventory control system, but also results in the handling of *bona fide* priority "A" requests in a routine manner.

Supply officers of field activities must use great discretion in the screening of all priority "A" requests to make sure it is only used when *actually* required by the service.

OVER TV *station WPTZ in Philadelphia. RAdm. S. E. McCarty, Aviation Supply Officer discusses the merits of the F4U Corsair.*

New Braking System Designed

John R. Miles, AMC, of NAS, CORPUS CHRISTI, has invented a new braking system.

Most braking systems employed in aircraft, automobiles and rail vehicles are the friction type. Two surfaces rubbing together accomplish the stopping job.

Miles' proposal is to use a vane type oil pump the output of which would be controlled by a valve. A wheel with this brake installed would turn the pump, forcing oil from a reservoir past the valve. Partly closing the valve by brake pedals would result in slowing; closing it all the way would almost stop the wheels.

In friction brakes, force is required to bring the rubbing surfaces together. Either it is the pilot's foot pressure alone, or a power boost system that does the work. In Miles' design, little work would have to be done—just closing the valve.

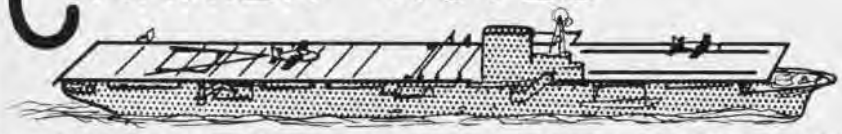
By having back pressure on the brake pump, its movement will be slowed. When the valve is completely closed, the wheel will be stopped except for some creepage. For complete stoppage, a relatively weak spot friction brake working on a flange installed outboard of the pump brake on the wheel will lock the wheel.

In completely closing the valve, a metering relief valve would be installed between the pump and the restricting valve so that the system would not be subjected to excessive loads.

Miles' system was submitted through the Navy's Beneficial Suggestion program.

- VS-25—Some pilots of this squadron spent a Sunday flying for moving picture cameras filming a Universal movie about an unsurrendered German submarine raider after the war. It finally was spotted and sunk, with VS-25 planes taking part in scenes showing the sub (the U.S.S. *Baya*) being depth charged and "sunk."

CARRIER NOTES



BUREAU OF AERONAUTICS – SHIPS INSTALLATIONS DIVISION

Catapult Valves Modification

The three-way valve in the retraction system of H4 series catapults is being modified. This modification will eliminate the catapult retraction difficulties which were induced by the old type valve.

The modified valves have been distributed to the service, and from the results of operational tests on an H4 catapult at the Naval Aircraft Factory, the improvement is performing very satisfactorily.

After approximately 250 retractions at various pressures up to 3500 psi, the valve was disassembled and inspected. The valve showed no signs of wear or deformation of parts. This improved three-way valve has also been in operation aboard the USS *Leyte* for several months. A detailed plan of the valve, along with installation instructions, is contained in catapult changes H4B #29, H4C #30, and H4-1 #22.

Air Charge for Catapulting

Reports from the fleet indicate that catapult operations involving mixed groups of jet and propellered aircraft are being hampered by the excessive time required to pump from the low initial accumulator air charge after launching propellered types to the high initial accumulator air charge for launching jets.

To eliminate this delay, it is recommended that the high initial accumulator air charge of 2250 psi for H4B catapults and 2350 psi for H4-1 catapults be used for launching F9F, F4U, AD, and F2H aircraft.

Launching pressures and wind requirements for aircraft launching weights should be selected from applicable catapult bulletins. Launching pressures may be decreased in accordance with *H4B Catapult Bulletin* #58 and *H4-1 Catapult Bulletin* #41 dated 28 December 1949.

Use of the high initial accumulator air charge suggested above may give propellered aircraft excess flying speed causing them to become airborne before the end of the power stroke. However, this is not considered to be critical. Of current combat aircraft, only the F8F cannot be launched with the high initial charge because of aircraft strength limitations.

Instructions for the operation of H4 series catapults (NAF report M-4387) authorize the use of any intermediate non-standard initial accumulator air charge to meet launching conditions. Intermediate charges of 1850 to 2650 psi and 2100 to 2900 psi for the H4-1 and 2050 to 2850 psi for the H4B catapults are suggested. Aircraft weight, launching pressure, and wind-over-the-deck relationships specified in applicable catapult bulletins must be used regardless of the initial accumulator air charge selected.

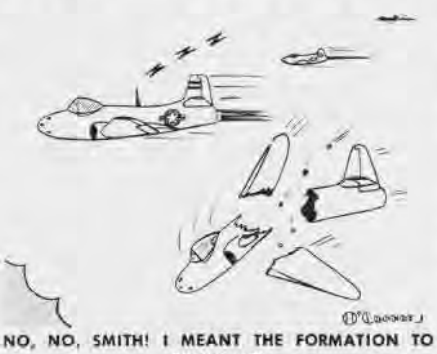
Catapult Tension Ring Holder

A catapult tension ring, traveling at high velocity in the wake of a jet or propeller blast, presents a hazardous situation on a carrier flight deck. Fortunately, no reports have been received of personnel being struck by one of these "missiles".

However, RUDM's relating instances where these rings have entered the intake ports of jet aircraft have been received. In each instance, the damage to the engine during subsequent turn-up was of sufficient severity to necessitate engine change. At a cost of approximately $40,000 per engine, the gravity of the situation is readily apparent.

The Bureau of Aeronautics has furnished aircraft carriers with "boots" which were to be fitted to the holdback unit to retain the tension ring after breakage. These "boots" have not been found to be adequate in actual service use.

The problem of designing a satisfactory "boot" would appear to be a simple one but it has not proven to be so, since the basic requirements for the "boots" are in direct conflict with each other. Specifically, the "boot" must be fitted securely to the holdback unit in order to prevent its being dislodged by the jet blast or slipstream and must be sufficiently rugged to withstand damage incident to striking the deck.



NO, NO, SMITH! I MEANT THE FORMATION TO BREAK UP!

In conflict is the requirement that the "boot" must possess sufficient flexibility and ease of attachment so that no problem is presented to the holdback man when inserting or removing the tension ring.

The Naval Air Material Center is continuing the development of this item in an attempt to produce a satisfactory "boot". All personnel familiar with catapulting aircraft are encouraged to study the problem and to participate in evolving an effective solution. Any suggestions regarding development of a suitable device should be forwarded to the Bureau of Aeronautics.

Lube Oil Gas Proportioner

Squadrons operating F9F aircraft have reported numerous failures of the fuel pumps in these aircraft. Investigation has indicated that these failures resulted from inadequate lubrication of the pumps when using 115/145 octane gasoline.

In fact, tests have revealed that as little as one pint of water passing through the fuel pump removes sufficient lubricant to cause it to "freeze".

As a corrective procedure, the Bureau of Aeronautics recommended blending 3% lube oil with the aviation gasoline. The application of this procedure, although effective in reducing pump failure, has been difficult and tedious because of the lack of proper facilities for proportioning and mixing.

At the suggestion of Commander Air Force, Atlantic Fleet, a proportioning unit, developed by Proportioneers, Inc., has been purchased and is presently undergoing tests. Preliminary reports on this unit have been favorable, and an additional twenty units are being procured by the Bureau of Ships for further tests in the Atlantic Fleet. Upon successful completion of these tests, a sufficient number of proportioning units will be procured to accommodate all carriers requiring them.

Utilization of a unit to proportion lube oil and gasoline properly is an interim measure until a fuel pump with less critical lubricating characteristics is developed to replace the pumps in F9F's. At present, development of such a pump is in an advanced stage, and will be put in service as soon as possible.

AVIATION ORDNANCE

Plane Fires at Oxygen Shop

It was just lucky that someone wasn't killed when a plane on the hangar deck commenced firing at the oxygen shop. One 20 mm high explosive shell pierced the bulkhead and exploded just inside. An armor-piercing incendiary pierced the bulkhead, went on through a 1500-cubic foot storage flask and started a fire that took ten minutes to get under control.

How did this happen?

Well, it was this way: The plane had returned from a strike with one gun out of commission. The other guns were reloaded and the plane was sent below. Here an ordnanceman went to work on the faulty gun and asked a machinist's mate to try certain switches in the cockpit to see what would happen. The willing but unqualified helper misunderstood the ordnanceman, turned on the wrong switches, and commenced firing. That's all there was to it.

The moral of this story is:

1. Never work on one gun of a battery while other guns in the battery are loaded.
2. Allow only qualified personnel to operate armament switches.
3. Don't take dangerous short-cuts under stress of a tight operating schedule.
4. Know your safety precautions!

Latest Low Level Bombsight

The latest version of the low level bombsight, designated Bombsight Mk 23 Mod 10, has been designed for use in nose turrets of patrol aircraft.

This version consists of a computer Mk 81 Mod O, a control box Mk 33 Mod O and a power supply Mk 13 Mod O.

No Sight Head: It should be noted that there is *no* sight head in this newest bombsight. It is replaced by a computer. In lieu of a sight, the necessary optical provisions are incorporated in the sight unit Mk 10, a component of the gunsight Mk 18 Mod 6, with which the turret operator controls both the firing of his guns and aiming of his bombs.

Installation: This bombsight, Mk 23 Mod 10, will be installed in the P2V-5 aircraft now being delivered for fleet use.

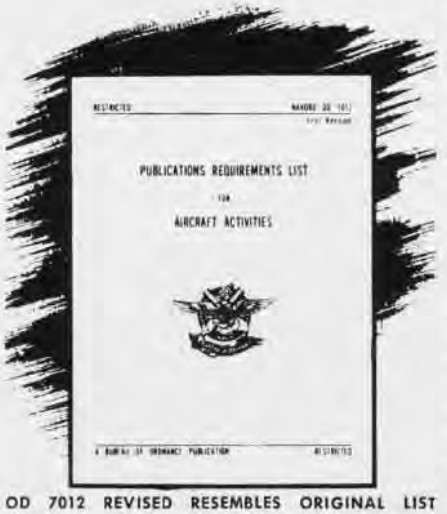
BOMBSIGHT SANS SIGHT HEAD, HAS COMPUTER

Revised Publication List

BUORD has issued a revision to *Ordnance Data* 7012. This OD is entitled *"Publications Requirements List for Aircraft Activities"*.

OD 7012, 1st Revision, dated 30 Oct. 1950 is the basic requirements list of Bureau of Ordnance publications for aircraft activities, and includes applicable Department of the Air Force and Department of the Army Ordnance publications which are stocked at District publications and printing offices.

BUORD does not intend to restrict any



OD 7012 REVISED RESEMBLES ORIGINAL LIST

squadron to the publications or quantities listed. Additional publications may be requested in accordance with instructions contained in OP O, but generally it is desirable to order only those applicable to a particular squadron. New BUORD publications will be initially distributed without request to appropriate activities.

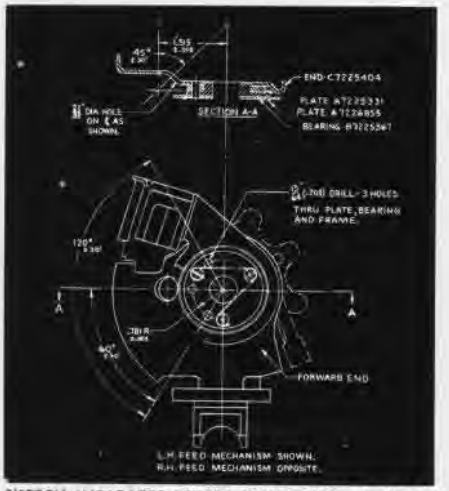
This publication should be checked at regular intervals to make sure that squadrons have the minimum requirements of ordnance publications. However, it is not intended that this publication be carried in aircraft for use therein. The publications listed cover all Navy aircraft squadrons. Individual squadrons, however, are required to have only those publications applicable to equipment operated.

OD 7012, 1st Revision, which has been distributed to the Fleet supersedes NAVORD OD 7012 of 15 November 1948.

Feed Mechanism Changes

The Bureau of Aeronautics is manufacturing a new gun heater system which includes a heater for the 20 mm feed mechanism AN-M2. Before the heater can be attached to the feed mechanism, several holes must be drilled through the forward end of the frame assembly.

Drilling Instructions: The sketch illustrates the location and drilling details of the holes. Note that the three 13/64 inch holes



SKETCH INDICATES WHERE HOLES MUST BE MADE

are drilled through plate A7226855, bearing B7225367, plate A7225331 and end (frame) C7225404. Plate A7225331 is welded to end C7225404. These holes accommodate screws provided with the heater, for attaching the heater to frame.

A fourth hole, 21/32 inch is drilled through the end (frame) C7225404 and is located as shown in section A-A. This hole permits the heater electrical receptacle to pass through the frame.

OML to be Issued: Pending the issuance of an Ordnance Material Letter covering the above details, fleet maintenance and authorized gun overhaul activities are requested to accomplish the drilling as soon as possible. Instructions for obtaining heaters and assembling to the feed mechanism will be disseminated by the Bureau of Aeronautics.

20 mm Vent Plug Suggested

Pending availability of the improved gas system described in the September 1950 issue of NAVAER NEWS, BUORD recommends the use of gas cyclinder vent plug B7235858, stock number J941-P-8388-55.

Firing tests have proved that plug B7235858 is superior to part B7229626. The improved part is available, and if not on hand, may be requisitioned in the manner prescribed in OP 1820. Plug B7235858 is readily identified by several distinguishing characteristics:

1. The gas vent passages have been increased in diameter from 0.081 inch to 0.086 inch (No. 44 drill) and are drilled on an angle 45° to the center line.
2. The hexagonal head is not counter bored.

Technical Manual 9-229 contains instructions for the removal and assembly of the vent plug.

SOMEBODY OUGHTA TELL JONES THAT'S NOT THE WAY TO CATAPULT PLANES FROM A CARRIER.

LETTERS

SIRS:

The January issue of NANEWS said of VP-84, "Later assessments credited VP-84 with six kills which made them #1 squadron in submarine sinkings in World War II."

Come, come, chums! While I don't question 84's claim to having some of the coldest duty in that war, let me read to you from VP-83's PUC:

"Patrol Squadron 83 . . . pressed home numerous attacks and, despite heavy antiaircraft fire, sank one enemy Italian and six German submarines. These courageous officers and men further played a major role in sinking a seventh German submarine and an armed German blockade runner, and assisted in destroying an eighth German U-boat."

Much as I'd like to, I can't even claim top spot in sub killings for my old squadron on the strength of that paragraph. If I did, I'm afraid some of the CVE ASW boys—who were also present—could prove me wrong.

LCDR. W. D. DEIBLER

Security Review Branch
Office of Public Information
Office, Secretary of Defense

† A recheck of submarine sinkings in World War II prove you correct. The reason VP-83 was not crowned the #1 submarine-sinking squadron was that it operated as VPB-107 for about half the war, thus fooling our "U-boat kill editor." Records show VP-83 sank German subs on 6 and 13 of 1943, an Italian on April 15, then changed its name to VPB-107 and got a U-boat on 23 July, two assists on 11 August and 5 November, another sub on 25 November, 6 February 1944 and 29 September 1944.

SIRS:

The subject of my letter is flying equipment belonging to an unknown naval aviator. This request I make in the form of a plea for aid in finding the man and returning his gear.

This returning is more of a matter of personal obligation and honor, rather than any front of patriotism or concern over financial indebtedness; indeed, its value exceeds (to me) either of the last two mentioned—and I maintain sincerely my integrity in so stating.

In the winter of 1945-46, two naval aviators were ferrying TBF's (of Grumman, or leased-out make) bearing British insignia. One developed engine trouble, and rather than bail out over water, stretched for Baltimore (no crash equipment available). He landed safely and was tugged to the Army hangar, to await an engine change. I believe the engine crew came from Norfolk, or thereabouts.

The pilot's light flying gear has been in my possession since. My own time in the service, travelling, school and at work has been dragged by this burden, but never to the point where I could put away its return.

Now, sir, my appeal is to you, whom I feel can, if you will, in some way help me. Can you advise me where to seek some information on the pilot of such a trip? Or could a properly-worded insertion in your magazine be expected to give any results which might offer specific details.

I would, if permissible, remain anonymous, save to you, and the pilot concerned.

J. J. P.

WAYNESBURG, PENN.

‡ We're stumped. Anyone got any idea how this conscience-stricken gentleman can return that gear?

SIRS:

International good will was illustrated vividly here recently when the Commanding Officer of NAS MINNEAPOLIS and seven station officers participated in a "hands across the border" celebration. They attended the annual military ball held in Winnepeg, Manitoba as guests of the Canadian Naval Reserve of HMCS *Chippawa* (Yes, they spell it "awa").

As marches of the military units were played, the members stood on their chairs at the banquet tables. When "Anchors Aweigh" was played, the U.S. Navy stood on its chairs (without falling off), taking a furious round of applause.

In the receiving line all U.S. reservists were greeted by bagpipers playing "Sidewalks of New York." NAS representatives also attended Remembrance (Canadian Armistice) Day services and military review before returning home.

Return of courtesies came when the *Chippawa* representatives formed a colorful addition to the annual military reception and inspection at NAS MINNEAPOLIS staged for Commander, Naval Reserve Training and Commander, Marine Corps Air Reserve Training.

CDR. GEORGE F. HOPPE
PUBLIC INFORMATION OFFICER
NAS MINNEAPOLIS

SIRS:

I enjoyed reading your article "Needn't Be Ashamed of Specs" in the November issue of NANEWS.

As and old PV driver in VPB-125 the same time as associate editor Andy Bright, I look forward to receiving the NANEWS each month. This month, however, brought a double interest since I am now an optometrist here in Colombia, Missouri. The skipper mentioned in your article might try wearing bifocals, they're good for what ails him.

Although I'm now a Medical Service Corps reservist now where I can do the Navy the most good, I still enjoy reading about naval aviation. Keep up the good work.

J. R. WARRICK, OD
VOL. COMP. UNIT 953

COLUMBIA, MO.

¶ Three Captains we know of heaved big sighs of relief after reading the article and visited the dispensary in Washington. They now wear glasses without compunction. Are there any more testimonials?

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An unclassified edition of *Naval Aviation News*, containing special articles of interest to Reserves, is available on subscription for $2 a year through Superintendent of Documents, Government Printing Office, Washington 25, D. C.

● THE COVER

Adjusting the fins of the Navy's Neptune high altitude research rocket at White Sands, N. M., is H. V. Hardin of the Naval Research Laboratory propulsion staff. Photo by Lee Dougherty, Martin Star staff photographer, Glenn L. Martin Aircraft Co.

● RECOGNITION QUIZ

(Inside front cover)

Upper and lower left, Hawker P.1081, swept-wing Royal Navy fighter; upper right, AF-2S and AF-2W, the Navy's antisubmarine team, heaviest single-engine plane in the world; lower, XB-51, Air Force close support plane with three jet engines. Hawker photos from Flight.

● CITY QUIZ

(Inside back cover)

Top—Annapolis, Maryland. Lower—Point Loma, San Diego, Calif.

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● The printing of this publication has been approved by the Director of the Bureau of the Budget, 10 June 1949

NAVAL AVIATION NEWS

Published monthly by Chief of Naval Operations (OP-501) and Bureau of Aeronautics to disseminate safety, survival, maintenance and technical data. Air mail should be used if practicable, address to: Chief of Naval Operations, Naval Aviation News, Navy Department, Washington 25, D. C. Direct communication can be made to Naval Aviation News, Room 4D356, Pentagon Bldg., office phones 73685 or 73515.

WHERE ARE YOU?

Instrument pilots can fly by looking at gauges, but VFR fliers have to recognize landmarks below them. One of these is east and one west coast. *Answers on last page*

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